

ControlST* Release Notes

November 2021



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Document Updates

Revision	Location	Update
HH	ControlST V07.09.07C SP01	Enhancement and maintenance release driven by WECA support for HVRT communication to turbine controller, and ToolboxST and WorkstationST bug fixes. Updated previously published release notes for work items 57122, 57123, and 55828; changed "... ARES blocks and Block Library Creator created blocks" to "... ARES blocks or Block Library Creator created blocks".
HG	ControlST V07.09.07C	Released ControlST V07.09.07C
HF	ControlST V07.09.01C SP06	Maintenance release driven by updates to the Mark VIe and virtual controller products related to PID_MA_ENH, Breaker_V2, STARTER_V3, and S_O_V_V3 blocks, updates to the Mark VIe for Wind-specific online load and memory leak issues, and updates to ToolboxST related to the FOUNDATION Fieldbus macrocycle schedule. This release also includes a security update.
HE	ControlST V07.04.05C SP19	New feature release driven by new and updated ARESBlockLib models. Also, this is a maintenance release driven by a resolution to a potential deceleration trip in the PPRA and YSIL products and several important bug fixes in ToolboxST and WorkstationST
HD	ControlST V07.09.01C SP05	Maintenance release driven by updates to ToolboxST needed at a customer site. ToolboxST and WorkstationST also include small enhancements.
HC	ControlST V07.02.07C SP04	Maintenance release driven by a Mark VIe product release that allows Wind Farm Control to send output during an online load and corrects a memory leak during an online download of the Wind Farm Control application. Also includes IO packs that were previously released in other ControlST branches.
HB	ControlST V07.07.00C SP14	New feature and maintenance release driven by Exciter and ARES enhancements and several products with important bug fixes.
HA	ControlST V07.09.01C SP04	New feature and maintenance release driven by a new ARES model, A6F0103A1120V4, and ARES block, ARES_COOL3 and several PROFINET and FOUNDATION Fieldbus bug resolutions in ToolboxST.
GZ	ControlST V07.08.01C SP04	New feature release driven by REPA support for the 84Nm pitch system on Cypress. In addition, this is a maintenance release driven by Knowledge Article KB0028774 - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms, resolution to a potential deceleration trip in the PPRA and YSIL products, and PFFA bug fixes in the Mark VIe. This release also includes a security update. Additional updates: <ul style="list-style-type: none"> ControlST V07.09.01C SP02: Updated WorkstationST V07.09.03C release note to include enhancement 58034 ControlST V07.09.01C SP03: Updated the Documentation V07.09.02C release note to only show the documents released in Documentation V07.09.02C

Revision	Location	Update
GY	ControlST V07.09.01C SP03	New feature release driven by enhancements in the EX2100e, EX2100e_FR, ToolboxST, and WorkstationST products. In addition, this is a maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: KB0028774 - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms. This release also includes a security update.
GW	ControlST V07.07.00C SP13	Maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: KB0028774 - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms
GV	ControlST V07.04.05C SP18	Maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: KB0028774 - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms
GU	ControlST V07.09.01C SP02	Maintenance release driven by PPRA and YSIL releases to resolve a potential deceleration trip and a CMS Server release to resolve a potential error when adding a system.
GT	ControlST V07.09.01C SP01	Maintenance release driven by two enhancements in ToolboxST and important bug fixes related to OPC UA clients not receiving diagnostic alarm updates, an Instance All issue that could leave data in a corrupt state, a FOUNDATION Fieldbus Compatibility Revision issue, and an application error when navigating the Software Tab while viewing Live Data.
GR	ControlST V07.08.01C SP03	Maintenance release driven by important bug fixes in the PPDA, REPA, ToolboxST, Virtual Mark VIe, and WorkstationST products and several enhancements in the REPA.
GQ	ControlST V07.07.00C SP12	Maintenance release driven by an issue where OPC UA clients were not receiving diagnostic alarm updates and an issue where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege.
GP	ControlST V06.02.07C SP12	Maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.
GN	ControlST V05.04.13C SP06	Maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.
GM	ControlST V07.07.00C SP11	Maintenance release driven by ToolboxST bug fixes related to clearing the 'Override Value' property, instancing ARES and Block Library Creator blocks, and adding a pin that is also on a Modbus page to an instanced DCS block.
GL	ControlST V07.09.01C	Released ControlST V07.09.01C

Revision	Location	Update
GK	ControlST V04.07.12C SP05	Maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.
GJ	ControlST V07.07.00C SP10	Maintenance release driven by a ToolboxST/WorkstationST Enhancement that adds a role privilege to allow lock and unlock actions in the Alarm Viewer. This release also includes several bug fixes required at customer sites.
GH	ControlST V07.04.05C SP17	Maintenance release driven by two WorkstationST bug fixes, one related to variables configured on a secondary EGD page and the other related to an OPC UA thread growth issue.
GG	ControlST V07.09.00C	Released ControlST V07.09.00C
GF	ControlST V07.08.01C SP02	Maintenance release driven by PFFA Download Scan error fix, an enhancement allowing Mark VIe consumption of EGD exchanges that are routed and multicast, and an enhancement adding a role privilege to allow lock and unlock actions in the Alarm Viewer.
GE	ControlST V07.07.00C SP09	Maintenance release driven by a PFFA Download Scan error fix, resolution to an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks, and an enhancement allowing Mark VIe consumption of EGD exchanges that are routed and multicast.
GD	ControlST V07.04.05C SP16	Maintenance release driven by an EX2100e enhancement (Measurement and Slip calculation improvement) and updates to ToolboxST and WorkstationST.
GC	ControlST V07.07.00C SP08	Maintenance release driven by product updates needed at customer sites.
GB	ControlST V07.08.01C SP01	Maintenance release driven by several important product updates, including a security update.
GA	ControlST V07.04.05C SP15	Maintenance release driven by product updates needed at customer sites and includes a security update.
FZ	ControlST V07.07.00C SP07	Maintenance release driven by product updates needed at customer sites and also includes various security updates.
FY	ControlST V07.08.01C	Released ControlST V07.08.01C Updated Known Issue in ControlST V07.02, V07.03, V07.04, V07.05, V07.06, and V07.07 regarding Mark V Stage Link (ARCNET) communication Updated Known Issue in ControlST V07.07 regarding OSI PI support
FW	ControlST V07.07.00C SP06	Maintenance release driven by several critical product updates needed at customer sites.
FV	ControlST V07.04.05C SP14	This is a maintenance release driven by several important bug fixes required at customer sites, including Redundant OPC AE Client updates, and issue resolutions for WindDFIG01 firmware upgrade, Control Constant override persistence, and SOE reporting on systems with more than 255 IO packs.

Revision	Location	Update
FT	ControlST V07.07.00C SP05	Maintenance release driven by UCSD updates and several critical product updates needed at customer sites.
FR	ControlST V07.04.05C SP13	Maintenance release driven by an OPC DA update required at a customer site.
FQ	ControlST V07.04.05C SP12	Maintenance release driven by OPC AE Alarm bug fixes required at several sites.
FP	ControlST V07.07.00C SP04	Maintenance release driven by a WorkstationST OPC UA and DA enhancement for Wind and a YSIL self-test failure bug fix.
FN	ControlST V07.06.00C SP02	Maintenance release driven by a Knowledge Article, KB0027568, related to Work Item 51456 in ToolboxST.
FM	ControlST V07.05.00C SP03	Maintenance release driven by a Knowledge Article, KB0027568, related to Work Item 51455 in ToolboxST.
FL	ControlST V07.07.00C SP03	Maintenance release driven by ARESBlockLib product enhancements.
FK	ControlST V07.07.00C SP02	Maintenance release driven by a Wind VPSA login issue, along with important bug fixes in several products.
FJ	ControlST V07.04.05C SP11	Maintenance release driven by an update related to Wind service accounts on Windows Server 2012 R2 systems.
FH	ControlST V07.04.05C SP10	Maintenance release driven by several bug fixes in ToolboxST and WorkstationST related to OPC AE and an enhancement to GE Alarm Rationalization.
FG	ControlST V07.02.07C SP03	Maintenance release driven by a Mark VIe bug fix needed at a customer site.
FF	ControlST V07.04.05C SP09	Maintenance release driven by service account updates needed by Wind.
FE	ControlST V07.03.01C SP10	Maintenance release driven by bug fixes needed at customer sites.
FD	ControlST V07.07.00C SP01	Maintenance release driven by bug fixes required at Wind sites, as well as a fix related to Download Scans of FOUNDATION Fieldbus H1 devices.
FC	ControlST V07.04.05C SP08	Maintenance release driven by bug fixes needed at a customer site.
FB	ControlST V07.02.07C SP02	Maintenance release driven by bug fixes needed at a customer site.
FA	ControlST V07.07.00C	Released ControlST V07.07.00C
EZ	ControlST V07.06.00C SP01	Maintenance release driven by bug fixes in several products, as well as updates to ARESBlockLib.
EY	ControlST V07.05.00C SP02	Maintenance release driven by bug fixes in several products, as well as updates to ARESBlockLib.
EW	ControlST V07.04.05C SP07	Maintenance release driven by bug fixes needed at a customer site.
EV	ControlST V07.04.05C SP06	Maintenance release driven by bug fixes needed at a customer site and PROFINET updates needed by Wind.

Revision	Location	Update
EU	ControlST V07.04.05C SP05	Maintenance release to eliminate a recurring, inaccurate upgrade message introduced in the ToolboxST V07.04.09C release in ControlST V07.04.05C SP04.
ET	ControlST V07.06.00C	Released ControlST V07.06.00C
ER	ControlST V07.04.05C SP04	Maintenance release driven by a PROFINET update for Offshore Wind and a new Network Monitor enhancement.
EQ	ControlST V06.02.07C SP11	Maintenance release driven by a YSIL Firmware Overspeed Trip issue and a fix for the number of consumed exchanges in a Mark VIe that can remain healthy all at once.
EP	ControlST V07.04.05C SP03	Maintenance release driven by new FOUNDATION Fieldbus CIT Software.
EN	ControlST V07.05.00C SP01	Maintenance release driven by new FOUNDATION Fieldbus CIT Software and the YSIL Firmware Overspeed Trip issue.
EM	ControlST V07.03.01C SP09	Maintenance release driven by new FOUNDATION Fieldbus CIT Software and the YSIL Firmware Overspeed Trip issue.
EL	ControlST V07.04.05C SP02	Maintenance release driven by a YSIL Firmware Overspeed Trip issue.
EK	ControlST V07.05.00C	Released ControlST V07.05.00C
EJ	ControlST V05.04.13C SP05	Maintenance release driven by a YSIL Firmware Overspeed Trip issue and a fix for the number of consumed exchanges in a Mark VIe that can remain healthy all at once.
EH	ControlST V07.04.05C SP01	Maintenance release driven by the UCEC false diagnostic bug fix in the Exciter.
EG	ControlST V07.03.01C SP08	Maintenance release driven by the UCEC false diagnostic bug fix in the Exciter.
EF	ControlST V07.03.01C SP07	Maintenance release driven by several bug fixes needed at customer sites.
ED	ControlST V07.04.05C	ControlST V07.04.05C contains no new content. It includes the products from ControlST V07.04.00C SP05, applied to the ControlST V07.04.00C release, and packaged as a full DVD for the convenience of our customers.
EC	ControlST V07.04.00C SP05	Maintenance release driven by EtherCAT features for Off Shore Wind.
EB	ControlST V07.03.01C SP06	Maintenance release driven by a Control System Health process failure which was introduced in the WorkstationST V07.03.06C release. This affects Control Server applications that use a High Availability configuration.
EA	ControlST V07.04.00C SP04	Maintenance release, driven by the UCEC FPGA fix in the EX2100e.
DZ	ControlST V07.03.01C SP05	Maintenance release driven by the UCEC FPGA fix in the EX2100e.
DY	ControlST V06.02.07C SP10	Maintenance release driven by a WorkstationST OPC DA client issue.
DW	ControlST V07.04.00C SP03	Maintenance release driven by a GE Historian Reports installation issue.

Revision	Location	Update
DV	ControlST V07.04.00C SP02	Maintenance release driven by PROFINET bug fixes and a new ARES block library release.
DU	ControlST V06.02.07C SP09	Maintenance release to fix a critical issue in the WorkstationST embedded OPC DA client, introduced in the WorkstationST V06.02.15C release.
DT	ControlST V07.03.01C SP04	Maintenance release driven by bug fixes needed at customer sites and a new ARES block library release.
DR	ControlST V06.02.07C SP08	Maintenance release driven by bug fixes needed at customer sites.
DQ	ControlST V07.04.00C SP01	Maintenance release driven by bug fixes needed at customer sites.
DP	ControlST V07.03.01C SP03	Maintenance release driven by the latest bug fixes in ToolboxST and WorkstationST.
DN	ControlST V07.04.00C	Released ControlST V07.04.00C
DM	ControlST V06.02.07C SP07	Maintenance release driven by CSB 25380 - Missing Alarms/Events Surrounding Trip Time in Recorder Trip Log.
DL	ControlST V07.03.01C SP02	Maintenance release driven by several bug fixes needed at customer sites.
DK	ControlST V07.03.01C SP01	Maintenance release driven by the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms and two enhancements to WorkstationST. Also, two new blocks have been added to the Mark VIe Virtual Controller.
DJ	ControlST V07.02.07C SP01	Maintenance release driven by the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms
DH	ControlST V07.01.01C SP10	Maintenance release driven by security updates and the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms
DG	ControlST V07.02.00C SP06	Maintenance release driven by security updates
DF	ControlST V07.03.01C	Maintenance release driven by security updates.
DE	ControlST V07.02.07C	Maintenance release driven by security updates.
DD	ControlST V07.03.00C	Released ControlST V07.03.00C
DC	ControlST V07.02.00C SP05	Maintenance release driven by several bug fixes needed at customer sites.
DB	ControlST V07.02.00C SP04	Special release for any site running WorkstationST V07.02.00C - V07.02.03C that uses the alarm sound feature with Mark V and/or Mark VI controllers. In addition, the release of new ARES Block Library (ARES Models Equation Based Reconciliation Block V001, A9HA014C1217).
DA	ControlST V07.01.01C SP09	Special release for any site running WorkstationST V07.01.08C that uses the alarm sound feature with Mark V and/or Mark VI controllers.
CZ	ControlST V07.02.00C SP03	Maintenance release driven by a new ARES Block Library (ARES Models A6F0102A1017, A9HA021A0917) release, FOUNDATION Fieldbus bug fixes, and new FOUNDATION Fieldbus qualified devices.

Revision	Location	Update
CY	ControlST V07.02.00C SP02	Maintenance release driven by V300 updates to the Mark VIe product for Wind
CW	ControlST V04.07.12C SP04	Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1
CV	ControlST V05.04.13C SP04	Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1
CU	ControlST V06.02.07C SP06	Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1
CT	ControlST V07.01.01C SP08	Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1
CR	ControlST V07.02.00C SP01	Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1
CQ	ControlST V07.01.01C SP07	Maintenance release, driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable
CP	ControlST V06.02.07C SP05	Maintenance release, driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable
CN	ControlST V07.02.00C	Released ControlST V07.02.00C
CM	ControlST V06.02.07C SP04	Maintenance release, driven by updates to several products including: ToolboxST, WorkstationST, Mark VIeS, PPRO, PVIB, and YVIB.
CL	ControlST V07.01.01C SP06	Maintenance release, driven by updates to several products including: ToolboxST, WorkstationST, Mark VIeS, PVIB, and YVIB.
CK	ControlST V07.01.01C SP05	Maintenance release, driven by desire to update new blocks in Virtual Controller.
CJ	ControlST V07.01.01C SP04	Maintenance release, driven by the desire to release Foundation Fieldbus changes.
CI	ControlST V07.01.01C SP03	Maintenance release, driven by the need to support V300 protocol changes for Wind.
CH	ControlST V06.02.07C SP03	Maintenance release, primarily driven by the need for several critical CMS fixes.
CG	ControlST V05.04.13C SP03 ControlST V04.07.12C SP03	Maintenance releases, containing critical bug fixes only, as these branches are officially end-of-life.
CF	ControlST V07.01.01C SP02	Maintenance release driven by additional fixes for Carroll County.
CE	ControlST V07.01.01C SP01	Maintenance release driven by bug fixes for Carroll County.
CD	ControlST V06.02.07 SP02	Maintenance release driven by new ARES model release.
CC	ControlST V07.01.01C ControlST V07.00.06C	Released ControlST V07.01.01C Added Virtual Mark VIe and Virtual Mark VIe x64 to ControlST V07.00.06C notes.

Revision	Location	Update
CB	ControlST V07.00.06C ControlST V07.01.01C PREVIEW	ControlST V07.00.06C Patch Release. Includes all changes in ControlST V07.00.00C SP06, plus additional changes to ToolboxST, WorkstationST, PHRA, and YHRA. Also contains a new Hilscher control for Profibus. This version includes a PREVIEW of ControlST V07.01.01C.
BZ	ControlST V07.00.00C SP06	Maintenance updates to ToolboxST, WorkstationST, Virtual Mark Vle, and ARES Block Library.
BY	ControlST V05.04.13C SP02	Service Pack driven by the need to release WorkstationST with a fix for Alarm Viewer crash on touchscreens.
BX	ControlST V04.07.12C SP02	Service Pack on the ControlST V04.07 branch, to provide support for UCSB H4 controllers.
BW	ControlST V07.00.00C SP05 ControlST V06.02.07C SP01 ControlST V05.04.13C SP01	Service Packs to accommodate PCMI bug fixes.
BV	ControlST V07.00.00C SP4	ControlST V07.00.00C Service Pack 4, including a critical PSCA update, UCSB H4 support in EX2100e and LS2100e, latest Mark Vle improvements for Foundation Fieldbus, and other bug fixes in WorkstationST and Mark VleS.
	ControlST V06.02.07C	ControlST V06.02.07C contains no new content. It primarily contains the contents of ControlST V06.02.06C SP1, packaged as a full DVD for the convenience of our customers. The Proficiency Common Licensing was also updated, to support M5 hardware keys.
BT	ControlST V06.02.06C SP1	The initial release of ControlST V06.02.06C, which included Mark Vle V06.01.01C, did not correctly include the corresponding Mark Vle Thermal and Wind extensions (V06.01.01C). This Service Pack corrects this oversight.
BS	ControlST V06.02.06C	Minor update to EX2100e release notes, to add touchscreen fix. Fixed version number in Section 3.1.1 – was Mark VleS V05.04.01C, should have been V05.03.01C.
BR	ControlST V06.02.06C	ToolboxST and WorkstationST release notes listed the wrong Work Items.
BQ	ControlST V07.00.00C SP3	Cosmetic change to ToolboxST V07.00.03C content table.
BP	ControlST V07.00.00C SP3	ControlST V07.00.00C Service Pack 3 (SP3) includes a new ToolboxST with bug fixes and SFC Enhancements.
	ControlST V06.02.06C	Bug fixes, (particularly PSGA), and support for UCSB H4 in Exciter and Static Starter products.
BO	ControlST V05.04.13C	Bug Fixes and support for UCSB H4 in Exciter and Static Starter products.
BN	ToolboxST V06.02.05C	Bug Fixes.
	LS2100eV04.10.02C (ControlST V07) LS2100eV04.10.02C (ControlST V06)	Re-release of LS2100e V04.10.02C, for ControlST V07 and V06, to fix touchscreen issue. Previous attempts to fix this issue had errors.
	Mark VleS V05.04.01C	Re-release of Mark VleS. Previously released with ControlST V07.00.00C. Now available for ControlST V06.02.

Revision	Location	Update
BM	WorkstationST V07.00.02C WorkstationST V06.0.05C WorkstationST V05.04.12C.	WorkstationST updates for ControlST 5, 6, and 7
BL	Virtual Mark VIe 64-bit V06.02.01C for ControlST V07.	Immediate re-release of V06.02.00C to fix a licensing issue. No other changes.
BK	ToolboxST and WorkstationST V07.00.01C for ControlST V07. Virtual Mark VIe 64-bit V06.02.00C for ControlST V07. ToolboxST V06.02.04C for ControlST V06.	Bug fixes and minor enhancements. New product, for 64-bit compatibility. Bug fixes and minor enhancements.
BJ	WEMA V05.00.01C (for ControlST V07 and V06), and WEMA V04.07.00C (for ControlST V05 and V04)	Single WEMA bug fix
BH	ControlST V07.00.00C	New
BC	ControlST V06.02.02C	New
BB	WorkstationST V06.02.01C	New
	ToolboxST V06.02.01C	New
BA	ControlST 4.07.12C	Added WorkstationST bug fix 34146
	ControlST V05.04.10C and ControlST 4.07.12C	Added references to related control service bulletins
AZ	ControlST 4.07.12C	Added ToolboxST bug fix 35162
AY	ControlST 4.07.12C	Minor grammar updates and updated the Control System Solutions Toolbox V11.07.16C Release Note
AX	ControlST 4.07.12C	New
AW	ControlST V05.04.10C	New Enhancement for ToolboxST New bug fixed in this version of ToolboxST , and removed from table of previous version.
	ControlST V05.04.06C	Updated the Release Notes for Mark VIe
	WETA V04.07.04C Bug Fixes	New
AV	ControlST V05.04.10C	New
AU	Component Versions	Labeled the revised components Added the packages Added product subcategories
	Migration of Legacy Products	Added component version table
	I/O Pack Bug Fixes	Added graphical icons
	Mark Controller Bug Fixes	Added graphical icons
	Block Library Creator Bug Fixes	Added work items 28842
	New Features	Block Library References Updated Windows Server 2012 R2 Support
Known Issues	Userblock Definitions with Duplicate Names OSI PI Historian is not supported on Windows 2012 R2	

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Notes

1 Introduction

ControlST is an integrated suite of Windows®-based tools and component firmware for the Mark* Controls products. The applications span a wide variety of power generation plants and other industrial equipment. The suite is constantly evolving to improve customer experience, network security, enhance plant operation, and keep pace with advancements in technology. Refer to the following related documents for more information.

ControlST Related Documents

Number	Title	Description
GEI-100694	ControlST Software Suite Upgrade Instruction Guide	Provides procedures for upgrading an existing control system
GHT-200048	How to Order ControlST Software and License Keys	Provides procedures for ordering ControlST software
GEH-6808	ControlST Software Suite How-to Guides	Provides many procedures for using the software on the ControlST DVD
GEZ-S2034	ControlST* Software Suite V05.00, V05.01, V05.02, V05.03, and V05.04 Versions Product Life-cycle Announcement	Older versions of ControlST will be phased out of production
GEZ-S2033	ControlST Software Suite V04.07 and Earlier Versions Product Life-cycle Announcement	Older versions of ControlST will be phased out of production
GEH-6700	ToolboxST User Guide	This application is used to configure the control system hardware, networks, program the controller, and troubleshoot the system
GEH-6721_Vol_I GEH-6721_Vol_II GEH-6721_Vol_III	Mark VIe and Mark VIeS Control Systems Volume I System Guide Volume II: For General-purpose Applications Volume III: For GE Industrial Applications	Technical details about all aspects of the Mark VIe and Mark VIeS control system can be found in these three volumes.
GEH-6839	Mark VIe Control Systems Secure Deployment Guide	Provides information to improve the cyber security of Mark VIe Control Systems.

Notes

2 V07.09.07 Release Notes

2.1 V07.09 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694), Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.
- Selecting a baud rate of 31.25kBit/s or 45.45kBit/s for the PROFIBUS Master device’s PROFIBUS Network configuration, results in a message box that displays “Error hr:1 Incorrect function.” on the second device build. At this point the PPRF files are corrupted, even though the build says it succeeded. This configuration should not be downloaded to a PPRF. These speeds are very slow and not used in GE’s standards.
If this corruption occurs, the pack needs to be deleted and re-added with a valid baud rate using the following steps.
 1. Right-click on the PPRF in the Hardware tree and select Modify
 2. Take a screenshot or record the properties: Redundancy, Module Required, HW Form, Barcode, Position, ENET1 Port and ENET2 Port
 3. Cancel to exit the Modify dialog
 4. Open the PROFIBUS Network configuration dialog, select a supported baud rate (other than 31.25kBit/s or 45.45kBit/s), and click OK
 5. Right-click on the PPRF in the Hardware tree, select Export Configuration, and save to an empty folder
 6. Delete the corrupt PPRF from the Hardware tree in ToolboxST
 7. Create a new PPRF with the settings recorded in Step 2
 8. To import the configuration saved in Step 5, right-click on the PPRF in the Hardware tree, select Import PROFIBUS Network and Setup, and navigate to the saved folder
 9. After the import completes, build and download the device

WorkstationST*

The WorkstationST Device Manager Gateway feature has been updated to support the Honeywell Field Device Manager (FDM) tool. However, the FDM is not usable with Mark VIe systems until Honeywell updates the product to recognize GE HART IO packs. Once Honeywell makes the required changes it is expected the FDM should function properly; however, GE will not authorize its use until final validation is conducted.

Block Library Creator and Mark* Vle Virtual Controllers

Potential issues exist if the Block Library Creator is configured to create multi-core blocks and these blocks are used with the Mark Vle Virtual Controllers. The issue presents itself as a crash of the Virtual Controller during the startup process. The workaround for non-multi-core applications is to compile the block in single-core mode.

ControlST Support for Windows Server 2012 R2, Windows Server 2016, Windows Server 2019 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI 2018 is only supported on Windows Server 2016, Windows Server 2019, and Windows 10 IOT Enterprise LTSCB 2016 – 1607.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

2.2 V07.09 Suite Components

See Component Registry: [ControlST Component Registry](#)

2.3 V07.09.07C (October 2021)

2.3.1 V07.09.07C Highlights

YDAS Initial Release

Description: Initial Release of the YDAS Data Acquisition System for Combustion Dynamics Monitoring.

References:

[Mark Vle and Mark VleS Controls Volume III System Guide \(GEH-6721 Vol. III\)](#)

Work Items: 61111

Mark VleS Support for YDAS I/O Pack

Description: Added support for YDAS Data Acquisition System for Combustion Dynamics Monitoring.

Work Items: 58427

2.3.2 V07.09.07C Changes

2.3.2.1 CMS Server V07.09.02C

Reference	Release Note
62264	Resolved issue where the CMS Administrator would fail if repository location was not changed on first run.

2.3.2.2 Documentation Package V07.09.03C

Updated Documents

Document	Title
GEI-100679	Mark* Vle Controller DCS Block Library
GEI-100682	Mark* Vle Controller Standard Block Library
GEH-6721_Vol_I	Mark* Vle and Mark VleS Control Systems Volume I: System Guide
GEH-6721_Vol_III	Mark* Vle and Mark VleS Control Systems Volume III: System Guide for GE Industrial Applications

2.3.2.3 Mark VleS V06.03.00C

Reference	Release Note
58427	NEW! Added support for YDAS Data Acquisition System for Combustion Dynamics Monitoring.

2.3.2.4 PDAS V05.16.03C

Reference	Release Note
58128	The PDAS frequency band limit calculations have been updated.
Additional	61467

2.3.2.5 YDAS V05.16.00C

Reference	Release Note
61111	NEW! Initial Release of the YDAS Data Acquisition system for Combustion Dynamics Monitoring.
60435	The YDAS now detects issues with the BAPC power supply and marks all inputs as unhealthy.
Additional	60309, 61466

2.4 ControlST V07.09.07C SP01 (November 2021)

This is an enhancement and maintenance release driven by WECA support for HVRT communication to turbine controller, and ToolboxST and WorkstationST bug fixes.

2.4.1 ToolboxST V07.09.08C

Reference	Release Note
62171	Resolved issue with misinterpretation of commas in initial value field.
62262	Fixed an issue where deprecated Access Rights in Security Group definitions could cause ToolboxST to terminate. Since the deprecated access rights had no effect, they were generally only in use in test environments.
62284	PROFINET: On the Slot Configuration tab, when multiple modules are selected, Delete will now remove all selected modules/sub-modules.
62293	PROFINET: After deleting a PROFINET module in the tree view, the newly selected item will now be in view.
62299	Resolved an issue that could occur when opening a controller in a shared I/O network.
62416	PROFINET: After editing a property on a PROFINET device, and a subsequent refresh happens, the edited property stays selected and remains in view.
62449	PROFINET: Fixed an issue in the Slot Configuration, where the newly added (in V07.09.02C) cut/paste was not working for sub modules.
62462	Corrected a problem where saves from the WorkstationST component editor's OPC DA or OPC UA test client dialogs caused a false message indicating a file was saved in the workstation folder. Additionally fixed a case where the OPC DA test client can fail to show the live value for values that are not changing and are updated quickly as the dialog is opened.
62496	PROFINET: Fixed an issue with upgrading a PPNG when there are Function Groups defined.
62588	PROFINET: Fixed an issue where a Copy/Paste of a Function Group incorrectly moved devices in the original Function Group to the new Function Group.
63235	PROFINET: Fixed an issue where the Var Data Type is wrong after copy/pasting rows of PROFINET Points if the source Var Data Type was different than the source PROFINET IO Point Data Type.
63272	Resolved a deadlock that could occur when navigating to a task.

2.4.2 WECA V02.09.31C

Reference	Release Note
62664	NEW! WECA now supports HVRT communication to turbine controller.

2.4.3 WorkstationST V07.09.08C

Reference	Release Note
62463	Corrected a problem where OPC DA client variables from external OPC DA servers that are configured with an incorrect data type, remained healthy when the data update was received from the external server. Now the values will be unhealthy.
62611	Corrected a failure to be able to restart the Time Synchronization feature of WorkstationST using the status monitor after the user has stopped it. The WorkstationST Service feature can be stopped and started to work around the issue.
62655	Upgraded the Unified Automation OPC UA SDK to version 3.1.0 from 3.0.10. The release is a maintenance release with some bug fixes.
63236	Corrected a problem where the ToolboxST system overview live data was showing incorrect values. In one case, the major revision for S & T was shown as a major difference, while R was shown correctly as equal.
63250	Control System Health provides configuration options to generate Alarms and/or Events. However, when a Network Switch Power Supply, Temperature or Fan Error occurred it generated both an Alarm and an Event regardless of the configuration. This is now fixed.

Notes

3 V07.09.01 Release Notes

3.1 V07.09 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

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- OSI PI 2018 is only supported on Windows Server 2016, Windows Server 2019, and Windows 10 IOT Enterprise LTSCB 2016 – 1607.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

3.2 V07.09 Suite Components

See Component Registry: [ControlST Component Registry](#)

3.3 V07.09.01C (March 2021)

3.3.1 V07.09.01C Highlights

PDAS Initial Release

Description: Initial Release of the PDAS Data Acquisition System for Combustion Dynamics Monitoring.

References:

[Mark Vle and Mark VleS Controls Volume III System Guide \(GEH-6721 Vol. III\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 54367

Capture Buffer Support for PDAS I/O Pack

Description: Added ability to define, use, and upload Capture Buffers on the PDAS I/O Pack.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 55450

Cisco IE3300 Network Switch Support

Description: Support for Cisco IE3300 Network Switches has been added to ToolboxST and the Control System Health WorkstationST feature.

Work Items: 56866

3.3.2 V07.09.01C Changes

3.3.2.1 Documentation Package V07.09.01C

Reference	Release Note
54508	NEW! Initial release of GEH-6872, WorkstationST* Alarm System Troubleshooting Guide.

3.3.2.2 PDAS V05.16.02C

Reference	Release Note
54367	NEW! Initial Release of the PDAS Data Acquisition system for Combustion Dynamics Monitoring.

3.3.2.3 ToolboxST V07.09.01C

Reference	Release Note
53256	NEW! Moved the build.log to the Logs folder, changed the name to buildlog-[TIMESTAMP].txt, and allowed up to 20 logs to be preserved.
55450	NEW! Added ability to define, use, and upload Capture Buffers on the PDAS I/O Pack.
56866	NEW! Support for Cisco IE3300 Network Switches has been added to ToolboxST and the Control System Health WorkstationST feature.
51184	An issue was resolved where certain Charts were not working correctly for some FOUNDATION Fieldbus device types (i.e. DVC6200f "Trends" menu).
51343	An issue was resolved where dragging multiple SFC shapes off of a page could terminate ToolboxST unexpectedly.
52508	Resolved an issue where ToolboxST UI would hang from 4 to 6 seconds constantly when connected to a Virtual Controller that had a PPNG (PROFINET) I/O Pack.
53322	ToolboxST now displays the Module ID in the Property Grid for each individual I/O Pack that have the possibility of having a different Module ID for different I/O Packs. In the Property Grid, the Properties are shown as Module ID R, Module ID S, and Module ID T; the Properties shown are dependent on the Redundancy picked. This is useful for I/O Packs that support Hot Backup (e.g. PPRF, the S I/O pack has a different Module ID) or TMR I/O Packs that are on a Dual I/O Net with Dual Controllers (the T Module ID is different than the R or S Module ID). The Module ID (R, S, T) is also now searchable. If searching for a Module ID, it is recommended to use a Match Exactly in the Find Dialog Method. This is useful for getting to the proper I/O Pack when a Module ID is shown in an Alarm System.
54533	User can now change the Second Language Description, either interactively in ToolboxST in a Library or a Controller, or with a Second Language Import in a Controller, for variables where "Inherit Description of Connected" is True, like the inputs of a Logic Builder block, as well as for all Analog Alarm Sub Pins (like .INH). Previously user could only change the Description for the Analog Alarm Sub Pins that were actual Alarm States (like .H).
55828	Fixed an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks or Block Library Creator created blocks.

Reference	Release Note
56409	Resolved issue where the Constants view may show incomplete results if invoked immediately after opening a controller.
56578	When invalid characters are used in a name, the error message displayed to the user now shows all invalid characters that were entered as well as the set of all valid characters.
56687	When the PROFINET Parameter View is displayed, it now will auto reselect the last viewed Parameter, if applicable, or select the First Parameter Group so its children show. Note, Parameter selections are only remembered for any given ToolboxST session in any given Controller.
56688	Trender now displays the names of static files (e.g. DcaST files) in the title bar.
56692	Corrected a seemingly non-responsive issue when the EGD configuration server cannot be pinged when opening a system.
56733	PROFINET: After performing a "Change GSDML", ToolboxST now retains selection of the PROFINET Device upon which the change was performed.
56794	Resolved issue where comparing two versions of a controller in CMS history could produce inaccurate results.
56865	Resolved an issue where ToolboxST could freeze randomly.
56939	PROFINET: Allow user to set the hostname and IP Address for other PROFINET Controllers found on the PROFINET Network, using DCP (Discovery Configuration Protocol).
56941	Resolved an issue where the 'Override Value' property could be cleared as part of a Constants Report import.
57095	Corrected a problem where OPC UA clients reading Boolean array values were not seeing updates for any array element other than the first element.
57131	Corrected the list of available measurement systems presented when selecting a WorkstationST component's default measurement system. The list should have been created from the last published master symbol table from the EGD configuration server, but was instead coming from the local saved system.
57132	Corrected a problem where changes to the Device Manager Gateway Type on the Device Manager Gateway tab of the WorkstationST component editor were not updating other properties that needed to be hidden or revealed based upon the Gateway Type selected. This behavior started in the V07.09.00C release with an editing performance enhancement.
57139	Corrected a tool crash when using the OPC UA or DA test client dialogs available from the WorkstationST component editor.
57157	Corrected a problem where a dialog requesting publishing of missing devices in the EGD configuration server was falsely shown for power conversion type devices. This check added in 7.9 and is done during a workstation component download.
57194	Resolved an issue where the user is presented with an error message box whenever ToolboxST is online with the controller and the user switches between different PROFINET IO Modules.
57197	Fixed an issue where the Controller fails to start when a pin on an instanced DCS Block (ex. LIC0405.CVO) is put on a Modbus page.
Additional	56652, 56965, 57121

3.3.2.4 Virtual Mark Vle V06.08.01C

Reference	Release Note
56908	Fixed an issue that could cause a virtual controller to crash after completing an online download or dynamic bind.

3.3.2.5 Virtual Mark Vle x64 V06.08.01C

Reference	Release Note
56909	Fixed an issue that could cause a virtual controller to crash after completing an online download or dynamic bind.

3.3.2.6 WorkstationST V07.09.01C

Reference	Release Note
56688	Trender now displays the names of static files (e.g. DcaST files) in the title bar.
56912	Corrected a problem where an OPC DA client asynchronous read of a variable can return an incorrect value. Variables that are not currently in a live list by any client could suffer this issue. The issue occurs after a controller download and dynamic bind.
57151	Corrected the browsing of alias variable names in the OPC UA server when resource overrides are enabled.
57200	Corrected a problem seen by the OSM team for viewing alarms using the wHAERpt web page for a special application where the OSM team renames the BIN files to aggregate alarms from multiple OSMs for use on an aggregator OSM.
57206	Corrected an issue that stopped the WorkstationST service from starting during an install or later if the license product was not found. Now the service will start and as before, will display any license failures in the WorkstationST status monitor.
Additional	57133

3.4 ControlST V07.09.01C SP01 (April 2021)

This is a maintenance release driven by two enhancements in ToolboxST and important bug fixes related to OPC UA clients not receiving diagnostic alarm updates, an Instance All issue that could leave data in a corrupt state, a FOUNDATION Fieldbus Compatibility Revision issue, and an application error when navigating the Software Tab while viewing Live Data.

3.4.1 PPDA V05.00.02C

Reference	Release Note
56844	JPDG AC inputs can also be used for 125 V DC input with ground fault detection.
56871	Documentation update on variables Batt_125V_LED and Batt_125G_LED to reflect 125V feedback status rather than battery status.

3.4.2 ToolboxST V07.09.02C

Reference	Release Note
53431	NEW! Two new menu items are added for importing and exporting the barcodes at once through a CSV file.
57843	NEW! PROFINET Slot Configuration now supports Cut/Paste and Drag/Drop within the Slot Configuration Grid.
56991	Fixed a FOUNDATION Fieldbus issue that was preventing FF devices that matched Compatibility Revision from being marked as matched. Also added the Compatibility Revision to the H1 Device Commissioning Wizard.
57054	Resolved an issue where the SafeLock product was keeping ToolboxST from opening EX2100e components.
57107	Resolved an issue that could occur when upgrading a controller.
57152	Resolved an issue where an EX2100e_Reg device failed to upgrade when the system contained Format Specs with the same name as the TypeDefs that are part of the EX2100e_Reg product.
57182	Added Post Sample Time field to Capture Buffers for IO Packs. The value will have asterisk symbols around it as a warning if the Upload Type is Automatic and if the time is less the Period of the EGD Status Page. There are also warning messages generated for the same scenario. This situation can cause Recorder to miss the status change of the trigger values and then miss uploading the Capture Buffers to Recorder.
57392	An issue was resolved where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege – but only in cases where a custom runtime block was in use. This particularly affects Service Tech level users of Wind systems.
57612	Resolved an application error that occurred when navigating in the Software Tab while viewing Live Data.
57977	Capture block now validates in a library container when upload type is set to TripFlash.
Additional	57224, 57226, 57227, 57228, 57888

3.4.3 WEPA V05.16.01C

Reference	Release Note
55790	A bug which caused Battery Fault 253, charger communication loss, to be reported immediately instead of after a two-minute delay has been resolved. A related bug which caused various charger faults to be reported immediately instead of after a 15-minute delay has also been resolved.
55791	The UcapVoltsOk logic has been revised.
55858	The ultracapacitor charger firmware has been updated to UC1f. This version, combined with a harness change in pitch systems with ultracapacitors, prevents the ultracapacitor charger from charging batteries if accidentally installed in a battery-based pitch system.
55859	The 6-in-1 battery charger firmware has been updated to BC4f, which decreases the low AC voltage alarm threshold.
55903	An issue that could cause UcapCharged to toggle true/false/true upon WEPA reboot even with fully charged ultracapacitors has been resolved.
56361	An issue that could prevent escalation from Mode 3 to Mode 4 following an FPGA watchdog trip has been resolved.
56499	An issue that could cause the first EBST after reboot to pass as soon as it is initiated has been resolved.
56501	An issue that could allow the pitch axis to operate with known-bad ultracapacitors has been resolved. If the ultracapacitor life estimate is below the failure threshold, the axis will cause an EBST to fail.
56625	An issue that could cause the BatteryDBLifeTrip and BatteryDBLifeWarn interface bits to be driven true even when the BatteryDBResEnable parameter set to false has been resolved.
56650	The suggested actions for Fault 253 have been updated.
56725	The resolver/encoder selection has been updated to allow operation using a resolver only for WEPA versions BPH and later. Due to a hardware bug, resolver support does not always work on hardware version BNG.
56762	The voltage thresholds for UcapCharged have been adjusted to match the ultracapacitor charger firmware thresholds.
56874	The Battery DB Life Test and Ultracapacitor Life Test warnings have been demoted from Secondary Faults to information only.
56875	The Battery DB Life Test averaging method has been improved. The previous method failed to properly account for temperature.

3.4.4 WorkstationST V07.09.02C

Reference	Release Note
57839	NEW! Device Manager Gateway Status Viewer and FF Status Viewer utilities have been enhanced to show the Compatibility_Rev read from the H1 devices. Both utilities now show a warning until the device parameters have been updated in the livelist. The FF Status Utility has been enhanced to show any temporary nodes that exist on the segment.
57263	Corrected a problem where OPC AE alarms served to clients did not include past alarms if the OPC AE server started after the Alarm server.
57289	Corrected a problem where a change made to the "Enable Setpoint Logging" setting on the WorkstationST component editor's General Tab was not honored after a download. The OPC UA server feature had to be enabled. A restart of the OPC UA feature was required to make the new setting take effect.

Reference	Release Note
57343	Fixed an issue where the OPC UA Server misses reporting interim alarms to OPC UA Alarm Clients, where interim alarms are those that occurred after the OPC UA Server started but before any client connected.
57349	Corrected a problem where OPC UA clients were not receiving diagnostic alarm update and were not able to acknowledge alarms.
57351	Two changes to the OPC UA Alarm Server. First, the OPC UA Alarm Server will now get alarms from the Configured "Alarm Server To Use" (if one has been configured) instead of the Primary Alarm Server. Second the OPC UA Server will now add newly defined alarms to the OPC Browsing tree after a device is downloaded.

3.5 ControlST V07.09.01C SP02 (May 2021)

This is a maintenance release driven by PPRA and YSIL releases to resolve a potential deceleration trip and a CMS Server release to resolve a potential error when adding a system.

3.5.1 CMS Server V07.09.01C

Reference	Release Note
58089	Resolved an error which could occur when adding a system to a CMS repository.

3.5.2 PPRA V05.00.01C

Reference	Release Note
52089	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of TwoGroups (2 shafts, 3 sensors).
55757	PPRAS1B now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.

3.5.3 ToolboxST V07.09.03C

Reference	Release Note
57044	Resolved an issue that could randomly cause a 'Cannot create a file when that file already exists.' error while building.
57989	Fixed an issue where functional library selector on open can cause a failure.
58033	Corrected an error seen when the "Enable Background Builds" option setting is enabled and a controller build adds a variable to a produced EGD exchange. The error resulted in a dialog stating the property Access cannot be modified.
58104	Fixed an error that could occur when expanding rows in the FF Parameter Grid.
58190	Fixed an issue where the TMT85 and TMT125 FOUNDATION Fieldbus devices are reverse labeled.
Additional	58020, 58021

3.5.4 WorkstationST V07.09.03C

Reference	Release Note
58034	NEW! Added a SetTrendFileName method to the Trender ActiveX control which causes a load of the file specified by a relative or full path and causes the next save to save to this file.
58106	Corrected a problem where CIMPLICITY screens could not write to points when "Enable Client Security by User" on the OPC DA tab, was enabled. This setting was enabled to prevent CimView from writing to points if InitializeCimplicity had not been called and therefore CIMPLICITY's client had not been associated with the privilege logon user.

Reference	Release Note
58292	Fixed the bug that caused empty redundancy Power Supply bays to be reported as an error in Cisco stacked switches that support modular, redundant power supplies. A power supply bay that is empty at startup should be considered intentionally empty. A redundant Power Supply alarm is only generated if an installed Power Supply reports an abnormal state.
Additional	58131

3.5.5 YSIL V05.06.03C

Reference	Release Note
52088	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of 2Shafts_3Sensors.
55745	YSIL now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.
57043	The YSIL now includes SSUP connections on the Extra Circuits tab.
Additional	51674

3.5.6 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V07.09.01C in previous Service Packs.

- PPDA V05.00.02C
- WEPA V05.16.01C

3.6 ControlST V07.09.01C SP03 (June 2021)

This is a new feature release driven by enhancements in the EX2100e, EX2100e_FR, ToolboxST, and WorkstationST products. In addition, this is a maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: [KB0028774](#) - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms. This release also includes a security update.

3.6.1 Documentation V07.09.02C

Document	Title
GEI-100682	Mark VIe Controller Standard Block Library
GEI-100683	Excitation Control Block Library Instruction Guide
GEI-100795	Trender Instruction Guide
GEH-6700	ToolboxST User Guide for Mark Controls Platform
GEH-6721_Vol_II	Mark VIe and Mark VIeS Control Systems Volume II: System Guide for General-purpose Applications

3.6.2 EX2100e V04.16.00C

Reference	Release Note
56197	NEW! Several enhancements have been added in this release of the EX2100e product code. These new features include: <ul style="list-style-type: none">• Replacement of the 1st order filter with the FIR filter and the 2nd order filter with the 16 Hz filter. The FIR filter is selected by default.• Modification of the measurement and slip calculations to use estimate frequency, instead of the Fbase constant, on the Slip, Imag, Watts, and VARS data points• Further evolution of the Power System Stabilizer function by adding the fourth Lead/Lag filter on the PSSB function which will allow inclusion of the PSS2C standard model
Additional	46834, 49014, 49628

3.6.3 EX2100e_FR V01.01.00C

Reference	Release Note
58425	<p>NEW!</p> <p>Several enhancements have been added in this release of the EX2100e_FR product code. These new features include:</p> <ul style="list-style-type: none"> • Further evolution of the Power System Stabilizer function by adding the fourth Lead/Lag filter on the PSSB function which will allow inclusion of the PSS2C standard model • For Multi-Bridge applications, added Potential Fed as an Exciter Type and Redundant as a Control Type • Added gain and correction factors for measuring Generator Stator Voltage on both ESYS boards so that each will report the same value • Added management for redundant inputs of Generator Field Voltage and Field Current so they can be calibrated to report the same value • Added Rogowski Coil current calculation for individual bridge output • Added additional data tags between the Innerloop (firmware) process and the Outer Loop (Application Layer) to provide bridge status and bridge current to the ACL programming capability. Currently this data is only available through Spare data tags and they need to be dedicated • Provide a Limit Function to reduce the available Ceiling Current when 2 bridges have failed in a multi-bridge system that provides N+2 redundancy

3.6.4 Mark VIe V06.11.01C

Reference	Release Note
58618	The Mark VIe has been modified to request a PFFA Redundancy Switchover so that the Primary Linking Device tracks the DC in the case where one or more H1 devices are missing.
59322	Fix PFFA Advanced Diagnostic data display issues.
Additional	57163, 58048

3.6.5 PAIC V05.01.01C

Reference	Release Note
38273	An issue was fixed where the PAIC would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
58588	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.6 PAOC V05.00.01C

Reference	Release Note
58579	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.7 PDIA V05.01.01C

Reference	Release Note
58590	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.8 PDOA V05.07.02C

Reference	Release Note
47996	The PDOA documentation has been updated to indicate that outputs cannot be configured as dry contacts when SRLY+WROG is in use.
58599	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.
Additional	51428

3.6.9 PPDA V05.00.03C

Reference	Release Note
58583	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.10 PPRO V05.05.02C

Reference	Release Note
58641	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.11 PRTD V05.00.01C

Reference	Release Note
58638	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.12 PTCC V05.00.01C

Reference	Release Note
58582	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.13 PTUR V05.00.02C

Reference	Release Note
58640	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.14 PVIB V05.01.06C

Reference	Release Note
58639	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

3.6.15 ToolboxST V07.09.04C

Reference	Release Note
58423	NEW! Added Block Type column in selectable columns of Block Pin report.
58449	Fixed an application error that occurred when importing a FF Template that had a XML formatting error.
58481	Added a message box when a configuration error prevents the master symbol table from being published. The user was previously informed only with an error in the log window, but is now also informed with a message box.
58534	PROFINET: Resolved an issue where the "Refresh GSDML Manager" button on the GSDML Manager Dialog did not successfully import the expected GSDML files.
58555	Corrected a problem with live data in the system overview for Virtualization Servers, Virtual Machines and Thin Client type components.
58609	Improved runtime performance of the Constants view.
59151	Fixed an issue where adding a miscellaneous connector to a FOUNDATION Fieldbus segment canvas would not prompt the user to save.
59305	CE3000-I: Prior to this fix, if there was anything invalid in the CE3000-I configuration, then ToolboxST had a User Exception when the user tried to build the controller. Now ToolboxST reports the problem to the user in the Log Window.
59331	Corrected a problem where saving a power converter (Wind-DFIGe) caused the I/O network connection to the Mark VIe wind turbine controller to be lost. The I/O network connection was no longer shown on the system overview graphics and issues with device replication and convertor configuration were a result. To correct the issue, open the power converter with this newer version, make a change, and save it.
59332	Fixed an issue where ToolboxST could crash if trying to go online to a controller and the controller was not available.
59357	Resolved an issue where ToolboxST might crash if a variable's HmiResource was null.
59403	Fixed an issue in the PROFINET GSDML Manager where the user was unable to scroll the view in certain circumstances.
59438	Fixed a security issue that could lead to Elevation of Privilege.
Additional	58451, 58487

3.6.16 WEPA V05.16.02C

Reference	Release Note
57991	The required Abbreviated EBST angle delta has been increased from 10 to 20 degrees.

3.6.17 WorkstationST V07.09.04C

Reference	Release Note
58085	Corrected a WorkstationST status monitor crash when showing the current privilege logon client.
58515	Corrected a crash of the Alarm Status Viewer when an alarm server has been configured with two or more connections to servers sharing the same name but different URLs.
58517	Corrected a read only flag that got set when there were no users and roles defined. This impacted OPC DA clients and impacted variables with resources defined. Specifically the site in question had Mark VI variables.
58586	Avoiding a problem where OPC DA clients fail to connect if the windows service "Server" has been disabled. Not sure why anyone wants to do that, but we have some wind sites in China that have done that. The failure can be avoided by adding an Anonymous user to Users and Roles or by enabling the Server service.

3.6.18 Previously Released

The following components, also in Service Pack 03, were previously released since ControlST V07.09.01C in previous Service Packs.

- CMS Server V07.09.01C
- PPRA V05.00.01C
- YSIL V05.06.03C

3.7 ControlST V07.09.01C SP04 (July 2021)

This is a new feature and maintenance release driven by a new ARES model, A6F0103A1120V4, and ARES block, ARES_COOL3 and several PROFINET and FOUNDATION Fieldbus bug resolutions in ToolboxST.

3.7.1 ARESBlockLib V08.04.03C

Reference	Release Note
60053	NEW! Added new ARES model A6F0103A1120V4
60054	NEW! Added new block ARES_COOL3

3.7.2 ToolboxST V07.09.05C

Reference	Release Note
56882	NEW! "Save System As" dialog now defaults to the parent directory of the current project, and the new system name now defaults to the current project name.
58628	Resolved an issue where importing an invalid CSV file for a Modbus slave could cause a program failure.
58793	Added alarm & events to Trender export feature.
59404	PROFINET: Fixed an issue where the Modules under a Device in the Tree View were not sorted by slot number.
59442	Fixed an issue where ToolboxST might crash if it encountered a problem generating a Report.
59443	Fixed an issue where ToolboxST could crash when a Library was open on the "Where Used" Tab.
59455	PROFINET Module Descriptions are now updated in the Hardware Tree View after performing a "Change GSDML".
59525	Fixed an issue where the controller could not be saved after copying a PROFINET device and then deleting the newly copied device. This issue was introduced in V07.08.00C.
59551	Resolved an issue where missing files could cause indexing to fail.
59602	Fixed an issue where a variable might be missing from pcode after copying and then deleting a PROFINET device.
59649	Corrected an issue where a PPRF IO Pack could not be selected in the Hardware Tab if the Device was Read Only (not checked out of CMS).
59662	Fixed a PROFINET issue where performing a Change or Refresh GSDML would delete sub-modules if the device being changed contained a module with both sub-modules and virtual sub-modules.
59693	Functional Safety System Feature for licensing now allows the Mark VIe and Mark VIeS devices to open.
59753	Fixed an issue where PROFINET Slot Configuration was sometimes showing Available modules instead of Available submodules when a subslot was selected. This issue was introduced in V07.09.02C.
59804	Improved FOUNDATION Fieldbus download errors so they can be reported from the Log Tab.
59895	Fixed an issue where the Property Override/Value Override in a linked program/task were not editable in the property grid.

Reference	Release Note
59908	Fixed an application error that occurred when adding a signal to a trend from an HMI screen.
Additional	59134

3.7.3 WorkstationST V07.09.05C

Reference	Release Note
58793	Added alarm & events to Trender export feature.
59526	Corrected a problem where logging of EX2100e component minor revision mismatch in the WorkstationST OPC UA server log were occurring periodically, when the actual revision was really in sync.
59544	Corrected a problem where the Triple redundant exciter data shown on the online status tab of the ToolboxST system overview shows no data for the T core.
59671	Fixed an issue with importing tags into PI Historian due to unsupported characters in the description field.
59908	Fixed an application error that occurred when adding a signal to a trend from an HMI screen.
60096	Corrected a problem where CIMPLICITY parameters are no longer being updated from their configuration on the HMI tab of the ToolboxST WorkstationST component editor. This stopped working after some code re-architecture in the 7.8 release. The work around is to edit these parameters using the CIMPLICITY workbench application.

3.7.4 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V07.09.01C in previous Service Packs.

- CMS Server V07.09.01C
- Documentation V07.09.02C
- EX2100e V04.16.00C
- EX2100e_FR V01.01.00C
- Mark VIe V06.11.01C
- PAIC V05.01.01C
- PAOC V05.00.01C
- PDIA V05.01.01C
- PDOA V05.07.02C
- PPDA V05.00.03C
- PPRA V05.00.01C
- PPRO V05.05.02C
- PRTD V05.00.01C
- PTCC V05.00.01C
- PTUR V05.00.02C
- PVIB V05.01.06C
- WEPA V05.16.02C
- YSIL V05.06.03C

3.8 ControlST V07.09.01C SP05 (September 2021)

This is a maintenance release driven by updates to ToolboxST needed at a customer site. ToolboxST and WorkstationST also include small enhancements.

3.8.1 ToolboxST V07.09.06C

Reference	Release Note
59803	NEW! ToolboxST now supports the Export to CSV option for PSCA Modbus configuration.
59894	NEW! HMI Screen files are able to be imported as a folder, and all files in the directory and subdirectory will be imported.
61065	NEW! The configuration file associated with an external device is now saved to CMS.
61148	NEW! Controlled Access Rights now support the latest revision of the Authentication Server REST API, enabling online Authentication and Authorization of elevated privileges.
59564	When adding an OPC DA client variable to the WorkstationST component editor's OPC DA tab, if the variable contains invalid characters, the UI did not automatically add a temporary variable with a correct remote variable name. This was broken by a bug fix to enumerate the invalid characters in the error message in a 7.9 release.
60448	Fixed an error that could occur during a FOUNDATION Fieldbus download that includes Block Instantiation. This fix also resolves the reoccurrence of build warnings that state that instantiated blocks need to be downloaded when they already have been.
60467	Fixed navigation to certain power conversion device parameters from Finder results.
60510	PROFINET: Fixed an issue on the Slot Configuration tab where the user got an error message when deleting a submodule and the submodule was NOT deleted. This issue was introduced in V07.09.02C.
60526	Resolved an issue in variable data grid where sorting by array length did not function correctly.
60538	Fixed an issue where tools such as Trender and Watch Window, when run standalone, would incorrectly apply a write lock to the system and any components they opened.
60590	Resolved an issue where a validation error on a CAPTURE block could cause a user exception message box to be displayed.
60709	Corrected issue where Capture Buffers on IO Packs would not take a new value for Pre/Post Trigger if using the Enter key and the Capture Buffer Type on the next row differed from the row being edited.
60720	PROFINET: Put Update Rate before Phase/Schedule in the Property Grid since changing the Rate changes the valid values for Phase/Schedule.
60734	Resolved an issue where an error that a global variable already existed could occur during instancing.
60791	Corrected a problem where EGD produced data XML was not updated when an EGD page Ethernet 0 or 1 etc. was changed. A work around is to change some other property such as the frame rate multiplier or compress the page.
60796	An issue was fixed where the FOUNDATION Fieldbus Macrocycle Overview Report incorrectly calculated the percentages for the Available Application Time and Current Application Time columns.
60814	An issue was fixed where ToolboxST unexpectedly terminates when saving after certain clipboard operations in the Software tab of a controller.

Reference	Release Note
60878	Resolved issue that could cause a program failure while building a controller if a block definition was missing.
60887	An issue was resolved where exporting the Undriven Constants report would always show "unused" as the live value for the last element in an array.
61011	Corrected a problem where the network switch component's Power Supply 2 Connected property was not remaining false after a save and reopen.
61101	Fixed an issue where the FOUNDATION Fieldbus build would succeed and allow a download even when some build output files were not created. In this case the controller would fail to load due to a missing ff.xml file.
Additional	60719

3.8.2 WEPA V05.16.04C

This section includes release notes from V05.16.04C and V05.16.03C. V05.16.03C was previously released by the Wind Pitch team but never included in a ControlST release.

From V05.16.04C

Reference	Release Note
60727	An issue that could query battery chargers for information specific to ucap chargers has been corrected.

From V05.16.03C

Reference	Release Note
57208	An issue that could cause the "Invalid motherboard FPGA revision detected" diagnostic to be issued intermittently has been corrected.
58591	The ultracapacitor charger firmware has been updated to UC1h. This version addresses transient diagnostics issued at bootup.
59083	The ultracapacitor life estimation algorithm has been improved.
59138	A dropout delay has been added on ultracapacitor charged status.
59267	The 6-in-1 charger firmware has been updated to BC4h. This version relaxes various diagnostics that may occur at high ambient temperature.
59343	The commutator bar wiggle delay has been reduced from 30 seconds to 5 seconds, and the commutator bar warning secondary fault has been downgraded to information-only.
59389	The legacy simulation mode, activated via the IONet interface, has been removed.
59449	An issue that could cause ToolboxST to falsely report that it could not retrieve diagnostics from the WEPA has been resolved.
59675	The Battery DB Life Test can now be forced via an interface bit when at least one battery is in warning state. Previously, at least one battery had to be in trip state.
60105	A short Mode2Active bit activation during the portion of the EBST sequence that tests the FPGA watchdog has been removed.

3.8.3 WorkstationST V07.09.06C

Reference	Release Note
61193	NEW! Controlled Access Rights now support the latest revision of the Authentication Server REST API, enabling online Authentication and Authorization of elevated privileges.
60504	OPC UA Alarm Server: Fixed an issue where the time for alarms in a client was the time the alarm was received by the client, when it should have been the time the alarm was created in the controller.
60507	OPC UA Alarm Server: Fixed an issue where phantom alarms appear in a client when alarms are removed from the system after the OPC UA Server is started but before a client connects.

3.8.4 Previously Released

The following components, also in Service Pack 05, were previously released since ControlST V07.09.01C in previous Service Packs.

- ARESBlockLib V08.04.03C
- CMS Server V07.09.01C
- Documentation V07.09.02C
- EX2100e V04.16.00C
- EX2100e_FR V01.01.00C
- Mark VIe V06.11.01C
- PAIC V05.01.01C
- PAOC V05.00.01C
- PDIA V05.01.01C
- PDOA V05.07.02C
- PPDA V05.00.03C
- PPRA V05.00.01C
- PPRO V05.05.02C
- PRTD V05.00.01C
- PTCC V05.00.01C
- PTUR V05.00.02C
- PVIB V05.01.06C
- YSIL V05.06.03C

3.9 ControlST V07.09.01C SP06 (October 2021)

This is a maintenance release driven by updates to the Mark VIe and virtual controller products related to PID_MA_ENH, Breaker_V2, STARTER_V3, and S_O_V_V3 blocks, updates to the Mark VIe for Wind-specific online load and memory leak issues, and updates to ToolboxST related to the FOUNDATION Fieldbus macrocycle schedule. This release also includes a security update.

3.9.1 ARESBlockLib V08.04.04C

Reference	Release Note
61434	NEW! Performance updates to ARES model A7HA031A0919V4
61435	NEW! Additions to iodata array in ARES model A6F0103A1120V4
61436	NEW! Added new ARES model A9HA014C0219V4
61437	NEW! Added new ARES model A9HA021B0421V4

3.9.2 Mark VIe V06.11.02C

Reference	Release Note
58112	The advanced diagnostics Various Advanced Info display buffer has been increased to contain the complete IONet EGD Info output.
58592	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where variable integral gain does not work as expected in the PID_MA_ENH_V2. For the PID_MA_ENH_V3 the CVO increases at all times while in the PID_MA_ENH_V2 the CVO increases when IG increases, but decreases when IG decreases.
58593	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where during activation of increase or decrease inhibit, feedforward is not considered due to internal integral windup in the PID_MA_ENH_V2.
59413	An issue where memory is leaked during an online download of the Wind Farm Control application has been resolved. This issue does not exist in the General Purpose Mark VIe application.
59415	Wind farm control can now send output while doing an online load, resolving an issue where the turbines stopped responding during this time.
60500	The Standard Block Library NANCHECK block now produces a build error when a UDINT variable is connected to the SRC pin of the REAL variant of the block resolving an issue where the application previously built but failed to boot in the controller.
60888	The DCS Block Library BREAKER_V2 and BREAKER blocks now produce a trip alarm under two new conditions. First condition, the breaker trips when a controller reboots while the breaker is closed. Second condition, when a breaker closes, but reopens or trips shortly after. For example, when a breaker closes 1.5 seconds prior to trip.
60889	The DCS Block Library STARTER_V3 and STARTER_V2 blocks now produce a trip alarm under two new conditions. First condition, the starter trips when a controller reboots while the starter is on. Second condition, when the start command is sent and the equipment starts, but trips shortly after. For example, when the equipment starts 1.5 seconds prior to trip.

Reference	Release Note
60890	The DCS Block Library S_O_V_V3 and S_O_V_V2 blocks now properly do not announce a congruency alarm (CONGR_A) for one scan prior to the fail-to-close (FL_CL_A) or fail-to-open (FL_OP_A) alarms when an SOV fails to close or open.
Additional	56070, 59891, 60503, 62050

3.9.3 *ToolboxST V07.09.07C*

Reference	Release Note
60571	ToolboxST now allows copying of PROFINET devices from a read-only configuration.
60572	ToolboxST now allows identifying of PROFINET devices for a read-only configuration.
60573	PROFINET DCP tool now has OK, Cancel, and Apply buttons that behave as any standard Windows application. The Apply button no longer exits the PROFINET DCP tool when selected.
61433	PROFINET: When adding submodules on the Slot Configuration Tab, the list of available submodules in the tree view in the rightmost pane now remains expanded. Also on the Slot Configuration Tab, the tool now selects the first empty sub-slot if there are no empty slots.
61615	Resolved an issue where, if a timeout occurs while trying to open a controller device, ToolboxST would fail. Now, the device will not open, and the user can try again.
62022	Fixed an issue where ToolboxST, under certain conditions, would fail while setting the IP Address on the Controller Modbus Master tab.
62068	Fixed a FOUNDATION Fieldbus issue that caused some tight segment schedules that used to fit in previous versions to now exceed the allowed scheduled time allotment.
62106	When an error occurred during a Power Conversion device upgrade, under certain conditions the incomplete upgrade was not reverted to the original version. This has been fixed and the user is more clearly told that the upgrade failed.
62120	Resolved issue where manually laid out block diagrams would revert to being automatically laid out.
62121	Resolved issue where the system could incorrectly be opened read-only while it was being indexed.
62231	An issue was resolved where certain granular access rights in Security Group definitions were not enforced when applied to variables, blocks, tasks, and programs. The existing ModifyData, ModifyDesign, and MaintainComponent access rights worked as expected, and can be used as a work-around. The new rights affected were ChangeLiveValue, ForceLiveValue, ChangeInitialValue, Instance, Unlink, Save, Build, Download, ReplaceHardware, Rename and UpgradeFirmware.
Additional	61070, 61257, 62030

3.9.4 Virtual Mark VIe (32+64) V06.11.01C

Reference	Release Note
61221	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where variable integral gain does not work as expected in the PID_MA_ENH_V2. For the PID_MA_ENH_V3 the CVO increases at all times while in the PID_MA_ENH_V2 the CVO increases when IG increases, but decreases when IG decreases.
61222	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where during activation of increase or decrease inhibit, feedforward is not considered due to internal integral windup in the PID_MA_ENH_V2.
61260	The DCS Block Library BREAKER_V2 and BREAKER blocks now produce a trip alarm under two new conditions. First condition, the breaker trips when a controller reboots while the breaker is closed. Second condition, when a breaker closes, but reopens or trips shortly after. For example, when a breaker closes 1.5 seconds prior to trip.
61263	The DCS Block Library STARTER_V3 and STARTER_V2 blocks now produce a trip alarm under two new conditions. First condition, the starter trips when a controller reboots while the starter is on. Second condition, when the start command is sent and the equipment starts, but trips shortly after. For example, when the equipment starts 1.5 seconds prior to trip.
61266	The DCS Block Library S_O_V_V3 and S_O_V_V2 blocks now properly do not annunciate a congruency alarm (CONGR_A) for one scan prior to the fail-to-close (FL_CL_A) or fail-to-open (FL_OP_A) alarms when an SOV fails to close or open.

3.9.5 Virtual Mark VIe V06.08.02C

Reference	Release Note
61216	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where variable integral gain does not work as expected in the PID_MA_ENH_V2. For the PID_MA_ENH_V3 the CVO increases at all times while in the PID_MA_ENH_V2 the CVO increases when IG increases, but decreases when IG decreases.
61218	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where during activation of increase or decrease inhibit, feedforward is not considered due to internal integral windup in the PID_MA_ENH_V2.
61258	The DCS Block Library BREAKER_V2 and BREAKER blocks now produce a trip alarm under two new conditions. First condition, the breaker trips when a controller reboots while the breaker is closed. Second condition, when a breaker closes, but reopens or trips shortly after. For example, when a breaker closes 1.5 seconds prior to trip.
61261	The DCS Block Library STARTER_V3 and STARTER_V2 blocks now produce a trip alarm under two new conditions. First condition, the starter trips when a controller reboots while the starter is on. Second condition, when the start command is sent and the equipment starts, but trips shortly after. For example, when the equipment starts 1.5 seconds prior to trip.
61264	The DCS Block Library S_O_V_V3 and S_O_V_V2 blocks now properly do not annunciate a congruency alarm (CONGR_A) for one scan prior to the fail-to-close (FL_CL_A) or fail-to-open (FL_OP_A) alarms when an SOV fails to close or open.

3.9.6 Virtual Mark Vle x64 V06.08.02C

Reference	Release Note
61219	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where variable integral gain does not work as expected in the PID_MA_ENH_V2. For the PID_MA_ENH_V3 the CVO increases at all times while in the PID_MA_ENH_V2 the CVO increases when IG increases, but decreases when IG decreases.
61220	The PID_MA_ENH_V3 block has been added to the Standard Block Library resolving an issue where during activation of increase or decrease inhibit, feedforward is not considered due to internal integral windup in the PID_MA_ENH_V2.
61259	The DCS Block Library BREAKER_V2 and BREAKER blocks now produce a trip alarm under two new conditions. First condition, the breaker trips when a controller reboots while the breaker is closed. Second condition, when a breaker closes, but reopens or trips shortly after. For example, when a breaker closes 1.5 seconds prior to trip.
61262	The DCS Block Library STARTER_V3 and STARTER_V2 blocks now produce a trip alarm under two new conditions. First condition, the starter trips when a controller reboots while the starter is on. Second condition, when the start command is sent and the equipment starts, but trips shortly after. For example, when the equipment starts 1.5 seconds prior to trip.
61265	The DCS Block Library S_O_V_V3 and S_O_V_V2 blocks now properly do not annunciate a congruency alarm (CONGR_A) for one scan prior to the fail-to-close (FL_CL_A) or fail-to-open (FL_OP_A) alarms when an SOV fails to close or open.

3.9.7 WorkstationST V07.09.07C

Reference	Release Note
60379	An issue was resolved where clicking the "use offline USB device" link when elevating privileges with a Controlled Access Right would terminate WorkstationST Status Monitor if an Offline Token File has not been loaded yet.
61254	Changed the behavior of checking all controllers for the WorkstationST Web feature's historical alarm page. Now all controllers are un-checked when the page displays.
62043	Control System Health provides configuration options to generate Alarms and/or Events. However, when a Network Switch loss of communications occurred it generated both an Alarm and an Event regardless of the configuration. This is now fixed.
62048	Fixed an issue with Redundant Alarm Servers where a "Lost Secondary Alarm Server" alarm might be generated even though the Secondary Alarm Server is available. This issue was introduced with V07.08.00C.
62245	When the OPC UA server is enabled and the network monitor feature is enabled, the network monitor variables were not being updated correctly to EGD. For ControlST 7.8 or later they were also not updated locally for OPC UA clients.

3.9.8 *Previously Released*

The following components, also in Service Pack 06, were previously released since ControlST V07.09.01C in previous Service Packs.

- CMS Server V07.09.01C
- Documentation V07.09.02C
- EX2100e V04.16.00C
- EX2100e_FR V01.01.00C
- PAIC V05.01.01C
- PAOC V05.00.01C
- PDIA V05.01.01C
- PDOA V05.07.02C
- PPDA V05.00.03C
- PPRA V05.00.01C
- PPRO V05.05.02C
- PRTD V05.00.01C
- PTCC V05.00.01C
- PTUR V05.00.02C
- PVIB V05.01.06C
- WEPA V05.16.04C
- YSIL V05.06.03C

Notes

4 V07.09.00 Release Notes

4.1 V07.09 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.
- Selecting a baud rate of 31.25kBit/s or 45.45kBit/s for the PROFIBUS Master device’s PROFIBUS Network configuration, results in a message box that displays “Error hr:1 Incorrect function.” on the second device build. At this point the PPRF files are corrupted, even though the build says it succeeded. This configuration should not be downloaded to a PPRF. These speeds are very slow and not used in GE’s standards.
If this corruption occurs, the pack needs to be deleted and re-added with a valid baud rate using the following steps.
 1. Right-click on the PPRF in the Hardware tree and select Modify
 2. Take a screenshot or record the properties: Redundancy, Module Required, HW Form, Barcode, Position, ENET1 Port and ENET2 Port
 3. Cancel to exit the Modify dialog
 4. Open the PROFIBUS Network configuration dialog, select a supported baud rate (other than 31.25kBit/s or 45.45kBit/s), and click OK
 5. Right-click on the PPRF in the Hardware tree, select Export Configuration, and save to an empty folder
 6. Delete the corrupt PPRF from the Hardware tree in ToolboxST
 7. Create a new PPRF with the settings recorded in Step 2
 8. To import the configuration saved in Step 5, right-click on the PPRF in the Hardware tree, select Import PROFIBUS Network and Setup, and navigate to the saved folder
 9. After the import completes, build and download the device

WorkstationST*

The WorkstationST Device Manager Gateway feature has been updated to support the Honeywell Field Device Manager (FDM) tool. However, the FDM is not usable with Mark VIe systems until Honeywell updates the product to recognize GE HART IO packs. Once Honeywell makes the required changes it is expected the FDM should function properly; however, GE will not authorize its use until final validation is conducted.

Block Library Creator and Mark* Vle Virtual Controllers

Potential issues exist if the Block Library Creator is configured to create multi-core blocks and these blocks are used with the Mark Vle Virtual Controllers. The issue presents itself as a crash of the Virtual Controller during the startup process. The workaround for non-multi-core applications is to compile the block in single-core mode.

ControlST Support for Windows Server 2012 R2, Windows Server 2016, Windows Server 2019 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI 2018 is only supported on Windows Server 2016, Windows Server 2019, and Windows 10 IOT Enterprise LTSCB 2016 – 1607.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

4.2 V07.09 Suite Components

See Component Registry: [ControlST Component Registry](#)

4.3 V07.09.00C (January 2021)

4.3.1 V07.09.00C Highlights

EX2100e_FR Initial Release

Description: Initial Release of the EX2100e Excitation Control Full Redundant. The EX2100e_FR firmware manages the Full Redundant configuration (Brushless only). The product covers the redundancy of measurement and modules.

References:

[EX2100e Excitation Control H-variant Thyristor Systems User Guide \(GEH-6791\)](#)

[EX2100e Excitation Control H-variant Thyristor System Maintenance Guide \(GEH-6792\)](#)

[EX2100e Excitation Control H-variant Thyristor Systems Installation and Startup Guide \(GEH-6793\)](#)

Work Items: 50402

Mark Vle Trip Log Enhancement for GE Renewables Only

Description: Added power safe Trip Logs using CAPTURE buffer blocks for high speed data and Compress Data Log (CDL) for low speed data.

References:

[ControlST Software Suite How-to Guides \(GEH-6808\)](#)

[WorkstationST Recorder User Guide \(GEI-100627\)](#)

[Trender Instruction Guide \(GEI-100795\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 54251, 54377, 54378

Mark Vle Command Disable Enhancement

Description: Added CMD_DISABLE block to the Standard Block Library to allow disabling of commands from individual protocols.

References:

[Mark Vle Controller Standard Block Library \(GEI-100682\)](#)

Work Items: 54253

Virtual Mark VleS Enhancement

Description: The Virtual Controller now saves non-volatile variables and totalizers when shutting down and restores them again when starting up. This emulates the function of NVRAM in the physical controllers.

References:

[Mark Vle and Mark VleS Virtual Controllers User Guide \(GEH-6742\)](#)

Work Items: 54358

Virtual Mark Vle (32+64) Enhancement

Description: The Virtual Controller now saves forced variables, non-volatile variables, and totalizers when shutting down and restores them again when starting up. This emulates the function of NVRAM in the physical controllers.

References:

[Mark Vle and Mark VleS Virtual Controllers User Guide \(GEH-6742\)](#)

Work Items: 54254

CMS Server Enhancement

Description: CMS can now use Active Directory to manage user access.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 54355

ToolboxST Controlled Access Rights Enhancement

Description: ToolboxST now supports configuring Controlled Access Rights, a means for allowing users to temporarily elevate their access to application code and ControlST features using OEM controlled offsite authentication and authorization. This supersedes the Wind Service Accounts feature but is also available to all Mark Vle applications.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 55460

WorkstationST Controlled Access Rights Enhancement

Description: Added support for Controlled Access Rights and Security Groups to WorkstationST features.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 54357

WorkstationST Linux Support Enhancement

Description: Added support for the Mark VI alarm protocol allowing the WorkstationST alarm server to support Mark VI alarms in Linux.

Work Items: 54122

4.3.2 V07.09.00C Changes

4.3.2.1 AEPA V05.16.00C

Reference	Release Note
55340	NEW! A new diagnostic indicating a stuck blade has been added.
47716	The 6-in-1 charger firmware has been updated to BC4d. This update remaps a new fault code to a legacy code for compatibility with earlier AEPA releases.
48107	A check has been added to tell the turbine control if the 89 degree limit switch was not activated at bootup, indicating uncertainty in position feedback.
54252	The EBST block fault timeout has been extended from 30 seconds to 11 minutes.
55475	The transition from auto to manual is now prevented unless the home limit switch is true or the position is greater than 65 degrees and stopped or the z accelerometer indicates the hub has stopped or the turbine stopped output is true.

4.3.2.2 CMS Server V07.09.00C

Reference	Release Note
54355	NEW! CMS can now use Active Directory to manage user access.
Additional	55876

4.3.2.3 EX2100e V04.15.01C

Reference	Release Note
55108	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

4.3.2.4 EX2100e_FR V01.00.00C

Reference	Release Note
50402	NEW! Initial Release of the EX2100e Excitation Control Full Redundant. The EX2100e_FR firmware manages the Full Redundant configuration (Brushless only). The product covers the redundancy of measurement and modules.
55237	NEW! The PQ_LIMITS block has been added to the Exciter Block library. PQ_LIMITS is used to calculate points of the PQ diagram to dynamically display the UEL, OEL and SCL limitations on an HMI.

4.3.2.5 EX2100e_Reg V04.15.01C

Reference	Release Note
55108	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

4.3.2.6 LS2100e V04.14.01C

Reference	Release Note
55109	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

4.3.2.7 Mark VIe V06.11.00C

Reference	Release Note
54251	NEW! Added power safe Trip Logs using CAPTURE buffer blocks for high speed data and Compress Data Log (CDL) for low speed data.
54253	NEW! Added CMD_DISABLE block to the Standard Block Library to allow disabling of commands from individual protocols.
51464	In systems with a UCSC controller the Network Settings -> Network configuration item for the network adapter associated with ENET2 can now be changed to a network other than CDH.
54141	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).
Additional	49423, 53142, 54353

4.3.2.8 Mark VIeS V06.02.02C

Reference	Release Note
53011	An issue where the controller could continuously reboot after being upgraded and downloading firmware has been resolved.
53555	In systems with more than 255 IO packs it is possible that SOEs for some IO packs not be transmitted to the HMI. This issue has been resolved.
54142	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).
Additional	53141

4.3.2.9 PAMC V05.06.04C

Reference	Release Note
53283	PAMC now properly supports factory test mode for BAPB modules.

4.3.2.10 PCEG V05.16.00C

Reference	Release Note
54226	NEW! The PCEG CE3000 Gateway now supports the LE109 (32 digital inputs), LD106 (16 static digital inputs), AS212 (8 analog outputs with feedbacks) boards for the ALSPA DCS Retrofit.
Additional	55449

4.3.2.11 PPNG V05.14.04C

Reference	Release Note
54245	A situation where the PPNGH1A may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

4.3.2.12 REPA V05.16.00C

Reference	Release Note
52270	NEW! Added brake measurement data in REPA flash. Advanced diagnostic added to read brake release and set times stored in flash.
52317	NEW! Support added for 35Nm LEGO motor.
52891	NEW! A new diagnostic indicating a stuck blade has been added.
52985	NEW! Mode 2 monitoring functionality has been added to the WEPA.
53210	NEW! Introduced mode 3 overspeed prevention.
53215	NEW! Added startup diagnostic if DC link voltage does not ramp.
53216	NEW! Introduced the ability to de-escalate mode 3 and switch back to the primary converter in the event of a mode 3 failure.
53217	NEW! The Emergency Braking System Test sequence has been modified to test the REPA motherboard's Mode 2 watchdog function.
53499	NEW! Added secondary converter serial number monitor where changing the secondary converter should cause the turbine controller to do a mode 3 test.
53586	NEW! Added an adjustment to motor KT based on motor temperature. This provides a more accurate MotorTorque estimation.
53601	NEW! Added support for Seirra 35Nm AMD pitch motor.
53605	NEW! New brake slipped diagnostic and secondary fault added.
53708	NEW! Added a counter emf fault to detect a floppy blade.
53911	NEW! Added resolver mismatch secondary fault that triggers if primary converter differs from secondary converter resolver feedback.

Reference	Release Note
54047	NEW! Added IGBT test to secondary converter 8 hour safety test. Also changed safety test informational alarms to secondary faults.
54084	NEW! Added improvement to make pitch converters backwards compatible with all REPA versions V05.15.03C and above.
54171	NEW! Improved system inertia sensitivity.
54227	NEW! Added support for new 2.6 farad capacitor box.
54800	NEW! Added advanced diagnostic to read key FPGA data.
52085	Modified ultracapacitor loadtest to match IEC loadtest method. Added UcapTotalESR to REPA interface.
52087	Changed recommended actions for diag 152 "DC Link voltage too low for loadtest".
52146	Support added for 200Nm brake retrofit from Intorq.
52192	An emergency braking system test interval that expires while pitched to power will now cause the WEPA to enter Mode 2.
52193	A bug that could allow a Mode 2 to Mode 1 transition has been fixed.
52266	New converter current regulator implemented to fix low voltage ride through failure at high speed and high torque.
52268	Fixed bug where UcapLoadtestOk would stay true if ultracapacitor load test fails.
52269	An issue was found where the automatic brake release time measurement had only 90% accuracy.
52272	Conv1DbCurrent and Conv1DbCurrentRms variables now show values used for the DB timed overcurrent fault.
52273	Recategorized some secondary converter faults so that they do not trip mode 3.
52275	Support added for WT20 35Nm AMD motor.
52301	An issue was found where pitch system would not burn off excess energy if DC link were to increase greater than 680V and K21 was open.
52308	Made high voltage ride through and low voltage ride through changes to meet turbine requirements.
52954	An issue that could cause an unexpected Mode 2 after switching to manual mode has been resolved.
53092	The Live Parameter acceleration limits have been updated to 15 - 30 deg/s/s. The second Mode 2 speed range has been changed to 1.5 to 2.5 deg/s.
53572	Fixed a reboot loop caused by REPA downgrade.
53729	Added a test mode to support Baldor dyno.
53852	Fixed an issue where K22 could close and drop out K21.
53949	Mode 4 is not supported when in manual position mode.
53955	Corrected issue where some faults were not resettable or could be masked by ResetCmd in frame thread.
54098	Fixed bug where event log of REPA was filled up with FPGA speed profile data.
54104	Fixed issue with REPA converter parameter send getting stuck after REPA download.

Reference	Release Note
54124	Fixed bug with position profiler TC ratio using incorrect setting.
54204	Removed redundant permissives from SpeedControlPerm.
54240	The EBST block fault timeout has been extended from 30 seconds to 11 minutes.
54246	Fixed issue with brake release time being 30ms longer than it should be.
54277	Fixed FirstFaultDiag glitch when ResetCmd is toggled.
54312	Fixed intermittent trips due to the converter hardware data mux.
54452	Added support for 35Nm Id written into converter EEPROM.
54470	Changed fault 147 "Secondary converter requires parameter verification" from informational only to a secondary fault.
54649	Included comment on fault 143 "Ucap Open Fault" to check P2 shorting connection on ultracap box.
54716	Fixed REPA reboots when parameters are downloaded from Toolbox.
54774	Added minimum AutocalReference of 70.
54790	Fixed converter downloads so that they do not require variables to be forced. Also removed ultracap requirement for downloads. This allows the converters to be downloaded when in the manual pitch system state.
54899	Added fault 1176-1177 that detects when converter cannot configure resolver MCU.
54923	Fixed brake resistance faults on Seirra AMD 35Nm motor.
55395	Added strings to REPA advanced diagnostic "pitch converter parameters" command to show what each parameter is.
55411	Mode 3 acceleration is now a constant 22deg/s across all platforms.
55577	Mapped fault 51 "Mode 3 pitch initiated during mode 2 by speed profile watchdog" correctly as a first fault.
55600	Corrected issue with ultracapacitor segment capacitance alarm tripping when it should not.
55614	Added advanced diagnostic to read additional calibration information.
55657	Corrected an issue where phase loss detection would not trigger if a phase was lost.
55673	Fixed a gap where pitch system could start in auto before first ultracap load test.
Additional	52168, 52271, 53214, 54216, 54501, 54779, 55412, 55415

4.3.2.13 ToolboxST V07.09.00C

Reference	Release Note
54356	NEW! Improved component opening time by concurrently loading configuration files.
54377	NEW! ToolboxST now supports Power-safe Trip Logs using CAPTURE buffer blocks for high speed data and Compress Data Log (CDL) for low speed data.
54502	NEW! ControlST now supports Cisco 9300 Core switches and 9200L Edge switches.
55460	NEW! ToolboxST now supports configuring Controlled Access Rights, a means for allowing users to temporarily elevate their access to application code and ControlST features using OEM controlled offsite authentication and authorization. This supersedes the Wind Service Accounts feature but is also available to all Mark VIe applications.
55461	NEW! ToolboxST now supports defining Security Groups at the system level and applying them to application code objects and ControlST functionality. While the existing Protection and HMI Read and Write resources continue to work, Security Groups supersede and improve on them and will be the foundation of access control going forward.
50524	Resolved inconsistency in formatting of live values.
52147	Resolved a program failure that could occur when removing the last FF gateway pack from a controller.
52182	When components are renamed their old folders are no longer left on disk.
52372	Fixed an issue where CMS compare for a WorkstationST Device failed.
52498	Resolved issue where the Trender would fail when scrolling the horizontal axis if the trend contained more than 24 days of data.
52511	Corrected a rare tool failure when removing OPC UA client connections from the WorkstationST component editor's OPC UA tab and improved data entry error user feedback.
52593	Fixed an issue where Control Constants Initial Values failed to import when "Undriven Variables" is checked on the per device Control Constants Dialog.
52616	Fixed an issue introduced in V07.03.06C where the Undriven Variables portion of "Control Constants and Undriven Variables" (at the devices level) was including variables that it should not, for example _BlockCPUTicks.
52902	Fixed an issue where Reconcile of live values from controller to ToolboxST failed for block pins where the ToolboxST value was the default, but the live value was not the default.
52903	Fixed an issue where with a controller open in ToolboxST, choosing Device Upload from within the Device component resulted in a failure and the device contents was then wrong .
52942	Trender will now automatically remove unused data sources.
53041	Fixed an issue where PROFINET GSDML files were missing or not imported if the file path was too long. An Error message is now displayed with the list of files and information needed to resolve the issue.
53270	External Device: Fixed an issue where the import of a ProducedData.xml was removing information like Description that comes from the SymbolTable.xml.
53296	Corrected an issue where differences were shown on a PPRF (PROFIBUS) that were on hidden data and were not relevant to the user.

Reference	Release Note
53305	Corrected a problem where historical alarms were obtained from the primary alarm server when the secondary alarm server was the active server and the primary alarm server was stopped.
54113	Fixed an issue where the help for the PFFAH1A was displayed in the Info Tab when the PFFAH1B was selected.
54193	The keep-alive timeout value downloaded to the PFFA modules has been updated to prevent a potential PFFA reboot and temporary loss of FOUNDATION Fieldbus device communication during redundancy switchover events triggered by the loss of IONet or loss of power to the Designated Controller.
54238	Fixed a FOUNDATION Fieldbus issue where viewing certain blocks could cause controller device inequality without making any changes.
54464	Corrected a UI issue where toggle of a control server's high availability setting added child nodes for non virtualization server type nodes.
55249	Resolved issues with CMS management and archiving of Live View configurations.
55261	Fixed crash caused by a corrupted XML file.
55544	Fixed a Download Scan error where PFFAs report that they are configured with incorrect Hardware Forms.
55555	Resolved an issue where the Finder would not allow index based searching if a component was read-only.
55557	Fixed a crash that occurred if the user used an older version of ToolboxST to add a controller whose version is not supported by the older version of ToolboxST.
55601	PROFINET Slot Configuration now auto selects the next open slot to make it easier to add new modules just by double-clicking.
55602	PROFINET Slot Configuration now presents the modules to be added in alphabetical order instead of the order in which they were entered in the GSDML file.
55619	If an EtherCAT controller is selected (UCSC H1C), the I/O Net network redundancy will be forced to be Simplex since it is the only redundancy supported.
55651	An issue was corrected where the PCNO would show ConfigSize as unequal during a Compare To Controller even though the configuration in ToolboxST and the physical PCNO I/O Pack were equal.
55796	Fixed an issue that made some Component Groups impossible to delete.
55900	Corrected a problem where a produced EGD page that showed no variables could not be deleted. The error dialog indicated the page contained variables, but the check for variables on the page was incorrectly including variables from referenced devices where the EGD page name matched.
56023	Improved the controller diagnostics in the Send Problem Report.
56080	Fixed an issue where the Search function does not find many items in a Workstation Component that has Indexing turned on. Indexed Searching was added as an alternative method of searching in V07.08.00C.
Additional	51357, 52142, 52201, 52376, 52879, 53019, 53040, 53397, 53614, 54065, 54092, 54420, 54479, 54742, 55341, 55342, 55401, 55427, 55554, 55709, 55762, 55767, 55922, 56008, 56009

4.3.2.14 Virtual Mark VIe (32+64) V06.11.00C

Reference	Release Note
54254	NEW! The Virtual Controller now saves forced variables, non-volatile variables, and totalizers when shutting down and restores them again when starting up. This emulates the function of NVRAM in the physical controllers.
54361	NEW! Added support for Mark VIe V06.11.00C. This includes an updated Capture Buffer block and support for Command Disable via the CMD_DISABLE block.

4.3.2.15 Virtual Mark VIe V06.08.00C

Reference	Release Note
7783	NEW! Updated the Watch Window "Select Symbols to watch" dialog to be resizable, and include a horizontal scroll bar (if needed).
54359	NEW! Added support for Mark VIe V06.11.00C. This includes an updated Capture Buffer block and support for Command Disable via the CMD_DISABLE block.
10680	Fix Watch Window refresh timer after Watch Window had been closed and reopened.

4.3.2.16 Virtual Mark VIe x64 V06.08.00C

Reference	Release Note
54360	NEW! Added support for Mark VIe V06.11.00C. This includes an updated Capture Buffer block and support for Command Disable via the CMD_DISABLE block.
55454	NEW! Updated the Watch Window "Select Symbols to watch" dialog to be resizable, and include a horizontal scroll bar (if needed).
55455	Fix Watch Window refresh timer after Watch Window had been closed and reopened.

4.3.2.17 Virtual Mark VIeS V06.05.00C

Reference	Release Note
54358	NEW! The Virtual Controller now saves non-volatile variables and totalizers when shutting down and restores them again when starting up. This emulates the function of NVRAM in the physical controllers.
10681	Fix Watch Window refresh timer after Watch Window had been closed and reopened.

4.3.2.18 WEPA V05.16.00C

Reference	Release Note
46795	NEW! The code has been updated to support WT20: - Signals are renamed to better line up with the AC pitch system - Live parameters are introduced - The Parameters tab in ToolboxST has been cleaned up - Mode1Enable (formerly MainsOnCmd) is no longer a first fault - A local capture buffer has been added
48630	NEW! A simulation mode has been added to the firmware.
50699	NEW! The WEPA now supports ultracapacitors as a backup power source.
50703	NEW! An abbreviated Emergency Braking System Test has been introduced.
52030	NEW! Brake release time monitoring was added.
52044	NEW! A new Mode 3 de-escalation feature is added that can prevent blades from becoming stuck in Mode 3.
52455	NEW! Mode 2 monitoring functionality has been added to the WEPA.
52890	NEW! A new diagnostic indicating a stuck blade has been added.
52892	NEW! The Emergency Braking System Test sequence has been modified to test the WEPA motherboard's Mode 2 watchdog function.
53218	NEW! A Mode 3 shunt field loss detector has been added.
53326	NEW! A Battery DB Life Test failure now results in pitch system trip after 10 minutes.
53327	NEW! The firmware now issues a secondary fault upon Battery DB resistor failure and escalates to a first fault after 10 minutes.
53460	NEW! The WEPA now supports using either an encoder or resolver for position feedback.
53492	NEW! A check that the K21 normally-closed contact operates as expected has been added.
54278	NEW! A brake slip diagnostic, which triggers when the blade moves more than 0.2 degrees while the brake is set, has been added.
49117	An optional motor SCR test has been added to the battery test sequence.
50246	An increased resolution battery internal resistance measurement is now available.

Reference	Release Note
50313	A special lab test mode has been added that removes the default position offset.
50759	The SlowJogRef parameter has been modified to be always visible and always used.
51417	The Mode3TestPassed bit now persists across WEPA reboots.
52045	A bug that could allow a Mode 2 to Mode 1 transition has been fixed.
52176	An emergency braking system test interval that expires while pitched to power will now cause the WEPA to enter Mode 2.
52342	A BatteryDBResEnabled feedback bit has been added.
52953	An issue that could cause an unexpected Mode 2 after switching to manual mode has been resolved.
53091	The Live Parameter acceleration limits have been updated to 15 - 30 deg/s/s. The second Mode 2 speed range has been changed to 1.5 to 2.5 deg/s.
53429	An error in the BPPB IO mapping was fixed.
53511	The ultracapacitor charged voltage threshold has been reduced to 14.15 V per module.
53652	The auto-calibration routine has been made more robust against intermittent zero speed feedback.
54004	A condition that could mask secondary faults has been resolved. Internal reset pulses have been stretched to better propagate across threads.
54284	Fix glitch that can cause single-scan dropout of fault signals when ResetCmd or SecondResetCmd is asserted.
54343	A five-minute timeout has been added to the FirstFaultBypass input.
54513	The ultracapacitor charger firmware image has been upgraded to UC1e.
54538	The BackupVoltOk2Plc rung has been modified such that UcapCharged dropping out will not cause the turbine control to fail an EBST.
54549	The limit switch locations in simulation mode are now parameterized.
54579	Limits for the Mode 2 settings, profiler settings, and auto-calibration reference have been applied to the ToolboxST WEPA Parameters tab.
54614	An issue that could cause intermittent Low Backup String Voltage diagnostics after a reboot has been resolved.
54701	An issue that made the logic for detecting charged ultracapacitors too sensitive has been resolved.
54736	The default value of the WEPA Mode3TestEnable parameter has been changed from False to True.
54782	The minimum AutoCalReference limit has been reduced to 70 degrees.
55267	The units on the timeout for Diagnostic 143, Ultracapacitor Voltage Insufficient to Return to Feather, have been corrected. The timeout has also been increased from 250 ms to 2 seconds.
Additional	52905, 53010, 53501

4.3.2.19 WorkstationST V07.09.00C

Reference	Release Note
54122	NEW! Added support for the MarkVI alarm protocol allowing the WorkstationST alarm server to support MarkVI alarms in Linux.
54357	NEW! Adding support for Controlled Access Rights and Security Groups to WorkstationST features.
54378	NEW! Recorder and Trender now support Power-safe Trip Logs using CAPTURE buffer blocks for high speed data and Compress Data Log (CDL) for low speed data.
45478	Enhanced the error indication when the Device Manager Gateway encounters a certificate error to make the issue more obvious.
47604	Corrected the view of MarkVI migration IO boards in Control System Health.
49772	Corrected a failure of the Network Status Viewer seen after a thin client was incorrectly configured with a team NIC.
50624	The default Network Switch SNMP request rate has been increased from 15 seconds to 60 seconds to reduce the Control System Health WorkstationST feature CPU consumption in large systems.
52316	Device Manager Gateway HART Message Server will no longer attempt to connect to a controller that is running in virtual mode since there is no IO for it to forward messages to, and this avoids the crash that was occurring when DMG attempted to connect the HART Message Server to a virtual controller.
52388	Correcting an issue where feature start and stop were disabled from the WorkstationST status monitor for systems that have no users and roles defined.
52498	Resolved issue where the Trender would fail when scrolling the horizontal axis if the trend contained more than 24 days of data.
52942	Trender will now automatically remove unused data sources.
52967	Changed the hosts file creation WorkstationST feature to obtain the list of devices from the EGD configuration server rather than the local cache.
55385	Fixed an issue where Recorder does not include alarms in created .dcaST files if the configuration field "Alarm Server To Use" is blank but the AlarmServer is enabled on this WorkstationST and there is no Primary Alarm Server defined in the system.
55531	Improved the time required to read recorder data for data saved later in the hour. The recorder creates a file each hour. The reader of that data was doing a large amount of needless processing on data with timestamps prior to the client's requested start time. This change will improve the time for the Trender's historical backfill from recorder collected variables.
55703	Added an error to the Recorder feature, visible from the WorkstationST status monitor, indicating a trip log has one or more capture blocks not complete after a trip. The error occurs when there is a mismatch between some finished capture blocks with others not finished after a short time delay. The error is cleared after the mismatch is cleared.
55956	Corrected an issue where WorkstationST scheduled tasks failed to be confirmed from the WorkstationST status monitor when the task was running a x64 target.
56069	Added a check at WorkstationST download for devices that are in a system, but are missing from the EGD configuration server. The user is now asked if they would like to publish missing devices before the download.
Additional	55762, 55871, 56008, 56021

5 V07.08.01 Release Notes

5.1 V07.08 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.
- Selecting a baud rate of 31.25kBit/s or 45.45kBit/s for the PROFIBUS Master device’s PROFIBUS Network configuration, results in a message box that displays “Error hr:1 Incorrect function.” on the second device build. At this point the PPRF files are corrupted, even though the build says it succeeded. This configuration should not be downloaded to a PPRF. These speeds are very slow and not used in GE’s standards.
If this corruption occurs, the pack needs to be deleted and re-added with a valid baud rate using the following steps.
 1. Right-click on the PPRF in the Hardware tree and select Modify
 2. Take a screenshot or record the properties: Redundancy, Module Required, HW Form, Barcode, Position, ENET1 Port and ENET2 Port
 3. Cancel to exit the Modify dialog
 4. Open the PROFIBUS Network configuration dialog, select a supported baud rate (other than 31.25kBit/s or 45.45kBit/s), and click OK
 5. Right-click on the PPRF in the Hardware tree, select Export Configuration, and save to an empty folder
 6. Delete the corrupt PPRF from the Hardware tree in ToolboxST
 7. Create a new PPRF with the settings recorded in Step 2
 8. To import the configuration saved in Step 5, right-click on the PPRF in the Hardware tree, select Import PROFIBUS Network and Setup, and navigate to the saved folder
 9. After the import completes, build and download the device

WorkstationST*

The WorkstationST Device Manager Gateway feature has been updated to support the Honeywell Field Device Manager (FDM) tool. However, the FDM is not usable with Mark VIe systems until Honeywell updates the product to recognize GE HART IO packs. Once Honeywell makes the required changes it is expected the FDM should function properly; however, GE will not authorize its use until final validation is conducted.

Block Library Creator and Mark* Vle Virtual Controllers

Potential issues exist if the Block Library Creator is configured to create multi-core blocks and these blocks are used with the Mark Vle Virtual Controllers. The issue presents itself as a crash of the Virtual Controller during the startup process. The workaround for non-multi-core applications is to compile the block in single-core mode.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI 2018 is only supported on Windows Server 2016, Windows Server 2019, and Windows 10 IOT Enterprise LTSCB 2016 – 1607.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

5.2 V07.08 Suite Components

See Component Registry: [ControlST Component Registry](#)

5.3 V07.08.01C (September 2020)

5.3.1 V07.08.01C Highlights

Mark Vle / VleS Enhancement

Description: Added Modbus master support via the MBUS_READ and MBUS_WRITE blocks.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

[Mark Vle and Mark VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[Mark Vle Controller Standard Block Library \(GEI-100682\)](#)

[Mark VleS Safety Controller Block Library \(GEI-100691\)](#)

Work Items: 47823, 47824

Mark VleS Enhancement

Description: Added support for non-volatile program variables and totalizers.

References:

[Mark Vle and Mark VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[Mark Vle Controller Standard Block Library \(GEI-100682\)](#)

[Mark VleS Safety Controller Block Library \(GEI-100691\)](#)

Work Items: 50290

Virtual Mark VleS Enhancements

Description: Added support for Mark VleS V06.02.00C. This includes the following new blocks: COMBINE_SD, COMBINE_SLR, COMBINE_SR, COMBINE_SSD, I_TO_WD, MBUS_READ, MBUS_WRITE, SPLIT_DS, SPLIT_LRS, SPLIT_RS, SPLIT_SDS, TOTALIZER, VARSIM, WD_TO_I.

References:

[Mark Vle and Mark VleS Virtual Controllers User Guide \(GEH-6742\)](#)

Work Items: 51620

Virtual Mark Vle Enhancement

Description: Initial release of a Mark Vle Virtual Controller product that supports multicore applications. This single product supports both 32-bit and 64-bit Simulation Executives utilizing a single set of Virtual Controller applications that match the native size of the Mark Vle product - currently 32-bits.

References:

[Mark Vle and Mark VleS Virtual Controllers User Guide \(GEH-6742\)](#)

Work Items: 52957

PDIO Support for SIGA

Description: The PDIO now supports the Chentronics special purpose Igniter terminal board (SIGA) for Gas Turbine applications.

References:

[Mark Vle and Mark VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 51598

ToolboxST Enhancement

Description: Device builds can now be executed in the background (asynchronously), if selected under System Options. This allows the UI to be responsive during builds.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 52377

ToolboxST Enhancement

Description: Foundation Fieldbus Minimum Inter PDU Delay is now set to 8 and will increase as necessary per H1 device requirements during a build.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 50746

ToolboxST Performance Enhancements

Description:

- Improved virtual controller download user experience
- Improved performance of download scan when I/O packs are unavailable
- Improved opening time for Mark Vle controllers in ToolboxST
- Implemented FOUNDATION Fieldbus Build Performance Improvements, which reduce time needed to build

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 3708, 5481, 50802, 50750

REPA Enhancement

Description: 35Nm AC motor to support WT20.

Work Items: 50158

REPA Enhancement

Description: Completely reworked AC motor control algorithms to omit technology discontinued by MCU supplier.

Work Items: 48670

5.3.2 V07.08.01C Changes

5.3.2.1 CMS Server V07.08.00C

Reference	Release Note
53012	NEW! Supports LicenseST licensing model in conjunction with Proficy
49324	Added progress dialog when backing up or restoring repositories.

5.3.2.2 LicenseST V01.00.16C

Reference	Release Note
49028	NEW! The initial release of LicenseST. This will be released with ControlST V07.08.01C and Advanced Developer Toolkit V07.02.xx.C .
51149	NEW! Clean All is now supported from the LicenseSTCommandLine utility.
53282	Fixed an edge case issue in the offline activation in LicenseST.
53325	In Linux, if the product was checking licenses for over 5 hours, it would report a feature as an unlicensed device due to a missing dongle.
Additional	53018

5.3.2.3 Mark VIe V06.10.01C

Reference	Release Note
47823	NEW! Added Modbus master support via the MBUS_READ and MBUS_WRITE blocks.
45742	Documentation for the TIMER and TIMER_V2 blocks in the Standard Block Library has been updated to describe block operation in more detail.
49103	In a multi-core blockware application, the controller may reboot when a single frame overrun occurs. This issue has been corrected.
49779	In a system containing a WCBM IO module, the frame idle time of the controller periodically drops to 10% when the ADAPT.wind software is connected to the WCBM. This issue has been resolved.
51188	In systems with the UCSCH1A controller, when the embedded PPNG is rebooted without rebooting the controller the PROFINET network may not properly restart. This issue has been completely resolved.
51485	In systems with a UCSC controller the Network Settings -> Network configuration item for the network adapter associated with ENET2 can now be changed to a network other than CDH.
53557	In systems with more than 255 IO packs it is possible that SOEs for some IO packs not be transmitted to the HMI. This issue has been resolved.
Additional	46739, 50351, 51521, 52072, 52926

5.3.2.4 Mark VIeS V06.02.01C

Reference	Release Note
47824	NEW! Added Modbus master support via the MBUS_READ and MBUS_WRITE blocks.
50290	NEW! Added support for non-volatile program variables and totalizers.
50300	NEW! Added variable simulation support via the VARSIM block for use in the Virtual Mark VIeS.
32900	When the UDH communicator changes Events may be re-transmitted to the HMI with new timestamps. This issue has been completely resolved.
45447	An issue where the controller could reboot during an online load has been resolved.
46816	An issue that was causing some consumed exchanges in a device configured with more than 253 UDH EGD exchanges to become unhealthy has been resolved. The number of configured exchanges is calculated as the number of produced exchanges from the device plus the total number of exchanges configured in all referenced devices, regardless of how many devices contain consumed variables. However, it is not possible to guarantee which exchanges will be unhealthy as it is based on the order the device reads in the configuration files and can change during operation with dynamic binds.
48085	Intrinsic variables, e.g. IdleTime_R, can now be configured on the controller's Modbus slave interface.
48963	As issue where the controller may reboot during a UDH network storm has been resolved.
48964	A UCSC controller may boot to the DC_DETERMINATION control state and fail to synchronize logging the error 'pulses stuck at 0'. The issue has been completely resolved.
49808	Documentation for the TIMER and TIMER_V2 blocks in the Safety Block Library has been updated to describe block operation in more detail.
Additional	5605, 42471, 46016, 46796, 52187, 52289, 52324, 52927, 53135

5.3.2.5 PDIO V05.15.00C

Reference	Release Note
51598	NEW! The PDIO now supports the Chentronics special purpose Igniter terminal board (SIGA) for Gas Turbine applications.
Additional	52031, 52403

5.3.2.6 PPNG V05.14.03C

Reference	Release Note
49397	I&M0 device data is now correctly displayed in the "Compare to Hardware IO Device..." window.
Additional	52188

5.3.2.7 REPA V05.15.03C

Reference	Release Note
48670	NEW! REPA parameter support for major rev 2 converters.
49474	NEW! Added new normally closed diagnostic inputs for bypass input ok and auxiliary ok based on new hardware version.
50115	NEW! 35Nm pitch system type added for WT20 support.
50158	NEW! WT20 35Nm pitch system support is added.
50286	NEW! Added local capture buffer that can be read using the advanced diagnostics dialog.
50774	NEW! An abbreviated Emergency Braking System Test has been introduced.
51434	NEW! Brake release and set time monitoring was added.
49240	Ultracap now causes secondary fault instead of first fault and trip.
49638	Ultracaps are charged during grid loss if regeneration of voltage occurs.
49717	An issue was found at low temperatures where K5 fault logic did not turn on.
49899	Virtual debug port added between pitch converters and REPA.
50227	A bug which could cause the REPA to reboot after the 600th ultracap DB test has been fixed.
50335	A current regulator was added to control the pitch motor brake. This causes brake current to be the same at all ambient temperatures.
50382	Time is reduced when switching between mode 1 and 2 pitches to the mode 3 pitch by the secondary converter due to the ability to catch a motor while moving instead of waiting for the brake to set before mode 3 pitch begins.
50521	Converter DB resistor shorted fault has been changed to converter DB resistor IGBT failure.
50574	An ultracap charging system secondary fault was added. This fault triggers when ultracaps are charging, but ultracap voltage is decreasing.
50575	Motor stall detection was removed. Converters will now trip on timed overcurrent.
50760	The SlowJogRef parameter has been modified to be always visible and always followed.
50825	Ultracap loadtest updated to provide most accurate results.
50853	An issue was found where profiler live parameters could not be updated.
50854	An issue was found where the primary pitch converter would not start the motor after firmware download.
50874	An issue was found where the primary converter self testing would cause false alarm 107s, "Converter enable acknowledge below 70%".
51067	Pitch system now only supports AJT30 fuses or no fuses in the DB resistor path.
51299	Ucap low voltage fault does not occur when the home limit switches are activated.

Reference	Release Note
51325	An issue was found where motor torque constant was incorrect for 60Nm AMD motor. Motor torque constant changed to 60Nm / 48A.
51409	Several low voltage ride through related fixes were made which include fixes to ultracap charging, ultracap loadtest, and incoming phase loss detection.
51410	An issue was found where pitch speed would be limited if ultracaps were disconnected or AC input voltage decreased below 10% of nominal.
51416	Brake release voltage was increased to 23.88V. Brake set time delay increased by 50%.
51418	The Mode3TestPassed bit now persists across REPA reboots.
51424	Motor over temperature alarm was changed to 170C.
51433	Switching to manual mode possible when home or home overtravel limit switches are reached regardless of state of TurbineStopped.
51495	Low Ultracap voltage fault causes a DB loadtest so that EBST can be omitted.
51507	An issue was found where the converter speed regulator tuning was incorrect after a converter download. This caused unstable pitch motor control.
51772	Added a first fault for primary and secondary converter versions not matching the latest in REPA firmware.
51773	An issue was found where the position feedback would drift over time.
52141	Fixed an issue where converters would not hold 0 RPM while setting pitch motor brake if turbine control toggled GoToPosCmd (RunCmd) false when it had been true for less than 300ms.
52401	Added 2 more conditions to allow switch from auto to manual 1) position feedback greater than 65 degrees 2) hub is not moving according to z accelerometer.
52904	An issue that could activate new live parameters with the blade pitched to power has been resolved.
Additional	49668, 49745, 50283, 50469, 50871, 51071, 51072, 51073, 51074, 51075, 51076, 51077, 51078, 51300, 51301, 51405

5.3.2.8 ToolboxST V07.08.01C

Reference	Release Note
3708	NEW! Improved virtual controller download user experience.
5481	NEW! Improved performance of download scan when I/O packs are unavailable.
13091	NEW! No longer clear the log window every time users save their configurations.
37576	NEW! Fixed an issue with block instance naming that prevented edits when the name only varied by case.
48307	NEW! Added support for multi-core virtual controller.

Reference	Release Note
50746	NEW! Foundation Fieldbus Minimum Inter PDU Delay is now set to 8 and will increase as necessary per H1 device requirements during a build.
50747	NEW! Supports LicenseST licensing model in conjunction with Proficy
50750	NEW! Implemented FOUNDATION Fieldbus Build Performance Improvements, which reduce time needed to build
50802	NEW! Improve opening time for Mark VIe controllers in ToolboxST
51391	NEW! The Alias field is now included on the I/O Variable report. This is the Alias of the Connected Variable defined on the Software Tab.
52377	NEW! Device builds can now be executed in the background (asynchronously), if selected under System Options. This allows the UI to be responsive during builds.
52901	NEW! Added GSDML-V2.3-GE-AVIATION-IRIU-LT-SERIES-20190619 to PROFINET devices.
40705	An issue was resolved where CMS History compares between versions of a controller would fail if the controller contained FOUNDATION Fieldbus H1 devices.
45341	An issue was resolved where the Undo of a tree navigation in the Software tab sometimes added another Undo record, making subsequent Undos simply go back and forth between the two tree nodes.
45445	A warning message will now appear if switching from a Platform that has a Platform Option selected (examples: EtherCAT, PROFINET) and give the user a chance to not proceed with the change.
47523	PROFINET (PPNG) points are now included in the I/O Variable report. A new field called Full Name is also selectable from the Report->Change Columns Menu pick in the I/O Variable report. Full Name gives the name of the point along with the module/submodule the point is attached to. This is the same field that shows in the All Points Tab for the Name.
49257	An issue was resolved where changes to the pins of a user block were not always visually reflected in instances, even after re-instancing, until some other change forced autolayout to redo the blocks. User blocks now update correctly.
49321	Resolved issue where doing a compare against CMS for a component in a shared I/O network would incorrectly report differences.
49465	Decreasing the array length of a variable which was used in multiple execution groups in a multi-core controller would result in an erroneous build error.
50248	Made Trender more tolerant of invalid CSV data.
50304	An issue was resolved where local I/O points that are connected to application code variables cannot have their connections cleared. The Connection property is now visible in the property grid for local I/O variables, and automatically updates the Scope as needed when setting or clearing the connection.
50437	Memory consumption was reduced for generating large variable reports from the Controller window, particularly "Configuration" reports that include local variables. This should cut down on the number of Out of Memory exceptions from reports. Since the size of controller configurations is not limited, memory problems cannot be eliminated completely.

Reference	Release Note
50442	An issue was resolved where Library Changed popups for custom runtime block libraries referenced by controllers would occur seemingly at random. The issue was tied to file reads being done by source code management software under certain OS configurations. The popups should now only occur on writes to the custom block library DLL.
50783	Resolved a program failure that could occur when opening a controller which used custom block libraries.
51052	Fixed an issue where ToolboxST crashes on component create, open, upgrade or replicate when the user copied product DLLs (ex. MarkStat) from either Box or a Network share, causing the OS to block them. Now ToolboxST doesn't crash but instead gives the user a message box explaining which file has the issue and how to correct it. This fix covers MarkV1e, LS2100e, EX2100e and Mark Stat.
51313	Resolved issue where the Finder would not find text that contained certain punctuation characters.
51460	Fixed an issue when Viewing Global Variables sometimes would crash.
51512	A problem was resolved where the revision history is sometimes left blank when printing a blockware program.
51584	OPC AE Alarms: Fixed an issue with "Export Variables" where a single variable with more than one Parent, and thus a comma in the Parent Alarms field, the value was not encapsulated with quotes to maintain proper csv format. Also fixed issues where, sometimes, the Parent and Child fields were not set correctly during an "Import Variables".
51651	OPC AE Alarms: 1. Fixed two issues when a system has a large number of OPC AE alarms (~45,000), alarm help files were not published to the Master Workstation and, in ToolboxST, the Workstation component would open very slowly. 2. Fixed an issue generating Alarm Help if the OPC AE Server has a colon ':' in its name.
51653	Now support allowing Network Adapter 2 (if available on the device) to be connected to a Network with any Scope other than IO or Management. If the Scope of IO or Management is selected, a build error is generated.
51745	Resolved crash during system upgrade which could occur if one of the components failed to open.
51793	Corrected a tool failure when pasting into a variable grid after first selecting the append row.
52213	Power Conversion: Resolved an issue where the "Select Variable" menu did not allow some variables to be chosen when the System Settings Option "Show Short Names" was set to False.
52260	Custom Runtime Libraries: Fixed an issue where the user couldn't open a Library Container referencing a Custom Runtime Library if the Library Container was created by "Insert Existing", choosing a Library Container that was already in the system, and thus being prompted to rename the new Library Container.
52274	Resolved an issue where ToolboxST would crash if user was submitting a bug and attempted to attach a file that was already open in another process, for example MS Word.
52281	PROFINET: Resolved an issue introduced in V07.04.01C, when doing a Change GSDML, if the new GSDML added new Parameter Children, then some of the new Parameter Children were not added to the instanced PROFINET device that was being changed.
52305	Fixed an issue where Default Control Server Set Templates were not added to new Systems, which could result in ToolboxST crashing if the user tried to insert a new ControlServer Set.
52322	Fixed an issue that could, very infrequently, cause ToolboxST to crash when opening a safety controller.
52906	Doing a CMS compare could in some circumstances remove files from the local working copy of a component.
52916	Fixed an issue when upgrading WindDFIG01 from V02.05.07C to V02.06.01C.

Reference	Release Note
52956	Fixed an application error caused by the MarkVI product not being installed when the configuration included MarkVI Migration. The application now warns the user before attempting to open the configuration.
53020	Fixed an issue where changing a PROFINET device name to one with invalid characters could result in a configuration that cannot be opened.
53021	PROFINET: Fixed two issues with Change GSDML, it was not adding new Parameters or Parameter Groups, and didn't recognize existing Parameters and Parameter Groups as being the same if the casing of the Name changed (ex. from "Filter Time" to "Filter time").
53048	PROFINET: Fixed an issue where Refresh from GSDML corrupts PROFINET device if GSDML file is missing or path to the file is too long.
53087	Resolved a program failure that could occur when using Undo in the Trender for HMI.
53291	Fixed an issue where the Compare to Controller report erroneously displayed differences in the Program. ComponentType and IsFFBlockAssignmentOverridden fields.
53491	Fixed an issue where the override value of a control constant on a pin of a runtime block was not persisted between opening and closing device windows inside ToolboxST.
53926	An issue was resolved where creating a new system from an EGD configuration server would fail to import some or all custom alarm symbols.
53986	Corrected some issues with the WorkstationST component editor's Resource Overrides feature. The issues were related to editing around the protection access list and using the lower data grid's multiple select button.
53994	Fixed an issue where sometimes the connected variable for Universal IO points (PUAA or YUAA), being consumed with Shared IO, could be removed from the configuration, for IO Modules that were added in the owning controller by copying/pasting.
Additional	29253, 46983, 47025, 47709, 49364, 49450, 49651, 49659, 49694, 49696, 49697, 49739, 50185, 50263, 50363, 50373, 50544, 50548, 50570, 50831, 50916, 51564, 51572, 51583, 51968, 52064, 52092, 52160, 52341, 52397, 52417, 52477, 52499, 53166, 53262, 53277, 53328

5.3.2.9 Virtual Mark VIe (32+64) V06.10.00C

Reference	Release Note
52957	NEW! Initial release of a Mark VIe Virtual Controller product that supports multicore applications. This single product supports both 32-bit and 64-bit Simulation Executives utilizing a single set of Virtual Controller applications that match the native size of the Mark VIe product - currently 32-bits.

5.3.2.10 Virtual Mark VIe V06.07.00C

Reference	Release Note
50748	NEW! Virtual MarkVIe now supports LicenseST licensing.

5.3.2.11 Virtual Mark VIe x64 V06.07.00C

Reference	Release Note
52968	NEW! Virtual MarkVIe X64 now supports LicenseST licensing.

5.3.2.12 Virtual Mark VIeS V06.04.00C

Reference	Release Note
50749	NEW! Virtual MarkVIeS can now be licensed through LicenseST.
51620	NEW! Added support for Mark VIeS V06.02.00C. This includes the following new blocks: COMBINE_SD, COMBINE_SLR, COMBINE_SR, COMBINE_SSD, I_TO_WD, MBUS_READ, MBUS_WRITE, SPLIT_DS, SPLIT_LRS, SPLIT_RS, SPLIT_SDS, TOTALIZER, VARSIM, WD_TO_I.
51621	NEW! Added support for ToolboxST downloadable .SYL files.

5.3.2.13 WEPA V05.09.05C

Reference	Release Note
52858	An issue loading Battery DB Life Test results saved by WEPA V05.09.00C that could cause an unexpected axis reboot has been resolved.
52873	An issue that could cause Battery DB Life Tests to be performed every 7 seconds with inappropriate forcing applied has been resolved.

5.3.2.14 WorkstationST V07.08.01C

Reference	Release Note
47834	NEW! Modified the OPC UA server to allow SDI live connections from ToolboxST, Recorder, Modbus, GSM, and Local WorkstationST Trender sources without needing to have the OPC DA server enabled.
48932	NEW! Updated WorkstationST to allow running under .Net Core with limited features allowed: (OPC UA server, Alarm Server, EGD configuration server, Recorder, Modbus, GSM, and the WorkstationST service).
50801	NEW! Device Manager Gateway added support for Honeywell Field Device Manager.
49323	NTP Status data issues were fixed in Control System Health and the NTP Status Viewer utility.
50248	Made Trender more tolerant of invalid CSV data.
50684	Corrected the OPC UA client read / monitored item value for the EngineeringUnits child property variable so it changes as the client's MeasurementSystem variable is set.
51504	Fixed issue in WorkstationST Modbus and GSM features where every 20 seconds they would log disconnect/connect messages for every Measurement System connection to the OPC Server where no data was currently being read.

Reference	Release Note
51663	Added the ability to connect the MarkVIe's ENET2 network adapter to networks with scope other than Unit. Enhanced the network pick list on the network switch component, adding text to the redundancy column header in the pick list dialog.
53030	Fixed the HART Multiplexer drop ranges displayed by the Device Manager Gateway Status Viewer.
53039	Corrected the license links in the WorkstationST help about dialog for applications like the WorkstationST status monitor and Alarm Viewer. Added a command line argument to view license information to the Linux WorkstationST status monitor command line application.
53087	Resolved a program failure what could occur when using Undo in the Trender for HMI.
53306	Corrected a problem where the Versions application continues to show TrenderST installed by GE WorkstationST Package after the GE WorkstationST package is un-installed.
53365	Redundant OPC AE Clients now log for each client every time the connection state changes. The per client connection state info is also shown in the WorkstationST Status Monitor Additional Status Details. In addition there is a new configuration option to not report errors if only one client is connected, for cases where this is expected. This will suppress alarms as well as errors in the WorkstationST Status Monitor.
53961	Removed the windows firewall adjustments when running under non-windows operating systems.
53985	Fixed a security issue in the OPC UA server that could lead to Information Disclosure when resource overrides are configured.
Additional	49697, 50916, 51585, 52288, 52323

5.4 ControlST V07.08.01C SP01 (October 2020)

This is a maintenance release driven by several important product updates, including a security update.

5.4.1 Mark VIe V06.10.02C

Reference	Release Note
53557	In systems with more than 255 IO packs it is possible that SOEs for some IO packs not be transmitted to the HMI. This issue has been resolved.

5.4.2 ToolboxST V07.08.02C

Reference	Release Note
51978	Resolved an issue that could cause a program failure in the trender when going back to a previous chapter.
52525	Resolved an issue where the trender could fail when back-filling data from a historian.
54036	Fixed an issue where the System or a Device fails to open with a Parse Error, with the Root Cause message being "Access to the path is denied".
54089	EX2100e_FR: Fixed an issue where Exciter Block drawings (Backsheets shown by clicking on eye in a block) are blank for Blocks which are instanced from a Library when the code is still linked.
54194	The keep-alive timeout value downloaded to the PFFA modules has been updated to prevent a potential PFFA reboot and temporary loss of FOUNDATION Fieldbus device communication during redundancy switchover events triggered by the loss of IONet or loss of power to the Designated Controller.
54320	Fixed a security issue that could lead to Information Disclosure.
54421	Fixed an error that occurred when connecting an EtherCAT variable.
54497	Resolved an issue where, in some circumstances, the Override Value property of a control constant would be reset to true when opening a controller.
54498	Fixed an issue with an erroneous Build error, 'The block {blockName} pins don't match the new instance of the library. Instance the block.'
54721	Resolved an issue where, in some circumstances, the status window did not display if I/O diagnostics were present
54772	Corrected a build inefficiency for a controller with one or more large table definitions configured.

5.4.3 WEPA V05.09.06C

Reference	Release Note
54239	The EBST block fault timeout has been extended from 30 seconds to 11 minutes.

5.4.4 WorkstationST V07.08.02C

Reference	Release Note
51978	Resolved an issue that could cause a program failure in the tender when going back to a previous chapter.
52525	Resolved an issue where the tender could fail when back-filling data from a historian.
54076	Moved the configuration of OPC UA server endpoint settings from the application Config file to the OPC UA configuration tab in ToolboxST. This makes the settings remain after a WorkstationST upgrade and offers a build warning when a user is using less secure settings which may be required for some older clients.
54138	Added the ability to control the variable mapping transfer based on a configured enable variable.
54297	Corrected a problem where WorkstationST produced EGD exchanges configured for Multicast can be sent on the wrong network adapter.
54344	A nuisance update notification for master symbols changed occurs every minute if the master symbol table has been removed from the EGD configuration server.
54350	Fix for nuisance alarms in Cisco switches that do not have a redundant power supply installed.
54419	Improved the performance of getting the debug information using the status monitor when connecting to a WorkstationST running in Linux. Also corrected the netstat type information which was missing in the Linux log files.
54438	Modified the implementation for obtaining the network information for control system health which runs in each WorkstationST service to use newer .Net Core calls that work in both Windows and Linux. This corrects a format exception that was logged in all Linux nodes that did not have an interface named eth0 and another named eth1.
54578	Corrected a problem with the user privilege logon manager where a user logged in as a domain group user, logs up to another group user, and then back out to the original group user. The privileges were lost and the original user now had no privileges. The original user can log out and back in to get back their configured privileges.
Additional	54585

5.5 ControlST V07.08.01C SP02 (January 2021)

This is a maintenance release driven by PFFA Download Scan error fix, an enhancement allowing Mark VIe consumption of EGD exchanges that are routed and multicast, and an enhancement adding a role privilege to allow lock and unlock actions in the Alarm Viewer.

5.5.1 REPA V05.15.05C

Reference	Release Note
54812	NEW! Added support for serial production AMD 35Nm motor for Sierra.
54817	NEW! The EBST block fault timeout has been extended from 30 seconds to 11 minutes.
55590	NEW! Added support for new 2.6 farad capacitor box.
54818	Added minimum AutocalReference of 70.
54924	Fixed brake resistance faults on Seirra AMD 35Nm motor.
55281	Fixed issue with brake release time being 30ms longer than it should be.
55282	Removed brake fault from secondary converter.
55589	Modified ultracapacitor loadtest to match IEC loadtest method. Added UcapTotalESR to REPA interface.
55591	Added a test mode to support Baldor dyno.
55672	Corrected an issue where phase loss detection would not trigger if a phase was lost.

5.5.2 ToolboxST V07.08.03C

Reference	Release Note
54299	NEW! Removed the build error for Mark VIe consumption of EGD exchanges that are routed and are multicast.
51484	Added "Consequence Category" which is used by requisition engineers performing Alarm Rationalization to help determine which Alarm Class should be used.
55244	Resolved an issue where validation of a controller would fail to detect excessive capture buffer flash memory usage.
55498	Fixed an issue where ToolboxST would not open when licensed for Read-Only access.
55564	Resolved an issue where the Finder would not allow index based searching if a component was read-only.
55586	Fixed a Download Scan error where PFFAs report that they are configured with incorrect Hardware Forms.
55720	Fixed an issue where you could not insert a Mark VIeS controller in ToolboxST.
55789	Corrected issue where input bits were always showing true for a PROFINET device. The issue occurred when the data type on the input point was an Octet String and the Var Data Type was set to Bool then back to NA.
55827	Fixed an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks.

Reference	Release Note
55874	Fixed an issue with an erroneous Build error, 'The block {blockName} pins don't match the new instance of the library. Instance the block.', specifically for blocks with attributes and string substitution.
56000	Corrected the alarm printing configuration for the WorkstationST alarm server. If enabled, the alarm printer feature did not start, rather it logged that printing was not enabled. This was broken in the initial V07.08.01C release.
56051	Improved the controller diagnostics in the Send Problem Report.

5.5.3 WorkstationST V07.08.03C

Reference	Release Note
55939	NEW! Added a role privilege to allow lock and unlock actions in the Alarm Viewer.
55042	Corrected a logging error when an SDI client attempted to write to a variable but the client's user did not own the blank HMI resource and the variable's HMI resource was blank. The OPC UA or DA server log now shows the write error.
55480	Fixed the Control System Health reporting of Cisco IE2000 and IE3300 switch redundant power supply errors.
55496	Corrected a problem where the ControlST ActiveX alarm symbol hosted in CimView, showed unhealthy when the OPC UA server feature was enabled.
55565	Corrected an issue that kept WorkstationST-owned variables, configured with the Has Health Bit true, unhealthy after an SDI client write. The issue only occurs when the OPC UA feature is on.
55585	Corrected a problem where EGD consumed variable values returned to an OPC DA client in the Read Device call were stale for variables not currently in a client subscription.
55608	Corrected a problem where recorder capture buffers were not uploaded. The log showed a failure to connect to the controller and a failure to get the designated talker IP address.
55613	Correcting a long delay between consumed device update requests in the OPC UA server. The delay was a wait before setting historizing flags on OPC UA variables that should not have been holding off future update requests for additional out of sync turbines.
55770	Fixed an issue where Recorder does not include alarms in created .dcaST files if the configuration field "Alarm Server To Use" is blank but the AlarmServer is enabled on this WorkstationST and there is no Primary Alarm Server defined in the system.
55799	Corrected a problem where incomplete data was returned in component status lists used to update component data on ToolboxST's system overview.
55936	Corrected a problem where variables, configured on a Secondary EGD page with a health timeout multiplier configured, will remain unhealthy when the secondary exchange transitions healthy while the primary producer is producing. This issue does not impact the actual EGD production from the secondary, it only impacts the health of the variables as seen by ToolboxST.
55943	When a client initially reads a Control System Health variable value, the value remains stale until the next periodic update of CSH data. The last data updated is now returned to the client in this initial read.
55959	Added protection for removing resource overrides from a WorkstationST that was configured with resource overrides. The user must delete the resource overrides from the WorkstationST component that originally configured and downloaded the WorkstationST configuration.
55973	Corrected a failure of the WorkstationST service when the number of windows sessions exceeds 10.

Reference	Release Note
56020	Corrected an issue where parent and child information was missing in alarm updates to clients, (such as the Alarm Viewer), after a WorkstationST major download. Additionally addressed a slower alarm server initialization for alarm servers configured with devices consumed from remote alarm servers.
56066	Corrected a problem where workstation features were not stopped when the command line sudo systemctl stop wkst.service was used. A work around is to use the workstation status command line application: <code>./wkstat -stop Work</code> .

5.5.4 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V07.08.01C in previous Service Packs.

- Mark VIe V06.10.02C
- WEPA V05.09.06C

5.6 ControlST V07.08.01C SP03 (April 2021)

This is a maintenance release driven by important bug fixes in the PPDA, REPA, ToolboxST, Virtual Mark VIe, and WorkstationST products and several enhancements in the REPA.

5.6.1 PPDA V05.00.02C

Reference	Release Note
56844	JPDG AC inputs can also be used for 125 V DC input with ground fault detection.
56871	Documentation update on variables Batt_125V_LED and Batt_125G_LED to reflect 125V feedback status rather than battery status.

5.6.2 REPA V05.15.07C

This section includes release notes from V05.15.07C and V05.15.06C. V05.15.06C, previously released by the Wind Pitch team, was never included in a ControlST release.

From V05.15.07C

Reference	Release Note
57255	Fixed FirstFaultDiag glitch when ResetCmd is toggled.
57256	Corrected issue with ultracapacitor segment capacitance alarm tripping when it should not.
57277	An issue was found where PresetOk could go false on turbine controller downloads.
Additional	57257, 57258

From V05.15.06C

Reference	Release Note
56094	NEW! Added resolver mismatch secondary fault that triggers if primary converter differs from secondary converter resolver feedback.
56144	NEW! Added a counter emf fault to detect a floppy blade.
56173	NEW! Added improvement to make pitch converters backwards compatible with all REPA versions V05.15.03C and above.
56134	Corrected issue where some faults were not resettable or could be masked by ResetCmd in frame thread.
56135	Added fault 1176-1177 that detects when converter cannot configure resolver MCU.
56143	An issue was found where the automatic brake release time measurement had only 90% accuracy.
56177	Fixed REPA reboots when parameters are downloaded from Toolbox.
56178	Corrected bug, caused by converter resolver microcontroller startup sequence incorrect, that caused blades stuck at power during EBST, and blades stuck on the limit switch after long grid outages.
56651	An issue that could cause the first EBST after reboot to pass as soon as it is initiated has been resolved.
Additional	56631

5.6.3 ToolboxST V07.08.04C

Reference	Release Note
56095	Fixed an issue where Search did not find many items in a Workstation Component when Indexing was turned on. Indexed Searching was added as an alternative method of searching in V07.08.00C.
56690	User can now change the Second Language Description, either interactively in ToolboxST in a Library or a Controller, or with a Second Language Import in a Controller, for variables where "Inherit Description of Connected" is True, like the inputs of a Logic Builder block, as well as for all Analog Alarm Sub Pins (like .INH). Previously user could only change the Description for the Analog Alarm Sub Pins that were actual Alarm States (like .H).
56694	Corrected a sluggish behavior when moving the mouse over the system overview tree where network information for each component is shown in the tooltip.
56734	Corrected a dynamic bind failure for configurations where the OPC UA server is enabled without the OPC DA server and a major EGD signature change is made to a consumed device's status page. A work around is to download the WorkstationST after noticing the unhealthy _Status page variables.
56864	Corrected a crash that occurred when deleting a WorkstationST component from the System Overview. A work around in existing 7.8 and 7.7 releases is to first remove the ResourceOverrides.xml file in the WorkstationST component's folder prior to deleting the WorkstationST component.
56962	Resolved an issue where the 'Override Value' property could be cleared as part of a Constants Report import.
57123	Fixed an issue with instancing in the Mark V1e Device when the linked object contains ARES blocks or Block Library Creator blocks.
57130	Corrected the list of available measurement systems presented when selecting a WorkstationST component's default measurement system. The list should have been created from the last published master symbol table from the EGD configuration server, but was instead coming from the local saved system.
57393	An issue was resolved where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege – but only in cases where a custom runtime block was in use. This particularly affects Service Tech level users of Wind systems.
Additional	57345

5.6.4 Virtual Mark V1e V06.07.01C

Reference	Release Note
57179	Fixed an issue that could cause a virtual controller to crash after completing an online download or dynamic bind.

5.6.5 Virtual Mark V1e x64 V06.07.01C

Reference	Release Note
57180	Fixed an issue that could cause a virtual controller to crash after completing an online download or dynamic bind.

5.6.6 WorkstationST V07.08.04C

Reference	Release Note
56689	Upgraded the OPC UA toolkit to a bug fix release version 3.07
56911	Corrected a problem where an OPC DA client asynchronous read of a variable can return an incorrect value. Variables that are not currently in a live list by any client could suffer this issue. The issue occurs after a controller download and dynamic bind.
56996	Corrected a problem where OPC UA clients reading boolean array values were not seeing updates for any array element other than the first element.
57150	Corrected the browsing of alias variable names in the OPC UA server when resource overrides are enabled.
57199	Corrected a problem seen by the OSM team for viewing alarms using the wHAERpt web page for a special application where the OSM team renames the BIN files to aggregate alarms from multiple OSMs for use on an aggregator OSM.
57207	Corrected an issue that stopped the WorkstationST service from starting during an install or later if the license product was not found. Now the service will start and as before, will display any license failures in the WorkstationST status monitor.
57259	Added a warning message to the WorkstationST download scan if the configuration in the target WorkstationST is using resource overrides and was downloaded from another configuration. Doing so causes all OPC UA and DA clients to not be able to browse or read any variables. The warning tells the user they must disable resource overrides in the original configuration and download that before downloading this new configuration.
57262	Corrected a problem where OPC AE alarms served to clients did not include past alarms if the OPC AE server started after the Alarm server.
57348	Corrected a problem where OPC UA clients were not receiving diagnostic alarm update and were not able to acknowledge alarms.
57411	Fixed an issue where the OPC UA Server misses reporting interim alarms to OPC UA Alarm Clients, where interim alarms are those that occurred after the OPC UA Server started but before any client connected.
57414	Two changes to the OPC UA Alarm Server. First, the OPC UA Alarm Server will now get alarms from the Configured "Alarm Server To Use" (if one has been configured) instead of the Primary Alarm Server. Second the OPC UA Server will now add newly defined alarms to the OPC Browsing tree after a device is downloaded.
Additional	57149

5.6.7 Previously Released

The following components, also in Service Pack 03, were previously released since ControlST V07.08.01C in previous Service Packs.

- Mark VIe V06.10.02C
- WEPA V05.09.06C

5.7 ControlST V07.08.01C SP04 (June 2021)

This is a new feature release driven by REPA support for the 84Nm pitch system on Cypress. In addition, this is a maintenance release driven by Knowledge Article [KB0028774](#) - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms, resolution to a potential deceleration trip in the PPRa and YSIL products, and PFFA bug fixes in the Mark VIe. This release also includes a security update..

5.7.1 Mark VIe V06.10.03C

Reference	Release Note
59222	The Mark VIe has been modified to request a PFFA Redundancy Switchover so that the Primary Linking Device tracks the DC in the case where one or more H1 devices are missing.
59323	Fix PFFA Advanced Diagnostic data display issues.

5.7.2 PAIC V05.01.01C

Reference	Release Note
38273	An issue was fixed where the PAIC would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
58588	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.3 PAOC V05.00.01C

Reference	Release Note
58579	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.4 PDIA V05.01.01C

Reference	Release Note
58590	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.5 PDOA V05.07.02C

Reference	Release Note
47996	The PDOA documentation has been updated to indicate that outputs cannot be configured as dry contacts when SRLY+WROG is in use.
58599	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.
Additional	51428

5.7.6 PPDA V05.00.03C

Reference	Release Note
58583	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.7 PPRA V05.00.01C

Reference	Release Note
52089	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of TwoGroups (2 shafts, 3 sensors).
55757	PPRAS1B now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.

5.7.8 PPRO V05.05.02C

Reference	Release Note
58641	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.9 PRTD V05.00.01C

Reference	Release Note
58638	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.10 PTCC V05.00.01C

Reference	Release Note
58582	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.11 PTUR V05.00.02C

Reference	Release Note
58640	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.12 PVIB V05.01.06C

Reference	Release Note
58639	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

5.7.13 REPA V05.15.09C

This section includes release notes from V05.15.09C and V05.15.08C. V05.15.08C, previously released by the Wind Pitch team, was never included in a ControlST release.

From V05.15.09C

Reference	Release Note
59169	Fixed issue where the blade could move off of the home limit switch after a mode 2 shutdown.

From V05.15.08C

Reference	Release Note
58134	NEW! Support added for 84Nm pitch system on Cypress with a 164m rotor.
58035	Fixed nuisance trips due to ultracap voltage imbalance faults.
58181	Gear ratio limited to 3000. Fixed issue where double gear ratio could be calculated.
58186	Corrected an issue found where false trips could occur due to ultracapacitor voltage imbalance.

5.7.14 ToolboxST V07.08.05C

Reference	Release Note
56699	The Trender now displays the names of static files (e.g. DcaST files) in the title bar.
56732	Resolved issue where the Constants view may show incomplete results if invoked before a build is performed.
58090	Resolved an issue that could randomly cause a 'Cannot create a file when that file already exists.' error while building.
58093	Fixed an issue where functional library selector on open can cause a failure.
58180	Corrected an error seen when the "Enable Background Builds" option setting is enabled and a controller build adds a variable to a produced EGD exchange. The error resulted in a dialog stating the property Access cannot be modified.
58480	Added a message box when a configuration error prevents the master symbol table from being published. The user was previously informed only with an error in the log window, but is now also informed with a message box.
58554	Corrected a problem with live data in the system overview for Virtualization Servers, Virtual Machines and Thin client type components.
59304	CE3000-I: Prior to this fix, if there was anything invalid in the CE3000-I configuration then ToolboxST had a User Exception when the user tried to build the controller. Now ToolboxST reports the problem to the user in the Log Window.
59330	Corrected a problem where saving a power converter (Wind-DFIGe) caused the I/O network connection to the Mark VIe wind turbine controller to be lost. The I/O network connection was no longer shown on the system overview graphics and issues with device replication and convertor configuration were a result. To correct the issue, open the power converter with this newer version, make a change, and save it.
59356	Resolved an issue where ToolboxST might crash if a variable's HmiResource was null.
59397	Fixed an issue where ToolboxST could crash if trying to go online to a controller and the controller was not available.
59433	Improved runtime performance of the Constants view.

Reference	Release Note
59446	Fixed an issue where ToolboxST might crash if it encountered a problem generating a Report.
59480	Fixed an issue where the controller could not be saved after copying a PROFINET device and then deleting the newly copied device. This issue was introduced in V07.08.00C.
59482	Fixed a security issue that could lead to Elevation of Privilege.

5.7.15 WorkstationST V07.08.05C

Reference	Release Note
56699	The Trender now displays the names of static files (e.g. DcaST files) in the title bar.
58105	Corrected a problem where CIMPLICITY screens could not write to points when "Enable Client Security by User" on the OPC DA tab, was enabled. This setting was enabled to prevent CimView from writing to points if InitializeCimplicity had not been called and therefore CIMPLICITY's client had not been associated with the privilege logon user.
58291	Fixed the bug that caused empty redundancy Power Supply bays to be reported as an error in Cisco stacked switches that support modular, redundant power supplies. A power supply bay that is empty at startup should be considered intentionally empty. A redundant Power Supply alarm is only generated if an installed Power Supply reports an abnormal state.
58516	Corrected a crash of the Alarm Status Viewer when an alarm server has been configured with two or more connections to servers sharing the same name but different URLs.
58518	Corrected a read only flag that got set when there were no users and roles defined. This impacted OPC DA clients and impacted variables with resources defined. Specifically the site in question had Mark VI variables.
58585	Avoiding a problem where OPC DA clients fail to connect if the windows service "Server" has been disabled. Not sure why anyone wants to do that, but we have some wind sites in China that have done that. The failure can be avoided by adding an Anonymous user to users and roles or by enabling the Server service.
59473	Corrected a problem where logging of EX2100e component minor revision mismatch in the WorkstationST OPC UA server log were occurring periodically, when the actual revision was really in sync.
Additional	58130

5.7.16 YSIL V05.06.03C

Reference	Release Note
52088	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of 2Shafts_3Sensors.
55745	YSIL now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.
57043	The YSIL now includes SSUP connections on the Extra Circuits tab.
Additional	51674

5.7.17 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V07.08.01C in previous Service Packs.

- Virtual Mark VIe V06.07.01C
- Virtual Mark VIe x64 V06.07.01C
- WEPA V05.09.06C

Notes

6 V07.07 Release Notes

6.1 V07.07 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI 2018 is only supported on Windows Server 2016, Windows Server 2019, and Windows 10 IOT Enterprise LTSC 2016 – 1607.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

6.2 V07.07 Suite Components

See Component Registry: [ControlST Component Registry](#)

6.3 V07.07.00C (December 2019)

6.3.1 V07.07.00C Highlights

UCSDH1A Platform Support

Description: Added new controller platform UCSDH1A supporting Mark VIe (Simplex Only) and the Embedded PROFINET.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 46595

Mark VIe Enhancement

Description: Mark VIe controller multi-core capability allows users to distribute their application program to run across multiple CPU cores.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[Mark VIe Controller Multi-core Capability User Guide \(GEH-6827\)](#)

Work Items: 46503

Embedded PPNG I/O Function Groups

Description: The Embedded PPNG now supports I/O function groups (Simplex only).

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 46702, 48430

PDIO Support for WROH

Description: The PDIO now supports the WROH terminal daughter board that can be mounted on a TDBSH2A, H4A, H6A terminal board. This terminal daughter board adds dual-fused power distribution to all 12 relays.

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 47633

Trender Enhancements

Description: Trender usability improvements.

- Added a drop-down with preset time axis durations.
- Added auto-ranging of traces while live trending.
- Added additional color variations for traces Pen property color options.

References:

[Trender Instruction Guide \(GEI-100795\)](#)

Work Items: 48309, 48310, 48311

ToolboxST Enhancement

Description: Improved Finder search capability by creating an index of their ToolboxST system.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 49445

6.3.2 V07.07.00C Changes

6.3.2.1 EX2100e_Reg V04.15.00C

Reference	Release Note
48270	NEW! To manage simulation mode, 4 variables are added to modify the reactance, the resistor, the frequency or the bus voltage from the Blockware level.
48271	NEW! Define parameter to set delay on monitor of 41DC contactor feedback.
48279	Rename the status of PT failure from innerloop PTBADRST_FB in PTUV_FB to remove conflict on ACL.

6.3.2.2 LS2100e V04.14.00C

Reference	Release Note
48101	The Source PLL Zero Crossing second layer of protection has been defaulted to "Disable".
48977	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.
Additional	49030

6.3.2.3 Mark VIe V06.09.00C

Reference	Release Note
46593	NEW! Added ability to execute application blocks in multiple cores in parallel.
46595	NEW! Added new controller platform UCSDH1A supporting Mark VIe (Simplex Only) and the Embedded PROFINET.
47238	The DCS Block Library M_O_V, M_O_V_V2, M_O_V_V3, M_O_V_V4, M_O_V_JOG, M_O_V_JOG_V2, and M_O_V_JOG_V3 blocks now disable the open order (OP_ORD) and close order (CL_ORD) outputs if the input limit switches (OP_INP and CL_INP) are true at the same time.
48065	Intrinsic variables, e.g. IdleTime_R, can now be configured on the controller's Modbus slave interface.
48291	A UCSC controller may boot to the DC_DETERMINATION control state and fail to synchronize logging the error 'pulses stuck at 0'. The issue has been completely resolved.
48516	As issue where the controller may reboot during a UDH network storm has been resolved.
Additional	48374, 48504, 48553, 48595, 48658, 49436, 49446

6.3.2.4 PAMC V05.06.03C

Reference	Release Note
48278	The PAMC now defaults the Can_Id parameter to channel number. A build validation rule has been added to insure that Can_Id is unique across 18 channels.

6.3.2.5 PCNO V05.02.03C

Reference	Release Note
47676	PCNO GS40/GS50 variables names have been updated to match the specified Woodward valve names.

6.3.2.6 PDIO V05.08.00C

Reference	Release Note
47633	NEW! The PDIO now supports the WROH terminal daughter board that can be mounted on a TDBSH2A, H4A, H6A terminal board. This terminal daughter board adds dual-fused power distribution to all 12 relays.

6.3.2.7 PPNG V05.14.02C

Reference	Release Note
46702	NEW! The Embedded PPNG now supports I/O function groups. See the "I/O Function Groups" section of the help for more information on this feature.
Additional	48505, 48693

6.3.2.8 PPRF V05.00.03C

Reference	Release Note
41512	An issue was fixed where stale values were persisting when inputs were unhealthy. Now unhealthy input variables are set to zero. The issue was fixed in PPRFH1B.
41679	An issue was fixed for Simplex PPRF configurations in systems with redundant controllers and dual IONet connections, where inputs could be stale and not marked unhealthy if one controller was powered down and an IONet network cable break occurred. The issue was fixed in PPRFH1B.

6.3.2.9 REPA V05.09.01C

Reference	Release Note
42968	NEW! Initial release of REPA I/O pack, the AC Pitch controller.
45909	An issue was fixed in the primary converter where the primary converter was causing brake wear.
46308	An issue was fixed where mode 2 required a run command.
46309	Added ucap charged bit for turbine controller.
46585	A bug that can erroneously copy battery faults to first faults has been fixed.
46733	REPA now disables ultracap charging at 520V. This protects the ultracaps in the case where the primary converter charging is stuck on. V1.2.23C of the secondary converter makes the DB on threshold 525V so that the DB resistor does not turn on when the REPA is trying to disable charging.
46735	REPA secondary converter no longer turns on K22 every 15 days due to safety test failure. V1.2.24C of Secondary Converter corrects this problem.
46749	The accelerometer orientation has been changed to match serial production boxes.

Reference	Release Note
46797	Added code to account for multi pole motors in gear ratio learn calculation.
46805	Fixed issue where a nuisance mode 3 expired fault occurred at startup.
46814	The mode 3 reference fault was changed from a first fault to a secondary fault.
46857	REPA primary converter and secondary converter resolver signal integrity faults no longer trip converter. Converter resolver EEPROM SPI faults now grouped as SPI fault instead of board / chip fault.
46858	REPA primary converter motor torque, motor current, Q current, and Q voltage now equal values measured by certified measurement devices.
46859	REPA secondary converter now requires 10 degrees of travel to set Mode3ParmsNotVerified to false. Secondary converter parameter CRC also now detects changes in REPA parameters. This was resolved with V01.02.27C of the secondary converter.
46897	Individual resolver SPI faults no longer trip pitch system
46926	Primary Converter now protects against blowing ultracap box fuses.
46957	Fault 123, "Motor resolver has more than 1 deg. error when home limit switch goes false", can now be reset by the turbine controller reset.
46958	Primary Converter has been updated to prevent "Resolver Internal Board Fault" after REPA parameter transfer.
46961	Pitch system is now protected from trips caused by communication errors at high temperatures.
47219	An issue was fixed where downloading the primary converter requires the position preset to change.
47336	AC converters no longer get stuck in bootloader during unexpected reset.
47491	Mode 3 pitch now travels 10V further.
47529	Converter resolver fault code added to toolbox REPA variables.
48016	DB resistor short alarm can be software reset.
48232	A new input, TurbineStopped, has been added to the IONet interface. When this input is False and the REPA is connected to the turbine control, Auto->Manual transitions are ignored.
48355	A 3 second Boolean filter was added to keep voltage transients from tripping the ultracap voltage limit.
48377	A 3 second Boolean filter was added to keep voltage transients from tripping the ultracap voltage limit.
48613	An issue was fixed where an extra resolver diagnostic was getting stuck.
48973	An issue was fixed where REPA was getting DB timed overcurrent trips due to regeneration. It is required to replace DB fuses with AJT30 fuses with this firmware update.
48990	Fixed first fault number of converter SPI comm faults.
49023	Reduced the likelihood that converter not acknowledge diagnostic would supersede converter fault.
49034	Reworked position preset sequence when SPI communications are lost.
Additional	46496, 46517, 46526, 46532, 46740, 46780, 46876, 46884, 46914, 46931, 46954, 47385, 47421, 47423, 47424, 47477, 47525, 47552, 47584, 47591, 47675, 48046, 48092, 48213, 48218, 48239, 48294, 48298, 48380, 48533, 48556, 48586, 48625, 48951, 49031, 49096

6.3.2.10 ToolboxST V07.07.00C

Reference	Release Note
48308	NEW! Improved CMS performance on very large systems.
48309	NEW! Added a drop-down with preset time axis durations to the Trender.
48310	NEW! Added auto ranging of traces while live trending.
48311	NEW! Added improved color picker to the Trender.
48430	NEW! ToolboxST now supports the configuration of I/O function groups in the Embedded PPNG.
48487	NEW! To support better granularity of access control for Wind customers, as well as a simplified user experience, several enhancements were made to ToolboxST. Individual variables now have Protection properties. Wind Service Account login can be done from the Status pane of the ToolboxST System Window, even when the local WorkstationST is not configured correctly. A report will be available at the system level that summarizes user access to controllers, variables, and other objects with Protection properties.
48949	NEW! Expand Control System Health to monitor the Network Switch hardware, including Stack Provisioning, Stack Member Roles and Status, Power Supply Health, Fan Health, and Temperature Sensor Readings.
49445	NEW! Improved performance of the Finder (search) function by using an optional index, especially multi-component searches.
47545	Added a log tab to the Trender to allow errors to be viewed.
48224	System no longer fails when closing library container view.
48242	An issue was resolved where the Insert Block dialog could crash ToolboxST when a prior selected block does not exist in the current controller or system.
48261	Restored missing minimize and restore buttons that would occasionally be missing in the standalone Trender's title bar.
48262	ToolboxST application no longer crashing when viewing 'Exclude From Download' Column in the FOUNDATION Fieldbus Datagrid.
48502	Resolved an issue where hitting Cancel while opening a trend could cause a program failure.
48508	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed.
48607	No longer give an error related to PPNG/Controller minimum revisions while performing an upgrade.
48629	Improved performance of dragging cursors in the Trender.
48667	Fixed issue with launching Trenders from block diagrams.
48700	Fixed an application error that could occur during download scans in systems with FOUNDATION Fieldbus.

Reference	Release Note
48942	Resolved an issue where archiving a system would fail if the archive file was greater than 4 GB.
49055	Prevent component being renamed while open to avoid data corruption.
49226	An issue with the Constants report Import was fixed where it was not possible to clear the Override Value property. To do so going forward, set the Override Value column to False and the Value column to empty in the CSV file.
Additional	46856, 47127, 47455, 47527, 47608, 47613, 47864, 48067, 48069, 48293, 48334, 48353, 48354, 48459, 48460, 48461, 48472, 48473, 48476, 48506, 48507, 48529, 48530, 48542, 48543, 48544, 48545, 48546, 48591, 48594, 48596, 48600, 48627, 48628, 48632, 48642, 48656, 48657, 48659, 48665, 48666, 48668, 48685, 48696, 49056, 49104, 49209, 49241, 49286, 49365, 49374, 49410

6.3.2.11 Virtual Mark VIe V06.06.00C

Reference	Release Note
48435	NEW! Added support for Mark VIe V06.09.00C and the IS420UCSDH1A hardware platform.
49251	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

6.3.2.12 Virtual Mark VIe x64 V06.06.00C

Reference	Release Note
48436	NEW! Added support for Mark VIe V06.09.00C and the IS420UCSDH1A hardware platform.
49252	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

6.3.2.13 WEPA V05.09.00C

Reference	Release Note
46819	NEW! Battery DB bits, K24 monitor bit, and remaining battery life percentages are now available via the CANbus interface.
46533	A new parameter has been added that can cause a WEPA reboot when toggled and downloaded.
46804	An error has been fixed which made it impossible to force a Battery DB life test under certain circumstances.
46809	The Battery DB test results are now saved across WEPA reboots. The history size has been expanded from 32 to 600 entries to capture multiple years of data.
47006	An issue was fixed that could cause I/O, configuration, or diagnostic checking code to be executed multiple times.
47210	An issue was fixed that could intermittently cause diagnostic 292 "Application Error - application overrunning the frame" to occur at WEPA firmware startup.
47354	The code has undergone a cybersecurity audit, and security improvements have been made.

Reference	Release Note
47386	A check has been added to tell the turbine control if the 89 degree limit switch was not activated at bootup, indicating uncertainty in position feedback.
47715	The 6-in-1 charger firmware has been updated to BC4d. This update remaps a new fault code to a legacy code for compatibility with earlier WEPA releases.
48045	Rotor Assembly Mode has been updated. In this mode, the ManualRunPerm signal is no longer bypassed. Further, Rotor Assembly Mode will be exited when MainsOnCmd goes True.
48212	A new input, TurbineStopped, has been added to the IONet interface. When this input is False and the WEPA is connected to the turbine control, Auto->Manual transitions are ignored.
48407	A new diagnostic, 133, is issued when the turbine control causes the pitch system to operate in Mode 3 (uncontrolled battery drive).
48408	The time at which the Mode 2 watchdog starts enforcing speed limits has been increased from 0.5 seconds to 1.0 seconds.
48454	The WEPA now detects if an incorrect motherboard FPGA load has occurred and generates a diagnostic alarm.

6.3.2.14 WorkstationST V07.07.00C

Reference	Release Note
46953	NEW! Added a way to configure limits on browsing, reading and writing of variables for a customer user.
47670	NEW! Added configuration for Network Switch Layouts to enable support for redundant power supplies and to network switch devices to enable monitoring of switches that support redundant power supplies.
48309	NEW! Added a drop-down with preset time axis durations to the Trender.
48310	NEW! Added auto ranging of traces while live trending.
48311	NEW! Added improved color picker to the Trender.
48948	NEW! Expand Control System Health to monitor the Network Switch hardware, including Stack Provisioning, Stack Member Roles and Status, Power Supply Health, Fan Health, and Temperature Sensor Readings.
47545	Added a log tab to the Trender to allow errors to be viewed.
48261	Restored missing minimize and restore buttons that would occasionally be missing in the standalone Trender's title bar.
48515	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed. This browser is available in the Trender for HMI.
48629	Improved performance of dragging cursors in the Trender.
48991	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.
49242	Fixed a problem where the controller health variables will fail to update if the Control System Health process cannot initially connect to the OPC UA server.

Reference	Release Note
49431	The right click Display Variable Attributes dialog from CIMPLICITY was changed from modal to non-modal. It was inadvertently made modal when it was changed to a lighter memory version.
Additional	47616, 48529, 48530, 48632, 48666, 48696, 49013

6.4 ControlST V07.07.00C SP01 (February 2020)

This is a maintenance release driven by bug fixes required at Wind sites, as well as a fix related to Download Scans of FOUNDATION Fieldbus H1 devices.

6.4.1 GE Historian Reports V07.07.01C

Reference	Release Note
50171	Corrected an issue where live data was not present in Historian reports when used with a newer version of OSI PI Historian.

6.4.2 Mark VIe V06.09.01C

Reference	Release Note
46527	In a system containing a WCBM IO module, the frame idle time of the controller periodically drops to 10% when the ADAPT.wind software is connected to the WCBM. This issue has been resolved.

6.4.3 ToolboxST V07.07.01C

Reference	Release Note
49504	Corrected a network adapter 1 duplicate issue with the Virtual Field Agent component in ToolboxST. Adding a PDH network adapter, saving, closing and opening again was resulting in the PDH network adapter shown an additional time.
49555	An issue was resolved where Protection properties in some configurations, usually Wind Turbines, could crash ToolboxST while upgrading or editing a protected controller.
49627	An issue was resolved where ToolboxST would crash when adding a Variable to a Variable Rail on a blockware diagram.
49661	Modified embedded Trender to not hide traces list by default and removed properties button from the toolbar.
49705	If doing an upgrade on an IO Pack and <No Change> is in the pick for the New version of the firmware, this will no longer cause an exception during the upgrade process.
49785	Remote Alarms: Fixed issue where user got the error "The name is already used" and could not add configuration of a second remote Alarm Server, when both the first and second Alarm Server references have a blank "Secondary Workstation Name".
49826	Corrected a problem where systems with the SDB flag enabled and with devices that were once external type but have now been changed to some other type were causing large memory consumption.
49887	Fixed an issue that caused the Download Scan to hang when the number of FOUNDATION Fieldbus H1 devices downloaded exceeded 300.
50202	Fixed an issue in Trender that could cause a failure when adjusting the vertical axis.
50275	Resolved issue with CMS when checking in external devices that were upgraded from previous versions.
Additional	49751

6.4.4 WEPA V05.09.01C

Reference	Release Note
48503	The saved battery DB life test results now include battery box temperature.
48651	An issue that could prevent setting the blade rotate speed reference has been resolved.
50226	A bug which could cause the WEPA to reboot after the 600th Battery DB test has been fixed.

6.4.5 WorkstationST V07.07.01C

Reference	Release Note
49863	NEW! Enhanced the alarm image ActiveX control used in CIMPLICITY. The pop-up is no longer modal. The icon is shown in the alarm class normal color if priority is used and if all alarms are acknowledged and normal. An option was added to disable the click pop-up. A current state column was added to the initial alarm list dialog. A refresh button was added to the initial alarm list dialog and refresh was made to occur after the command action dialog issues a command such as Acknowledge or Out of Service, etc.
49488	Corrected a problem where the CSH viewer Networks / Devices / <controller> / Controller R/S/T node did not reflect the status of the child network connection nodes.
49661	Modified embedded Trender to not hide traces list by default and removed properties button from the toolbar.
50202	Fixed an issue in Trender that could cause a failure when adjusting the vertical axis.

6.5 ControlST V07.07.00C SP02 (April 2020)

This is a maintenance release driven by a Wind VPSA login issue, along with important bug fixes in several products.

6.5.1 Mark VIe V06.09.02C

Reference	Release Note
49470	In a multi-core blockware application, variables written in a secondary execution group and produced on UDH EGD had a one frame delay before they were produced. This delay has been eliminated.
50247	In a multi-core blockware application, if a secondary execution group period is not a binary multiple then on power up the blockware does not always start executing on a common frame boundary across all execution groups. This issue has been corrected.

6.5.2 PDOA V05.07.01C

Reference	Release Note
51290	PDOA now allows a user to disable the diagnostics (155-166) "NO [Normally Open] contact [] voltage disagreement with command" on the TRLYH#C terminal board. The parameter EnabAlmFbk will now be displayed for the TRLYH#C configuration on the Outputs tab.

6.5.3 REPA V05.09.02C

Reference	Release Note
49444	An issue was fixed where an IOC could be triggered in states other than the converter run state.
49473	Pitch system speed is now reduced with decreasing ultracap voltage.
49650	Phase loss detection has been updated to 60s.
50525	A new ultracap voltage equation was added based on loads data.
50890	An issue was fixed where the secondary converter tripped pre-maturely on motor overspeed. This caused a mode 3 failure and stuck blade for 2s.
50891	Converter DB timed overcurrent now causes a mode 2 shutdown.
Additional	50507, 50576

6.5.4 ToolboxST V07.07.02C

Reference	Release Note
49471	An issue was resolved where a failure to launch a controller from the system view would sometimes crash the system window.
50332	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary.
50386	The System Information editor content is now published to the master workstation when the system overview is saved. Previously it was only saved when the system information editor's save was used.
50455	Enhanced the property names and descriptions for an OPC AE client connection on the WorkstationST component editor's alarm tab.

Reference	Release Note
50543	It is now possible to have a non-blank Alarm Description in the Alarm Help file for OPC AE and OPC UA Alarms.
50545	The Alarm Help for an OPC AE Alarm Condition mapped to the Normal Alarm State had extra unformatted content.
50571	Resolved an issue where the Trender for HMI would fail when saving a trend.
51143	Fixed an issue where a warning, 'Reboot of Device XXX is always required due to a referenced runtime library. Please run build to identify these libraries.' incorrectly displayed during a system download.
51159	Added validation for conflicts between the tcw working folder and the master file location defined in the system overview. These should have always been unique locations and now validation at open, save and master location property editing will occur.
51171	Fixed an issue with the script editor that, in certain scenarios, would not allow it to open.
51181	An issue was resolved where the MaintainComponent access right was insufficient to allow building of some I/O types.
51196	Corrected an issue on PROFINET Multi Vendor where a build would give an error of a Connected Variable having multiple Connections on Inputs. The build error would only occur when the module or sub-module was just added to the PROFINET device and a Connected Variable was added on an input to that device. The error did not occur if the module or sub-module already existed when the Mark VIe device was opened.
51283	Resolved an issue where ToolboxST could generate invalid controller pcode causing the controller to enter a failed state on download.
Additional	49642, 50201, 50851, 51158

6.5.5 WorkstationST V07.07.02C

Reference	Release Note
51261	NEW! Added ipconfig /all and route print information into the WorkstationST logs saved when a save and zip of debug information is requested.
50308	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary
50406	Corrected a problem where the Engineering units were displayed in the incorrect measurement system upon CimView startup when the active measurement system was set to a value that was not equal to the variable's native measurement system.
50412	Added a check for OPC AE subscription state prior to a refresh call to ensure the state is active.
50571	Resolved an issue where the Trender for HMI would fail when saving a trend.
50572	OPC AE: Fixed issue trying to write out the OPC AE Undefined Translations to a file when the server name contains characters that aren't allowed in file names, like a ':'. This would occur when using an OPC Tunneller.
50795	Corrected an alarm server failure when the user log reached its maximum size of 1 MB and two threads were writing to the log while a new file was being opened.
51118	Corrected a problem where the OPC UA server was growing in memory when processing frequent Topology Changed events which were occurring due to an invalid system configuration.

Reference	Release Note
51255	Corrected an Alarm Viewer memory growth condition when alarm classes were configured with text to speech.
51256	A problem was resolved where Wind service accounts could not log on under Windows Server 2012 R2.
Additional	49642, 51158

6.5.6 *Previously Released*

The following components, also in Service Pack 02, were previously released since ControlST V07.07.00C in previous Service Packs.

- GE Historian Reports V07.07.01C
- WEPA V05.09.01C

6.6 ControlST V07.07.00C SP03 (May 2020)

This is a maintenance release driven by ARESBlockLib product enhancements.

6.6.1 ARESBlockLib V08.04.02C

Reference	Release Note
51489	NEW! Added new ARES model A7HA031A0919V4
51490	NEW! Added new ARES model A9FB016B1010V4
51491	NEW! Added new ARES model A9373B0205V4

6.6.2 Previously Released

The following components, also in Service Pack 03, were previously released since ControlST V07.07.00C in previous Service Packs.

- GE Historian Reports V07.07.01C
- Mark VIe V06.09.02C
- PDOA V05.07.01C
- REPA V05.09.02C
- ToolboxST V07.07.02C
- WEPA V05.09.01C
- WorkstationST V07.07.02C

6.7 ControlST V07.07.00C SP04 (May 2020)

This is a maintenance release driven by a WorkstationST OPC UA and DA enhancement for Wind and a YSIL self-test failure bug fix.

6.7.1 ToolboxST V07.07.03C

Reference	Release Note
3707	NEW! ToolboxST now downloads the SYL file to virtual controllers.
51356	Corrected a problem where saved chapter data was not displaying when using the ActiveX embedded Trender.
51591	OPC AE Alarms: 1. Fixed an issue with "Export Variables", when a single variable has more than one Parent and thus a comma in the Parent Alarms field, the value was not encapsulated with quotation marks to maintain proper csv format. 2. Fixed issues where sometimes the Parent and Child fields were not set correctly during an "Import Variables".
51649	OPC AE Alarms: 1. Fixed two issues when a system has a large number of OPC AE alarms (~45,000), alarm help files were not published to the Master Workstation and in ToolboxST the Workstation component would open very slowly. 2. Fixed an issue generating Alarm Help if the OPC AE Server has a colon ':' in its name.
Additional	51390

6.7.2 Virtual Mark VIe V06.06.01C

Reference	Release Note
51641	NEW! Added support for ToolboxST downloadable .SYL files.

6.7.3 Virtual Mark VIe x64 V06.06.01C

Reference	Release Note
51647	NEW! Added support for ToolboxST downloadable .SYL files.

6.7.4 WEPA V05.09.02C

Reference	Release Note
50430	An issue that prevented immediate Battery DB Life Test performance on Axes 2 and 3 has been resolved.
51156	A bug that can cause Battery DB Life Test failures to persist even when the BatteryDBResEnable parameter is set to False has been fixed.
51444	Transition to manual mode via the center box switch is allowed when the axis is on the home or home overtravel limit switch.

6.7.5 WorkstationST V07.07.03C

Reference	Release Note
51314	NEW! Added additional resource override ability at a WorkstationST level which can be used to control OPC UA and DA client reading and writing.
51356	Corrected a problem where saved chapter data was not displaying when using the ActiveX embedded Trender.
51593	Fixed an issue in WorkstationST Modbus and GSM features, where every 20 seconds they would log disconnect/connect messages for every Measurement System connection to the OPC Server where no data was currently being read.
51627	Corrected a memory growth issue in the OPC AE server which occurred with each controller download.

6.7.6 YSIL V05.06.02C

Reference	Release Note
50711	An issue was fixed where, for some terminal boards, the contact inputs would go unhealthy due to a self-test failure. Note: When upgrading to V05.06.02C, you may see a diagnostic alarm, 2629 "Could not load programmable logic on TCSA: Error 2", occur during the firmware upgrade. This is due to the upgrade of the WCSA FGPA version and should only occur once as part of the upgrade.

6.7.7 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.02C
- PDOA V05.07.01C
- REPA V05.09.02C

6.8 ControlST V07.07.00C SP05 (July 2020)

This is a maintenance release driven by UCSD updates and several critical product updates needed at customer sites.

6.8.1 Mark VIe V06.09.04C

Reference	Release Note
51486	In systems with a UCSC controller the Network Settings -> Network configuration item for the network adapter associated with ENET2 can now be changed to a network other than CDH.
52487	Production UCSD hardware is now supported.
Additional	52488

6.8.2 PPNG V05.14.03C

Reference	Release Note
49397	I&M0 device data is now correctly displayed in the "Compare to Hardware IO Device..." window.
Additional	52188

6.8.3 ToolboxST V07.07.04C

Reference	Release Note
51928	Resolving an issue where clicking the color editor in the Trender could cause a program failure.
52093	Resolved an issue where the Trender could not be started from an HMI screen.
52226	If diagnostic translations have never been exported and imported, a default product list of diagnostic translations will be created upon system save. This avoids a diagnostic translation lookup error in the WorkstationST alarm viewer.
52329	An issue was resolved where a failure to launch a controller from the system view would sometimes crash the system window.
52330	Corrected a problem where opening a WorkstationST component editor where the HMI configuration feature is enabled, causes a minor revision change when HMI screens have been defined in the system.
52335	Custom Runtime Libraries: Fixed issue where user couldn't open a Library Container referencing a Custom Runtime Library if the Library Container was created by "Insert Existing", choosing a Library Container that was already in the system, thus being prompted to rename the new Library Container.
52356	Correcting a problem where a save of the System causes an error dialog box indicating a valid network address could not be found. The problem was introduced in the 7.7.2 release as part of a change to allow master workstation configuration to be saved when saving from the system overview window.
52424	An issue was resolved where the Goto Definition context menu item for Blocks was not working. Goto Definition now opens the library and navigates to the definition as it did previously.
52451	PROFINET: Resolved an issue introduced in V07.04.01C. When doing a Change GSDML, if the new GSDML added new Parameter Children, some of the new Parameter Children were not added to the instanced PROFINET device that was being changed.
52483	Resolved an issue where ToolboxST would crash if user was submitting a bug and attempted to attach a file that was already open in another process, for example MS Word.
52484	Resolved an issue where the Trender would not warn users, when opening trends saved with older versions, that saving with the current version would prevent the older version from opening the trend.

6.8.4 WEPA V05.09.04C

Reference	Release Note
51924	A bug which could prevent converter faults from being cleared has been fixed.
52402	Added 2 more conditions to allow switch from auto to manual 1) position feedback greater than 65 degrees 2) hub is not moving according to z accelerometer

6.8.5 WorkstationST V07.07.04C

Reference	Release Note
51928	Resolving an issue where clicking the color editor in the Trender could cause a program failure.
52093	Resolved an issue where the Trender could not be started from an HMI screen.
52293	Corrected the password reset feature of the Tagout Dialog to correctly reset the selected user grid row, not the currently logged in user. Also corrected the close button so it closes the dialog.
52385	Corrected a problem where the embedded OPC DA client was not able to connect to a remote host running on a computer in a workgroup and therefore having a blank configured domain name.
52484	Resolved an issue where the Trender would not warn users, when opening trends saved with older versions, that saving with the current version would prevent the older version from opening the trend.
52486	OPC DA client browse was not including alias variables in the browse name space.
52512	Corrected the live values shown in the CSH viewer for exciter and static starter type components. There was a related bug that initially fixed much of the issues (49234), but the live values were not updating.

6.8.6 Previously Released

The following components, also in Service Pack 05, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- PDOA V05.07.01C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.01C
- Virtual Mark VIe x64 V06.06.01C
- YSIL V05.06.02C

6.9 ControlST V07.07.00C SP06 (September 2020)

This is a maintenance release driven by several critical product updates needed at customer sites.

6.9.1 Mark VIe V06.09.05C

Reference	Release Note
53556	In systems with more than 255 IO packs it is possible that SOEs for some IO packs not be transmitted to the HMI. This issue has been resolved.

6.9.2 ToolboxST V07.07.05C

Reference	Release Note
51586	Resolved issue where ToolboxST could crash when opening a configuration that was already open in another instance of the application.
52923	Fixed an issue when upgrading WindDFIG01 from V02.05.07C to V02.06.01C.
53034	Fixed an issue where compare to controller fails.
53169	Resolved a program failure what could occur when using Undo in the Trender for HMI.
53191	PROFINET: Fixed two issues with Change GSDML, it was not adding new Parameters or Parameter Groups, and didn't recognize existing Parameters and Parameter Groups as being the same if the casing of the Name changed (ex. from "Filter Time" to "Filter time").
53192	PROFINET: Fixed an issue where Refresh from GSDML corrupts PROFINET device if GSDML file is missing or path to the file is too long.
53324	Fixed an issue where the Compare to Controller report erroneously displayed differences in the Program. ComponentType and IsFFBlockAssignmentOverridden fields
53329	Fixed an issue where changing a PROFINET device name to one with invalid characters could result in a configuration that cannot be opened.
53490	Fixed an issue where the override value of a control constant on a pin of a runtime block wasn't being persisted between opening and closing device windows inside ToolboxST.
53924	Now support allowing Network Adapter 2 (if available on the device) to be connected to a Network with any Scope other than IO or Management. If the Scope of IO or Management is selected, a build error is generated.

6.9.3 Virtual Mark VIe V06.06.02C

Reference	Release Note
20710	The Virtual Controller now honors an SDI client's requested data rate while running faster than one-half real time.

6.9.4 Virtual Mark VIe x64 V06.06.02C

Reference	Release Note
53739	The Virtual Controller now honors an SDI client's requested data rate while running faster than one-half real time.

6.9.5 Virtual Mark VleS V06.03.01C

Reference	Release Note
21726	The Virtual Controller now honors an SDI client's requested data rate while running faster than one-half real time.

6.9.6 WorkstationST V07.07.05C

Reference	Release Note
52925	Correcting a problem where the Recorder Trip log failed to have the long term data at a wind site due to an index out of range exception when writing samples to the Trip Live Data DCA file.
53024	Corrected a problem where the Go To Definition from CimView where multiple variables are presented to the user, the first variable in the list was the one always used, regardless of user selected.
53169	Resolved a program failure what could occur when using Undo in the Trender for HMI.
53371	Redundant OPC AE Clients now log for each client every time the connection state changes. The per client connection state info is also shown in the WorkstationST Status Monitor Additional Status Details. In addition there is a new configuration option to not report errors if only one client is connected, for cases where this is expected. This will suppress alarms as well as errors in the WorkstationST Status Monitor.
53469	Corrected a problem with the WorkstationST status monitor's Privileges Logon feature where a user authorized because the user's domain is authorized is logged on, another user temporarily logs on and then logs off resulting in the domain user's role being lost and therefore having the incorrect privileges.
53487	Corrected the OPC UA client read / monitored item value for the EngineeringUnits child property variable so it changes as the client's MeasurementSystem variable is set.
53500	Corrected an issue with the OPC UA server where the descriptions were not being returned in the OPC UA client's requested locale if that locale matched the system's configured second language.
53536	OPC UA Alarms now support sending Alarm Message Text using the clients requested Locale ID.
53925	Added the ability to connect the MarkVle's ENET2 network adapter to networks with scope other than Unit. Enhanced the network pick list on the network switch component, adding text to the redundancy column header in the pick list dialog.
Additional	53506

6.9.7 Previously Released

The following components, also in Service Pack 06, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- WEPA V05.09.04C
- YSIL V05.06.02C

6.10 ControlST V07.07.00C SP07 (October 2020)

This is a maintenance release driven by product updates needed at customer sites and also includes various security updates.

6.10.1 ToolboxST V07.07.06C

Reference	Release Note
53992	Corrected some issues with the WorkstationST component editor's Resource Overrides feature. The issues were editing around the protection access list and using the lower data grid's multiple select button.
53995	Fixed an issue where the connected variable for Universal IO points (PUAA or YUAA), being consumed with Shared IO, could be removed from the configuration, for IO Modules that were added in the owning controller by copying/pasting.
54195	The keep-alive timeout value downloaded to the PFFA modules has been updated to prevent a potential PFFA reboot and temporary loss of FOUNDATION Fieldbus device communication during redundancy switchover events triggered by the loss of IONet or loss of power to the Designated Controller.
54321	Fixed a security issue that could lead to Information Disclosure.

6.10.2 WEPA V05.09.06C

Reference	Release Note
54239	The EBST block fault timeout has been extended from 30 seconds to 11 minutes.

6.10.3 WorkstationST V07.07.06C

Reference	Release Note
53993	Fixed a security issue in the OPC UA server that could lead to Information Disclosure when resource overrides are configured.

6.10.4 Previously Released

The following components, also in Service Pack 07, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- YSIL V05.06.02C

6.11 ControlST V07.07.00C SP08 (November 2020)

This is a maintenance release driven by product updates needed at customer sites.

6.11.1 ToolboxST V07.07.07C

Reference	Release Note
54494	Fixed an issue with an erroneous Build error, 'The block {blockName} pins don't match the new instance of the library. Instance the block.'
54499	Resolved an issue where, in some circumstances, the Override Value property of a control constant would be reset to true when opening a controller.
54512	Resolved an issue that could cause a program failure in the tender when going back to a previous chapter.
54773	Corrected a build inefficiency for a controller with one or more large table definitions configured.
Additional	54747

6.11.2 WorkstationST V07.07.07C

Reference	Release Note
54512	Resolved an issue that could cause a program failure in the tender when going back to a previous chapter.
54543	Corrected a problem with the user privilege logon manager where a user logged in as a domain group user, logs up to another group user, and then back out to the original group user. The privileges were lost and the original user now had no privileges. The original user can log out and back in to get back their configured privileges.
54640	Fix for nuisance alarms in Cisco switches that do not have a redundant power supply installed.
54930	Corrected a logging error when an SDI client attempted to write to a variable but the client's user did not own the blank HMI resource and the variable's HMI resource was blank. The OPC UA or DA server log now shows the write error.

6.11.3 Previously Released

The following components, also in Service Pack 08, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- WEPA V05.09.06C
- YSIL V05.06.02C

6.12 ControlST V07.07.00C SP09 (December 2020)

This is a maintenance release driven by a PFFA Download Scan error fix, resolution to an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks, and an enhancement allowing Mark VIe consumption of EGD exchanges that are routed and multicast.

6.12.1 ToolboxST V07.07.08C

Reference	Release Note
55758	NEW! Removed the build error for MarkVIe consumption of EGD exchanges that are routed and are multicast.
55444	Fixed an issue where the System or a Device fails to open with a Parse Error, with the Root Cause message being "Access to the path is denied".
55556	Resolved an issue where the Finder would not allow index based searching if a component was read-only.
55587	Fixed a Download Scan error where PFFAs report that they are configured with incorrect Hardware Forms.
55622	Fixed an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks.
55626	Resolved an issue where the Trender could fail when back-filling data from a historian.
55685	Corrected an issue where input bits were always showing true for a PROFINET device. The issue occurred when the data type on the input point was an Octet String and the Var Data Type was set to Bool then back to NA.
55872	Fixed an issue with an erroneous Build error, "The block {blockName} pins don't match the new instance of the library. Instance the block.", specifically for blocks with attributes and string substitution.

6.12.2 WorkstationST V07.07.08C

Reference	Release Note
55481	Fixed the Control System Health reporting of Cisco IE2000 and IE3300 switch redundant power supply errors.
55584	Corrected a problem where EGD consumed variable values returned to an OPC DA client in the Read Device call were stale for variables not currently in a client subscription.
55623	Corrected a problem where recorder capture buffers were not uploaded. The log showed a failure to connect to the controller and a failure to get the designated talker IP address.
55626	Resolved an issue where the Trender could fail when back-filling data from a historian.
55771	Fixed an issue where Recorder does not include alarms in created .dcaST files if the configuration field "Alarm Server To Use" is blank but the AlarmServer is enabled on this WorkstationST and there is no Primary Alarm Server defined in the system.

6.12.3 *Previously Released*

The following components, also in Service Pack 09, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- WEPA V05.09.06C
- YSIL V05.06.02C

6.13 ControlST V07.07.00C SP10 (February 2021)

This is a maintenance release driven by a ToolboxST/WorkstationST Enhancement that adds a role privilege to allow lock and unlock actions in the Alarm Viewer. This release also includes several bug fixes required at customer sites.

6.13.1 ToolboxST V07.07.09C

Reference	Release Note
55975	NEW! Added a role privilege to allow lock and unlock actions in the Alarm Viewer.
55976	Added protection for removing resource overrides from a WorkstationST that was configured with resource overrides. The user must delete the resource overrides from the WorkstationST component that originally configured and downloaded the WorkstationST configuration.
56691	The user can now change the Second Language Description, either interactively in ToolboxST in a Library or a Controller, or with a Second Language Import in a Controller, for variables where "Inherit Description of Connected" is True, like the inputs of a Logic Builder block, as well as for all Analog Alarm Sub Pins (like .INH). Previously, the user could only change the Description for the Analog Alarm Sub Pins that were actual Alarm States (like .H).
56693	Corrected a sluggish behavior when moving the mouse over the system overview tree where network information for each component is shown in the tooltip.
Additional	56103

6.13.2 WEPA V05.09.07C

Reference	Release Note
55889	The 6-in-1 battery charger firmware has been updated to BC4f in the WEPA V05.09 branch, which decreases the low AC voltage alarm threshold.
55890	A bug which caused Battery Fault 253, charger communication loss, to be reported immediately instead of after a two-minute delay has been resolved in the WEPA V05.09 branch. A related bug which caused various charger faults to be reported immediately instead of after a 15-minute delay has also been resolved in the WEPA V05.09 branch.

6.13.3 WorkstationST V07.07.09C

Reference	Release Note
55941	NEW! Added a role privilege to allow lock and unlock actions in the alarm viewer.
55901	Corrected a problem where variables on a Secondary EGD page, configured with a health timeout multiplier, would remain unhealthy when the secondary exchange transitioned to healthy while the primary producer was producing. This issue does not impact the actual EGD production from the secondary, it only impacts the health of the variables as seen by ToolboxST.
55957	Added protection for removing resource overrides from a WorkstationST that was configured with resource overrides. The user must delete the resource overrides from the WorkstationST component that originally configured and downloaded the WorkstationST configuration.
55958	Corrected a failure of the WorkstationST service when the number of windows sessions exceeds 10.

Reference	Release Note
56015	Corrected an issue where parent and child information was missing in alarm updates to clients, (such as the Alarm Viewer), after a WorkstationST major download. Additionally, addressed a slower alarm server initialization for alarm servers configured with devices consumed from remote alarm servers.
56126	Upgraded the Unified Automation SDK used for OPC UA to address a thread growth issue seen when OPC UA clients are doing very frequent read / write requests.

6.13.4 *Previously Released*

The following components, also in Service Pack 10, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- YSIL V05.06.02C

6.14 ControlST V07.07.00C SP11 (March 2021)

This is a maintenance release driven by ToolboxST bug fixes related to clearing the 'Override Value' property, instancing ARES and Block Library Creator blocks, and adding a pin that is also on a Modbus page to an instanced DCS block.

6.14.1 PCEG V05.16.00C

Reference	Release Note
54226	NEW! The PCEG CE3000 Gateway now supports the LE109 (32 digital inputs), LD106 (16 static digital inputs), AS212 (8 analog outputs with feedbacks) boards for the ALSPA DCS Retrofit.
Additional	55449

6.14.2 ToolboxST V07.07.10C

Reference	Release Note
56863	Corrected a crash that occurred when deleting a WorkstationST component from the System Overview. A work around in existing 7.8 and 7.7 releases is to first remove the ResourceOverrides.xml file in the WorkstationST component's folder prior to deleting the WorkstationST component.
56961	Resolved an issue where the 'Override Value' property could be cleared as part of a Constants Report import.
57109	Corrected the list of available measurement systems presented when selecting a WorkstationST component's default measurement system. The list should have been created from the last published master symbol table from the EGD configuration server, but was instead coming from the local saved system.
57122	Fixed an issue with instancing in the Mark VIe Device when the linked object contains ARES blocks or Block Library Creator blocks.
57158	Fixed an issue where the Controller fails to start when a pin on an instanced DCS Block (ex. LIC0405.CVO) is put on a Modbus page.

6.14.3 WorkstationST V07.07.10C

Reference	Release Note
56910	Corrected a problem where an OPC DA client asynchronous read of a variable can return an incorrect value. Variables that are not currently in a live list by any client could suffer this issue. The issue occurs after a controller download and dynamic bind.
57147	Corrected the browsing of alias variable names in the OPC UA server when resource overrides are enabled.
57183	Corrected a problem seen by the OSM team for viewing alarms using the wHAERpt web page for a special application where the OSM team renames the BIN files to aggregate alarms from multiple OSMs for use on an aggregator OSM.

6.14.4 Previously Released

The following components, also in Service Pack 11, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- WEPA V05.09.07C
- YSIL V05.06.02C

6.15 ControlST V07.07.00C SP12 (March 2021)

This is a maintenance release driven by an issue where OPC UA clients were not receiving diagnostic alarm updates and an issue where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege.

6.15.1 PPDA V05.00.02C

Reference	Release Note
56844	JPDG AC inputs can also be used for 125 V DC input with ground fault detection.
56871	Documentation update on variables Batt_125V_LED and Batt_125G_LED to reflect 125V feedback status rather than battery status.

6.15.2 ToolboxST V07.07.11C

Reference	Release Note
57394	An issue was resolved where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege, but only in cases where a custom runtime block was in use. This particularly affects Service Tech level users of Wind systems.
Additional	57346

6.15.3 WorkstationST V07.07.11C

Reference	Release Note
57239	Added a warning message to the WorkstationST download scan if the configuration in the target WorkstationST is using resource overrides and was downloaded from another configuration. Doing so causes all OPC UA and DA clients to not be able to browse or read any variables. The warning tells the user they must disable resource overrides in the original configuration and download that before downloading this new configuration.
57261	Corrected a problem where OPC AE alarms served to clients did not include past alarms if the OPC AE server started after the Alarm server.
57291	Corrected a problem where OPC UA clients were not receiving diagnostic alarm update and were not able to acknowledge alarms.
57412	Fixed an issue where the OPC UA Server misses reporting interim alarms to OPC UA Alarm Clients, where interim alarms are those that occurred after the OPC UA Server started but before any client connected.
57415	Two changes to the OPC UA Alarm Server. First, the OPC UA Alarm Server will now get alarms from the Configured "Alarm Server To Use" (if one has been configured) instead of the Primary Alarm Server. Second the OPC UA Server will now add newly defined alarms to the OPC Browsing tree after a device is downloaded.

6.15.4 Previously Released

The following components, also in Service Pack 12, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PCEG V05.16.00C
- PDOA V05.07.01C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- WEPA V05.09.07C
- YSIL V05.06.02C

6.16 ControlST V07.07.00C SP13 (June 2021)

This is a maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: [KB0028774](#) - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms.

6.16.1 PAIC V05.01.01C

Reference	Release Note
38273	An issue was fixed where the PAIC would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
58588	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.2 PAOC V05.00.01C

Reference	Release Note
58579	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.3 PDIA V05.01.01C

Reference	Release Note
58590	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.4 PDOA V05.07.02C

Reference	Release Note
47996	The PDOA documentation has been updated to indicate that outputs cannot be configured as dry contacts when SRLY+WROG is in use.
58599	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.
Additional	51428

6.16.5 PPDA V05.00.03C

Reference	Release Note
58583	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.6 PPRO V05.05.02C

Reference	Release Note
58641	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.7 PRTD V05.00.01C

Reference	Release Note
58638	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.8 PTCC V05.00.01C

Reference	Release Note
58582	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.9 PTUR V05.00.02C

Reference	Release Note
58640	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.10 PVIB V05.01.06C

Reference	Release Note
58639	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

6.16.11 ToolboxST V07.07.12C

Reference	Release Note
58091	Resolved an issue that could randomly cause a 'Cannot create a file when that file already exists.' error while building.
58401	Corrected a problem with live data in the system overview for Virtualization Servers, Virtual Machines and Thin Client type components.
58478	Added a message box when a configuration error prevents the master symbol table from being published. The user was previously informed only with an error in the log window, but is now also informed with a message box.
59266	CE3000-I: Prior to this fix, if there was anything invalid in the CE3000-I configuration then ToolboxST had a User Exception when the user tried to build the controller. Now ToolboxST reports the problem to the user in the Log Window.
59293	Resolved an issue where ToolboxST might crash if a variable's HmiResource was null.
59318	Corrected a problem where saving a power converter (Wind-DFIGe) caused the I/O network connection to the Mark VIe wind turbine controller to be lost. The I/O network connection was no longer shown on the system overview graphics and issues with device replication and convertor configuration were a result. To correct the issue, open the power converter with this newer version, make a change, and save it.

6.16.12 WorkstationST V07.07.12C

Reference	Release Note
58094	Corrected a problem where CIMPLICITY screens could not write to points when "Enable Client Security by User" on the OPC DA tab, was enabled. This setting was enabled to prevent CimView from writing to points if InitializeCimplicity had not been called and therefore CIMPLICITY's client had not been associated with the privilege logon user.
58214	Fixed the bug that caused empty redundancy Power Supply bays to be reported as an error in Cisco stacked switches that support modular, redundant power supplies. A power supply bay that is empty at startup should be considered intentionally empty. A redundant Power Supply alarm is only generated if an installed Power Supply reports an abnormal state.
58483	Corrected a crash of the Alarm Status Viewer when an alarm server has been configured with two or more connections to servers sharing the same name but different URLs.
58484	Corrected a read only flag that got set when there were no users and roles defined. This impacted OPC DA clients and impacted variables with resources defined. Specifically the site in question had Mark VI variables.
58567	Avoiding a problem where OPC DA clients fail to connect if the windows service "Server" has been disabled. Not sure why anyone wants to do that, but we have some wind sites in China that have done that. The failure can be avoided by adding an Anonymous user to users and roles or by enabling the Server service.
Additional	58046

6.16.13 Previously Released

The following components, also in Service Pack 13, were previously released since ControlST V07.07.00C in previous Service Packs.

- ARESBlockLib V08.04.02C
- GE Historian Reports V07.07.01C
- Mark VIe V06.09.05C
- PCEG V05.16.00C
- PPNG V05.14.03C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C
- WEPA V05.09.07C
- YSIL V05.06.02C

6.17 ControlST V07.07.00C SP14 (July 2021)

This is a new feature and maintenance release driven by Exciter and ARES enhancements and several products with important bug fixes.

6.17.1 ARESBlockLib V08.04.03C

Reference	Release Note
60053	NEW! Added new ARES model A6F0103A1120V4
60054	NEW! Added new block ARES_COOL3

6.17.2 EX2100e V04.15.02C

Reference	Release Note
59872	NEW! Several enhancements have been added in this release of the EX2100e product code. These new features include: <ul style="list-style-type: none">• Replacement of the 1st order filter with the FIR filter and the 2nd order filter with the 16 Hz filter. The FIR filter is selected by default• Modification of the measurement and slip calculations to use estimate frequency, instead of the Fbase constant, on the Slip, Imag, Watts, and VARS data points• Further evolution of the Power System Stabilizer function by adding the fourth Lead/Lag filter on the PSSB function which will allow inclusion of the PSS2C standard model

6.17.3 Mark VIe V06.09.06C

Reference	Release Note
59223	The Mark VIe has been modified to request a PFFA Redundancy Switchover so that the Primary Linking Device tracks the DC in the case where one or more H1 devices are missing.
59324	Fix PFFA Advanced Diagnostic data display issues.

6.17.4 PPRA V05.00.01C

Reference	Release Note
52089	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of TwoGroups (2 shafts, 3 sensors).
55757	PPRAS1B now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.

6.17.5 *ToolboxST V07.07.13C*

Reference	Release Note
56700	The Trender now displays the names of static files (e.g. DcaST files) in the title bar.
59620	Resolved an issue where importing an invalid CSV file for a Modbus slave could cause a program failure.
59897	Fixed an issue where the Property Override/Value Override in a linked program/task were not editable in the property grid.

6.17.6 *WEPA V05.09.09C*

This section includes release notes from V05.09.09C and V05.09.08C. V05.09.08C was previously released by the Wind Pitch team but never included in a ControlST release.

From V05.09.09C

Reference	Release Note
59667	WEPA diagnostics around the Battery DB Life Test have been revisited. Life warnings are now information only; life trips escalate from battery fault to first fault after ten minutes; and disabling the DB parameter disables all DB warnings and trips. This specific bug targets only the V05.09 branch.
59676	The Battery DB Life Test can now be forced via an interface bit when at least one battery is in warning state. Previously, at least one battery had to be in trip state. This bug fix is specific to V05.09.

From V05.09.08C

Reference	Release Note
57209	An issue that could cause the "Invalid motherboard FPGA revision detected" diagnostic to be issued intermittently has been corrected in the V05.09 branch.
59268	The 6-in-1 charger firmware has been updated to BC4h. This version relaxes various diagnostics that may occur at high ambient temperature.
59344	The commutator bar wiggle delay has been reduced from 30 seconds to 5 seconds, and the commutator bar warning secondary fault has been downgraded to information-only.
59390	The legacy simulation mode, activated via the IONet interface, has been removed - V05.09 branch

6.17.7 *WorkstationST V07.07.13C*

Reference	Release Note
56700	The Trender now displays the names of static files (e.g. DcaST files) in the title bar.
59445	Corrected a problem where the Triple redundant exciter data shown on the online status tab of the ToolboxST system overview shows no data for the T core.
60477	OPC UA Alarm Server: Fixed an issue where the time for alarms in a client was the time the alarm was received by the client, when it should have been the time the alarm was created in the controller.
60478	OPC UA Alarm Server: Fixed an issue where Phantom alarms appear in a client when alarms are removed from the system after the OPC UA Server is started but before a client connects.

6.17.8 YSIL V05.06.03C

Reference	Release Note
52088	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of 2Shafts_3Sensors.
55745	YSIL now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.
57043	The YSIL now includes SSUP connections on the Extra Circuits tab.
Additional	51674

6.17.9 Previously Released

The following components, also in Service Pack 14, were previously released since ControlST V07.07.00C in previous Service Packs.

- GE Historian Reports V07.07.01C
- PAIC V05.01.01C
- PAOC V05.00.01C
- PCEG V05.16.00C
- PDIA V05.01.01C
- PDOA V05.07.02C
- PPDA V05.00.03C
- PPNG V05.14.03C
- PPRO V05.05.02C
- PRTD V05.00.01C
- PTCC V05.00.01C
- PTUR V05.00.02C
- PVIB V05.01.06C
- REPA V05.09.02C
- Virtual Mark VIe V06.06.02C
- Virtual Mark VIe x64 V06.06.02C
- Virtual Mark VIeS V06.03.01C

Notes

7 V07.06 Release Notes

7.1 V07.06 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

7.2 V07.06 Suite Components

See Component Registry: [ControlST Component Registry](#)

7.3 V07.06.00C (August 2019)

7.3.1 V07.06.00C Highlights

Mark VIe / PPNG Enhancement

Application: Wind

Description: The Embedded PPNG now supports communication to IO-Link devices over PROFINET via the IO_LINK_DEVICE_READ and IO_LINK_DEVICE_WRITE blocks in the MarkVIe V06.08 release Standard block library.

References:

[Mark VIe Controller Standard Block Library \(GEI-100682\)](#)

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 47526, 46703

PCNO Enhancement

Application: All thermal applications

Description: The PCNOH1B now supports the Woodward GS40 / GS50 Fuel valves.

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 47465

Shared IONet Enhancement

Application: All applications that use shared I/O.

Description: Shared IONet Groups have been updated to support up to four control sets on a Shared IONet group; however, only one set can be a SIL controller.

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 47211

7.3.2 V07.06.00C Changes

7.3.2.1 AEPA V05.08.00C

Reference	Release Note
46342	The 6-in-1 charger firmware has been updated to BC4c.
47353	The code has undergone a cybersecurity audit, and security improvements have been made.

7.3.2.2 Mark VIe V06.08.00C

Reference	Release Note
47526	NEW! The Embedded PPNG V05.13 now supports communication to IO-Link devices over PROFINET via the IO_LINK_DEVICE_READ and IO_LINK_DEVICE_WRITE blocks in the Standard block library.
46767	Fixed the timeout errors that were causing large delays when attempting to commission FF devices.
Additional	47360, 47544

7.3.2.3 PCNO V05.02.02C

Reference	Release Note
47465	NEW! The PCNOH1B now supports the Woodward GS40 / GS50 Fuel valves.

7.3.2.4 PPNG V05.13.01C

Reference	Release Note
46703	NEW! The Embedded PPNG now supports communication to IO-Link devices over PROFINET via the IO_LINK_DEVICE_READ and IO_LINK_DEVICE_WRITE blocks in the MarkVIe V06.08 release Standard block library.
Additional	47026, 47095, 47594

7.3.2.5 ToolboxST V07.06.00C

Reference	Release Note
46280	NEW! Updated ActiveX controls used in CIMPLICITY with methods which can be invoked from a CIMPLICITY procedure. Methods were added to the Trender, Alarm Viewer, Alarm Symbol and Logic builder controls.
47211	NEW! Shared IONet Groups have been updated to support up to four control sets on a Shared IONet group; however, only one set can be a SIL controller.
46853	Resolved an issue where if the user clicked cancel in the system upgrade wizard the user interface could leave the use locked out.

Reference	Release Note
46927	PROFINET: Fixed an issue where when a PROFINET IO Device had a Parameter defined in its GSDML file with a Data Type of VisibleString, then in ToolboxST the user previously could only change the value to a 0 or 1, instead of any string.
46929	Resolved an issue where search and replace did not work for the Display Screen and Parent Alarm properties of variables.
47401	Corrected the display name for the secondary language property in the system overview. The name was incorrectly set to the description text.
47413	Fixed an issue where Library Containers were not included in Component Versions Report
47425	PROFINET: Now support PROFINET IO Devices with non-zero API numbers and more than one VirtualSubmoduleItem on a module.
47453	Corrected issue where the Fieldbus Point Offset was not updated on the PPRF PROFIBUS devices when a PROFIBUS device was deleted.
47524	PROFINET: Change/Refresh GSDML now handles Devices with modules with more than one VirtualSubmoduleItem plus Parameter Enumerations where the Enumeration Text is not unique.
47615	PROFINET: Now support PROFINET IO Devices with non-zero API numbers on a SubmoduleItem.
Additional	45333, 46878, 47041, 47346, 47361, 47404, 47528, 47530

7.3.2.6 Virtual Mark VIe V06.05.00C

Reference	Release Note
47548	NEW! Added support for Mark VIe V06.08.00C.

7.3.2.7 Virtual Mark VIe x64 V06.05.00C

Reference	Release Note
47549	NEW! Added support for Mark VIe V06.08.00C.

7.3.2.8 WorkstationST V07.06.00C

Reference	Release Note
47004	Added the install of the OPC Foundation's Local Discovery server to setup.exe. It was removed from the WorkstationST features install in the 7.5.0 release. Customers can install it from the _Files folder as a work around.
47031	Corrected a problem where the Go To Definition in Logic menu item was disabled in the WorkstationST Alarm Viewer if the user did not have Alarm Modify privilege.
47406	Changing the IP address, (producer ID), of an external device and saving it, causes WorkstationST nodes to periodically attempt to remove the older producer ID from their local cache summary file and issue a topology changed message. The message is sent every minute until the WorkstationST service is restarted. This bug corrects that issue, so now only the first topology changed message is sent.
47446	Writing a zero to the alarm child variables of AlarmAckCmd and AlarmResetCmd will no longer cause the acknowledge or reset action to occur. Now only writes with a value of 1 or true will cause the action to occur.

Reference	Release Note
47468	Corrected a problem where adding multiple OPC client variables on an OPC DA server tab's OPC Client connection created a new server connection with each variable rather than using the same connection for each browsed added variable. This improved the performance of adding multiple OPC DA client variables.
Additional	47346, 47530

7.4 ControlST V07.06.00C SP01 (December 2019)

This is a maintenance release driven by bug fixes in several products, as well as updates to ARESBlockLib.

7.4.1 ARESBlockLib V08.04.01C

Reference	Release Note
49238	NEW! Added new ARES model A6FA031A0310V4
49239	NEW! Added new block ARES_ENCODE for Single Source ARES Encoding

7.4.2 LS2100e V04.13.03C

Reference	Release Note
48979	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.

7.4.3 PAMC V05.06.03C

Reference	Release Note
48278	The PAMC now defaults the Can_Id parameter to channel number. A build validation rule has been added to insure that Can_Id is unique across 18 channels.

7.4.4 PCNO V05.02.03C

Reference	Release Note
47676	PCNO GS40/GS50 variables names have been updated to match the specified Woodward valve names.

7.4.5 PPRF V05.00.03C

Reference	Release Note
41512	An issue was fixed where stale values were persisting when inputs were unhealthy. Now unhealthy input variables are set to zero. The issue was fixed in PPRFH1B.
41679	An issue was fixed for Simplex PPRF configurations in systems with redundant controllers and dual IONet connections, where inputs could be stale and not marked unhealthy if one controller was powered down and an IONet network cable break occurred. The issue was fixed in PPRFH1B.

7.4.6 ToolboxST V07.06.01C

Reference	Release Note
47677	PROFINET: Fixed build errors that occur in two different scenarios. First when using a PROFINET IO Device that has many VirtualSubmoduleItems under a DeviceAccessPointItem and second when there is only one PortSubmoduleItem.
47688	An issue was resolved where changing the Array Length of a variable definition was causing the initial value list to be truncated at the original array length. The full list is now retained, making it much easier to fix incorrect array lengths.
47727	An issue with the new Instance Script Editor prevented it from opening on most PCs. Because the new editor is a shared component, all prior versions of ToolboxST back to V7.1 on the same PC would also be affected. The issue is resolved, and the improved editor is now available.
48003	PROFINET: Resolved the issue when a user performs the "Change GSDML" command, selects a new GSDML file not already used in the system, then selects "Save System As" command to create a new copy of the system, but the new system did not include the new GSDML file.
48018	PROFINET: Resolved the issue when a user performs the "Change GSDML" command when a new GSDML file contains a variable with the same name but a different datatype as the previous file that caused the "Where Used" tab to not accurately display the variable's connections. The previous workaround for this was to save, close, and re-open the controller.
48037	The windows domain configuration was not passed into downloaded pcode configuration for the WorkstationST embedded OPC DA client connection. The connection can be configured to use a user name, domain name and password, but only the user name and password were correctly mapped to downloaded pcode. Local windows user accounts would work, but configuring a client to use a domain account would not have worked.
48068	PROFINET: Reduced the time it takes to generate a PROFINET Alarm History Report and update the PROFINET Diagnostics tab.
48333	PROFINET: Resolved an issue where bad pcode is created when using a PROFINET IO Device that has more than one VirtualSubmoduleItems under a DeviceAccessPointItem.
48497	A search could erroneously report an EgdUnboundVariable if one device was consuming EGD variables from another device, and both devices had EGD pages with the same name.
49300	Improved performance of the Trender loading CSV files.
49318	Resolved usability issues with the Trender.

7.4.7 Virtual Mark VIe V06.05.01C

Reference	Release Note
49249	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

7.4.8 Virtual Mark VIe x64 V06.05.01C

Reference	Release Note
49250	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

7.4.9 WorkstationST V07.06.01C

Reference	Release Note
48608	An issue was resolved where the Logic Builder HMI visualization was in Show Descriptions Instead of Pin Names mode and showed the full name of the input instead of the description.
49082	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.
49090	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed. This browser is available in the Trender for HMI.
49243	Fixed a problem where the controller health variables will fail to update if the Control System Health process cannot initially connect to the OPC UA server.
49318	Resolved usability issues with the Trender.

7.5 ControlST V07.06.00C SP02 (May 2020)

This is a maintenance release driven by a Knowledge Article, KB0027568, related to Work Item 51456 in ToolboxST.

7.5.1 PDOA V05.07.01C

Reference	Release Note
51290	PDOA now allows a user to disable the diagnostics (155-166) "NO [Normally Open] contact [] voltage disagreement with command" on the TRLYH#C terminal board. The parameter EnabAlmFbk will now be displayed for the TRLYH#C configuration on the Outputs tab.

7.5.2 ToolboxST V07.06.02C

Reference	Release Note
49815	Remote Alarms: Fixed issue where user got the error "The name is already used." and could not add configuration of a second remote Alarm Server, when both the first and second Alarm Server references have a blank "Secondary Workstation Name".
50331	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary
50454	Enhanced the property names and descriptions for an OPC AE client connection on the WorkstationST component editor's alarm tab.
51144	Fixed an issue where a warning, 'Reboot of Device XXX is always required due to a referenced runtime library. Please run build to identify these libraries.' incorrectly displayed during a system download.
51456	Resolved an issue where ToolboxST could generate invalid controller pcode causing the controller to enter a failed state on download.

7.5.3 WorkstationST V07.06.02C

Reference	Release Note
50307	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary
50405	Corrected a problem where the Engineering units were displayed in the incorrect measurement system upon CimView startup when the active measurement system was set to a value that was not equal to the variable's native measurement system.
50411	Added a check for OPC AE subscription state prior to a refresh call to ensure the state is active.

7.5.4 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V07.06.00C in previous Service Packs.

- ARESBlockLib V08.04.01C
- LS2100e V04.13.03C
- PAMC V05.06.03C
- PCNO V05.02.03C
- PPRF V05.00.03C
- Virtual Mark VIe V06.05.01C
- Virtual Mark VIe x64 V06.05.01C

8 V07.05 Release Notes

8.1 V07.05 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller’s device state must be either “Inputs Enabled” or “Controlling”. It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log. Recommendation is to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

8.2 V07.05 Suite Components

See Component Registry: [ControlST Component Registry](#)

8.3 V07.05.00C (June 2019)

8.3.1 V07.05.00C Highlights

Mark Vle Enhancement

Application: Wind

Description: Enhanced the Compressed Data Log (CDL) to include a new Protected data class that supports up to 1200 variables for the MinAna, SecRes, and SecAna log types.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 46594

Mark Vle Enhancements

Application: All applications

Description: Added the following NVRAM and TOTALIZER enhancements;

- The number of variables that can be saved in non-volatile RAM (NVRAM) has increased from 3067 to 6139 for UCSC-based platforms.
- The number of totalizers supported by the TOTALIZER application block has increased to 128 for all platforms.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 46634, 46636

Control System Health Enhancement

Application: Control Server

Description: Control System Health was enhanced to allow remote session monitoring and user-configured diagnostic alarm rationalization.

References:

[WorkstationST Control System Health Instruction Guide \(GEI-100834\)](#)

Work Items: 45314, 45384, 45768

Probability of Failure on Demand and Risk Reduction Factor Calculator

Application: Safety Systems

Description: Added a PFD Calculator spreadsheet for Mark VleS Functional Safety System components.

References:

[Mark VleS Functional Safety System Probability of Failure on Demand and Risk Reduction Factor \(PFD-RRF\) Calculation User Guide \(GEH-6854\)](#)

Work Items: 46874

ARES Block Library Upgrades

Application: ARESBlockLib

Description: Upgrades include:

- Added A9HA021A0319

References:

CHM file only

Work Items: 46321

8.3.2 V07.05.00C Changes

8.3.2.1 ARESBlockLib V08.02.00C

Reference	Release Note
46321	NEW! Added new ARES model A9HA021A0319

8.3.2.2 CMS Server V07.05.00C

Reference	Release Note
46184	Resolved issue that prevented backing up very large CMS repositories.
46332	Resolved issues in CMS server encountered with very large systems.

8.3.2.3 EX2100e V04.15.00C

Reference	Release Note
46176	NEW! To manage simulation mode, 4 variables are added to modify the reactance, the resistor, the frequency or the bus voltage from the Blockware level.
46177	NEW! Start Sync Time Out parameter, StrtSyncSec, is accessible on the Blockware level
46178	NEW! The bridges data and status that depend on the Bridge number for data pass, BrdgeDataSel, are updated each 10ms.
46180	NEW! Add management of new block, ROTOR_T_B located in exciterlib, which is used to estimate Rotor temperature in brushless configuration with new firmware parameters.
45949	An issue had been reported that after performing a UCEC module download that required a reboot of the module, not all HSSL links returned to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.
45952	An issue had been reported that after removing and reinserting a HSSL cable from the UCEC module the HSSL port did not always return to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.
46183	Correction of alarm display of lost link with ESYS2 when number of bridges superior to 4 on UCEC controller
46330	Correction of Brdg1TripFromACL to Brdg6TripFromACL definition, to remove conflict with 3 status ESYS2_Diag, PT_Bad_Diag and CT_Bad_Diag
Additional	46182

8.3.2.4 Mark VIe V06.07.00C

Reference	Release Note
46594	NEW! Enhanced the Compressed Data Log (CDL) to include a new Protected data class that supports up to 1200 variables for the MinAna, SecRes, and SecAna log types.
46634	NEW! The number of variables that can be saved in non-volatile RAM (NVRAM) has increased from 3067 to 6139 for UCSC based platforms.
46636	NEW! The number of totalizers supported by the TOTALIZER application block has increased to 128 for all platforms.
45282	In a MarkVIe system using a TMR PCMI with simplex MarkVI I/O cards, it is possible that a PCMI card can reference an incorrect IONET in diagnostic alarms. This issue has been completely resolved.
45382	A controller may unexpectedly reboot if a dynamic bind fails when the EGD server responds to the request with an error. The issue has been completely resolved.
46240	On the UCSCH1C, an issue was fixed where enabling the modbus slave feature and downloading as an online load causes a controller reboot.
46516	In a system using dynamic data recorders (DDRs) it is possible that the controller would reboot upon downloading a DDR if the Post Trigger Samples and Pre-Trigger Samples were improperly set to 0. The issue has been completely corrected.
46815	An issue that was causing some consumed exchanges in a device configured with more than 253 UDH EGD exchanges to become unhealthy has been resolved. The number of configured exchanges is calculated as the number of produced exchanges from the device plus the total number of exchanges configured in all referenced devices, regardless of how many devices contain consumed variables. However, it is not possible to guarantee which exchanges will be unhealthy as it is based on the order the device reads in the configuration files and can change during operation with dynamic binds.
46820	An issue that was causing the Frame Idle to randomly have spikes at 100% has been resolved. The issue occurred when a large amount of application was implemented such that the nominal Frame Idle was below 40%.
Additional	45773, 46552, 46631, 46760, 46798, 46852, 46932

8.3.2.5 PDOA V05.07.00C

Reference	Release Note
46209	NEW! The PDOA now supports the WROH terminal daughter board that can be mounted on a SRLY_2A terminal board. This terminal daughter board adds dual-fused power distribution to all 12 relays.
Additional	26894, 46382

8.3.2.6 PPNG V05.12.00C

Reference	Release Note
46210	NEW! The PPNG will now support the reset of PROFINET diagnostics by toggling the RSTDIAG pin of the SYS_OUTPUTS block. This allows a user to programmatically clear PROFINET diagnostics from all PPNG I/O packs in a system without navigating to the PROFINET diagnostics tab of each PPNG and selecting the "Reset All Alarms" button.
46818	The PPNG now correctly specifies that it does not support auto-reconfiguration.
Additional	46930

8.3.2.7 ToolboxST V07.05.00C

Reference	Release Note
45768	NEW! Allow user to edit the Alarm Class for Analog Alarm Definitions defined in the System Editor.
46874	NEW! Added a PFD Calculator spreadsheet for Mark VIeS controllers. For more information, refer to GEH-6854, Mark VIeS Functional Safety System - Probability of Failure on Demand and Risk Reduction Factor (PFD-RRF) Calculation User Guide.
44060	An issue was resolved with the ToolboxST user interface on high or low DPI monitors. Menu items, text, and other UI elements did not scale consistently, leading to overlapping and unreadable content. While the relative scaling is now correct, ToolboxST is not "high DPI aware" and may appear slightly fuzzy on 4k monitors and laptops.
45276	The Trend Recorder "Online" button served no purpose. It has been removed. Use the Record button to start and stop live collection.
45289	Resolved a program failure that could occur when inserting an I/O pack.
45309	A problem was resolved where editing a LiveView would not properly load the referenced variables from data sources into the editor, preventing Go to Definition from working and later resulting in a popup message about missing variables when viewing the LiveView online.
45323	Fixed an issue where variables that contain period characters (.) would sometimes not load correctly.
45339	Importing Modbus Slave information from a tre file no longer requires PointDirection for Input Register or Input (Coil).
45778	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
45781	Trender event viewer now displays alarm reason codes.
45862	Added the ability to define parent alarms from consumed controller variables.
45964	Prevent users opening systems directly in Box Sync folders to resolve application stability issues that could occur when another user deletes files on the Box server.
46015	Resetting "Override Value" to false on an instanced variable now forces the containing entity to be re-instanced.

Reference	Release Note
46062	PSVO Calibration Save command no longer causes diagnostic status warnings to appear on some I/O Packs
46211	Coding Practice Report: Added a new check for "VAR_HEALTH Inputs that do Not Support Health". This identifies any variables brought into a VAR_HEALTH block that are intermediary variables that will always be healthy (and thus meaningless on a VAR_HEALTH block), versus EGD referenced variables and some I/O that actually have health.
46233	Resolved issue where user was unable to delete a trace in the trender.
46262	Fixed an issue where trending from a Capture Data Source for a Power Conversion Device that cannot connect to the device could cause the tool to fail.
46278	An issue was resolved where the Mark VIe controller failed to boot after downloading a configuration where a FOUNDATION Fieldbus block input was connected to an undriven variable. This now generates a build error.
46329	Corrected an issue where an application error could occur if a read only device in a Shared IONet system is selected after the consumed device in the Shared IONet system has been modified and saved.
46331	Resolved program failure in HMI trender when opening a ControlST trend file and ToolboxST is not installed.
46354	Fixed an issue in the Alarm Rationalization Report where FOUNDATION Fieldbus block alerts were included even when Device Alerts were disabled.
46359	An issue was resolved where upgrading an EX2100e or LS2100e could fail if the new product version added a Control Option with the same name as an existing Device Attribute in the controller being upgraded. The upgrade now succeeds, preserving the value of the existing attribute if it is valid for the new Control Option; otherwise, it changes to the default for the new Control Option.
46381	Corrected a problem where the list of available certificates shown on the Certificates / Users association was not including all the trusted certificates.
46391	Fixed an issue in the Detached View for Blockware.
46394	Fixed an application error in the Variable Value Editor.
46446	An issue was resolved where the Mark VIe controller failed to boot after downloading a configuration where a FOUNDATION Fieldbus block input was connected to an undriven variable. This now generates a build error.
46450	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
46503	Renaming the root plant area node in the ToolboxST System Information Editor, causes a tool failure.
46511	Fixed multiple issues caused by mismatched case in FF Block Assignments.
46540	Fixed an issue with PROFINET "Change GSDML" and "Refresh from GSDML". Prior to the fix the user would get errors if the GSDML file contained sibling ParameterGroups or Parameters that were not named uniquely. Two GSDML files that were known to cause issues are GSDML-V2.31-LumbergAutomation-LioN-P-20180118.xml and GSDML-V2.32-Phoenix_Contact-AXL_F_BK_PN_Series-20190321.xml.
46618	Corrected the sorting for the pick lists on a variable for Plant Area, EGD Page, HMI Resource, Alarm Class and Alarm Definition Type.

Reference	Release Note
46720	Corrected an error that could occur when building an AEPC based Wind Pitch controller.
46722	Corrected a problem where a controller build to an equal controller caused a document only change resulting in the alarm server reconnecting to the controller. Exporting and importing diagnostics or editing the DateTimeLastChanged in the system's DiagnosticTranslations.xml file to a non zero value works around the issue.
46748	Corrected a failure when the OPC DA client attempts to browse to a variable name that is longer than approximately 130 characters in length.
46750	Corrected a tool failure when OPC DA client connection errors were reported in the log window, causing the total number of errors reported to exceed a maximum limit.
46756	Fixed an application error that could occur during a Shared I/ONet Component Export.
46762	Trender now shows the variable name in the alias column when no alias has been specified.
46771	Shared IONet: Fixed an issue where user would get "Bad Locator" Errors when importing an I/O Configuration into a consuming controller if at least one of the I/O Packs being consumed was in a Hardware Cabinet in the owning controller.
46786	Added new "Compress FOUNDATION Fieldbus Schedule" menu item below the FOUNDATION Fieldbus reports items. Routine FOUNDATION Fieldbus commissioning changes will no longer automatically compress the schedule to avoid build errors. Rather, compressing is now a manual operation.
46825	Fixed an application error that could occur during the download scan of a controller download that includes FOUNDATION Filedbus.
Additional	15783, 45301, 45409, 45469, 45481, 45514, 45792, 45795, 45803, 45832, 45848, 45882, 45892, 45929, 45984, 46155, 46174, 46175, 46195, 46221, 46291, 46320, 46338, 46449, 46462, 46508, 46541, 46645, 46711, 46719, 46759, 46772, 46773, 46803, 46807, 46821, 46847, 46875

8.3.2.8 Virtual Mark Vle V06.04.00C

Reference	Release Note
46477	Added ability to accept Mark Vle V06.07 configuration downloads.
Additional	46911

8.3.2.9 Virtual Mark Vle x64 V06.04.00C

Reference	Release Note
46920	Added ability to accept Mark Vle V06.07 configuration downloads.
Additional	46912

8.3.2.10 WEPA V05.07.00C

Reference	Release Note
46014	An issue that intermittently causes incorrect input values to be reported after a reboot has been fixed.
46159	An issue was fixed where resetting after converter fault might not work without cycling mains on command.
46238	WEPA diagnostic 2411, "Position reference less than sent 70 deg with battery test expired", has been demoted from a First Fault to a Battery Fault. This diagnostic will no longer trip the WEPA.

Reference	Release Note
46239	WEPA diagnostic 2411, "Position reference less than sent 70 deg with battery test expired," has been demoted from a First Fault to a Battery Fault. This diagnostic will no longer trip the WEPA.
46325	The battery overvoltage threshold has been increased from 15.5 V to 16 V per battery.
46341	The 6-in-1 charger firmware has been updated to BC4c.
46497	An issue that can erroneously copy battery faults to first faults has been fixed.
Additional	45965

8.3.2.11 WorkstationST V07.05.00C

Reference	Release Note
45314	NEW! Added a way for the Control System Health feature to monitor a virtual machine's active session count and optionally alarm when the count goes to zero.
45384	NEW! Enhanced the diagnostic translation definitions available in the System Information Editor, to allow configuration of alarm rationalization properties.
42099	Corrected a problem where Control System Health diagnostics had the wrong OPC severity when in the Alarmed state.
45276	The Trend Recorder "Online" button served no purpose. It has been removed. Use the Record button to start and stop live collection.
45443	GSM: Handle when a GSM Client sends a single byte at the end of a Periodic Data Request.
46196	Corrected a problem where Control System Health alarms could not be filtered by device name without manually adding additional device names to the filter.
46233	Resolved issue where user was unable to delete a trace in the trender.
46326	Fixed a bug that could lead to stranded diagnostic alarms generated by the Network Monitor and Control System Health features. The bug fix also addresses the potential for stranded Mark VIe and I/O Pack diagnostic alarms in the Alarm Server.
46331	Resolved program failure in HMI trender when opening a ControlST trend file and ToolboxST is not installed.
46343	Upgraded the Unified Automation OPC UA SDK to correct a problem seen with Predix clients performing read and write operations and causing large numbers of threads to be created.
46353	Correcting some crashes of the OPC DA server seen on mis-configured systems that were reported from end users as the OPC DA server using a lot of CPU resource. The logs showed two different crashes, resulting in the OPC DA process stopping and starting in a cycle.
46395	Corrected a failure of the Control System Health and Network Monitor WorkstationST features when thin client devices are configured in a system but have missing network information. This may be caused by saving them with an older version of ToolboxST.
46443	Corrected a CimView hang where the alarm viewer was processing a master symbol table update while a windows user preference change event was also being processed. This was seen 3 or 4 times at one customer site and has not been reported at other sites.
46484	Corrected a failure of the Device Manager Gateway WorkstationST feature occurring at process startup. The issue is a timing issue with the Foundation Field bus connections to controllers.

Reference	Release Note
46738	Corrected an ActiveX Alarm Viewer application error that occurred under abnormal conditions in a lab environment.
46766	Corrected a hang of the WorkstationST status monitor when using the menu item to save all the WorkstationST logs for each WorkstationST in the system.
46785	Corrected a problem where a user preference change event while the alarm symbol alarm list dialog is open can hang CimView. User preference changed events occur for remote desktop changes and changes to the Theme file from the ToolboxST system overview as well as other user changes to the windows desktop.
46919	The sorting of the data and column headers in the output Recorder Maintenance log was not correctly following the configured column sort order.
Additional	45803, 46807, 46869

8.3.2.12 YDOA V05.07.00C

Reference	Release Note
46208	NEW! The YDOA now supports the WROH terminal daughter board that can be mounted on a SRLYS2A terminal board. This terminal daughter board adds dual-fused power distribution to all 12 relays.
Additional	26895, 46383, 46712

8.4 ControlST V07.05.00C SP01 (July 2019)

This is a maintenance release driven by new FOUNDATION Fieldbus CIT Software and the YSIL Firmware Overspeed Trip issue.

8.4.1 Security

There are no security updates included in this release.

8.4.2 Mark VIe V06.07.01C

Reference	Release Note
47271	An issue was resolved that caused the CDL Web SecRes report to omit all variables with a data type BOOL.
Additional	47235

8.4.3 PAMC V05.06.02C

Reference	Release Note
47328	An issue was fixed where the PAMC would display bad values after the loss and reconnection of the HSSL link to some BAPBH1A hardware.

8.4.4 ToolboxST V07.05.01C

Reference	Release Note
46414	NEW! Added a way to configure network switch layouts in the ToolboxST System Information Editor, to allow custom network switch faceplate port mappings to the internal port numbers returned in responses needed by the Control System Health and Network Monitor features of WorkstationST.
46833	NEW! Additional properties (Version, Revision History) were added to the Property Grid of components and libraries. The new properties are free-form text and let the user enter information about the component/library. A new report, Component Version, is available to create a list of components with their version and revision history.
46929	Resolved an issue where search and replace did not work for the Display Screen and Parent Alarm properties of variables.
46947	Added the ability to change the WorkstationST variable mapper map rate to values less than 200 milliseconds. The new minimum value is 10 milliseconds.
47028	Fixed certain build errors that could occur after a FOUNDATION Fieldbus H1 device replacement. The build errors required a "Compress FOUNDATION Fieldbus Schedule" to overcome. Upgraded the Softing CIT software libraries to version 5.43.
47351	Fixed an issue where importing an external library container with the same name as an existing library container added incorrect libraries to the newly imported container.
Additional	47019, 47239, 47329, 47367

8.4.5 Virtual Mark VIe V06.04.01C

Reference	Release Note
47368	NEW! Updated to support Block Library Creator blocks built for Mark VIe V06.07.01C.

8.4.6 Virtual Mark VIe x64 V06.04.01C

Reference	Release Note
47369	NEW! Updated to support Block Library Creator blocks built for Mark VIe V06.07.01C.

8.4.7 WorkstationST V07.05.01C

Reference	Release Note
44195	Network Monitor: The algorithm that determines the connected nodes, based on the network switch Forwarding Database entries, has been updated to avoid falsely associating network nodes related to Trunk Ports.
46982	Added additional error handling for the CimView right click Display Variable Attributes and Go to Definition in Logic dialog display.
47005	After upgrading to the OPC Foundation's 1.03 version of the local discovery server (LDS), when the WorkstationST OPC UA server starts and attempts to ensure its application certificate is trusted by the LDS, a quoted path in the new LDS ini file results in a failure. The failure is now handled and logged with information on uncommenting a line in the WorkstationSTOpcUaServer.exe.config file.
47040	Corrected an Alarm Viewer hang which occurred if the ToolboxST System Information Editor had not been saved and therefore diagnostic alarm rationalization information was not available in the master workstation. This was introduced in the 7.5.0 release.
47332	Corrected a problem where the WorkstationST service was repeatedly notifying features of diagnostic rationalization and switch layout configuration changes if the configuration had never been saved / published to the master workstation.
47334	Fixed a problem where WorkstationST Alarm Scantcanner alarms were not available as alarm child variables in the OPC DA server. For example the .AlarmActive or .AlarmAckNeeded child variables were not correctly reflecting the state of the alarm scanner alarm.

8.4.8 YSIL V05.06.01C

Reference	Release Note
46528	An issue was fixed where under certain operating conditions, the YSIL could miscalculate speed and trip on a firmware overspeed when a real overspeed condition didn't exist. This issue could also cause nuisance dual speed sensor mismatch diagnostic alarms.

8.5 ControlST V07.05.00C SP02 (December 2019)

This is a maintenance release driven by bug fixes in several products, as well as updates to ARESBlockLib.

8.5.1 ARESBlockLib V08.04.00C

Reference	Release Note
48486	NEW! Added new ARES model A7HA021A0819
48488	NEW! Added OBB to model A7F0301A0216
48489	NEW! Added OBB to model A7F0302A0216
48490	NEW! Added OBB to model A7F0304A1016
48491	NEW! Added OBB to model A7F0305A1016
48492	NEW! Added OBB to model A7F040000118

8.5.2 LS2100e V04.13.03C

Reference	Release Note
48979	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.

8.5.3 PAMC V05.06.03C

Reference	Release Note
48278	The PAMC now defaults the Can_Id parameter to channel number. A build validation rule has been added to insure that Can_Id is unique across 18 channels.

8.5.4 ToolboxST V07.05.02C

Reference	Release Note
47401	Corrected the display name for the secondary language property in the system overview. The name was incorrectly set to the description text.
47413	Fixed an issue where Library Containers were not included in Component Versions Report
47425	PROFINET: Now support PROFINET IO Devices with non-zero API numbers and more than one VirtualSubmoduleItem on a module.
47453	Corrected issue where the Fieldbus Point Offset was not updated on the PPRF PROFIBUS devices when a PROFIBUS device was deleted.
47494	Resolved an issue where ToolboxST could fail to open a WorkstationST configuration.
47524	PROFINET: Change/Refresh GSDML now handles Devices with modules with more than one VirtualSubmoduleItem plus Parameter Enumerations where the Enumeration Text is not unique.

Reference	Release Note
47615	PROFINET: Now support PROFINET IO Devices with non-zero API numbers on a SubmoduleItem. Previous bug fix just supported non-zero API numbers on a VirtualSubmoduleItem.
47671	Corrected a problem where some enumeration data was not being imported from the SDB for MarkVI variables.
47684	PROFINET: Fixed build errors that occur in two different scenarios. First when using a PROFINET IO Device that has many VirtualSubmoduleItems under a DeviceAccessPointItem and second when there is only one PortSubmoduleItem.
48303	PROFINET: Resolved the issue when a user performs the "Change GSDML" command, selects a new GSDML file not already used in the system, then selects "Save System As" command to create a new copy of the system, but the new system did not include the new GSDML file.
48305	PROFINET: Resolved the issue when a user performs the "Change GSDML" command when a new GSDML file contains a variable with the same name but a different datatype as the previous file that caused the "Where Used" tab to not accurately display the variable's connections. The previous workaround for this was to save, close, and re-open the controller.
48321	PROFINET: Reduced the time it takes to generate a PROFINET Alarm History Report and update the PROFINET Diagnostics tab.
48332	PROFINET: Resolved an issue where bad pcode is created when using a PROFINET IO Device that has more than one VirtualSubmoduleItems under a DeviceAccessPointItem.
48510	A search could erroneously report an EgdUnboundVariable if one device was consuming EGD variables from another device, and both devices had EGD pages with the same name.

8.5.5 Virtual Mark VIe V06.04.02C

Reference	Release Note
49247	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

8.5.6 Virtual Mark VIe x64 V06.04.02C

Reference	Release Note
49248	Fixed an issue where blocks that check the current controller state were never seeing a transition into CONTROLLING, and therefore remaining in their initialization mode.

8.5.7 WorkstationST V07.05.02C

Reference	Release Note
47004	Added the install of the OPC Foundation's Local Discovery server to setup.exe. It was removed from the WorkstationST features install in the 7.5.0 release. Customers can install it from the _Files folder as a work around.
47406	Changing the IP address, (producer ID), of an external device and saving it, causes WorkstationST nodes to periodically attempt to remove the older producer ID from their local cache summary file and issue a topology changed message. The message is sent every minute until the WorkstationST service is restarted. This bug corrects that issue, so now only the first topology changed message is sent.

Reference	Release Note
47446	Writing a zero to the alarm child variables of AlarmAckCmd and AlarmResetCmd will no longer cause the acknowledge or reset action to occur. Now only writes with a value of 1 or true will cause the action to occur.
47468	Corrected a problem where adding multiple OPC client variables on an OPC DA server tab's OPC Client connection created a new server connection with each variable rather than using the same connection for each browsed added variable. This improved the performance of adding multiple OPC DA client variables.
48394	A hang condition of the WorkstationST service can occur when downloading the workstation. The hang occurs when the diagnostic alarm rationalization parent child information is being processed.
49083	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.
49089	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed. This browser is available in the Trender for HMI.
49244	Fixed a problem where the controller health variables will fail to update if the Control System Health process cannot initially connect to the OPC UA server.
Additional	47669

8.5.8 *Previously Released*

The following components, also in Service Pack 02, were previously released since ControlST V07.05.00C in previous Service Packs.

- Mark VIe V06.07.01C
- YSIL V05.06.01C

8.6 ControlST V07.05.00C SP03 (May 2020)

This is a maintenance release driven by a Knowledge Article, KB0027568, related to Work Item 51455 in ToolboxST.

8.6.1 PDOA V05.07.01C

Reference	Release Note
51290	PDOA now allows a user to disable the diagnostics (155-166) "NO [Normally Open] contact [] voltage disagreement with command" on the TRLYH#C terminal board. The parameter EnabAlmFbk will now be displayed for the TRLYH#C configuration on the Outputs tab.

8.6.2 ToolboxST V07.05.03C

Reference	Release Note
49816	Remote Alarms: Fixed issue where user got the error "The name is already used." and could not add configuration of a second remote Alarm Server, when both the first and second Alarm Server references have a blank "Secondary Workstation Name".
50330	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary
50453	Enhanced the property names and descriptions for an OPC AE client connection on the WorkstationST component editor's alarm tab.
51145	Fixed an issue where a warning, 'Reboot of Device XXX is always required due to a referenced runtime library. Please run build to identify these libraries.' incorrectly displayed during a system download.
51455	Resolved an issue where ToolboxST could generate invalid controller pcode causing the controller to enter a failed state on download.

8.6.3 WorkstationST V07.05.03C

Reference	Release Note
50306	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both local host, but the server names are different between the primary and secondary
50404	Corrected a problem where the Engineering units were displayed in the incorrect measurement system upon CimView startup when the active measurement system was set to a value that was not equal to the variable's native measurement system.
50410	Added a check for OPC AE subscription state prior to a refresh call to ensure the state is active.

8.6.4 Previously Released

The following components, also in Service Pack 03, were previously released since ControlST V07.05.00C in previous Service Packs.

- ARESBlockLib V08.04.00C
- LS2100e V04.13.03C
- Mark VIe V06.07.01C
- PAMC V05.06.03C
- Virtual Mark VIe V06.04.02C
- Virtual Mark VIe x64 V06.04.02C
- YSIL V05.06.01C

9 V07.04 Release Notes

9.1 V07.04 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

EX2100e Exciter

- A bug has been identified in Static excitation systems utilizing the IS420UCECH1B module. When a download to the controllers is performed which requires a soft reboot of the UCEC modules it is possible not all High Speed Serial Link (HSSL) ports reconfigure properly resulting in the HSSL port and system not reaching a controlling state. If the bug is encountered performing a power cycle on the system will return all HSSL ports and system to the controlling state. This bug has been identified in ControlST V07.03 and ControlST V07.04. **This issue is resolved in EX2100e V04.13.03C (ControlST V07.03.01C SP08) and EX2100e V04.14.02C (ControlST V07.04.05C SP01).**

ToolboxST*

- If a PROFINET device is added using a GSDML zip file in ToolboxST V07.03, then copied/pasted to ToolboxST V07.04, a PROFINET device paste error is presented. Note: This error does not occur if the device was added using a GSDML xml file in ToolboxST V07.03. It also does not occur if copying from one ToolboxST V07.04 to another. **This issue is resolved in ToolboxST V07.04.02C (ControlST V07.04.00C SP01) [45345].**
- If you are using a high Dots Per Inch (DPI) (greater than 96 DPI) monitor, such as a 4K monitor, you may experience graphic anomalies that render some applications such as ToolboxST and Trender unusable. A work around for this problem is to set your screen resolution in Windows Settings to a lower resolution and text scaling to 100%.
- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller’s device state must be either “Inputs Enabled” or “Controlling”. It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log. Recommendation is to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download. **This issue is resolved in ToolboxST V07.04.09C (ControlST V07.04.05C SP04) [27534].**
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)
 - ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

9.2 V07.04 Suite Components

See Component Registry: [ControlST Component Registry](#)

9.3 V07.04.00C (December 2018)

9.3.1 V07.04.00C Highlights

UCSCH2A Platform Support

Application: All applications

Description: Initial release. Mark VIe has expanded its capability to support the UCSCH2A controller. New platform UCSCH2A supporting Mark VIe for all redundancies.

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol. II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 44936

Mark VIe UCSB/UCSC Interoperability

Application: All applications that use controller redundancy

Description: Initial release. Added controller interoperability support: The UCSBH1A is interoperable with the UCSCH2A. The UCSBH4A is interoperable with the UCSCH2A.

References:

[Mark VIe and Mark VIeS Controls Volume II System Guide \(GEH-6721 Vol. II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 44937

Acoustic Monitoring Module (PAMC)

Application: Acoustic monitoring for heavy duty gas turbine combustion systems

Description: Added the following enhancements to PAMC:

- A new scheme for CDM Bias voltage monitoring by utilizing a low pass filter to eliminate any momentary bias voltage shifts caused by combustion mode changes.
- A phase-delta calculation is performed to show relative phase difference from CAN to CAN for up to 3 frequency bands.
- Updates to the frequency search bands to allow the Transverse and Screech bands to overlap Low, Mid or High frequency bands.

References:

[Mark VIe and VIeS Controls Volume III System Guide for GE Industrial Applications \(GEH-6721 Vol. III\)](#)

Work Items: 38801

Trender Enhancements

Application: All Applications

Description: Added the following enhancements to Trender:

- The ability to save individual chapters as separate trend files has been added to the Trender.
- The ability to jump to individual chapters has been added to the Trender.

References:

[Trender Instruction Guide \(GEI-100795\)](#)

Work Items: 44397, 44848

EX2100e Enhancements

Application: Exciters

Description: Added the following enhancements to the Exciter:

- Added stop condition from ACL on each Bridge
- Evolution of Exciter to manage UCEC and number of Bridges 5 or 6

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 44869, 44870

EX2100e_Reg Enhancements

Application: Regulators

Description: Added the following enhancement to the Regulator:

- Added management of new ERAX group 3

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 44869, 44870

9.3.2 V07.04.00C Changes

9.3.2.1 AEPA V05.06.00C

Reference	Release Note
44882	NEW! The AEPA now supports the ability to download firmware to a 6-in-1 charger.

9.3.2.2 EX2100e V04.14.00C

Reference	Release Note
44860	NEW! Add French and German language on Touchpad
44864	NEW! Add status and values in list Inputs from innerloop accessible on the ACL (Cmd41, Cmd53B, FlashActive, FGD1Alarm, FGD1Trip, lamM2, lamC, SS_State, vFldCurrAmps)
44866	NEW! Add initialization of PSSMAXP, PSSMAXS, AVRPLD, AVRPLG parameters and parameters of SCL function with the coprules
44868	NEW! Add possibility to mask shunt trip alarm in stop mode.
44869	NEW! Add stop condition from ACL on each Bridge
44870	NEW! Evolution of Exciter to manage UCEC and number of Bridges 5 or 6
44855	SCL function, correction of threshold between IST and IST_Therm and rename CIE6 parameter in CIS6 (use SCLREF and SCLREF_V2 blocks)
44867	Add the display of ACL_GP_Alarm in diagnostic

9.3.2.3 EX2100e_Reg V04.14.00C

Reference	Release Note
44861	NEW! Add French and German language on Touchpad
44862	NEW! Add management of new ERAX group 3
44863	NEW! Add status and values in list Inputs from innerloop accessible on the ACL (Cmd41, lamC, SS_State)
44865	NEW! Add initialization of PSSMAXP, PSSMAXS, AVRPLD, AVRPLG parameters and parameters of SCL function with the coprules
43907	The FCR Force button is disable when the regulator is online (52G closed)

Reference	Release Note
44324	To limit intertempstive channel changover with Erax link status, a 5ms timer is added to manage the lamMaster
44857	SCL function, correction of threshold between IST and IST_Therm and rename CIE6 parameter in CIS6 (use SCLREF and SCLREF_V2 blocks)
44859	Correction of choice list of PSS attribute to select PSS4B

9.3.2.4 GE Historian Reports V07.04.00C

Reference	Release Note
44592	NEW! Modified the Historian Reports install to allow user selection for the data and reports locations which were hard coded to D:\HstData and E:\Site\Reports in previous installer versions.

9.3.2.5 Mark VIe V06.06.00C

Reference	Release Note
44936	NEW! New platform UCSCH2A supporting Mark VIe for all redundancies.
44937	NEW! Added controller interoperability support: The UCSBH1A is interoperable with the UCSCH2A. The UCSBH4A is interoperable with the UCSCH2A.
44104	An issue where the maximum number of voted Booleans check in ToolboxST did not annunciate when the limit was exceeded has been completely corrected.
44371	The Turbine Block Library STRESS_CALC_V2 block has been added to assist in the importing of Mark VI sequencing into the Mark VIe. STRESS_CALC_V2 and STRESS_CALC are functionally equivalent and only different in available output pins and data types.
44463	An issue was resolved where SFCs with no transitions would keep the controller from booting. This behavior was introduced in Mark VIe V06.01.00C and affected upgrades of empty SFCs from prior versions as well as new empty SFCs.
Additional	43818, 45044

9.3.2.6 PAMC V05.06.01C

Reference	Release Note
38800	NEW! The PAMC now supports the BAPB analog processing module.
38801	NEW! The PAMC now supports several new enhancements: <ol style="list-style-type: none"> 1. A new scheme for CDM Bias voltage monitoring by utilizing a low pass filter to eliminate any momentary bias voltage shifts caused by combustion mode changes. 2. A phase-delta calculation is performed to show relative phase difference from CAN to CAN for up to 3 frequency bands. 3. Updates to the frequency search bands to allow the Transverse and Screech bands to overlap Low, Mid or High frequency bands.

Reference	Release Note
23261	UCSA temperature units are now displayed in degrees F.
44787	The PAMC now only supports a sensor gain of 1x for PCB sensor type and a gain of 1x or 2x for CCSA or Custom sensor types. Gains of 4x or 8x are no longer supported. When the PAMC is upgraded, the sensor gain will be modified to comply with the new gain restrictions.
7390	An issue was fixed where FrqB#_AmpAvg would display NaN if all inputs were unhealthy.
Additional	19480, 44837, 44841, 45017, 45018

9.3.2.7 PPNG V05.11.00C

Reference	Release Note
45316	NEW! The UCSC Embedded PROFINET Gateway (Embedded PPNG) module is now available in a Hot Backup configuration, which supports PROFINET system redundancy.
Additional	44774, 44852, 44873, 44877, 44949, 44965, 44973, 44989, 45015, 45258, 45259, 45270, 45271, 45290, 45306, 45312

9.3.2.8 ToolboxST V07.04.00C

Reference	Release Note
44397	NEW! The ability to save individual chapters as separate trend files has been added to the Trender.
44848	NEW! The ability to jump to individual chapters has been added to the Trender.
45057	NEW! Added a WorkstationST Features configuration report to the System Overview. The report allows the data to be saved to clipboard and pasted into Excel. The configuration information is also included into the WorkstationST service log when logs are saved.
15349	PROFIBUS IO Packs can now be dragged to Cimplicity screens. Also, they can now be dragged in and out of Hardware Cabinets. PROFIBUS modules still cannot be copied using drag/drop with the control key. Export/Import is still required for duplicating PPRF packs. If the whole Hardware Cabinet is duplicated by dragging it to the top node and holding the control key, all other IO Packs will be duplicated and the PROFIBUS IO Packs will be skipped. A warning in the log window will indicate this.
42407	An issue was resolved where Blocks with animated shapes sometimes did not get drawn at some zoom levels and scroll positions after making a pin connection.
43541	An issue was resolved where the property grid for a Task or User Block had different properties when it was collapsed versus expanded in the Software tree. For example, the Protection node only showed when expanded. This has been corrected, along with minor inconsistencies in the property editors.
44030	Fixed an error in the Trender COMTRADE data source reader.
44115	Corrected multiple copy paste errors in PPNG (PROFINET). Fixed a crash that would occur if there were no connected variables when copying from one slot to another. Also corrected an issue where the Connected Variable would be cleared if the data type did not match during the copy. To correct this issue, the Connected Variable is no longer cleared when switching between data types. There are validation rules if the data types don't match.

Reference	Release Note
44321	Connected Variable and scaling data can be edited on PPNG PROFINET points when the Split Type is not NA. This was changed to make it easier to correct validation errors when changing the split type to Bit or Byte.
44353	Fixed an application error in Trender that could occur when scrolling the horizontal axis.
44406	Fixed an application error that could occur while copying and pasting Alarm Variables.
44415	Fixed an issue in the Trender where the Data Source could not be reliably changed without closing and reopening the Trender.
44429	Fixed an application error that occurred when reading program settings.
44460	The Turbine Block Library STRESS_CALC_V2 block has been added to assist in the importing of Mark VI sequencing into the Mark VIe. STRESS_CALC_V2 will automatically be used during Treefile Importing from Mark VI.
44509	Fixed the sorting of non-selected traces in the Trender Trace List View.
44579	Corrected an issue when switching from an UCSC1C with EtherCAT to a UCSC1A, the tool would still show EtherCAT connections in the Where Used tab and crash if they were followed to the EtherCAT point.
44584	Added an export for CMS revision history
44587	Undo checkout at the system level no longer incorrectly leaves added component files or deleted component files missing in the working copy.
44589	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
44798	Previously, a build error was generated in the WorkstationST Component Editor when the alarm server feature was not enabled, a feature that required alarms was enabled, and the Alarm Server to Use property was left blank. Now, if the Alarm Server to Use property is left blank, the alarm server feature is not enabled, and there is a primary alarm server defined in the system, a build error will not be generated and the features that require alarms will connect to the configured redundant alarm servers.
44883	Fixed a ToolboxST crash when deleting an external device from EGD in certain circumstances.
45024	When copying and pasting a PROFINET device from ToolboxST version V07.04.00C and greater to an older version, if Media Redundancy is set to None in the MRP tab, the copy will work. If Media Redundancy is set to Client of Manager, the copy paste to an older version will fail because the MRP tab does not exist in older versions.
45025	The Summary view in the Hardware Tab was fixed to show the proper number of networks to match the Network Redundancy. It was always showing 3 IO Nets regardless of the Network Redundancy.
45033	Fixed an application error that could occur during build or download.
45034	Corrected issue when changing the GSDML file to a new version, double the Input and Output points for sub modules would be generated.
45043	Updated the final screen of the Initialize USB Flash Device Wizard to include instructions for both the UCSB and UCSC since both are possible in the configuration due to Interoperability of Controllers.
45058	Changed the functionality for the PPNG (embedded or standalone) so that any I/O point of type Unsigned16, Unsigned32 or Unsigned64 with Used As Bits set to True in the GSDML file will allocate the subpoints in bit-significant order assuming that the I/O point data type is a Big-Endian value. Thus, the first Sub Point of the I/O Point will be the least-significant bit of the data type, assuming that it is represented as Big-Endian (bit 0 of the last byte of the data region).

Reference	Release Note
45277	Deleting a Channel Diagnostic from a sub-slot on a PROFINET PPNG I/O module and adding a new Diagnostic Channel caused ToolboxST to crash. This issue has been resolved.
45311	Corrected an issue on PPNGH1A (standalone PROFINET) I/O Pack, when copy and pasting the I/O Pack, a popup dialog would come up saying 'Group Name' was missing.
Additional	43613, 43894, 44320, 44350, 44370, 44380, 44414, 44456, 44520, 44553, 44569, 44755, 44816, 44830, 44838, 44840, 44846, 44871, 44928, 44938, 44943, 44944, 44977, 44978, 44984, 45007, 45020, 45022, 45023, 45038, 45046, 45252, 45255, 45307, 45313, 45318

9.3.2.9 WEPA V05.06.00C

Reference	Release Note
43860	NEW! The WEPA now supports the ability to download firmware to a 6-in-1 charger.
44652	NEW! The WEPA now supports displaying First Fault codes on the handheld HMI.
44872	An issue was fixed where the WEPA and turbine could run while in a tripped state.

9.3.2.10 WorkstationST V07.04.00C

Reference	Release Note
44397	NEW! The ability to save individual chapters as separate trend files has been added to the Trender.
44848	NEW! The ability to jump to individual chapters has been added to the Trender.
18227	Corrected a problem where redundant Secondary EGD producers always had an unhealthy exchange if they were consuming the primary producer.
44030	Fixed an error in the Trender COMTRADE data source reader.
44353	Fixed an application error in Trender that could occur when scrolling the horizontal axis.
44499	Improved the status indication for the WorkstationST service when starting and attempting to initialize the local cache from controllers that are not on line. The empty files are loaded from controllers and from the EGD configuration server if not available from the controller.
44509	Fixed the sorting of non-selected traces in the Trender Trace List View.
44589	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
44941	Corrected an issue where EGD status information requests for WorkstationST's with large number of exchanges, only returns a partial list. The EGD tab, statistics sub-tabs show a view of the current state of produced and consumed exchanges. This view was not including all exchanges for WorkstationST configurations with large numbers of exchanges. In the test case the UI showed 88 exchanges for a node that had 123 exchanges.
45278	Corrected a problem where the recorder process failed to stop after a request to stop.
Additional	44370, 44380, 44569, 44884, 45045, 45280

9.4 ControlST V07.04.00C SP01 (January 2019)

This is a maintenance release driven by bug fixes needed at customer sites. In addition, there is one WorkstationST enhancement related to Active Alarm Filters in the WorkstationST Alarm Viewer.

9.4.1 Security

There are no security updates included in this release.

9.4.2 Mark VIe V06.06.01C

Reference	Release Note
45434	A controller may unexpectedly reboot if a dynamic bind fails when the EGD server responds to the request with an error. The issue has been completely resolved.

9.4.3 ToolboxST V07.04.02C

Reference	Release Note
42826	Fixed the error encountered when doing a "Change GSDML" for an RX3i PROFINET IO Scanner device.
45334	The EGD protocol editor should not have allowed the selection of non-EGD producer devices such as MarkV devices in the referenced device pick list. These are now filtered from the selection list.
45345	Fixed a PROFINET Device paste error in the following specific scenario. In V07.03 or earlier version of ToolboxST a PROFINET Device is added using a .zip file. This PROFINET device is then copy/pasted to a V07.04 version of ToolboxST. Note, this error does NOT occur if the device in V07.03 was added using an .xml file. It also does NOT occur if copying from one V07.04 job to another.
45366	Corrected an issue where a PSCH could not pass validation and would cause the build to fail.
45379	Corrected issue where the Embedded PPNG occasionally fails on a download and requires a second download.
45381	Resolved issue where the Auto-Reconfiguration server could not achieve equality when a controller was replaced.
45420	Corrected a crash when viewing reports and initially moving the mouse over a grid cell.
Additional	45403, 45405, 45415

9.4.4 WorkstationST V07.04.02C

Reference	Release Note
45414	NEW! Added an Active Alarm Filter ActiveX property to the WorkstationST Alarm Viewer which can be set from script to change the current live alarms filter.
45337	Corrected an issue where the CimView Go To Definition in Logic right click failed for CimView objects configured with a GoToDefVar setting.
45344	Corrected an issue where the WorkstationST service would fail to start if the c:\config\EgdCfgLocalCache\summary.xml file became corrupted. Deleting that file is a work around for the issue.

Reference	Release Note
45391	Corrected some very minor Font class leaks in the Alarm summary dialog displayed when clicking on the ActiveX alarm symbol.
45437	Control System Health will now use the host name, if it is specified, for the Thin Client network connection, in order to allow monitoring of Thin Clients that have been configured with site specific host names.

9.5 ControlST V07.04.00C SP02 (February 2019)

This is a maintenance release driven by PROFINET bug fixes and a new ARES block library release.

9.5.1 Security

There are no security updates included in this release.

9.5.2 AEPA V05.06.01C

Reference	Release Note
45328	An issue that can cause intermittent failures of the Emergency Braking System Test (EBST) has been fixed.
45353	The 6-in-1 battery charger firmware has been updated to fix an issue which could cause a charger lockup after 24 days of continuous operation.

9.5.3 ARESBlockLib V08.01.00C

Reference	Release Note
45745	NEW! Added new ARES model A6F0306B0818
45746	NEW! Added new ARES model A6F0308B0818
45747	NEW! Added new ARES model A6F0304B0818
45748	NEW! Added new ARES model A7F0301A0216
45749	NEW! Added new ARES model A7F0302A0216
45750	NEW! Added new ARES model A7F0304A1016
45751	NEW! Added new ARES model A7F0305A1016
45752	NEW! Added new ARES model A7F040000118
45753	NEW! Added new ARES model A9F05181117
45754	NEW! Added new ARES model A7HA014C1218

9.5.4 PCAA V05.00.01C

Reference	Release Note
44591	An issue was fixed where, if CalibEnab# was true for a specified regulator, calibration mode could be entered on a different regulator. Now, Calibration mode is only enabled for the designated regulator where CalibEnab# = True.

9.5.5 PPNG V05.11.01C

Reference	Release Note
45326	An issue was fixed in a Hot Backup configuration where loss of both PROFINET connections to the PPNG at same time results in no primary PPNG.
45330	An issue was fixed where a simplex PPNG was using a GLM switch as manager of devices in a ring, the GLM switch PROFINETDeviceStatus was incorrect.
45331	An issue was fixed where if PPNG was configured as Hot Backup, pulling a card from one of the PROFINET devices would result in non-zero data. Now the card's inputs are zeroed if the card is pulled.
45387	An issue was fixed for Hot backup PPNG configurations where PROFINET devices would not connect when configured with an Input or Output update rate of 512 ms.
45466	The DataStatus.Ignore bit is now properly cleared in the cyclic output PROFINET packet from the PPNG to a field device.

9.5.6 ToolboxST V07.04.03C

Reference	Release Note
44964	Importing an existing external EGD device would corrupt files causing CMS to delete needed files on subsequent check-ins.
45410	Fixed issue where user couldn't add a variable to a Dynamic Data Recorder. The root cause was that a Modify Design Password was required and the user should have been prompted for this but wasn't.
45477	Corrected following issue where bad pcode was being generated. Have an analog variable in a library that is NOT an Analog Alarm. Instance the Library in a Controller and override the property to make it an Analog Alarm. At this point ToolboxST still generates good pcode for the controller. Re-instance and now bad pcode is generated. With this fix then opening the controller in ToolboxST and rebuilding it will get back to good pcode being generated.
45489	Corrected a nuisance crash of ToolboxST that users never saw, but windows error reporting was capturing a crash dump for. The crash was in the HSE API (FOUNDATION Fieldbus High Speed Ethernet) and occurred randomly when online with a FOUNDATION Fieldbus component editor and closing the editor.
45494	Fixed a download performance issue in FOUNDATION Fieldbus systems. The FF Difference Database was being analyzed too often.
45505	Avoiding creation of a dictionary on each controller variable until it is needed. The dictionary is used for the coding practices report and does not need to be created and empty for each controller component editor open.
45508	Fixed an issue where variables that contain period characters (.) would sometimes not load correctly.
45559	Added additional text to the System Overview Primary and Secondary language selection to include the CIMPLICITY Language mapper name to use.

Reference	Release Note
45561	Corrected a problem where alarm help file names saved on the master workstation were fully pathed when they should always match the variable name. This was introduced in the V07.03.03C and V07.04.00C releases.
45578	Corrected the WorkstationST component editor to correctly check and log when topology changes have been made that impact features such as Control System Health, Device Manager Gateway and Network Monitor.
45606	Fixed an issue where there are multiple levels of program groups.
45726	The Variable data grid will now display true for a boolean instead of 1.
45730	Added an EGD column to the alarm rationalization reports which can be accessed through the MarkVle and library components.
45756	Fixed an issue in the I/O Variable Report where the Direction values were not displayed.
Additional	45394, 45416, 45435, 45605, 45729, 45732, 45734

9.5.7 WEPA V05.06.03C

Reference	Release Note
45354	The 6-in-1 battery charger firmware has been updated to fix an issue which could cause a charger lockup after 24 days of continuous operation.
45373	An issue that can cause intermittent failures of the Emergency Braking System Test (EBST) has been fixed.
45428	An issue that could cause diagnostics to be incorrectly latched at startup has been resolved.
45580	An issue was fixed where the auto run permissive was not resetting when the MainsOnCmd went true.

9.5.8 WorkstationST V07.04.03C

Reference	Release Note
45436	Modified the Recorder's check for a collection being considered as live to a longer time to allow live lists to start on sites where there are a large number of wind turbines.
45465	Added a feature on the OPC DA server's embedded OPC DA client configuration allowing a way to avoid the default 10 retries for group add item calls with errors. If set, failures with add items (typically items not in a server that are in the client configuration), will not result in a retry.
45503	Corrected a thread build up issue when the EGD configuration server was not reachable. The Alarm Symbol ActiveX was held off in updating while the attempt to fetch the master symbol table was timing out due to the EGD configuration server process not running.
45530	Increasing the OPC DA client timeout for groups containing large item counts. An additional 3 second timeout for each 2000 variables will be added. Additionally when reconnecting and removing the group, the items will now be removed with a single call rather than a call for each variable.
45566	The change for making a single remove call in the V06.02.15C release caused incorrect item handles to be included in the remove call from our OPC DA client to a connected server. The item handles are now communicated correctly in the remove items call.

Reference	Release Note
45725	Corrected a problem where adding plant areas in the system information editor, using those plant areas on controller alarms and assigning the plant area to an alarm symbol in CimView, resulted in the alarm symbol always showing no alarms were present, but clicking on the alarm symbol resulted in the correct alarms shown in the displayed alarm dialog. Restarting the OPC DA server after the plant area change was made worked around the issue.
45727	Corrected a failure of CimView seen with the right click display variable attributes dialog operating under CimStress. This failure is not very likely outside of the stress environment.
45731	Corrected a hang seen in the ActiveX alarm viewer where the alarm status bar active process alarm icon was being updated and some Microsoft layout code blocked.
45743	Corrected a CimView crash seen under stress testing with the Display Variable Attributes dialog. The crash was a result of an auto resize column feature occurring upon dialog creation. The failure was only seen one time under stress and isn't likely to be seen under normal interactive usage.

9.5.9 *Previously Released*

The following components, also in Service Pack 2, were previously released since ControlST V07.04.00C.

- Mark VIe V06.06.01C

9.6 ControlST V07.04.00C SP03 (February 2019)

This is a maintenance release driven by a GE Historian Reports installation issue.

9.6.1 Security

There are no security updates included in this release.

9.6.2 GE Historian Reports V07.04.01C

Reference	Release Note
45813	Corrected an issue where the historian reports package still checked for an E: drive before the user was prompted to change the reports and data locations.

9.6.3 Previously Released

The following components, also in Service Pack 3, were previously released since ControlST V07.04.00C.

- AEPA V05.06.01C
- ARESBlockLib V08.01.00C
- Mark VIe V06.06.01C
- PCAA V05.00.01C
- PPNG V05.11.01C
- ToolboxST V07.04.03C
- WEPA V05.06.03C
- WorkstationST V07.04.03C

9.7 ControlST V07.04.00C SP04 (March 2019)

This is a maintenance release driven by the UCEC FPGA fix in the EX2100e.

9.7.1 Security

There are no security updates included in this release.

9.7.2 EX2100e V04.14.01C

Reference	Release Note
45950	An issue had been reported that after performing a UCEC module download that required a reboot of the module, not all HSSL links returned to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.
45953	An issue had been reported that after removing and reinserting a HSSL cable from the UCEC module the HSSL port did not always return to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.

9.7.3 Mark VIe V06.06.02C

Reference	Release Note
45852	An issue where the UC SCHx could potentially freeze on boot up just after downloading new firmware and FPGA image has been corrected.

9.7.4 ToolboxST V07.04.04C

Reference	Release Note
45962	NEW! FOUNDATION Fieldbus DD File Addition: Yokogawa ROTAMASS TI R0 Revision 1 - Coriolis Mass Flowmeter
45604	Update to fix the Lookup Errors that occurred when Control System Health generated a diagnostic alarm with ID 2334.
45772	Resolved an issue in CMS that could cause a "remains in conflict" error when checking in a component.
45779	Fixed the following Alarm Rationalization Import Issue. If trying to change any of the following five properties on an Analog Alarm in a Library, and the Variable Name in the .csv file being imported was in the format LibraryName:UserBlockName:VariableName, then the property values were not updated. The five properties include Display Screen , Plant Area , Alarm Shelving , Alarm Shelving Max Duration and Auto Reset .
45782	An issue was resolved where editing parameter values in a FOUNDATION Fieldbus Device Menu could cause ToolboxST to terminate.
45807	Fixed the following Alarm Rationalization Import Issue. If trying to change any of the following five properties on an Analog Alarm in a Library, and the Variable Name in the .csv file being imported was in the format VariableName (not the more complete LibraryName:UserBlockName:VariableName), and the same Variable Name occurred in two different Libraries within the Library Container, then only the property values on the first occurrence of the variable were updated instead of all occurrences of the variable. The five properties include Display Screen , Plant Area , Alarm Shelving , Alarm Shelving Max Duration and Auto Reset .

Reference	Release Note
45809	An issue was resolved where blocks, tasks, and programs could not be deleted out of libraries.
45815	Added the ability to search for the following four properties on a variable: Display Screen, Units, Parent Alarms and Alarm Class.
45840	An issue was resolved where the Alias Report import did not set the "override alias" flag on variables, which meant that when variables were re-instanced from libraries the imported Alias values were lost.
45870	Changed the Alarm Server property on the General tab of the WorkstationST component editor so that it may be edited when the local alarm server feature is enabled. This allows applications that use it, such as alarm information in the OPC DA server used by CIMPLICITY screens, to be pointed to other servers such as the primary alarm server for a control system.
45878	An issue was resolved where a Protection property that added a GRANT role for modify data would not allow users of that role type to change live values. This prevented using GRANT roles to provide users access to modifying the live values of subsets of variables.
45884	Enhanced the text used to show HMI screen status to clarify that "Local" refers to the local screen folder on the selected HMI (e.g. C:\Site\Screens). The System information editor's System menu's Copy Local to Master and Copy Master to Local were enhanced to clarify that "Local" is the ToolboxST folder's HMIScreens sub-folder.
45886	Fixed an issue in Compare to Controller where StatusAddresses were misidentified as unequal due to undefined variables.
45887	Fixed an issue in the DD Importer where some available devices were not displayed.
45888	Fixed an issue where the Exclude From Download flag on a FOUNDATION Fieldbus parameter would not always save.
45889	Added the Segment Description field to the FOUNDATION Fieldbus H1 Field Device Report.
45890	Fixed a performance issue in Variable Data Grids in Libraries.
45914	An issue was resolved where the hover tooltip on components in the System Overview would, in rare situations, cause ToolboxST to terminate.
45915	Fixed an issue where the cut-and-paste of FFB placeholders in Hardware, to a new segment, broke block Auto-Assignment in the software.
45937	Fixed an issue where some control constants were not updating when importing from .csv file.
45941	Fixed an issue where the "Reset Segment Defaults" method on a FOUNDATION Fieldbus segment was causing an application error.
45971	Removed an annoying dialog warning for inserting an existing device greater than 100 MB in size.
45976	Fixed an issue where the I/O Equality for FOUNDATION Fieldbus devices would display "Needs Build to Determine Status" when the controller actually was in an equal state after getting it from CMS.
Additional	45828, 45885

9.7.5 WEPA V05.06.05C

Reference	Release Note
45896	An issue was fixed where resetting after converter fault might not work without cycling mains on command.
45982	An issue that intermittently causes incorrect input values to be reported after a reboot has been fixed.

9.7.6 WorkstationST V07.04.04C

Reference	Release Note
45793	Adding a delay for our OPC DA server's embedded OPC DA client, between removal and add back for an OPC DA group. This change is needed because the removal is an asynchronous operation.
45860	Fixed issue where Exciter Diagnostics were showing "Cannot retrieve alarm description" for the description on the Alarm Viewer. When this occurred there was also the issue where the diagnostic remained on the Alarm Viewer even after the diagnostic had changed to NORMAL state and was Acknowledged and Reset. This second issue is also fixed.
45861	An issue was resolved where the Logic Builder control for HMI screens would not accept a custom added input pin that began with the text "IN". This prevented some faceplates from extending equations to include inputs like INC_INH in the displayed combinational logic.
45863	An issue was resolved where logging up into a VPSA service account did not change the logged username recorded in both ToolboxST and controller Command and Event logs. Now, the logged username includes the SSO used to log into VPSA.
45869	Corrected a nuisance log for not found status variables for Control Server virtual machines that are not WorkstationST type virtual machines.
45874	Removed the auto column resize on the historical alarm view which was occurring with each scroll. This auto resize resulted in very poor performance.
45921	The WorkstationST Alarm Viewer now allows the user to filter on custom Alarm States from an external OPC AE Alarm Server.
46149	Corrected a handle leak found with long running CimStress testing in the Alarm Viewer ActiveX control.
Additional	45828

9.7.7 Previously Released

The following components, also in Service Pack 4, were previously released since ControlST V07.04.00C.

- AEPA V05.06.01C
- ARESBlockLib V08.01.00C
- GE Historian Reports V07.04.01C
- PCAA V05.00.01C
- PPNG V05.11.01C

9.8 ControlST V07.04.00C SP05 (April 2019)

This is a maintenance release, driven by EtherCAT features for Off Shore Wind.

9.8.1 Security

There are no security updates included in this release.

9.8.2 Mark VIe V06.06.04C

Reference	Release Note
46171	NEW! Added EtherCAT enhanced diagnostic capability on the UCSCH1C platform. This includes new master status variables, slave device port status variables, as well as the ability to disconnect faulty slave ports.
46044	On the UCSCH1C, an issue was fixed where the Mark VIe controller would unexpectedly reboot when downloading a new .ENI file for EtherCAT.
Additional	46268

9.8.3 ToolboxST V07.04.05C

Reference	Release Note
46194	NEW! Added the ability to configure master status variables, slave device port status variables, as well as the ability to disconnect ports on EtherCAT slave devices.
45324	Replacing an existing controller by deleting it and then adding it back in as a new controller using Insert -> New -> Upload no longer deletes some configuration files.
46286	Fixed an issue preventing a user from dragging and dropping a Task Definition to a Program Definition in Libraries.
46287	Corrected a behavior of the Alarm Server to Use property on the general tab of the WorkstationST component editor. The setting was being over-written to the local Workstation's name during a build if the local alarm server was enabled. Now the user setting is maintained and validated to ensure the setting is for a workstation with an alarm server configured.
Additional	46275

9.8.4 WorkstationST V07.04.05C

Reference	Release Note
46170	Corrected an update issue with the status variable from the Control System Health feature for virtual machines configured for high availability and assigned at the Virtualization server set level.
Additional	46237

9.8.5 Previously Released

The following components, also in Service Pack 5, were previously released since ControlST V07.04.00C.

- AEPA V05.06.01C
- ARESBlockLib V08.01.00C
- EX2100e V04.14.01C
- GE Historian Reports V07.04.01C
- PCAA V05.00.01C
- PPNG V05.11.01C
- WEPA V05.06.05C

9.9 ControlST V07.04.05C (April 2019)

ControlST V07.04.05C contains no new content. It includes the products from ControlST V07.04.00C SP05, applied to the ControlST V07.04.00C release, and packaged as a full DVD for the convenience of our customers.

9.9.1 Security

There are no security updates included in this release.

9.10 ControlST V07.04.05C SP01 (June 2019)

This is a maintenance release driven by the UCEC false diagnostic bug fix in the Exciter.

9.10.1 Security

There are no security updates included in this release.

9.10.2 EX2100e V04.14.02C

Reference	Release Note
46501	A bug has been identified in Static excitation systems utilizing the IS420UCECH1B module. The backup master or controller channel may report a false controller diagnostic. The false diagnostic will only be reported by one of the three modules. The false diagnostic can be cleared by selecting the Reset Diagnostics button in the Controller Diagnostics dialog box. This bug has been identified in ControlST V07.03 and ControlST V07.04.

9.10.3 ToolboxST V07.04.06C

Reference	Release Note
46381	Corrected a problem where the list of available certificates shown on the Certificates / Users association was not including all the trusted certificates.
46391	Fixed an issue in the Detached View for Blockware.
46394	Fixed a crash in the Variable Value Editor.
46446	An issue was resolved where the Mark VIe controller failed to boot after downloading a configuration where a FOUNDATION Fieldbus block input was connected to an undriven variable. This now generates a build error.
46450	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
46540	Fixed an issue with PROFINET "Change GSDML" and "Refresh from GSDML". Prior to the fix the user would get errors if the GSDML file contained sibling ParameterGroups or Parameters that were not named uniquely. Two GSDML files that were known to cause issues are GSDML-V2.31-LumbergAutomation-LioN-P-20180118.xml and GSDML-V2.32-Phoenix_Contact-AXL_F_BK_PN_Series-20190321.xml.
46720	Corrected an error that could occur when building an AEPC based Wind Pitch controller.
46722	Corrected a problem where a controller build, of an equal controller, caused a document only change resulting in the alarm server reconnecting to the controller. Exporting and importing diagnostics or editing the DateTimeLastChanged in the system's DiagnosticTranslations.xml file to a non zero value works around the issue.
46748	Corrected a failure when the OPC DA client attempts to browse to a variable name that is longer than approximately 130 characters in length.
46756	Fixed an application error that could occur during a Shared I/ONet Component Export.

Reference	Release Note
46786	Added new "Compress FOUNDATION Fieldbus Schedule" menu item below the FOUNDATION Fieldbus reports items. Routine FOUNDATION Fieldbus commissioning changes will no longer automatically compress the schedule to avoid build errors. Rather, compressing is now a manual operation.
Additional	45469, 46645

9.10.4 WorkstationST V07.04.06C

Reference	Release Note
46326	Fixed a bug that could lead to stranded diagnostic alarms generated by the Network Monitor and Control System Health features. The bug fix also addresses the potential for stranded Mark VIe and I/O Pack diagnostic alarms in the Alarm Server.
46343	Upgraded the Unified Automation OPC UA SDK to correct a problem seen with Predix clients performing read and write operations and causing large numbers of threads to be created.
46353	Correcting some crashes of the OPC DA server seen on misconfigured systems that were reported from end users as the OPC DA server using a lot of CPU resource. The logs showed two different crashes, resulting in the OPC DA process stopping and starting in a cycle.
46395	Corrected a failure of the Control System Health and Network Monitor WorkstationST features when thin client devices are configured in a system but have missing network information. This may be caused by saving them with an older version of ToolboxST.
46443	Corrected a CimView hang where the alarm viewer was processing a master symbol table update while a windows user preference change event was also being processed. This was seen 3 or 4 times at one customer site and has not been reported at other sites.
46484	Corrected a failure of the Device Manager Gateway WorkstationST feature occurring at process startup. The issue is a timing issue with the FOUNDATION Field bus connections to controllers.
46738	Corrected an ActiveX Alarm Viewer crash that occurred under abnormal conditions in a lab environment.

9.11 ControlST V07.04.05C SP02 (July 2019)

This is a maintenance release driven by a YSIL Firmware Overspeed Trip issue.

9.11.1 Security

There are no security updates included in this release.

9.11.2 ToolboxST V07.04.07C

Reference	Release Note
46946	Enhanced the ability to change the WorkstationST variable mapper map rate below 200 milliseconds to as low as 10 milliseconds.
Additional	46821, 46875, 46960

9.11.3 WorkstationST V07.04.07C

Reference	Release Note
46766	Corrected a hang of the WorkstationST status monitor when using the menu item to save all the WorkstationST logs for each WorkstationST in the system.
46919	The sorting of the data and column headers in the output Recorder Maintenance log was not correctly following the configured column sort order.
46981	Added additional error handling for the CimView right click display variable attributes and go to definition in logic dialog display.

9.11.4 YSIL V05.06.01C

Reference	Release Note
46528	An issue was fixed where under certain operating conditions, the YSIL could miscalculate speed and trip on a firmware overspeed when a real overspeed condition didn't exist. This issue could also cause nuisance dual speed sensor mismatch diagnostic alarms.

9.11.5 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C

9.12 ControlST V07.04.05C SP03 (August 2019)

This is a maintenance release driven by new FOUNDATION Fieldbus CIT Software.

9.12.1 Security

There are no security updates included in this release.

9.12.2 PAMC V05.06.02C

Reference	Release Note
47328	An issue was fixed where the PAMC would display bad values after the loss and reconnection of the HSSL link to some BAPBH1A hardware.

9.12.3 ToolboxST V07.04.08C

Reference	Release Note
46959	Corrected an issue where the Fieldbus Point Offset was not updated on the PPRF PROFIBUS devices when a PROFIBUS device was deleted.
47349	Fixed certain build errors that could occur after a FOUNDATION Fieldbus H1 device replacement. The build errors required a "Compress FOUNDATION Fieldbus Schedule" to overcome. Upgraded the Softing CIT software libraries to version 5.43.
47402	Corrected the display name for the secondary language property in the system overview. The name was incorrectly set to the description text.
47427	PROFINET: Now support PROFINET IO Devices with non-zero API numbers and more than one VirtualSubmoduleItem on a module.
Additional	47243

9.12.4 WorkstationST V07.04.08C

Reference	Release Note
47236	Corrected a problem where Control System Health alarms could not be filtered by device name without manually adding additional device names to the filter.
47338	Fixed a problem where WorkstationST Alarm Scanner alarms were not available as alarm child variables in the OPC DA server. For example the .AlarmActive or .AlarmAckNeeded child variables were not correctly reflecting the state of the Alarm Scanner alarm.
47405	Changing the IP address, (producer ID), of an external device and saving it, causes WorkstationST nodes to periodically attempt to remove the older producer ID from their local cache summary file and issue a topology changed message. The message is sent every minute until the WorkstationST service is restarted. This bug corrects that issue, so now only the first topology changed message is sent.
47445	Writing a zero to the alarm child variables of AlarmAckCmd and AlarmResetCmd will no longer cause the acknowledge or reset action to occur. Now, only writes with a value of 1 or true will cause the action to occur.

9.12.5 *Previously Released*

The following components, also in Service Pack 03, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C
- YSIL V05.06.01C

9.13 ControlST V07.04.05C SP04 (August 2019)

This is a maintenance release driven by a PROFINET update for Offshore Wind and a new Network Monitor enhancement.

9.13.1 Security

There are no security updates included in this release.

9.13.2 Mark VIe V06.06.05C

Reference	Release Note
47614	Fixed the timeout errors that were causing large delays when attempting to commission FOUNDATION Fieldbus devices.

9.13.3 PPNG V05.11.02C

Reference	Release Note
47447	The PPNG now properly handles API numbers other than 0 in the GSDML files of PROFINET devices.

9.13.4 ToolboxST V07.04.09C

Reference	Release Note
47478	NEW! Added a way to configure network switch layouts in the ToolboxST System Information Editor, to allow custom network switch faceplate port mappings to the internal port numbers returned in responses needed by the Control System Health and Network Monitor features of WorkstationST.
27534	If a PFFA is selected for a download in conjunction with a controller that needs an offline download (reboot required), the PFFA download will not start until the controller has booted to the correct state to support communication with the PFFA.
47463	Fixed an application error that could occur when setting a parameter value for a FOUNDATION Fieldbus H1 device.
47475	Fixed an application error that could occur during the download scan of a controller download that includes FOUNDATION Fieldbus.
47550	PROFINET: Change/Refresh GSDML now handles Devices with modules with more than one VirtualSubmoduleItem plus Parameter Enumerations where the Enumeration Text is not unique.
47583	PROFINET: Now support PROFINET IO Devices with non-zero API numbers on a SubmoduleItem. Previous versions only supported non-zero API numbers on a VirtualSubmoduleItem.
47611	Corrected a problem with putting a component to SDB where the component editor freezes after the progress bar dialog closes.
Additional	47015

9.13.5 WorkstationST V07.04.09C

Reference	Release Note
47466	Corrected a problem where adding multiple OPC client variables on an OPC DA server tab's OPC Client connection created a new server connection with each variable rather than using the same connection for each browsed added variable. This improved the performance of adding multiple OPC DA client variables.
47473	The algorithm that determines the connected nodes based on the network switch Forwarding Database entries has been updated to avoid falsely associating network nodes related to Trunk Ports.
47609	Corrected a startup error in creating the OPC UA server namespace after a major revision download if the Alarms and Conditions feature is enabled. The error has information indicating an Object Reference was set to an empty object. Restarting the OPC UA server feature after the download worked around the issue.

9.13.6 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C
- PAMC V05.06.02C
- YSIL V05.06.01C

9.14 ControlST V07.04.05C SP05 (September 2019)

This is a maintenance release to eliminate a recurring, inaccurate upgrade message introduced in the ToolboxST V07.04.09C release in ControlST V07.04.05C SP04.

9.14.1 Security

There are no security updates included in this release.

9.14.2 ToolboxST V07.04.10C

Reference	Release Note
47667	Added a version to the GE Standard Network Switch layout XML file residing at the root folder of the ToolboxST project. If an older version file exists, the tool will replace it with the standard layouts available in the release.
47668	Corrected a problem introduced in the V07.04.09C release where the user was given a warning dialog regarding older versions not being able to open the system after a save. The warning occurred each time the system was opened.
47685	PROFINET: Fixed build errors that occur in two different scenarios. The first is when using a PROFINET IO Device that has many VirtualSubmoduleItems under a DeviceAccessPointItem and the second is when there is only one PortSubmoduleItem.

9.14.3 WorkstationST V07.04.10C

Reference	Release Note
47646	Filter by device in the Alarm Viewer stopped working for external OPC AE connections with version 7.4.8 and 7.5.0 and 7.6.0. The OPC AE alarms can be filtered by variable name to work around this issue.

9.14.4 Previously Released

The following components, also in Service Pack 05, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C
- Mark VIe V06.06.05C
- PAMC V05.06.02C
- PPNG V05.11.02C
- YSIL V05.06.01C

9.15 ControlST V07.04.05C SP06 (October 2019)

This is a maintenance release driven by bug fixes needed at a customer site and PROFINET updates needed by Wind.

9.15.1 Security

There are no security updates included in this release.

9.15.2 PAMC V05.06.03C

Reference	Release Note
48278	The PAMC now defaults the Can_Id parameter to channel number. A build validation rule has been added to insure that Can_Id is unique across 18 channels.

9.15.3 ToolboxST V07.04.11C

Reference	Release Note
47707	PROFINET: Resolved an issue where bad pcode is created when using a PROFINET IO Device that has more than one VirtualSubmoduleItems under a DeviceAccessPointItem.
48234	Corrected a problem where WorkstationST produced EGD became unhealthy in a Mark VIe consumer after the UDH IP address of the WorkstationST changed. Even after controller reboots, the issue remained. The previous workaround for this was to force a minor revision on the controller, download it and restart the WorkstationST services.
48304	PROFINET: Resolved the issue when a user performs the <i>Change GSDML</i> command, selects a new GSDML file not already used in the system, then selects <i>Save System As</i> command to create a new copy of the system, but the new system did not include the new GSDML file.
48306	PROFINET: Resolved the issue when a user performs the <i>Change GSDML</i> command when a new GSDML file contains a variable with the same name but a different datatype as the previous file that caused the <i>Where Used</i> tab to not accurately display the variable's connections. The previous workaround for this was to save, close, and re-open the controller.
48322	PROFINET: Reduced the time it takes to generate a PROFINET Alarm History Report and update the PROFINET Diagnostics tab.

9.15.4 WorkstationST V07.04.11C

Reference	Release Note
47711	NEW! Added a way for the Control System Health feature to monitor a virtual machine's active session count and optionally alarm when the count goes to zero.
47725	Corrected a problem found in a test bed where frequent consumed device reconfiguration requests resulted in OPC UA server memory growth when the local historian configuration was being updated.
48004	Corrected an issue where the alarm symbol in CimView sometimes shows visible when no alarms are present.
48066	Corrected a problem where the <i>Go To Definition in Logic</i> menu item was disabled in the WorkstationST Alarm Viewer if the user did not have <i>Alarm Modify</i> privilege. This issue was introduced in a 5.x version release.

Reference	Release Note
48142	Alarm client and alarm server performance was improved when the alarm server was configured with thousands of OPC AE alarm translations. The alarm server configuration was keeping the translations in a list which was linearly searched each time the configuration object was loaded resulting in poor performance for clients connecting and for the alarm server initialization.
48211	Improved the efficiency of the OPC DA server's processing a configuration change after a consumed device is downloaded.
48223	Corrected a WorkstationST service failure when writing to summary.xml. The WorkstationST service is configured to restart automatically, but the failure should be avoided.
Additional	47713

9.15.5 *Previously Released*

The following components, also in Service Pack 06, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C
- Mark VIe V06.06.05C
- PPNG V05.11.02C
- YSIL V05.06.01C

9.16 ControlST V07.04.05C SP07 (October 2019)

This is a maintenance release driven by bug fixes needed at a customer site.

9.16.1 Security

There are no security updates included in this release.

9.16.2 CMS Server V07.05.00C

Reference	Release Note
46184	Resolved issue that prevented backing up very large CMS repositories.
46332	Resolved issues in CMS server encountered with very large systems.

9.16.3 LS2100e V04.13.02C

Reference	Release Note
48100	The Source PLL Zero Crossing second layer of protection has been defaulted to "Disable".

9.16.4 ToolboxST V07.04.12C

Reference	Release Note
48373	Corrected an issue where a non-FOUNDATION Fieldbus runtime block could be assigned to a H1 device block.
48509	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed.
48511	A search could erroneously report an EgdUnboundVariable if one device was consuming EGD variables from another device, and both devices had EGD pages with the same name.

9.16.5 WorkstationST V07.04.12C

Reference	Release Note
48514	Corrected a failure that occurred when the OPC UA browser was browsing an OPC UA server and was not able to correctly translate the data type of the selected variable. The crash will now be avoided and the translation of the data type will also succeed. This browser is available in the Trender for HMI.
48555	Corrected a problem where OPC UA client reads for variables not in any other subscription, were returning stale values for non-EGD variables.

9.16.6 *Previously Released*

The following components, also in Service Pack 07, were previously released since ControlST V07.04.05C in previous Service Packs.

- EX2100e V04.14.02C
- Mark VIe V06.06.05C
- PAMC V05.06.03C
- PPNG V05.11.02C
- YSIL V05.06.01C

9.17 ControlST V07.04.05C SP08 (January 2020)

This is a maintenance release driven by bug fixes needed at a customer site.

9.17.1 LS2100e V04.13.03C

Reference	Release Note
48979	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.

9.17.2 Mark VIe V06.06.06C

Reference	Release Note
49554	A UCSC controller may boot to the DC_DETERMINATION control state and fail to synchronize logging the error 'pulses stuck at 0'. The issue has been completely resolved.

9.17.3 PPRF V05.00.03C

Reference	Release Note
41512	An issue was fixed where stale values were persisting when inputs were unhealthy. Now unhealthy input variables are set to zero. The issue was fixed in PPRFH1B.
41679	An issue was fixed for Simplex PPRF configurations in systems with redundant controllers and dual IONet connections, where inputs could be stale and not marked unhealthy if one controller was powered down and an IONet network cable break occurred. The issue was fixed in PPRFH1B.

9.17.4 ToolboxST V07.04.13C

Reference	Release Note
49626	Fixed an issue that caused the Download Scan to hang when FOUNDATION Fieldbus H1 devices exceeded 300.
49663	Fixed an issue where renaming the root plant area node in the ToolboxST System Information Editor caused a tool failure.
49667	Fixed an application error that could occur during download scans in systems with FOUNDATION Fieldbus.
49817	Remote Alarms: Fixed issue where the user got the error "The name is already used" and could not add configuration of a second remote Alarm Server, when both the first and second Alarm Server references have a blank "Secondary Workstation Name".
Additional	48965, 49660

9.17.5 WorkstationST V07.04.13C

Reference	Release Note
49067	Removed the phantom IO Modules reported by the Control System Health Feature that were associated with IO Modules configured as Hot Backup pairs.
49084	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.

Reference	Release Note
49234	Exciter and Static Starter controller status is now correctly populated in the OPC UA Server and displayed in the Control System Health Viewer.
49245	Fixed a problem where the controller health variables will fail to update if the Control System Health process cannot initially connect to the OPC UA server.
49560	Corrected the HMI import of measurement associations to force a decimal . character in the display format string. This issue was causing incorrect display of data when switching measurement systems on operating systems that use a comma for a decimal separator.
49573	Fixed the source of Control System Health feature crashes that could occur with some Simplex Control Server configurations and updated the Simplex template with VMs moved as children of the control server.

9.17.6 *Previously Released*

The following components, also in Service Pack 08, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- PAMC V05.06.03C
- PPNG V05.11.02C
- YSIL V05.06.01C

9.18 ControlST V07.04.05C SP09 (February 2020)

This is a maintenance release driven by service account updates needed by Wind.

9.18.1 ToolboxST V07.04.14C

Reference	Release Note
50329	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both localhost, but the server names are different between the primary and secondary
50360	Suppressed erroneous pop-up message that would occur after some CMS operations.

9.18.2 WorkstationST V07.04.14C

Reference	Release Note
50234	Corrected an issue where historical alarm reading could randomly fail for systems that have UNICODE characters. An index out of range exception was seen in the WorkstationST service log. A workaround for this issue is to read the alarm history locally on the alarm server node.
50277	Added the ability to specify a unique name for the secondary OPC AE server for a redundant OPC AE client connection. When using a tunneller product, the primary and secondary hosts are both localhost, but the server names are different between the primary and secondary
50381	Added a check for OPC AE subscription state prior to a refresh call to ensure the state is active.
50403	Corrected a problem where the Engineering units were displayed in the incorrect measurement system upon CimView startup when the active measurement system was set to a value that was not equal to the variable's native measurement system.

9.18.3 Previously Released

The following components, also in Service Pack 09, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- Mark VIe V06.06.06C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.01C

9.19 ControlST V07.04.05C SP10 (March 2020)

This is a maintenance release driven by several bug fixes in ToolboxST and WorkstationST related to OPC AE and an enhancement to GE Alarm Rationalization.

9.19.1 ToolboxST V07.04.15C

Reference	Release Note
50542	NEW! GE Alarm Rationalization import now supports Alarm Descriptions for OPC AE and OPC UA Alarms.
50452	Enhanced the property names and descriptions for an OPC AE client connection on the WorkstationST component editor's alarm tab.
50595	It is now possible to have a non-blank Alarm Description in the Alarm Help file for OPC AE and OPC UA Alarms.
50596	The Alarm Help for an OPC AE Alarm Condition mapped to the Normal Alarm State had extra unformatted content.

9.19.2 WorkstationST V07.04.15C

Reference	Release Note
50594	OPC AE: Fixed issue trying to write out the OPC AE Undefined Translations to a file when the server name contains characters that aren't allowed in file names like a colon (:). This would occur when using an OPC Tunneller.
50665	Fixed an issue where the Alarm Viewer could sometimes show the wrong Variable Name. This would occur when the Alarm ID for a given alarm changed.

9.19.3 Previously Released

The following components, also in Service Pack 10, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- Mark VIe V06.06.06C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.01C

9.20 ControlST V07.04.05C SP11 (April 2020)

This is a maintenance release driven by an update related to Wind service accounts on Windows Server 2012 R2 systems.

9.20.1 ToolboxST V07.04.16C

Reference	Release Note
51182	An issue was resolved where the MaintainComponent access right was insufficient to allow building of some I/O types.
51183	An issue was resolved with the ToolboxST user interface on high or low DPI monitors. Menu items, text, and other UI elements did not scale consistently, leading to overlapping and unreadable content. While the relative scaling is now correct, ToolboxST is not "high DPI aware" and may appear slightly fuzzy on 4k monitors and laptops.

9.20.2 WorkstationST V07.04.16C

Reference	Release Note
51120	Corrected a problem where the OPC UA server was growing in memory when processing frequent Topology Changed events which were occurring due to an invalid system configuration.
51245	Corrected an Alarm Viewer memory growth condition when alarm classes were configured with text to speech.
51257	A problem was resolved where Wind service accounts could not log on under Windows Server 2012 R2.

9.20.3 Previously Released

The following components, also in Service Pack 11, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- Mark VIe V06.06.06C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.01C

9.21 ControlST V07.04.05C SP12 (June 2020)

This is a maintenance release driven by OPC AE Alarm bug fixes required at several sites.

9.21.1 ToolboxST V07.04.17C

Reference	Release Note
51592	OPC AE Alarms: Fixed an issue with "Export Variables", when a single variable had more than one Parent and thus a comma in the Parent Alarms field, the value was not decorated with quotes to maintain proper csv format. Also fixed issues where, sometimes, the Parent and Child fields were not set correctly during an "Import Variables".
51652	OPC AE Alarms: 1. Fixed two issues when a system had a large number of OPC AE alarms (~45,000), alarm help files were not being published to the Master Workstation and in ToolboxST the Workstation component would open very slowly. 2. Fixed an issue generating Alarm Help if the OPC AE Server had a colon ':' in its name.

9.21.2 WorkstationST V07.04.17C

Reference	Release Note
51594	Fixed an issue in WorkstationST Modbus and GSM features where every 20 seconds they would log disconnect/connect messages for every Measurement System connection to the OPC Server where no data was currently being read.

9.21.3 Previously Released

The following components, also in Service Pack 12, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- Mark VIe V06.06.06C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.01C

9.22 ControlST V07.04.05C SP13 (July 2020)

This is a maintenance release driven by an OPC DA update required at a customer site.

9.22.1 WorkstationST V07.04.18C

Reference	Release Note
52389	Corrected a problem where the embedded OPC DA client was not able to connect to a remote host running on a computer in a workgroup and therefore having a blank configured domain name.

9.22.2 Previously Released

The following components, also in Service Pack 13, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- Mark VIe V06.06.06C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- ToolboxST V07.04.17C
- YSIL V05.06.01C

9.23 ControlST V07.04.05C SP14 (September 2020)

This is a maintenance release driven by several important bug fixes required at customer sites, including Redundant OPC AE Client updates, and issue resolutions for WindDFIG01 firmware upgrade, Control Constant override persistence, and SOE reporting on systems with more than 255 IO packs.

9.23.1 Mark VIe V06.06.07C

Reference	Release Note
53042	In systems with more than 255 IO packs it is possible that SOEs for some IO packs not be transmitted to the HMI. This issue has been resolved.
53310	Mark VIe single product app extensions now properly uninstall.

9.23.2 ToolboxST V07.04.19C

Reference	Release Note
52924	Fixed an issue when upgrading WindDFIG01 from V02.05.07C to V02.06.01C.
53480	Fixed an issue where the override value of a control constant on a pin of a runtime block wasn't being persisted between opening and closing device windows inside ToolboxST.

9.23.3 WorkstationST V07.04.19C

Reference	Release Note
53372	Redundant OPC AE Clients now log for each client every time the connection state changes. The per client connection state info is also shown in the WorkstationST Status Monitor Additional Status Details. In addition there is a new configuration option to not report errors if only one client is connected, for cases where this is expected. This will suppress alarms as well as errors in the WorkstationST Status Monitor.
53470	Corrected a problem with the WorkstationST status monitor's Privileges Logon feature where a user authorized because the user's domain is authorized is logged on, another user temporarily logs on and then logs off resulting in the domain user's role being lost and therefore having the incorrect privileges.

9.23.4 Previously Released

The following components, also in Service Pack 14, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.01C

9.24 ControlST V07.04.05C SP15 (October 2020)

This is a maintenance release driven by product updates needed at customer sites and includes a security update.

9.24.1 Mark VIe V06.06.08C

Reference	Release Note
54354	In systems with a UCSC controller the Network Settings -> Network configuration item for the network adapter associated with ENET2 can now be changed to a network other than CDH.

9.24.2 ToolboxST V07.04.20C

Reference	Release Note
54139	Now support allowing Network Adapter 2 (if available on the device) to be connected to a Network with any Scope other than IO or Management. If the Scope of IO or Management is selected, a build error is generated.
54196	The keep-alive timeout value downloaded to the PFFA modules has been updated to prevent a potential PFFA reboot and temporary loss of FOUNDATION Fieldbus device communication during redundancy switchover events triggered by the loss of IONet or loss of power to the Designated Controller.
54322	Fixed a security issue that could lead to Information Disclosure.

9.24.3 WorkstationST V07.04.20C

Reference	Release Note
54140	Added the ability to connect the MarkVIe's ENET2 network adapter to networks with scope other than Unit. Enhanced the network pick list on the network switch component, adding text to the redundancy column header in the pick list dialog.

9.24.4 YSIL V05.06.02C

Reference	Release Note
50711	An issue was fixed where, for some terminal boards, the contact inputs would go unhealthy due to a self-test failure. Note: When upgrading to V05.06.02C, you may see a diagnostic alarm, 2629 "Could not load programmable logic on TCSA: Error 2", occur during the firmware upgrade. This is due to the upgrade of the WCSA FGPA version and should only occur once as part of the upgrade.

9.24.5 Previously Released

The following components, also in Service Pack 15, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.02C
- LS2100e V04.13.03C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C

9.25 ControlST V07.04.05C SP16 (November 2020)

This is a maintenance release driven by an EX2100e enhancement (Measurement and Slip calculation improvement) and updates to ToolboxST and WorkstationST.

9.25.1 EX2100e V04.14.06C

Reference	Release Note
51403	NEW! The following modifications are implemented : <ul style="list-style-type: none">- Replace 1st order filter by FIR filter (selected by default) or 2nd order filter 16hz- Modify calculation to use estimate frequency (replace constant Fbase) on Watts, VARs, Slip and Imag measurement

9.25.2 ToolboxST V07.04.21C

Reference	Release Note
55246	Corrected a build inefficiency for a controller with one or more large table definitions configured.
55588	Fixed a Download Scan error where PFFAs report that they are configured with incorrect Hardware Forms.
55625	Resolved an issue where the Trender could fail when back-filling data from a historian.
Additional	54759

9.25.3 WorkstationST V07.04.21C

Reference	Release Note
55245	Corrected a problem with the user privilege logon manager where a user logged in as a domain group user logs up to another group user and then back out to the original group user. The privileges were lost and the original user now had no privileges. The original user can log out and back in to get back his configured privileges.
55583	Corrected a problem where EGD consumed variable values returned to an OPC DA client in the Read Device call were stale for variables not currently in a client subscription.
55624	Corrected a problem where recorder capture buffers were not uploaded. The log showed a failure to connect to the controller and a failure to get the designated talker IP address.
55625	Resolved an issue where the Trender could fail when back-filling data from a historian.

9.25.4 *Previously Released*

The following components, also in Service Pack 16, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- LS2100e V04.13.03C
- Mark VIe V06.06.08C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.02C

9.26 ControlST V07.04.05C SP17 (February 2021)

This is a maintenance release driven by two WorkstationST bug fixes, one related to variables configured on a secondary EGD page and the other related to an OPC UA thread growth issue.

9.26.1 WorkstationST V07.04.22C

Reference	Release Note
56068	Corrected a problem where variables configured on a Secondary EGD page with a health timeout multiplier configured will remain unhealthy when the secondary exchange transitions healthy while the primary producer is producing. This issue does not impact the actual EGD production from the secondary, it only impacts the health of the variables as seen by ToolboxST.
56125	Upgraded the Unified Automation SDK used for OPC UA to address a thread growth issue seen when OPC UA clients are doing very frequent read / write requests.

9.26.2 Previously Released

The following components, also in Service Pack 17, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.06C
- LS2100e V04.13.03C
- Mark VIe V06.06.08C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- ToolboxST V07.04.21C
- YSIL V05.06.02C

9.27 ControlST V07.04.05C SP18 (June 2021)

This is a maintenance release driven by an issue with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours. Reference: [KB0028774](#) - I/O PACK reporting "Outputs unhealthy" and "Module offline" alarms

9.27.1 PAIC V05.01.01C

Reference	Release Note
38273	An issue was fixed where the PAIC would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
58588	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.2 PAOC V05.00.01C

Reference	Release Note
58579	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.3 PDIA V05.01.01C

Reference	Release Note
58590	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.4 PDOA V05.07.02C

Reference	Release Note
47996	The PDOA documentation has been updated to indicate that outputs cannot be configured as dry contacts when SRLY+WROG is in use.
58599	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.
Additional	51428

9.27.5 PPDA V05.00.03C

Reference	Release Note
58583	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.6 PPRO V05.05.02C

Reference	Release Note
58641	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.7 PRTD V05.00.01C

Reference	Release Note
58638	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.8 PTCC V05.00.01C

Reference	Release Note
58582	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.9 PTUR V05.00.02C

Reference	Release Note
58640	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.10 PVIB V05.01.06C

Reference	Release Note
58639	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

9.27.11 ToolboxST V07.04.23C

Reference	Release Note
57395	An issue was resolved where Instance All would fail and leave data in a corrupt state when performed by a user with Modify Data but not Modify Design privilege – but only in cases where a custom runtime block was in use. This particularly affects Service Tech level users of Wind systems.

9.27.12 WorkstationST V07.04.23C

Reference	Release Note
56907	Corrected a problem where an OPC DA client asynchronous read of a variable can return an incorrect value. Variables that are not currently in a live list by any client could suffer this issue. The issue occurs after a controller download and dynamic bind.
57198	Corrected a problem seen by the OSM team for viewing alarms using the wHAERpt web page for a special application where the OSM team renames the BIN files to aggregate alarms from multiple OSMs for use on an aggregator OSM.
57238	Corrected a problem where OPC AE alarms served to clients did not include past alarms if the OPC AE server started after the Alarm server.
57413	Fixed an issue where the OPC UA Server misses reporting interim alarms to OPC UA Alarm Clients, where interim alarms are those that occurred after the OPC UA Server started but before any client connected.
57416	Two changes to the OPC UA Alarm Server. First, the OPC UA Alarm Server will now get alarms from the Configured "Alarm Server To Use" (if one has been configured) instead of the Primary Alarm Server. Second the OPC UA Server will now add newly defined alarms to the OPC Browsing tree after a device is downloaded.

9.27.13 Previously Released

The following components, also in Service Pack 18, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.06C
- LS2100e V04.13.03C
- Mark VIe V06.06.08C
- PAMC V05.06.03C
- PPNG V05.11.02C
- PPRF V05.00.03C
- YSIL V05.06.02C

9.28 ControlST V07.04.05C SP19 (September 2021)

This is a new feature release driven by new and updated ARESBlockLib models. Also, this is a maintenance release driven by a resolution to a potential deceleration trip in the PPRA and YSIL products and several important bug fixes in ToolboxST and WorkstationST.

9.28.1 ARESBlockLib V08.04.04C

Reference	Release Note
61434	NEW! Performance updates to ARES model A7HA031A0919V4
61435	NEW! Additions to iodata array in ARES model A6F0103A1120V4
61436	NEW! Added new ARES model A9HA014C0219V4
61437	NEW! Added new ARES model A9HA021B0421V4

9.28.2 PPRA V05.00.01C

Reference	Release Note
52089	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of TwoGroups (2 shafts, 3 sensors).
55757	PPRAS1B now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.

9.28.3 ToolboxST V07.04.24C

Reference	Release Note
59329	Corrected a problem where saving a power converter (Wind-DFIGe) caused the I/O network connection to the Mark VIe wind turbine controller to be lost. The I/O network connection was no longer shown on the system overview graphics and issues with device replication and convertor configuration were a result. To correct the issue, open the power converter with this newer version, make a change, and save it.
59472	Improved runtime performance of the Constants view.
60436	Resolved an issue that could randomly cause a 'Cannot create a file when that file already exists.' error while building.

9.28.4 WorkstationST V07.04.24C

Reference	Release Note
59530	Corrected an OPC DA server memory growth, seen at two customer sites, where a poor behaving client failed to remove their reference to group items before removing the group.
60505	OPC UA Alarm Server: Fixed an issue where the time for alarms in a client was the time the alarm was received by the client, when it should have been the time the alarm was created in the controller.
60508	OPC UA Alarm Server: Fixed an issue where Phantom alarms appear in a client when alarms are removed from the system after the OPC UA Server is started but before a client connects.

9.28.5 YSIL V05.06.03C

Reference	Release Note
52088	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of 2Shafts_3Sensors.
55745	YSIL now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.
57043	The YSIL now includes SSUP connections on the Extra Circuits tab.
Additional	51674

9.28.6 Previously Released

The following components, also in Service Pack 19, were previously released since ControlST V07.04.05C in previous Service Packs.

- CMS Server V07.05.00C
- EX2100e V04.14.06C
- LS2100e V04.13.03C
- Mark VIe V06.06.08C
- PAIC V05.01.01C
- PAOC V05.00.01C
- PAMC V05.06.03C
- PDIA V05.01.01C
- PDOA V05.07.02C
- PPDA V05.00.03C
- PPNG V05.11.02C
- PPRO V05.05.02C
- PPRF V05.00.03C
- PRTD V05.00.01C
- PTCC V05.00.01C
- PTUR V05.00.02C
- PVIB V05.01.06C

10 V07.03 Release Notes

10.1 V07.03 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, *Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- If you are using a high Dots Per Inch (DPI) (greater than 96 DPI) monitor, such as a 4K monitor, you may experience graphic anomalies that render some applications such as ToolboxST and Trender unusable. A work around for this problem is to set your screen resolution in Windows Settings to a lower resolution and text scaling to 100%.
- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer reboot. To avoid these issues, keep video drivers up to date. Other workarounds; refer to the document included on the ControlST installation DVD.
- There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller’s device state must be either “Inputs Enabled” or “Controlling”. It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log. Recommendation is to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2, Windows Server 2016 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.03.00C using Windows 10 and Windows Server 2016. Two USB to Serial Converter products have been tested and qualified for Modbus.
 - ◆ Sabrent USB 2.0 to Serial (9-Pin) DB-9 RS-232 Adapter Cable 6ft Cable [FTDI Chipset] (CB-FTDI)

- ◆ StarTech.com USB to Serial Adapter – 2 Port – Wall Mount – Din Rail Clips – Industrial – COM Port Retention – FTDI – DB9

10.2 V07.03 Suite Components

See Component Registry: [ControlST Component Registry](#)

10.3 V07.03.00C (July 2018)

10.3.1 V07.03.00C Highlights

Windows® Server 2016 Compatibility

Application: All ControlST applications

Description: ControlST V07.03.00C and ControlST V07.02.00C have been tested with Windows Server 2016 (Standard).

References:

[ControlST Software Suite Installation and Upgrade \(GEI-100694\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: NA

Universal Analog I/O SIL YUAA Module

Application: UCSC Safety Systems

Description: Initial release. The YUAA module provides a reduction of cost per I/O point as compared to traditional analog I/O modules (while maintaining high availability). A three-wire channel is located on a single terminal block section that fits onto a row of the header. Each block section can be independently wired and then inserted, allowing channel by channel commissioning. This enables much faster and more reliable terminations and decreases time to commission / maintain the system. The YUAA module requires ControlST V07.02.00C or later.

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 42863

UCSCH1C Platform Support

Application: Wind

Description: Initial release. The following products have expanded their capability to support the UCSCH1C controller.

- Mark VIe
- Virtual Mark VIe

UCSCH1C supports Simplex redundancy and Simplex IONets only.

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 44146

EtherCAT Support on UCSCH1C

Application: Wind

Description: Initial release. The UCSCH1C has support for EtherCAT Master in line and ring redundancy topologies for 10 ms frame periods.

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 44146

YSIL Rate-based Overspeed

Application: Safety Systems

Description: YSIL now supports Rate-based overspeed as part of the firmware overspeed function.

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 43171

UCECH1B Platform Support

Application: Exciters and Static Starters

Description: Initial release. The following products have expanded their capability to support the UCECH1B controller.

- EX2100e

UCECH1B supports EX2100e and Embedded Field Agent (EFA).

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 42707

UCSCH1B Platform Support

Application: Exciters and Static Starters

Description: The following products have expanded their capability to support the UCSCH1B controller.

- EX2100e

UCSCH1B supports EX2100e and Embedded Field Agent (EFA).

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

Work Items: 42707

Mark VIeS Function Block Additions

Application: Safety Systems

Description: Added new function blocks to the Mark VIeS.

- DUALSEL_S2
- CLAMP
- FUNGEN
- INTERP_V2
- MEDSEL_S2
- VOTE

References:

[Mark VIeS Safety Controller Block Library \(GEI-100691\)](#)

Work Items: 44148

FOUNDATION Fieldbus COMPATIBILITY_REV

Application: FOUNDATION Fieldbus

Description: Added support for FOUNDATION Fieldbus Compatibility Revision. This feature requires MarkVIe V06.05.00C or higher.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 35182, 43607

Disable SDI feature when HMI enabled and refresh WorkstationST logs

Application: All Applications

Description:Enhanced the WorkstationST feature log viewer to scroll to the bottom (latest), when opened and added a refresh and live update button. Additionally added a warning when enabling the OPC DA server's SDI feature and automatically warn and disable the SDI feature when the HMI feature is enabled.

Work Items: 43573

WorkstationST Recorder Maintenance Log Enhancement

Application: All Applications

Description:Added an optional WorkstationST Data Recorder collection setting to cause a continuous live network collection to create a set of monthly maintenance CSV logs. When enabled, the recorder collection will not create and maintain its binary files.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

[WorkstationST Recorder User Guide \(GEI-100627\)](#)

Work Items: 43342

10.3.2 V07.03.00C Changes

10.3.2.1 ToolboxST V07.03.00C

Reference	Release Note
37567	NEW! Several more properties of UserBlocks and Tasks now support attribute substitution: Description, Category, Detached Summary File, and Enable.
43607	NEW! Added support for FOUNDATION Fieldbus Compatibility Revision. This feature requires MarkVIe V06.05.00C or higher.
43615	NEW! A property has been added to program and pin variables called Is Critical. When true, a build error will be generated for the variable if it is not driven (written to) or is not driving an input on a block. This property can be used to help detect incomplete or unintentionally modified trip logic or other critical code. The flag can also be used to filter the global variable report, allowing audits of logic around critical control variables.
22989	Fixed an issue where a device compare wouldn't pick up changes to a Mark VI Rack IO configuration.
38390	Will now put out a warning if the Update Rate does not match for bit-packed Holding Registers with the same address on a PSCA Modbus Master.
38895	An issue was corrected where dragging multiple shapes in an SFC diagram and dropping some of those shapes on a different page could result in an unclickable shape.
41338	Fixed an issue with FOUNDATION Fieldbus download where the download scan incorrectly declared all FF devices for download. This situation occurred after a linking device redundancy switch.
41459	In the Where Used window of a Library Container, the Find All button returns matching global variables across all libraries in the container. An issue was resolved where the parent Library, Program, and Task was not identified with a search result, making it difficult to distinguish them from each other.
42643	An issue was resolved where the System Constants Export wizard would fail to connect to a device when S or T is the designated controller.
42644	The System Control Constants and Parameters Import wizard skips any variables from the input CSV file that cannot be modified for various reasons (protection, HMI Resource, etc). Formerly, the results summary merely showed "Import Complete" in green. This has been modified to show yellow and a warning count when parameters are skipped.
42704	Fixed an application issue that occurred when saving the Change Log.
42731	An issue with the I/O Variable and I/O Configuration reports was fixed where the Connected Variable column was not honoring the Display Variable Aliases instead of Variable Names setting. It now shows the Alias for the connected variable when in Alias mode.
43051	The I/O Status Viewer has been improved to show the equality status of FOUNDATION Fieldbus H1 devices instead of FOUNDATION Fieldbus Blocks.
43052	An issue was fixed with Compare Device, where performing a compare from an open Controller window would cause incorrect behavior of the open Controller window. For example, attempting to view blockware diagrams after a compare would result in a blank detail view. The issue is corrected, and the Controller window works normally after a compare.
43063	Fixed a program error caused by duplicate FOUNDATION Fieldbus Segment names. Those duplicate names will now be noted with build errors.
43089	The Coding Practices report has been modified to exclude internal, auto generated variables from SFCs.

Reference	Release Note
43306	When copying and pasting a User Block, SFC Transition, or SFC Action that contains a global variable, the Rename Globals dialog allows you to make unique variable names for each Global. Cancelling this dialog caused ToolboxST to unexpectedly terminate; this has been fixed, and the paste is cancelled as expected.
43364	Corrected issue where barcodes for the YSIL SCSA boards were lost during an upgrade if the compatibility code changed.
43376	Fixed an application issue that occurred when viewing live data.
43529	Added the two letter ISO language name to the selection of language's in the ToolboxST system overview to help when selecting the correct language in the CIMPLICITY language mapper file.
43584	An issue was resolved where in rare cases ToolboxST would terminate unexpectedly when trying to view blockware diagrams. Due to a compression glitch, the diagram was corrupted; ToolboxST now recreates the diagram in auto-layout mode. The compression library has also been changed to prevent the problem from occurring going forward.
43606	Fixed an uncommon application error in the Block Diagram Editor.
43799	Corrected a problem where an invalid path entered into the TCI setup, (MarkV Feature Setup accessed from the windows start menu), made it no longer possible to open an existing or create a new WorkstationST component.
43836	Fixed a refresh issue where recorder manually created System collections containing WorkstationST variables did not reflect variable changes such as description or other properties until the WorkstationST editor was reopened.
43847	Corrected an unwanted new line character that was at the start of the text for the Control System Health description for a Virtualization Server Hardware reported status. The extra new line character resulted in a warning when importing the diagnostics after having added a language translation.
43909	Fixed an issue with the Shared I/O that could cause an application error if the user cancels a password challenge.
43910	Fixed an error that occurred when opening certain configurations.
43958	Made Power Conversion Wizards wider to fit new enumerations.
44091	An issue was resolved where variable connections to array elements were not displaying the element index when Display Aliases instead of Variable Names was selected in the Workstation Status Monitor User Preferences. For example, if a connection was to alias XYZ element 2, it should have displayed XYZ[2] but was only displaying XYZ.
Additional	28539, 29186, 39988, 41872, 41956, 42113, 42126, 42479, 42638, 42821, 42872, 43035, 43102, 43321, 43347, 43357, 43358, 43490, 43504, 43515, 43549, 43551, 43600, 43623, 43624, 43641, 43697, 43807, 43835, 43918, 43941

10.3.2.2 WorkstationST V07.03.00C

Reference	Release Note
42795	NEW! Added support to the WorkstationST OPC UA server for certificate management from a Global Discovery Server.
43342	NEW! Enhanced the WorkstationST feature log viewer to scroll to the bottom (latest), when opened and added a refresh and live update button. Additionally added a warning when enabling the OPC DA server's SDI feature and automatically warn and disable the SDI feature when the HMI feature is enabled.

Reference	Release Note
43385	NEW! Added a new HmiSysScreenPcode.xml file that is published to the master workstation when the System Information is saved. HMI file utility features that are using auto download will now look for this list and if found will use it for the list of screens they are to auto download. This avoids the requirement to rebuild and download each workstation after a new screen is added to the list of screens in the system.
43573	NEW! Added an optional WorkstationST Data Recorder collection setting to cause a continuous live network collection to create a set of monthly maintenance CSV logs. When enabled, the recorder collection will not create and maintain its binary files.
42313	Provided a way for the operator to force the alarm viewer to connect to the secondary and clearly indicate the active state of the connection.
43076	Corrected an issue where the Trender and Alarm Viewer ActiveX controls appear as white boxes if a CIMPLICITY frame hosting them is closed and re-opened before the frame falls out of screen cache. The issue was not seen for overlaying away from the screen hosting the ActiveX control.
43824	The OPC UA feature can continue to run after a workstation is downloaded with the feature turned off. This typically will only happen on larger consumed configurations, such as a wind park.
Additional	39988

10.3.2.3 Mark VIe V06.05.00C

Reference	Release Note
35182	NEW! Added support for FOUNDATION Fieldbus Compatibility Revision.
44156	NEW! The UCSCH1C has support for EtherCAT Master in line and ring redundancy topologies for 10 ms frame periods.
168	The XDAXC00_V2 block has been added to the Turbine Block Library. XDAXC00_V2 matches operation of Mark VI XDAXC00 v1.6 so it operates correctly during conditions when multiple variables are in saturation to prevent limit cycling between valves.
39027	A variable configured OPC UA as writable can now also be read.
40522	An issue where a configuration with Foundation Fieldbus leaks memory on designated controller switch-overs has been corrected.
42004	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43240	An issue causing wind farm management communications not to function in multicast mode has been resolved.
43391	The Standard Block Library ARRAY_COMPRESS and ARRAY_COMPRESS_UDI blocks now properly handle the condition where variables connected the INxx pins are scalars.
43587	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may be temporarily unresponsive for a few seconds. This issue has been completely resolved.

Reference	Release Note
44116	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced in Mark VIe V06.04.00C and has been completely resolved.
Additional	38913, 42904, 42905, 43096, 43115, 43346, 43354, 43387, 43505, 43519, 43523, 43524, 43865, 43898, 43908

10.3.2.4 Mark VIeS V06.01.00C

Reference	Release Note
44148	NEW! Added six new function blocks to the Mark VIeS (DUALSEL_S2, CLAMP, FUNGEN, INTERP_V2, MEDSEL_S2, VOTE)
43448	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43449	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.
43588	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may be temporarily unresponsive for a few seconds. This issue has been completely resolved.

10.3.2.5 Virtual Mark VIe V06.02.04C

Reference	Release Note
43392	The Standard Block Library ARRAY_COMPRESS and ARRAY_COMPRESS_UDI blocks now properly handle the condition where variables connected the INxx pins are scalars.
44092	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

10.3.2.6 Virtual Mark VIe x64 V06.02.04C

Reference	Release Note
43393	The Standard Block Library ARRAY_COMPRESS and ARRAY_COMPRESS_UDI blocks now properly handle the condition where variables connected the INxx pins are scalars.
44093	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

10.3.2.7 Virtual Mark VIeS V06.03.00C

Reference	Release Note
44094	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

10.3.2.8 YSIL V05.06.00C

Reference	Release Note
43171	NEW! The YSIL now supports Rate-based overspeed as part of the firmware overspeed function.
Additional	43263, 43312, 43325

10.3.2.9 YUAA V05.05.01C

Reference	Release Note
42863	NEW! Initial release of the Safety Universal Analog I/O Pack.
43900	An issue was fixed where Pulse accumulators and RTDs may fail intermittently on configuration.

10.3.2.10 EX2100e V04.13.00C

Reference	Release Note
42707	NEW! New platforms UCECH1B and UCSCH1B supporting EX2100e and Embedded Field Agent (EFA)
43589	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may to be temporarily unresponsive for a few seconds. This issue has been completely resolved.
43905	The FCR Force button is disable when the exciter is online (52G closed)
44131	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced EX2100e V04.12.00C and has been completely resolved.

10.3.2.11 EX2100e_Reg V04.13.00C

Reference	Release Note
42707	NEW! New platforms UCECH1B and UCSCH1B supporting EX2100e and Embedded Field Agent (EFA)
43589	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may be temporarily unresponsive for a few seconds. This issue has been completely resolved.
44131	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced EX2100e V04.12.00C and has been completely resolved.

10.3.2.12 LS2100e V04.13.00C

Reference	Release Note
43590	When a new connection to the controller is abruptly terminated certain interfaces, including SDI and Ethernet Modbus, may be temporarily unresponsive for a few seconds. This issue has been completely resolved.
44132	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced in LS2100e V04.12.00C and has been completely resolved.

10.3.2.13 AEPA V05.05.03C

Reference	Release Note
43817	The converter download file has been updated.

10.3.2.14 WEPA V05.05.04C

Reference	Release Note
43099	A change was made to modify the battery test needed and expired times from 7 to 30 days when battery DB is enabled and working.
43805	The communications heartbeat timeout was changed from 500 milliseconds to 1500 milliseconds.
43816	An issue was fixed where the converter download would try to download the wrong file.

10.4 ControlST V07.03.01C (August 2018)

This is a maintenance release driven by security updates. Additionally, the WorkstationST OPC UA server now supports alarms and conditions.

10.4.1 Security

The following security updates are included in this release.

- Updated the RTS Hypervisor to include security updates from the manufacturer
- Updated the Proficy Common Licensing software and USB drivers

10.4.2 ToolboxST V07.03.01C

Reference	Release Note
44403	NEW! FOUNDATION Fieldbus DD File Update: Emerson Rosemount 3051S Revision 24
44404	NEW! FOUNDATION Fieldbus DD File Update: GE XMT868i Revision 3
44405	NEW! FOUNDATION Fieldbus DD File Update: TopWorx, Inc. D2-FF (DXP-F) Revision 3
43917	An issue was resolved where editing an Attribute value while the attribute grid was sorted by value could display incorrect values after editing.
44314	Previously when a control constants/undriven variables report was exported to csv, only a subset of the variables had live values. Now all variables will have live values. (In both cases, the controller must be online to get live values.)
44372	Fixed an issue where the UCEC would not accept download from USB stick if the channel selected was M2 or C.
44402	Fixed an issue where the Crash Report tool could close before the issue could be reported.
Additional	44357

10.4.3 WorkstationST V07.03.01C

Reference	Release Note
44396	NEW! Added support for Alarms and Conditions to the WorkstationST OPC UA server.
44326	There was a failure in stress testing which, in very rare incidents, would cause the Logic Builder ActiveX control to terminate CimView during a script's call to EndInitialize. This bug fix corrects that potential issue.
44356	Added a connection block for OPC DA clients while the OPC DA server is initializing. A by proxy HMI was experiencing unknown variables for initial item adds after a reboot.

10.4.4 Mark VIe V06.05.01C

Reference	Release Note
44149	Security update
44351	In a system with FOUNDATION Fieldbus all block alarms can now be acknowledged and reset.

10.4.5 EX2100e V04.13.01C

Reference	Release Note
44150	Security update

10.4.6 EX2100e_Reg V04.13.01C

Reference	Release Note
44150	Security update

10.4.7 LS2100e V04.13.01C

Reference	Release Note
44151	Security update

10.4.8 PVIB V05.01.05C

Reference	Release Note
43337	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

10.4.9 YVIB V05.01.04C

Reference	Release Note
43408	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

10.4.10 WEPA V05.05.05C

Reference	Release Note
44323	The speed regulator gains have been updated to address low wind oscillations.

10.5 ControlST V07.03.01C SP01 (October 2018)

This is a maintenance release driven by the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms. Refer to Controls Service Bulletin (CSB25375), *Loss of Controller Connectivity and/or Alarms in ControlST V07.01 through V07.03*. In addition, there are two WorkstationST enhancements, one related to alarm printing and the second related to the Acoustic Monitoring Gateway support of a new PAMC release. Also, two new blocks have been added to the Mark VIe Virtual Controller.

10.5.1 Security

There are no security updates included in this release.

10.5.2 Mark VIe V06.05.02C

Reference	Release Note
44471	On UCSA, UCPA, and AEPC platforms, after running for 206 days, controller communication over the UDH network can slowly degrade to where alarm transitions from the controller fail to transmit (resulting in the generation of Diagnostic Alarm 320) and attempts to connect to the controller returns the error 'The device responded to GetNumVars with the error: GENERAL_FAILURE'. This issue has been completely resolved.
44714	An issue where UCSA based IO modules cannot have their Compact Flashes initialized by ToolboxST has been resolved. The issue was introduced in Mark VIe V06.04 (ControlST V7.2) and only affects systems where the controller type is UCSBH1 or UCPA.

10.5.3 PHRA V05.00.02C

Reference	Release Note
44533	The PHRAH1B now properly allows communication through HART DTMs (Device Manager Essentials) to devices connected on AnalogOutput02 (HART Channel 12).

10.5.4 ToolboxST V07.03.02C

Reference	Release Note
44462	Corrected a problem where configuration changes to OPC UA client connections on the OPC UA server tab of the WorkstationST component editor were not causing a minor revision change and therefore not allowing the tool to know a WorkstationST download was required.
44512	Correcting a problem where a close without saving of the System Information editor caused a tool failure. This failure was introduced in a performance enhancement for building a controller in a system with a large number of plant areas in the V07.03.01C release.
44514	Corrected an additional performance issue with saving and reading a master symbol table where a system is configured with a large number of plant areas.
44538	The Select FOUNDATION Fieldbus Block Parameters Dialog will now default to "Only assigned block parameters."
44743	An issue was resolved where the Edit Block Pin Connections window was not showing live values for Analog Alarm sub-variables like HH and HH_SP.

Reference	Release Note
44802	EX2100e and LS2100e: Resolved an issue introduced in V07.03.01C where the right pane on the General tab could stop updating.
44825	Undo checkout at the system level no longer incorrectly leaves added component files or deleted component files missing in the working copy.

10.5.5 Virtual Mark VIe V06.02.05C

Reference	Release Note
44457	NEW! The Turbine Block Library STRESS_CALC_V2 and XDAXC00_V2 blocks have been added. See block help for detailed information on each block.

10.5.6 Virtual Mark VIe x64 V06.02.05C

Reference	Release Note
44458	NEW! The Turbine Block Library STRESS_CALC_V2 and XDAXC00_V2 blocks have been added. See block help for detailed information on each block.

10.5.7 WorkstationST V07.03.02C

Reference	Release Note
44771	NEW! Added the ability to select the alarm <i>Value</i> column in the configuration for the alarm printer.
44824	NEW! The WorkstationST Acoustic Monitoring Gateway has been updated to support PAMC V05.06.
44468	FOUNDATION Fieldbus block error sub-code numbers now have text descriptions on the Alarm Viewer.
44484	Corrected an erroneous OPC UA server log message regarding an enumeration in use on a variable with Boolean data type.
44501	Corrected a memory leak when using right click ControlST menus such as <i>Go To Definition in Logic</i> from CimView.
44527	Corrected a small memory leak with the alarm symbol ActiveX control found with detailed memory profiling.
44540	Corrected a memory leak where the Logic Builder XML configuration was being allocated into a string and not freed.
44745	Corrected a condition where alarms and events were missing around the trip time in a Recorder Trip log when the alarm server was running on the same computer as the Recorder.
44831	A memory leak was corrected with the right click <i>Display Variable Attributes</i> action from CimView. The Attributes dialog was not correctly closing its live list.
Additional	44562

10.6 ControlST V07.03.01C SP02 (October 2018)

This is a maintenance release driven by several bug fixes needed at customer sites.

10.6.1 Security

There are no security updates included in this release.

10.6.2 ToolboxST V07.03.03C

Reference	Release Note
44856	Corrected a problem seen when saving a controller during the alarm help publishing which resulted in an error dialog. The correction also improves save/build performance.
44975	Corrected an erroneous dialog which can occur when a WorkstationST component is saved. The error dialog indicated the system should be re-opened after files had been changed.

10.6.3 WorkstationST V07.03.03C

Reference	Release Note
44843	Improved the performance of alarm viewer startup when the Primary or Secondary alarm server GuiDevice.xml files are missing from the EGD configuration server.
44851	Corrected a problem with Windows Domain group privileges user logon. This was introduced in V07.02.00C when the feature that allows switching between alias mode and variable mode was added. Windows Domain group privileges are primarily used in GE Wind applications.
44879	Corrected an alarm symbol utility class memory leak seen in CimStress testing.
44954	Reduced the amount of memory required for the Alarm Viewer's Right Click Display Attributes dialog.
44960	Fixed an issue where a WorkstationST Status Monitor dialog requesting the host name or IP address for a WorkstationST to be monitored could be displayed when ToolboxST, Trender or the Alarm Viewer were started very quickly after a user logged onto windows.
44966	Alarms read using the OPC UA Alarm Client sometimes incorrectly showed the Alarm State as Undefined instead of Normal when the alarm was in a normal state.
44985	Corrected a problem where the OPC UA feature failed to stop after a stop request.
44986	Added some additional logging by the WorkstationST service when a computer shutdown occurs. Additionally, added an optional path to a command which will be run at the beginning of diagnostic creation. This setting is configured on the WorkstationST component editor's General tab.
Additional	44971

10.6.4 Previously Released

The following components, also in Service Pack 2, were previously released since ControlST V07.03.01C.

- Mark VIe V06.05.02C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.7 ControlST V07.03.01C SP03 (December 2018)

This is a maintenance release driven by the latest bug fixes in ToolboxST and WorkstationST.

10.7.1 Security

There are no security updates included in this release.

10.7.2 PCAA V05.00.01C

Reference	Release Note
44591	An issue was fixed where, if CalibEnab# was true for a specified regulator, calibration mode could be entered on a different regulator. Now, Calibration mode is only enabled for the designated regulator where CalibEnab# = True.

10.7.3 ToolboxST V07.03.04C

Reference	Release Note
45019	SDB scale Display High and Display Low limits are now pushed onto their associated format specifications during a external device Get From SDB.
45037	Made an update to handle the size calculation of child points for data types like OctetString in the PROFINET address space .
45042	Fixed an application error that could occur during build or download.
45061	An issue was resolved where selecting a Mark VIe controller window would occasionally crash if there was shared I/O being updated elsewhere in the system.
45088	Control Server Network Shapes in groups now draw connections to their networks.
45130	Corrected a memory leak that occurs when MarkVIe component reports are refreshed. The Global Variables report was the one found, but this would apply to other reports that have refresh.
45254	An issue was resolved where a complex undo operation in the Software tab would cause ToolboxST to terminate.
45285	Corrected a problem where editing plant area configuration could result in a tool crash and also resulted in incorrect results after saving.
45288	Fixed a FOUNDATION Fieldbus issue where going online while DD files were missing caused an application error.
45329	Avoided a schedule related build error that occurs when FOUNDATION Fieldbus H1 device placeholders are replaced.
45340	Replacing an existing controller by deleting it and then adding it back in as a new controller using Insert -> New -> Upload no longer deletes some configuration files.
45346	The EGD protocol editor should not have allowed the selection of non-EGD producer devices such as Mark V devices in the referenced device pick list. These are now filtered from the selection list.
Additional	45283, 45298

10.7.4 WorkstationST V07.03.04C

Reference	Release Note
44967	Improved the experience when opening the Alarm Viewer when it was last configured to connect to the Primary Alarm Server and the Primary Alarm Server is down. Now, rather than having a failed to ping dialog displayed and forcing the user to enter another host name, if the failed to ping is the primary, the connection logic continues and will connect to the secondary.
45021	Corrected a problem where the HMI file utility will crash when trying to get the list of screens from the master workstation if the master workstation WorkstationST service is not reachable. The issue would likely not be noticed by the end customer because the workstation service will automatically restart the HMI file utility and once the master workstation is available it will again function normally.
45056	Corrected an exception that can occur on the new additional command that is issued when log collection is requested and at computer shutdown. This new command feature was introduced in V07.03.03C.
45060	Corrected a problem where ControlST dialogs displayed from CimView were getting parented to a pop-up faceplate rather than to the frame they were opened from.
45269	Added some additional enhancements to lighten the memory required for display variable attributes from the WorkstationST Alarm Viewer.
45281	Corrected an issue where the intrinsic health variable for each embedded OPC DA client connection was removed from the OPC DA server's name space after a WorkstationST download.
45284	Corrected an Alarm Viewer memory leak found in a quick cycle test. The leak was introduced in the V07.03.03C release.
45291	Corrected a CimView crash that can occur when using the Named Alarm Viewer Com2ControlST script feature.
45308	Corrected a problem where the WorkstationST status monitor's feature to view the advance log was failing with an error dialog after a long timeout. The problem occurred when there was only a single log file for a specified feature in the log output folder. If a backup file had been created, the problem was not seen.
45319	Reduced the amount of memory required for the CimView Right Click Display Attributes dialog under conditions when a variable is not on EGD or is not known by the local WorkstationST configuration.

10.7.5 Previously Released

The following components, also in Service Pack 3, were previously released since ControlST V07.03.01C.

- Mark VIe V06.05.02C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.8 ControlST V07.03.01C SP04 (January 2019)

This is a maintenance release driven by bug fixes needed at customer sites and a new ARES block library release.

10.8.1 Security

There are no security updates included in this release.

10.8.2 ARESBlockLib V08.01.00C

Reference	Release Note
45588	NEW! Added new ARES model A6F0306B0818
45589	NEW! Added new ARES model A6F0308B0818
45590	NEW! Added new ARES model A6F0304B0818
45591	NEW! Added new ARES model A7F0301A0216
45592	NEW! Added new ARES model A7F0302A0216
45593	NEW! Added new ARES model A7F0304A1016
45594	NEW! Added new ARES model A7F0305A1016
45595	NEW! Added new ARES model A7F040000118
45596	NEW! Added new ARES model A9F05181117
45597	NEW! Added new ARES model A7HA014C1218

10.8.3 Mark VIe V06.05.03C

Reference	Release Note
45482	A controller may unexpectedly reboot if a dynamic bind fails when the EGD server responds to the request with an error. The issue has been completely resolved.

10.8.4 ToolboxST V07.03.05C

Reference	Release Note
45411	Fixed a download performance issue in FOUNDATION Fieldbus systems. The FF Difference Database was being analyzed too often.
45483	Corrected following issue where bad pcode was being generated. Have an analog variable in a library that is NOT an Analog Alarm. Instance the Library in a Controller and override the property to make it an Analog Alarm. At this point ToolboxST still generates good pcode for the controller. Re-instance and now bad pcode is generated. With this fix then opening the controller in ToolboxST and rebuilding it will get back to good pcode being generated.
45486	Corrected a crash when viewing reports and initially moving the mouse over a grid cell.
45490	Corrected a nuisance crash of ToolboxST that users never saw, but windows error reporting was capturing a crash dump for. The crash was in the HSE API (FOUNDATION Fieldbus High Speed Ethernet) and occurred randomly when online with a FOUNDATION Fieldbus component editor and closing the editor.
45504	Avoiding creation of a dictionary on each controller variable until it is needed. The dictionary is used for the coding practices report and does not need to be created and empty for each controller component editor open.
45507	Fixed an issue where variables that contain period characters (.) would sometimes not load correctly.
45560	Corrected a problem where alarm help file names saved on the master workstation were fully pathed when they should always match the variable name. This was introduced in the V07.03.03C and V07.04.00C releases.
45574	Resolved issue where the Auto-Reconfiguration server could not achieve equality when a controller was replaced.

10.8.5 WorkstationST V07.03.05C

Reference	Release Note
45388	Corrected some very minor Font class leaks in the Alarm summary dialog displayed when clicking on the ActiveX alarm symbol.
45485	Corrected an issue where the WorkstationST service would fail to start if the c:\config\EgdCfgLocalCache\summary.xml file became corrupted. Deleting the file is a work around for the issue.
45487	Added a feature on the OPC DA server's embedded OPC DA client configuration allowing a way to avoid the default 10 retries for group add item calls with errors. If set, failures with add items (typically items not in a server that are in the client configuration), will not result in a retry.
45488	Modified the Recorder's check that determines if a collection is live to a longer time. This allows live lists to start at sites with a large number of wind turbines.
45502	Corrected a thread build up issue when the EGD configuration server was not reachable. The Alarm Symbol ActiveX was delayed in updating while the attempt to fetch the master symbol table was timing out due to the EGD configuration server process not running.
45532	Increasing the OPC DA client timeout for groups containing large item counts. An additional 3 second timeout for each 2000 variables will be added. Additionally when reconnecting and removing the group, the items will now be removed with a single call rather than a call for each variable.

Reference	Release Note
45565	The change for making a single remove call in the V06.02.15C release caused incorrect item handles to be included in the remove call from our OPC DA client to a connected server. The item handles are now communicated correctly in the remove items call.
45587	Corrected a problem where WorkstationST was downloaded with an invalid path for its configuration file setting and as a result the WorkstationST service failed to start. In the instance where this was reported, the Config Path property, on the General tab of the WorkstationST component editor, was set to 'C:site \Config' rather than 'C:\Site\Config'

10.8.6 *Previously Released*

The following components, also in Service Pack 4, were previously released since ControlST V07.03.01C.

- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.9 ControlST V07.03.01C SP05 (March 2019)

This is a maintenance release driven by the UCEC FPGA fix in the EX2100e.

10.9.1 Security

There are no security updates included in this release.

10.9.2 AEPA V05.05.04C

Reference	Release Note
45378	An issue that can cause intermittent failures of the Emergency Braking System Test (EBST) has been fixed.

10.9.3 EX2100e V04.13.02C

Reference	Release Note
45951	An issue had been reported that after performing a UCEC module download that required a reboot of the module, not all HSSL links returned to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.
45954	An issue had been reported that after removing and reinserting a HSSL cable from the UCEC module the HSSL port did not always return to the running state. A power cycle of the module was required to restore operation to a running condition. This patch corrects this issue.

10.9.4 ToolboxST V07.03.06C

Reference	Release Note
45961	NEW! FOUNDATION Fieldbus DD File Addition: Yokogawa ROTAMASS TI R0 Revision 1 - Coriolis Mass Flowmeter
45728	Fixed an issue where the Exclude From Download flag on a FOUNDATION Fieldbus parameter would not always save.
45762	Fixed an issue in the I/O Variable Report where the Direction values were not displayed.
45774	Fixed an issue where the user could not add a variable to a Dynamic Data Recorder. The root cause was that a Modify Design Password was required but the user was not prompted for it.
45800	Fixed a performance issue in Variable Data Grids in Libraries.
45801	Added the Segment Description field to the FOUNDATION Fieldbus H1 Field Device Report.
45806	Fixed the following Alarm Rationalization Import Issue. If trying to change any of the following five properties on an Analog Alarm in a Library, and the Variable Name in the .csv file being imported was in the format LibraryName:UserBlockName:VariableName, then the property values were not updated. The five properties include Display Screen , Plant Area , Alarm Shelving , Alarm Shelving Max Duration and Auto Reset .

Reference	Release Note
45808	Fixed the following Alarm Rationalization Import Issue. If trying to change any of the following five properties on an Analog Alarm in a Library, and the Variable Name in the .csv file being imported was in the format VariableName (not the more complete LibraryName:UserBlockName:VariableName), and the same Variable Name occurred in two different Libraries within the Library Container, then only the property values on the first occurrence of the variable were updated instead of all occurrences of the variable. The five properties include Display Screen, Plant Area, Alarm Shelving, Alarm Shelving Max Duration and Auto Reset .
45812	Fixed an issue in Compare to Controller where StatusAddresses were misidentified as unequal due to undefined variables.
45850	Added the ability to search for the following four properties on a variable: Display Screen, Units, Parent Alarms and Alarm Class .
45858	Changed the Alarm Server property on the General tab of the WorkstationST component editor so that it may be edited when the local alarm server feature is enabled. This allows applications that use it, such as alarm information in the OPC DA server used by CIMPLICITY screens, to be pointed to other servers such as the primary alarm server for a control system.
45871	Resolved an issue in CMS that could cause a "remains in conflict" error when checking in a component.
45872	Fixed an issue where importing an existing external EGD device would corrupt files causing CMS to delete needed files on subsequent check-ins.
45875	Fixed an issue in the DD Importer where some available devices were not displayed.
45879	An issue was resolved where a Protection property that added a GRANT role for modify data would not allow users of that role type to change live values. This prevented using GRANT roles to provide users access to modifying the live values of subsets of variables.
45906	Fixed an issue where the "Reset Segment Defaults" method on a FOUNDATION Fieldbus segment was causing an application error.
45911	Fixed an issue where the cut-and-paste of FFB placeholders in Hardware, to a new segment, broke block Auto-Assignment in the software.
45960	Fixed an issue where some control constants did not update when imported from .csv file.
45980	Fixed an issue where the I/O Equality for FOUNDATION Fieldbus devices would display "Needs Build to Determine Status" when the controller actually was in an equal state after getting it from CMS.
46132	An issue was resolved where the Alias Report import did not set the "override alias" flag on variables, which meant that when variables were re-instanced from libraries the imported Alias values were lost.
Additional	45796, 45902

10.9.5 WorkstationST V07.03.06C

Reference	Release Note
45791	Adding a delay for our OPC DA server's embedded OPC DA client, between removal and add back for an OPC DA group. This change is needed because the removal is an asynchronous operation.
45851	Corrected a problem where if the windows temporary folder was filled with 64k files named tmp?????.tmp (where ???? is a hex number), the WorkstationST service would fail to start.
45868	Corrected a nuisance log for not found status variables for Control Server virtual machines that are not WorkstationST type virtual machines.
45873	Removed the auto column resize on the historical alarm view which was occurring with each scroll. This auto resize resulted in very poor performance.

Reference	Release Note
45880	An issue was resolved where the Logic Builder control for HMI screens would not accept a custom added input pin that began with the text "IN". This prevented some faceplates from extending equations to include inputs like INC_INH in the displayed combinational logic.
45883	An issue was resolved where logging up into a VPSA service account did not change the logged username recorded in both ToolboxST and controller Command and Event logs. Now, the logged username includes the SSO used to log into VPSA.
45895	Fixed issue where Exciter Diagnostics were showing "Cannot retrieve alarm description" for the description on the Alarm Viewer. When this occurred there was also the issue where the diagnostic remained on the Alarm Viewer even after the diagnostic had changed to NORMAL state and was Acknowledged and Reset. This second issue is also fixed.
46043	The WorkstationST Alarm Viewer now allows the user to filter on custom Alarm States from an external OPC AE Alarm Server.
46135	Corrected a problem where adding plant areas in the system information editor, using those plant areas on controller alarms and assigning the plant area to an alarm symbol in CimView, resulted in the alarm symbol always showing no alarms were present, but clicking on the alarm symbol resulted in the correct alarms shown in the displayed alarm dialog. Restarting the OPC DA server after the plant area change was made worked around the issue.
46148	Corrected a handle leak found with long running CimStress testing in the Alarm Viewer ActiveX control.

10.9.6 *Previously Released*

The following components, also in Service Pack 5, were previously released since ControlST V07.03.01C.

- ARESBlockLib V08.01.00C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.10 ControlST V07.03.01C SP06 (March 2019)

This is a maintenance release driven by a Control System Health process failure which was introduced in the WorkstationST V07.03.06C release. This affects Control Server applications that use a High Availability configuration.

10.10.1 Security

There are no security updates included in this release.

10.10.2 WorkstationST V07.03.07C

Reference	Release Note
46158	Correcting a Control System Health process failure which occurred in the V07.03.06C release when a configuration contained a virtual machine owned by a high availability virtualization server set, not owned by a child virtualization server host.

10.10.3 Previously Released

The following components, also in Service Pack 6, were previously released since ControlST V07.03.01C.

- AEPA V05.05.04C
- ARESBlockLib V08.01.00C
- EX2100e V04.13.02C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- ToolboxST V07.03.06C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.11 ControlST V07.03.01C SP07 (May 2019)

This is a maintenance release driven by several bug fixes needed at customer sites.

10.11.1 Security

There are no security updates included in this release.

10.11.2 ToolboxST V07.03.08C

Reference	Release Note
45741	Added new "Compress FOUNDATION Fieldbus Schedule" menu item below the FOUNDATION Fieldbus reports items. Routine FOUNDATION Fieldbus commissioning changes will no longer automatically compress the schedule to avoid build errors. Rather, compressing is now a manual operation.
46172	Fixed an error that could prevent a user from adding a new PFFA module.
46379	Corrected a problem where the list of available certificates shown on the Certificates / Users association was not including all the trusted certificates.
46390	Fixed a crash in the Variable Value Editor.
46447	An issue was resolved where the Mark VIe controller failed to boot after downloading a configuration where a FOUNDATION Fieldbus block input was connected to an undriven variable. This now generates a build error.
46451	An issue was resolved where applying a Modify Data protection role applied to a controller would lock down maintenance functions needed by customers. This primarily applies to Wind customers where service accounts are used to gain access to maintenance functions. Going forward, there is a Protection property on DDR objects and a new "Maintain Component" access right on the Protection property at the Controller level. If "Maintain Component" is not used, ToolboxST behaves identically to prior versions. When "Maintain Component" is set, the associated Roles can Save, Build, Download, change IP addresses, and change I/O pack barcodes and hardware forms.
Additional	46467

10.11.3 WorkstationST V07.03.08C

Reference	Release Note
46333	Fixed a bug that could lead to stranded diagnostic alarms generated by the Network Monitor and Control System Health features. The bug fix also addresses the potential for stranded Mark VIe and I/O Pack diagnostic alarms in the Alarm Server.
46340	Upgraded the Unified Automation OPC UA SDK to correct a problem seen with Predix clients performing read and write operations and causing large numbers of threads to be created.
46352	Correcting some crashes of the OPC DA server seen on misconfigured systems that were reported from end users as the OPC DA server using a lot of CPU resource. The logs showed two different crashes, resulting in the OPC DA process stopping and starting in a cycle.
46393	Corrected a failure of the Control System Health and Network Monitor WorkstationST features when thin client devices are configured in a system but have missing network information. This may be caused by saving them with an older version of ToolboxST.

Reference	Release Note
46442	Corrected a CimView hang where the alarm viewer was processing a master symbol table update while a windows user preference change event was also being processed. This was seen 3 or 4 times at one customer site and has not been reported at other sites.
46475	Corrected a failure of the Device Manager Gateway WorkstationST feature occurring at process startup. The issue is a timing issue with the FOUNDATION Fieldbus connections to controllers.

10.11.4 Previously Released

The following components, also in Service Pack 7, were previously released since ControlST V07.03.01C.

- AEPA V05.05.04C
- ARESBlockLib V08.01.00C
- EX2100e V04.13.02C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.12 ControlST V07.03.01C SP08 (May 2019)

This is a maintenance release driven by the UCEC false diagnostic bug fix in the Exciter.

10.12.1 Security

There are no security updates included in this release.

10.12.2 EX2100e V04.13.03C

Reference	Release Note
46502	A bug has been identified in Static excitation systems utilizing the IS420UCECH1B module. The backup master or controller channel may report a false controller diagnostic. The false diagnostic will only be reported by one of the three modules. The false diagnostic can be cleared by selecting the Reset Diagnostics button in the Controller Diagnostics dialog box. This bug has been identified in ControlST V07.03 and ControlST V07.04.

10.12.3 ToolboxST V07.03.09C

Reference	Release Note
46481	Fixed an issue in the FOUNDATION Fieldbus Block Configuration Report where some block reports in the F809 Plus could fail due a failure to read a limited number of parameters. The report will now complete and show all the parameters values that could be read and note those that could not. The timeout for reading a block has been reduced from 17 minutes to 90 seconds.
46553	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
46721	Corrected a problem where a controller build, of an equal controller, caused a document only change resulting in the alarm server reconnecting to the controller. Exporting and importing diagnostics or editing the DateTimeLastChanged in the system's DiagnosticTranslations.xml file to a non zero value works around the issue.
46746	Fixed an application error that could occur in the Trender during a calibration procedure.
46747	Corrected a failure when the OPC DA client attempts to browse to a variable name that is longer than approximately 130 characters in length.

10.12.4 WorkstationST V07.03.09C

Reference	Release Note
46553	Enhanced the Trender with an option to select the number of hours it will continue to create live data and maintain the disk cache for the live values. After the configured maximum hours, the live data begins to be truncated. The default setting is to maintain 72 hours of live data prior to truncating.
46737	Corrected an ActiveX Alarm Viewer crash that occurred under abnormal conditions in a lab environment.
46746	Fixed an application error that could occur in the Trender during a calibration procedure.

10.12.5 Previously Released

The following components, also in Service Pack 8, were previously released since ControlST V07.03.01C.

- AEPA V05.05.04C
- ARESBlockLib V08.01.00C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C

10.13 ControlST V07.03.01C SP09 (July 2019)

This is a maintenance release driven by new FOUNDATION Fieldbus CIT Software and the YSIL Firmware Overspeed Trip issue.

10.13.1 Security

There are no security updates included in this release.

10.13.2 ToolboxST V07.03.10C

Reference	Release Note
47348	Fixed certain build errors that could occur after a FOUNDATION Fieldbus H1 device replacement. The build errors required a "Compress FOUNDATION Fieldbus Schedule" to overcome. Upgraded the Softing CIT software libraries to version 5.43.
Additional	46854, 47016, 47245

10.13.3 YSIL V05.06.01C

Reference	Release Note
46528	An issue was fixed where under certain operating conditions, the YSIL could miscalculate speed and trip on a firmware overspeed when a real overspeed condition didn't exist. This issue could also cause nuisance dual speed sensor mismatch diagnostic alarms.

10.13.4 Previously Released

The following components, also in Service Pack 9, were previously released since ControlST V07.03.01C.

- AEPA V05.05.04C
- ARESBlockLib V08.01.00C
- EX2100e V04.13.03C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C
- WorkstationST V07.03.09C

10.14 ControlST V07.03.01C SP10 (February 2020)

This is a maintenance release driven by bug fixes needed at customer sites.

10.14.1 LS2100e V04.13.03C

Reference	Release Note
48100	The Source PLL Zero Crossing second layer of protection has been defaulted to "Disable".
48979	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.

10.14.2 PPRF V05.00.03C

Reference	Release Note
41512	An issue was fixed where stale values were persisting when inputs were unhealthy. Now unhealthy input variables are set to zero. The issue was fixed in PPRFH1B.
41679	An issue was fixed for Simplex PPRF configurations in systems with redundant controllers and dual IONet connections, where inputs could be stale and not marked unhealthy if one controller was powered down and an IONet network cable break occurred. The issue was fixed in PPRFH1B.

10.14.3 ToolboxST V07.03.11C

Reference	Release Note
48691	A search could erroneously report an EgdUnboundVariable if one device was consuming EGD variables from another device, and both devices had EGD pages with the same name.
Additional	47476, 47492, 47493

10.14.4 WorkstationST V07.03.11C

Reference	Release Note
49085	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.
49091	Corrected a problem where OPC UA client reads for variables not in any other subscription, were returning stale values for non-EGD variables.

10.14.5 Previously Released

The following components, also in Service Pack 10, were previously released since ControlST V07.03.01C.

- AEPA V05.05.04C
- ARESBlockLib V08.01.00C
- EX2100e V04.13.03C
- Mark VIe V06.05.03C
- PCAA V05.00.01C
- PHRA V05.00.02C
- Virtual Mark VIe V06.02.05C
- Virtual Mark VIe x64 V06.02.05C
- YSIL V05.06.01C

11 V07.02 Release Notes

11.1 V07.02 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST*

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer reboot. To avoid these issues, keep video drivers up to date. Other workarounds; refer to the document included on the ControlST installation DVD.
- There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller’s device state must be either “Inputs Enabled” or “Controlling”. It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log. Recommendation is to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported under Windows 10 except on platforms proven to be immune to intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.00.00C using Windows 10. The USB to Serial Converter, Tripp Lite (model number USA-19HS), has been tested and qualified for Modbus. Creation of an official GE part number is in progress.
- Windows 10 does not currently permit teaming of Intel network interface cards. This is not an issue in ControlST, but affects users of ControlST under Windows 10. The Intel driver support web site has this information posted for their latest driver (Ver 21.1, 10/11/2016):

11.2 V07.02 Suite Components

See Component Registry: [ControlST Component Registry](#)

11.3 V07.02.00C (February 2018)

11.3.1 V07.02.00C Highlights

UCSCS2A Platform Support

Application: UCSC Safety Systems

Description: The following products have expanded their capability to support the UCSCS2A controller.

- Mark VleS
- Virtual Mark VleS

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 42741, 42707

UCSCS2A Improvements

Application: UCSC Safety Systems

Description: Much-anticipated improvements to the UCSC platform.

- Ethernet Modbus Slave (Read-Only)
- 10 ms frame period

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 42742, 42743

Safety Packs Certified for 10 ms Period Usage

Application: Safety Systems

Description: YSIL and all S1b safety packs are certified for 10 ms use in ControlST V07.02.00C. The minimum product version for this certification:

- YSIL V05.03.01C
- YAIC V05.01.00C (S1B)
- YDIA V05.01.00C (S1B)
- YDOA V05.00.00C (S1B)
- YVIB V05.01.03C (S1B)

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[Mark VleS Safety Control Functional Safety Manual \(GEH-6723\)](#)

Work Items: NA

GE ControlST Supplement Package

Application: Safety Systems

Description: A new installation package, created to support older hardware platforms, has been added to the ControlST install. The package includes the following products:

- Mark VIeS V05.03.03
- YAIC V04.06.03C
- YDIA V04.06.03C
- YDOA V04.11.03C
- YVIB V04.06.03C

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: NA

UCSCH1B Platform Support

Application: Exciters and Static Starters

Description: The following products have expanded their capability to support the UCSCH1B controller.

- EX2100e_Reg
- LS2100e

References:

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

Work Items: 42705, 42706

Control System Health Enhancement

Application: Control Server

Description: New feature in ToolboxST and WorkstationsST to configure Control System Health to monitor Servers and Thin Client terminals in a system using a Control Server.

References:

[WorkstationST Control System Health Instruction Guide \(GEI-100834\)](#)

Work Items: 42729, 42744

ARES Block Library Upgrades

Application: ARESBlockLib

Description:

Upgrades include:

- Added A7HA021A0617

References:

CHM file only

Work Items: 40752

11.3.2 V07.02.00C Changes

11.3.2.1 ToolboxST V07.02.00C Changes

Reference	Release Note
42744	NEW! Virtualization components have been added to enable Control System Health to monitor Control Servers and Thin Client terminals.
42764	Fixed an issue where "Import Existing Device" copies the FFProjectDatabase folder with the device. It is now deleted like the Output folder.
42709	An issue was resolved with FOUNDATION Fieldbus block assignments and attribute substitution. After the initial creation of the block, the default Assignment of {Device}{BlockSuffix} was correctly substituted with attribute values. Subsequently changing the attribute values and re-instancing the block was not updating the Assignment.
19528	Numerous problems with the History viewer and the Software tree have been fixed. It should now be possible to navigate forward and backward in history correctly in blockware.
22013	Fixed an issue that was preventing FOUNDATION Fieldbus arrays from being downloaded.
39381	Fixed an edge case issue when toggling the controller's UDH connection with Live View open.
39830	ToolboxST now watches all .xml files for modification by external programs
39973	Fixed a problem where library block pins configured with a recorder or historian deadband and connected to a global variable with a deadband of "Not Logged", was resulting in a build warning.
40210	Fixed an issue where HART IDs were not uploaded correctly for Analog inputs 6-10 in the YHRA.
40383	Corrected a failure that occurred if you attempted to modify a variable value to a value outside of the data type's range. The failure occurred when attempting to modify from places like the GSM tab or Modbus tab in the WorkstationST component editor.
40517	Added a WorkstationST build error for variables configured without a live data source enabled. The OPC DA or OPC UA feature must be enabled for WorkstationST variables to exist.
40584	Corrected a problem where the view disagreements dialog for a Dual or TMR MarkVIe controller, would hide behind other windows as the user made radio button selections and also upon initial dialog opening.
40680	Enhanced the Finder to include header text matching the component being searched and narrowed the search for a name to exclude block/task/program when searching a variable.
40794	Fixed an intermittent issue when adding an existing EX2100e.
41460	Fixed an issue where modifying the ENET ports of a PUAA would not flag an offline download of the pack.
41494	In Mark VIe controllers that contain both Foundation Fieldbus devices and optional block libraries like ARES, an unhelpful error message was being displayed if the block library was not installed, typically "Unable to add 'ProgramName' because name is already used." The error message has been corrected to indicate that the referenced library is not installed.
41669, 41945	Corrected a ToolboxST crash that occurs when a configuration is opened and any one of the EGD configuration files within the system file structure is corrupted. The files are read to build an EGD Configuration Server to local configuration difference summary. The corrupted files will now be logged as corrupt in the debug trace and will show up as not present in the local configuration. These files are created upon save, which will remove the corruption.

Reference	Release Note
41697	Corrected a problem with diagnostic translations not being included for first or second languages that contained spaces in their name. For example if the language "French (French)" were used, the controller GE Symbol Tables would not contain the diagnostic translations that had been entered in the system information editor.
42107	Provided a way to import and export initial values of variable with large array lengths.
42155	Fixed an issue that navigated the user to the All Points tab from Where Used
42294	When instancing Programs from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of program variables even in linked tasks. Re-instancing the program would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instancing behavior has been changed to always restore the Library version of the Program Variable connection, and modification of Connection has been disallowed in linked programs going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the program.
42406	In the RLD editor for the RUNG block, rows and columns are added and removed by dragging splitters between the cells in the header region of that row or column. A regression introduced in ToolboxST V5.1 keeps the splitter cursor from appearing; this issue has been corrected.
42415	Fixed an issue where a device compare wouldn't pick up changes to a Mark VI Rack IO configuration.
42452	An issue was fixed where the Add Special Task menu for adding a Cause and Effect task to a Mark VIeS Library Container was missing.
42462	An issue was resolved where selecting multiple I/O packs in the Hardware tab would generate a User Exception report if one of the packs has Diagrams.
42463	An issue was resolved where selecting or re-ordering programs might cause ToolboxST to terminate unexpectedly.
42469	An issue was resolved where right clicking a Diagram in a power conversion device would sometimes cause ToolboxST to terminate unexpectedly.
42470	Corrected a very infrequent failure that occurred when starting ToolboxST
42485	An issue was resolved where ToolboxST could unexpectedly terminate when drawing the system one-line diagram and a Workstation device was missing or not included in an archive.
42496	Alarm Rationalization: Fixed issue where the value for the Display Screen for an Analog Alarm was not in the GE Alarm Rationalization Report but it should have been.
42578	An issue was resolved where cancelling a password prompt while opening a Mark VIeS caused ToolboxST to terminate unexpectedly.
42654	Improved the performance of building a WorkstationST with a lot of consumed devices that have many aliases configured.
41405	The TreeFile Importer tool was generating errors when the name of a Mark VI macro library contained a dot. This issue has been corrected, along with a minor performance issue.
40750	Corrected an issue where unhealthy trace values were painted as solid lines until the trend scrolled.
41273	The Trender OPC UA connection wizard Endpoint URL text box was appending additional security profile settings with each use.
41677	Corrected a problem where the ControlST ToolboxST Trender can believe it is the HMI Trender version and refuse to open System Component type trend files.

Reference	Release Note
42461	Corrected a jumping trace when trending an OPC UA source that is not time synchronized.
Additional	42713, 17775, 31416, 38954, 39089, 39380, 39492, 39829, 40068, 40293, 40299, 40365, 40782, 40784, 40806, 40818, 40826, 40965, 41245, 41299, 41386, 41437, 41450, 41471, 41488, 41495, 41856, 41926, 42058, 42477, 39988

11.3.2.2 WorkstationST V07.02.00C Changes

Reference	Release Note
39779	NEW! Enhanced Alias support to allow switching between alias mode and variable mode from a right click in CimView and from a right click on the WorkstationST status monitor tray icon. The behavior of the POINT_ID child property variable was changed to have a value of the alias when Alias mode is enabled as well as having its normal variable name value when not in alias mode. A new child property variable AliasConfigured was added. A new Variable_ID child property variable was added which behaves similar to POINT_ID, except that if alias prefix mode is not enabled for the variable's owning device, then the value of the variable will not be device prefixed. The trender was corrected so the alias is now displayed along with the variable name. An intrinsic OPC DA variable was added, 'UseVariableAliases'.
41168	NEW! Added an option to the Alarm Viewer Live View options settings to allow a specified number of seconds for the live view to scroll back to the top of the view. The default setting is 0, meaning this feature is disabled. If non-zero and the user has changed the selection to other than the top, the view will return to the top after the specified number of seconds.
42729	NEW! The Control System Health feature of WorkstationST has been extended to monitor the Servers and Thin Client terminals that comprise the Control Server platform.
39265	Corrected an indexing issue in the alarm server that is used when processing alarm comments.
39945	Corrected an issue seen when a user logs out of the ControlST privilege system, the modify privileges were incorrectly set to allow modifications.
40630	Corrected a problem where intrinsic WorkstationST status variables were not being correctly produced when the OPC UA feature was enabled.
40755	Corrected a problem where a bad variable name value in an alarm filter caused a crash when launching the WorkstationST Alarm Viewer.
40963	Corrected a problem where the live alarm messages tab of the alarm viewer did not honor the Show Status bar and Show Toolbar option settings.
41177	Corrected an issue where the WorkstationST service can fail if the path to the local repository of EGD cache files is not valid.
41451	GSM Fixed issue where a Process Control Command Request to a boolean owned by a controller that is currently offline incorrectly reported a success.
41519	Added a menu item to allow collection of all workstation logs for each WorkstationST in the system. Additionally provided a command line way to call this command.
41542	Corrected a problem to reduce memory consumption by the WorkstationST service when alarm reports are requested such as the chattering alarm report.
41689	Corrected excessive logging and diagnostic alarm creation when the alarm printer encounters write errors.

Reference	Release Note
41691	Corrected a WorkstationST status monitor crash that can occur when the user cancels the update of the System Workstation Consumed Device Information report.
41696	Corrected a crash of the alarm server when the local EGD configuration cache has files of zero size or truncated files.
42108	Enhanced the error message seen when the alarm viewer is trying to talk to the Master Workstation, but has the wrong cached address.
42219	By-Proxy consumed MarkV controllers undergo a configuration re-sync when the proxy connection changes between the primary and secondary.
40750	Corrected an issue where unhealthy trace values were painted as solid lines until the trend scrolled.
41273	The Trender OPC UA connection wizard Endpoint URL text box was appending additional security profile settings with each use.
41677	Corrected a problem where the ControlST ToolboxST Trender can believe it is the HMI Trender version and refuse to open System Component type trend files.
42461	Corrected a jumping trace when trending an OPC UA source that is not time synchronized.
42676	Corrected a problem where help from the Alarm or Event report from the WorkstationST component editor was not correctly displaying the correct section from the help file.
Additional	41490, 41493, 41500, 41873, 42345, 39988

11.3.2.3 CMS Server V07.02.00C Changes

Reference	Release Note
36371	The CMS restore feature now provides feedback that the operation has completed.
Additional	39270

11.3.2.4 Mark VIe V06.04.00C Changes

Reference	Release Note
23185	Foundation Fieldbus PFFA LINK_OK, L3DIAG and ATTN status now update.
40181	Motor Operated Valve Transit operation with Foundation Fieldbus I/O systems has been modified with the addition of DCS blocks M_O_V_V4 and M_O_V_JOG_V3 to add a pin for adjustable Failure To Transfer Delay Time.
40531	In systems with Foundation Fieldbus, when communication is interrupted between the (non-designated) controller and the switch connecting it to the (designated) controller all H1 device inputs may go unhealthy. The heartbeat mechanism used to detect the failure and cause the primary linking device to swap has been updated. The issue has been completely resolved.
40881	DCS blocks M_O_V_V4 and M_O_V_JOG_V3 have updated block help and block pictures.
41644	In systems with Foundation Fieldbus with a macro cycle of 320ms it is possible to get a status 68 or a fault on inputs when the primary linking device switches. This issue has been resolved by increasing the number of macro cycles before declaring a status 68 from 3 macro cycles to 4. In addition, the time to declare a fault has been increased from 4 macro cycles to 5. These changes are for macro cycles of 320ms only. It is still possible to get a status 68, although much less likely, but not a fault.

Reference	Release Note
41852	An issue causing wind farm management communications not to function in unicast mode has been resolved. The issue was introduced in Mark VIe V06.03.02C.
42451	The over-temperature warning diagnostic alarm and OT LED on UCSC now work properly.

11.3.2.5 Mark VIeS V05.03.03C Changes

Reference	Release Note
42620	ToolboxST View->Diagnostics->Controller Advanced Diagnostics is available.

11.3.2.6 Mark VIeS V06.00.00C Changes

Reference	Release Note
42741	NEW! The Mark VIeS now supports the UCSCS2A hardware platform.
42742	NEW! The Mark VIeS now supports Ethernet Modbus Slave (Read-Only).
42743	NEW! The Mark VIeS now supports 10 ms frame period.
30494	Alarm Horn intrinsic now sets correctly in TMR systems.
30556	The SIL Block Library COUNTER help has been updated to properly indicate it is a member of the Timers and Counters block category.
37017	The diagnostic alarm 544, Communications error with Certificate Authority Server, was activating occasionally even in situations where the device is properly communicating with the certificate authority. The issue has been completely resolved.
41182	The SDI command for deleting files on the device has been removed. The SDI command to read a file from the device is now only supported for a reduced set of directories.
41487	ToolboxST View->Diagnostics->Controller Advanced Diagnostics is available.
Additional	31671, 37092, 41184, 42127, 42348, 41183

11.3.2.7 Virtual Mark VIe V06.02.03C Bug Fixes

Reference	Release Note
40704	Fixed a bug where the number of variables in SYL file exceeded the size of pre-allocated buffer, which caused the Virtual Controller to crash.

11.3.2.8 Virtual Mark VIe x64 V06.02.03C Bug Fixes

Reference	Release Note
40704	Fixed a bug where the number of variables in SYL file exceeded the size of pre-allocated buffer, which caused the Virtual Controller to crash.

11.3.2.9 Virtual Mark VIeS V06.02.01C Bug Fixes

Reference	Release Note
42707	NEW! Added hardware platform support for UCSCS2A controller
Additional	41472

11.3.2.10 EX2100e_Reg V04.12.00C Changes

Reference	Release Note
42705	NEW! Added hardware platform support for UCSC controller

11.3.2.11 LS2100e V04.12.00C Changes

Reference	Release Note
42706	NEW! Added hardware platform support for UCSC controller

11.3.2.12 AEPA V05.05.00C Changes

Reference	Release Note
40802	NEW! The AEPA now displays the converter hardware and charger version information in the low level monitor.
41316	An RMS current feedback analog input was added.
42042	The AEPA dll has been fixed so that system upgrade wizard does not say a hardware update is required.

11.3.2.13 ARESBlockLib V07.03.00C Changes

Reference	Release Note
40752	NEW! New ARES Model A7HA021A0617

11.3.2.14 PPRF V05.00.02C Changes

Reference	Release Note
39308	An issue was fixed in PPRFH1B where a PPRF with dual networks could potentially cause outputs to chatter during the download to the controller from the Dual Download wizard. Now, when PPRFH1B is downloaded from the dual download wizard, the outputs will go offline until the download is complete.
Additional	40790

11.3.2.15 PPRO V05.05.00C Changes

Reference	Release Note
41319	The PPROS1B now supports Rate-based overspeed as part of the firmware overspeed function. Refer to the "Rate-based Overspeed Trip (RBOS)" section in the PPRO help for more information.

11.3.2.16 PUAA V05.05.00C Changes

Reference	Release Note
41271	NEW! PUAA now supports being configured with Shared I/O.
38279	An issue was fixed where the PUAA would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
Additional	36319, 37221

11.3.2.17 PVIB V05.01.04C Changes

Reference	Release Note
41231	The PVIB now supports TVBAH#B and TVBAS#B terminal boards.
41264	The lower limit of the Filtrpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

11.3.2.18 WEPA V05.05.01C Changes

Reference	Release Note
40075	NEW! In order to avoid excessive current in the battery, a dynamic breaking resistor and supporting hardware were added to the pitch system design for the 30 and 45 Nm systems. A digital output from the WEPA was also added so that a substantial load could be used to test the integrity of the circuit and to calculate the life remaining of the batteries.
40171	NEW! The WEPA now displays the converter hardware and charger version information in the low level monitor.
40785	NEW! WEPA now supports a new K24 auxiliary input and monitors that input to check the relay.
40786	NEW! A new pitch fault interface has been added.
40941	The WEPA firmware has been updated to add conditions to differentiate tach loss fault from open armature circuit fault.
Additional	41284, 41452, 41453

11.3.2.19 YVIB V05.01.03C Changes

Reference	Release Note
41232	The YVIB now supports the TVBAS#B terminal board.
41265	The lower limit of the Filtrpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

11.4 ControlST V07.02.00C SP01 (March 2018)

This is a maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1.

11.4.1 ToolboxST V07.02.01C

Reference	Release Note
42823	Corrected a problem in EX2100 and LS2100 device types, where they could no longer be selected as Consumed on the General tab of the WorkstationST component editor.
42855	Corrected incorrect build warning for EGD consumed variables being flagged as configured as an analog alarm, which is not supported in this product. The warning was introduced by a change to ensure analog alarm information was present in the global variable view for EGD consumed variables.
42903	When instancing Tasks from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of Task variables even in linked tasks, if the parent program was inline or unlinked. Re-instancing the task would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instancing behavior has been changed to always restore the Library version of the Task Variable connection, and modification of Connection has been disallowed in linked tasks going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the task.
42915	Added Thin Client Device configuration validation to avoid Control System Health service crashes if DHCP is enabled but the MAC Address has not been provided.

11.4.2 WorkstationST V07.02.01C

Reference	Release Note
40963	Corrected a problem where the live alarm messages tab of the alarm viewer did not honor the Show Status bar and Show Toolbar option settings.
42777	Corrected an Alarm Symbol update during dispose that was causing a CimView crash during a screen cycle test in Longmont.
42828	Corrected a problem where the configured OPC DA client user name and password were not being used by the embedded OPC DA client in the WorkstationST OPC DA server.
42907	Corrected an error dialog seen when closing the parent child live alarm window accessed from a parent or child alarm in the variable column of the live alarm viewer. The error dialog was only seen in the ActiveX version of the alarm viewer.
42935	Corrected the install build to mark the Trender executable as large address aware for the WorkstationST install.

11.4.3 AEPA V05.05.01C

Reference	Release Note
42124	An issue was fixed to eliminate nuisance commbar faults.

11.5 ControlST V07.02.00C SP02 (April 2018)

This is a maintenance release driven by V300 updates to the Mark VIe product for Wind, and the support of the SNMP V3 protocol by Control System Health.

11.5.1 ToolboxST V07.02.02C

Reference	Release Note
43437	Fixed an issue in FOUNDATION Fieldbus Block Instantiation where the index increment between blocks was incorrect for some H1 devices.
43362	Fixed an issue where ToolboxST could crash if it was displaying the GSM Translation Table, and the user selects to go online to the EGD Configuration Server, but then actually has to revert back to working offline because the EGD Configuration Server is not actually running.
43389	Corrected a problem when a component's IP address configuration is changed, the system overview tree node tool-tip was not updating.
43101	Fixed an issue where global variables were colliding with each other in a MarkVIe Device with wind farm management enabled.
42940	Fixed an issue where user notes in Trender were not showing up when opening a trend file.
43343	No longer generate a build error if a Controller Based IO Pack (e.g. PMVE) contains a dash in the name.
43065	Fixed an issue that could cause the controller to fail to start up if all the Modbus variables were not in the reduced symbol table.
43452	Improved the performance of building a WorkstationST component with Recorder enabled, and a large number of consumed devices.
42946	Corrected issue where SOEs for Mark VI Migration (PCMI) and CE3000 (PCEG) would show duplicates in the Trender if the device was opened but not built.
Additional	42786

11.5.2 WorkstationST V07.02.02C

Reference	Release Note
43478	NEW! As a security enhancement, ControlST and the network switches have been expanded to use the SNMP V3 protocol, which introduces strong authentication and data encryption to securely read data from the network switches.
42940	Fixed an issue where user notes in Trender were not showing up when opening a trend file.
43226	Downloading a WorkstationST configuration that had an HMI configuration change that required CIMPLICITY to need a restart, was restarting the CIMPLICITY Advanced Viewer project and resulting in unhealthy data on open screens. Now changes that require a CIMPLICITY restart result in an additional dialog during the download wizard's scan to inform the user that they will need to restart CIMPLICITY using the CIMPLICITY options application.
43345	Fixed the issue that prevented the Control System Health feature from being able to monitor DHCP enabled Thin Client terminals.
43394	Corrected a problem with the WorkstationST Alarm Server's Fault code scanner where it would not retry to connect its live list if the initial connection failed.
Additional	42786

11.5.3 Mark VIe V06.04.02C

Reference	Release Note
41616	An issue causing wind farm management communications not to function in multicast mode has been resolved.
43390	The Standard Block Library ARRAY_COMPRESS and ARRAY_COMPRESS_UDI blocks now properly handle the condition where variables connected the INxx pins are scalars.
43447	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

11.5.4 Mark VIeS V06.00.01C

Reference	Release Note
43448	Given a system where the controller is configured to consume EGD from another device. If the page has at least one Boolean array defined then the controller may fail to load the configuration. The Mark VIe family does not support arrays on EGD, but allows consumption of pages with arrays as long as the array variables themselves are not connected to. This issue has been completely resolved.

11.5.5 AEPA V05.05.02C

Reference	Release Note
43344	An issue was addressed where the AEPA intermittently loses communications at the end of a pitch battery test.

11.6 ControlST V07.02.00C SP03 (May 2018)

This is a maintenance release driven by a new ARES Block Library (ARES Models A6F0102A1017, A9HA021A0917) release, FOUNDATION Fieldbus bug fixes, and new FOUNDATION Fieldbus qualified devices.

11.6.1 ToolboxST V07.02.03C

Reference	Release Note
43556	NEW! FOUNDATION Fieldbus DD File Update: Drehmo i-matic Revision 02
43557	NEW! FOUNDATION Fieldbus DD File Update: Flowserve Limitorque QX,MX Revision 06
43558	NEW! FOUNDATION Fieldbus DD File Update: Foxboro IGP10S Revision 50 FOUNDATION Fieldbus DD File Update: Foxboro IAP10S Revision 50 FOUNDATION Fieldbus DD File Update: Foxboro IDP10S Revision 50 FOUNDATION Fieldbus DD File Update: Foxboro IGP20S Revision 50
43559	NEW! FOUNDATION Fieldbus DD File Update: Rosemount 3051SMV Revision 01
43479	An issue was resolved where some FOUNDATION Fieldbus H1 device types (particularly Endress Hauser devices) could not be configured using the parameter data grid or templates because some parameters were always marked as read only. The read/readwrite status is often driven by the MODE_BLK.TARGET parameter, only allowing changes while out of service. Changes to parameters of type Bitstring, including the TARGET parameter, were not causing conditional parameters to be updated.
43509	Changed the FOUNDATION Fieldbus Template Import to allow the READBACK_SELECT parameter.
43516	Changed the FOUNDATION Fieldbus Configuration Report so that it now no longer includes unassigned/unused function blocks.
43569	Corrected a problem seen when going online with a watch window. The issue was introduced in V07.02.02C.

11.6.2 WorkstationST V07.02.03C

Reference	Release Note
43508	Corrected a WorkstationST Alarm Viewer ActiveX crash that occurs when setting the view file path through a script and cycling the screens such that the timing of the screen moving out of screen cache was prior to the view file's final asynchronous setup.
43520	Corrected an excessive log of "Processing parent/child names. Variable name <variable name> state is undefined" in the AlarmSymbol\TraceLog.txt and Com2ControlST.txt files.
Additional	43528, 43550, 43555

11.6.3 ARESBlockLib V07.03.01C

Reference	Release Note
43530	NEW! New ARES Model A6F0102A1017
43531	NEW! New ARES Model A9HA021A0917

11.6.4 WEPA V05.05.02C

Reference	Release Note
43087	Battery DB circuit logic changed so that reset clears the not working fault.
43100	Battery DB lifetime calculation was changed to accommodate a difference with charger 6.

11.6.5 Previously Released

The following components, also in Service Pack 3, were previously released since ControlST V07.02.00C.

- Mark VIe V06.04.02C
- Mark VIeS V06.00.01C
- AEPA V05.05.02C

11.7 ControlST V07.02.00C SP04 (June 2018)

Special release for any site running WorkstationST V07.02.00C - V07.02.03C that uses the alarm sound feature with Mark V and/or Mark VI controllers. In addition, the release of new ARES Block Library (ARES Models Equation Based Reconciliation Block V001, A9HA014C1217).

11.7.1 WorkstationST V07.02.04C

Reference	Release Note
43617	Alarm sounds for MarkVI and MarkV were broken in the V07.01.08C and all V07.02 releases prior to this release. Alarm sounds will now again be played. Alarm acknowledgment will silence the sound.
43619	Corrected a problem where the periodic check for the master symbol table could potentially stop after a workstation download. The defect was introduced in the V07.01.00C release. Restarting the WorkstationST service after a download will work around the issue.
43620	Corrected a CimView crash found with rapid automation where the logic builder dialog can crash if closed quickly after opening.
43621	Corrected a small memory leak in the ControlST alarm symbol ActiveX control.
43840	Opening a Logic Builder control on an HMI screen and then opening other Logic Builder windows causes a small memory growth over time. If left long enough, the memory growth can accumulate to the point of causing out of memory conditions.
Additional	43618

11.7.2 ARESBlockLib V08.00.00C

Reference	Release Note
43848	NEW! Added new ARES model A9HA014C1217
43849	NEW! Added Equation Based Reconciliation block V001 for CUSP

11.7.3 Previously Released

The following components, also in Service Pack 3, were previously released since ControlST V07.02.00C.

- ToolboxST V07.02.03C
- Mark VIe V06.04.02C
- Mark VIeS V06.00.01C
- AEPA V05.05.02C
- WEPA V05.05.02C

11.8 ControlST V07.02.00C SP05 (July 2018)

Maintenance release driven by bug fixes needed at customer sites. Also announces that ControlST V07.02.00C and all its service packs are compatible with Windows® Server 2016 (Standard).

11.8.1 PUAA V05.05.02C

Reference	Release Note
43902	An issue was fixed where Pulse accumulators and RTDs may fail intermittently on configuration.
44027	PUAA now supports power supply monitoring for newer hardware.

11.8.2 ToolboxST V07.02.06C

Reference	Release Note
43518	Corrected a crash that could occur when browsing a third party OPC DA server if the server did not correctly reply with a variable's item properties.
43837	Fixed an out of memory issue with the Code Practice Report.
43962	Adjusted the minimum EGD exchange timeout setting to 20,000 from 10,000 for the OPC DA server's minimum exchange timeout.
44019	Added SetDefaultFilesDirectory to the IFFSAL_DevfbLib interface so automation clients can avoid directory issues with FOUNDATION Fieldbus configurations.

11.8.3 WorkstationST V07.02.06C

Reference	Release Note
43854	The OPC UA feature can continue to run after a workstation is downloaded with the feature turned off. This typically will only happen on larger consumed configurations, such as a wind park.
43995	There was a failure in stress testing which likely would have been addressed by the logic builder changes provided in the 7.2.4 release of WorkstationST, however if the execution of code did get into the GetLogicVar call after the control has been disposed, a crash of CimView could result. This bug fix corrects that potential issue.
44089	Updates to Alarm Server to prevent the recurrence of inactive FOUNDATION Fieldbus block alarms after controller offline downloads or loss of communication events.
44097	Corrected a memory leak with the Logic Builder dialog opened from CimView. The issue occurred when the dialog was closed and re-opened before it fell out of screen cache.

11.8.4 Previously Released

The following components, also in Service Pack 4, were previously released since ControlST V07.02.00C.

- ARESBlockLib V08.00.00C
- Mark VIe V06.04.02C
- Mark VIeS V06.00.01C
- AEPA V05.05.02C
- WEPA V05.05.02C

11.9 ControlST V07.02.00C SP06 (August 2018)

This is a maintenance release driven by security updates. Additionally, the WorkstationST OPC UA server now supports alarms and conditions. This release is the service pack version of ControlST V07.02.07C, released to support several Control Server sites.

11.9.1 Security

The RTS Hypervisor was updated to include security updates from the manufacturer.

11.9.2 ToolboxST V07.02.07C

Reference	Release Note
44166	Corrected a performance issue seen when trending a large number of variables from an OPC UA server.
44328	Clearing or Decommissioning a FOUNDATION Fieldbus H1 device will no longer reset the PD_TAG and Device ID of the H1 placeholder.
44354	An issue was resolved where editing an Attribute value while the attribute grid was sorted by value could display incorrect values after editing.
44378	Corrected a problem where build times for controller configurations in systems that contain numerous plant area definitions and where numerous variables are configured with a non blank plant area can be excessive. One BOP controller was taking an additional 10 to 13 minutes during variable validation due to this performance issue.

11.9.3 WorkstationST V07.02.07C

Reference	Release Note
43386	NEW! Added support for Alarms and Conditions to the WorkstationST OPC UA server.
44166	Corrected a performance issue seen when trending a large number of variables from an OPC UA server.
44327	There was a failure in stress testing which, in very rare incidents, would cause the Logic Builder ActiveX control to terminate CimView during a script's call to EndInitialize. This bug fix corrects that potential issue.
44343	Updates to Alarm Server to prevent the recurrence of inactive FOUNDATION Fieldbus block alarms after controller offline downloads or loss of communication events. This is an additional fix for FF segment intermittent communications. Original bug fix was bug 44089 fixed in V07.02.05C
Additional	44171, 44329

11.9.4 Mark VIe V06.04.03C

Reference	Release Note
44117	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced in Mark VIe V06.04.00C and has been completely resolved.
44152	Security update
44352	In a system with FOUNDATION Fieldbus all block alarms can now be acknowledged and reset.

11.9.5 EX2100e_Reg V04.12.01C

Reference	Release Note
44153	Security update

11.9.6 LS2100e V04.12.01C

Reference	Release Note
44154	Security update

11.9.7 PVIB V05.01.05C

Reference	Release Note
43337	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

11.9.8 Previously Released

The following components, also in Service Pack 5, were previously released since ControlST V07.02.00C.

- ARESBlockLib V08.00.00C
- Mark VIeS V06.00.01C
- AEPA V05.05.02C
- WEPA V05.05.02C
- PUAAs V05.05.02C

11.10 ControlST V07.02.07C (August 2018)

This is a maintenance release driven by security updates. Additionally, the WorkstationST OPC UA server now supports alarms and conditions.

11.10.1 Security

The following security updates are included in this release.

- Updated the RTS Hypervisor to include security updates from the manufacturer
- Updated the Proficy Common Licensing software and USB drivers

11.10.2 ToolboxST V07.02.07C

Reference	Release Note
44166	Corrected a performance issue seen when trending a large number of variables from an OPC UA server.
44328	Clearing or Decommissioning a FOUNDATION Fieldbus H1 device will no longer reset the PD_TAG and Device ID of the H1 placeholder.
44354	An issue was resolved where editing an Attribute value while the attribute grid was sorted by value could display incorrect values after editing.
44378	Corrected a problem where build times for controller configurations in systems that contain numerous plant area definitions and where numerous variables are configured with a non blank plant area can be excessive. One BOP controller was taking an additional 10 to 13 minutes during variable validation due to this performance issue.

11.10.3 WorkstationST V07.02.07C

Reference	Release Note
43386	NEW! Added support for Alarms and Conditions to the WorkstationST OPC UA server.
44166	Corrected a performance issue seen when trending a large number of variables from an OPC UA server.
44327	There was a failure in stress testing which, in very rare incidents, would cause the Logic Builder ActiveX control to terminate CimView during a script's call to EndInitialize. This bug fix corrects that potential issue.
44343	Updates to Alarm Server to prevent the recurrence of inactive FOUNDATION Fieldbus block alarms after controller offline downloads or loss of communication events. This is an additional fix for FF segment intermittent communications. Original bug fix was bug 44089 fixed in V07.02.05C
Additional	44171, 44329

11.10.4 Mark VIe V06.04.03C

Reference	Release Note
44117	In systems with Modbus configured, executing an online download will cause a file descriptor leak. Eventually an online download will fail due to insufficient resources. This issue was introduced in Mark VIe V06.04.00C and has been completely resolved.
44152	Security update
44352	In a system with FOUNDATION Fieldbus all block alarms can now be acknowledged and reset.

11.10.5 EX2100e_Reg V04.12.01C

Reference	Release Note
44153	Security update

11.10.6 LS2100e V04.12.01C

Reference	Release Note
44154	Security update

11.10.7 PVIB V05.01.05C

Reference	Release Note
43337	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

11.11 ControlST V07.02.07C SP01 (September 2018)

This is a maintenance release driven by the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms. Refer to Controls Service Bulletin (CSB25375), *Loss of Controller Connectivity and/or Alarms in ControlST V07.01 through V07.03*.

11.11.1 Security

There are no security updates included in this release.

11.11.2 Mark VIe V06.04.04C

Reference	Release Note
44474	On UCSA, UCPA, and AEPC platforms, after running for 206 days, controller communication over the UDH network can slowly degrade to where alarm transitions from the controller fail to transmit (resulting in the generation of Diagnostic Alarm 320) and attempts to connect to the controller returns the error 'The device responded to GetNumVars with the error: GENERAL_FAILURE'. This issue has been completely resolved.
44713	An issue where UCSA based IO modules cannot have their Compact Flashes initialized by ToolboxST has been resolved. The issue was introduced in Mark VIe V06.04 (ControlST V7.2) and only affects systems where the controller type is UCSBH1 or UCPA.

11.11.3 PHRA V05.00.02C

Reference	Release Note
44533	The PHRAH1B now properly allows communication through HART DTMs (Device Manager Essentials) to devices connected on AnalogOutput02 (HART Channel 12).

11.11.4 ToolboxST V07.02.08C

Reference	Release Note
44407	An issue was resolved where the System Constants Export wizard would fail to connect to a device when S or T is the designated controller.
44408	Previously, when a control constants / undriven variables report was exported to csv, only a subset of the variables had live values. Now all variables will have live values. (In both cases, the controller must be online to get live values.)
44515	Corrected an additional performance issue with saving and reading a master symbol table where a system is configured with a large number of plant areas.
44517	Corrected a problem where closing without saving the System Information editor caused a tool failure. This failure was introduced in a performance enhancement for building a controller in a system with a large number of plant areas in the V07.02.07C release.
44747	An issue was resolved where the Edit Block Pin Connections window was not showing live values for Analog Alarm sub-variables like HH and HH_SP.
44758	Undo checkout at the system level no longer incorrectly leaves added component files or deleted component files missing in the working copy.

Reference	Release Note
44776	Fixed an issue where ToolboxST would crash if the user was on the Modify Value dialog (editing initial values for a variable), and then tried to Import or Export a .csv file that was open by another process like Excel.
44788	Fixed an issue that caused the FFArmTranslationTable.xml to be copied to an incorrect folder. As a result, it was not uploaded to the EGD Config Server and FOUNDATION Fieldbus alarm lookups would fail.

11.11.5 WorkstationST V07.02.08C

Reference	Release Note
44759	NEW! Added the ability to select the alarm <i>Value</i> column in the configuration for the alarm printer.
44483	Corrected an erroneous OPC UA server log message regarding an enumeration in use on a variable with Boolean data type.
44500	Corrected a memory leak when using right click ControlST menus such as <i>Go To Definition in Logic</i> from CimView.
44528	Corrected a small memory leak with the alarm symbol ActiveX control, found with detailed memory profiling.
44539	Corrected a memory leak where the XML configuration was being allocated into a string and not freed.
44746	Corrected a condition where alarms and events were missing around the trip time in a Recorder Trip log when the alarm server was running on the same computer as the Recorder.
Additional	44551

11.12 ControlST V07.02.07C SP02 (January 2020)

This is a maintenance release driven by bug fixes needed at a customer site.

11.12.1 LS2100e V04.12.02C

Reference	Release Note
48980	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.

11.12.2 PPRF V05.00.03C

Reference	Release Note
41512	An issue was fixed where stale values were persisting when inputs were unhealthy. Now unhealthy input variables are set to zero. The issue was fixed in PPRFH1B.
41679	An issue was fixed for Simplex PPRF configurations in systems with redundant controllers and dual IONet connections, where inputs could be stale and not marked unhealthy if one controller was powered down and an IONet network cable break occurred. The issue was fixed in PPRFH1B.

11.12.3 ToolboxST V07.02.09C

Reference	Release Note
44878	Corrected a problem seen when saving a controller during the alarm help publishing which resulted in an error dialog. The correction also improves save/build performance.
45286	Corrected a problem where editing plant area configuration could result in a tool crash and also resulted in incorrect results after saving.
48692	A search could erroneously report an EgdUnboundVariable if one device was consuming EGD variables from another device, and both devices had EGD pages with the same name.

11.12.4 WorkstationST V07.02.09C

Reference	Release Note
44835	A memory leak was corrected with the right click Display Variable Attributes action from CimView. The Attributes dialog was not correctly closing its live list.
44850	Corrected a problem with Windows Domain group privileges user logon introduced in V07.02.00C when the switchable alias feature was added. Windows Domain group privileges are primarily used in GE Wind applications.
44880	Corrected an alarm symbol utility class memory leak seen in CimStress testing.
44968	Alarms read using the OPC UA Alarm Client sometimes incorrectly showed the Alarm State as Undefined instead of Normal when the alarm was in a normal state.
44990	Corrected a problem where the OPC UA feature failed to stop after a stop request.
49086	Corrected a failure to connect to the HART AMS. The issue was introduced in the 7.1 release and never found until the 7.7 release.
49092	Corrected a problem where OPC UA client reads for variables not in any other subscription, were returning stale values for non-EGD variables.
Additional	44972

11.12.5 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V07.02.07C.

- Mark VIe V06.04.04C
- PHRA V05.00.02C

11.13 ControlST V07.02.07C SP03 (February 2020)

This is a maintenance release driven by a Mark VIe bug fix needed at a customer site.

11.13.1 Mark VIe V06.04.05C

Reference	Release Note
50323	A UCSC controller may boot to the DC_DETERMINATION control state and fail to synchronize logging the error 'pulses stuck at 0'. The issue has been completely resolved.

11.13.2 Previously Released

The following components, also in Service Pack 03, were previously released since ControlST V07.02.07C.

- LS2100e V04.12.02C
- PHRA V05.00.02C
- PPRF V05.00.03C
- ToolboxST V07.02.09C
- WorkstationST V07.02.09C

11.14 ControlST V07.02.07C SP04 (August 2021)

This is a maintenance release driven by a Mark VIe product release that allows Wind Farm Control to send output during an online load and corrects a memory leak during an online download of the Wind Farm Control application. Also includes IO packs that were previously released in other ControlST branches.

11.14.1 Mark VIe V06.04.08C

Reference	Release Note
59358	Wind farm control can now send output while doing an online load, resolving an issue where the turbines stopped responding during this time.
59639	An issue where memory is leaked during an online download of the Wind Farm Control application has been resolved. This issue does not exist in the General Purpose Mark VIe application.
Additional	56646

11.14.2 PAIC V05.01.01C

Reference	Release Note
38273	An issue was fixed where the PAIC would zero analog inputs for ~200 ms when changing the configurable software filter from "Unused" to any used value.
58588	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.3 PAOC V05.00.01C

Reference	Release Note
58579	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.4 PDIA V05.01.01C

Reference	Release Note
58590	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.5 PDOA V05.07.02C

Reference	Release Note
47996	The PDOA documentation has been updated to indicate that outputs cannot be configured as dry contacts when SRLY+WROG is in use.
58599	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.
Additional	51428

11.14.6 PPDA V05.00.03C

Reference	Release Note
58583	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.7 PPRA V05.00.01C

Reference	Release Note
52089	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of TwoGroups (2 shafts, 3 sensors).
55757	PPRAS1B now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.

11.14.8 PPRO V05.05.02C

Reference	Release Note
58641	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.9 PRTD V05.00.01C

Reference	Release Note
58638	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.10 PTCC V05.00.01C

Reference	Release Note
58582	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.11 PTUR V05.00.02C

Reference	Release Note
58640	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.12 PVIB V05.01.06C

Reference	Release Note
58639	An issue was fixed with the time synchronization algorithm that may cause increased network traffic on the IONET network for 2 seconds every 36 hours.

11.14.13 YSIL V05.06.03C

Reference	Release Note
52088	An issue was fixed where a single bad speed sensor could cause a decel trip for a PRGrouping of 2Shafts_3Sensors.
55745	YSIL now supports Decel_Trip parameter which allows the deceleration trip to be disabled for a specified PulseRate input.
57043	The YSIL now includes SSUP connections on the Extra Circuits tab.
Additional	51674

11.14.14 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V07.02.07C.

- LS2100e V04.12.02C
- PHRA V05.00.02C
- PPRF V05.00.03C
- ToolboxST V07.02.09C
- WorkstationST V07.02.09C

12 V07.01.01 Release Notes

12.1 V07.01 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

ToolboxST

- Cross-linked segments in a FOUNDATION Fieldbus configuration will now generate error messages during an upgrade (“Ensure FOUNDATION Fieldbus software tasks only contain assigned blocks from the same Segment”). Such segments are discouraged by customer standards. Resolution involves changes to application configuration.
- The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.
- Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
- Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer reboot. To avoid these issues, keep video drivers up to date. Other workarounds; refer to the document included on the ControlST installation DVD.
- There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller’s device state must be either “Inputs Enabled” or “Controlling”. It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log. Recommendation is to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.
- ControlST 7.0 implements terminal services licensing, and may introduce an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.

ControlST Support for Windows Server 2012 R2 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported. Testing revealed intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.00.00C under Windows 10. Hardware interface options are not yet specified.
- Windows 10 does not currently permit teaming of Intel network interface cards. This is not an issue in ControlST, but affects users of ControlST under Windows 10. The Intel driver support web site has this information posted for their latest driver (Ver 21.1, 10/11/2016):

12.2 V07.01 Suite Components

See Component Registry: [ControlST Component Registry](#)

12.3 V07.01.01C (July 2017)

12.3.1 V07.01.01C Highlights

UCSC Improvements

Application: All applications

Description: Much-anticipated improvements to the UCSC platform.

- Dual and TMR redundancy
- Virtual Networks
- Support for V300 protocol

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 40012, 40011, 40012

PROFINET Enhancements

Application: All applications

Description: A number of improvements have been made to the PPNG/EPNC firmware and associated tools.

- The PPNG now allows the user to attach variables to monitor channel diagnostic conditions from attached PROFINET devices.
- The PPNG now zeros input values associated with PROFINET device when communication is lost.
- ToolboxST now allows free-form selection of data type for mapping PROFINET data to variables.

References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: various

PCEG

Application: DCS

Description: The PCEG is a ALSPA CE2000 and CE3000 I/O rack gateway that allows a fielded ALSPA I/O rack to be integrated into a MarkVle platform.

References:

[ALSPA DCS Retrofit Solution CE3000-I Integration into Mark Vle Controls Platform Instruction Guide \(GEH-6803\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 32131

FOUNDATION Fieldbus Improvements

Application: Heavy-duty Gas Turbines

Description: A number of performance and stability improvements in ToolboxST for FOUNDATION Fieldbus.

- Improved detection of device changes that require deletion of download history.
- Redesigned block instantiation.
- Fixed an issue where importing certain combinations of FOUNDATION Fieldbus DD files can cause configuration errors.
- Multiple fixes for System Download .
- Fixed an issue where enhanced Parameters on assigned blocks were lost after copying and pasting H1 devices (also in ToolboxST V07.00.04C).
- Support for PFFA-H1B linking devices (hardware not available yet).

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 38951, 39834, others

Multi-UDH

Application: DCS

Description: New feature in WorkstationST that enables alarms to be aggregated from multiple UDH networks and viewed on a single alarm viewer.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 38951, 39834, others

Security Improvements

Application: All applications.

Description: Various security improvements.

WI: NA

12.3.2 V07.01.01C Changes

12.3.2.1 ToolboxST V07.01.01C Changes

Reference	Release Note
32950	NEW! The LogicBuilder ActiveX control now allows configuration of the font used for the pin text.
38300	NEW! Added a filterable aggregation of all IO points for an individual Lan Module in a new tab named, "All Points." This works for all IO points except for points on Mark VI Migration Boards and CE3000-I Migration Boards.
38372	NEW! Added support for Alarm Servers to span multiple UDH networks.
38866	NEW! Added network name / address / host name tool tips to the system overview of ToolboxST. Added a report showing the network adapter settings for all system nodes.
37570	NEW! ToolboxST now initializes each element of an variable that is an array to zero. This is now shown in the user interface.
8240	When opening a system, the logic sheet paper size settings saved in that system were ignored; instead, the paper size settings last configured on any system on that PC were used. Since the default "last settings" on a new PC are for 8.5" by 11" paper, this often resulted in the corruption of diagrams originally arranged for 11"x17" paper when a system was moved to or checked out to a new PC. The paper size from the loaded system will now be used. Also, manually arranged logic will no longer automatically change paper sizes to match the system and device settings, since this almost always results in a garbled diagram. Users can now convert the paper size on individual logic sheets.
13898	A wire drawing tool issue was resolved in the Blockware diagram editor. Certain changes to pin connections would cause existing Variable Rail items to incorrectly change. This usually happened when a pin was connected to two items on the variable rail—only one wire was getting disconnected when the pin connection was cleared. The variable rail would then "synchronize" across the leftover wire and display the pin's name instead of the original variable.
16387	Fixed an issue where a full system download including baseload could leave AutoConfiguration incomplete.
19132	Coding Practices Report in the multiple writes section now shows index in the variable name column for arrays.
19175	Resolved an issue where a Compare to Controller command performed on a controller with FOUNDATION Fieldbus devices displayed differences that did not exist.
19555	The System Constants Import wizard previously required that all devices be checked out of CMS before the import wizard could be opened. This made it difficult to use the wizard to import only some devices in a CMS system. Now, the wizard will offer to checkout devices as needed.
19668	Undo records and logs now show the column name instead of value.
20150	Adding an existing library will now update the product version to match the Library Container product version.
20189	Corrected an issue in the Constants report where the "Value Overrides" property was unable to be edited when the property is not Read Only.

Reference	Release Note
20672	An issue was resolved where deleting a manual-layout wire from a block diagram disconnected the pin on both ends of the wire, even when the actual connection was to a third variable not associated with the wire. This made manual editing more difficult, as the other connection had to be remade after the wire deletion.
20831	An issue was resolved where copy-paste operations in the Blockware Editor subtly altered connections between pasted blocks. The issue occurred when the copied blocks included a block name that already existed in the paste target. The block would be assigned a new name that does not conflict. However, if the new name also matched a block name that was in the clipboard, connections would shift to the block with that name on the clipboard. This could happen multiple times for the same connection, resulting in connections "hopping" to the last block of a particular type in the clipboard. This problem could be difficult to detect in large user blocks, as the resulting connections were often syntactically valid.
21730	In blockware diagrams, there has been no way to turn off cross references completely. Now, a "Show Page" option has been added to the diagram settings. If you turn off all cross reference options, no cross reference will be shown at all. This will allow users to unclutter their diagrams when cross references are not needed.
24320	Improved support for user defined help in programs.
30049	Resolved issues with the consistency of displaying and entering values for WORD, DWORD and BYTE variables in the Change Live Value dialog.
32288	Cross references were not being shown on some variables in blockware. This only occurred when two tasks were named such that the second task's name started with the first task's name plus some suffix (for example, PC001 and PC001A). The issue has been resolved, and all cross references are now shown.
33854	An issue was found and corrected with attribute substitution on ANALOG_ALARM blocks. The ANALOG_ALARM block can be used to automatically generate Aliases for limit alarms using a template defined in the system configuration. The template has an alias string for each limit alarm, and these strings support attribute substitution. The attributes can come from the parent objects above the ANALOG_ALARM block, such as the task, program or device. The attributes can also be defined directly on the template and modified on each ANALOG_ALARM block using that template. The issue occurred when the block was validated or built: any modifications to the attribute values of the ANALOG_ALARM block's own attributes was reset to the default values. The issue has been fixed, and these attributes will now retain their modifications through a build.
35026	Fixed an issue where a block would disappear when pasting. The block would be pasted on a sheet that didn't exist.
36242	A SharedIO Net download from the System no longer requires all SharedIO Net devices to be checked out in CMS.
36429	Fixed an issue when selecting flow view ToolboxST would become unresponsive.
36531	Changed CMS Work Disconnected to be a toggle function.
36933	Fixed an issue where SharedIONet devices in multi-nested groups would lose their connected variables upon loading the device
36960	Fixed an application error that occurred when saving a stand-alone Live View.
36979	Corrected a display issue that would not show the correct CMS icon when a new device is added to a system that is under CMS control.
37140	Fixed an error that occurs when opening device.
37188	Modified the External device EGD editor to persist the Ethernet adapter settings on each produced page.
37338	Resolved a possible crash of application while building a controller when user's disk is full.

Reference	Release Note
37545	Fixed an error during build in a Mark VIe Device.
37593	Resolved issue where user block help file was not included in CMS unless library container was checked out.
37595	Eliminated the wait for Historian Backfill when closing a Trend.
38024	Fixed the issue that prevented the Capture Complete mode of the Trender from functioning.
38034	The get from SDB for an external device was modified to not require the System be checked out and non-read only. Only if system level settings are to be modified (format specifications), by the get, will an error now be provided. This allows most get from SDB request to work without having the system checked out of CMS or non-read only.
38167	Fixed an issue that could result in a corrupted library when one of the files could not be written.
38168	Fixed an issue when upgrading component that caused watch window configuration to be removed from the component.
38214	If some of the system files are manually copied or are saved from an automation interface client, the information presented regarding newer and older versions when opening the system information editor was misleading. For example the message indicated saving with version V06.02.01C would prevent the older version V06.02.04C from opening the configuration.
38267	An issue was resolved where dragging or copying multiple SFC steps and transitions would only drop or paste the last one into CIMPLICITY.
38268	Recorder automatic collections for device that are consumed by-proxy should not include any capture buffer type collections because the recorder is not able to gain access to upload the capture buffer. The actual recorder runtime did not collect these collection types, but the UI showed all automatic collections for by-proxy devices.
38276	In some situations, a FOUNDATION Fieldbus schedule generation error would not be reported during a build. The more generic "TAPIException" error was shown, but with no explanation. The errors are now properly reported. Also, a memory leak was fixed that only occurred when this type of error was generated.
38302	Fixed an issue when simple replicating a device or group where the new base name was longer than the original name.
38489	Corrected an issue where the Send Original value button on the Change Live Value dialog was disabled unless the force value check box was checked.
38536	Corrected a build error for a referenced EGD variable from an exchange being produced onto multiple networks. The exchange was declared inaudible even if one of the produced exchange's destinations was audible.
38545	Corrected a problem where right clicking in a FOUNDATION Fieldbus data grid after having initially gone on-line, caused a tool failure.
38596	Corrected a problem where WorkstationST time synchronization clients were synchronizing to the primary time source using a network other than the desired one. A new preferred network setting was added for both the primary and secondary time source.
38871	Fixed an issue with the Capture buffer upload on the Trender when there was no connected variable on the status pin of the capture block.
39075	Corrected an issue that was observed when copying and pasting ProfinetIO Devices and then deleting the original copied devices.
39087	Upgrading a Wind Control System maintains the Wind Control Interface settings in the user interface.

Reference	Release Note
39160	Fixed an issue where FOUNDATION Fieldbus Enhanced Parameters on assigned blocks were lost after copying and pasting FF H1 devices.
39181	Prevented the embedded PPNG from being 'Cut/Copy/Paste' in the ToolboxST hardware tab.
39232	Modified the PPNG Pack Setup wizard options to match those for the EPNC (UCSC Embedded Profinet).
39707	Corrected an issue in the Where Used logic that would intermittantly prevent a successful double click go to logic for modules that were not in Shared IO net configurations.
39715	Fixed an error when inserting a block into software that is currently being displayed in flow view.
39760	Corrected an issue where a user was incorrectly given no privileges for modifying some task variables or user block pins.
39825	Corrected an issue in the System Download Wizard that prevented a successful download scan of a controller that has FOUNDATION Fieldbus configured.
39849	Corrected a problem with the OPC UA browser used with ControlST applications such as the Trender, which did not allow tags created directly at the root Objects folder to be browsed.
39882	Fixed a issue with reloading libraries from library containers after using Block Library Creator.
39888	Extended controller reboot maximum time to accomodate older controllers.
39947	Fixed an issue where using the System Download with FOUNDATION Fieldbus could cause an out-of-memory error.
38035	Improve System Download reliability for multiple controllers.
40141	When using the tree file importer in a system where HMI resources are included in the code being imported but are not present in the system from which the HMI was downloaded, an error to set a value was occurring.
40182	Resolved an issue where use of a third party SVN client could cause CMS to perform check ins/outs with wrong user credentials.
40229	Fixed an edge case issue when toggling the controller's UDH connection with Live View open.
Misc	18024, 18363, 19475, 19529, 26964, 27178, 27423, 27435, 28533, 29795, 29958, 30469, 31040, 35659, 36208, 36243, 36264, 36309, 36316, 36317, 36872, 36877, 36935, 36959, 37506, 38458, 38929, 39104, 39116, 39188, 39227, 39711, 39837, 39867, 39881

12.3.2.2 WorkstationST V07.01.01C Changes

Reference	Release Note
36974	NEW! Added additional configuration for OPC UA clients, allowing security profile selection and user name and password entry.
38375	NEW! New feature in WorkstationST that enables alarms to be aggregated from multiple UDH networks and viewed on a single alarm viewer.
38542	NEW! Added a feature which can be enabled on the WorkstationST General tab, which causes host file entries to be defined to match the host name and IP addresses entered on network adapter nodes on the general tabs of system components.
35289	Fixed the issue that prevented user comments from being archived and displayed on the alarm viewer.

Reference	Release Note
35656	Corrected a problem where the alarm viewer user comment dialog did not display with the current language, rather it was defaulted to English.
36941	Modified the Alarm Symbol ActiveX control to avoid live animation when in CimEdit.
37548	Corrected a problem where if the primary language is set to a non-English language, a get from SDB resulted in incorrect variable descriptions and second language descriptions.
37595	Eliminated the wait for Historian Backfill when closing a Trend.
37674	Corrected some slow timeout on start issues in WorkstationST features that would occur if the EGD Configuration server was not reachable.
38024	Fixed the issue that prevented the Capture Complete mode of the Trend from functioning.
38497	Corrected the ControlST added right click menu items in CimView to allow them to be translated in a CIMPLICITY language map file.
38599	Added an optional override for the list separator character used by the CSV to live feature of the OPC DA server in WorkstationST.
38861	Enhanced the WorkstationST historian feature's check for Proficy Historian processes to include new processes for Proficy Historian 7.0. New processes now verified to be running are: Client Manager, Configuration Manager and Diagnostic Manager.
38922	WorkstationST variables used on a produced page with a health timeout and used as the destination of a variable mapper, cause the produced page to remain healthy, toggling out of health for one scan when the health times out.
39192	GE Symbol table uploads by WorkstationST for MarkVle family devices other than MarkVle, MarkVleS, and EX2100e, were not working. The WorkstationST was able to initially obtain a copy of the GE Symbol table from the configuration server, but would not get updates as other controller types (such as LS2100e) were downloaded.
39233	Fixed an issue where the WorkstationST status monitor was not allowing a user to start / stop the WorkstationST service when no configuration had ever been downloaded.
39343	Corrected an error that occurred when the parent child dialog was opened from a CIMPLICITY screen and the underlying screen with the alarm viewer is navigated into the screen cache.
39367	Corrected a crash of the WorkstationST Alarm Viewer or CimView with the WorkstationST Alarm Viewer ActiveX component, resulting when more than approximately 25,000 rows of historical alarm and event data are displayed on the short term historical alarms tab. The failure occurred when the user scrolled a long way through the long list of alarms and selected an alarm. The failure only occurred on touch panel systems where the Microsoft Tablet PC Input service was running.
39410	Corrected an issue where the Secondary alarm server did not automatically reconfigure when the primary configuration was changed. The issue occurred when the OPC UA server feature was enabled and was due to the Minor Revision not being correctly updated onto the primary's EGD status page.
39849	Corrected a problem with the OPC UA browser used with ControlST applications such as the Trend, which did not allow tags created directly at the root Objects folder to be browsed.
39987	Corrected a CimView crash resulting from an asynchronous update of an alarm symbol as the screen was being removed from screen cache.
40174	Added an executable (HistoricalAlarmsToCsv), in the WorkstationST features folder, to allow Historical Alarm Data to be export to CSV.
Misc	28970, 36872, 38920, 39828

12.3.2.3 Mark VIe V06.03.02C Changes

Reference	Release Note
38796	NEW! Security improvements
40010	NEW! Added support for V300 protocol for Wind Farm Management.
40011	NEW! Added support for Virtual Networks (VNET) in UCSC.
40012	NEW! Added support for Dual and TMR redundancy in Mark VIe UCSC.
169	The Legacy Block Library B_RTLAG1TC help has been updated to more accurately describe the limitations on time constant Tau.
37202	The PID_MA_ENH, PID_MA_ENH_V2, OVR_ST_ENH and OVR_ST_ENH_V2 blocks will now ignore a FORCE or OVERRIDE request and not set the CV and CVO outputs to the FV or OV respectively when the MODE_OPT input is set to LOCK.
37724	Foundation Fieldbus Signal Status becomes Uncertain (68) after 3 macrocycles of stale data instead of 2.
38036	Analog Alarms that are deleted get removed from the alarm queue during an online download
38862	The SDI command for deleting files on the device has been removed. The SDI command to read a file from the device is now only supported for a reduced set of directories.
39018	Unknown Producer Count is now calculated correctly.
Misc	38796, 39231, 39858, 40228

12.3.2.4 EX2100e and EX2100e_Reg V04.11.00C Changes

Reference	Release Note
NA	Security Updates.

12.3.2.5 LS2100e V04.11.00C Changes

Reference	Release Note
37644	NEW! Single 6-Pulse Source Bridge Enhancement.
39198	If the load current feedback exceeded the trip setpoint for less than 26 msec, the 52SS would be commanded to open and a fault would not be generated.

12.3.2.6 AEPA V05.04.01C Changes

Reference	Release Note
37190	An issue was fixed in the AEPAH1A (BPPB based) where the Converter permissive in the auto-run sequence was inverted.
38405	Corrected converter motor voltage input scaling.
Misc	38848, 38965, 39078

12.3.2.7 PPNG V05.09.01C Changes

Reference	Release Note
37842	NEW! The PPNG now allows the user to attach variables to monitor channel diagnostic conditions from attached PROFINET devices.
38048	NEW! The PPNG now zeros input values associated with PROFINET device when communication is lost.
37206	The hardware watchdog assigned to the Embedded Profinet VM on the UCSC now properly resets the UCSC when the watchdog expires.
39767	An issue was fixed on the EPNC where a disturbance on the PROFINET network could cause the MarkVIe to reboot unexpectedly.
Misc	23357, 39122, 39272, 39749, 39777

12.3.2.8 PPRF V05.00.01C Changes

Reference	Release Note
39113	The PPRF has a new parameter, SetDiagOnExtDiag, which sets Diagnostic presence on Extended Diagnostics. The default value, True, maintains the same behavior as prior releases: Diagnostic alarm 44, "PROFIBUS diagnostic present" is generated when an extended diagnostic is received from a PROFIBUS device. Setting the parameter false will inhibit the diagnostic alarm when an extended diagnostic is available. This allows the user to specify which devices they will monitor by connecting variables to the Standard Diagnostics tab on the devices they want to monitor.

12.3.2.9 WEPA V05.04.02C Changes

Reference	Release Note
34566	Changed latest charger version from BC3E to BC3H and added new mux inputs for minimum voltage and reference voltage.
36414	The comm bar current limit has been changed and dither time has been decreased from 60 to 30 seconds to accommodate the 45 Nm pitch system.
37392	The Comm Ok error threshold was changed to prevent nuisance alarms and to reflect recent change to number of errors that can occur per message.
37657	An issue was fixed in the pitch converter firmware WP5p where the converter stops responding to WEPA serial requests after several hours.
39432	The dither period has been changed from 60 seconds to 20 seconds to avoid commbar faults.
Misc	38849, 39266

12.4 ControlST V07.01.01C SP01 (August 2017)

This is a maintenance release driven by bug fixes for Carroll County site.

12.4.1 ToolboxST V07.01.02C

Reference	Release Note
40683	Fixed an issue that caused ToolboxST to fail when a Power Conversion, Reset Required parameter is sent to the device from a Settings menu or diagram.
40741	Fixed an issue that could occur when using the FOUNDATION Fieldbus Import H1 Template feature. The fix prevents certain FOUNDATION Fieldbus parameters from reverting to pre-template values after closing and re-opening the controller configuration.
40686	Corrected an issue where the list of units strings that can be picked from the Format Specification editor were not correctly showing the UNICODE symbols. Also made the CSV file reading more robust and able to detect different separator characters as well as different column ordering.

12.4.2 WorkstationST V07.01.02C

Reference	Release Note
40530	Added the last alarm state as a column to the HMI alarm attributes dialog displayed from a CimView alarm symbol control.
40572	Corrected a problem where script calls from CIMPLICITY would hang after an HMI was left for weeks without activity.
40661	Corrected an issue where the variable child attributes, such as .AlarmPriority, were no longer displayed in the lower portion of the right detail view of the select a variable dialog shown from CimEdit.
40664	Correcting the AlarmPriority property variable to return 0 for variables configured with a blank alarm class.
40675	A memory growth issue due to the SCADA client not processing SDI EGD exchange messages faster than they are being requested was addressed. The issue was leading to an out of memory condition in the WorkstationST OPC DA server.
40755	Corrected a problem where a bad variable name value in an alarm filter caused a crash when launching the WorkstationST Alarm Viewer.

12.4.3 Mark VIe V06.03.03C

Reference	Release Note
40758	<p>Motor Operated Valve Transit operation with Foundation Fieldbus I/O systems has been modified with the addition of DCS blocks M_O_V_V4 and M_O_V_JOG_V3 to add a pin for adjustable Failure To Transfer Delay Time.</p> <p>Note: Block Shape is not yet implemented for these new DCS blocks. This will be corrected in a follow-on Service Pack release, shortly. After installing, a build and download will be required.</p>

12.4.4 YSIL V05.03.01C

Reference	Release Note
40254	The SCSA cold junction temperature value has been adjusted to provide more accurate temperature compensation for thermocouples.

12.4.5 ARES V07.03.00C

Reference	Release Note
40752	NEW! New ARES Model A7HA021A0617.

12.4.6 WEPA and AEPA V05.04.03C

Reference	Release Note
40391	The battery recharge active input was changed to ignore cycles of duration less than 5 minutes.

12.5 ControlST V07.01.01C SP02 (September 2017)

A maintenance release driven primarily by further support of Carroll County.

12.5.1 ToolboxST V07.01.03C

Reference	Release Note
40787	CMS Client: Resolved an issue where errors could occur while checking in a component.
40859	Fixed an issue that caused the Virtual Network adapter to be disabled on an upgrade.
40867	Fixed a status control issue that was showing "Platforms not Equal" when there was no difference.
40813	Trender: Fixed an issue when Trending from an OPC UA Server, and the PC running trender is not synced to the same data source as the OPC UA Server. Problem presented itself by the trend moving back and forth in time, creating many horizontal lines for a single variable, instead of the expected graph.
40857	Trender: Fixed an issue that could cause an application error when opening a saved Trender configuration on a PC that does not have access to the OPC Server that was defined in the Trender configuration.
40371	Fixed an issue that could cause an application error when adding OPC variables to the Trender.
40871	Fixed an application error that could occur while trending OPC data.
40906	Fixed searching and replacing of PD_Tags and Block Tags in FOUNDATION Fieldbus configurations.
40569	Fixed an issue with copy, paste of components of a task to another being outside the bounds of the page.
40793	Fixed an issue where copy/paste would occasionally fail in the variable data grid.
40858	Changed the data entry for WorkstationST Recorder collections with triggers to allow hours minutes and seconds to be entered rather than just seconds.
40860	When attempting to add a reference device on the EGD tab of any EGD component, when working offline with the configuration server, an error was being displayed, rather than allowing the user to select referenced devices from a list.

12.5.2 Mark VIe V06.03.04C

Reference	Release Note
40945	DCS blocks M_O_V_V4 and M_O_V_JOG_V3 have updated block help and block pictures.

12.6 ControlST V07.01.01C SP03 (November 2017)

A maintenance release driven primarily by further support of Carroll County.

12.6.1 ToolboxST V07.01.04C

Reference	Release Note
41246	Fixed an issue that caused ToolboxST to fail when a user tried to create a Wind Pitch controller based on a BPPB
41311	Fixed an issue that may cause the upgrade of a UCSC controller to fail.
41432	Restored warning on System Upgrade wizard for IO packs that required new hardware.
41448	Fixed an issue in FOUNDATION Fieldbus block instantiation where block assignments are not completed.
41327	Fixed an application error that could occur when cancelling the FOUNDATION Fieldbus Parameter Reconcile Report.
41393	Fixed an issue in FOUNDATION Fieldbus where instantiated block tags were appended with “_1.”
41431	Fixed an issue in FOUNDATION Fieldbus block instantiation where alarms in the Alarm Configuration are duplicated.
40862	Corrected issue of setting parameters on PROFINET slave devices when the parameters were nested more than one level deep.
41332	Corrected a problem where MarkV variables could not be added to the historian. The adding of a MarkV variable was resulting in an error dialog indicating the variables address was invalid.
Additional	40967

12.6.2 WorkstationST V07.01.04C

Reference	Release Note
40755	Corrected a problem where a bad variable name value in an alarm filter caused a crash when launching the WorkstationST Alarm Viewer.
40769	Added a TimeAxisDuration property to the ControlST Trender ActiveX control to allow setting the time axis duration. The property is a string that is set to the desired number of seconds.
40775	Corrected a problem where the historian browse of variables from an OSI PI historian returned no variables due to an additional node with errors.
40813	Trender: Fixed an issue when Trending from an OPC UA Server, and the PC running trender is not synced to the same data source as the OPC UA Server. Problem presented itself by the trend moving back and forth in time, creating many horizontal lines for a single variable, instead of the expected graph.
40857	Fixed an issue that could cause an application error when opening a saved Trender configuration on a PC that does not have access to the OPC Server that was defined in the Trender configuration.
40871	Fixed an application error that could occur while trending OPC data.
40977	Modified the SDI live tag list messages to write one large chunk rather than several smaller writes.
41315	Correcting an issue where the HMI file utility feature would crash if it could not download and save an HMI file due to the inability to create the screens folder from the provided path. The error was seen when a customer set the local screen path to a path matching an existing file.

Reference	Release Note
41484	Added a command line option for the Workstation Status Monitor application allowing the saving of additional debug information (CIMPLICITY logs and windows logs). Previously only the WorkstationST logs could be saved via command line.
41489	Corrected a problem where alarm variables that are not on EGD could be intermittently shown with good health and a zero value and time stamp. If one of the variable's child property variables was subscribed to prior to subscribing to the parent variable, the parent's value is shown as healthy.

12.6.3 Mark VIe V06.03.05C

Reference	Release Note
40010	An issue causing wind farm management communications not to function in unicast mode has been resolved. The issue was introduced in Mark VIe V06.03.02C.

12.6.4 Mark VIeS V05.03.02C

Reference	Release Note
41219	Alarm Horn intrinsic now sets correctly in TMR systems

12.6.5 PPRF V05.00.02C

Reference	Release Note
39308	An issue was fixed in PPRFH1B where a PPRF with dual networks could potentially cause outputs to chatter during the download to the controller from the Dual Download wizard. Now, when PPRFH1B is downloaded from the dual download wizard, the outputs will go offline until the download is complete.
Additional	40790

12.6.6 Previously Released

The following components, also in Service Pack 3, were previously released since ControlST V07.01.01C.

- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C

12.7 ControlST V07.01.01C SP04 (December 2017)

A maintenance release.

12.7.1 ToolboxST V07.01.05C

Reference	Release Note
41491	If there are modified HMI screen files in the checkout directory alert the user and allow the modified files to be overwritten.
41583	Fixed an issue that prevented the global scripts from being found when the screen editor was invoked.
41634	Fixed many FOUNDATION Fieldbus Import H1 Template feature warnings that are not actionable.
41683	Added alarm configuration attributes to the FOUNDATION Fieldbus Import H1 Template feature.
23184	Fixed an issue where FOUNDATION Fieldbus linking device LINK_OK diagnostics were not working properly. Requires MarkVIe version V06.03.07C.
41884	Added filtering to FOUNDATION Fieldbus parameter uploads to prevent invalid characters from causing build errors.
40509	The warning message to upgrade to a newer version is now suppressed if the IO Pack is a safety IO Pack and the newest firmware does not have a matching hardware form.
41623	In certain circumstances libraries that are generated using the BLC create a unique Library-specific runtime block that must be instanced before any other blocks from that same library. Validation has been added that requires this library block be instanced in the first task of the first program.
41871	Corrected an error when getting from SDB and an SDB enumeration had an invalid # character in its name. _ characters will now be substituted in place of invalid enumeration value names.
41485	Corrected a repainting and scrolling to the top behavior seen with the system HMI screens detail view with each screen checkout or checkin or refresh of status.
41520	Corrected some features of HMI screens: Added the refresh CMS menu item to all of the HMI screens grids. Added an Open file in file explorer menu item to HMI screens. Logged file gets and checkouts. Changed right click get latest on tree to get all files, not just the selected ones in the grid.

12.7.2 WorkstationST V07.01.05C

Reference	Release Note
41867	Corrected a problem with the Alarm Symbol that caused a couple of CimView process crashes.
41881	Corrected a nuisance crash of the WorkstationST HMI Screen Files utility which occurred when it was asked to stop or when a configuration change caused it to restart itself.
41904	Corrected a memory leak of the Logic Builder UI when hosted as an ActiveX control in CimView.
41927	Corrected some memory leaks with the Alarm Symbol and Alarm Viewer ActiveX controls hosted in CimView.
41947	Added a Crash Dumps Location and Number Of Crash Dumps to retain parameter to WorkstationST's General tab to allow the WorkstationST service to configure windows error reporting to save crash dumps.
41999	Reduced the Group Added and Group Removed logging from the OPC DA server log. Now these messages are only written when verbose logging is enabled.
42065	Removed some nuisance logging regarding Alarm Server feature configuration requested when not enabled.

Reference	Release Note
42102	Corrected a problem where the WorkstationST OPC DA server was updating values for OPC Items that are marked as inactive.
42103	Modified the service startup type back to auto, rather than delayed auto, for the WorkstationST service.

12.7.3 Mark VIe V06.03.07C

Reference	Release Note
39769	In systems with Foundation Fieldbus, when communication is interrupted between the (non-designated) controller and the switch connecting it to the (designated) controller all H1 device inputs may go unhealthy. The heartbeat mechanism used to detect the failure and cause the primary linking device to swap has been updated. The issue has been completely resolved.
42006	In systems with Foundation Fieldbus with a macro cycle of 320ms it is possible to get a status 68 or a fault on inputs when the primary linking device switches. This issue has been resolved by increasing the number of macro cycles before declaring a status 68 from 3 macro cycles to 4. In addition, the time to declare a fault has been increased from 4 macro cycles to 5. These changes are for macro cycles of 320ms only. It is still possible to get a status 68, although much less likely, but not a fault.
42059	In systems with Foundation Fieldbus, during initialization the controller may improperly initialize the live list such that an H1 device(s) may show as decommissioned via ToolboxST until the controller is rebooted. This usually involves the first segment although could affect the first three segments. During this time the synchronous communications (inputs/outputs) are still working properly although these devices will not be able to be downloaded via ToolboxST. This issue affects an individual controller. Therefore, connecting to a redundant controller should show these devices as healthy. The issue has been completely resolved.
42093	Foundation Fieldbus PFFA LINK_OK, L3DIAG and ATTN status now update.

12.7.4 PPRO V05.05.00C

Upgrading to PPRO V05.05.00C will require an offline load to the MarkVIe system. The new enhancement is operational only if it is enabled, and it defaults to Disabled.

Reference	Release Note
41319	NEW! The PPROS1B now supports Rate-based overspeed as part of the firmware overspeed function. Refer to the "Rate-based Overspeed Trip (RBOS)" section in the PPRO help for more information.

12.7.5 Previously Released

The following components, also in Service Pack 4, were previously released since ControlST V07.01.01C.

- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIeS V05.03.02C
- PPRF V05.00.02C

12.8 ControlST V07.01.01C SP05 (January 2018)

A maintenance release.

12.8.1 Virtual Mark VIe V06.02.03C

Reference	Release Note
41433	NEW! DCS blocks M_O_V_V4 and M_O_V_JOG_V3 added with block help and block pictures.

12.8.2 Virtual Mark VIe 64-bit V06.02.03C

Reference	Release Note
41433	NEW! DCS blocks M_O_V_V4 and M_O_V_JOG_V3 added with block help and block pictures.

12.8.3 Previously Released

The following components, also in Service Pack 5, were previously released since ControlST V07.01.01C.

- ToolboxST V07.01.05C
- WorkstationST V07.01.05C
- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIe V06.03.07C
- Mark VIeS V05.03.02C
- PPRF V05.00.02C
- PPRO V05.05.00C

12.9 ControlST V07.01.01C SP06 (February 2018)

A maintenance release.

12.9.1 ToolboxST V07.01.06C

Reference	Release Note
42224	Corrected a build error that occurs when defining remote alarm connections and the EGD consumption lists do not match between the remote primary and secondary. The error should have only been generated for alarm source capable type consumed device, (such as controllers), differences, and not for devices that are not able to be an alarm source.
42218	Corrected issue for PROFINET devices that would prevent the build if the gsdml file did not have allowed range for parameters.
42419	An issue with the Variable Value Editor setting values for control constants in certain cases is now fixed.
42450	Corrected a problem where EGD consumed analog alarm variables were being assigned controller address tokens.
41404	Corrected an issue where events shown in the Trender for a System Component source were sometimes incorrectly showing a variable name from a referenced device. For example, if a controller G1 were referencing a controller B1 the incorrect B1 variable could be shown in the events tab for a G1 alarm/event.
42225	Corrected the Alarm and EGD Page column data seen in the View Global Variables dialog for referenced EGD variables. They were previously shown as blank and Not Alarmed for all referenced variables.
42296	Fixed an issue where the scan for a workstation download where screens are not selected for auto downloading, takes a large amount of time when there are a larger number of screens.
42414	Fixed an issue where a device compare wouldn't pick up changes to a Mark VI Rack IO configuration.
Additional	41266

12.9.2 WorkstationST V07.01.06C

Reference	Release Note
41404	Corrected an issue where events shown in the Trender for a System Component source were sometimes incorrectly showing a variable name from a referenced device. For example, if a controller G1 were referencing a controller B1 the incorrect B1 variable could be shown in the events tab for a G1 alarm/event.
42120	Correcting an inefficient response to a master symbol table change, which caused some CIMPLICITY timeout and spurious unhealthy data.
42125	Modified some WorkstationST service initialization to shorten the time it takes to respond to a service start and avoid a timeout at reboot. Mostly seen in Windows 10.
42184	Corrected an Alarm Viewer ActiveX crash that resulted in a CimView crash seen in a screen cycle test.
42311	Corrected a crash of the OPC DA server which occurred under heavy screen cycle testing. The crash occurred when an item was being removed from the OPC DA group and the variable was an intrinsic variable which is created based upon client usage.
42346	Corrected a problem where the OSM was no longer able to consume non-EGD variables from a MarkVI. The bug was introduced with a MarkVIe security enhancement in the V06.00 release.

Reference	Release Note
42456	Corrected an issue where values were updated to OPC DA or UA clients when a major signature difference exists. The quality of the variables was changed to bad, but the values were updated, resulting in potentially bad data.
42573	Corrected a problem where values in CimView were incorrect after screen navigation when an alternate measurement system was selected. This problem was introduced in V07.01.05C
Additional	42220

12.9.3 Mark VIeS V05.03.03C

Reference	Release Note
42620	ToolboxST View->Diagnostics->Controller Advanced Diagnostics is available.

12.9.4 PVIB V05.01.04C

Reference	Release Note
41231	The PVIB now supports TVBAH#B and TVBAS#B terminal boards.
41264	The lower limit of the Filtrlpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

12.9.5 YVIB V05.01.03C

Reference	Release Note
41232	The YVIB now supports the TVBAS#B terminal board.
41265	The lower limit of the Filtrlpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

12.9.6 Previously Released

The following components, also in Service Pack 6, were previously released since ControlST V07.01.01C.

- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIe V06.03.07C
- PPRF V05.00.02C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.03C
- Virtual Mark VIe 64-bit V06.02.03C

12.10 ControlST V07.01.01C SP07 (February 2018)

A maintenance release.

12.10.1 ToolboxST V07.01.07C

Reference	Release Note
42697	When instancing Programs from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of program variables even in linked tasks. Re-instancing the program would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instancing behavior has been changed to always restore the Library version of the Program Variable connection, and modification of Connection has been disallowed in linked programs going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the program.
42735	Improved the performance of building a WorkstationST with a lot of consumed devices that have many aliases configured.

12.10.2 WorkstationST V07.01.07C

Reference	Release Note
42769	Corrected an Alarm Symbol update during dispose that was causing a CimView crash during a screen cycle test in Longmont.

12.10.3 Previously Released

The following components, also in Service Pack 7, were previously released since ControlST V07.01.01C.

- Mark VIeS V05.03.03C
- PVIB V05.01.04C
- YVIB V05.01.03C
- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIe V06.03.07C
- PPRF V05.00.02C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.03C
- Virtual Mark VIe 64-bit V06.02.03C

12.11 ControlST V07.01.01C SP08 (March 2018)

Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1.

12.11.1 ToolboxST V07.01.08C

Reference	Release Note
42822	Corrected a problem in EX2100 and LS2100 device types, where they could no longer be selected as Consumed on the General tab of the WorkstationST component editor.
42853	Corrected incorrect build warning for EGD consumed variables being flagged as configured as an analog alarm, which is not supported in this product. The warning was introduced by a change to ensure analog alarm information was present in the global variable view for EGD consumed variables.
42911	When instancing Tasks from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of Task variables even in linked tasks, if the parent program was inline or unlinked. Re-instancing the task would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instancing behavior has been changed to always restore the Library version of the Task Variable connection, and modification of Connection has been disallowed in linked tasks going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the task.

12.11.2 WorkstationST V07.01.08C

Reference	Release Note
42827	Corrected a problem where the configured OPC DA client user name and password were not being used by the embedded OPC DA client in the WorkstationST OPC DA server.
42906	Corrected an error dialog seen when closing the parent child live alarm window accessed from a parent or child alarm in the variable column of the live alarm viewer. The error dialog was only seen in the ActiveX version of the alarm viewer.
42916	Corrected a problem seen with the ActiveX alarm viewer in a screen cycle test where an error dialog indicated a thread no longer existed when attempting to invoke a call. This is likely never to be seen on a real operator driven system, but should be addressed in order to allow it to be avoided during performance testing.
42936	Corrected the install build to mark the Trender executable as large address aware for the WorkstationST install.

12.11.3 Previously Released

The following components, also in Service Pack 8, were previously released since ControlST V07.01.01C.

- Mark VIeS V05.03.03C
- PVIB V05.01.04C
- YVIB V05.01.03C
- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIe V06.03.07C
- PPRF V05.00.02C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.03C
- Virtual Mark VIe 64-bit V06.02.03C

12.12 ControlST V07.01.01C SP09 (May 2018)

Special release for any site running WorkstationST V07.01.08C that uses the alarm sound feature with Mark V and/or Mark VI controllers.

12.12.1 WorkstationST V07.01.09C

Reference	Release Note
43793	Alarm sounds for Mark VI and Mark V did not function properly in the V07.01.08C and V07.02.00 - V07.02.03 releases. Alarm sounds will now again be played. Alarm acknowledgment will silence the sound.

12.12.2 Previously Released

The following components, also in Service Pack 9, were previously released since ControlST V07.01.01C.

- ToolboxST V07.01.08C
- Mark VIeS V05.03.03C
- PVIB V05.01.04C
- YVIB V05.01.03C
- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- Mark VIe V06.03.07C
- PPRF V05.00.02C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.03C
- Virtual Mark VIe 64-bit V06.02.03C

12.13 ControlST V07.01.01C SP10 (September 2018)

Maintenance release driven by security updates and the 206 Day issue that affects the UCSA, UCPA, and AEPC platforms. Refer to Controls Service Bulletin (CSB25375), *Loss of Controller Connectivity and/or Alarms in ControlST V07.01 through V07.03*

12.13.1 Security

The RTS Hypervisor was updated to include security updates from the manufacturer.

12.13.2 Mark VIe V06.03.09C

Reference	Release Note
44155	Security update
44475	On UCSA, UCPA, and AEPC platforms, after running for 206 days, controller communication over the UDH network can slowly degrade to where alarm transitions from the controller fail to transmit (resulting in the generation of Diagnostic Alarm 320) and attempts to connect to the controller returns the error 'The device responded to GetNumVars with the error: GENERAL_FAILURE'. This issue has been completely resolved.
Additional	38897

12.13.3 PHRA V05.00.02C

Reference	Release Note
44533	An issue was fixed where HART® DTMs (Device Manager Essentials) could not properly communicate with AnalogOutput02 (HART® Channel 12) on the PHRAH1B. The PHRAH1A does not have this issue.

12.13.4 Previously Released

The following components, also in Service Pack 10, were previously released since ControlST V07.01.01C.


- ToolboxST V07.01.08C
- WorkstationST V07.01.09C
- Mark VIeS V05.03.03C
- PVIB V05.01.04C
- YVIB V05.01.03C
- YSIL V05.03.01C
- ARES V07.03.00C
- WEPA V05.04.03C
- AEPA V05.04.03C
- PPRF V05.00.02C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.03C
- Virtual Mark VIe 64-bit V06.02.03C

13 V07.00 Release Notes

Initial Release: December 2016

13.1 V07.00 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694)*, Appendix B, *Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

Component	Release Notes
 <p>ToolboxST</p>	<p>The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.</p>
	<p>Using the Configuration Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.</p>
	<p>Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer reboot. To avoid these issues, keep video drivers up to date. Other workarounds; refer to the document included on the ControlST installation DVD.</p>
	<p>There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller's device state must be either "Inputs Enabled" or "Controlling". It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log.</p>
	<p>It is recommended to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.</p>
	<p>ControlST 7.0 implements terminal services licensing, and introduces an unintended login constraint. Users will encounter a license message when initiating multiple ToolboxST, Alarm Viewer, or Trender sessions. This could affect scenarios involving second language usage and remote logins, as examples.</p>

ControlST Support for Windows Server 2012 R2 and Windows 10

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported. Testing revealed intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface has been validated with ControlST V07.00.00C under Windows 10. Hardware interface options are not yet specified.
- Windows 10 does not currently permit teaming of Intel network interface cards. This is not an issue in ControlST, but affects users of ControlST under Windows 10. The Intel driver support web site has this information posted for their latest driver (Ver 21.1, 10/11/2016):

13.2 V07.00 Suite Components

See Component Registry: [ControlST Component Registry](#)

13.3 V07.00.00C (December 2016)

13.3.1 V07.00.00C New Products

Mark* Vle and Mark Stat UCSC Controllers

Application: For Wind power conversion, the UCSC runs the Mark Stat firmware and applications. As a turbine or balance of plant (BoP) controller, it runs the Mark Vle firmware and applications.

Description: The UCSC controllers are a product line of stand-alone computers that run specialized control system logic for a variety of GE large industrial, turbine, and balance of plant applications. The UCSC controller requires ControlST V07.00.00C or later, and is loaded with software specific to its application. Minor modifications to some Mark Vle applications may be made online without requiring a controller reboot. The H1A version of the UCSC includes a quad core processor and three virtual machines:

- Mark Vle controller running on QNX® Neutrino, a real time, multitasking OS designed for high-speed, high-reliability industrial applications
- Embedded PROFINET® Controller (EPNC) allows communication with PROFINET I/O devices, including RSTi slice I/O
- Embedded Field Agent (EFA) allows communication with GE PREDIX cloud-hosted applications and/or locally hosted web applications



References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

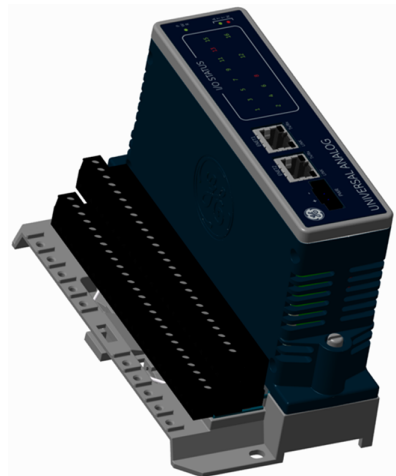
WI: 35310

Mark Vle PUA Universal I/O Pack

Application: The Mark* Vle control system is used in a wide range of process control and turbo-machinery applications. The PUA module is an enhanced I/O device, designed for distributed control systems (DCS) and balance of plant (BoP) control systems (where there are typically up to tens of thousands of I/O points, requiring high availability).

Description: This module offers a reduction of cost per I/O point as compared to traditional analog I/O modules (while maintaining high availability). A three-wire channel is located on a single terminal block section that fits onto a row of the header. Each block section can be independently wired and then inserted, allowing channel by channel commissioning. This enables much faster and more reliable terminations and decreases time to commission / maintain the system. The PUA module requires ControlST V07.00.00C or later. New features in this release include:

- HART (mA inputs and outputs, certification to specification 7.5)
- Discrete 24V input (1 msec SOE, NAMUR type input)
- Slow speed pulse accumulator input



References:

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 35314

13.3.2 V07.00.00C New Features

Windows 10 Compatibility

Application: All ControlST applications.

Description: ControlST V07.00.00C has been tested with Windows 10 Pro 64 bit Version 1607 (OS Build 14393.187), CIMPLICITY 9.5, and Proficy Historian 7.0. See Known Issues.

References:

[ControlST Software Suite Installation and Upgrade \(GEI-100694\)](#)

WI: 23472, 27400

Enhanced OPC-UA Performance

Application: OPC UA protocol applications, including Control System Health

Description: The OPC UA Server is a feature of WorkstationST that implements the Data Access portion of the OPC UA protocol. Memory usage was improved, reducing memory to approximately 25% of its previous footprint.

References:

[WorkstationST* OPC® UA Server Instruction Guide \(GEI-100828\)](#)

[WorkstationST* Control System Health Instruction Guide \(GEI-100834\)](#)

WI: 34935

HART Support in YSIL and PUAA via Device Manager Gateway

Application: General and Safety I/O

Description: Tool support was added to allow users to distinguish between YSIL and PHRA, and to allow configuration of the PUAA Universal I/O modules.

References:

[Mark VIe and Mark VIeS Control Systems Volume III: For GE Industrial Applications \(GEH-6721 Vol III\)](#)

[Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[WorkstationST* Device Manager Gateway Instruction Guide \(GEI-100757\)](#)

[Device Manager User Guide \(GEH-6821\)](#)

WI: 35705

Additional YSIL Functionality

Application: Safety I/O.

Description: YSIL now supports individual Emergency Trip Control (ETR) control from signal space in Trip mode using an ETR#_Open command. This functionality now matches similar functionality on PPRO and YPRO I/O Packs, in the "Test ETR" function

References:

[Mark VIe and Mark VIeS Control Systems Volume III: For GE Industrial Applications \(GEH-6721 Vol III\)](#)

WI: 34101

Improved Foundation Fieldbus Performance

Application: Foundation Fieldbus

Description: ToolboxST no longer uses device static revision (ST_Rev) polling to determine what needs to be downloaded in a Foundation Fieldbus configuration. Instead, an internal mechanism is used that provides a more responsive, accurate picture of “equality” between what is configured and what is resident on field devices. This should allow more granular downloads, which should improve performance overall, and provide a better experience during commissioning.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

[Mark Vle and VleS Controls Volume II System Guide \(GEH-6721 Vol II\)](#)

[Mark Vle Control FOUNDATION Fieldbus™ Interface Application Guide \(GEH-6761\)](#)

WI: 37139

Improved EGD

Application: General Application, particularly during upgrades

Description: Enhanced ToolboxST to allow picking of consumed devices from the EGD configuration server device list rather than restricting the selection to devices included in the ToolboxST project only. This allows multiple TCW files to interact with the same EGD configuration server. Publishing system information is only possible if the system name matches the last saved system name unless overridden by the user using the new enhanced view EGD differences dialog.

References:

[ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#)

WI: 35706

ARES Block Library Upgrades

Application: ARESBlockLib

Description:

Upgrades include:

- Added A9HA04C0616
- Added A9HA03B0616
- Added A7HA04C0616

References:

CHM file only

WI: 35706

13.3.3 V07.00.00C Issues Resolved

13.3.3.1 ToolboxST V07.00.00C Bug Fixes

Reference	Release Note
35199	Fixed an issue that caused the replication of External devices to fail.
37100	The constant import now skips variables with a value of (Not Used) in the .csv file.
35164	A Help file can be associated with a Program Definition in a Library. This fixes the issue where that Help file wasn't being shown when the Program was instantiated in a device.
33471	Fixed an issue in the FOUNDATION Fieldbus feature where a block created by Block Instantiation would not have an Alarm Configuration Tab until after ToolboxST was reopened.

Reference	Release Note
15955	Fixed an issue that caused the Distributed I/O Hardware tree to be too small after a window resize.
29757	Fixed an application error originating in the LiveList.dll.
36049	PPRF now works with Siemens SENTRON LV breaker.
20560	Remove variables from status page if the producer ID of an IO Pack has changed because it was added to or removed from a Shared IO Net.
17341	Corrected issue where the user could right click on the PPRF master in the PROFIBUS Network and delete the PPRF master. This will be corrected for any newly inserted PPRFs. This will not stop the right click delete of previously existing PPRFs.
18482	The Enable Property on the Ports for the Mark Ve (PMVE) has been removed.
19221	Added a validation error if a UDH EGD multicast address conflicts with a multicast address on IONet.
29906	Custom validation errors for Parameters on IO Packs now contain a location code for the exact Parameter. Now, if one of these items are double clicked on in the log window, the user is taken to the exact Parameter associated with the notification in the log window.
32346	Corrected an issue in the FOUNDATION Fieldbus H1 Device import that was writing an invalid string to output parameters.
33449	When defining multiple blocks with the same name in different libraries, normally the first library referenced in the device "wins" when resolving the block. However, when a Library was modified while a Device referencing that library was open in ToolboxST, the order in which libraries were resolved in the device was reversed until the device window is closed. If a block with multiple possible definitions was added to the device or re-instanced during this period of reversal, the wrong block definition was used. This reversal behavior has been corrected, but it is still not recommended to use duplicate block definitions. Try to create unique names for blocks, or utilize the "libraries referencing libraries" feature to avoid the need for duplicate block definitions.
16636	In the Force Variable report when printing the column name 'DescriptionAlt' was renamed to 'Second Language Description'.
36002	Resolved issue where the Where Used tab in a library container could in some circumstances omit the variable definition location.
35767	Resolved issue where the application would fail if the user canceled entering a requested password when uploading a controller.
19464	Removed invalid user message when trying to modify a live value in a Watch Window.
18952	Resolved issue where after doing a Save-As on the system, trenders, watch windows and liveviews would still be using configuration information from the original system.
36323	Resolved issue where clicking 'Get System from Repository' did not always display the login form.
36458	Resolved issue where doing a Get Latest on a library within a library container did not correctly refresh CMS status.
36940	Added the ability for the Trender to interact with the Certificate store for OPC UA client connections and to prompt the user to trust a server's certificate.
33468	Added the ability to pass command line arguments when launching the Trender from CIMPLICITY and added the DisableBackFill argument to allow Trender to start without attempting to get historical backfill for traces.
33475	Corrected a problem where the user was not notified if files were modified by another process while they were opened by ToolboxST.
33557	Corrected the behavior when an error is encountered with reading CSV data, the already processed data was not displayed. The Trender now displays the data processed prior to the error line.

Reference	Release Note
34591	Corrected an issue where the OK and Cancel buttons were not visible on the Select a Variable dialog when adding OPC DA sourced variables to a trend.
34694	Fixed a bug where if an EGD configuration server contains duplicate named devices with different producer IDs, adding a local workstation trend source was resulting in a failure error dialog.
36394	Fixed an issue where digital inputs on the PUAA would display "unused" as their live values after the controller was closed and then reopened.
36953	Fixed an issue where SharedIONet devices in multi-nested groups would lose their connected variables upon loading the device
37095	Fixed an issue where Simple Replicate would lose the padding at the end of a device or group's name.
34644	In a SharedIONet system, if one controller in the SharedIONet didn't have the correct version installed, the I/O configuration would be lost when the other controller was opened. Now, if either controller does not have the correct version installed, neither can be opened.
34697	Hyphens are no longer permitted in the location code of IO packs.
35950	Fixed an issue where a device in a SharedIO Net would lose its connected variables when the other device in the SharedIO Net had its complete configuration uploaded.

13.3.3.2 WorkstationST V07.00.00C Bug Fixes

Reference	Release Note
13855	Corrected a problem where the OPC UA nodes were not updated with the Historizing flag after a configuration change to a variable for either a Recorder or Historian variable.
17946	Corrected a problem where the additional status view in the WorkstationST status monitor did not resize row heights when multiple rows were selected during a manual resize or when the wrap text mode was selected.
18952	Resolved issue where after doing a Save-As on the system, trenders, watch windows and liveviews would still be using configuration information from the original system.
19898	Corrected an issue where the proxy host name was incorrect in the OPC DA server's additional status information.
28349	Fixed a problem where the HMI screen files feature was not stopped when the workstation was re-configured with the HMI feature no longer enabled.
33153	Modified the OPC DA server's default maximum client rate from 320 to 250 milliseconds. The Trender Local WorkstationST source defaults to 250 milliseconds and recorder collections default to 500 milliseconds. This change will make data coherency better.
33468	Added the ability to pass command line arguments when launching the Trender from CIMPLICITY and added the DisableBackFill argument to allow Trender to start without attempting to get historical backfill for traces.
33557	Corrected the behavior when an error is encountered with reading CSV data, the already processed data was not displayed. The Trender now displays the data processed prior to the error line.
33800	Browsing some OPC UA servers where node IDs are returned with namespace URI's in the identifier text caused our Browse client to fail. This would be for any use of the OPC UA browser in the Trender, or in ToolboxST's test clients or OPC UA embedded client configuration in the WorkstationST component editor's OPC UA tab.
33834	Improved logging of bad data conversion when a client writes OPC UA variables. Also now we allow a client to write a double for a float variable.

Reference	Release Note
34148	Fixed a problem where the OPC UA client used in the Trender or embedded in the WorkstationST OPC UA server was not able to connect to the MarkVle OPC UA server. The typical URL used to connect uses an IP address, (such as opc.tcp://172.16.16.6:4841). The MarkVle server returns a list of endpoints with a URL containing the name of the MarkVle and the OPC UA client rejected this URL. A work around for this issue in prior releases would be to add the controller name into the host file where the OPC UA client is running (such as 172.16.16.1 G1-R).
34591	Corrected an issue where the OK and Cancel buttons were not visible on the Select a Variable dialog when adding OPC DA sourced variables to a trend.
34694	Fixed a bug where if an EGD configuration server contains duplicate named devices with different producer IDs, adding a local workstation trend source was resulting in a failure error dialog.
35035	Corrected a problem where renaming a WorkstationST owned variable with a recorder deadband resulted in a build error that could not be cleared until the WorkstationST component editor had been closed and re-opened. Additionally corrected a problem where WorkstationST owned variables that are not on EGD with a recorder deadband configured, were not being collected by the continuous live collection.
35709	Corrected a problem where WorkstationST was creating a CimView.cfg file with an incorrect path for the name element for cases where CIMPLICITY had not already created the default file.
35787	If the Browse for Plant Areas or Browse for Devices dialog Com2ControlST scripts are run from CimView, then a subsequent call to display the Tagout dialog results in hanging CimView.
35880	Corrected the issue that was causing the WorkstationST Alarm Viewer to terminate when opening a D03 file for display.
36326	Corrected a problem where changing the recorder deadband for multiple selected WorkstationST variables was not updating the WorkstationST's Continuous Live Recorder collection.
36388	Corrected a problem where an OPC UA connection to a server using the OPC UA client configured from the OPC UA server tab of the WorkstationST component editor was not using the Use Security configuration setting. This setting defaults to True. Configuring the client to not use security did not work.
36433	Corrected the produced page health driven by an embedded OPC UA client connection health. The health of the page was not being correctly driven by OPC UA client health.
36940	Added the ability for the Trender to interact with the Certificate store for OPC UA client connections and to prompt the user to trust a server's certificate.

13.3.3.3 CMS Server V07.00.00C Bug Fixes

Reference	Release Note
35694	Resolved an installation issue under Windows 10.

13.3.3.4 GE Historian Reports

Reference	Release Note
34713	Corrected a problem preventing Historian Reports to fail to install on Windows 10.

13.3.3.5 Mark VIe V06.02.00C Bug Fixes

Reference	Release Note
31034	The Unknown Exchange Count for a controller on a shared IO Net will no longer increment if the other controller in the shared IO Net has additional EGD exchanges.
32326	NULCOMP1 now acts correctly at limits.
32993	Microsoft patch MS16-061 changed SSL to allow messages to be broken into multiple packets causing a failure to download IO Packs when in Secure mode. IO Packs now download when in secure mode.
34620	The AUTO_ONLY_P pin from the GRP_V2, GRP_V3, M_O_V_V2, M_O_V_V3, STARTER_V2 and STARTER_V3 blocks will automatically be added to the EGD status page.
35243	The PID_MA_ENH, PID_MA_ENH_V2, OVR_ST_ENH and OVR_ST_ENH_V2 blocks will now lock the CV and CVO outputs when the MOD_OPT input set to LOCK even if when a FORCE or OVERRIDE is requested.
36046	The diagnostic alarm 544, Communications error with Certificate Authority Server, was activating occasionally even in situations where the device is properly communicating with the certificate authority. The issue has been completely resolved.
36235	In the EGD subsystem there is a specific situation where IO may be marked unhealthy in the application after an online download. For this situation to occur the following must all be true. <ol style="list-style-type: none">1. The device has Shared IONet enabled.2. The device is receiving inputs owned by the other device in the Shared IONet system.3. The device has a faster frame rate than the other device in the Shared IO Net system. If all of these are true then an input from the other device in the Shared IONet system may go unhealthy for one or more frames until the input is received again. This situation has been corrected by only allowing the EGD subsystem to swap applications on the frame before inputs will be received from all IO modules.

13.3.3.6 Mark VIeS V05.03.01C Bug Fixes

Reference	Release Note
36059	When using the Configure Network Address option of the Controller Setup Wizard in ToolboxST the user is not prompted to enter the controller password resulting in a failure to set the IP address on the controller if the user has changed the controller password from the default. The issue has been completely resolved.
36833	Microsoft patch MS16-061 changed SSL to allow messages to be broken into multiple packets causing a failure to download IO Packs when in Secure mode. IO Packs now download when in secure mode.

13.3.3.7 ARES V07.00.00C Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
36027	Updated filter block to properly initialize array.

13.3.3.8 Virtual Mark VIe V06.02.00C Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
36015	Fixed an issue causing ToolboxST status window to display "Platform not Equal" error for Virtual Controller.
36168	Fixed an error causing alarm process to lose synchronization with application when running in fast mode, resulting in HMI failing to show all active alarms. Diagnostic: "Virtual MarkVIe Controller Out of Memory: App message queue full! Alarm transitions are missed out."
36423	Rebuilt Virtual Mark VIe in optimized mode.

13.3.3.9 EX2100e V04.10.00C Bug Fixes

Reference	Release Note
34499	Fixed a problem that prevented alarms from being displayed on touchscreens.

13.3.3.10 LS2100e V04.10.01C Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
34500	Fixed a problem that prevented alarms from being displayed on touchscreens.

13.3.3.11 AEPA V05.02.01C Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
35660	An issue was fixed where the torque can be zeroed while running if the DC link voltage input value falls below parameter setting, DCLinkVoltageThreshold.

13.3.3.12 WEPA V05.02.06C Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
33552	An issue was fixed to improve reliability of converter downloads for BPPB to MK22.
34695	The WEPA converter now supports new WP5o MK22 firmware.
35868	An issue was fixed where intermittent reboots were caused by serial communication errors.
36354	An issue was fixed where the Charger CommOK was intermittent when communication was not working.

13.3.3.13 PSCA V05.00.01 Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
33134	The formatting and descriptions for Electric Drive parameters in ToolboxST have been updated.
33920	For the electric drive interface of the PSCAH1B, a compatibility issue has been fixed where the connected drive would respond with an unexpected additional parameter (evidenced by the presence of the "Electric Drive Port # Save Command Failed" diagnostic alarm).

13.3.3.14 PVIB V05.01.03 Bug Fixes

(Recently released in ControlST V06.02.02C)

Reference	Release Note
34085	An issue was fixed where the PVIB would show a warning in ToolboxST on upgrade to V05.01.

13.3.3.15 YSIL V05.03.00C Bug Fixes

Reference	Release Note
21098	YSIL now uses protection speed (calculated at 2 ms) for Overspeed trip detection. Previously it was using a version of speed that was calculated less frequently (10 ms).

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13.4 PMVD V04.06.05 (December 2016)

Reference	Release Note
36523	An issue was fixed where a sudden drop in wetting voltage could cause all digital inputs to drop out.
36854	An issue was fixed where the signal filters on digital inputs were not working properly.

13.5 WEMA V05.00.01C (January 2017)

Changes — WEMA V05.00.01C

Reference	Release Note
37404	Digital Outputs CustomRelay1DO and CustomRelay2DO no longer generate diagnostic alarms 40 and 41 "Digital Output # (TB3- Ports # & #) failed" when configured as Unused.

13.6 ToolboxST and WorkstationST V07.00.01C (January 2017)

Changes – ToolboxST V07.00.01C

Reference	Release Note
37462	NEW! ControlST V07.00.00C now supports multi-user licensing. Each concurrent user/logon on a single PC or Virtual Machine requires one "Terminal Services Client" license, which enables any combination of ToolboxST, WorkstationST, Trender, and Alarm Viewer, including multiple instances of each. Purchase of ControlST comes with licensing for up to two users. Additional licenses may be purchased. ToolboxST V07.00.01C contains a minor correction to the feature that was released with ControlST/ToolboxST V07.00.00C, allowing two default users instead of one.
37463	NEW! A new "PFFA Schedule Download" pick in the FOUNDATION Fieldbus Download Wizard has been provided to force a DLD_LD_FULL download option even if not all the H1 devices are present.
35199	ToolboxST supports the replication of devices for most device types. External devices behave slightly differently than most other components. This release fixes an issue involving device validation that caused the replication of external devices to fail.
36533	Improved behavior of Get Latest CMS function when the items had been modified while working disconnected and had not been previously checked out.
37070	The Block Library Creator tool automatically creates Mark* V1e controller block libraries from control models that are developed by a user with the graphical design tools provided by MATLAB™ Simulink™. With the release of ControlST V07.00.01C, this tool is sold separately as part of the Advanced Developer Toolkit. This bug fix assures that ToolboxST systems include libraries created with the Block Library Creator in CMS and system archives. These libraries need to be placed under a folder called 'CustomRuntimeLibraries' under the system folder."
37294	Corrected issue where Servo Calibration would fail if the Trender was closed during Calibration.
37423	Corrected a problem where Viewing Differences between the ToolboxST project and the EGD Configuration Server from the ToolboxST system overview was showing differences that were not correct. The condition occurred if differences were viewed within 10 seconds after a component save.
37431	Fixed an issue in the WorkstationST component editor's general tab, where selecting multiple consumed devices and editing the consumption setting (No/Yes/Status Only/By Proxy), did not always change them all. After navigating away from the consumed devices node, some of the changed devices were not changed.
28409	Fixed an issue where undefined variables on the EGD page caused a ToolboxST failure.

Changes – WorkstationST V07.00.01C

Reference	Release Note
37461	<p>NEW!</p> <p>ControlST V07.00.00C now supports multi-user licensing. Each concurrent user/logon on a single PC or Virtual Machine requires one “Terminal Services Client” license, which enables any combination of ToolboxST, WorkstationST, Trender, and Alarm Viewer, including multiple instances of each. Purchase of ControlST comes with licensing for up to two users. Additional licenses may be purchased. WorkstationST V07.00.01C contains a minor correction to the feature that was released with ControlST/WorkstationST V07.00.00C, allowing two default users instead of one.</p>
37189	<p>An OPC DA server crash was occurring on a system where a font was incorrectly installed. As a work around the customer was asked to reinstall the font from the exception message in the WorkstationST’s OPC DA server log. This change now avoids the issue even if fonts are incorrectly installed.</p>
37212	<p>Corrected the failure of the embedded OPC UA alarm and condition client to initially connect and retry. If the OPC UA server was not running or the connection failed for any reason, the embedded OPC UA alarm and condition client did not retry the connection.</p>
37300	<p>Corrected a hang of the WorkstationST OPC DA server which was seen during stress testing on a Control Server using multiple terminal service’s sessions. The issue was resulting in a freeze of CIMPLICITY screen data and navigation.</p>
37322	<p>OPC DA servers with consumed by proxy devices configured where the primary proxy host is configured, but the secondary proxy host is left blank, fail to be able to return their additional status detail from the WorkstationST status monitor.</p>
37414	<p>Corrected an issue where MarkVI SOE descriptions shown in the Alarm Viewer ended with “[]”.</p>
37458	<p>External Historian variables were not showing up in the OPC UA server’s namespace.</p>
37476	<p>Corrected a problem where the variables on a produced EGD page configured with a health timeout multiplier would transition back to healthy at the end of the timeout even if they had never been written. This only occurred when the OPC UA server feature was enabled.</p>
37488	<p>Correcting a Trender application failure that occurs for the HMI Trender if WorkstationST is installed and ToolboxST has not been installed.</p>
37499	<p>An issue was fixed that prevented OPC AE alarms from being received through an OPC UA server to the embedded OPC UA alarm client in the alarm server.</p>
37577	<p>Fixed an issue where monitored Items added to OPC UA subscriptions were not being correctly removed from memory. This issue is only present in the ControlST V07.00.00C release.</p>

13.7 *NEW* Virtual Mark VIe 64-bit V06.02.01C (January 2017)

NEW PRODUCT! Virtual Mark VIe 64-bit

Reference	Release Note
NA	NEW! The Virtual Mark VIe is now available as a 64-bit product, with 64-bit interfaces. It requires a 64-bit version of either Windows 7, Windows Server 2012R2, or Windows 10. The 64-bit Virtual Mark VIe is functionally identical to the previous (32-bit) Virtual Mark VIe product, which will continue to be supported. The 64-bit product enables integration with 64-bit versions of MATLAB/Simulink for model-in-the-loop testing using the Advanced Developer Toolkit.

Note Virtual Mark VIe 64-bit V06.02.00C was originally released with a licensing issue, and quickly replaced with V06.02.01C.

13.8 WorkstationST V07.00.02C (February 2017)

Changes – WorkstationST V07.00.02C

Reference	Release Note
37667	Corrected a memory leak in the OPC DA server seen when the OPC UA feature is enabled and an OPC UA client requests a variable owned by the OPC DA server (variables by proxy, variables from OPC DA client connections, non-EGD variables from controllers). The leak was not a growing leak, but after the OPC UA client no longer requested the variable, the memory and CPU usage to update the variables remained.
37681	Corrected an issue where a reconfiguration of WorkstationST was occurring after stopping the EGD configuration server.
37801	Corrected a problem where after an un-install, the ControlST Versions application showed TrenderST application in the Installed By list.
37976	Added the DisableIncludeChains setting as default to allow certificates to be accepted by the Predix OPC UA machine adapter Client. This will be removed in a later release after the OPC foundation issues a fix for certificate chaining issues.

13.9 LS2100e V04.10.02C (February 2017)

Changes – LS2100e V04.10.02C

Reference	Release Note
38205	<p>Fixed a problem that prevented alarms from being displayed on touchscreens. This is a re-release to correct the fix (#34500) previously released in V04.10.01C, which contained an error.</p> <p>Note that, to see the effect of this fix, the “Download Info” parameter must be set to True.</p>

13.10 ControlST V07.00.00C SP03 (April 2017)

13.10.1 ToolboxST V07.00.03C

Reference	Release Note
32080	NEW! The SFC Editor now includes shape drawing tools, comment shapes, text shapes, and text shape representation of logic for transitions on SFC Pages. The SFC Editor pages can now change in size and the page border has been added to those pages.
38490	NEW! Added "Exclude from Download" option to FOUNDATION Fieldbus parameters.
38130	Fixed an issue that was causing a file archive of a system under CMS control to cause the system to show locally modified after CMS refresh.
38342	Fixed a problem where Power Conversion devices were not being downloaded from the System Download Wizard
38472	Fixed a problem in Import constants when value is Set to (Not Used) in the import value but the variable exists in the configuration.
38572	Fixed an issue where a FOUNDATION Fieldbus Alarm Limit would not accept a floating point number.
37802	Changed FOUNDATION Fieldbus download equality so that Transducer blocks that are out of service or Function blocks that are unassigned are no longer evaluated during the equality check.
37664	Changed how PPRF (PROFIBUS) files are deleted when opening and closing the GSD catalog to help with file contention on Windows 7.
38287	Devices now reload contained Library Containers when a Block Library Creator runtime library changes.
38346	Resolved an out of memory failure that could occur when doing a system Save-As if the system contained extremely large trend files.
35806	Resolved issue where application could fail in some unlikely circumstances while submitting a crash report.
38213	Defaulted the archive system file name to include the current date and time.
38597	Corrected a bug where the configuration time of EGD documents in the view differences dialog were shown incorrectly in a 12 hour format rather than a 24 hour format.
38046	An issue was resolved where copy-paste operations in the Blockware Editor subtly altered connections between pasted blocks. The issue occurred when the copied blocks included a block name that already existed in the paste target. The block would be assigned a new name that does not conflict. However, if the new name also matched a block name that was in the clipboard, connections would shift to the block with that name on the clipboard. This could happen multiple times for the same connection, resulting in connections "hopping" to the last block of a particular type in the clipboard. This problem could be difficult to detect in large user blocks, as the resulting connections were often syntactically valid.
38527	An issue was resolved when copying a Task variable with local scope and pasting it into a Program. Prior to the introduction of Member scope to program variables, it would paste as a Global. After Member was introduced, the paste resulted in Local scope, illegal on a Program variable. The issue has been fixed, and pasting now promotes the scope to Global as it did before.

Reference	Release Note
38492	Fixed an issue where upon inserting an existing device from a SharedIONet from another system into an empty SharedIONet, the C2C configuration of the input controller would be lost. Now, when inserting an existing device that is part of a SharedIONet in another system, both controllers from that SharedIONet will be inserted.
38209 38278	Other minor bug fixes.

13.10.2 *Previously Released*

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 3, were previously released since ControlST V07.00.00C, first as individual component updates, then either in Service Pack 1 (SP1) or Service Pack 2 (SP2).

- [*WorkstationST V07.00.02C*](#)
- [*Virtual Mark VIe 64-bit V06.02.01C*](#)
- [*LS2100e V04.10.02C*](#)
- [*WEMA V05.00.01C*](#)
- [*PMVD V04.06.05C*](#)

13.11 ControlST V07.00.00C SP04 (April 2017)

13.11.1 WorkstationST V07.00.03C

Reference	Release Note
20810	Corrected a problem where a download of a workstation did not perform an external historian OPC UA server namespace update.
38166	Corrected a crash that can occur when browsing variables from an OPC UA server in tools such as the Trender.
38261	Corrected the HMI feature's error when checking for global scripts with the file extension of cms to avoid the file exists error if the global script file extension is cmsrt.
38272	The Alarm viewer was prompting to save settings when no settings were changed when Use Second Language mode had been selected as the default. (Second language default mode is configured using the ToolboxST WorkstationST component editor and can also be selected from the WorkstationST status monitor's tray icon right click menu).
38292	Fix to prevent unhandled exception in Device Manager Gateway in the unlikely event of a mismatch between the reported Mark VIe linking Device topology and the Livelist.
38301	Corrected the values displayed on the OSM logic forcing web page to include the health status of the variable.
38387	Corrected a memory leak with the Alarm Symbol ActiveX object. Each creation of an alarm symbol on a CimView screen created a GDI handle that was not released. After 10,000 handles had been created, CimView would fail.
38388	Corrected a WorkstationST service failure to run when a corrupted Com2ControlST assembly resided in the CIMPLICITY install executable folder.
38395	Corrected a rare occurrence where the workstation by-proxy connection for live data was healthy, but was no longer able to send requests to add new variables or send keep alive ping messages.
38752	Corrected a problem where the alarm viewer would play sound for MarkVI alarms. Sound and silence of sound is not supported in the MarkVI platform. The silence and un-silence commands are no longer enabled for MarkVI alarms and MarkVI alarms in classes with sounds are no longer played.
38917	Control System Health/ Network Monitor was modified to handle the updated IE2000 switch IOS version 15.2(4)EA5. Control System Health/ Network Monitor was unable to read the port data from IE2000 switches with the updated IOS.

13.11.2 PSCA V05.00.02C

Reference	Release Note
38345	An issue was fixed with Modbus outputs where some Boolean outputs on HoldingRegister pages would not properly change-detect the output state, causing delay in output writes (or no update if RefreshOutput parameter is disabled).

13.11.3 EX2100e and EX2100e_Reg V04.10.01C

Reference	Release Note
38537	Added Support for UCSB H4.

13.11.4 LS2100e and V04.10.03C

Reference	Release Note
38537	Added Support for UCSB H4.

13.11.5 Mark VIe V06.02.01C

Reference	Release Note
38961	The PID_MA_ENH, PID_MA_ENH_V2, OVR_ST_ENH and OVR_ST_ENH_V2 blocks will now ignore a FORCE or OVERRIDE request and not set the CV and CVO outputs to the FV or OV respectively when the MODE_OPT input is set to LOCK.
38962	Analog Alarms that are deleted get removed from the alarm queue during an online download.
38963	Foundation Fieldbus Signal Status becomes Uncertain (68) after 3 macrocycles of stale data instead of 2.

13.11.6 Mark VIeS V05.03.01C

Reference	Release Note
36059	When using the Configure Network Address option of the Controller Setup Wizard in ToolboxST the user is not prompted to enter the controller password resulting in a failure to set the IP address on the controller if the user has changed the controller password from the default. The issue has been completely resolved.
36833	Microsoft patch MS16-061 changed SSL to allow messages to be broken into multiple packets causing a failure to download IO Packs when in Secure mode. IO Packs now download when in secure mode.

13.11.7 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 4, were previously released since ControlST V07.00.00C, either as individual components or in previous Service Packs.

- [ToolboxST V07.00.03C](#)
- [Virtual Mark VIe 64-bit V06.02.01C](#)
- [WEMA V05.00.01C](#)
- [PMVD V04.06.05C](#)

13.12 ControlST V07.00.00C SP05 (May 2017)

13.12.1 PCMI V05.00.02C

Reference	Release Note
38838	An issue was fixed in the PCMI which could potentially cause the VSVO output current to fluctuate unexpectedly on startup.

13.12.2 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 5, were previously released since ControlST V07.00.00C, either as individual components or in previous Service Packs.

- [ToolboxST V07.00.03C](#)
- [WorkstationST V07.00.03C](#)
- [Mark VIe V06.02.01C](#)
- [Mark VIeS V05.03.01C](#)
- [Virtual Mark VIe 64-bit V06.02.01C](#)
- [EX2100e and EX2100e Reg V04.10.01C](#)
- [LS2100e and V04.10.03C](#)
- [WEMA V05.00.01C](#)
- [PMVD V04.06.05C](#)
- [PSCA V05.00.02C](#)

13.13 ControlST V07.00.00C SP06 (June 2017)

13.13.1 ToolboxST V07.00.04C

Reference	Release Note
39258	Fixed an issue where an empty RUNG block equation could cause an application error.
39811	Fixed an issue where FOUNDATION Fieldbus Enhanced Parameters on assigned blocks were lost after copying and pasting FF H1 devices.
39276	Corrected an issue where some devices such as the SENTRON WL/VL could not be imported into a PPRF (PROFIBUS Gateway) after being exported.
39832	An issue has been resolved that prevented the Unwritten Variables portion of the Coding Practices report from displaying unwritten variables that were named with the same name as a block pin.
39102	Corrected a problem where WorkstationST component editors were not able to consume external devices. The external devices configured in a system were not displayed in the detail view of the Consumed Devices tree node on the General tab of the WorkstationST component editor. As a workaround for this issue, you can work offline from the EGD configuration server (right click on the system overview status bar at the bottom of the windows and select work offline), then open the WorkstationST component and ensure the external device now shows up under the Consumed Devices view and has set to Yes for Consumed. Build the WorkstationST and save it. Close the WorkstationST and go back online from the system overview. Subsequent opens of the WorkstationST component editor will continue to show the external device as being consumed.
39235	Corrected an issue where plant area settings on variables could be set with white space such as an end of line character, that yielded a build warning for a missing plant area, but the plant area was present without the white space.

13.13.2 WorkstationST V07.00.04C

Reference	Release Note
39403	Corrected a crash of the WorkstationST Alarm Viewer or CimView with the WorkstationST Alarm Viewer ActiveX component, resulting when more than approximately 25,000 rows of historical alarm and event data are displayed on the short term historical alarms tab. The failure occurred when the user scrolled a long way through the long list of alarms and selected an alarm. The failure only occurred on touch panel systems where the Microsoft Tablet PC Input service was running.
39424	Corrected an issue where the Secondary alarm server did not automatically reconfigure when the primary configuration was changed. The issue occurred when the OPC UA server feature was enabled and was due to the Minor Revision not being correctly updated onto the primary's EGD status page.
39425	Corrected an error that occurred when the parent child dialog was opened from a CIMPLICITY screen and the underlying screen with the alarm viewer is navigated into the screen cache.
39463	Corrected a problem where multiple blank lines were shown in the detail view of the CSH viewer.
39468	Corrected a problem where the Control System Health feature was not correctly adding variables under the CSH namespace when the variables were dynamically added. An example of a dynamically added variable is a device that had a new network adapter added without having built and downloaded the CSH node.

Reference	Release Note
39480	"Corrected an issue with the CIMPLICITY global script call for AddToNamedTrend in WorkstationST. CMS that was causing an error when running the script. The work around is to add two lines to the AddToNamedTrend method: Dim ctxObject as GefObject GetLastEventContext ctxObject"
39850	Exposed the properties for the ActiveX Alarm Viewer view file path and the ActiveX Trender Trend file path so they can be modified through CIMPLICITY screen scripting.

13.13.3 Virtual Mark Vle V06.02.01C

Reference	Release Note
39303	Added manset3_V3 block to Turbine Library.

13.13.4 ARES Block Library V07.02.00C

Reference	Release Note
39883	Added new ARES model A7FD040316L4 (7F.04-0316-L4 with OBB input and State(7,4) temp output in addition to ancillary outputs).

13.13.5 Previously Released

A Service Pack is a cumulative collection of the latest version of all components released since the introduction of a particular ControlST branch.

The following components, also in Service Pack 6, were released since ControlST V07.00.00C in previous Service Packs.

- [Mark Vle V06.02.01C](#)
- [Mark VleS V05.03.01C](#)
- [Virtual Mark Vle 64-bit V06.02.01C](#)
- [Virtual Mark Vle V06.02.01C](#)
- [EX2100e and EX2100e_Reg V04.10.01C](#)
- [LS2100e and V04.10.03C](#)
- [WEMA V05.00.01C](#)
- [PMVD V04.06.05C](#)
- [PSCA V05.00.02C](#)

13.14 ControlST V07.00.06C (July 2017)

ControlST V07.00.06C is a full ControlST “patch” release, containing all changes included in ControlST V07.00.00C SP06, plus the following changes.

13.14.1 ToolboxST V07.00.06C

Reference	Release Note
40185	Improved System Download reliability for multiple controllers.
40038	Fixed an instancing error in systems using FOUNDATION Fieldbus.
39835	Fixed an issue where importing certain combinations of FOUNDATION Fieldbus DD files can cause configuration errors.
37303	Fixed a error during build when the device had Foundation Fieldbus in Distributed I/O tab.
38206	Additional validation has been added to FOUNDATION Fieldbus linking devices to ensure PDTags, Device Tags, Block Tags, and segment Link IDs are unique across the device. These duplicates were previously only caught by the schedule generator. The new build errors are generated sooner in the build process to save time, and provide better descriptions of how to correct the issues.
40230	Fixed an edge case issue when toggling the controller's UDH connection with Live View open.
40292	Corrected a tool failure that occurred when editing in any of the summary grids on the WorkstationST component's Recorder tab. For example changing the enable of one or more collections resulted in this crash.

13.14.2 WorkstationST V07.00.06C

Reference	Release Note
39103	The HMI CIMPLICITY project importer was enhanced to allow up to 80 character variable descriptions if the CIMPLICITY project is version 9.0 or later.
39850	Exposed the properties for the ActiveX Alarm Viewer view file path and the ActiveX Trender Trend file path so they can be modified through CIMPLICITY screen scripting.
39984	Corrected a problem where the alarm priority for analog alarm child variables, such as G1.AlarmVar.H was incorrectly returning the priority of the default alarm class "Alarm".
39986	Corrected a CimView crash resulting from an asynchronous update of an alarm symbol as the screen was being removed from screen cache.
40173	Added an executable (HistoricalAlarmsToCsv), in the WorkstationST features folder, to allow Historical Alarm Data to be export to CSV.
40192	Corrected a problem where OPC UA variables had a type definition reference to base object rather than to analog or discrete item types. This issue was introduced in the 7.0 release where memory optimization work was performed.
40236	Corrected an issue where OPC UA client writes from a client with a user name and password, did not include the user name when being logged into the controller's command and event log.

13.14.3 PHRA V05.00.01C

Reference	Release Note
40131	An issue was fixed where the PHRA could reboot if a connected HART device responds with a maximum-length HART message.

13.14.4 YHRA V04.06.04C

Reference	Release Note
39911	An issue was fixed where the YHRA could reboot if a connected HART device responds with a maximum-length HART message.

13.14.5 Virtual Mark V1e V06.02.02C

Reference	Release Note
NA	Updated the installer to install to the correct directory.

13.14.6 Virtual Mark V1e x64 V06.02.02C

Reference	Release Note
NA	Updated the installer to install to the correct directory.


Notes

14 V06.02 Release Notes

Initial Release: July 2016

14.1 V06.02 Known Issues

Note Refer to the *ControlST Software Suite Upgrade Instruction Guide (GEI-100694), Appendix B, Known Issues* for additional information when upgrading from previous versions of ControlST to this version.

Component	Component Version	Release Notes
 ToolboxST	V06.02.00C	<p>The ToolboxST application does not prevent the creation of userblock definitions with duplicate names. However, this block creation practice is strongly discouraged because in rare cases it causes unpredictable behavior (particularly if the blocks have different content). With ControlST V06.02.00C, the ToolboxST generates warnings when userblocks with duplicate names are encountered to encourage the use of a new feature – the ability for libraries to reference other libraries. Using Block Library References is the recommended alternative for such use cases.</p> <p>The pdf and help file information for this release may not match. For the most current information, refer to the pdf.</p> <p>Using the Code Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.</p> <p>Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface. Graphical glitches most often manifest as partially drawn windows, patterns of gibberish on the screen, or system errors that force a computer reboot. To avoid these issues, keep video drivers up to date. Other workarounds; refer to the document <i>Graphical Display Issues in ToolboxST Application</i> included on the ControlST installation DVD.</p>
	V06.02.02C	<p>There is a known issue involving an offline Controller download that also includes a FOUNDATION Fieldbus Linking Device (PFFA) download. In order to support a download to a PFFA, the controller's device state must be either "Inputs Enabled" or "Controlling". It is possible for an offline controller download to complete successfully and a subsequent PFFA download to begin before the controller achieves the necessary device state to support communication with the PFFA. In this instance, the PFFA download will fail and display an error in the controller log.</p> <p>It is recommended to deselect offline Controller downloads that are flagged in the Download Scan Wizard and perform an initial download to the PFFA(s) flagged for download. At the completion of this download, perform another download scan and initiate the offline Controller download. This sequence of events downloads any H1 field devices and Linking Devices before the controller is rebooted, which loses the FOUNDATION Fieldbus Live List that is necessary for communications during download.</p>

ControlST Support for Windows Server 2012 R2

- Mark V Stage Link (ARCNET) communication with HMIs and OSMs is not supported. Testing revealed intermittent hardware-related communication issues.
- OSI PI Historian is not supported.
- WorkstationST Modbus Serial Interface is not supported.

14.2 V06.02.00C (July 2016)

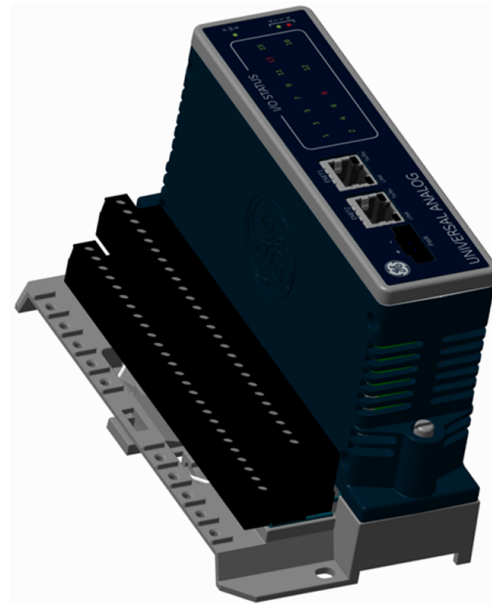
14.2.1 V06.02.00C New Products

Universal Analog I/O Module (PUAA)

Application: General-purpose I/O

Description: A new I/O module provides 16 simplex analog channels that can be configured individually as any of the following types: Thermocouple, RTD, Voltage Input (± 5 V or ± 10 V), 4–20 mA current input, or 0–20 mA current output. This module offers a reduction of cost per I/O point as compared to traditional analog I/O modules. A three-wire channel is located on a single terminal block section that fits onto a row of the header. Each block section can be independently wired and then inserted, allowing channel by channel commissioning. This enables much faster and more reliable terminations and decreases time to commission / maintain the system.

References: [Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#), WI: 31627, 31623



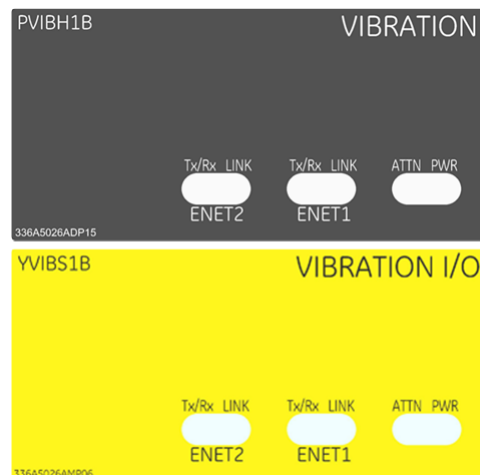
New Vibration & Combustion Dynamics Monitoring I/O Modules

Application: Vibration Monitoring

Description: New I/O modules (PVI BH1B and YVIBS1B) contain a BPPC processor, a new application board, and new firmware to provide the following features:

- Combustion Dynamics Monitoring
- 4500 Hz bandwidth (1150 Hz previously)
- Improved accuracy
- Band-pass filter support for LM accelerometer sensors
- Two key-phaser inputs (one previously)
- True RMS calculation (only peak-to-peak previously)
- LM Tracking filters and wideband vibration algorithms approved for LM2500 GTs
- Dual Ethernet support at 100 hertz frame rate
- Functional Safety: SIL 3 capable (YVIBS1B only)
- Downward compatibility support — TMR redundancy using both H1A(s) and H1B(s) together with H1B in Legacy mode

References: [Mark VIe and VIeS Controls Volume II System Guide \(GEH-6721 Vol II\)](#), [Mark VIeS Safety Controls Functional Safety Manual \(GEH-6723\)](#), WI: 29074



14.2.2 V06.02.00C New Features

Support for New Cisco Switches

Application: Networking

Description: The WorkstationST Control System Health and Network Monitor have been updated to support Cisco 3850-12S network switches. These tools use the SNMP protocol to communicate with the switch to detect connections to ports on the switch. A new device selection was added to the ToolboxST application for this switch. The Cisco 3850-12S network switch replaces the Cisco 3750 network switch, which has reached end life.

References: [WorkstationST Network Monitor \(GEI-100693\)](#), [WorkstationST Control System Health \(GEI-100834\)](#), [ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#), [NetworkST for Mark Vle Controls Application Guide \(GEH-6840\)](#), WI: 32204

Mark V Simulation Interface


Application: Simulation

Description: Added a way to allow the MarkV to produce EGD exchanges to be used for faster closed loop simulation.


References: [ToolboxST User Guide for Mark Controls Platform \(GEH-6700\)](#), WI: 24347

14.2.3 V06.02.00C Issues Resolved


14.2.3.1 WorkstationST V06.02.00C Bug Fixes

Component	WI Number	Developer Release Note
 WorkstationST	19535	Corrected an issue where undriven variables on Secondary Redundant Produced EGD pages lost their initial values when a client initially added them to a live list.
	20693	Corrected an issue where enumeration text shown on CIMPLICITY when in the second language mode would display the numeric value if the second language enumeration description were blank. Now the primary language description is displayed and included in operator setpoint messages. This was of higher consequence for Mark V enumerated values where a second language setting is not available.
	29901	Workstation Modbus — if a user defined a Modbus Slave but did not define any variables on any of the Modbus Slave Pages the WorkstationST Status Monitor correctly showed an error, but the Additional Status Detail did not explain what was wrong to the user.
	31941	Improved the user experience for data entry of WorkstationST exclude addresses and HMI configuration global script paths.
	31965	The format used by the WorkstationST CSV to live value feature has been enhanced with an option to support a variable name, value on each line.
	32028	On a Polish culture OS, resolved the issue with the EGD http Configuration client not being able to create request messages caused by invalid characters in the user name (ZARZĄDZANIE NT \SYSTEM) for processes running under the system account, such as WorkstationST service and feature processes.
	32035	Corrected a failure of the Control System Health viewer when selecting the detailed display of a node in the tree when the viewer is running on a non-english OS where resource translation has been applied.
	33018	Corrected an issue where some Mark V variables were not shown in the HMI browser.
	33119	Corrected a problem where a failure to download an HMI screen could occur when the target workstation was not able to correctly determine the Master workstation's IP address.
	33286	Corrected a problem where Mark VI controllers show an alarm with description Lookup Error after a reboot.
	33507	Corrected an issue where variable attributes could not be displayed in an alarm viewer remotely connected to an alarm server if the SDB was not enabled in the system.


14.2.3.2 ToolboxST V06.02.00C Bug Fixes

Component	WI Number	Developer Release Note
 ToolboxST	27534	If a PFFA is selected for a download in conjunction with a controller that needs an offline download (reboot required), the PFFA download will not start until the controller has booted to the correct state to support communication with the PFFA.
	22250	Corrected the issue causing a ToolboxST application error if a GSD file is missing for the PPRF.
	30498	SupportedRT_Classes and SupportedRT_Class parameters are now read from PROFINET IO-Device GSDML file to decide the FrameID range.
	29960	Fixed an issue that caused the Find Unlinked Blocks report to be incomplete.
	31310	A group with a trender can now be replicated in ToolboxST.
	29937	For Modbus, if the user adds a LINT (long integer) or ULINT (unsigned long integer) to a modbus page, then the Modbus Data Type now defaults to an LREAL (long real) instead of a REAL like it did before.
	31959	Fixed the System Upgrade feature so it no longer requires the entire FOUNDATION Fieldbus configuration in a controller to be download if it were equal before the upgrade.
	31995	Resolved an issue where a CMS check out of the system while the working copy of the system was not at the latest revision and new components had been added in the copy in the repository displayed errors when checking the system in.
	32045	Fixed an issue with FOUNDATION Fieldbus block Instantiation where instantiated blocks always had bad status.
	32066	Fixed an issue with SFC Transition blocks that was causing an application failure.
	32506	Fixed the Change Live Value dialog on certain FOUNDATION Fieldbus parameters so the Next Value dialog is large enough to show all options.
	32902	Pasting data into an OPC DA client connection data grid on the WorkstationST OPC DA tab was causing the user interface to attempt to connect and refresh data from the OPC DA server configured in the connection. Corrected this so that only newly added variables are refreshed.
	32977	Corrected a tool failure when a WorkstationST component had been saved with a controller no longer consumed and an alarm scanner variable from the no longer consumed controller. The failure occurred during build after reopening the WorkstationST component and again consuming the controller.
	33256	Copy and Paste of a Sequential Function Chart (SFC) Task inside of a Program Definition in a library was not changing the internal connections of the new SFC, leaving them connected to the original SFC. This caused the operation of the two SFCs to be intertwined and execute incorrectly. Symptoms include transitions failing to progress, progressing unexpectedly, and multiple step activation. The original copy-paste issue has been resolved, but application code created using a Paste of an SFC into a program definition will continue to operate incorrectly until the copy is deleted and re-created.
	33203	Corrected issue where Device Tag was not showing in the I/O Variable report for Extra Circuits.
	33352	When going online in Trender and Watch Window the prompt for which controller to connect to is now brought to the front.
33508	An issue that was preventing all FOUNDATION Fieldbus DD Menus from working has been resolved.	
33531	Corrected a problem where a Go To Definition in Logic requested from a CIMPLICITY screen would fail to open a Mark VIe component editor when the System Overview was already displayed.	


14.2.3.3 CMS Server V06.02.00C Bug Fixes

Component	WI Number	Developer Release Note
 CMS Server	32114	The CMS Server product can now be installed on non-English language versions of Windows where Microsoft has renamed built-in user accounts (mostly European languages).

14.2.3.4 Trender V06.02.00C Bug Fixes


Component	WI Number	Developer Release Note
 Trender	30182	Block pins with data type "ANY" can now be added to Trender.
	33282	Corrected an issue where the language translation was not available for two historian errors seen when using the Trender add historian trace wizard.
	33305	Corrected a problem where the OK and Cancel buttons on the OPC DA and OPC UA variable browse dialog were not shown when the application is translated to another language.

14.2.3.5 Block Library Creator V06.01.01C Bug Fixes


Component	WI Number	Developer Release Note
 Block Library Creator	31847	The Library Container Creator now respects Groups within a System in ToolboxST.
	28842	The New Block Project Wizard has had some enhancements to increase speed of the project creation.

14.2.3.6 I/O Pack Bug Fixes


WEPA V05.02.01C Bug Fixes

Component	WI Number	Developer Release Note
 WEPA	22326	An issue was corrected where it took several tries for the reading of tach speed to work in manufacturing test mode.
	27250	Added delay to drop out of auto mode to be greater than timeout for HeartbeatOk conditioned MainsOn so that communications loss due to power supply loss causes controlled feather.
	31665	An issue was fixed in the serial loopback operation for manufacturing test mode by clearing all internal buffers before initiating the operation.
	31892	Added corrected RMS motor torque calculation input.
	31895	The brake and field tracking faults have been changed to be based on a percentage of their respective resistances and therefore sensitive to the Nm setting of the pitch system.
	31936	The overall speed reference limit and overspeed settings in managed parameter mode (UseConfigParms = false) have been updated to be based on gear ratio.
	32049	Speed profile and speed tuning was improved such that the speed feedback stays closer to the controlled feather profile, reducing the chance of switching over to a battery pitch.
	32078	The WEPA now allows a 45Nm PitchSysType system to work with WEPA boards that support new 45Nm functionality.
	32117	Standby mode has been modified so that the brake set delay was increased to 1.2 seconds to accommodate the 45Nm brake.

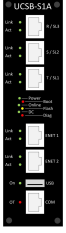
WETA V05.00.01C Bug Fixes

Component	WI Number	Developer Release Note
 WETA	31462	An issue was fixed on WETAH1C where a change in the parameters RotorMaxRPM or RotorTeethPerRev would not update after a reboot. Additionally, the WETAH1A and WETAH1C will now trigger a reboot after modifying and downloading the RotorMaxRPM or RotorTeethPerRev parameters.
	31803	An issue was fixed where a sudden drop in wind speed would cause a nuisance diagnostic 74 - "NRG Wind Anemometer Sensor Failure".


PCNO V05.02.00C Bug Fixes

Component	WI Number	Developer Release Note
 PCNO	22824	An issue is fixed where power cycling multiple Woodward DVPs or GS6 valves would sometimes require the PCNO to be rebooted to recognize all of the devices.


PPNG V05.07.00C Bug Fixes

Component	WI Number	Developer Release Note
 <p>PPNG</p>	29080	An issue was fixed in to correct the placement of "Sign bit (MSB)" in the I/O data, when the PROFINET DataType (integer8, 1 byte) is mapped to Mark V1e Datatype (INT, 2 Bytes).
	30495	The PPNG now insures that ARP requests are initiated during every PROFINET connection sequence.
	30496	The PPNG now insures that it sends I/O Consumer Status byte as "GOOD" for I/O devices when data is consumed by the I/O pack.
	30497	The PPNG now insures that appropriate FrameIDs are generated based on SupportedRT_Classes/SupportedRT_Class parameters in GSDML of the I/O Device.

PVIB V05.00.00C Bug Fixes

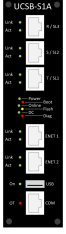
Component	WI Number	Developer Release Note
 <p>PVIB</p>	25231	Unused services have been eliminated from the product.

YVIB V05.01.02C Bug Fixes


Component	WI Number	Developer Release Note
 <p>YVIB</p>	31673	All sensors that derive primary power from N28 should now be unhealthy when N28 voltage is low. Previously the LMAccel and KeyPhasor had not been checking N28 health for their health signal.

14.2.3.7 Mark Controller Bug Fixes


Mark V1e Controller V06.01.00C Bug Fixes

Component	WI Number	Developer Release Note
 <p>Mark V1e Controller</p>	30031	In the EGD subsystem if a controller is configured to consume from an EGD producer which has EGD pages configured at a faster rate than the consumer's frame rate then the time for the consumer to mark the pages unhealthy in the event the producer stops sending is longer than expected. i.e. Stale data is marked healthy for some period while it is actually unhealthy. In addition, if the UDH connection is lost from the UDH communicator on the control set consuming a page faster than its frame rate, the switch over time for one of the redundant controllers to start producing its own EGD is also longer than expected which can result in this EGD toggling unhealthy in its consumers. The issue has been completely resolved.
	31379	As part of Certificate Authority function in SecurityST and the Mark V1e controller, a Certificate Revocation List (CRL) is maintained in the CA Server and each of the controllers. In V06.00.00C of the Mark V1e controller firmware an issue was introduced with the refresh of the CRL. When the controller is in Secure mode and the CRL in the controller is refreshed, the user may no longer be able to download configuration or force variables from the ToolboxST application. The workaround for this issue is to take the controller out of Secure Mode to Open mode using ToolboxST, then back into Secure mode. After this mode sequence, user should then be able to download configuration and or force variables while in Secure mode. The issue has been completely resolved.


Mark VleS Controller V05.03.00C Bug Fixes

Component	WI Number	Developer Release Note
 <p>Mark VleS Safety Controller</p>	30032	In the EGD subsystem if a controller is configured to consume from an EGD producer which has EGD pages configured at a faster rate than the consumer's frame rate then the time for the consumer to mark the pages unhealthy in the event the producer stops sending is longer than expected. i.e. Stale data is marked healthy for some period while it is actually unhealthy. In addition, if the UDH connection is lost from the UDH communicator on the control set consuming a page faster than its frame rate, the switch over time for one of the redundant controllers to start producing its own EGD is also longer than expected which can result in this EGD toggling unhealthy in its consumers. The issue has been completely resolved.
	32508	As part of Certificate Authority function in SecurityST and the Mark VleS controller, a Certificate Revocation List (CRL) is maintained in the CA Server and each of the controllers. An issue was introduced with the refresh of the CRL. When the controller is in Secure mode and the CRL in the controller is refreshed, the user may no longer be able to download configuration or force variables from the ToolboxST application. The workaround for this issue is to take the controller out of Secure Mode to Open mode using ToolboxST, then back into Secure mode. After this mode sequence, user should then be able to download configuration and or force variables while in Secure mode. The issue has been completely resolved.

EX2100e Controller V04.09.01C Bug Fixes

Component	WI Number	Developer Release Note
 <p>EX2100e</p>	32492	As part of Certificate Authority function in SecurityST and the Mark Vle family of controllers, a Certificate Revocation List (CRL) is maintained in the CA Server and each of the controllers. An issue was introduced with the refresh of the CRL. When the controller is in Secure mode and the CRL in the controller is refreshed, the user may no longer be able to download configuration or force variables from the ToolboxST application. The workaround for this issue is to take the controller out of Secure Mode to Open mode using ToolboxST, then back into Secure mode. After this mode sequence, user should then be able to download configuration and or force variables while in Secure mode. The issue has been completely resolved.

LS2100e Controller V04.10.00C Bug Fixes

Component	WI Number	Developer Release Note
 <p>LS2100e</p>	32507	As part of Certificate Authority function in SecurityST and the Mark Vle family of controllers, a Certificate Revocation List (CRL) is maintained in the CA Server and each of the controllers. An issue was introduced with the refresh of the CRL. When the controller is in Secure mode and the CRL in the controller is refreshed, the user may no longer be able to download configuration or force variables from the ToolboxST application. The workaround for this issue is to take the controller out of Secure Mode to Open mode using ToolboxST, then back into Secure mode. After this mode sequence, user should then be able to download configuration and or force variables while in Secure mode. The issue has been completely resolved.

14.2.4 V06.02.00C Component Versions

14.2.4.1 ControlST V06.02.00C DVD

GE Configuration Tools Package

Component Name	Component Version	Status
ToolboxST	V06.02.00C	New
Block Library Creator	V06.02.01C	New
<i>Mark Controllers</i>		
Mark Vle Virtual Controller	V06.00.00C	
Mark VleS Virtual Controller	V06.02.00C	New
Mark VleS	V05.03.00C	New
Mark Vle	V06.01.00C	New
Mark Vle Thermal Extension	V06.01.00C	New
Mark Vle Wind Extension	V06.01.00C	New
EX2100e	V04.09.01C	New
EX2100e_Reg	V04.09.01C	New
EX2100e Excitation Control	V01.00.01C	
Torsional Stress Relay		
LS2100e	V04.10.00C	New
ARESBlocklib	V06.01.00C	New
MPCBlocklib	V04.02.01C	
<i>Distributed IO packs</i>		
PAIC	V05.01.00C	
PAMB	V02.09.24C	
PAMC	V04.06.02C	
PAOC	V05.00.00C	
PCAA	V05.00.00C	
PCLA	V05.00.00C	
PCNO	V05.02.01C	New
PDIA	V05.01.00C	
PDII	V05.00.00C	
PDIO	V05.00.00C	
PDOA	V05.00.00C	
PEFV	V04.06.04C	
PGEN	V04.06.04C	
PHRA	V05.00.00C	
PIOA	V04.06.04C	
PMVD	V04.06.04C	
PMVE	V04.07.02C	
PMVP	V04.07.00C	

GE Configuration Tools Package (continued)

Component Name	Component Version	Status
PPDA	V05.00.01C	
PPRA	V05.00.00C	

Other Component Versions on the ControlST V06.02.00C DVD

Package Name	Component Name	Component Version	Status
GE CMS-SVN Server	CMS Server	V06.02.00C	New
GE Hart Message Server	Hart Message Server	V04.07.00C	
	WorkstationST Features	V06.02.00C	New
GE WorkstationST Package	WorkstationST Alarm Viewer	V06.02.00C	New
GE Simulink Block Library	SimulinkBlockLib	V05.03.00C	
GE Historian Reports	GE Historian Reports	V06.00.00C	

14.2.4.2 Migration of Legacy Products to Legacy DVD


Application: GE Mark VI Legacy Controls

Description: Beginning with ControlST V6.02, the Legacy Products are available on a separate DVD (.ISO file). They are no longer available on the ControlST DVD (.ISO file). When ordering an upgrade, both media files are distributed to the customer (if applicable).


GE Mark VI Legacy Controls V06.02.00C

Package Name	Component Name	Component Version	Status
	Legacy Toolbox	V11.07.16C	New
	SDB Server	V05.03.07C	
	Innovation Series Controller	V06.07.13C	
	AcDcEx Runtime Product	V26.01.00C	
GE Legacy Tools Package	COI Product	V02.00.22C	
	LCI Documentation	V01.01.00C	
	EX2100	V12.00.00C	
	EX2100	V03.09.00C	
	EX2100	V11.50.03C	
	EX2100	V12.01.00C	
	EX2100 Regulator	V05.00.00C	
	EX2100 Regulator	V04.50.03C	
	EX2100 HEC	V02.00.00C	
GE Legacy Versioned Runtime Package	LS2100	V01.03.00C	
	Mark VI	V05.16.01C	
	Mark VI Virtual Controller	V04.01.03C	

14.3 ToolboxST V06.02.01C (Sept 2016)

Component	Reference	Release Note
 ToolboxST	21856	Fixed an issue where copying and pasting a PFFA from one system to another reset PD Tags..
	31208	Corrected issue when selecting the PPRF (PROFIBUS) I/O Pack.
	32512	Fixed an out of memory issue when viewing reports.
	33843	Added GSDML-V2.31-beckhoff-TCPNCCATDevice-20141028 and GSDML-V2.3-GE-EPXPNS001-20160210 to PROFINET devices.
	34564	Fixed an application error that occurs after the installation of .NET 4.6.2.
	34688	Corrected the problem associated with deleting a network in a CMS system causing ToolboxST to fail.
	34760	Corrected a failure where a user had assigned an incomplete OPC UA certificate to the ControlST OPC UA client.
	34778	A nuisance warning was introduced in V06.02.00C that was intended to alert application code developers to possible unexpected behavior when connecting variables to constant pins on blocks, as the variable's value will not be written to the const pin at runtime. However, the warning was being generated in many cases (most commonly in SFCs) when there was no real problem in the code—the initial value of the connected variable was being used to drive the constant pin value. The warning has been removed.
	35179	Made significant speed improvements when doing a Search.
	35200	Fixed an issue that displayed a warning message for undefined variables lengths being zero when validating array variables.
	35230	Resolved an issue where a device in a Shared IONet would lose its connected variables if the other device in the Shared IONet was renamed.


14.4 WorkstationST V06.02.01C (Sept 2016)

Component	Reference	Release Note
 WorkstationST	34199	Corrected a problem where Mark VI controllers show a HOLD type with description Lookup Error after a reboot.
	34203	Fixed a problem where the OPC UA client used in the Trender or embedded in the WorkstationST OPC UA server was not able to connect to the Mark VIe OPC UA server. The typical URL used for connection uses an IP address (such as opc.tcp://172.16.16.6:4841). The Mark VIe server returns a list of endpoints with a URL containing the name of the Mark VIe and the OPC UA client rejected this URL. A work around for this issue in prior releases would be to add the controller name into the host file where the OPC UA client is running (such as 172.16.16.1 G1-R).
	34594	corrected an issue that caused a failure on a wind site when the alarm server was initializing and a client was attempting to connect.
	35242	Added a diagnostic alarm in a primary alarm server, that is generated when a WorkstationST redundant secondary alarm server is stopped or disconnected.
	35244	Corrected an issue where historical data was not displayed after double clicking on a WorkstationST Alarm Viewer Bin file.
	35341	An issue was resolved while reading Recorder historical data that resulted in an exception and data not returned when an unhealthy sample was found at the end of a DCA file.

14.5 V06.02.02C (Nov 2016)


14.5.1 ToolboxST V06.02.02C

ToolboxST Bug Fixes

Component	Reference	Release Note
 ToolboxST	35179	Made significant speed improvements when doing a Search.
	35948	In a Shared IONet system, if one controller in the Shared IONet didn't have the correct version installed, the I/O configuration would be lost when the other controller was opened. Now, if either controller does not have the correct version installed, neither can be opened.
	35949	Fixed an issue where a device in a SharedIO Net would lose its connected variables when the other device in the SharedIO Net had its complete configuration uploaded.
	36239	PPRF now works with Siemens SENTRON LV breaker.
	36244	Changes were made to the PFFA Linking Device download task such that the inability to determine Controller state would not preclude additional downloads.
	36245	Corrected an issue where the user could right-click on the PPRF master in the PROFIBUS Network and delete it. This will be corrected for any newly inserted PPRFs, but does not stop the ability to right-click delete previously existing PPRFs.
	36291	Fixed a performance issue in opening Controllers.
	36362	Fixed an issue where an upload of a device in a SharedIO Net would result in an application error.

14.5.2 WorkstationST V06.02.02C

WorkstationST Bug Fixes

Component	Reference	Release Note
 WorkstationST	36037	Corrected an issue that caused alarm servers to fail to reconnect to the network monitor feature of the control system health server after a configuration change.
	36111	After the V06.02 ControlST release, when the HMI Trender was introduced, file associations for . Trend files are now handled by the HMI Trender. Corrected a problem where the file was not correctly handed off and opened by the ToolboxST Trender if the Trend file was saved with a newer ToolboxST installed version.
	36190	Corrected an issue preventing the WorkstationST feature status intrinsic variables from being updated if the OPC UA server feature was not enabled.
	36293	Corrected an error entry in the OPC DA server log when the server was attempting to update WorkstationST intrinsic variables for computer health that only exist when the Control System Health feature is enabled.


14.5.3 Block Library Creator V06.02.02C

Block Library Creator Bug Fixes

Component	Reference	Release Note
Block Library Creator	29579	Fixed an issue causing Block Library Creator to not respect regional settings.
	34222	Fixed a build error caused by model topology in which there is a switch/bus selector with one or more signals connected to output ports, but additionally there are one or more signals that are not connected to output ports.

14.5.4 LS2100e V04.10.01C

LS2100e Bug Fixes

Component	Reference	Release Note
 LS2100e	34500	Fixed a problem that prevented alarms from being displayed on touchscreens.

14.5.5 ARES V07.00.00C

ARES Features

Component	Reference	Release Note
ARES	36023	Added ARES model A7HA04C0616.
	36024	Added ARES model A9HA03B0616.
	36025	Added ARES model A9HA04C0616.

ARES Bug Fixes

Component	Reference	Release Note
ARES	36027	Updated filter block to properly initialize array.

14.5.6 AEPA V05.02.01C

AEPA Bug Fixes

Component	Reference	Release Note
AEPA	35660	An issue was fixed where the torque can be zeroed while running if the DC link voltage input value falls below parameter setting, DCLinkVoltage Threshold.

14.5.7 Virtual Mark Vle V06.02.00C

Virtual Mark Vle Bug Fixes

Component	Reference	Release Note
Virtual Mark Vle	36168	Fixed an error causing alarm process to lose synchronization with application when running in fast mode, resulting in HMI failing to show all active alarms. Diagnostic: "Virtual MarkVle Controller Out of Memory: App message queue full! Alarm transitions are missed out."
	35423	Rebuilt Virtual Mark Vle in optimized mode.
	36015	Fixed an issue causing ToolboxST status window to display "Platform not Equal" error for Virtual Controller.

14.5.8 WEPA V05.02.06C

WEPA Bug Fixes

Component	WI Number	Release Note
WEPA	33552	Reliability of converter downloads for BPPB to MK22 was improved.
	34695	The WEPA converter now supports new WP5o MK22 firmware.
	35868	An issue was fixed that resulted in intermittent reboots, caused by serial communication errors.
	36354	An issue was fixed that caused the Charger CommOK to be intermittent when communication was not working.

14.5.9 PSCA V05.00.01C

PSCA Bug Fixes

Component	Reference	Release Note
PSCA	33134	The formatting and descriptions for Electric Drive parameters in ToolboxST have been updated.
	33920	For the electric drive interface of the PSCAH1B, a compatibility issue has been fixed where the connected drive would respond with an unexpected additional parameter (evidenced by the presence of the "Electric Drive Port # Save Command Failed" diagnostic alarm).

14.5.10 PVIB V05.01.03C

PVIB Bug Fixes

Component	Reference	Release Note
PVIB	34085	An issue was fixed that caused the PVIB to show a warning in ToolboxST on upgrade to V05.01.

14.6 PMVD V04.06.05 (December 2016)

Reference	Release Note
36523	An issue was fixed where a sudden drop in wetting voltage could cause all digital inputs to drop out.
36854	An issue was fixed where the signal filters on digital inputs were not working properly.

14.7 *ToolboxST V06.02.03C (December 2016)*

Reference	Release Note
34574	Resolved an issue in which IONet Input Exchanges generated for PROFINET (PPNG) had addresses beyond the end of the exchange, causing the controller to fail to start correctly.
36445	Changing PROFINET GSDML file does not overwrite previous settings such as Input Update Rate and Output Update Rate.
36807	Corrected issue where Server Calibration would fail if the Trender was closed during Calibration. (PAC case ER-20161116-0711)
36954	Fixed an issue where SharedIONet devices in multi-nested groups would lose their connected variables upon loading the device
37097	Fixed a bug where if an EGD configuration server contains duplicate named devices with different producer IDs, adding a local workstation trend source was resulting in a failure error dialog.
37099	The constant import now skips variables with a value of (Not Used) in the .csv file
37184	Alarm Rationalization: Fixed an issue where Alarm Rationalization imported values could be lost in the following situation. In a controller, instance from a library a piece of code containing an alarm on a DCS block. Change the alarm rationalization values in the instanced code (ex. Consequence of Inaction) by importing in an alarm rationalization report. Save and close the controller. Open the controller. Re-instance the code. With this fix then the original imported alarm rationalization values will be maintained.
37228	Allow user to selectively download only PFFA and Segments, and not to include H1 devices if they are not selected in the download wizard.
37230	Resolved an issue where a user block library was not reloaded on CMS check-out if the existing copy was out-of-date.

14.8 WEMA V05.00.01C (January 2017)

Reference	Release Note
37404	Digital Outputs CustomRelay1DO and CustomRelay2DO no longer generate diagnostic alarms 40 and 41 "Digital Output # (TB3- Ports # & #) failed" when configured as Unused.

14.9 ToolboxST V06.02.04C (January 2017)

Reference	Release Note
37417	NEW! A new "PFFA Schedule Download" pick in the FOUNDATION Fieldbus Download Wizard has been provided to force a DLD_LD_FULLL download option even if not all the H1 devices are present.
37420	Removed unneeded CMS refreshes when navigating the HMI tab in WorkstationST

14.10 WorkstationST V06.02.05C (February 2017)

Reference	Release Note
36246	Including the OPC foundation runtime callable wrapper needed to correct an issue with getting historical data in the Trender.
37049	Fixed an issue where Mark V EGD was not correctly installed with ControlST.
37097	Fixed a bug where if an EGD configuration server contains duplicate named devices with different producer IDs, adding a local workstation trend source was resulting in a failure error dialog.
37282	Corrected a hang of the WorkstationST OPC DA server which was seen during stress testing on a Control Server using multiple terminal service's sessions. The issue was resulting in a freeze of CIMPLICITY screen data and navigation.
37301	Corrected the failure of the embedded OPC UA alarm and condition client to initially connect and retry. If the OPC UA server was not running or the connection failed for any reason, the embedded OPC UA alarm and condition client did not retry the connection.
37302	An OPC DA server crash was occurring on a system where a font was incorrectly installed. As a work around the customer was asked to reinstall the font from the exception message in the WorkstationST's OPC DA server log. This change now avoids the issue even if fonts are incorrectly installed.
37415	Corrected an issue where MarkVI SOE descriptions shown in the Alarm Viewer ended with "[]".
37433	An issue was fixed that prevented OPC AE alarms from being received through an OPC UA server to the embedded OPC UA alarm client in the alarm server.
37489	Correcting a Trender application failure that occurs for the HMI Trender if WorkstationST is installed and ToolboxST has not been installed.
37679	Corrected an issue where a reconfiguration of WorkstationST was occurring after stopping the EGD configuration server.
37682	Corrected a problem where after an un-install, the ControlST Versions application showed TrenderST application in the Installed By list.
37975	Added the DisableIncludeChains setting as default to allow certificates to be accepted by the Predix OPC UA machine adapter Client. This will be removed in a later release after the OPC foundation issues a fix for certificate chaining issues.

14.11 Mark VIeS V05.03.01C (February 2017)

Reference	Release Note
36059	When using the Configure Network Address option of the Controller Setup Wizard in ToolboxST the user is not prompted to enter the controller password resulting in a failure to set the IP address on the controller if the user has changed the controller password from the default. The issue has been completely resolved.
36833	Microsoft patch MS16-061 changed SSL to allow messages to be broken into multiple packets causing a failure to download IO Packs when in Secure mode. IO Packs now download when in secure mode.

14.12 LS2100e V04.10.02C (February 2017)

Reference	Release Note
38205	<p>Fixed a problem that prevented alarms from being displayed on touchscreens. This is a re-release to correct the fix (#34500) previously released in V04.10.01C, which contained an error.</p> <p>Note that, to see the effect of this fix, the "Download Info" parameter must be set to True.</p>

14.13 *ToolboxST V06.02.05C (February 2017)*

Reference	Release Note
37123	In a SIL controller, Brand and Lock toolbar items are now disabled when the controller is in read-only mode.
37504	Fixed an issue where undefined variables on the EGD page caused a ToolboxST failure.
37687	Fixed an issue that was causing a file archive of a system under CMS control to cause the system to show locally modified after CMS refresh.
38045	Resolved issue where the Where Used tab in a library container could in some circumstances omit the variable definition location.
38047	An issue was resolved where copy-paste operations in the Blockware Editor subtly altered connections between pasted blocks. The issue occurred when the copied blocks included a block name that already existed in the paste target. The block would be assigned a new name that does not conflict. However, if the new name also matched a block name that was in the clipboard, connections would shift to the block with that name on the clipboard. This could happen multiple times for the same connection, resulting in connections "hopping" to the last block of a particular type in the clipboard. This problem could be difficult to detect in large user blocks, as the resulting connections were often syntactically valid.

14.14 ControlST V06.02.06C (April 2017)

14.14.1 ToolboxST V06.02.06C

Reference	Release Note
38328	Corrected an error preventing the OPC AE test client in the WorkstationST alarm viewer in the WorkstationST component editor of ToolboxST, from being able to connect to an OPC AE server. The error indicates a failure to load version 2.0.106.0 of OpcComRcw.dll
38332	Fixed a problem where Power Conversion devices were not being downloaded from the System Download Wizard
38473	Fixed a problem in Import constants when value is Set to (Not Used) in the import value but the variable exists in the configuration.
38491	Fixed an issue where upon inserting an existing device from a SharedIONet from another system into an empty SharedIONet, the C2C configuration of the input controller would be lost. Now, when inserting an existing device that is part of a SharedIONet in another system, both controllers from that SharedIONet will be inserted.

14.14.2 WorkstationST V06.02.06C

Reference	Release Note
38275	The Alarm viewer was prompting to save settings when no settings were changed when Use Second Language mode had been selected as the default. (Second language default mode is configured using the ToolboxST WorkstationST component editor and can also be selected from the WorkstationST status monitor's tray icon right click menu).
38320	Corrected the values displayed on the OSM logic forcing web page to include the health status of the variable.
38327	Corrected an error preventing the OPC AE test client in the WorkstationST alarm viewer in the WorkstationST component editor of ToolboxST, from being able to connect to an OPC AE server. The error indicates a failure to load version 2.0.106.0 of OpcComRcw.dll
38391	Corrected a memory leak with the Alarm Symbol ActiveX object. Each creation of an alarm symbol on a CimView screen created a GDI handle that was not released. After 10,000 handles had been created, CimView would fail.
38392	Corrected a WorkstationST service failure to run when a corrupted Com2ControlST assembly resided in the CIMPLICITY install executable folder.

14.14.3 Mark VIe V06.01.01C

Reference	Release Note
37109	MANSET3_V3 corrects Raise/Lower Operation to provide bumpless transitions
37110	The Turbine Block Library NULCOMP1 block could have a glitch in the integration if the loop bias point input (NBIAS) is equal to the bias input limit (NB_LMT). The limit clamp has been modified to correct this issue.
38122	The AUTO_ONLY_P pin from the GRP_V2, GRP_V3, M_O_V_V2, M_O_V_V3, STARTER_V2 and STARTER_V3 blocks will automatically be added to the EGD Page1 page.
38124	The PID_MA_ENH, PID_MA_ENH_V2, OVR_ST_ENH and OVR_ST_ENH_V2 blocks will now ignore a FORCE or OVERRIDE request and not set the CV and CVO outputs to the FV or OV respectively when the MODE_OPT input is set to LOCK.

Reference	Release Note
38125	Microsoft patch MS16-061 changed SSL to allow messages to be broken into multiple packets causing a failure to download IO Packs when in Secure mode. IO Packs now download when in secure mode.
38126	The Unknown Exchange Count for a controller on a shared IO Net will no longer increment if the other controller in the shared IO Net has additional EGD exchanges.
38286	Analog Alarms that are deleted get removed from the alarm queue during an online download
38505	Foundation Fieldbus Signal Status becomes Uncertain (68) after 3 macrocycles of stale data instead of 2.
38123 38128 38129	Other changes.

14.14.4 PSCA V05.00.02C

Reference	Release Note
38345	An issue was fixed with Modbus outputs where some Boolean outputs on HoldingRegister pages would not properly change-detect the output state, causing delay in output writes (or no update if RefreshOutput parameter is disabled).

14.14.5 EX2100e and EX2100e_Reg V04.09.03C

Reference	Release Note
38537	NEW! Added support for UCSB H4.
33760	Fixed a problem that prevented alarms from being displayed on touchscreens.

14.14.6 LS2100e V04.10.03C

Reference	Release Note
38537	NEW! Added support for UCSB H4.

14.15 ControlST V06.02.06C SP1 (April 2017)

14.15.1 Mark VIe Thermal and Wind Extensions V06.01.01C

Reference	Release Note
NA	The initial release of ControlST V06.02.06C, which included Mark VIe V06.01.01C, did not correctly include the corresponding Mark VIe Thermal and Wind extensions (V06.01.01C). This Service Pack corrects this oversight.

14.16 ControlST V06.02.07C (April 2017)

14.16.1 Installer Fixes

Reference	Release Note
NA	ControlST V06.02.07C contains no new functional content beyond ControlST V06.02.06C SP1. It is a primarily a repackaging for convenience of installation.
NA	With the release of ControlST V06.02.07C, the Proficy Common Licensing software was upgraded to version 17.2, to allow use of new M5 hardware keys (dongles).

14.17 ControlST V06.02.07C SP01 (May 2017)

14.17.1 PCMI V05.00.02C

Reference	Release Note
38838	An issue was fixed in the PCMI which could potentially cause the VSVO output current to fluctuate unexpectedly on startup.

14.18 ControlST V06.02.07C SP02 (August 2017)

14.18.1 ToolboxST V06.02.08C

Reference	Release Note
40234	Improve System Download reliability for multiple controllers.
40756	Fixed an issue that caused ToolboxST to fail when a Power Conversion, Reset Required parameter is sent to the device from a Settings menu or diagram.
40753	Fixed an issue that could occur when using the FOUNDATION Fieldbus Import H1 Template feature. The fix prevents certain FOUNDATION Fieldbus parameters from reverting to pre-template values after closing and re-opening the controller configuration.
22257	Fixed an issue that caused the Trender to use the incorrect measurement system when opened from CIMPLICITY.
39770	An issue that prevented the Unwritten Variables portion of the Coding Practices report from displaying unwritten variables that were named with the same name as a block pin has been resolved.
40231	Fixed an edge case issue when toggling the controller's UDH connection with Live View open.

14.18.2 WorkstationST V06.02.08C

Reference	Release Note
22257	Fixed an issue that caused the Trender to use the incorrect measurement system when opened from CIMPLICITY.
39404	Corrected a crash of the WorkstationST Alarm Viewer or CimView with the WorkstationST Alarm Viewer ActiveX component, resulting when more than approximately 25,000 rows of historical alarm and event data are displayed on the short term historical alarms tab. The failure occurred when the user scrolled a long way through the long list of alarms and selected an alarm. The failure only occurred on touch panel systems where the Microsoft Tablet PC Input service was running.
39895	Corrected a CimView crash resulting from an asynchronous update of an alarm symbol as the screen was being removed from screen cache.
40172	Added an executable (HistoricalAlarmsToCsv), in the WorkstationST features folder, to allow Historical Alarm Data to be export to CSV.
40387	Corrected a problem introduced in the V06.02.00C release, where the HMI importer was no longer importing all points consistently.
40574	Corrected a problem where script calls from CIMPLICITY would hang after an HMI was left for weeks without activity.
40660	Corrected an issue where the variable child attributes, such as .AlarmPriority, were no longer displayed in the lower portion of the right detail view of the select a variable dialog shown from CimEdit.
40663	Corrected an issue where the variable child attributes, such as .AlarmPriority, were no longer displayed in the lower portion of the right detail view of the select a variable dialog shown from CimEdit.

14.18.3 Virtual Mark VIe V06.02.02C

Reference	Release Note
39303	Added manset3_V3 block to Turbine Library.

14.18.4 ARES V07.03.00C

Reference	Release Note
40752	NEW! New ARES Model A7HA021A0617.

14.18.5 PHRA V05.00.01C

Reference	Release Note
40131	An issue was fixed where the PHRA could reboot if a connected HART device responds with a maximum-length HART message.

14.18.6 YHRA V04.06.04C

Reference	Release Note
39911	An issue was fixed where the YHRA could reboot if a connected HART device responds with a maximum-length HART message.

14.18.7 YSIL V05.00.01C

Reference	Release Note
30682	YSIL now uses protection speed (calculated at 2 ms) for Overspeed trip detection. Previously it was using a version of speed that was calculated less frequently (10 ms).
39043	The SCSA cold junction temperature value has been adjusted to provide more accurate temperature compensation for thermocouples.
Additional	30683

14.19 ControlST V06.02.07C SP03 (October 2017)

14.19.1 ToolboxST V06.02.09C

Reference	Release Note
40234	Improve System Download reliability for multiple controllers.
41292	Fixed an issue that caused Base Load download to fail.
41294	Corrected issue of setting parameters on PROFINET slave devices when the parameters were nested more than one level deep.
40803	Resolved an issue when selecting a pin on block in the software tab would sometimes deselect itself.
41225	Resolved an issue where errors could occur while checking in a component.
41226	Resolved an issue where use of a third party SVN client could cause CMS to perform check ins/outs with wrong user credentials.
40865	Changed the data entry for WorkstationST Recorder collections with triggers to allow hours minutes and seconds to be entered rather than just seconds.

14.19.2 WorkstationST V06.02.09C

Reference	Release Note
40374	A memory growth issue due to the SCADA client not processing SDI EGD exchange messages faster than they are being requested was addressed. The issue was leading to an out of memory condition in the WorkstationST OPC DA server.
40976	Modified the SDI live tag list messages to write one large chunk rather than several smaller writes.

14.19.3 Mark VIeS V05.03.02C

Reference	Release Note
21219	Alarm Horn intrinsic now sets correctly in TMR systems

14.19.4 PPRF V05.00.02C

Reference	Release Note
39113	The PPRF has a new parameter, SetDiagOnExtDiag, which sets Diagnostic presence on Extended Diagnostics. The default value, True, maintains the same behavior as prior releases: Diagnostic alarm 44, "PROFIBUS diagnostic present" is generated when an extended diagnostic is received from a PROFIBUS device. Setting the parameter false will inhibit the diagnostic alarm when an extended diagnostic is available. This allows the user to specify which devices they will monitor by connecting variables to the Standard Diagnostics tab on the devices they want to monitor.
39308	An issue was fixed in PPRFH1B where a PPRF with dual networks could potentially cause outputs to chatter during the download to the controller from the Dual Download wizard. Now, when PPRFH1B is downloaded from the dual download wizard, the outputs will go offline until the download is complete.
Additional	40790

14.19.5 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 3, were previously released since ControlST V06.02.07C as individual component updates, then either in Service Pack 1 (SP1) or Service Pack 2 (SP2).

- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- PHRA V05.00.01C
- ARES V07.03.00C
- PCMI V05.00.02C

14.20 ControlST V06.02.07C SP04 (February 2018)

14.20.1 ToolboxST V06.02.10C

Reference	Release Note
42423	Fixed an issue that caused the replication of External devices to fail.
41333	Corrected a problem where MarkV variables could not be added to the historian. The adding of a MarkV variable was resulting in an error dialog indicating the variables address was invalid..
42223	Corrected an issue where events shown in the Trender for a System Component source were sometimes incorrectly showing a variable name from a referenced device. For example, if a controller G1 were referencing a controller B1 the incorrect B1 variable could be shown in the events tab for a G1 alarm/event.
42412	Fixed an issue where a device compare wouldn't pick up changes to a Mark VI Rack IO configuration.

14.20.2 WorkstationST V06.02.10C

Reference	Release Note
42121	Correcting an inefficient response to a master symbol table change, which caused some CIMPLICITY timeout and spurious unhealthy data.
42187	Corrected an Alarm Viewer ActiveX crash that resulted in a CimView crash seen in a screen cycle test..
42223	Corrected an issue where events shown in the Trender for a System Component source were sometimes incorrectly showing a variable name from a referenced device. For example, if a controller G1 were referencing a controller B1 the incorrect B1 variable could be shown in the events tab for a G1 alarm/event.
42312	Corrected a crash of the OPC DA server which occurred under heavy screen cycle testing. The crash occurred when an item was being removed from the OPC DA group and the variable was an intrinsic variable which is created based upon client usage.
42347	Corrected a problem where the OSM was no longer able to consume non-EGD variables from a MarkVI. The bug was introduced with a MarkVle security enhancement in the V06.00 release.
42351	Corrected a problem with the Alarm Symbol that caused a couple of CimView process crashes.
42457	Corrected an issue where values were updated to OPC DA or UA clients when a major signature difference exists. The quality of the variables was changed to bad, but the values were updated, resulting in potentially bad data.

14.20.3 Mark VIeS V05.03.03C

Reference	Release Note
42620	ToolboxST View->Diagnostics->Controller Advanced Diagnostics is available.

14.20.4 PPRO V05.05.00C

Reference	Release Note
41319	NEW! The PPROS1B now supports Rate-based overspeed as part of the firmware overspeed function. Refer to the "Rate-based Overspeed Trip (RBOS)" section in the PPRO help for more information.

14.20.5 PVIB V05.01.04C

Reference	Release Note
41231	The PVIB now supports TVBAH#B and TVBAS#B terminal boards.
41264	The lower limit of the FiltrIpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

14.20.6 YVIB V05.01.03C

Reference	Release Note
41232	The YVIB now supports the TVBAS#B terminal board.
41265	The lower limit of the FiltrIpcutoff parameter has been changed from 100 Hz to 15 Hz to support wider band pass configurations.

14.20.7 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 4, were previously released since ControlST V06.02.07C.

- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- PHRA V05.00.01C
- ARES V07.03.00C
- PCMI V05.00.02C
- PPRF V05.00.02C

14.21 ControlST V06.02.07C SP05 (February 2018)

14.21.1 ToolboxST V06.02.11C

Reference	Release Note
42698	When instantiating Programs from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of program variables even in linked tasks. Re-instantiating the program would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instantiating behavior has been changed to always restore the Library version of the Program Variable connection, and modification of Connection has been disallowed in linked programs going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the program.

14.21.2 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 5, were previously released since ControlST V06.02.07C.

- WorkstationST V06.02.10C
- Mark VIeS V05.03.03C
- PPRO V05.05.00C
- PVIB V05.01.04C
- YVIB V05.01.03C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- PHRA V05.00.01C
- ARES V07.03.00C
- PCMI V05.00.02C
- PPRF V05.00.02C

14.22 ControlST V06.02.07C SP06 (March 2018)

Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1.

14.22.1 ToolboxST V06.02.12C

Reference	Release Note
42856	Fixed an issue where an empty RUNG block equation could cause an application error..
42912	When instantiating Tasks from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of Task variables even in linked tasks, if the parent program was inline or unlinked. Re-instanting the task would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instanting behavior has been changed to always restore the Library version of the Task Variable connection, and modification of Connection has been disallowed in linked tasks going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the task.

14.22.2 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 6, were previously released since ControlST V06.02.07C.

- WorkstationST V06.02.10C
- Mark VIeS V05.03.03C
- PPRO V05.05.00C
- PVIB V05.01.04C
- YVIB V05.01.03C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- PHRA V05.00.01C
- ARES V07.03.00C
- PCMI V05.00.02C
- PPRF V05.00.02C

14.23 ControlST V06.02.07C SP07 (November 2018)

Maintenance release driven by CSB 25380 - Missing Alarms/Events Surrounding Trip Time in Recorder Trip Log.

14.23.1 PHRA V05.00.02C

Reference	Release Note
44533	The PHRAH1B now properly allows communication through HART DTMs (Device Manager Essentials) to devices connected on AnalogOutput02 (HART Channel 12).

14.23.2 PVIB V05.01.05C

Reference	Release Note
43337	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

14.23.3 YVIB V05.01.04C

Reference	Release Note
43408	An issue has been fixed regarding a false KeyPhasor speed provided when the shaft rotation speed is below 1RPM.

14.23.4 ToolboxST V06.02.14C

Reference	Release Note
43823	When forcing a value for a variable, a change data password is prompted for both the software logic and the variable data grid locations.
44506	Corrected a problem where build times for controller configurations in systems that contain numerous plant area definitions and where numerous variables are configured with a non blank plant area can be excessive. One BOP controller was taking an additional 10 to 13 minutes during variable validation due to this performance issue.
44516	Corrected an additional performance issue with saving and reading a master symbol table where a system is configured with a large number of plant areas.
45006	Undo checkout at the system level no longer incorrectly leaves added component files or deleted component files missing in the working copy.
Additional	42927, 44518

14.23.5 WorkstationST V06.02.14C

Reference	Release Note
43396	Corrected a problem with the WorkstationST Alarm Server's Fault code scanner where it would not retry to connect its live list if the initial connection failed.
44834	Corrected a condition where alarms and events were missing around the trip time in a Recorder Trip log when the alarm server was running on the same computer as the Recorder.
44969	Alarms read using the OPC UA Alarm Client sometimes incorrectly showed the Alarm State as Undefined instead of Normal when the alarm was in a normal state.

14.23.6 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 7, were previously released since ControlST V06.02.07C.

- Mark VIeS V05.03.03C
- PPRO V05.05.00C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- ARES V07.03.00C
- PCMI V05.00.02C
- PPRF V05.00.02C

14.24 ControlST V06.02.07C SP08 (January 2019)

This is a maintenance release driven by bug fixes needed at customer sites. In addition, there is one WorkstationST Data Recorder enhancement.

14.24.1 Mark VIe V06.01.02C

Reference	Release Note
45389	A controller may unexpectedly reboot if a dynamic bind fails when the EGD server responds to the request with an error. The issue has been completely resolved.

14.24.2 PCAA V05.00.01C

Reference	Release Note
44591	An issue was fixed where, if CalibEnab# was true for a specified regulator, calibration mode could be entered on a different regulator. Now, Calibration mode is only enabled for the designated regulator where CalibEnab# = True.

14.24.3 ToolboxST V06.02.15C

Reference	Release Note
43823	When forcing a value for a variable, a change data password is prompted for both the software logic and the variable data grid locations.
45287	Corrected a problem where editing plant area configuration could result in a tool crash and also resulted in incorrect results after saving.
45484	Corrected following issue where bad pcode was being generated. Have an analog variable in a library that is NOT an Analog Alarm. Instance the Library in a Controller and override the property to make it an Analog Alarm. At this point ToolboxST generates good pcode for the controller. Re-instance the Library and now bad pcode is generated. With this fix and then opening the controller in ToolboxST and rebuilding it will get back to good pcode being generated.
45506	Fixed an issue where variables that contain period characters (.) would sometimes not load correctly.
45509	Resolved an issue where the Auto-Reconfiguration server could not achieve equality when a controller was replaced.

14.24.4 WorkstationST V06.02.15C

Reference	Release Note
45472	NEW! Added an optional WorkstationST Data Recorder collection setting to cause a continuous live network collection to create a set of monthly maintenance CSV logs. When enabled, the recorder collection will not create and maintain its binary files.
45464	Added a feature on the OPC DA server's embedded OPC DA client configuration allowing a way to avoid the default 10 retries for group add item calls with errors. If set, failures with add items (typically items not in a server that are in the client configuration), will not result in a retry.
45533	Increasing the OPC DA client timeout for groups containing large item counts. An additional 3 second timeout for each 2000 variables will be added. Additionally when reconnecting and removing the group, the items will now be removed with a single call rather than a call for each variable.

14.24.5 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 8, were previously released since ControlST V06.02.07C.

- ARES V07.03.00C
- Mark VIeS V05.03.03C
- PCMI V05.00.02C
- PHRA V05.00.02C
- PPRF V05.00.02C
- PPRO V05.05.00C
- PVIB V05.01.05C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- YVIB V05.01.04C

14.25 ControlST V06.02.07C SP09 (January 2019)

This is a maintenance release to fix a critical issue in the WorkstationST embedded OPC DA client which was introduced in the WorkstationST V06.02.15C release.

14.25.1 WorkstationST V06.02.16C

Reference	Release Note
45564	The change for making a single remove call in the V06.02.15C release caused incorrect item handles to be included in the remove call from our OPC DA client to a connected server. The item handles are now communicated correctly in the remove items call.

14.25.2 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 9, were previously released since ControlST V06.02.07C.

- ARES V07.03.00C
- Mark VIe V06.01.02C
- Mark VIeS V05.03.03C
- PCAA V05.00.01C
- PCMI V05.00.02C
- PHRA V05.00.02C
- PPRF V05.00.02C
- PPRO V05.05.00C
- PVIB V05.01.05C
- ToolboxST V06.02.15C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- YVIB V05.01.04C

14.26 ControlST V06.02.07C SP10 (February 2019)

This is a maintenance release driven by a WorkstationST OPC DA client issue.

14.26.1 Security

There are no security updates included in this release.

14.26.2 ToolboxST V06.02.17C

Reference	Release Note
45833	Importing an existing external EGD device would corrupt files causing CMS to delete needed files on subsequent check-ins.

14.26.3 WorkstationST V06.02.17C

Reference	Release Note
45790	Adding a delay for our OPC DA server's embedded OPC DA client, between removal and add back for an OPC DA group. This change is needed because the removal is an asynchronous operation.

14.26.4 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 10, were previously released since ControlST V06.02.07C.

- ARES V07.03.00C
- Mark VIe V06.01.02C
- Mark VIeS V05.03.03C
- PCAA V05.00.01C
- PCMI V05.00.02C
- PHRA V05.00.02C
- PPRF V05.00.02C
- PPRO V05.05.00C
- PVIB V05.01.05C
- Virtual Mark VIe V06.02.02C
- YSIL V05.00.01C
- YHRA V04.06.04C
- YVIB V05.01.04C

14.27 ControlST V06.02.07C SP11 (August 2019)

This is a maintenance release driven by a YSIL Firmware Overspeed Trip issue and a fix for the number of consumed exchanges in a Mark VIe that can remain healthy all at once.

14.27.1 Security

There are no security updates included in this release.

14.27.2 Mark VIe V06.01.03C

Reference	Release Note
47237	An issue that was causing some consumed exchanges in a device configured with more than 253 UDH EGD exchanges to become unhealthy has been resolved. The number of configured exchanges is calculated as the number of produced exchanges from the device plus the total number of exchanges configured in all referenced devices, regardless of how many devices contain consumed variables. However, it is not possible to guarantee which exchanges will be unhealthy as it is based on the order the device reads in the configuration files and can change during operation with dynamic binds.

14.27.3 YSIL V05.06.01C

Reference	Release Note
46528	An issue was fixed where under certain operating conditions, the YSIL could miscalculate speed and trip on a firmware overspeed when a real overspeed condition didn't exist. This issue could also cause nuisance dual speed sensor mismatch diagnostic alarms.

14.27.4 Previously Released

As of February 2017, ControlST component updates are delivered in the form of "Service Packs." A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 11, were previously released since ControlST V06.02.07C.

- ARES V07.03.00C
- Mark VIeS V05.03.03C
- PCAA V05.00.01C
- PCMI V05.00.02C
- PHRA V05.00.02C
- PPRF V05.00.02C
- PPRO V05.05.00C
- PVIB V05.01.05C
- ToolboxST V06.02.17C
- Virtual Mark VIe V06.02.02C
- WorkstationST V06.02.17C
- YHRA V04.06.04C
- YVIB V05.01.04C

14.28 ControlST V06.02.07C SP12 (March 2021)

This is a maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.

14.28.1 EX2100e V04.09.05C

Reference	Release Note
43906	The FCR Force button is disable when the?exciter is online (52G closed)
56722	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.2 EX2100e_Reg V04.09.04C

Reference	Release Note
56723	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.3 LS2100e V04.10.05C

Reference	Release Note
48097	When an overcurrent occurs, 52SS is commanded to open, but not overcurrent fault is recorded. Now, in the event of an overcurrent fault, an overcurrent fault is displayed.
48099	The Source PLL Zero Crossing second layer of protection has been defaulted to "Disable".
48978	LS2100e Crossover HSLAH6 Media Converter communication stopping issue has been fixed.
56721	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.4 Mark VIe V06.01.04C

Reference	Release Note
56695	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.5 Mark VIeS V05.03.04C

Reference	Release Note
56696	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.6 PPDA V05.00.02C

Reference	Release Note
56844	JPDG AC inputs can also be used for 125 V DC input with ground fault detection.
56871	Documentation update on variables Batt_125V_LED and Batt_125G_LED to reflect 125V feedback status rather than battery status.

14.28.7 PPNG V05.07.01C

Reference	Release Note
56876	A situation where the PPNGH1A may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

14.28.8 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 12, were previously released since ControlST V06.02.07C.

- ARES V07.03.00C
- PCAA V05.00.01C
- PCMI V05.00.02C
- PHRA V05.00.02C
- PPRF V05.00.02C
- PPRO V05.05.00C
- PVIB V05.01.05C
- ToolboxST V06.02.17C
- Virtual Mark VIe V06.02.02C
- WorkstationST V06.02.17C
- YHRA V04.06.04C
- YSIL V05.06.01C
- YVIB V05.01.04C

Notes

15 V06.01 Release Notes

Initial release - April 2016

15.1 V06.01.00C Enhancements



Mark VIeS BPPC-Based Safety Packs

Application: I/O Safety packs

Description: As part of the ongoing support for the Mark VIeS controls platform, three Safety I/O packs have migrated the processor board from a BPPB to a BPPC:

- Analog In/Out (**YAIC**)
- Discrete Input (**YDIA**)
- Discrete Output (**YDOA**)

The migration rules from BPPB to BPPC are different for the safety I/O packs (Y-Packs) than the general purpose control I/O packs (P-Packs). Refer to user documentation on these components for the details.

References: *Mark VIe and Mark VIeS Control Systems Volume II* (GEH-6721 Vol II)

ToolboxST User Guide for Mark Controls Platform (GEH-6700 Rev AB)

SIL Blocks (Safety Library)

Application: SIL blocks for Mark VIeS control

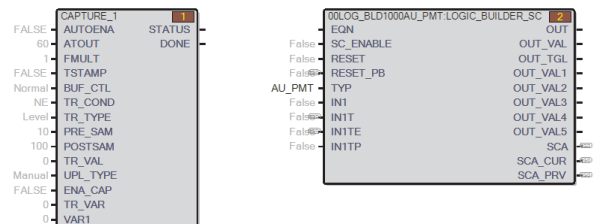
Description: Two Blocks added to the SIL Block Library for the Mark VIeS safety controller:

- **CAPTURE** — Collects multiple samples of 1 to 32 variables at frame rate in a buffer that can be uploaded to the ToolboxST Trender application or the Data Historian.
- **LOGIC_BUILDER_SC** — Allows inputs to be configured with the AND, OR, and NOT blocks to create a PERMIT, OVERRIDE, FORCE, or TRACK function.

References: *Mark VIeS Safety Controller Block Library*

(GEI-100691), *Mark VIeS Control Functional Safety Manual*

(GEH-6723)

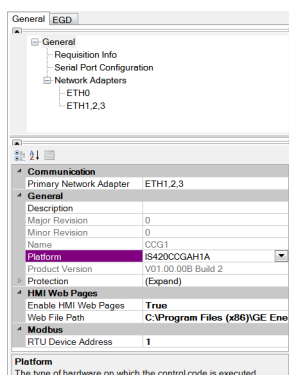


New Control Communication Gateway (CCGA) Options

Application: Control Communication Gateway

Description: Additional properties have been added to the CCGA that allow the user to connect a Modbus client to the CCGA directly. The default values of other properties have been updated to support radio communication.

References: *ToolboxST User Guide for Control Communication Gateway* (GEI-100848)



Global Variable Creation for Simulink™ Models

Application: MDL Translator

Description:

Programs created using the MDL Translator define variables at both the Program and Task levels for use in Simulink models. Global variables are now defined under the Task level and no longer under the Program level. This helps the Wind team in parameter reduction and aids in being flexible with instancing.

References:

WI 26067

Simulink Translator Tool for Mark VIe Blockware User Guide (GEH-6743)

Task Level Password Protection

Application: MDL Translator

Description:

Programs created using the MDL Translator can be password-protected. The MDL Translator tool now supports setting ModifyDesign, ModifyData, and ViewDesign passwords to Tasks.

References:

WI 26068

Simulink Translator Tool for Mark VIe Blockware User Guide (GEH-6743)

Thin Client HMI

Application: WorkstationST

Description:


The Control System Health feature of the WorkstationST application has been enhanced to prevent nuisance alarms and provide basic monitoring of the components in a Thin Client HMI system.



References:


WI 29093


WorkstationST Control System Health (GEI-100834)




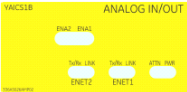
15.2 V06.01.00C Issues Resolved with this Release

Component	Component Version	Release Notes
 <p>ToolboxST</p>	<p>V06.01.00C</p>	<p>The ToolboxST application has an Extra Circuits tab for the STCI terminal board that lists the board screw numbers and purpose (for example, screw 49, PwrPos1). The STCI terminal board now shows the correct screws for Excitation power on the Extra Circuits tab.</p> <p>Reference: WI 15022</p>
		<p>The Trender for the ToolboxST application allows the user to manually set trace ranges for data collection and display, which allows an appropriate scale to be set for the value (vertical) axis for each trace. Fixed an issue in the Trender where user selected trace ranges were overridden when data collection is started.</p> <p>Reference: WI 19524</p>
		<p>When downloading FOUNDATION Fieldbus devices, parameters such as CONFIRM_TIME are included in that download. Fixed an issue where FOUNDATION Fieldbus CONFIRM_TIME was set to 64000 instead of 640000. This difference was showing up during FF Parameter reconciliation.</p> <p>Reference: WI 24867</p>
		<p>Upgrade dialogs in the ToolboxST application provide information and notification of potential conflicts in the upgrade process. Upgrade dialogs (System upgrade and individual component upgrade) in the ToolboxST application now have a confirmation message for I/O modules that are being upgraded to a version that doesn't support the existing hardware form.</p> <p>Reference: WI 25878</p>
		<p>To add a new H1 device to a FOUNDATION Fieldbus system in the ToolboxST application, the H1 device must first have been imported using the DD Importer feature. Resolved an issue that prevented a FOUNDATION Fieldbus H1 device from being imported when the system is under CMS control.</p> <p>Reference: WI 27491</p>
		<p>The Prevote (PREVOTE) block allows a user to transfer prevoted input values to control logic. The PREVOTE block can now be used for PAIC/YAIC Out#MA variables (analog output feedback variables).</p> <p>Reference: WI 28608</p>
		<p>The ToolboxST application has the ability to import variables from a .csv file to the Trender. Fixed an issue where some Trend .csv files with many variables (for example, around 448) could not be opened, but instead showed an error message that The .csv file is corrupt, line number xxxx has more/less Columns.</p> <p>Reference: WI 29266</p>

 ToolboxST	V06.01.00C	Alarm Rationalization produces the detail design necessary to manage an alarm lifecycle. Alarm Rationalization is now supported for alarms in the Inner Loop Application Interface of EX2100e and the LS2100e. Reference: WI 29998
		The ToolboxST application provides a Protection property where Access Roles and Passwords can be assigned to blocks for security purposes. Resolved an issue where instantiating a Task or UserBlock from a library into a device, the Access Roles on the block's Protection property were not being copied to the device (Passwords were ok). This issue prevented the full implementation of parameter access control strategy in a customer's system. Reference: WI 29912
		The System Information Editor has a Plant Areas screen where locations that represent a plant or facility within the control system can be set up and displayed. The plant areas are used to place variables into logical plant groups for display in the Alarm Viewer. Fixed an issue where the copy, paste, and cut functions were not working in the System Information Editor's Plant Areas edit control. Reference: WI 30269
		Many components use different methods of high-speed synchronous data capture, all of which are accessed as capture buffers in Trender. Trender now allows adding capture buffer data sources from a Mark VIeS controller. Reference: WI 30423
		The System Information Editor has a Plant Areas screen where locations that represent a plant or facility within the control system can be set up and displayed. The plant areas are used to place variables into logical plant groups for display in the Alarm Viewer. Enabled sorting of the Tree View of plant areas in the System Information Editor. Reference: WI 30456
		Resolved an issue that could cause an unexpected program failure when going online with a controller that contains a Mark VI I/O rack. Reference: WI 31035
 WorkstationST	V06.01.00C	The ToolboxST application's I/O Variable Report provides a list of I/O variables, which operators can use to locate a device to find the logic, link to drawings and logic, and locate replaceable items. PROFIBUS child device I/O variables and related properties are now added in the I/O Variable Report. Reference: WI 25930
		Corrected an issue where an OPC UA client used a data change filter in a request for a Boolean type monitored item, and the OPC UA server response was a bad filter not allowed type response. The OPC UA server now allows clients to include data change filters in Boolean type monitored item add requests. Reference: WI 26560

 <p>WorkstationST</p>	<p>V06.01.00C</p>	<p>The ToolboxST application includes the ability to assign second language (translated) names to Mark Controls diagnostic messages and the Control System Health Viewer can display those messages in either English or the second language by selection of the language from the WorkstationST Status Monitor. Corrected an issue where modifying the Diagnostic translations from the System Information Editor in ToolboxST did not take effect in the Control System Health viewer until a WorkstationST restart.</p> <p>Reference: WI 27087</p>
		<p>The OPC UA client and server each own an application certificate, which are kept in the Windows local machine certificate store. Improved the connection error information reported when the OPC UA client cannot find its assigned certificate in the certificate store. Added a way in the certificate manager to disassociate a certificate with the ControlST client or server.</p> <p>Reference: WI 27095</p>
		<p>The Alarm Viewer includes a filter feature to sort alarms into specified categories. Fixed an issue that was causing the Alarm Viewer to crash when a variable was added to a filter and that filter was being used by the Live Alarm Message display.</p> <p>Reference: WI 28388</p>
		<p>CIMPLICITY* has a feature that displays a context menu after right-clicking on a CimEdit or CimView screen. Corrected an issue where right-clicking after first opening CimEdit or CimView can take an excessively long time (up to 45 seconds) caused when an internal alarm client used for alarm statistics with the ControlST Com2ControlST object was created upon initialization, rather than in the background.</p> <p>Reference: WI 28847</p>
		<p>The WorkstationST Recorder can be configured to record trip information for analysis. Resolved an issue where the Recorder's design kept the large uploaded capture buffer data in memory, even after it had saved the trip log to disk, resulting in out of memory conditions after repeated use of the trip log function.</p> <p>Reference: WI 28895</p>
		<p>The ToolboxST application has the ability to import parameters from a .csv file provided the user is logged on and has the appropriate privileges assigned. Fixed a problem on the privileged VPSA logon that was causing frequent logoffs.</p> <p>Reference: WI 28923</p>
		<p>When the OPC UA feature is enabled, the OPC UA server processes EGD-consumed exchanges and produces WorkstationST-owned EGD exchanges. Corrected a problem where after several controller downloads the OPC UA server was once seen to fail to begin listening to EGD traffic again. The OPC UA server showed an error and live data was not healthy.</p> <p>Reference: WI 28962</p>
		<p>A WorkstationST component can be configured for both the OPC UA Server and Control System Health features. An intermittent error status was showing up on the OPC UA server of a Control System Health configured WorkstationST node. The intermittent error would begin after a workstation download from ToolboxST occurred. A restart of the OPC UA server process after the download would work around this error condition.</p> <p>Reference: WI 29749</p>

 <p>WorkstationST</p>	<p>V06.01.00C</p>	<p>The VPSA logon account has a time-out feature for security purposes. Corrected time-out behavior in the VPSA logon feature.</p> <p>Reference: WI 29923</p>
		<p>For gateway applications where clients to the WorkstationST OPC DA server are frequently writing WorkstationST owned variables, there is a setting to avoid logging these writes. That setting correctly controls the logging of the setpoint into the Operator Setpoint logging of the ControlST alarm system, but it does not control the logging into the detail OPC DA server log. Corrected this issue so that WorkstationST-owned variables are only logged when either the trace log setting is verbose, or the WorkstationST configuration setting for enabling logging of WorkstationST owned variables is enabled.</p> <p>Reference: WI 30108</p>
		<p>The WorkstationST HMI importer allows the import of alarms and measurement systems. Corrected an issue where imports of alarms and measurement systems into a CIMPLICITY 6.1 project, were failing with an error <i>The system cannot find the file specified. Check the path</i> error. The idtpop and scpop CIMPLICITY applications were the files that could not be found.</p> <p>Reference: WI 30169</p>
		<p>Corrected an issue where a client used a data change filter in a request for a Boolean type monitored item, and the response was a bad filter not allowed type response. Clients are now allowed to include data change filters in Boolean type monitored item add requests.</p> <p>Reference: WI 30486</p>
		<p>When an OPC UA client and server connect, both the client and the server application have an X509 certificate they own, which the other must have in their trusted store. Added a Rejected toolbar button to the WorkstationST OPC UA certificate manager that allows a user to view rejected ControlST OPC UA server and client certificates and optionally trust them. Rejected certificates are added to the rejected folder when a client attempts to connect to a server and the certificate is not already in the trusted store.</p> <p>Reference: WI 30591</p>
		<p>When consuming OPC DA client variables from a ControlST GeCssOpcServer, the user interface in the WorkstationST component editor on the OPC DA tab, allows users to modify any property of the client created variables. When initially browsing or when right-click refresh of an OPC DA group, the editor obtains property values that are available in an external OPC DA server. Corrected an issue where the OPC DA client editor was not updating some extended properties, such as Format Specification, when the external server had them available.</p> <p>Reference: WI 30593</p>
		<p>Added a limit of 10 retries to the WorkstationST OPC DA embedded client's attempt to re-add variables to a group when part of the variables are undefined in the remote server. Previously the client would continue attempting to restart the group until all the variables were successfully added. This previous behavior lead to periodic interrupts in live value updates for variables that were successfully added and resulted in additional remote server loading.</p> <p>Reference: WI 31106</p>

 WorkstationST	V06.01.00C	<p>The Control System Health Network Monitor feature must be configured correctly to gain access to the switch SNMP data. Due to a change in Network Switch configurations, where multiple virtual HMIs now reside on one switch port, the WorkstationST Network Monitor will always use the <i>Local HMI Management Address</i> when it is specified.</p> <p>Reference: WI 31172</p>
 Block Library Creator	V06.01.00C	<p>The Block Library Creator tool automatically creates Mark VIe controller block libraries from control models that are developed by a user with the graphical design tools provided by MATLAB™ Simulink™. Enhancements have been made to increase speed of the project creation.</p> <p>Reference: WI 28842</p> <p>When creating a new block library, the Block Library Creator tool will maintain regional settings used when creating control models with the graphical design tools provided by MATLAB Simulink. Fixed an issue where the Block Library Creator was not respecting regional settings.</p> <p>Reference: WI 29579</p>
 LS2100e	V04.10.00C	<p>The LS2100e control includes various means for system and turbine protection. To eliminate a known class of nuisance trip, the Source Hardware Current Difference Trip (Source Hw IDiff Trip) has been disabled. Refer to CSB25339 for complete details.</p> <p>Reference: WI 29970</p>
 YAIC	V05.01.00C	<p>An input filter is provided so parameters can be sorted prior to downloaded to an I/O pack. An issue was fixed where the input filtering would be removed when parameters were downloaded to the I/O pack.</p> <p>Reference: WI 7740</p> <p>A .chm file is provided for each I/O pack to provide help information for the pack. YAIC documentation now includes information about the STAIS3A terminal board.</p> <p>Reference: WI 26106</p> <p>A diagnostic alarm is provided when The difference between the commanded output current and total feedback is greater than <i>TMR_SuicLimit</i>. An issue was fixed where the diagnostic alarm <i>Output # Total current varies from reference current</i> is incorrectly generated.</p> <p>Reference: WI 28386</p>

15.3 V06.01.00C Suite Components

Grouping	Component	Version	Status
GE ControlST Support Package			
	Support		
	Resource Translation Manager	V01.01.11C	
	Versions	V05.00.01C	
	ControlST Documentation	V01.00.04C	Revised
	CertificateStoreManager	V06.00.00C	



Grouping	Component	Version	Status
GE Configuration Tools Package			
	ToolboxST	V06.01.00C	Revised
	Mark VleS	V05.02.00C	Revised
	Mark Vle Virtual Controller	V06.00.00C	
	Mark VleS Virtual Controller	V06.01.00C	Revised
	Block Library Creator	V06.01.00C	Revised
	Mark Vle		
	Mark Vle	V06.00.01C	Revised
	Mark Vle Thermal Extension	V06.00.01C	Revised
	Mark Vle Wind Extension	V06.00.01C	Revised
	EX2100e Excitation Control		
	EX2100e	V04.09.00C	Revised
	EX2100e_Reg	V04.09.00C	Revised
	EX2100e Excitation Control Torsional Stress Relay	V01.00.01C	
	Distributed I/O Packs		
	PAIC	V05.01.00C	Revised
	PAMB	V02.09.24C	
	PAMC	V04.06.02C	
	PAOC	V05.00.00C	
	PCAA	V05.00.00C	
	PCLA	V05.00.00C	
	PCNO	V05.00.00C	
	PDIA	V05.01.00C	Revised
	PDII	V05.00.00C	
	PDIO	V05.00.00C	
	PDOA	V05.00.00C	
	PEFV	V04.06.04C	
	PGEN	V04.06.04C	
	PHRA	V05.00.00C	
	PIOA	V04.06.04C	
	PMVD	V04.06.04C	
	PMVE	V04.07.02C	
	PMVP	V04.07.00C	
	PPDA	V05.00.01C	Revised
	PPRA	V05.00.00C	
	PPRF	V05.00.00C	
	PPRO	V05.00.00C	
	PRTD	V05.00.00C	



Grouping	Component	Version	Status
	PSCA	V05.00.00C	
	PSVO	V05.00.00C	
	PSVP	V04.08.00C	
	PTCC	V05.00.00C	
	PTUR	V05.00.00C	
	PVIB	V04.06.04C	
	PSCH	V04.08.00C	
	PCMI	V05.00.00C	
	PPNG	V05.05.01C	
Distributed Safety I/O Packs			
	YAIC	V05.01.00C	Revised
	YDIA	V05.01.00C	Revised
	YDOA	V05.00.00C	Revised
	YHRA	V04.06.03C	
	YPRO	V04.07.03C	
	YTCC	V04.06.03C	
	YTUR	V04.06.03C	
	YVIB	V04.06.03C	
	YSIL	V05.00.00C	
Distributed Wind I/O Packs			
	WEMA	V05.00.00C	
	WETA	V05.00.00C	
	WCBM	V04.06.00C	
Wind Pitch 2.5			
	WEPA	V04.11.03C	
	Wind Pitch 2.5	V04.04.07C	
Wind Pitch			
	AEPA	V04.09.00C	
	Wind Pitch	V04.04.06C	
Static Starter Control			
	LS2100e	V04.09.01C	Revised
Wind Pitch 40nm			
	Wind Pitch 40nm	V04.04.06C	
Power Conversion			
	Wind-Sync	V01.04.05C	
	Wind-PMG	V02.22.06C	
	Wind-DFIG	V03.05.16C	
	Wind-DFIGe	V01.07.74C	
	WECA	V02.09.29C	
	Solar2	V01.01.08C	

Grouping	Component	Version	Status
	SECA	V02.09.22C	
	BECA	V01.01.03C	
	Battery2	V01.01.03C	
Power Conversion 2			
	Wind-PMG	V01.10.09C	
	Solar2	V01.02.11C	
Power Conversion 3			
	Solar2	V01.03.00C	
Mark VleBlockLibs			
	ARESBlocklib	V05.06.00C	
	MPCBlocklib	V04.02.01C	
GE WorkstationST Package			
	WorkstationST Features	V06.01.00C	Revised
	WorkstationST Alarm Viewer	V06.01.00C	Revised
GE Hart Message Server			
	Hart Message Server	V04.07.00C	
GE CMS Server			
	CMS Server	V06.01.00C	Revised
GE Historian Reports			
	GE Historian Reports	V06.00.01C	
GE Simulink Block Library			
	SimulinkBlockLib	V05.03.00C	
GE Legacy Tools Package			
	Legacy Toolbox	V11.07.15C	
	SDB Server	V05.03.07C	
	Innovation Series Controller	V06.07.13C	
	AcDcEx Runtime Product	V26.01.00C	
	COI Product	V02.00.22C	
	LCI Documentation	V01.01.00C	
GE Legacy Versioned Runtime Package			
	EX2100	V12.00.00C	
	EX2100	V03.09.00C	

Grouping	Component	Version	Status
	EX2100	V11.50.03C	
	EX2100	V12.01.00C	Revised
	EX2100 Regulator	V05.00.00C	
	EX2100 Regulator	V04.50.03C	
	EX2100 HEC	V02.00.00C	
	LS2100	V01.03.00C	
	Mark VI	V05.16.01C	
	Mark VI Virtual Controller	V04.01.03C	

15.4 V06.01.00C Known Issues

Component	Component Version	Release Notes
 ToolboxST	V06.00.00C	The pdf and help file information for this release may not match for some I/O packs. For the most current information, you should refer to the document pdf.
		Using the Code Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.
		Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface of ToolboxST. The graphical glitches most often manifest as partially drawn windows, patterns of gibberish drawn on the screen, or system errors that force a reboot of the computer. To avoid these issues, all users should keep video drivers up to date. There are other workarounds; see the document <i>Graphical Display Issues in ToolboxST Application</i> included on the ControlST installation DVD (or on the Controls Connect website) for detailed instructions to resolve the issue. Reference: WI 11834
Mark VIe Mark VIeS EX2100e LS2100e	V06.01.00C	<p>As part of the Certificate Authority function in SecurityST and the controller, a Certificate Revocation List (CRL) is maintained in the CA Server and each of the controllers. A controller firmware issue was discovered with the refresh of the CRL. When the controller is in Secure mode and the CRL in the controller is refreshed, the user may no longer be able to download configuration or force variables from the ToolboxST application. The workaround for this issue is to take the controller out of Secure Mode to Open mode using ToolboxST, then back into Secure mode. After this mode sequence, the user should then be able to download configuration and or force variables while in Secure mode.</p> <p>Issue introduced into V06.00.00C firmware of Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers.</p> <p>Reference: WI 31232</p>
 EX2100e	V06.01.00C	<p>The documentation included with the EX2100e V06.01.00 release is not up to date. The current version of all documentation can be obtained by going to the Mark Controller Solutions Support Site at the following link:</p> <p>http://sc.ge.com/*markcontrols</p>

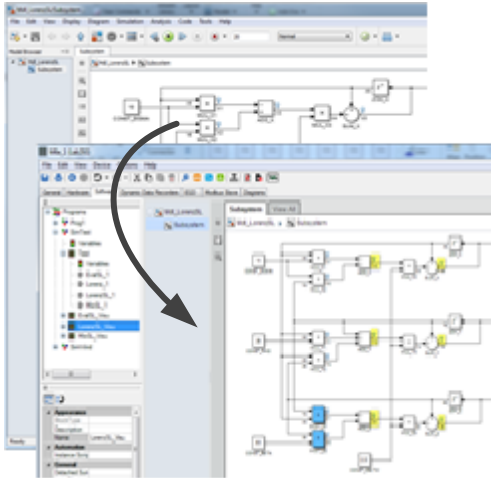
 <p>PPNG</p>	<p>V05.05.01C</p>	<p>The PROFINET Gateway I/O pack (PPNG) should not be configured with a PROFINET IO-device whose parameter size is greater than 64KB. If configured with such devices, the PPNG fails to load the configuration and does not go online with the controller.</p> <p>Reference: WI 22180</p>
 <p>WorkstationST Features</p>	<p>V06.00.00C</p>	<p>When enabling the OSM feature on a Mark VI site where Toolbox classic is run from the WorkstationST service, the flag allowing the service to interact with the desktop will need to be set manually. The install will no longer set this flag.</p>

Refer to the *ControlST Software Suite Upgrade Instruction Guide* (GEI-100694), *Appendix B, Known Issues* for additional information.

16 V06.00 Release Notes

Initial release - November 2015

16.1 V06.00.00C New Features



MATLAB™ Simulink™ Interface

Application:

Control logic development in MATLAB Simulink

Description:

The Block Library Creator tool automatically creates Mark VIe controller block libraries from control models that a user develops using the graphical design tools provided by MATLAB Simulink. The Block Library Creator produces a Mark VIe Block Library from a collection of Simulink models, whereby each Simulink model becomes an individual block in the library.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

CMS Enhancements

Application:

Configuration Management System (CMS) for a ControlST system

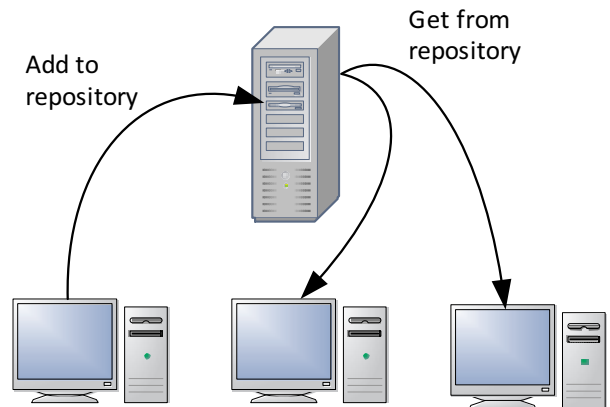
Description:

Set of enhancements for the CMS in V06.00:

- Dramatic improvements in performance
- Migration of tool to SVN technology
- Improved graphic interface
- Migration procedure provided in the ToolboxST User Guide

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)



Windows Operating System Support

Application:

ControlST Software Suite computer software applications (ToolboxST, Alarm Viewer, and so forth)

Description:

The following operating system options are available for ControlST V06.00:

- Windows 7, 32-bit
- Windows 7, 64-bit
- Windows Server 2008 R2, single-user configuration, SP 1

Note: Windows XP is not supported in V06.00

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)



CANopen® (PCNO) Support for Moog™ Digital Valve Positioner (DSP)

Application:

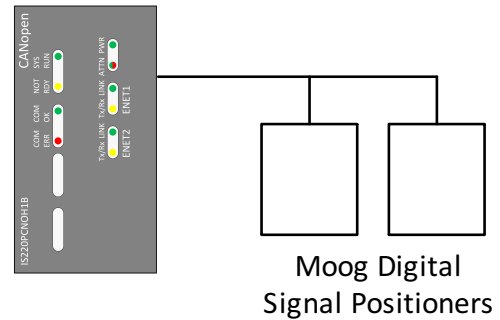
CANopen bus technology for Moog DSP

Description:

- New Moog DSP valve option on CANopen bus through PCNOH1B I/O pack
- Baud rate options: 500, 250, or 125 kbps
- Frame rate options: 10, 20, or 40 ms

References:

Mark VIe and Mark VIeS Control Systems Volume II: General-purpose Applications (GEH-6721 Vol II) the chapter, PCNO CANopen Master Gateway



FOUNDATION Fieldbus® H1 Device Import/Export

Application:

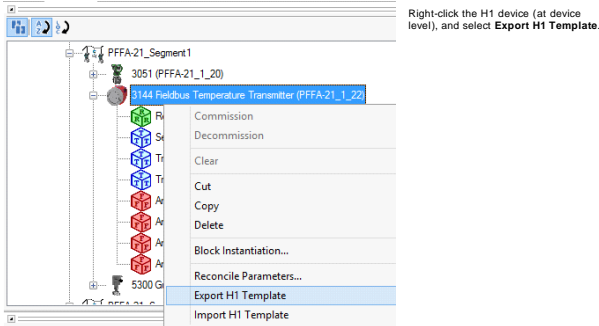
FOUNDATION fieldbus device configuration automation

Description:

- User can export an .xml template file for a specific FOUNDATION fieldbus H1 device
- The exported .xml template is used to import any changes made to the template device into target FOUNDATION fieldbus H1 devices of the same type
- ToolboxST menu option is displayed at the FOUNDATION fieldbus H1 device level

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)



Cisco IE2000 Support in WorkstationST Network Monitor

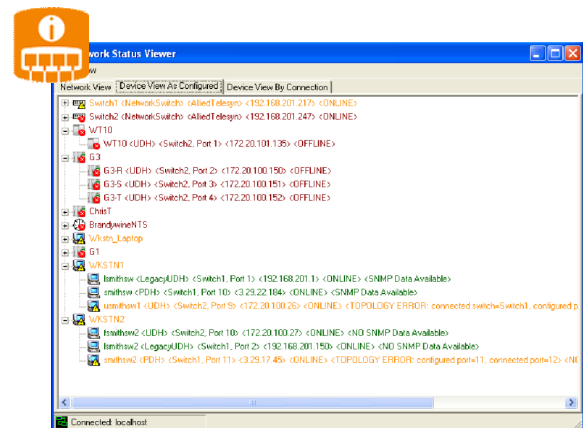
Application: Networking

WorkstationST Network Monitor now supports the Cisco IE2000 switch, features included:

- Hierarchical status in tree structure for the associated network
- Health of each connection between the switch and attached devices
- Configuration and packet metrics for each port on the switch
- Interface with the Alarm Server to provide diagnostic alarms related to the switch

References:

NetworkST 3.1 for Mark VIe Controls Application Guide (GEH-6840)



FOUNDATION Fieldbus Reconcile Report

Application: FOUNDATION Fieldbus

Description:

The FOUNDATION Fieldbus Reconcile Report generates a report of unequal parameters. Using this report, users can view where the FOUNDATION Fieldbus parameters are defined to resolve issues and reconcile parameter equality for blocks, H1 devices, segments, linking devices, or systems (single parameter or all). The Reconcile Report also provides the existing ToolboxST report features, such as print, filter, refresh, and sort columns.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Block	Parameter	Device Value
Analog Input(PFFA-21_1_20_257_2400)	L_TYPE	<input checked="" type="checkbox"/> Indirect
Resource Block 2(PFFA-21_1_20_307_1000)	DETAILED_STATUS	<input type="checkbox"/> ()
Analog Input(PFFA-21_1_21_257_500)	STRATEGY	<input type="checkbox"/> 5
Analog Input(PFFA-21_1_21_257_500)	L_TYPE	<input type="checkbox"/> Indirect
Analog Input(PFFA-21_1_21_257_500)	LOW_CUT	<input type="checkbox"/> 0

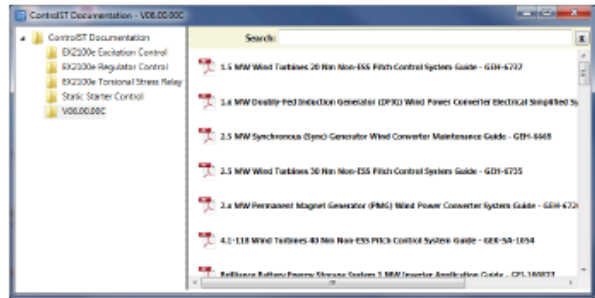
ControlST Documentation App

Application: ControlST Users

Description:

The ControlST Documentation App is a documentation explorer that enables the user to search for and view ControlST documentation using the following features:

- Opens in a separate window focused on user documents
- Tree hierarchy of folders for navigation
- Global search function offered across all user documents (index setup required)



References:

ControlST software suite of user documents

ToolboxST User Guide for Mark Controls Platform (GEH-6700), the section *ControlST Documentation*

PROFINET® Gateway Enhancements

Application: PROFINET I/O

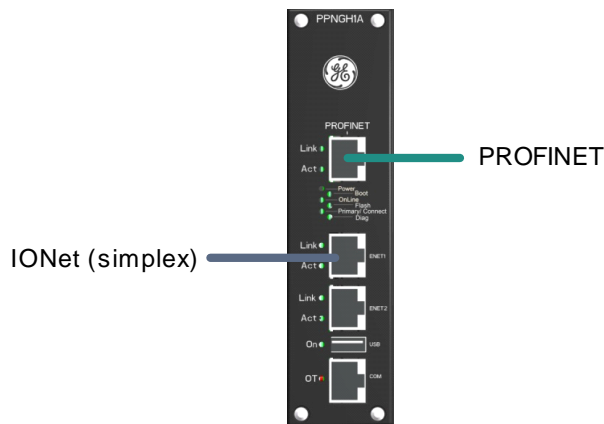
Description:

Additional capabilities include:

- Manufacturer specific alarm details and retrieval of alarm history
- Importing GSDML files up to version 2.31
- Deletion of imported GSDML files
- Setting the IP address and factory reset of I/O devices
- I/O device can be compared with configured I/O device
- Configuration of I/O points as individual bits or bytes
- Editing of GSDML files

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)



Certificate Authority Updates

Application: Security

Description:

Security update to the MSCEP, which provides the link between the Mark VIe and the Certificate Authority provided as a part of SecurityST.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700) the section, *CA Server Thumb Print*

EX2100e ESYS and EAUX Board Filters (FPGA)

Application: ESYS and EAUX board filters

Description:

The release includes updates to EAUX and ESYS FPGA code to include FPGA based filtering of 5 ms on critical discrete inputs.

References:

No changes were made to the referenced documentation.

EX2100e Excitation Control System I/O Interface (ESYS) Module Instruction Guide (GEI-100772)

EX2100e Excitation Control Auxiliary Interface (EAUX) Board Instruction Guide (GEI-100779)

EX2100e Security Update

Application:Exciter and Regulator

Description:

The EX2100e now supports the same level of security as the core Mark VIe product

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Expanded Ambient Temperature Rating for Selected Mark VIe Components

Application: Various components

Description:

The following component's temperature specification was expanded to -40 to 70°C (-40 to 158 degrees °F) for ambient temperate rating:

ESWA, PAICH1B, PAOCH1B, PCAAH1B, PCLAH1B, PDIAH1B, PDIIH1B, PDIOH1B, PDOAH1B, PHRAH1B, PPRAH1B, PPROH1B, PRTDH1B, PSCAH1B, PSVOH1B, PTCCH1B, PPDAH1B, PTURH1B, DACA, JPDA, JPDB, JPDC, JPDD, JPDE, JPDF, JPDG, JPDH, JPDL, JPDM, JPDP, JPDS, JGND

References:

Mark VIe and Mark VIeS Control Systems Volume II: General-purpose Applications (GEH-6721 Vol II), various sections

Mark VIe and Mark VIeS Control Systems Volume III: for GE Industrial Applications (GEH-6721 Vol III), various sections
WI 24536

Generator Instrumentation and Exciter Stop Timer Parameter

Application: EX2100e Generator Instrumentation and Exciters

Description:

- An option was added to allow for the removal of the dc component.
- The D path of the voltage magnitude calculation now has the option to include an FIR filter in the place of the single-pole filter presently in use.
- An Exciter parameter with a default of 5.0 seconds was added to set the state time.

References:

None

LS2100e Blown Filter Fuse Detection

Application: Static Starters

Description:

The ability was added to detect a blown filter fuse, and to make the tolerance and time delay programmable. Intended for starters with no blown fuse detection, but will be available in all starters.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Switch Management Network

Application: Networks

Description:

A new network type named *Management* has been created that switches can be connected to when they are configured in the Network Monitor. The Network Monitor now sends queries to the default gateway (router) for the PDH if the switch is on a different network.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

NetworkST 3.1 for Mark VIe Controls Application Guide (GEH-6840)

Alarm Viewer

Application: Alarm Viewer

Description:

The release includes updates to the Alarm Viewer:

- A new Live Alarms option – *Enable Unconditional Acknowledge, Reset and Silence All* was added.
- The View/Local Mode and View/Remote Mode have been replaced by the View/Connect option.
- The Sound Options section has been updated and clarified.
- A new Historical Alarms column - *Composite State* has been added.
- Alarm symbol enhancements added for inner and outer border color, suppression of priority from being displayed in the alarm symbol and alarm feature symbol inner and outer border color.

References:

WorkstationST Alarm Viewer Instruction Guide (GEI-100620)

ToolboxST Upgrades

Application: ToolboxST

Description:

Upgrades include:

- Added ability to configure Control Communications Gateway.
- A GEActivePointHMI theme file was added to implement version 2 of the GE UX specification. UI theme files were added in support of the Operator UX work. The active theme file can be selected in the ToolboxST system overview.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Virtual Mark Vle Upgrades

Application: Virtual Mark Vle

Description:

Upgrades include:

- Support standalone block library built by user
- Diagnostic level can be changed for individual or all Mark Vle Virtual Controller(s)

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Mark Vle Upgrades

Application: Mark Vle

Description:

Various security updates have been added.

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

Safety Pack Upgrades

Application: Blockware

Description:

- YAIC now supports the STAIS3A terminal board. (WI 23678)
- YHRA now supports GE Device Manager Essentials HART® communication gateway. (WI 23776, WI 20547)

References:

Mark Vle and Mark VleS Control Systems Volume II (GEH-6721 Vol II)

ARES Block Library Upgrades

Application: ARESBlockLib

Description:

Upgrades include:

- Added A7F042000814 (based on 7F.04-200-0814)
- Added A7FA041209V3 (same model as A7FA04XX1209 with additional outputs)
- Added A7HA013B0515 (based on 7HA.01-03B-0515, current 7HA.01 AO)
- Added A7HA021A0415 (based on 7HA.02-01A-0415, current 7HA.02 AO)
- Updates to ARESCool and ARESCool2 blocks

References:

CHM file only

WorkstationST Features

Application: WorkstationST

Description:

Upgrades include:

- Included an updated OPC Foundation Local discovery server into the install and made it an optional install feature.
- Added the ability for SDI writes from WorkstationST to work with Mark VIe controllers currently in secure mode. The appropriate certificate must be created as described in the security manual. This applies to applications such as Expertune where writes to values of variables not on EGD are necessary.
- OPC AE clients can now access the Locked State of an alarm. Lock state is implemented as an attribute available in the event notification to an OPC AE client. The client must request this attribute when configuring the subscription. (WI 24491)

References:

ToolboxST User Guide for Mark Controls Platform (GEH-6700)

16.2 V06.00.00C Issues Resolved with this Release

Component	Component Version	Release Notes
ToolboxST	V06.00.00C	<p>FOUNDATION Fieldbus downloads will now only mark H1 devices that have changed for download to a segment.</p> <p>Reference: WI 26946</p>
		<p>Resolved issue with ToolboxST FOUNDATION Fieldbus communication driver (CIT 5.3.1).</p> <p>Reference: WI 24450, WI 23073</p>
		<p>Resolved issue with FOUNDATION Fieldbus device enumerated parameter lists.</p> <p>Reference: WI 24481, WI 24527, WI 25328, WI 24455</p>
		<p>Resolved FOUNDATION Fieldbus related issue with inconsistencies in the use of leading zeros on displayed device parameters.</p> <p>Reference: WI 24481, WI 24527, WI 25328</p>
		<p>Removed the 99 character limit for the composite unique identifier for a FOUNDATION Fieldbus hostFB.</p> <p>Reference: WI 25929</p>
		<p>ToolboxST no longer closes unexpectedly if you go online in the System View when the Computer Name does not match what's in the etc\hosts file for this computer.</p> <p>Reference: WI 23747</p>
		<p>Fixed an issue with FOUNDATION Fieldbus device enumerations not being displayed after reopening of the device window.</p> <p>Reference: WI 24527</p>
		<p>Added checkbox <i>All H1 Devices</i> in <i>Download Mark Via Controller Wizard</i> to enable/disable all H1 Devices in the tree view.</p> <p>Reference: WI 26599</p>
		<p>Fixed an issue where too many connections are opened during download scanning with FOUNDATION Fieldbus systems.</p> <p>Reference: WI 26933</p>
		<p>An error could occur when opening a controller or power conversion device if the application code contained a global variable whose name collided with the name of an EGD variable from another component. The user would see an error message box and the controller would not be opened.</p> <p>Reference: WI 18744</p>
		<p>Second language descriptions present in Parameters.m file will be translated in MDL translator.</p> <p>Reference: WI 20798</p>
		<p>When browsing and adding variables to an OPC DA client connection for an external OPC DA server such as CIMPLICITY, if the server returned zero for both the high and low engineering units, the display limits were set to zero and a build error occurred.</p> <p>Reference: WI 21919</p>

ToolboxST	V06.00.00C	Alarm Rationalization - If <i>Maintain Compatibility</i> was set to true on a System, then new Alarm Help Templates were not being copied from the Product Install Directory. If <i>Publish Alarm Help</i> is set to true then this could possibly result in a build error. Reference: WI 22952
		Control Constants Reconciliation feature is not available from Watch Windows. Reconciliation can be performed using the File - Reconcile Differences menu on the Undriven Variable and Control Constants report of a device. Reference: WI 24363
		Fixed an issue where all equal H1 devices on a FOUNDATION Fieldbus segment would be marked for download because one or more H1 devices in the configuration were not communicating. Reference: WI 24511
		Battery power converter capture buffers (BECA), were not automatically configured for use in the WorkstationST Recorder. There is no way to manually configure a capture buffer to be automatically uploaded. The change allows the BECA capture buffer to be included into the Mark VIe controller configuration output and therefore available for the recorder. Reference: WI 24943
Trender	V06.00.00C	Fixed an issue where Save Between Cursors could shift data one hour in the saved trend if a Daylight Saving Time boundary was crossed. Reference: WI 23448
Virtual Mark VIe	V06.00.00C	When multiple Virtual Controllers are configured in the simulation system to run on the same machine, some Virtual Controllers randomly take a long time to initialize. This causes the user to wait excessively long for the entire simulation system to come up. The synchronization issue between Virtual Controllers that caused this issue has been fixed. Reference: WI 22712
		When multiple Virtual Controllers are configured in the simulation system to run on same machine, the inter process communication fails with no error. This corrupts the simulation state files when saving the same. The synchronization issue between processes within the Virtual Controller that caused this issue has been identified and fixed. Reference: WI 22716
		Routing of unicast UDH EGD is now supported. Reference: WI 24231
Virtual Mark VIe S	V06.00.00C	When multiple Virtual Controllers are configured in the simulation system to run on the same machine, some Virtual Controllers randomly take a long time to initialize. This causes the user to wait excessively long for the entire simulation system to come up. The synchronization issue between Virtual Controllers that caused this issue has been fixed. Reference: WI 22713

Mark VIe	V06.00.00C	<p>During a designated controller switchover it is possible for the state of an alarm as displayed in alarm viewer to mismatch with the state of the variable in the controller. The issue is caused by a bug in the logic to synchronize alarm queues between the redundant controllers during a UDH Communicator switch. The issue has been resolved.</p> <p>Reference: WI 16399</p>
		<p>When an alarm viewer initially connects to the controller a diagnostic alarm dump is performed from the controllers and IO modules. The initial dump does not include the current state of diagnostics from PFFA modules. Diagnostic alarm transitions from the PFFA do function properly. The issue has been corrected by adding PFFA diagnostic state information to the controller's generic IO diagnostic state message.</p> <p>Reference: WI 20134</p>
		<p>In a given scenario, sequence numbers in the Compressed Data Log (CDL) can be duplicated. When the firmware creates a new CDL log file in the flash memory of the controller, within the 10 minute window, before a data sample is written to the new file, a reboot of the controller occurs and inadvertently closes the file. The log file verification firmware has been updated to resolve this scenario.</p> <p>Reference: WI 22856</p>
		<p>An issue exists where the Mark VIe controller based web server process could crash when the controller transitions between the secure and open states with clients connected. The issue was caused by improperly accessing the secure connection data structures after they were deleted. The issue has been resolved.</p> <p>Reference: WI 25444</p>
		<p>When the Mark VIe controller is not in Secure mode, executing the controller advanced diagnostic command <i>Get CRL for controller from CA Server</i> causes diagnostic alarm 544 <i>Communications error with Certificate Authority Server</i> to activate. The diagnostic can only be cleared by rebooting the controller. The issue has been resolved by removing the diagnostic alarm generation when the CRL is requested from the advanced diagnostic command.</p> <p>Reference: WI 22914</p>
		<p>When doing an upgrade of the controller it is possible for the configuration to build properly in ToolboxST only to have the controller fail to load the configuration stating too many alarms and events are configured. This issue can occur if the number of items in the reduced symbol table is greater than the supported number of alarms/events by having the DownloadInfo property checked for many non alarms/events. The issue was caused by an improper check in the runtime assuming that the number of symbols in the reduced symbol table was equivalent to the number of alarms and events. Configuration limits for alarms, events, and holds are specified in the Alarm Configuration section of the <i>ToolboxST for Mark Controls Platform</i> manual (GEH-6700)</p> <p>Reference: WI 22937</p>
		<p>The CTRL_MON block now provides a consistent Online output True to False delay for all controller redundancies.</p> <p>Reference: WI 23122</p>

Mark VIe	V06.00.00C	<p>During an online download if the configuration is changed such that the fastest UDH EGD exchange is a different exchange from the current running application and the current fastest exchange has a multicast destination then the firmware drops the multicast membership during the online load. If there are consumed exchanges in the configuration using this same multicast address then they will go unhealthy. A subsequent online load is required for the exchanges to be healthy again. Corrected in the controller by not dropping multicast membership in the fastest exchange logic.</p> <p>Reference: WI 23263</p>
		<p>During downloads of auto reconfiguration to the controller it is possible to receive nuisance errors <i>Failed to Create Lock File</i> in the controller error log. This error was logged when downloading configuration for an I/O module which had not previously been downloaded to the auto reconfiguration server. The nuisance situation is now properly detected in the firmware and filtered out.</p> <p>Reference: WI 23057</p>
		<p>When the Standard Block Library TIMER block AT_TIME pin is wrapped to the RESET pin, the reset logic clears the AT_TIME value before block execution completes. Therefore, application code never sees AT_TIME true. For backwards compatibility with Mark VI applications, the Standard Block Library TIMER_V2 block has been added to resolve this issue.</p> <p>Reference: WI 23772</p>
		<p>It is possible for the CV output of the DCS Block Library PID_MA_ENH block to oscillate between good and bad values in the non-designated controller in a dual system. The issue was caused by using CPU cycles to determine time since last block execution. CPU cycles is a simplex value from the processor and was voted causing the oscillations. The issue has been resolved by using configured task execution period rather than measuring the time since last execution.</p> <p>Reference: WI 25287</p>
		<p>It is possible that the initial proportional correction in the DCS Block Library PID_MA_ENH block could be incorrect when the set point changes more than the value of the ERR_CDB input. The issue was caused by using the prior frame set point value. The issue has been resolved by using the current frame set point value.</p> <p>Reference: WI 25290</p>
		<p>The DCS Block Library PID_MA_ENH block position deviation logic is now enabled when the position feedback variable is not bad quality rather than using good quality keeping position deviation logic enabled in the uncertain region.</p> <p>Reference: WI 25292</p>
		<p>The DCS Block Library PID_MA_ENH output now changes to INIT_POS in MA, MA_EXT, and MA_REM modes. PID_MA_ENH now uses the correct priority inc/dec ramp rate in manual mode.</p> <p>Reference: WI 25708</p>
		<p>An issue in the INC/DEC logic was resolved. The DCS Block Library PID_MA_ENH and OVR_ST_ENH blocks CVO output no longer oscillates.</p> <p>Reference: WI 25711</p>

Mark VIe	V06.00.00C	<p>A situation exists where the controller can reboot if the Compressed Data Log (CDL) is enabled and configured with a large number of logged variables. The reboot occurs due to a memory access violation from an internal buffer overrun while collecting the one minute data to write to flash. The issue has been resolved by properly monitoring the internal buffer size and flushing data to flash accordingly.</p> <p>Reference: WI 25837</p>
Mark VIeS	V05.00.01C	<p>An issue where TCP connections to the controller could become intermittent has been corrected.</p> <p>Reference: WI 19936</p>
		<p>EGD producer files containing the data types WORD and DWORD are now supported.</p>
		<p>Reference; WI 19931</p>
		<p>The fault tolerant UDH EGD subsystem now operates as designed.</p>
		<p>Reference: WI 20269</p>
EX2100e	V04.09.00C	<p>SOEs are now transferred from the IO modules to the Alarm Viewer.</p> <p>Reference: WI 20320</p>
		<p>NTP has been updated to version 4.2.8p2</p> <p>Reference: WI 21915</p>
		<p>When in the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: 1) Trip log file collections for the WorkstationST applications, user sees a diagnostic alarm 504 2) Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504, and 3) On-line downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot. The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an online download, the firmware was revised to ignore process name mismatches.</p> <p>References: IRD 11424, WI 24017, WI 24019</p>
		<p>The EX2100e Exciter and regulator can trip if a network storm occurs on the UDH network. The issue was caused by a watchdog thread running at a priority lower than the UDH network subsystem. The issue has been resolved by raising the priority of the watchdog thread above the UDH network subsystem.</p> <p>References: WI 25320, WI 25695</p>
		<p>Update to prevent spurious HW IGBT Fault U (or V) fault.</p> <p>References: WI 18907</p>
EX2100e_Reg	V04.09.00C	<p>Support for EX2100e Regulator added monitoring variables, chart, and diagram support for pump storage.</p> <p>References: WI 18988</p>
		<p>Disabled legacy communications interface.</p>
		<p>Reference: WI 20338</p>

EX2100e_Reg	V04.09.00C	An issue where TCP connections to the controller could become intermittent has been corrected. Reference: WI 21053
		NTP has been updated to version 4.2.8p2 Reference: WI 21915
		An issue where the controller could reboot when updating the certificate revocation list has been resolved. Reference: WI 22854
		When in the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: 1) Trip log file collections for the WorkstationST applications, user sees a diagnostic alarm 504 2) Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504, and 3) Online downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot. The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an online download, the firmware was revised to ignore process name mismatches. References: IRD 11424, WI 24017, WI 24019
		The EX2100e Exciter and regulator can trip if a network storm occurs on the UDH network. The issue was caused by a watchdog thread running at a priority lower than the UDH network subsystem. The issue has been resolved by raising the priority of the watchdog thread above the UDH network subsystem. References: WI 25320, WI 25695
PPRA	V05.00.00C	An issue was fixed in the Gear speed algorithm where the protection speed could possibly go to zero for one sample. Reference: WI 21090
		An issue was fixed where a glitch in the speed calculation could cause an overspeed trip. Reference: 21133
		An issue was fixed on PPRAS1B where PRx_Spd signals would be initialized as 0 and unhealthy after a power-up cycle until a single speed pulse was generated on the input. Reference: WI 25689
PRTD	V05.00.00C	An issue was fixed on the PRTD where when using the JB1 terminal board connector did not have the correct screw names. Reference: WI 18582
PSVO	V05.00.00C	An issue was fixed where a glitch the speed calculation could affect operation of the pulse rate regulators. Reference: WI 21135
PTUR	V05.00.00C	An issue was fixed where PTUR could sometimes generate a nuisance diagnostic alarm 70 "Pack internal reference voltage out of limits". Reference: WI 21451

PPNG	V05.05.01C	Fixed issue with 512ms update rate support. Reference: WI 23530
YHRA	V04.06.03C	An issue was fixed where duplicate device IDs were reported when a HART device is disconnected. This issue could occur when Hart was enabled for a channel but no device was connected. Reference: WI 12328
		When Output 2 HART signals are unhealthy (due to mismatched HART IDs), they would remain unhealthy even after the condition was corrected. This issue has been resolved. Reference: WI 23925
		An issue was fixed where the <i>Hart Input Channel # Address mismatch</i> alarm could not be cleared even when the HART function was disabled. Reference: WI 23926
WEPA	V04.11.03C	An issue was fixed where the WEPA calibration would not always be retained. This can occur immediately after a manual calibration if user switched the pitch system from manual mode to auto mode. Reference: WI 22741
LS2100e	V04.09.00C	NTP has been updated to version 4.2.8p2 Reference: WI 21916
		An issue where the controller could reboot when updating the certificate revocation list has been resolved. Reference: WI 22855
		When in the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: 1) Trip log file collections for the WorkstationST applications, user sees a diagnostic alarm 504 2) Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504, and 3) Online downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot. The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an on-line download, the firmware was revised to ignore process name mismatches. References: IRD 11424, WI 24018
		When the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: 1) Trip log file collections for the WorkstationST applications, user sees a diagnostic alarm 504, 2) Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504, and 3) Online downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot. The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an on-line download, the firmware was revised to ignore process name mismatches. References: IRD 11424, WI 24020

LS2100e	V04.09.00C	Load Bridge Shorted Cell Fault Identification - In previous releases, a shorted cell, in the load bridge, fault did not correctly identify the shorted cell.
WorkstationST Features	V06.00.00C	<p>Fixed an issue where the ToolboxST application would crash if on the Alarms Tab in a WorkstationST Component you tried to export AlarmScanner Alarms from an individual device in the outline view. Exporting from the AlarmScanner level in the outline view worked fine.</p> <p>Reference: WI 22263</p>
		<p>Fixed an issue where when an Alarm Scanner alarm was One-shot Shelved then it would automatically unshelve after 2.8 hours instead of 7 days.</p> <p>Reference: WI 22425</p>
		<p>Corrected a failure of the Recorder Diagnostic Upload application which could occur during an uninstall of WorkstationST.</p> <p>Reference: WI 22752</p>
		<p>Fixed an issue that in rare cases could cause the Modbus program to not respond to a Master when the Modbus program was first started and would persist until the Modbus program is restarted.</p> <p>Reference: WI 22916</p>
		<p>The WorkstationST service can fail to start if a corrupt task info file is encountered. To work around this issue the C:\ProgramData\WorkstationScheduldTasks\TaskInfo.xml file can be deleted. Administrator access is required to delete this file. The folder C:\ProgramData may be hidden, but the user can type this path into the Windows File Explorer address path to navigate to the hidden folder. The WorkstationST service will handle a corrupted file and automatically remove it.</p> <p>Reference: WI 23103</p>
		<p>A hang up of live values for by proxy consumed variables could occur. The failure occurs when a client, such as the recorder or ToolboxST or an OPC DA client, adds or removes a variable by proxy to a live list. The failure is seen as data for the by proxy connection failing to update. The failure state can be reset by restarting the OPC DA server feature.</p> <p>Reference: WI 24159</p>
		<p>Alarm Server issue that could result in missing PFFA module diagnostic alarms has been fixed. Alarm Server has been modified to correctly get a dump of all PFFA module diagnostic alarms when Alarm Server starts up, the connection is re-established to the controller, or the PFFA module returns to an online state.</p> <p>Reference: WI 26142</p>
		<p>Corrected the navigation to the display screen from the alarm viewer so now new CimView screen windows are not opened. Now if CimView has an active screen, this screen will be overlaid to the target display screen.</p> <p>Reference: WI 26731</p>
		<p>The OPC UA Client certificate was not found in the local machine store when the computer was in a domain. This resulted in the client not being able to connect to an off computer server. The CSH viewer is one of the impacted applications.</p> <p>Reference: WI 26869</p>

WorkstationST Features	V06.00.00C	<p>The right-click advanced view port binding information feature in the WorkstationST Status monitor was not including the OPC DA server's port binding information. If the OPC UA server were enabled, the information was correct. The additional view from the port status dialog to show all network connection information was still accurate.</p> <p>Reference: WI 26820</p>
		<p>If the recorder was unable to read the LifeCfg.xml file for a recorder collection the collection was never started. The additional status showed the collection in error. The work around was to delete the LifeCfg.xml file after finding the error in the detail log of the Recorder.</p> <p>Reference: WI 26962</p>

16.3 V06.00.00C Suite Components

Grouping	Component	Version	Status
GE ControlST Support Package			
	Support		
	Resource Translation Manager	V01.01.11C	
	Versions	V05.00.01C	Revised
	ControlST Documentation	V01.00.00C	New
	Certificate Store Manager	V06.00.00C	Revised
GE Configuration Tools Package			
	ToolboxST	V06.00.00C	Revised
	Mark VleS	V05.00.01C	
	Mark Vle Virtual Controller	V06.00.00C	Revised
	Mark VleS Virtual Controller	V06.00.00C	Revised
	Block Library Creator	V06.00.00C	New
	Mark Vle		
	Mark Vle	V06.00.00C	Revised
	Mark Vle Thermal Extension	V06.00.00C	Revised
	Mark Vle Wind Extension	V06.00.00C	Revised
	EX2100e Excitation Control		
	EX2100e	V04.09.00C	Revised
	EX2100e_Reg	V04.09.00C	Revised
	EX2100e Excitation Control Torsional Stress Relay	V01.00.01C	Revised
	Distributed I/O Packs		
	PAIC	V05.00.00C	Revised
	PAMB	V02.09.24C	
	PAMC	V04.06.02C	
	PAOC	V05.00.00C	Revised
	PCAA	V05.00.00C	Revised
	PCLA	V05.00.00C	Revised
	PCNO	V05.00.00C	Revised
	PDIA	V05.00.00C	Revised
	PDII	V05.00.00C	Revised
	PDIO	V05.00.00C	Revised
	PDOA	V05.00.00C	Revised
	PEFV	V04.06.04C	
	PGEN	V04.06.04C	
	PHRA	V05.00.00C	Revised

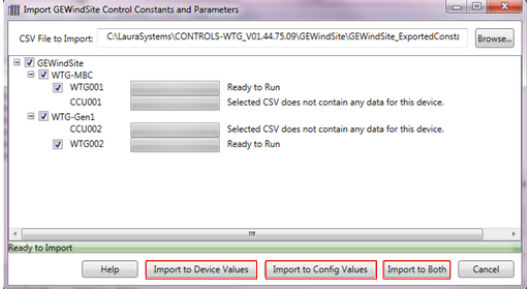
Grouping	Component	Version	Status
	PIOA	V04.06.04C	
	PMVD	V04.06.04C	
	PMVE	V04.07.02C	
	PMVP	V04.07.00C	
	PPDA	V05.00.00C	Revised
	PPRA	V05.00.00C	Revised
	PPRF	V05.00.00C	Revised
	PPRO	V05.00.00C	Revised
	PRTD	V05.00.00C	Revised
	PSCA	V05.00.00C	Revised
	PSVO	V05.00.00C	Revised
	PSVP	V04.08.00C	
	PTCC	V05.00.00C	Revised
	PTUR	V05.00.00C	Revised
	PVIB	V04.06.04C	
	PSCH	V04.08.00C	
	PCMI	V05.00.00C	Revised
	PPNG	V05.05.01C	Revised
	Distributed Safety I/O Packs		
	YAIC	V04.06.03C	Revised
	YDIA	V04.06.03C	Revised
	YDOA	V04.11.03C	Revised
	YHRA	V04.06.03C	Revised
	YPRO	V04.07.03C	Revised
	YTCC	V04.06.03C	Revised
	YTUR	V04.06.03C	Revised
	YVIB	V04.06.03C	Revised
	YSIL	V05.00.00C	Revised
	Distributed Wind I/O Packs		
	WEMA	V05.00.00C	Revised
	WETA	V05.00.00C	Revised
	WCBM	V04.06.00C	
	Wind Pitch 2.5		
	WEPA	V04.11.03C	Revised
	Wind Pitch 2.5	V04.04.07C	
	Wind Pitch		
	AEPA	V04.09.00C	Revised
	Wind Pitch	V04.04.06C	
	Static Starter Control		
	LS2100e	V04.09.00C	Revised

Grouping	Component	Version	Status
Wind Pitch 40nm			
	Wind Pitch 40nm	V04.04.06C	
Power Conversion			
	Wind-Sync	V01.04.05C	
	Wind-PMG	V02.22.06C	
	Wind-DFIG	V03.05.16C	
	Wind-DFIGe	V01.07.74C	
	WECA	V02.09.29C	
	Solar2	V01.01.08C	
	SECA	V02.09.22C	
	BECA	V01.01.03C	
	Battery2	V01.01.03C	
Power Conversion 2			
	Wind-PMG	V01.10.09C	
	Solar2	V01.02.11C	
Power Conversion 3			
	Solar2	V01.03.00C	
Mark VleBlockLibs			
	ARESBBlocklib	V05.06.00C	Revised
	MPCBlocklib	V04.02.01C	
GE WorkstationST Package			
	WorkstationST Features	V06.00.00C	Revised
	WorkstationST Alarm Viewer	V06.00.00C	Revised
GE Hart Message Server			
	Hart Message Server	V04.07.00C	
GE CMS Server			
	CMS Server	V06.00.00C	Revised
GE Historian Reports			
	GE Historian Reports	V06.00.00C	Revised
GE Simulink Block Library			
	SimulinkBlockLib	V05.03.00C	New
GE Legacy Tools Package			
	Legacy Toolbox	V11.07.14C	

Grouping		Component	Version	Status
		SDB Server	V05.03.07C	
		Innovation Series Controller	V06.07.13C	
		AcDcEx Runtime Product	V26.01.00C	
		COI Product	V02.00.22C	
		LCI Documentation	V01.01.00C	
GE Legacy Versioned Runtime Package				
		EX2100	V12.00.00C	
		EX2100	V03.09.00C	
		EX2100	V11.50.03C	
		EX2100 Regulator	V05.00.00C	
		EX2100 Regulator	V04.50.03C	
		EX2100 HEC	V02.00.00C	
		LS2100	V01.03.00C	
		Mark VI	V05.16.01C	Revised
		Mark VI Virtual Controller	V04.01.03C	Revised


16.4 ControlST V06.00.01C (December 2015)

16.4.1 Enhancements


	<p>Import Control Constants</p> <p>Application: ToolboxST</p> <p>Description: The import control constants option has been updated to permit import device, import configuration, or import both.</p> <ul style="list-style-type: none">• Import to Device Values modifies the values in the device only, which results in a faster load.• Import to Config Values modifies only the initial value in the configuration if it is different. (The variables must be marked as Control Constants.)• Import to Both modifies the values in the device and the initial value in the configuration if it is different. <p>References: WI 23153 <i>ToolboxST User Guide for Mark Controls Platform (GEH-6700)</i></p>
<p>MDL Translator - Variables Under Task</p> <p>Application:MDL Translator</p> <p>Description: Refer to the section, V05.04.03C, MDL Translator Variable Under Task</p> <p>References: WI 26157</p>	
<p>MDL Translator - Protection at Task Level</p> <p>Application: MDL Translator</p> <p>Description: Refer to the section V05.04.03C, MDL Translator Protection at Task Level</p> <p>References: WI 26162</p>	


16.4.2 Security Enhancements


Refer to the section [Known Issues](#) for additional security information related to this release.

Component	Release Notes
 Security	<p>Application: ControlST software suite</p> <p>Description: The following security enhancements were added to the ControlST software suite with this release:</p> <ul style="list-style-type: none">• Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers operating in secure mode now encrypt SDI communication between the client and the controller.• A feature has been added to the ToolboxST application that allows a user to set the password on controllers in the Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers.• Configuration Management System (CMS) has been upgraded to use a more modern source repository server.• The WorkstationST application and Device Manager Gateway have been enhanced to use encrypted and authenticated SDI communication to controllers in the Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers that are operating in secure mode.• Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers now verify the identity of the certificate authority when transitioning into secure mode.• The identity of Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers are now validated by the certificate authority when transitioning into secure mode.• Telnet and ftp have been removed from Mark VIe, Mark VIeS, EX2100e, and LS2100e controllers.• Installation media for ControlST V06.00 is now signed. <p>Note: Latest Microsoft updates are recommended.</p>


16.4.3 Issues Resolved with this Release

Component	Component Version	Release Notes
 <p>ToolboxST</p>	V06.00.01C	<p>An issue was resolved where the HMI Resources from a Wind Service Tech role were not cleared from the running ToolboxST session when they logged off. This only occurred in systems with no Users configured. This led to user confusion about whether they had actually logged off.</p> <p>Reference: WI 27445</p>
		<p>An issue has been fixed where every other build would produce a <i>new variables have been added</i> error.</p> <p>Reference: WI 27509</p>
		<p>Undefined variables can be created on the EGD tab for a referenced device. There is a sub-tab that allows you to view and delete undefined variables. The tab was not displaying the variables. As a work around, you can view the undefined variables using the view menu's global variable view. You can delete all undefined variables by removing the referenced device and adding it back.</p> <p>Reference: WI 27467</p>
		<p>An error that could occur in some rare circumstances when checking in at the system level has been resolved.</p> <p>Reference: WI 27519</p>
		<p>Two issues were fixed with Alarm Rationalization:</p> <ol style="list-style-type: none"> 1. Sometimes, when a user imports or exports a report they got an <i>Index was outside the bounds of the array</i>. 2. When a DCS Block had pins that were alarms that were not analog alarm variables, as well as analog alarm variables, and the parent alarm was not in the .csv file, then sometimes the import incorrectly said that fields like <i>Plant Area</i> were not the same for all the sibling analog alarm variables even though they were the same. <p>Reference: WI 27651</p>
		MDL Translator
Virtual Mark VleS	V05.01.00C	<p>Virtual Mark VleS is now compatible with security related features. User can take Virtual Controller online with security server configured and Get_Security and Set_security SDI calls will be exited allowing the Virtual Controller to remain in the open state.</p> <p>Reference: WI 27248</p> <p>Support for on_off_delay block is now included.</p> <p>Reference: WI 28094</p>

 <p>Mark VleS</p>	<p>V05.01.00C</p>	<p>Support for on_off_delay block is now included.</p> <p>Reference: WI 25239</p>
		<p>EGD exchanges now remain healthy when multicast page destination addresses or page rates are changed during an online load.</p> <p>Reference: WI 23912</p>
		<p>The controller now automatically restarts if either the UDH or IONet Ethernet drivers exit abnormally.</p> <p>Reference: WI 11503</p>
		<p>An issue where the I/O modules could go to the offline state when using a UCSB controller has been resolved.</p> <p>Reference: WI 9449</p>
		<p>The _COMMENT_BF block is now in the Legacy category.</p> <p>Reference: WI 11684</p>
		<p>When the TIMER block AT_TIME pin is wrapped to the RESET pin, the reset logic clears the AT_TIME value before block execution completes. Therefore, application code never sees AT_TIME true. For backwards compatibility, the TIMER_V2 block has been added to resolve this issue.</p> <p>Reference: WI 24387</p>
		<p>Variable names in EGD configuration files are no longer case-sensitive.</p> <p>Reference: WI 11691</p>
		<p>The CTRLR_MON block now provides a consistent Online output True to False delay for all controller redundancies.</p> <p>Reference: WI 20545</p>
		<p>The WorkstationST Alarm Viewer can now connect to a controller that has more than 2000 alarms in the queue.</p> <p>Reference: WI 19917</p>
		<p>NTP has been updated to version 4.2.8p2</p> <p>Reference: WI 21917</p>
		<p>Increased the maximum time commands are disabled during DATA_INITIALIZATION to 60 seconds for support of large applications.</p> <p>Reference: WI 21305</p>
		<p>The TTL field in Multicast EGD was fixed.</p> <p>Reference: WI 19915</p>

 WorkstationST	V06.00.01C	<p>There is a warning dialog presented when a user logs on and the Device Manager Gateway is enabled or when a user first configures the device manager gateway. This warning dialog would sometimes appear behind other dialogs and could not be closed. The condition did not result in any mal-function of features, but did result in a dialog that could not be closed. This issue has been corrected.</p> <p>Reference: WI 27427</p>
		<p>The WorkstationST embedded OPC UA client would fail to stay connected if the OPC UA server connection was not successful upon the initial connection. As a work around, the OPC UA server can be restarted. After a successful connection, subsequent breaks in connection would result in automatic re-connects. It was only when the initial connection failed that caused this issue.</p> <p>Reference: WI 27440</p>
		<p>An import error will now occur to let the user know the descriptions for enumeration values within an enumeration are not unique within the first 32 characters.</p> <p>Reference: WI 27443</p>
		<p>An issue was resolved where the Wind Service Tech role was assigned incorrect HMI Resources. This prevented Wind users from associating their parameters with the intended roles.</p> <p>Reference: WI 27447</p>
		<p>Controllers using secure mode no longer allow forcing from the Wind SCADA.</p> <p>Reference: WI 28108</p>

16.4.4 FOUNDATION Fieldbus Issues Resolved with this Release

Component	Component Version	Release Notes
 ToolboxST	V06.00.01C	FOUNDATION Fieldbus downloads will now only mark H1 devices that have changed for download to a segment. Reference: WI 26946
		Resolved issue with ToolboxST FOUNDATION Fieldbus communication driver (CIT 5.3.1). Reference: WI 24450, WI 23073
		Resolved issue with FOUNDATION Fieldbus device enumerated parameter lists. Reference: WI 24481, WI 24527, WI 25328, WI 24455
		Resolved FOUNDATION Fieldbus related issue with inconsistencies in the use of leading zeros on displayed device parameters. Reference: WI 24481, WI 24527, WI 25328
		Removed the 99 character limit for the composite unique identifier for a FOUNDATION Fieldbus hostFB. Reference: WI 25929
		Support for single FOUNDATION Fieldbus Device Download has been added. Reference: WI 26946
		Fixed the excessive memory usage by FOUNDATION Fieldbus parameters. Reference: WI 27186


16.5 Legacy Support - EX2100 V12.01.00C(February 2016)

16.5.1 Enhancements

Component	Component Version	Release Notes
EX2100 Excitation Control eTCSS	V12.01.00C	This release adds support for firing control phase compensation. Specifically, to support hybrid bridges with SCR's on the negative side of the bridge, set parameter FirPhaseAdj located on the FiringControl drawing to 180. The location on the diagram is G11. The ACL runtime version is V05_01_00C per the prior release.

16.6 LS2100e V04.09.01C (March 2016)

16.6.1 Issues Resolved with this Release


Component	Component Version	Release Notes
 LS2100e	V04.09.01C	The LS2100e control includes various means for system and turbine protection. To eliminate a known class of nuisance trip, the Source Hardware Current Difference Trip (Source Hw IDiff Trip) has been disabled. Refer to CSB25339 for complete details. Reference: WI 29968



16.7 ControlST V06.00.03C (April 2016)

16.7.1 Enhancements






Component	Component Version	Release Notes
 WorkstationST	V06.00.03C	<p>A key element of the Thin Client HMI system is the utilization of virtual machines (VMs) coupled to thin client terminals. The Control System Health application has been enhanced to support this new architecture with a monitoring function for the VMs and thin client terminals.</p> <p>Reference: WI 29093</p>


16.7.2 Issues Resolved with this Release

Component	Component Version	Release Notes
 WorkstationST	V06.00.03C	<p>The ToolboxST application includes the ability to assign second language (translated) names to Mark Controls diagnostic messages and the Control System Health Viewer can display those messages in either English or the second language by selection of the language from the WorkstationST Status Monitor. Corrected an issue where modifying the Diagnostic translations from the System Information Editor in ToolboxST did not take effect in the Control System Health viewer until a WorkstationST restart</p> <p>Reference: WI 27087</p>
		<p>The Alarm Viewer includes a filter feature to sort alarms into specified categories. Fixed an issue that was causing the Alarm Viewer to crash when a variable was added to a filter and that filter was being used by the Live Alarm Message display.</p> <p>Reference: WI 28388</p>
		<p>The CIMPLICITY application has a feature that displays a context menu after right-clicking on a CimEdit or CimView screen. Corrected an issue where right-clicking after first opening CimEdit or CimView can take an excessively long time (up to 45 seconds) caused when an internal alarm client used for alarm statistics with the ControlST Com2ControlST object was created upon initialization, rather than in the background.</p> <p>Reference: WI 28847</p>

 <p>WorkstationST</p>	<p>V06.00.03C</p>	<p>The WorkstationST Recorder can be configured to record trip information for analysis. Resolved an issue where the Recorder's design kept the large uploaded capture buffer data in memory, even after it had saved the trip log to disk, resulting in out of memory conditions after enough Wind turbines had tripped at least one time.</p> <p>Reference: WI 28895</p> <p>The ToolboxST application has the ability to import parameters from a .csv file provided the user is logged on and has the appropriate privileges assigned. Fixed a problem on the privileged VPSA logon used by Wind that was causing frequent logoffs.</p> <p>Reference: WI 28923</p> <p>The VPSA logon account used by Wind has a time-out feature for security purposes. Corrected time-out behavior in Wind VPSA login feature.</p> <p>Reference: WI 29923</p> <p>The ControlST Alarm Symbol ActiveX object can be added to a CIMPLICITY CimView screen and can be driven by the local Alarm Server, or the Alarm Server configured in the WorkstationST Component Editor. Corrected a CimView program termination, which occurred when the ActiveX Alarm Viewer was present in a CimLayout and the CimLayout window was closed. This occurred in CIMPLICITY 9.0.</p> <p>Reference: WI 30205</p> <p>The Unified Automation Toolkit rejects Boolean data typed nodes if the request contains a data change filter. Corrected an issue where an OPC UA client used a data change filter in a request for a Boolean type monitored item, and the response was a bad filter not allowed type response. Clients are now allowed to include data change filters in Boolean type monitored item add requests.</p> <p>Reference: WI 30486</p>
 <p>ToolboxST</p>	<p>V06.00.03C</p>	<p>To add a new H1 device to a FOUNDATION Fieldbus system in the ToolboxST application, the H1 device must first have been imported using the DD Importer feature. Resolved an issue that prevented a FOUNDATION Fieldbus H1 device from being imported when the system is under CMS control.</p> <p>Reference: WI 27491</p> <p>The ToolboxST application has the ability to import variables from a .csv file to the Trender. Fixed an issue where some Trend .csv files with many variables (for example, around 448) could not be opened, but instead showed an error message that <i>The .csv file is corrupt, line number xxxx has more/less Columns.</i></p> <p>Reference: WI 29266</p> <p>When instantiating a Task or UserBlock from a library into a device, the Access Roles on the block's Protection property were not being copied to the device (passwords were ok). This issue prevents the full implementation of Wind's parameter access control strategy. The issue has been resolved.</p> <p>Reference: WI 29912</p> <p>Alarm rationalization produces the detail design necessary to manage an alarm lifecycle. Alarm Rationalization is now supported for alarms in the Inner Loop Application Interface of EX2100e and the LS2100e.</p> <p>Reference: WI 30265</p>

16.8 V06.00 Known Issues

Component	Component Version	Issue
 Security	N/A	<p>On ControlST V06.00.xx systems with SecurityST:</p> <ol style="list-style-type: none"> 1) Device Manager Gateway will fail to communicate when secure mode is active. 2) Users may encounter delays when selecting secure mode. <p>These issues will be addressed in upcoming SecurityST updates.</p>
 PPNG	V05.05.01C	<p>The PROFINET Gateway I/O pack (PPNG) should not be configured with a PROFINET I/O-device whose parameter size is greater than 64KB. If configured with such devices, the PPNG fails to load the configuration and does not go online with the controller.</p> <p>Reference: WI 22180</p>
 WorkstationST	V06.00.00C	<p>When enabling the OSM feature on a Mark VI site where Toolbox classic is run from the WorkstationST service, the flag allowing the service to interact with the desktop will need to be set manually. The install will no longer set this flag.</p>
 EX2100e	V04.09.00C	<p>The documentation included with the EX2100e V04.09.00C release is not up to date. The current version of all documentation can be obtained by going to the Mark Controller Solutions Support Site at the following link: http://sc.ge.com/*markcontrols</p>
 ToolboxST	V06.00.00C	<p>Certain combinations of operating system, video card, and video drivers have occasional difficulty rendering the graphical user interface of ToolboxST. The graphical glitches most often manifest as partially drawn windows, patterns of gibberish drawn on the screen, or system errors that force a reboot of the computer. To avoid these issues, all users should keep video drivers up to date. There are other workarounds; see the document <i>Graphical Display Issues in ToolboxST Application</i> included on the ControlST installation DVD (or on the Controls Connect website) for detailed instructions to resolve the issue.</p> <p>Reference: WI 11834</p> <p>Using the Code Management System (CMS) requires network connectivity between ToolboxST and the CMS server. The Windows Firewall will block this connectivity. The default behavior of the Windows Firewall is to notify the user when an application requires access. When the initial attempt after installation is made to connect to the CMS server, the user will be prompted by Windows to allow firewall public and private access by ToolboxST which will allow connectivity to the CMS server.</p> <p>The pdf and help file information for this release may not match for some I/O packs. For the most current information, you should refer to the document pdf.</p>

 <p>ToolboxST</p>	<p>V06.00.00C</p>	<p>An issue was discovered where the DD Importer launched from a device (either directly from the View menu, or as a part of the Add H1 Device Wizard) was unable to import selected DD files due to CMS status. If the system is checked out, and the device is checked out, then a user should be able to import DD files from the device. Due to cross process communication issues, the CMS status of the system is not accurately relayed to the device. Therefore the device considers the system to not be checked out, thus preventing the DD files from being imported.</p> <p>Note: Systems not under CMS control do not exhibit this issue.</p> <p>Workaround: DD files can be imported from the system level (View > FOUNDATION Fieldbus DD Manager). Any DD files imported before a controller device is opened will be available for selection in the Add H1 Device Wizard.</p> <p>Reference: WI 27491</p>
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Refer to the *ControlST Software Suite Upgrade Instruction Guide* (GEI-100694), *Appendix B, Known Issues* for additional information.

Notes

17 V05.04 Release Notes

Initial release - April 2015

17.1 V05.04.00C New Features

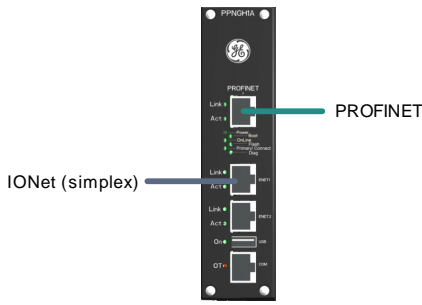
PROFINET* Gateway Module

Application:
PROFINET I/O Class Devices

Description:
The PPNG PROFINET gateway module maps I/O from PROFINET I/O Devices to the Mark VIe controller on the IONet:

- Certified as a PROFINET RT Version 2.2 I/O gateway
- Typical application at 100 Mbps Ethernet
- ToolboxST configuration of PPNG and PROFINET I/O Class Devices

References:
Mark VIe and Mark VIeS Control Systems – Vol II (GEH-6721)
ToolboxST for Mark VIe Control (GEH-6700)

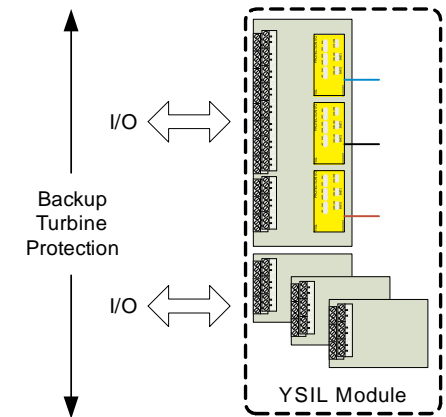


Core Turbine Protection YSIL I/O Module

Application: Independent backup overspeed protection system for turbines with a backup check for generator synchronization to an electric utility bus.

Description:
The YSIL module provides the backup turbine protection function with a TMR configuration of YSIL I/O packs and associated terminal boards. If a problem is detected, a trip of the primary control is activated.

References:
Mark VIeS Safety Control YSIL Core Protection Module Description help file accessible from ToolboxST application
ToolboxST User Guide for Mark VIeS Safety Control (GEH-6705)



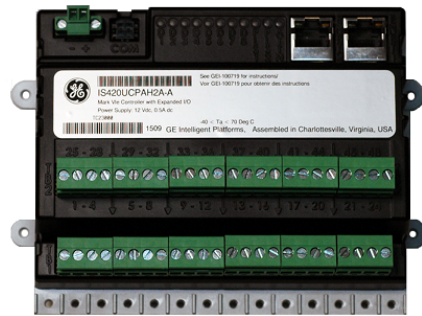
Simplex Compact Mark VIe Controller with Integral I/O

Application:
Simplex machine/process control

Description:
Two Mark VIe controllers (IS420UCPAH1A, IS420UCPAH2A) with integral I/O, includes a simplex IONet and Unit Data Highway (UDH) port.

- Base I/O: 2 Hall effect pulse inputs, 2 AI, 4 DI – DO (user configurable)
- I/O Expansion: 6 AI, 2 AQ, 4 DI – DO (user configurable)
- Up to 6 simplex I/O packs on IONet
- UDH port: Modbus TCP slave, GE proprietary protocols

References:
ToolboxST User Guide for Mark VIe Control (GEH-6700)
Mark VIe and Mark VIeS Control Systems, General-purpose Applications (GEH-6721_Vol_II)



Process Alarm Help From Variable Database

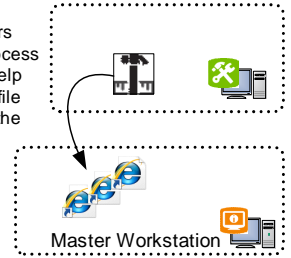
Application: Process alarm management tools

Description:

Previously, users could manually create help files that corresponded with process variable alarms. This task has been automated with the following features:

- Eight new properties added to variables around process alarm management
- New publish process alarm help file function, triggered by device build
- Import/Export feature between variable database and MS-Excel®

Build controller command triggers publishing of process variable alarm help files (one HTML file per variable) for the controller.



References:

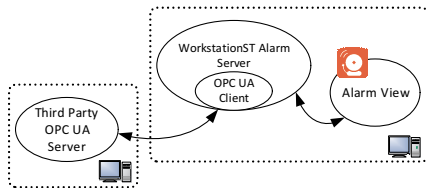
ToolboxST for Mark Controls (GEH-6700, -6705, -6706, -6707, -6708, 6709)

OPC UA Alarms and Events

Application: Interface with external OPC UA Alarm server

Description:

WorkstationST Alarm Server and Alarm Viewer are enhanced to support a connection between the OPC UA alarm client and an external OPC UA server, providing alarms and events.



References:

Alarm Viewer Instruction Guide (GEI-100620)

ToolboxST for WorkstationST (GEH-6706)

Alarm Server Instruction Guide (GEI-100626)

Alarm Viewer Enhancements

Application: Alarm Management

Description:

Alarm Viewer enhancements include:

- New Alarm filter criteria *Rate*, a value associated with the alarm/event
- Context menu options for Respond and User Comment
- Option for One-shot shelving
- New Live Settings for Notification Rate Threshold, Rate Units, Enable Vertical Colored Bar, Show the In Service/Out of Service Command Button Set, and Show the Shelve/Unshelve Command Button Set options
- New column to the Live Alarm Summary display for Total Locked Alarms

Symbol	Device Time (Local Time)	Alarm State	Variable Name	Description
🔴	2015-02-11 15:04:26.752	ALARMED	WT1_FuncGenAlm	Func gen output simulating
🔴	2015-02-11 15:42:31.142	ALARMED	WT1_Boo40	TestBoo 40
🔴	2015-02-18 09:50:31.599	ALARMED	AlarmConditionServer:AlarmServer...	The Alarm Server connecto
🟢	2014-12-03 10:24:36.210	ALARMED	WT1.W1-R.UCSA-0-R.545.545	Active PFA diagnostics de
🟢	2015-02-23 10:20:18.009	Active (0 -> 1)	SoftingOPCToolboxDemo_ServerA...	The second changed
🔴	2015-02-12 13:09:24.802	HI HI HI	WT1_NewAnalogAlarm	HI HI HI

References:

Alarm Viewer Instruction Guide (GEI-100620)

Adaptive Real-time Engine Simulation (ARES) Block Library

Application: 6F and 9F gas turbine modeling

Description:

Four new model blocks have been added:

A6F0102A0814 – ARES model block corresponding to GTP model 6F.01-02A-0814

A9F0401C1014 – ARES model block corresponding to GTP model 9F.04-01C-1014

A9F0404C1014 – ARES model block corresponding to GTP model 9F.04-04C-1014

A9FB053B1113 – ARES model block corresponding to GTP model 9F.B0-53C-1113

References:

CHM file only

Control Communications Gateway (CCG)

Application: Lufkin application of UCPA controller platform

Description:

The CCG is a communication gateway device for the Lufkin well control application.

References:

ToolboxST User Guide for Control Communication Gateway (GEI-100848)

LS2100E Fast Start

Application: Static starter for heavy-duty gas turbines

Description:

Updates for the following:

- The Fast Start feature decreases the starting time by allowing the cells to fire and begin driving the generator when the generator poles are known and sufficient field has been established.
- A new torque regulator is added whose output is paired with the speed regulator output in a minimum-select reference for the inner current regulator.
- The 14 MVA source and load configuration
- New 22 MVA output power rating.
- Added Ethernet Global Data (EGD) signal test details and diagnostic alarms.

References:

LS2100e Static Starter Installation & Startup Guide (GEH-6797)

LS2100e User Guide (GEH-6798)

LS2100e Control Maintenance Guide (GEH-6799)

LS2100E Torque Regulator

Application: Static starter for heavy-duty gas turbines

Description:

Changes have been made to the LS2100e Torque Regulator so the Turbine Controller can adjust/modify the LS2100e torque output during a startup. This allows the Turbine Controller to modify the LS2100e torque output to achieve the desired turbine shaft acceleration throughout the speed range (zero to top speed).

References:

LS2100e User Guide (GEH-6798)

OPC UA Toolkit

Application: Tied to WorkstationST infrastructure

Description:

WorkstationST applications adopted a new version of the OPC UA toolkit.

References:

None

Acoustic Monitoring Module (PAMC) Full Spectrum Data Trender Enhancement

Application: Acoustic monitoring for heavy duty gas turbine combustion systems

Description:

Enhancements to the Trender CDM On Demand / Combustion Monitor selection provide multiple methods for selecting and trending acoustic data from the PAMC module. When the new trend type is selected in the Add Traces wizard it allows you to browse to a *.tcw file with a controller configured WorkstationST component and AM Gateway.

References:

Mark VIe PAMC Acoustic Monitoring Module Description (GEI-100736)

Trender for the ToolboxST Application Instruction Guide (GEI-100795)

EGD Enhancement in ToolboxST

Application: All

Description:

Mark VIe controllers can consume variables with WORD or DWORD data type from other EGD producers.

References:

None

WEPA Enhancements

Application: Wind Turbines - 30 Nm and 40 Nm Pitch Controls

Description:

Auto-calibration features added to 2.3-107 turbines. Added the ability for the Bachmann PLC to reset axis position feedback using CANbus.

References:

Mark Vle Control 30 Nm Pitch Control for ESS Wind Turbines System Guide (GEH-6736)

Mark Vle Control Renewable Energy Distributed I/O Modules (GEH-6779)

Mark Vle Control Wind Energy Pitch Axis (WEPA) Module Description (GEI-100731)

New Compact Safety Output Module (YDOA / SRSA)

Application: Mark VleS Safety Control applications

Description:

Introducing a new Mark VleS discrete output module that is more compact than the existing "S" type terminal boards. It provides 10 solid-state relays with a form "A" normally-open contact. The relays are configured to operate in two groups of five relays with all five relays operating simultaneously in the same state.

References:

Mark Vle and Mark VleS Control Systems, General-purpose Applications, (GEH-6721_Vol_II) the section SRSA Compact Digital Output Terminal Board

WorkstationST Format Specification Enhancement

Application: ControlST Software Suite users with Mark V controls

Description:

A Format Attribute Configuration File is added to the Mark V feature to define optional attributes for format specifications. It allows adding additional attributes that the Mark V control does not natively support.

References:

WorkstationST Application Mark V Feature System Guide (GEH-6759)

17.2 V05.04.00C Suite Components

See Component Registry: [ControlST Component Registry](#)

Note ControlST V05.03 was not released.

17.3 ControlST V05.04.01 (July 2015)

17.3.1 Issues Resolved with this Release

Component	Component Version	Release Notes
ToolboxST	V05.04.01C	<p>Controller live value changes were not recorded into the command and event log when using the System Constants Import tool. This prevents auditing of the parameter changes later. The System Constants Import tool now properly logs each parameter change along with a timestamp and logged in user name to the controller's Command and Event log.</p> <p>Reference: WI 20531</p>
		<p>Corrected a problem where Time server nodes were showing a live value of No Data or Not Consumed in the System Overview. There was no work around for this issue.</p> <p>Reference: WI 22069</p>
		<p>When referencing optional block libraries like ARES in a controller device, there was no way to upgrade the block library while blocks from the library were in use. This prevented upgrading of any optional block libraries. The issue was resolved by modifying the Change Library References dialog to allow adding an existing library reference, asking the user if they wish to update it.</p> <p>Reference: WI 22734</p>
		<p>Fixed the issue when a FOUNDATION Fieldbus™ alarm class was changed it was not being persisted when the configuration was saved.</p> <p>Reference: WI 22968</p>
		<p>The live data in the system overview for networks was only shown when running the ToolboxST application on the computer where the WorkstationST Network Monitor feature was enabled. ToolboxST now first attempts to connect to the Network Monitor host before trying to get data from the local computer.</p> <p>Reference: WI 23152</p>
		<p>Fixed issue where a Red X would appear in Blockware when a block was connected to a PROFIBUS® diagnostic point.</p> <p>Reference: WI 23392</p>
		<p>Fixed issue where Mark VI VME cards VCCC and VCRC would not come online if any of the terminal boards for these cards were not attached.</p> <p>Reference: WI 23394</p>
		<p>Alarm Rationalization: Variable Name for a Library import can now be either GlobalName or Library:UserBlock:Variable. Alarm Rationalization Report import/export now includes DisplayScreen. Override Automatic Description can now be set on any DCS block pin that is an alarm, not just the block pins that default to being alarms.</p>
		<p>Reference: WI 23418</p>

Component	Component Version	Release Notes
ToolboxST	V05.04.01C	<p>New theme file, <i>GEActivePointHMI.vssf</i>, is included in this released to match current UX standards.</p> <p>Reference: WI 24185</p>
		<p>User sees the following error: <i>Internal error! Could not create DTM parameter document!</i> when accessing PROFIBUS GSD files. Result is inability to add the GSD file. Error was corrected in an update to ToolboxST to account for GSD file variation.</p> <p>Reference: WI 23818</p>
		<p>On Controller Build, no longer generate the erroneous warning <i>An alarm is defined for undriven variable</i> when the Alarm Variable is driven from an FF_AI block.</p> <p>Reference: WI 23873</p>
		<p>ToolboxST no longer crashes when a Library window is open, with a Program Group selected, and the user then edits the Alarm State in the Library Global Variables window.</p> <p>Reference: WI 23911</p>
		<p>Fixed an issue that could cause an error during the upgrade of an EX2100e or LS2100e.</p> <p>Reference: WI 24099</p>
		<p>An issue was corrected in the Blockware Editor where dragging any pin to the EQU pin of a RUNG block caused ToolboxST to terminate unexpectedly. This caused loss of work in progress.</p> <p>Reference: WI 24121</p>
		<p>Alarm Rationalization: When performing Alarm Rationalization Import into a Library, ToolboxST will now change properties on Linked Blocks, for example when a user block like MM300 is used.</p> <p>Reference: WI 24269</p>
		<p>Fixed an issue with the display driven variables in the Reconcile list generated from the Control Constants and Undriven Variables report not showing differences.</p> <p>Reference: WI 23198</p>

Component	Component Version	Release Notes
Mark VIe	V05.04.03C	<p>An issue where the controller can reboot during an online download while in secure mode has been resolved.</p> <p>Reference: WI 23024</p>
		<p>In systems with redundant I/O modules or simplex modules with dual network connections it is possible for live data to the Trender and ToolboxST to hang up for a few seconds. In Trender, data points will be lost and in ToolboxST the user will see stale values during this period. The issue occurs when an IONET failure occurs such that the controller must switch to a redundant network connection to upload SOEs from the I/O. For example, if the R network switch fails then the controller switches to using the S network to communicate to the I/O for SOEs. The updated Mark VIe firmware resolves the issue.</p> <p>Reference: WI 23862</p>
		<p>The variable <i>LatchedPulseAcc1AtPulse2</i> from the UCPA I/O driver is now available to the application code.</p> <p>Reference: WI 24326</p>
		<p>When doing an upgrade of the controller, it is possible for the configuration to build properly in the ToolboxST application only to have the controller fail to load the configuration, stating too many alarms and events are configured. This issue can occur if the number of items in the reduced symbol table is greater than the supported number of alarms/events by having the <i>DownloadInfo</i> property checked for many non alarms/events. The issue was caused by an improper check in the runtime assuming that the number of symbols in the reduced symbol table was equivalent to the number of alarms and events.</p> <p>Reference: WI 24422</p>
Virtual Mark VIe/ Virtual Mark VIeS	V05.04.01B	<p>Routing of unicast UDH EGD is now supported.</p> <p>Reference: WI 23890, 22911</p>
PPRF	V04.07.01C	<p>Could not upgrade PROFIBUS Master Gateway (PPRFH1A) to the latest version due to not being allowed to operate at a frame rate of 20ms. Customer would receive a PPRF diagnostic alarm (number 53), <i>Unsupported Frame Period Diagnostic</i>. PROFIBUS Master Gateway (PPRFH1A) firmware now allows operation at a frame rate of 20ms to provide compatibility with older configurations. Frame rates of 20ms are not recommended for new applications. The updated PPRFH1A firmware fixes the issue.</p> <p>Reference: WI 22740</p>
PPRA/PPRO	V04.09.02C	<p>In systems with PPRO/PPRA I/O packs, particularly under slow speed conditions (<5Hz), the user sees the PR#_Zero bit in signal space would show FALSE when the reported speed was ZERO. This inhibits application-specific zero speed behavior until PPRO/PPRA pack is rebooted. The issue was corrected in PPRO/PPRA firmware by ensuring that, when the speed reported to the application is cleared for any reason, a cleared speed value is sent to the protection core logic as well. This prevents the case where the application is reading a speed input below zero speed and the protection logic shows a speed above zero speed.</p> <p>Reference: WI 23516, WI 23517</p>

Component	Component Version	Release Notes
WEPA	V04.11.03B	An issue was fixed where the WEPA calibration would not always be retained. This can occur immediately after a manual calibration if user switched the pitch system from manual mode to auto mode. Reference: WI 22741
WEMA	V04.07.01B	The WEMA has been updated to support changes to the converter's 24VDC power distribution and insure proper sequencing of relays on power-up. Reference: WI 23434
EX2100e/ LS2100e	V04.08.04C	When the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: 1) Trip log file collections for the WorkstationST application, user sees a diagnostic alarm 504 2) Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504, and 3) On-line downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot. The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an on-line download, the firmware was revised to ignore process name mismatches. Reference: WI 24017, WI 24018, WI 24019, WI 24020, IRD 11424
WorkstationST	V05.04.01C	The HMI import feature was ending early with an error indicating the CIMPLICITY* version N.N does not match the project version of N.N. This was occurring on systems where regional settings represent decimals as period characters. There is no known work around for this issue. The issue was introduced in the V05.02 and later releases and fixed with this release. Reference: WI 23106
		Corrected a slow memory leak issue in the OPC UA server when the CSH feature is enabled. System performance will degrade over time as the OPC UA server rises in memory usage. The OPC UA feature could be restarted when memory grows by 50% or more as a work around. Reference: WI 23535
		Corrected a failure to save the WorkstationST analytics if an error occurred in part of the save. Reference: WI 23725
		Device Manager Gateway support for the YHRA module in HART® DTM mode has been added since YHRA is being updated to fully support the HART DTM interface. YHRA owned HART modules were not available to Device Manager clients prior to this change. Reference: WI 23737
The first CIMPLICITY WebSpace client connection was remaining active after having closed due to a WorkstationST Status Monitor process started to support user privileges. There isn't a work around for this connection leak, but only the first connection is held open; subsequent sessions will properly close as clients disconnect. Reference: WI 24562		

Component	Component Version	Release Notes
WorkstationST	V05.04.01C	<p>An issue was introduced in WorkstationST V05.04.00C where the Logic Builder visualization ActiveX control was causing CimView to terminate unexpectedly. This affected all faceplates that used permissive logic, usually when a first permissive window was closed and a second opened. The issue has been resolved, and the Logic Builder ActiveX control now loads correctly.</p> <p>Reference: WI 23810</p>
		<p>Corrected an issue where the WorkstationST Status Monitor could become non-responsive. Infrequently, the user was able to open the WorkstationST status monitor dialog from the tray icon, but the dialog failed to update and the user was not able to take any actions. A work around was to stop the WorkstationST Status Monitor process using Task Manager.</p> <p>Reference: WI 23846</p>
		<p>Corrected an issue where Mark VI controller configuration changes were not automatically updated to WorkstationST unless the change involved a change to the controller EGD exchange layout. The WorkstationST logs were filling up with periodic messages for attempted updates. The work around is to download the Workstation configuration. The WorkstationST synchronization feature was modified to now update to use the new controller configuration.</p> <p>Reference: WI 23968</p>
		<p>Clients adding live lists quickly after the OPC DA server is started were getting unknown variable replies for by-proxy consumed variables. This could be seen when having a CIMPLICITY screen open, configured with variables consumed by-proxy, while restarting the OPC DA server. Client variable adds were always held until server initialization was complete, but are now held for an additional and very brief time, until the by-proxy feature initialization has completed.</p> <p>Reference: WI 24132</p>
		<p>An issue was resolved where the HMI faceplate for LOGIC_BUILDER blocks did not update when the Regional Settings changed in the workstation.</p> <p>Reference: WI 24191</p>
		<p>OPC AE clients can now access the Locked State of an alarm. Lock state is implemented as an attribute available in the event notification to an OPC AE client. The client must request this attribute when configuring the subscription.</p> <p>Reference: WI 24491</p>
		<p>Fixed the issue that caused the vertical colored bar to be displayed over the text in the alarm viewer display. Reorganizing the column layout would remove the vertical bar for the duration of the CimView session, but it will re-occur at the next start.</p> <p>Reference: WI 24424</p>

17.4 Mark VIe V05.04.04C (September 2015)

17.4.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Mark VIe	V05.04.04C	<p>An issue exists where the Mark VIe controller based web server process could crash when the controller transitions between the secure and open states with clients connected. The issue was caused by improperly accessing the secure connection data structures after they were deleted. The issue has been resolved.</p> <p>Reference: WI 25442</p>
		<p>In a given scenario, sequence numbers in the Compressed Data Log (CDL) can be duplicated. When the firmware creates a new CDL log file in the flash memory of the controller, within the 10 minute window, before a data sample is written to the new file, a reboot of the controller occurs and inadvertently closes the file. The log file verification firmware has been updated to resolve this scenario.</p> <p>Reference: WI 25699, IRD 11372</p>
		<p>When the Mark VIe controller is not in Secure mode, executing the controller advanced diagnostic command <i>Get CRL for controller from CA Server</i> causes diagnostic alarm 544 <i>Communications error with Certificate Authority Server</i> to activate. The diagnostic can only be cleared by rebooting the controller. The issue has been resolved by removing the diagnostic alarm generation when the CRL is requested from the advanced diagnostic command.</p> <p>Reference: WI 25706</p>
		<p>The DCS Block Library PID_MA_ENH output now changes to INIT_POS in MA, MA_EXT, and MA_REM modes. PID_MA_ENH now uses the correct priority inc/dec ramp rate in manual mode.</p> <p>Reference: WI 25709</p>
		<p>An issue in the INC/DEC logic was resolved. The DCS Block Library PID_MA_ENH and OVR_ST_ENH blocks CVO output no longer oscillates.</p> <p>Reference: WI 25712</p>
		<p>It is possible for the CV output of the DCS Block Library PID_MA_ENH block to oscillate between good and bad values in the non-designated controller in a dual system. The issue was caused by using CPU cycles to determine time since last block execution. CPU cycles is a simplex value from the processor and was voted causing the oscillations. The issue has been resolved by using configured task execution period rather than measuring the time since last execution.</p> <p>Reference: WI 25713</p>

Component	Component Version	Release Notes
Mark VIe	V05.04.04C	<p>It is possible that the initial proportional correction in the DCS Block Library PID_MA_ENH block could be incorrect when the set point changes more than the value of the ERR_CDB input. The issue was caused by using the prior frame set point value. The issue has been resolved by using the current frame set point value.</p> <p>Reference: WI 25714</p>
		<p>The DCS Block Library PID_MA_ENH block position deviation logic is now enabled when the position feedback variable is not bad quality rather than using good quality keeping position deviation logic enabled in the uncertain region.</p> <p>Reference: WI 25715</p>
		<p>A situation exists where the controller can reboot if the Compressed Data Log (CDL) is enabled and configured with a large number of logged variables. The reboot occurs due to a memory access violation from an internal buffer overrun while collecting the one minute data to write to flash. The issue has been resolved by properly monitoring the internal buffer size and flushing data to flash accordingly.</p> <p>Reference: WI 25838</p>

17.5 YHRA V04.06.03C (September 2015)

This update includes a single component to add support for YHRA functionality with HART DTMs and Device Manager Essentials (DME), and resolves four issues.

Component	Component Version	Release Notes
YHRA	V04.06.03C	Added support for HART commands 75/77, allowing YHRA to function with HART DTMs and DMEs. Reference: WI 23776
		Eliminated unused services from the product. Reference: WI 24184
		Resolved an issue that was preventing the <i>Hart Input Channel # Address mismatch</i> alarm to be cleared even when the HART function was disabled. Reference: WI 23926
		Resolved an issue causing unhealthy output 2 HART signals (such as due to mismatched HART IDs) to remain unhealthy even after the condition was corrected. Reference: WI 23925
		Resolved an issue causing duplicate device IDs to be reported when a HART device was disconnected. This issue could occur when HART was enabled for a channel, but no device was connected. Reference: WI 12328

17.6 EX2100e and EX2100e_Reg V04.08.05C (October 2015)

17.6.1 Issues Resolved with this Release

Component	Component Version	Release Notes
EX2100e/ EX2100e_Reg	V04.08.05C	The EX2100e Exciter and EX2100e Regulator can trip if a network storm occurs on the Unit Data Highway (UDH) network. The issue was caused by a watchdog process running at a priority lower than the UDH network subsystem. The issue has been resolved by raising the priority of the watchdog process above the UDH network subsystem. Reference: WI 25695

17.7 ToolboxST and WorkstationST V05.04.03C (October 2015)

Note These ToolboxST and WorkstationST updates are interdependent and must be installed together.

17.7.1 Issues Resolved with this Release

Component	Component Version	Release Notes
ToolboxST	V05.04.03C	Unexpected ToolboxST closure - Fixed Reference: WI 24097
		Fixed an issue where all equal H1 devices on a FOUNDATION Fieldbus segment would be marked for download because one or more H1 devices in the configuration were not communicating. Reference: WI 24511
		Items in context menu for FOUNDATION Fieldbus segment were reordered to minimize chance of accidentally detaching a segment. Reference: WI 25422
		Resolved an issue where System Level mass import of turbine control parameters was not correctly handling boolean values in all cases. Reference: WI 26001
		Fixed issue where user is doing an Alarm Rationalization import into a library, with analog alarms, not using the fully qualified variable name and the root alarm isn't in the list. In this case the import would not change the Plant Area, Display Name, Alarm Shelving, Alarm Shelving Max Duration or AutoReset. Reference: WI 26089
		An issue was identified where the MDL Translator was not translating the Second Language descriptions out of the Parameters.m file correctly. The issue was corrected so the second language descriptions present in Parameters.m file will be translated in MDL translator. Reference: WI 26814

Component	Component Version	Release Notes
WorkstationST	V05.04.03C	The first CIMPLICITY Webspace client to connect to a Windows Server running CIMPLICITY and ControlST failed to disconnect properly when the user closed the session. Additionally, the ControlST privileges feature started a WorkstationST status monitor process that was windowless and did not respond to the session close. To resolve this, the design was changed for Webspace clients to have the WorkstationST service running on the Windows server to start the WorkstationST status monitor on behalf of the connecting Webspace clients. Reference: WI 25391
		A new property has been added to the HMI configuration in the Workstation component that allows the definition of the multiunit text file without using the CIMPLICITY navigation bar. This is required to allow the <i>go to screen</i> functionality from the WorkstationST Alarm Viewer to work correctly. Reference: WI 25980
		Corrected the navigation to the display screen from the Alarm Viewer so now new CimView screen windows are not opened. Now if CimView has an active screen, this screen will be overlaid to the target display screen. Reference: WI 26732

17.7.2 Enhancements

17.7.2.1 FOUNDATION Fieldbus® H1 Device Import/Export

The FOUNDATION fieldbus H1 device import/export feature enables the user to export a *.xml* template file for a specific FOUNDATION fieldbus H1 device type. The *.xml* template is then used to import any changes made to the template device into target FOUNDATION fieldbus H1 devices of the same type.

The Export H1 Template menu option is displayed at the FOUNDATION fieldbus H1 device level.

Note This feature currently supports a one-to-multiple import; however, the user has to multi-select the individual target H1 devices for import. This is currently limited to a per-segment multi-select function.

Note All parameters in a FOUNDATION fieldbus H1 device have a default value. Currently, the only parameters included in the exported *.xml* template file are parameters that have had their default values changed. Any exported parameters with a default value on the H1 device will not be written into target H1 devices upon import.

For example:

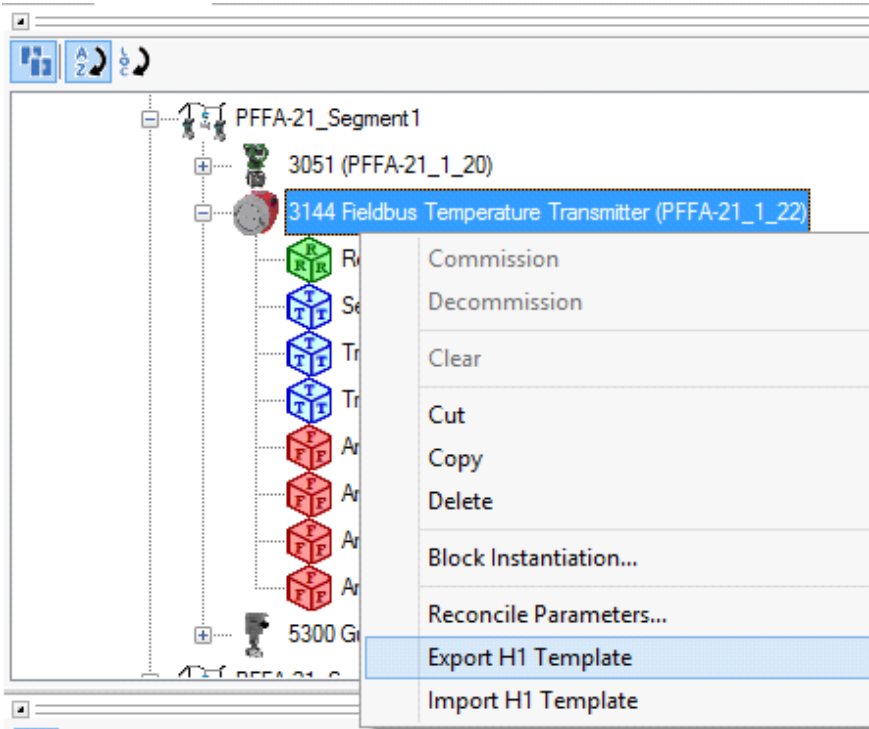
FOUNDATION fieldbus Device 1, TAG_DESCRIPTION = “ ”

FOUNDATION fieldbus Device 2, TAG_DESCRIPTION = “FF Device 2 Tag”

FOUNDATION fieldbus Device 1 (device being exported) did not change the default value of parameter TAG_DESCRIPTION from “ ”. FOUNDATION fieldbus Device 2 imports the template file from FOUNDATION fieldbus Device 1. FOUNDATION fieldbus Device 2 still has TAG_DESCRIPTION = “FOUNDATION fieldbus Device 2 Tag” because the TAG_DESCRIPTION parameter for FOUNDATION fieldbus Device 1 was still the default value, and, as a result, was not exported to the template *.xml* file.

➤ **To export an H1 device template**

1. Select an H1 device and export a template .xml file.



Right-click the H1 device (at device level), and select **Export H1 Template**.

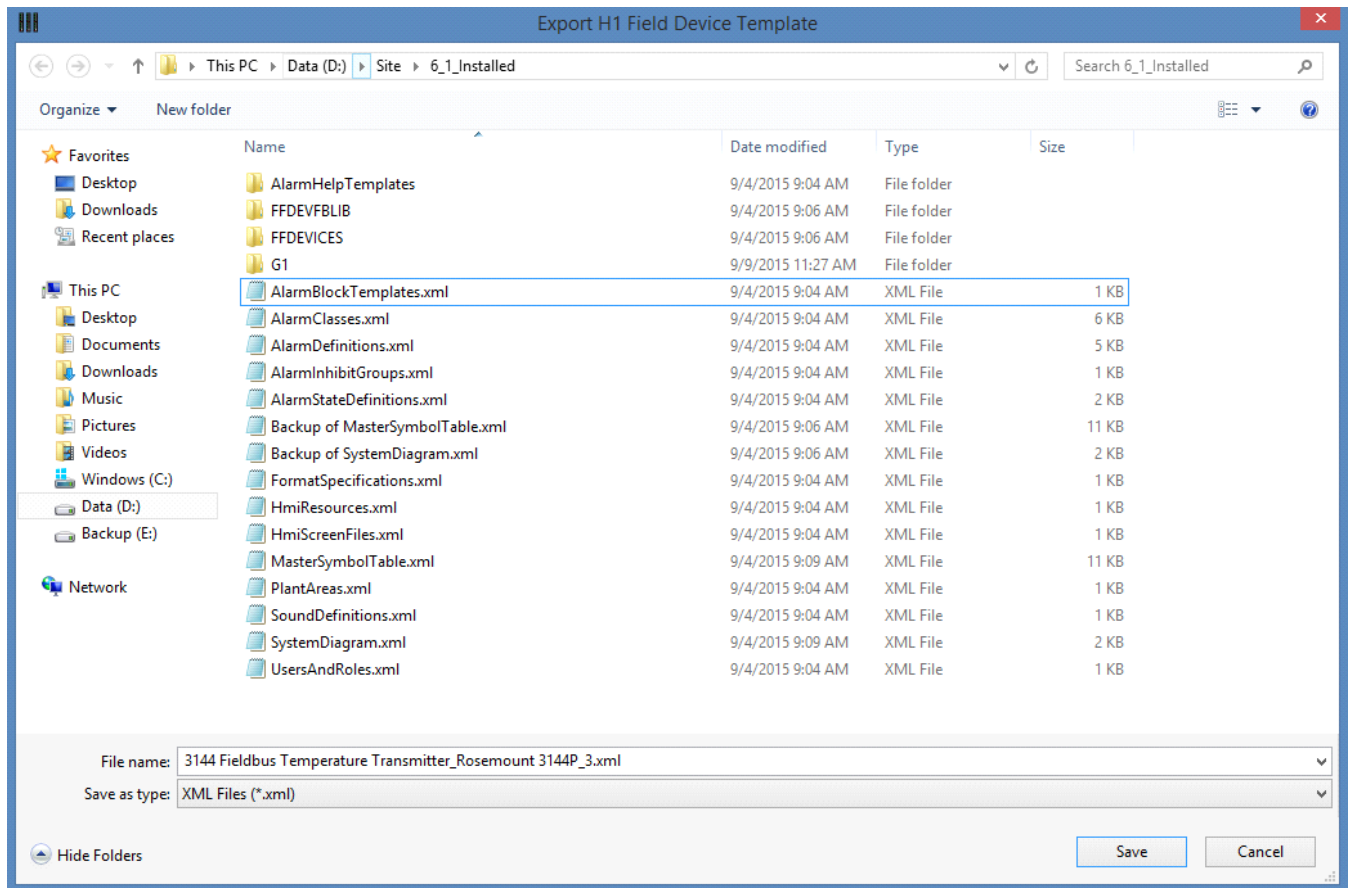
Any changes made to the default values are written to the template .xml file.

Name	Value
ST_REV	Needs To Be Downloaded
TAG_DESC	Tag Description for Export
STRATEGY	0
ALERT_KEY	0

Modified Values Written to Template XML File

2. Name and save the template .xml files to the default location at the system level.

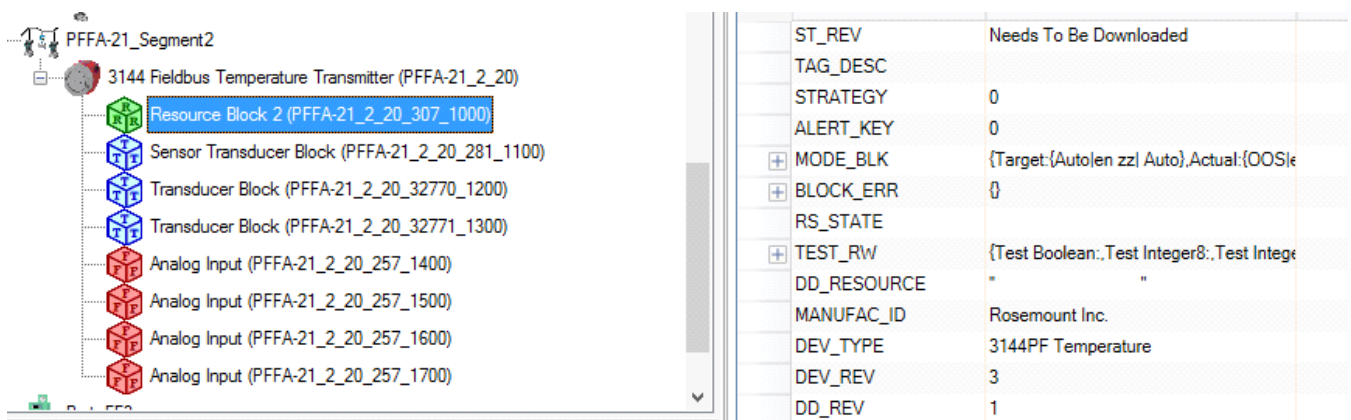
Note The default naming convention is FOUNDATION fieldbus Device Name_FOUNDATION fieldbus Device Type_DeviceRevision; however, this name can be changed to provide more detail to the contents of the template .xml file.



Example Template .xml File Name

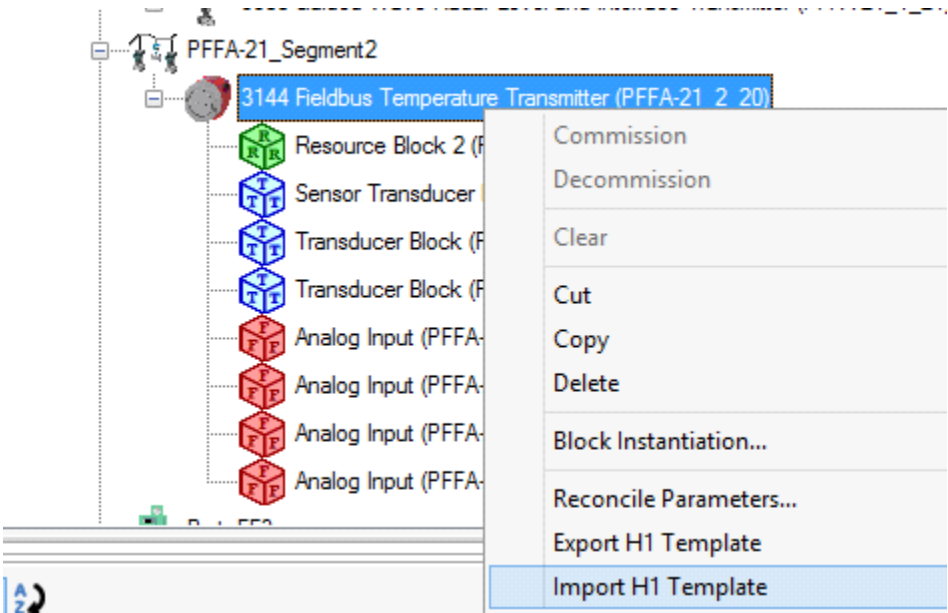
➤ **To import an H1 device template**

1. Select an H1 device for import.



H1 Device before Import (TAG_DESC)

2. Import the H1 device template from the default location containing the template XML file is at the system level.

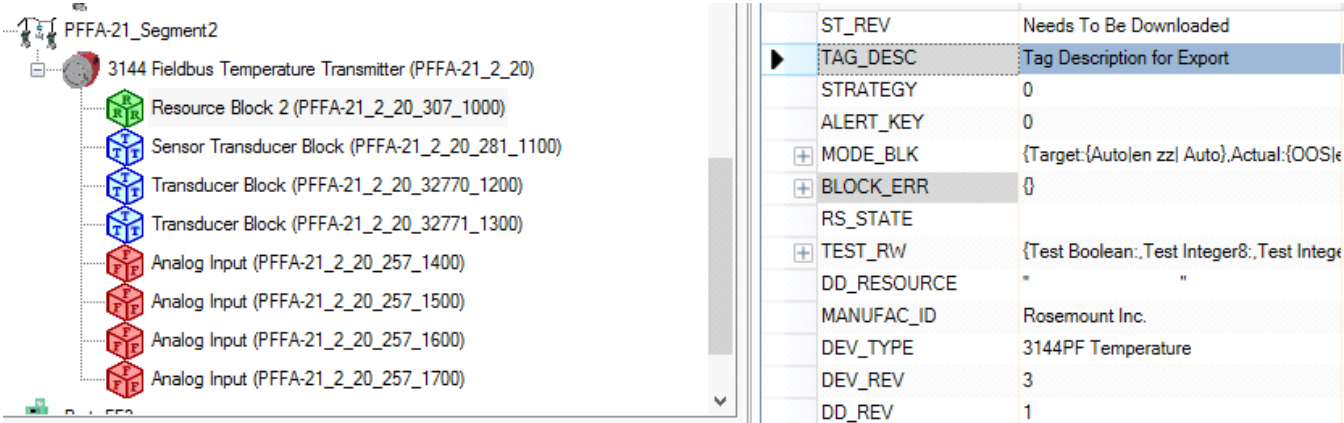


Right-click the device and select **Import H1 Template**.

Note The Info tab indicates *import status* and notifies the user when import is complete or if errors occurred.

3. After the import is complete, enter a Tag description.

In the TAG_DESC field, enter the Tag description to export.





Device after Import (TAG_DESC)



Reference: WI 21871

17.7.2.2 Info Tab Log Messages

The Info tab displays log messages notifying the user of import status, import success, import failure due to a corrupt .xml file, device being imported, and indicates matching or different device revisions, and different device types.








	Info	11:46:34 AM	Beginning H1 Device import for PFFA-21_2_20.
	Info	11:46:34 AM	Import for PFFA-21_2_20 complete

Example Log Message — Successful Import, Matching Devices Types, Matching Device Revisions

	Error	11:49:10 AM	Invalid or corrupt H1Device Template file.
	Error	11:49:31 AM	Import for PFFA-21_1_21 did not complete. Template Device Type does not match H1 device selected for import.

Example Log Message — Unsuccessful Import, Different Device Types

During import, the system attempts to write all parameters included in the template .xml file to the target H1 device. However, parameters can be deleted or added between device revisions. As a result, the Info tab displays a list of parameters that do not exist on the target H1 device, as well as a warning message notifying the user that different Device Revisions were detected and manual validation of the parameter import is necessary.

	Info	11:51:29 AM	Beginning H1 Device import for PFFA-21_2_21.
	W..	11:51:29 AM	Different Device Revisions detected between PFFA-21_2_21 and the template file selected. Import will proceed, however, manual validation of parameter import is needed.
	W..	11:51:29 AM	Parameter FD_FAIL_ALM does not exist on the target H1 device. This can happen if the Device Revision in the template file is different from the Device Revision on the target H1 device.
	W..	11:51:29 AM	Parameter FD_OFFSPEC_ALM does not exist on the target H1 device. This can happen if the Device Revision in the template file is different from the Device Revision on the target H1 device.
	W..	11:51:29 AM	Parameter FD_MAINT_ALM does not exist on the target H1 device. This can happen if the Device Revision in the template file is different from the Device Revision on the target H1 device.
	W..	11:51:29 AM	Parameter FD_CHECK_ALM does not exist on the target H1 device. This can happen if the Device Revision in the template file is different from the Device Revision on the target H1 device.
	Info	11:51:29 AM	Import for PFFA-21_2_21 complete

Example Log Message — Successful Import, Matching Devices Types, Different Device Revisions

Reference: WI 21871

17.7.2.3 MDL Translator - Variables Under Task

Variable creation, previously only available at the program level, is now available at the task level as well. Updated the Variable Attributes as follows:

Source Number	ToolboxST Attribute Name	Attribute Name in .m File	Comments
38	-	TaskName	If a valid task name is mentioned, the corresponding variable will be created under the task. If task name is either not defined or invalid, then the variable is created at program level and a build warning is logged in case of invalid task name.
39	Scope	Scope	Default value is 'Global'. Assigning 'Local' scope will result in an error during a build phase without a proper 'TaskName' as, all the program variables scope is 'Global' by default.

Reference: WI 26156

17.7.2.4 MDL Translator - Protection at Task Level

Password protection, previously only available at the program level, is now available at the task level as well. Both passwords and access roles for programs and tasks are kept in a *Password.txt* file located in the .mds project folder.

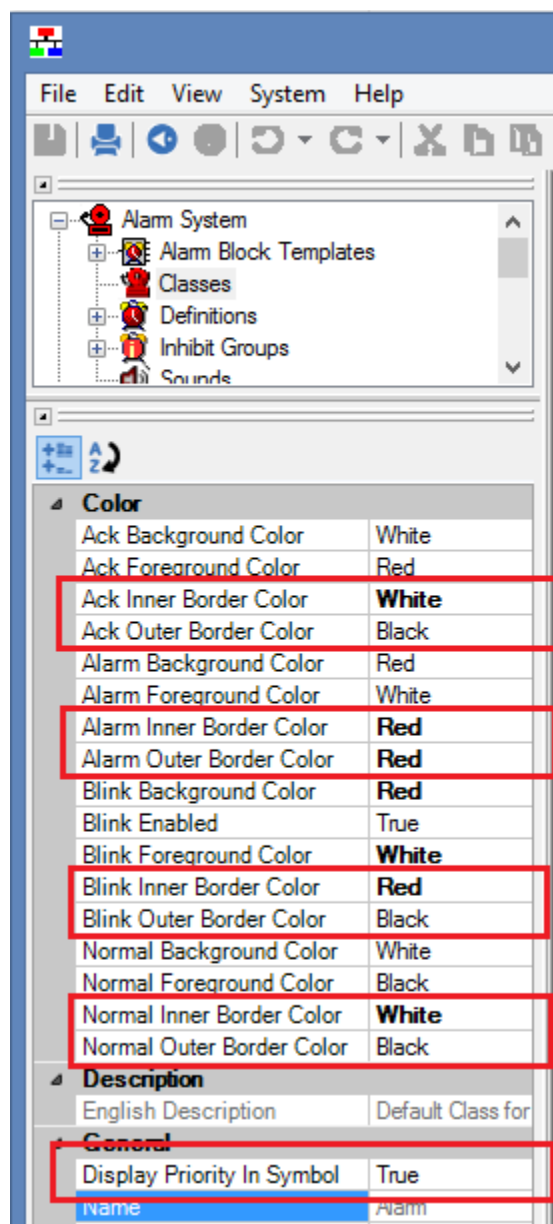
If a Password.txt file is not present and a library container exists, any passwords or access roles in the library container are valid. If there is a password or access role mismatch in either the ToolboxST application or a library container and in the *Password.txt* file, the password in the .txt file takes precedence.

Reference: WI 26160

17.7.2.5 WorkstationST Alarm Viewer

Inner Border and Outer Border configuration items, used to designate priority, have been added for the Symbols in the Alarm Classes sections. When configured, inner and outer borders display in the selected colors for the symbol associated with the Alarm Class.

Refer to the *ToolboxST User Guide for Mark Controls Platform* (GEH-6700), the section, *Alarm Classes* for additional information.



Reference: WI 26113

17.8 Legacy Support - Mark VI V05.16.01C (October 2015)

17.8.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Mark VI	V05.16.01C	Revised Mark VI VSVO A/D Calibration Fault (Code 72) Modified filtering of internal reference voltages and associated diagnostic alarm (Fault 72). Reference: WI 25015

Note This product is also available in stand-alone form of eTCSS V04.09.02C.

17.9 Virtual Controller V05.04.02C (October 2015)

17.9.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Virtual Controller	V05.04.02C	Check on maximum number of Alarms\Events\Holds has been added. Reference: WI 26023
		The DCS Block Library PID_MA_ENH_V2, PID_MA_ENH, OVR_ST_ENH_V2 and OVR_ST_ENH blocks position deviation logic is now enabled when the position feedback variable is not bad quality rather than using good quality keeping position deviation logic enabled in the uncertain region Reference: WI 25805, WI 25291
		It is possible for the CV output of the DCS Block Library PID_MA_ENH block to oscillate between good and bad values in the non-designated controller in a dual system. The issue was caused by using CPU cycles to determine time since last block execution. CPU cycles is a simplex value from the processor and was voted causing the oscillations. The issue has been resolved by using configured task execution period rather than measuring the time since last execution. Reference: WI 25805, WI 25286
		It is possible that the initial proportional correction in the DCS Block Library PID_MA_ENH block could be incorrect when the set point changes more than the value of the ERR_CDB input. The issue was caused by using the prior frame set point value. The issue has been resolved by using the current frame set point value. Reference: WI 25805, WI 25289

17.10 ToolboxST and WorkstationST V05.04.05C (November 2015)

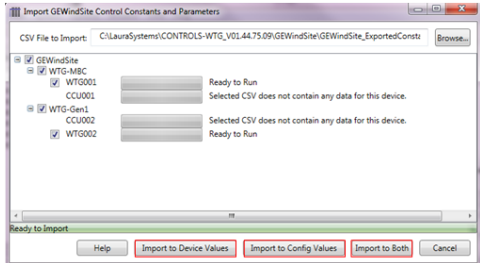
Note These ToolboxST and WorkstationST updates are interdependent and must be installed together.

17.10.1 Issues Resolved with this Release



Component	Component Version	Release Notes
ToolboxST/ WorkstationST	V05.04.05C	<p>Corrected issue with incomplete and duplicate sequence of event (SOE) messages in Alarm Viewer. The issue is specific to Mark VI systems that have been migrated to Mark VIe controllers.</p> <p>Reference: WI 26992</p>
		<p>Fixed an issue where at least one user needed to be defined before the Wind service role is enabled.</p> <p>Reference: WI 25988</p>
		<p>Fixed an issue where the import of system constants was not evaluating the users HMIResources rights.</p> <p>Reference: WI 25989</p>
		<p>An issue was resolved where the Wind Service Tech role was assigned incorrect HMI Resources. This prevented Wind users from associating their parameters with the intended roles.</p> <p>Reference: WI 27446</p>
		<p>An issue was resolved where the HMI Resources from a Wind Service Tech role were not cleared from the running ToolboxST session when they logged off. This only occurred in systems with no Users configured. This led to user confusion about whether they had actually logged off.</p> <p>Reference: WI 27444</p>



17.11 ControlST V05.04.06C (December 2015)

17.11.1 Enhancements

	<h3>Import Control Constants</h3> <p>Application: ToolboxST</p> <p>Description: Updated the import control constants option to reflect the feature changes made to separate import between device and configuration, or import both.</p> <ul style="list-style-type: none"> • Import to Device Values modifies the values in the device only, which results in a faster load. • Import to Config Values modifies only the initial value in the configuration if it is different. (The variables must be marked as Control Constants.) • Import to Both modifies the values in the device and the initial value in the configuration if it is different. <p>References: WI 23153 <i>ToolboxST User Guide for Mark Controls Platform (GEH-6700)</i></p>
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17.11.2 Issues Resolved with this Release

Component	Component Version	Release Notes
Mark VIe Virtual Controller	V05.04.02C	Refer to the section, Virtual Controller V05.04.02C
 Mark VIe	V05.04.05C	Refer to the section, Mark VIe V05.04.04C and this also includes a security update, WI 26555
EX2100e and EX2100e_Reg	V04.08.05C	Refer to the section, EX2100e and EX2100e_Reg V04.08.05C
 PPRA and PPRO	V04.09.02C	<p>In systems with the BPPC form of the PPRO or PPRA I/O pack (IS220PPROS1B or IS220PPRAS1B), particularly under slow speed conditions (<5Hz), the user sees the PR#_Zero bit in signal space show FALSE when the reported speed was Zero. This inhibits application-specific zero speed behavior until the PPRO/PPRA pack is rebooted. The issue was corrected in the firmware (V04.09.02C) of both packs by ensuring that, when the speed reported to the application is cleared for any reason, a cleared speed value is sent to the protection core logic as well. This prevents the case where the application is reading a speed input below zero speed and the protection logic shows a speed above zero speed.</p> <p>Reference: WI 23516, WI 23517</p>

 <p>PPRF</p>	V04.07.01C	PROFIBUS® Master Gateway (PPRFH1A) firmware (V04.07.01C) now allows operation at a frame rate of 20ms to provide compatibility with older configurations. Frame rates of 20ms are not recommended for new applications. Reference: WI 22740
 <p>YHRA</p>	V04.06.03C	Refer to the section, YHRA V04.06.03C
Mark VI	V05.16.01C	Refer to the section, Legacy Support - Mark VI V05.16.01C

17.12 *ToolboxST and WorkstationST V05.04.07C (January 2016)*

17.12.1 *Issues Resolved with this Release*

Component	Component Version	Release Notes
 <p>WorkstationST</p>	V05.04.07C	<p>Right clicking after first opening CimEdit or CimView can take a long time. On one customer system it was taking 45 seconds. An internal alarm client used for alarm statistics with the ControlST Com2ControlST object was created upon initialization, rather than in the background. Reference: WI28846</p> <p>The Recorder was keeping the last uploaded capture buffer data in memory after successful creation of a trip log. On larger wind parks, this was causing the process to exceed the memory size allowed for an x86 process and was resulting in bad behavior such as failure to save some trip logs. Restarting the recorder allowed it to work until enough different turbines had suffered trips again and the Recorder's memory had again grown too much. Reference: WI28886</p>
 <p>ToolboxST</p>	V05.04.07C	<p>MDL Translator now translates the configuration without errors even in the absence of password file. Reference: 28341</p> <p>Fixed a problem on the privileged VPSA login used by Wind that was causing frequent log outs. Reference: 28849</p> <p>Fixed an issue in the MDL Translator caused by certain combinations of access roles with modify design passwords. Reference: 28343</p>

17.13 Legacy Support - EX2100 V12.01.00C (February 2016)

17.13.1 Enhancements

Component	Component Version	Release Notes
EX2100 Excitation Control eTCSS	V12.01.00C	This release adds support for firing control phase compensation. Specifically, to support hybrid bridges with SCR's on the negative side of the bridge, set parameter FirPhaseAdj located on the FiringControl drawing to 180. The location on the diagram is G11. The ACL runtime version is V05_01_00C per the prior release.


17.14 Virtual Mark VI V04.01.03C (February 2016)

17.14.1 Enhancements

Component	Component Version	Release Notes
Virtual Mark VI Controller	V04.01.03C	Virtual Mark VI now supports latest Controller Runtime (V05.16.01C)


17.15 LS2100e V04.08.04C (March 2016)



17.15.1 Issues Resolved with this Release


Component	Component Version	Release Notes
 LS2100e	V04.08.04C	The LS2100e control includes various means for system and turbine protection. To eliminate a known class of nuisance trip, the Source Hardware Current Difference Trip (Source Hw IDiff Trip) has been disabled. Refer to CSB25339 for complete details. Reference: WI 29969

17.16 ToolboxST/WorkstationST V05.04.09C (May 2016)

17.16.1 Issues Resolved with this Release

Component	Component Version	Release Notes
 ToolboxST	V05.04.09C	The System Editor Download Shared IONet option downloads the Device.zip file so the Compare to Controller and Upload from Controller features can use it. Fixed an issue where the Device.zip file was not being downloaded. From the System Editor, when doing a download to the controller, by default the Device.zip file will be downloaded to the controller. Reference: WI 29609
		The Component Editor controller Download Wizard has an option to Download Backup File that downloads the Device.zip file so the Compare to Controller and Upload from Controllers features can use it. Fixed an issue where the user had to specifically uncheck and re-check this option so that ToolboxST considers this option as enabled. The Device Download wizard default value of the Download Backup File is now considered. Reference: WI 29610
		The ToolboxST application provides a set of Protection Properties where Access Roles and Passwords can be assigned to user blocks for security purposes. Resolved an issue when instancing a Task or User Block from a library into a device, the Access Roles as part of its block's Protection Properties was not being copied to the device (Passwords were ok). This issue prevented the full implementation of a parameter access control strategy. Reference: WI 29911
		The Protection Property on Users and Roles in the System Editor was not honoring <i>Grant</i> access assignments. This issue prevented securing the system configuration more restrictively than the Users and Roles configuration. This issue has been corrected. Reference: WI 30217
		Alarm Rationalization produces the detail design necessary to manage an alarm lifecycle. The EX2100e excitation control Inner Loop Application Interface contains signals (including alarms) that are exchanged between the inner loop regulators and the outer loop control. Alarm Rationalization is now supported for alarms in the Inner Loop Application Interface of the EX2100e and the LS2100e. Reference: WI 30266
		The HMI Resource variable property allows the user to configure access and visibility of variable and alarm data. The HMI Resource is now enforced on the System level import function when no user is logged on. Reference: WI 30275

 <p>ToolboxST</p>	<p>V05.04.09C</p>	<p>The Users and Roles feature of ControlST requires a user to be defined in both the ToolboxST System component and in the Active Directory or local PC's Users configuration. This dual definition of users can be problematic because the administrators of the Windows accounts may not be ToolboxST users or even have direct access to the control system software. To simplify user configuration, domain and local PC groups can now be added to the user list in the ToolboxST system component. Enter a group just like a user, except with an @ symbol prepended to identify it as a group. For example, adding @DOMAIN\groupname to the user list will allow any users from that group to log in and be granted the Role and HMI Resources assigned to the group in ToolboxST.</p> <p>Reference: WI 30464</p> <p>A non-fatal exception was being thrown when editing Roles on a protection object where one of the currently configured roles was not present in the system configuration. This made it difficult to edit Roles in the standard application code. The issue is resolved.</p> <p>Reference: WI 30638</p> <p>The ToolboxST application allows the replication of a Group within a system, but can only copy a Group with certain types of components in it. Group Replication will now show an error message for unsupported components present in the group.</p> <p>Reference: WI 30639</p> <p>Corrected an issue where when the Location Code of a PPNG module had a lower case letter in it, the download to the PPNG module would fail with a <i>download archive is empty</i> error. PPNG now supports lower-case letters in the location code.</p> <p>Reference: WI 31905</p>
 <p>WorkstationST</p>	<p>V05.04.09C</p>	<p>The WorkstationST application has the ability to import parameters from a .csv file provided the user is logged on and has the appropriate privileges assigned. Fixed a problem on the privileged VPSA logon that was causing frequent logoffs.</p> <p>Reference: WI 28849</p> <p>Corrected an issue where a client used a data change filter in a request for a Boolean type monitored item, and the response was a bad filter not allowed type response. Clients are now allowed to include data change filters in Boolean type monitored item add requests.</p> <p>Reference: WI 30535</p> <p>The WorkstationST Status Monitor was not recognizing the current or log-up user when the fully qualified user name was used in the ToolboxST system component Users list. For example, having MACHINENAME\username in the User list did not allow username to log in. The Users list in the ToolboxST system Component Editor now allows local PC users to be added with either a short name or fully qualified name.</p> <p>Reference: WI 30637</p> <p>Corrected a problem where data updates to SDI and OPC DA clients would sometimes be missed. For example, 1 second EGD data sampled by a client at 500 milliseconds would sometimes yield missed samples.</p> <p>Reference: WI 31350</p>

 <p>WorkstationST</p>	<p>V05.04.09C</p>	<p>Corrected a problem where the OPC DA server intrinsic Network Monitor variables value for Device.Net.Online (and Error and Warning), did not have the correct values when controllers within a control set were disconnected from the network. For example, disconnecting the R controller while leaving S and T connected made the Online Boolean incorrectly transition to false.</p> <p>Reference: WI 31639</p>
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17.17 WETA V04.07.04C (May 2016)

17.17.1 Issues Resolved with this Release

Component	Component Version	Release Notes
<p>WETA</p>	<p>V04.07.04C</p>	<p>An issue was fixed on WETAH1C where a change in the parameters RotorMaxRPM or RotorTeethPerRev would not update after a reboot. Additionally, the WETAH1A and WETAH1C will now trigger a reboot after modifying and downloading the RotorMaxRPM or RotorTeethPerRev parameters.</p> <p>Reference: WI 19644</p>
		<p>An issue was fixed where a sudden drop in wind speed would cause a nuisance diagnostic 74 - <i>NRG Wind Anemometer Sensor Failure</i>.</p> <p>Reference: WI 30818</p>


17.18 ControlST V05.04.10C (August 2016)

17.18.1 Enhancements


Component	Component Version	Release Notes
 ToolboxST	V05.04.10C	When Service Accounts are enabled, editing the device name and IP address is now granted under <i>Modify Data</i> rather than <i>Modify Device</i> privileges. Reference: WI 32923
		Included GSDML file for RSTi EP I/O GSDML files describe the features of a PROFINET device Reference: WI 33843

17.18.2 Issues Resolved

17.18.2.1 LS2100e V04.08.05C Bug Fixes

Component	WI Number	Developer Release Note
 LS2100e	29969	Source Hardware Current Difference Trip (Source Hw IDiff Trip) has been disabled. Refer to <i>LS2100e Static Starter Control Maintenance and Troubleshooting Guide (GEH-6799)</i>
	33845	Fixed a problem that prevented alarms from being displayed on the door-mounted touchscreen operator panel. Refer to CSB25344 for more information.


17.18.2.2 PSCA V04.07.01C Bug Fixes

Component	WI Number	Developer Release Note
 PSCA	34144	For the electric drive interface of the PSCAH1B, a compatibility issue has been fixed where the connected drive would respond with an unexpected additional parameter (evidenced by the presence of the "Electric Drive Port # Save Command Failed" diagnostic alarm).
	34145	The formatting and descriptions for Electric Drive parameters in ToolboxST have been updated.


17.18.2.3 WETA V04.07.04C Bug Fixes

Refer to the section, [WETA V04.07.04C \(May 2016\)](#)


17.18.2.4 ToolboxST V05.04.10C Bug Fixes

Component	WI Number	Developer Release Note
 ToolboxST	32680	Fixed a problem that prevented the RX3i IC695ALG600 module from being used in a remote RX3i PROFINET Scanner RX3i rack.
	33274	Copy and Paste of a Sequential Function Chart (SFC) Task inside of a Program Definition in a library was not changing the internal connections of the new SFC, leaving them connected to the original SFC. This caused the operation of the two SFCs to be intertwined and execute incorrectly. Symptoms include transitions failing to progress, progressing unexpectedly, and multiple step activation. The original copy-paste issue has been resolved, but application code created using a Paste of an SFC into a program definition will continue to operate incorrectly until the copy is deleted and re-created.
	33669	For Modbus, if the user adds a LINT (long integer) or ULINT (unsigned long integer) to a modbus page, then the Modbus Data Type now defaults to an LREAL (long real) instead of a REAL like it did before.
	33670	Corrected a problem where a Go To Definition in Logic requested from a CimView screen would fail to open a Mark VIe component editor when the System Overview was already displayed.
	33691	Corrected issue where Device Tag was not showing in the I/O Variable report for Extra Circuits.
	34471	Fixed incompatibility between the ToolboxST application (V04.06.00C and later) and Microsoft's .NET Framework 4.6.2. Specifically, issue prevented user from opening a controller device. Refer to CSB25346 for more information.
	29175	As part of the Shared IONet Controller to Controller communications configuration, a set of connected variables are defined. An issue was resolved where this connected variable configuration is not retained if the controller device is renamed.

17.18.2.5 WorkstationST V05.04.10C Bug Fixes

Component	WI Number	Developer Release Note
 WorkstationST	26733	Corrected the navigation to the display screen from the alarm viewer so now new CimView screen windows are not opened. Now if CimView has an active screen, this screen will be overlaid to the target display screen.
	31932	Writes by the Wind SCADA system were not allowed for users configured using the new VPSA groups.
	32594	Corrected an issue where when the Trender ActiveX is used on a CIMPLICITY screen, subsequent right click "Go To Definition in Logic" actions contain change live value dialogs that allow forcing.
	33672	On a Polish culture OS, the EGD Http Configuration client was not able to create request messages due to invalid characters in the user name (ZARZĄDZANIE NT\SYSTEM) for processes running under the system account, (i.e. WorkstationST service and feature processes).
	33673	Corrected a problem where a failure to download an HMI screen could occur when the target workstation was not able to correctly determine the Master workstation's IP address.
	33674	Corrected a problem where Mark VI controllers show an alarm with description Lookup Error after a reboot.
	33675	Fixes issues with Control System Health feature
	33676	Corrected an issue where enumeration text shown on CIMPLICITY when in the second language mode would display the numeric value if the second language enumeration description were blank. Now the primary language description is displayed and included in operator setpoint messages. This was of higher consequence for Mark V enumerated values where a second language setting is not available.
	34149	Fixed a problem where the OPC UA client used in the Trender or embedded in the WorkstationST OPC UA server was not able to connect to the Mark VIe OPC UA server. The typical URL used to connect uses an IP address, (such as opc.tcp://172.16.16.6:4841). The Mark VIe server returns a list of endpoints with a URL containing the name of the Mark VIe and the OPC UA client rejected this URL. A work around for this issue in prior releases would be to add the controller name into the host file where the OPC UA client is running (such as 172.16.16.1 G1-R).

17.18.2.6 Mark VI V05.17.00C Bug Fixes


Component	WI Number	Developer Release Note
 Mark VI	27461	Right Click Help links now display block help.
	34519	Includes SBLIB V13.04.03C with new blocks PULSEV2 and PULSEV2_S

17.18.2.7 Other Legacy Tools Bug Fixes

Component	Version	Developer Release Note
EX2100	V12.01.00C	Refer to the section, Legacy Support - EX2100 V12.01.00C (February 2016)
Virtual Mark VI	V04.01.03C	Refer to the section, Virtual Mark VI V04.01.03C (February 2016)
Control System Solutions Toolbox	V11.07.16C	Fixed an application error that occurs on Windows server 2012 R2

17.19 ToolboxST V05.04.11C (November 2016)

ToolboxST Bug Fixes

Component	Reference	Release Note
 ToolboxST	35911	Resolved an issue that caused a device in a Shared IONet to lose its connected variables when the other device in the Shared IONet had its complete configuration uploaded.
	35947	In a Shared IONet system, if one controller in the Shared IONet didn't have the correct version installed, the I/O configuration would be lost when the other controller was opened. Now, if either controller does not have the correct version installed, neither can be opened.
	36416	Import Control Constants and Parameters will now import task variables correctly.
	36432	Import Control Constants and Parameters now reports the correct error message when changing an initial value in the configuration fails.
	36529	Resolved an issue in which IONet Input Exchanges generated for PROFINET (PPNG) had addresses beyond the end of the exchange, causing the controller to fail to start correctly.

17.20 PMVD V04.06.05 (December 2016)

Reference	Release Note
36523	An issue was fixed where a sudden drop in wetting voltage could cause all digital inputs to drop out.
36854	An issue was fixed where the signal filters on digital inputs were not working properly.

17.21 **ToolboxST V05.04.12C (December 2016)**

Reference	Release Note
36808	Fixed an issue where SharedIONet devices in multi-nested groups would lose their connected variables upon loading the device
36843	Replicate of a pitch controller now copies web pages
37016	The constant import now skips variables with a value of (Not Used) in the .csv file
37094	Fixed an issue where Simple Replicate would lose the padding at the end of a device or group's name.
37233	Alarm Rationalization: Fixed an issue where Alarm Rationalization imported values could be lost in the following situation. In a controller, instance from a library a piece of code containing an alarm on a DCS block. Change the alarm rationalization values in the instanced code (ex. Consequence of Inaction) by importing in an alarm rationalization report. Save and close the controller. Open the controller. Re-instance the code. With this fix then the original imported alarm rationalization values will be maintained.

17.22 WEMA V04.07.02C (January 2017)

Reference	Release Note
27232	Digital Outputs CustomRelay1DO and CustomRelay2DO no longer generate diagnostic alarms 40 and 41 "Digital Output # (TB3- Ports # & #) failed" when configured as Unused.

17.23 WorkstationST V05.04.12C (February 2017)

Reference	Release Note
37416	Corrected an issue where MarkVI SOE descriptions shown in the Alarm Viewer ended with "[]".
37974	Added the DisableIncludeChains setting as default to allow certificates to be accepted by the Predix OPC UA machine adapter Client. This will be removed in a later release after the OPC foundation issues a fix for certificate chaining issues.

17.24 ControlST V05.04.13C (March 2017)

17.24.1 ToolboxST V05.04.13C

Reference	Release Note
38331	Corrected an error preventing the OPC AE test client in the WorkstationST alarm viewer in the WorkstationST component editor of ToolboxST, from being able to connect to an OPC AE server. The error indicates a failure to load version 2.0.106.0 of OpcComRcw.dll
38379	Fixed an issue when simple replicating a device or group where the new base name was longer than the original name.
38455	Fixed an issue where upon inserting an existing device from a SharedIONet from another system into an empty SharedIONet, the C2C configuration of the input controller would be lost. Now, when inserting an existing device that is part of a SharedIONet in another system, both controllers from that SharedIONet will be inserted.
38462	Fixed a problem in Import constants when value is Set to (Not Used) in the import value but the variable exists in the configuration.

17.24.2 WorkstationST V05.04.13C

Reference	Release Note
38330	Corrected an error preventing the OPC AE test client in the WorkstationST alarm viewer in the WorkstationST component editor of ToolboxST, from being able to connect to an OPC AE server. The error indicates a failure to load version 2.0.106.0 of OpcComRcw.dll
38389	Corrected a memory leak with the Alarm Symbol ActiveX object. Each creation of an alarm symbol on a CimView screen created a GDI handle that was not released. After 10,000 handles had been created, CimView would fail.

17.24.3 Virtual Mark Vle V04.01.04C

Reference	Release Note
38528	Added support for Toolbox V05.17.00C

17.24.4 EX2100e and EX2100e_Reg V04.08.06C

Reference	Release Note
38537	NEW! Added support for UCSB H4.
33847	Fixed a problem that prevented alarms from being displayed on the door-mounted touchscreen operator panel. Refer to CSB25344 for more information.

17.24.5 LS2100e V04.08.06C

Reference	Release Note
38537	NEW! Added support for UCSB H4.

17.24.6 Previously Released

the following components, included in ControlST V05.04.13C, were released as components since ControlST V05.04.10C

- ARES V07.00.00C
- [PMVD V04.06.05C](#)
- [WEMA V04.07.03](#)

17.25 ControlST V05.04.13C SP01 (May 2017)

17.25.1 PCMI V04.10.02C

Reference	Release Note
37437	An issue was fixed in the PCMI which could potentially cause the VSVO output current to fluctuate unexpectedly on startup.
38850	An issue was fixed where SOEs from remote MarkVI racks were not getting logged properly.

17.26 ControlST V05.04.13C SP02 (May 2017)

17.26.1 WorkstationST V05.04.14C

Reference	Release Note
39275	The WorkstationST service can fail to start if a corrupt task info file is encountered. To work around this issue the C:\ProgramData\WorkstationScheduldTasks\TaskInfo.xml file can be deleted. Administrator access is required to delete this file. The folder C:\ProgramData may be hidden, but the user can type this path into the Windows File Explorer address path to navigate to the hidden folder. The WorkstationST service will handle a corrupted file and automatically remove it.
39405	Corrected a crash of the WorkstationST Alarm Viewer or CimView with the WorkstationST Alarm Viewer ActiveX component, resulting when more than approximately 25,000 rows of historical alarm and event data are displayed on the short term historical alarms tab. The failure occurred when the user scrolled a long way through the long list of alarms and selected an alarm. The failure only occurred on touch panel systems where the Microsoft Tablet PC Input service was running.

17.26.2 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V05.04.13C in previous Service Packs.

- [PCMI V04.10.02C](#)

17.27 ControlST V05.04.13C SP03 (October 2017)

17.27.1 ToolboxST V05.04.14C

Reference	Release Note
40250	Improve System Download reliability for multiple controllers.
40757	Fixed an issue that caused ToolboxST to fail when a Power Conversion, Reset Required parameter is sent to the device from a Settings menu or diagram.
40232	Fixed an edge case issue when toggling the controller's UDH connection with Live View open.
40585	Corrected a crash that was occurring when a controller is uploaded.

17.27.2 WorkstationST V05.04.15C

Reference	Release Note
40966	Modified the SDI live tag list messages to write one large chunk rather than several smaller writes.
40575	Corrected a problem where script calls from CIMPLICITY would hang after an HMI was left for weeks without activity.
40814	A memory growth issue due to the SCADA client not processing SDI EGD exchange messages faster than they are being requested was addressed. The issue was leading to an out of memory condition in the WorkstationST OPC DA server.

17.27.3 ARES V07.03.00C

Reference	Release Note
40752	NEW! New ARES Model A7HA021A0617.

17.27.4 PHRA V04.07.01C

Reference	Release Note
17770	An issue was fixed where the PHRA could reboot if a connected HART device responds with a maximum-length HART message.

17.27.5 YHRA V04.06.04C

Reference	Release Note
39911	An issue was fixed where the YHRA could reboot if a connected HART device responds with a maximum-length HART message.

17.27.6 YSIL V04.11.01C

Reference	Release Note
40255	The SCSA cold junction temperature value has been adjusted to provide more accurate temperature compensation for thermocouples.

17.27.7 Previously Released

The following components, also in Service Pack 02, were previously released since ControlST V05.04.13C in previous Service Packs.

- [PCMI V04.10.02C](#)

17.28 ControlST V05.04.13C SP04 (March 2018)

Maintenance release driven by CSB25365 - Linked Program Variable Connection Property Unexpectedly Modifiable — Revision 1.

17.28.1 ToolboxST V05.04.15C

Reference	Release Note
42774	When instantiating Tasks or Programs from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of task or program variables even in linked tasks. Re-instantiating would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instantiating behavior has been changed to always restore the Library version of the Program Variable or Task Variable connection, and modification of Connection has been disallowed when linked going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the program.

17.28.2 Previously Released

The following components, also in Service Pack 04, were previously released since ControlST V05.04.13C in previous Service Packs.

- PCMI V04.10.02C
- WorkstationST V05.04.15C
- ARES V07.03.00C
- PHRA V04.07.01C
- YHRA V04.06.04C
- YSIL V04.11.01C

17.29 ControlST V05.04.13C SP05 (June 2019)

This a maintenance release driven by a YSIL Firmware Overspeed Trip issue and a fix for the number of consumed exchanges in a Mark VIe that can remain healthy all at once.

17.29.1 Mark VIe V05.04.07C

Reference	Release Note
30020	The Time to Live (TTL) field in Wind Control (WFMS) is now 64.
46817	An issue that was causing some consumed exchanges in a device configured with more than 253 UDH EGD exchanges to become unhealthy has been resolved. The number of configured exchanges is calculated as the number of produced exchanges from the device plus the total number of exchanges configured in all referenced devices, regardless of how many devices contain consumed variables. However, it is not possible to guarantee which exchanges will be unhealthy as it is based on the order the device reads in the configuration files and can change during operation with dynamic binds.

17.29.2 PHRA V04.07.02C

Reference	Release Note
44441	The PHRAH1B now properly allows communication through HART DTMs (Device Manager Essentials) to devices connected on AnalogOutput02 (HART Channel 12).

17.29.3 YSIL V04.11.02C

Reference	Release Note
46229	An issue was fixed where under certain operating conditions, the YSIL could miscalculate speed and trip on a firmware overspeed when a real overspeed condition didn't exist. This issue could also cause nuisance dual speed sensor mismatch diagnostic alarms.
46524	YSIL now uses protection speed (calculated at 2 ms) for Overspeed trip detection. Previously it was using a version of speed that was calculated less frequently (10 ms).
Additional	46525

17.29.4 Previously Released

The following components, also in Service Pack 05, were previously released since ControlST V05.04.13C in previous Service Packs.

- ToolboxST V05.04.15C
- PCMI V04.10.02C
- WorkstationST V05.04.15C
- ARES V07.03.00C
- YHRA V04.06.04C

17.30 ControlST V05.04.13C SP06 (March 2021)

This is a maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.

17.30.1 EX2100e V04.08.07C

Reference	Release Note
56006	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

17.30.2 EX2100e_Reg V04.08.07C

Reference	Release Note
56006	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

17.30.3 LS2100e V04.08.07C

Reference	Release Note
56007	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

17.30.4 Mark VIe V05.04.08C

Reference	Release Note
56004	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

17.30.5 Mark VIeS V05.00.02C

Reference	Release Note
56005	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

17.30.6 Previously Released

The following components, also in Service Pack 06, were previously released since ControlST V05.04.13C in previous Service Packs.

- ARES V07.03.00C
- PCMI V04.10.02C
- PHRA V04.07.02C
- ToolboxST V05.04.15C
- WorkstationST V05.04.15C
- YHRA V04.06.04C
- YSIL V04.11.02C

17.31 V05.04 Known Issues

Refer to the *ControlST Software Suite Upgrade Instruction Guide* (GEI-100694), *Appendix B, Known Issues* for additional information.

Notes

18 V05.02 Release Notes

Initial release - November 2014

Alarm Rationalization and Parent/Child

Application:

Alarm Management for all applications

Description:

Changes have been made to support Alarm Rationalization and Parent/Child for Libraries. An alarm rationalization import function has been added. Validation checks parent/child and gives build errors as necessary.

References:

ToolboxST User Guide for Mark V1e Control (GEH-6700)*
ToolboxST User Guide for Mark V1eS Safety Control (GEH-6705)
ToolboxST User Guide for the WorkstationST Application (GEH-6706)*
ToolboxST User Guide for EX2100e Excitation Control (GEH-6707)
ToolboxST User Guide for LS2100e Static Starter Control (GEH-6708)
ToolboxST User Guide for Mark Stat Power Conversion Control (GEH-6709)

Adaptive Real-time Engine Simulation (ARES)

Application:

7F and 9F Gas Turbine controls

Description:

Two new simulation blocks have been added:

A9F0406C0614 - 9F.04 model block

ARES_COOL2 - Cooling flow optimization block, version 2

Code changes were made to revise two existing blocks:

A7F0701A0313 - 7F 7-series model block

A9F0701A1212 - 9F 7-series model block

References:

CHM file only

EX2100e

Application:

Generator Excitation Control (static exciters only)

Description:

Added diagnostic alarms (2704-2722) for second EX2100e system interface board for customer I/O (ESYS).

References:

EX2100e Excitation Control Diagnostic Alarms for Thyristor Systems Troubleshooting Guide (GEH-6789)

EX2100e-TSR: Torsional Stress Relay (TSR) and Supplementary Excitation Damping Control (SEDC)

Application:

Protection for turbine-generators in electrical environments that cause resonance (torsional vibrations) at shaft natural frequencies. The most common cause is series capacitors in transmission lines. System studies identify need.

Description:

A TSR is a digital protective relay based on UCSB and ESYS components from the EX2100e product line. It monitors turbine-generator shafts for torsional oscillations and provides trip outputs for excessive shaft fatigue. In rare cases, active damping or resonance blocking filters are required. TSR and TSR/SEDC are low volume products provided and supported by GE Schenectady (Energy Consulting).

References:

EX2100e Excitation Control Torsional Stress Relay Diagnostic Alarms and Troubleshooting Guide (GEH-6790)

Graphic Refresh

Application:

User Interface for all applications

Description:

Continued the ControlST Software Suite modification for installation of new icons and splash screens in the ToolboxST and WorkstationST applications.

References:

All ToolboxST and WorkstationST application documentation.

Mark V Controller

Application:

Ability to render Mark V high-speed trend data into ToolboxST Trender.

Description:

A new feature added to the following four command line tools for the Mark V controller instructs the user how to output data in a format that the ToolboxST Trender can display.

- VIEW2
- VIEW2T
- VIEWPV
- VIEWQ

References:

WorkstationST Application Mark V Feature System Guide (GEH-6759)

Mark VI to Mark VIe Control Platform Upgrade

Application:

Mark VI upgrades to Mark VIe technology

Description:

New equipment and configuration supports migration (upgrading) from existing Mark VI control sites to the Mark VIe control platform. This enables a path forward to more advanced control capabilities.

References:

ToolboxST for Mark VIe Control (GEH-6700)

Mark VIe and Mark VIeS Control Systems, Vol_III, For GE Industrial Applications (GEH-6721)

Mark VIeS Safety Controller Black Channel Communication

Application:

Safety and Critical Control Systems for Process and Machine Automation

Description:

The Mark VIeS Safety controller can be configured for black channel communications (a safety layer between the communication stack and the application), which is used internally by GE O&G specific applications.

References:

Mark VIe and Mark VIeS Control Systems, Vol_III, For GE Industrial Applications (GEH-6721)

Mark VIeS Safety Control, Volume II: Functional Safety for GE Internal Equipment (GEH-6723)

Mark VIeS Safety Controller, Block Library (GEI-100691)

PCNO CANopen® Master Gateway

Application:

CANopen communications to valve actuators

Description:

Support was added for the new Woodward Dual DVP device configuration for eIGV and eVSV valve actuators.

Support was added for communicating on the CAN network without all configured devices connected.

PCNO can be used with a Phoenix CANbus connector without requiring any soldering.

References:

ToolboxST for Mark VIe Control (GEH-6700)

Mark VIe and Mark VIeS Control Systems, Vol_III, For GE Industrial Applications (GEH-6721)

PPDA Power Distribution System Feedback

Application:

Provides power distribution feedback signals to Mark VIe and Mark VIeS controllers.

Description:

The current version of PPDA has been updated to support use with the Mark VIeS Safety controller.

PPDA no longer supports an on-board accelerometer.

References:

Mark VIe and Mark VIeS Control Systems, Vol_III, For GE Industrial Applications (GEH-6721)

ToolboxST How To Guides Help Menu Update

Application:

Help Menu for all applications

Description:

Removed individual How to Guides from the Help menu and replaced them with the consolidated document.

References:

ControlST Software Suite, How to Guides (GEH-6808)

WEPA

Application:

Wind Turbines - 30 Nm and 40 Nm Pitch Controls

Description:

Updates to notify user that the 30 Nm pitch bearings need to be rotated occasionally to avoid excess wear

References:

Mark VIe Control 30 Nm Pitch Control for ESS Wind Turbines System Guide (GEH-6736)

Mark VIe Control Renewable Energy Distributed I/O Modules (GEH-6779)

Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description (GEI-100731)

Notes

19 V05.01 Release Notes

Initial release - March 2014

Feature	Documentation Changes	Description
Alarm Enhancements (AAM3)	<p>GEH-6700, <i>ToolboxST* User Guide for Mark VIe Control</i>, revised</p> <p>GEH-6701, <i>ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p>GEH-6705, <i>ToolboxST User Guide for Mark* VIeS Safety Control</i>, revised</p> <p>GEH-6706, <i>ToolboxST User Guide for the WorkstationST Application</i>, revised</p> <p>GEH-6707, <i>ToolboxST User Guide for EX2100e Excitation Control</i>, revised</p> <p>GEH-6708, <i>ToolboxST User Guide for LS2100e Static Starter Control</i>, revised</p> <p>GEH-6709, <i>ToolboxST User Guide for Mark Stat Power Conversion Control</i>, revised</p> <p>GEI-100620, <i>WorkstationST* Alarm Viewer</i>, revised</p> <p>GHT-200024, <i>How to Configure the Alarm Server</i>, revised</p> <p>GHT-200025, <i>How to Configure the Alarm Scanner Feature of the WorkstationST Alarm Server</i>, revised</p>	<p>Added ability to generate device-level Alarm report and device alarms in Global Alarm reports. The option was added to the device View menu Reports option.</p> <p>Added the ability to support visualization using theme files for all operator facing tools to the ToolboxST application. These include Trender, the WorkstationST Alarm Viewer and WorkstationST Status Monitor. Refer to any of the listed GEH documents, the section Theme Visualization for the procedure and examples.</p>
FDT DTM	GEI-100757, <i>WorkstationST Device Manager Gateway</i> , revised	Added FOUNDATION fieldbus® DTMs to the Device Manager Gateway functionality.

Feature	Documentation Changes	Description
Modular Software Release and Licensing, and Graphic Refresh	<p> GEH-6700, <i>ToolboxST* User Guide for Mark VIe Control</i>, revised GEH-6701, <i>ToolboxST User Guide for Power Conversion Control</i>, revised GEH-6705, <i>ToolboxST User Guide for Mark* VIeS Safety Control</i>, revised GEH-6706, <i>ToolboxST User Guide for the WorkstationST Application</i>, revised GEH-6707, <i>ToolboxST User Guide for EX2100e Excitation Control</i>, revised GEH-6708, <i>ToolboxST User Guide for LS2100e Static Starter Control</i>, revised GEH-6709, <i>ToolboxST User Guide for Mark Stat Power Conversion Control</i>, revised </p> <p> All related documentation will be updated with the new icons and splash screens in an on-going process. </p>	<p> Continued the ControlST Software Suite modification for use of GEIP licensing keys and installation of new icons and splash screens in the ToolboxST and WorkstationST applications. These will be seen on all computers running these applications. </p>
EX2100e 120A bridge	<p> GEH-6781, <i>EX2100e Excitation Control User Guide</i>, revision GEH-6783, <i>EX2100e Excitation Control Regulator Systems Installation and Startup Guide</i>, revision GEH-6784, <i>EX2100e Excitation Control Regulator Systems Maintenance Guide</i>, revision GEH-6788, <i>EX2100e Excitation Control Diagnostic Alarms for Regulator Systems Troubleshooting Guide</i>, revision </p> <p> GEI-100796, <i>EX2100e Excitation Control Exciter Regulator Bridge Interface Board Instruction Guide</i>, new document GEI-100784, <i>EX2100e Excitation Control 35 A and 120 A Regulator Systems Application Guide</i>, revision GEI-100773, <i>EX2100e Excitation Control Exciter Dual Selector and Regulator Snubber Boards Instruction Guide</i>, revision GEI-100771, <i>EX2100e Excitation Control Exciter Regulator Auxiliary I/O Board Instruction Guide</i>, revision </p>	<p> Added EX2100e variant that utilizes a 120A bridge. Added diagnostic alarms, additional components, and a new circuit board, Exciter Regulator Bridge Interface (ERBI). </p>

Feature	Documentation Changes	Description
OPC UA	GEH6721 Vol I, <i>Mark VIe Control System Guide</i> , revised GEH6721 Vol II, <i>Mark VIe Control, Volume II System Hardware Guide</i> , revised GEH-6700, <i>ToolboxST* User Guide for Mark VIe Control</i> , revised	Added support for OPC UA served from a Mark VIe controller.
PSCH	GEH6721 Vol II, <i>Mark VIe Control, Volume II System Hardware Guide</i> , revised	Added ToolboxST configuration for test POD devices.
PSVOH1B	GEH-6700, <i>ToolboxST* User Guide for Mark VIe Control</i> , revised GEH6721 Vol II, <i>Mark VIe Control, Volume II System Hardware Guide</i> , revised GEH-6808, <i>ControlST Software Suite How to Guides</i> , revised GEI-100586, <i>Mark VIe Control Servo Control (PSVO) Module Description</i> , revised	Added support for BPPC form of I/O pack
Redundant Alarm Scanner	GEH-6706, <i>ToolboxST User Guide for the WorkstationST Application</i> , revised GEI-100626, <i>WorkstationST Alarm Server</i> , revised GHT-200025, <i>How to Configure the Alarm Scanner Feature of the Alarm Server</i> , revised	Improved Alarm Scanner redundancy capabilities. Enabled the secondary Alarm Scanner to read the primary Alarm Scanner configuration in place of manually configuring both. Added the ability to monitor analog alarms to the Alarm Server and Alarm Scanner.
SecurityST	GEH-6706, <i>ToolboxST User Guide for the WorkstationST Application</i> , revised	New option added to WorkstationST Status Monitor for required confirmation for scheduled tasks.
ToolboxST Change Log	GEH-6700, <i>ToolboxST* User Guide for Mark VIe Control</i> , revised	Added ability for user to track ToolboxST changes through a change log.
Wind DFIGe 1.6e Converter Control software	GEH-6727, <i>1.x MW DFIG ESS System Guide</i> , revised	Updates to include Version C, 1.85 MW ESS power converter and Version D, 1.6e (enhanced) MW ESS power converter
30 Nm DMP	GEH-6779, <i>Mark VIe Control Renewable Energy Distributed I/O Modules</i> , revised GEI-100731, <i>Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description</i> , revised	Added Transformer Fuse Timed Overcurrent Model and new diagnostic alarm, Transformer fuse model timed overcurrent for new smaller transformers

Notes

20 V05.00 Release Notes

Initial release - November 2013

Feature	Documentation Changes	Description
Alarm Enhancements	GEI-100620, <i>WorkstationST* Alarm Viewer</i> , revised	The option to Include Children has been added to the plant area filtering options in the Alarm Viewer.
ARES Block Library Update	No associated pdf	Two new model blocks have been added: <ul style="list-style-type: none"> • A7F0701A0313 • A9F0701A1212
Cold Weather Extreme Wind-PMG and WindBoost Support in Version 1 Hardware Wind-PMG	GEH-6726, <i>2.x MW Permanent Magnet Generator (PMG) Wind Power Converter System Guide</i> , revised	Updated Wind-PMG power converter to support the Cold Weather Extreme package. Updated Wind-PMG power converter to support the WindBoost in Version 1 hardware.
DCS Enhancements	GEI-100679, <i>Mark VIe Controller DCS Block Library</i> , revised	DCS enhancements have been made to: <ul style="list-style-type: none"> • Printer • Compare to controller • Logic builder block visualization Updates to the OVR_ST_ENH and OVR_ST_ENH_V2 blocks including: <ul style="list-style-type: none"> • Added status value for SP • Updated RSP, selected CVI, and bad quality criteria • Removed the output RSP_OV and 00OVR_ST_ENH10000.RSP_OV as a global variable
Standard Block Library Update	GEI-100682, <i>Standard Block Library</i> , revised	Updates to the LOGIC_BUILDER and LOGIC_BUILDER_SC blocks to add the new type enumerations, RDY3, RDY4, and RDY5

Feature	Documentation Changes	Description
Modular Software Release and Licensing, and Graphic Refresh	<p><i>GEH-6700, ToolboxST* User Guide for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST User Guide for Mark* VIeS Safety Control</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for the WorkstationST Application</i>, revised</p> <p><i>GEH-6707, ToolboxST User Guide for EX2100e Excitation Control</i>, revised</p> <p><i>GEH-6708, ToolboxST User Guide for LS2100e Static Starter Control</i>, revised</p> <p><i>GEH-6709, ToolboxST User Guide for Mark Stat Power Conversion Control</i>, revised</p> <p>All related documentation will be updated with the new icons and splash screens in an on-going process.</p>	<p>The ControlST Software Suite has been modified to use the GEIP licensing keys, and therefore the GEIP ordering process and Support functions. The ToolboxST and WorkstationST applications, Virtual Controllers, and various communication drivers are selectable when ordering. GEIP will soon release new licensing technology that will enable software licenses in the future.</p> <p>Installed new icons and splash screens for the ToolboxST and WorkstationST applications. These will be seen on all computers running these applications.</p>
Redundant OPC® AE client	<p><i>GHT-200031, How to Configure OPC AE Capability</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for the WorkstationST Application</i>, revised</p>	<p>Enhancements have been made to the WorkstationST Alarm tab, External OPC AE Servers item to provide redundancy.</p>

21 V04.07 Release Notes

Initial release - June 2013

Feature	Documentation	Description
Alarm Enhancements	<p><i>GEH-6700, ToolboxST* User Guide for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST User Guide for Mark* VIeS Safety Control</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for the WorkstationST* Application</i>, revised</p> <p><i>GEH-6707, ToolboxST User Guide for EX2100e Excitation Control</i>, revised</p> <p><i>GEH-6708, ToolboxST User Guide for LS2100e Static Starter Control</i>, revised</p> <p><i>GEH-6709, ToolboxST User Guide for Mark Stat Power Conversion Control</i>, revised</p> <p><i>GEI-100620, WorkstationST Alarm Viewer</i>, revised</p>	<p>Includes:</p> <ul style="list-style-type: none"> Alarm Parent/Child feature that, based on hierarchical configuration definition in ToolboxST, enables WorkstationST alarm display filtering by Parent or Child of related alarms. Import of rationalized alarm data and enhanced alarm export. Controller application-driven alarm unshelving capability.
ARES Block Library Update	No associated pdf	Added three new simulation models: A9FB051A1212, A9FB05ER0312, and ARES_FLTR2
Control System Health	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST User Guide for Mark VIeS Safety Control</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for the WorkstationST Application</i>, revised</p> <p><i>GEH-6707, ToolboxST User Guide for EX2100e Excitation Control</i>, revised</p> <p><i>GEH-6708, ToolboxST User Guide for LS2100e Static Starter Control</i>, revised</p> <p><i>GEH-6709, ToolboxST User Guide for Mark Stat Power Conversion Control</i>, revised</p> <p><i>GEI-100693, WorkstationST Network Monitor</i>, revised</p> <p><i>GEI-100834, WorkstationST Control System Health</i>, new</p>	<p>A Control System Health (CSH) management system has been added. This system can display the health of various components on the UDH, PDH, and IONet. The system health is a collection of the health of the HMI and historian computers, Mark VIe and VIeS controller, UDH switches, I/O pack, EX2100e and LS2100e, NTP synch status, and integration into the alarm system. If health is not available directly, then it can be inferred from the available parameters.</p> <p>The configuration of the network switch ports has been moved from the individual components to the network switch component. The network switch component will be updated with the current port configuration upon opening the component the first time.</p>
AutoTune* of the Flux Null parameters	<i>GEH-6797, LS2100e Installation and Startup Guide</i> , revised	A commissioning test that calculates and loads the flux null parameters for the source and the load is now available.

Feature	Documentation	Description
Battery Energy Storage (BES) Power Converter	<p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p><i>GEH-6774, Battery Energy Storage System 1 MW Inverter Installation Guide</i>, new</p> <p><i>GEH-6775, Battery Energy Storage System 1 MW Inverter Operation and Maintenance Guide</i>, new</p> <p><i>GEI-100827, Battery Energy Storage System 1 MW Inverter Product Description</i>, new</p> <p><i>GEI-100831, Mark VIe Control Battery Energy Converter (BECA) Module Description</i>, new</p>	Battery energy storage can be enabled in the ToolboxST application. This includes a Power Conversion Control (BESS 1 MW Converter Control) and a Mark VIe Controller (Battery Power Controller).
BPPC I/O Packs - PPRO, PPRA, PTUR, PHRA, PPDA, PSCA	<p><i>GEH-6721 Vol II, Mark VIe Control, Volume II System Hardware Guide</i>, revised</p> <p><i>GEI-100596, Mark VIe Control Backup Turbine Protection (PPRO) Module Description</i>, revised</p> <p><i>GEI-100738, Mark VIe Control Emergency Turbine Protection (PPRA) Module Description</i>, revised</p> <p><i>GEI-100575, Mark VIe Control Turbine Specific Primary Trip (PTUR) Module Description</i>, revised</p> <p><i>GEI-100597, Mark VIe Control HART® Enabled Analog Input/Output (PHRA) Module Description</i>, revised</p> <p><i>GEI-100613, Mark VIe Control Power Distribution Modules (PDM)</i>, revised</p> <p><i>GEI-100587, Mark VIe Control Serial Communications (PSCA) Module Description</i>, revised</p> <p><i>GHT-200051, How to Upgrade a BPPB-based I/O Module to a BPPC-based I/O Module</i>, revised</p>	Support for new BPPC processor board added to the following I/O packs:
Protection Modules – PPROS1B I/O pack, PPRAS1B I/O pack, TPROS#C terminal board	<p><i>GEH-6721 Vol II, Mark VIe Control, Volume II System Hardware Guide</i>, revised</p> <p><i>GEH-6722, Mark VIeS Safety Control System Guide</i>, revised</p> <p><i>GEI-100596, Mark VIe Control Backup Turbine Protection (PPRO) (includes TPRO) Module Description</i>, revised</p> <p><i>GEI-100738, Mark VIe Control Emergency Turbine Protection (PPRA) Module Description</i>, revised</p>	<p>PPROS1B SIL certification for hardware safety functions (hardware overspeed, contact inputs, E-Stop and trip relays).</p> <p>PPRAS1B adds support for 2-shaft, 3 speed sensors (in addition to 3-shaft, 2 speed sensor).</p> <p>PPRO and YPRO now support the TPROS terminal board.</p>

Feature	Documentation	Description
ControlST User Documentation Global Search	<i>GHT-200030, How to Enable the Adobe® PDF Full Text Search for ControlST Documentation, new</i>	ControlST V04.07 includes the latest Adobe Reader® to provide full text search within all .pdf files. Adobe Reader XI and the Windows® indexing service perform fast, accurate searches from within specified folders containing multiple .pdf files.
DFIG Turbine Control Enhancements	<i>GEH- 6700, ToolboxST User Guide for Mark VIe Control, revised GEH-6701, ToolboxST User Guide for Power Conversion Control, revised GEH-6705, ToolboxST User Guide for Mark VIeS Safety Control, revised GEH-6706, ToolboxST User Guide for the WorkstationST Application, revised GEH-6707, ToolboxST User Guide for EX2100e Excitation Control, revised GEH-6708, ToolboxST User Guide for LS2100e Static Starter Control, revised GEH-6709, ToolboxST User Guide for Mark Stat Power Conversion Control, revised</i>	Four new system features were added: <ul style="list-style-type: none"> • Upgrade Components (upgrade of all or a selection of components from the System Editor) • Instance Components (instance of all or a selection of components from the System Editor) • Copy I/O (copy all parameters and connections for I/O packs in a controller to other controllers at the system level) • Find Unlinked Blocks (system-level report that displays all unlinked blocks in all configured components)
2.5-120 8 Battery Pitch System	<i>GEI-100731, Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description, revised</i>	A 30 Nm 8 Battery Pitch system is now available.
DCS Blocks Alarm Settings to Match ISA 18.2 Alarm Rationalization	<i>GEI-100679, Mark VIe Controller DCS Block Library, revised</i>	Created 11 new blocks: <ul style="list-style-type: none"> • M_O_V_JOG_V2 • BREAKER_V2 • MEDSEL_V2 • DUALSEL_V2 • GRP_V3 • M_O_V_V3 • OVR_ST_ENH_V2 • PID_MA_ENH_V2 • QUADSEL_V2 • S_O_V_V3 • STARTER_V3
EX2100e Supplementary Excitation Damping Control (SEDC)	None	The SEDC control is a PSED product that interfaces to the exciter by an analog signal. Analog filtering on ESYS (6.8 ms) and blockware execution at 5 ms requires that this function be done in inner loop (DSP) firmware to achieve low phase lag and adequate update rate for higher torsional frequencies.
FOUNDATION Fieldbus™ (Mark VIe) Configuration and Integration Toolset (CIT) Upgrade	None	CIT V5.0 was introduced to allow support of additional FOUNDATION Fieldbus devices.

Feature	Documentation	Description
GE Drilling PSCH Learning Mode	None	<p>Includes:</p> <ul style="list-style-type: none"> • Alarms - Workstation Alarm Printer - Allows print Override condition to alarm printer when an Override is applied to an active Hold. • Alarms - Enabled column configuration for alarm printing. • Alarms - Allow disabling of selective Event/Alarm/Opset from being logged to Alarm printing. • Alarms - Added Primary or Secondary Alarm Server process stopped process alarms. • Alarms - Implemented the synchronization of redundant alarm servers after UDH\PDH network interruption. • Alarms - Implemented the generation of an alarm for the loss of one port on a computer configured with redundant ports. • Alarms - Made improvements to the touch screen experience of the Alarm Viewer. • Print Spooler Message Queue Count Exceeded Alarm Limit • Alarms - Event Messages Not Operator Friendly
GE Drilling PSCH POD SEM serial protocol signal mapping	<p><i>GEH-6763, Mark VIe Control PSCH Specialized Serial Communication Module Instruction Guide, revised</i> <i>GEI-100751, Mark VIe Control Specialized Serial Communication (PSCH) Module Description, revised</i></p>	<p>The PSCH now supports version 3.1 of the POD protocol map, which includes support for new transducer calibration values.</p>
Intermixing of UCVH in UCVE, UCVF, and UCVG controller sets	<p><i>GHT-200055, How to Install and Upgrade the Interoperable Mark VI Controller UCVH, new</i></p>	<p>The UCVH controller may be used to replace UCVE, UCVF, UCVG, and UCVH controllers with interoperability support. Procedures provided in the new document include: Upgrade the UCVx Controllers, Replace a UCVx Controller with a UCVH Controller, and Replace a UCVH Controller.</p>
Mark VIe Control Migration from Mark V LM Control	<p><i>GEH-6800, Mark VIe Control Migration from Mark V Control System Guide, revised</i> <i>GEH-6802, Mark VIe Control Migration from Mark V LM Control Installation Guide, new</i></p>	<p>Updates to PMVE, MVRA, and PMVP to support Mark V LM applications.</p>
Mark VIe Diagnostic Alarm for Low Memory (RAM)	<p><i>GEH-6721 Vol III, Mark VIe Control Volume II Diagnostics and Troubleshooting, revised</i></p>	<p>A Mark VIe diagnostic alarm (543) has been added for when total memory consumption exceeds a configured percent.</p>

Feature	Documentation	Description
PROFIBUS® Communications Configuration Update and new Export / Import Feature (Hilscher Update)	<i>GEH- 6700, ToolboxST User Guide for Mark VIe Control, revised</i>	The PROFIBUS configuration module is updated with a newer version to improve operation and allow export / import capability of PROFIBUS network configurations.
Touchscreen Configuration Scripts	<i>GEI-100787, EX2100e Excitation and LS2100e Static Starter Control Systems Touchscreen Local Operator Interface Instruction Guide, revised</i>	A script to facilitate configuration of the IP addresses for the 336A4940HQP05 (Advantech™ TPC-61T) Local Operator Station, replacing obsolete 336A4940HPP05 (Advantech TPC-66T) in the EX2100e and LS2100e products has been developed.

21.1 Mark VIe V04.07.05C (April 2015)

This update has a single component and resolves two issues:

- Fixed issue with unexpected restart of Mark VIe controller
- Fixed issue with Mark VIe controller loss of communications

21.1.1 Fixed Issue With Unexpected Restart of Mark VIe Controller

The SecurityST server periodically updates security related certificates by interacting with the Mark VIe controllers across the system. If a user is establishing a new connection between the ToolboxST (or another application) and the Mark VIe controller when this certificate update is occurring, an unexpected reboot of the controller occurs.

The issue is exclusive to systems that include the SecurityST management system.

Version V04.07.05C of the Mark VIe controller component fixes the issue.

Reference: WI 22771

21.1.2 Fixed Issue With Mark VIe Controller Loss of Communications

When the Mark VIe controller starts communicating with the ToolboxST application or WorkstationST Alarm Server, an SDI connection is established across the Unit Data Highway (UDH). SDI is an Ethernet protocol used for communications between Mark VIe controllers and PC applications.

In specific instances, a malfunction occurs when closing an SDI connection. This leads to the controller exceeding the limit for active SDI connections. Subsequent attempts to establish a new SDI connection fail.

Mark VIe control systems with many Alarm Servers are more likely to encounter this issue.

Version V04.07.05C of the Mark VIe controller fixes the issue.

Reference: WI 22788, IRD 11387

21.1.3 Component Updates

Grouping	Component	Version	Status
GE Configuration Tools Package			
	Mark VIe		
	Mark VIe	V04.07.05C	Revised

21.1.4 Compatibility

This fix is compatible with all ControlST V04.07 releases.

21.1.5 Documentation

No documentation changes.

21.1.6 Download and Installation

Copy the following address into your internet browser to access the download file. Double-click on the included MSI file to install this component update.

\\pdevnt.salem.ge.com\Releases\ControlST Release Annex\ControlST V04.07 Hot Fixes\WI 22790 - Mark VIe V04.07.05C

Note This link is intended for GE internal access only. If you are not a GE employee, please contact your local GE field representative.

Note After the install, the controller device must be upgraded to V04.07.05C. Refer to the ToolboxST User Guide for Mark VIe Control (GEH-6700), the section, *Upgrade Component and I/O Modules*.

21.2 Mark VIe V04.07.06C (June 2015)

An issue was detected in the Mark VIe controller around the Secure State White Listing function. It involved a timing crack in the interaction between transient processes and the white listing function. The issue was resolved, thoroughly tested, and is available in Mark VIe controller firmware V04.07.06C.

21.2.1 Release Details

21.2.1.1 Background

Mark VIe controllers can operate in an *Open* or *Secure* state. In the *Secure* state, certificates are assigned to the controller and applications (such as ToolboxST) accessing the controller. The certificates are managed by the Certificate Authority (CA) server as part of the SecurityST* system.

Additionally, controllers in the *Secure* state periodically execute a white listing function where each of the active processes are compared with the white (approved) list. If an active unapproved process is found, it is terminated and diagnostic alarm 504 is recorded in the controller event log.

21.2.1.2 Symptoms

- Unexpected Diagnostic Alarm 504 recorded during customer Factory Acceptance Test (FAT)
- Possible controller reboot

21.2.1.3 Issue Details

GE IP was able to duplicate the timing issue. When in the *Secure* state, the white listing function was not able to reliably get complete information for transient processes.

The frequent trip scenario testing in the FAT while in the *Secure* state exposed this timing crack. Further investigation during issue resolution revealed another potential error scenario (during on-line downloads), which was addressed as well

There are three transient processes (while in the *Secure* state) that can exploit this timing crack:

- Trip log file collections for the WorkstationST application
- Advanced Diagnostic controller commands, normally from the ToolboxST application
- On-line downloads from the ToolboxST application to the controller (may cause controller reboot)

21.2.1.4 Resolution

The firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process, and to ignore process name mismatches during on-line download.

21.2.2 Component Updates

Grouping	Component	Version	Status
GE Configuration Tools Package			
	Mark VIe		
	Mark VIe	V04.07.06C	Revised

21.2.3 Compatibility

This fix is compatible with all ControlST V04.07 releases.

21.2.4 Documentation

No documentation changes.

21.2.5 Download and installation

Copy the following address into your internet browser to access the download file. Double-click on the included MSI file to install this component update.

\\pdevnt.salem.ge.com\Releases\ControlST Release Annex\ControlST V04.07 Hot Fixes\WI 23287 - Mark VIe V04.07.06C

Note This link is intended for GE internal access only. If you are not a GE employee, please contact your local GE field representative.

Note After the install, the controller device must be upgraded to V04.07.06C. Refer to the *ToolboxST User Guide for Mark VIe Control* (GEH-6700), the section, *Upgrade Component and I/O Modules*.

21.3 ControlST V04.07.09 (June 2015)

21.3.1 Issues Resolved with this Release

Component	Component Version	Release Notes
ToolboxST	V04.07.08C	<ul style="list-style-type: none"> User sees the following error: <i>Internal error! Could not create DTM parameter document!</i> when accessing PROFIBUS GSD files. Result is user is inability to add the GSD file. Error was corrected in an update to ToolboxST to account for GSD file variation. <p>Reference: WI23393</p>
		<ul style="list-style-type: none"> Controller live value changes were not recorded into the command and event log when using the System Constants Import tool. This prevents auditing of the parameter changes later. The System Constants Import tool now properly logs each parameter change along with a timestamp and logged in user name to the controller's Command and Event log. <p>Reference: WI23966</p>
Mark VIe	V04.07.06C	<ul style="list-style-type: none"> Primarily in systems with many alarm servers, the user may be unable to connect with Mark VIe controller from ToolboST, due to a failed SDI connection (SDI is a TCP-based protocol used to communicate between Mark VIe controllers and PC applications such as ToolboxST). Situation would require a controller reboot. Corrected in Mark VIe controller runtime by including an updated TCP stack binary <p>Reference: PAC-20140421-0005, PAC-0140502-0051, IRD11387, WI22788</p>
		<ul style="list-style-type: none"> When the controller is in secure mode with a system that includes SecurityST, the Certificate Authority (CA) server updates (synchronizes) its Certificate Revocation List (CRL) periodically. If a process attempts to establish a secure Ethernet connection with the controller while the CLR synchronization process (between controller and CA server) is executing, occasionally the controller would reboot. Depending on the redundant configuration of the controllers, the controller reboot could potentially impact the process/machine operation The controller reboot issue was resolved and tested <p>Reference: WI22771</p>
		<ul style="list-style-type: none"> When in the controller is in the Secure state, the white listing function was not able to reliably get complete information for transient processes. There are three transient processes (while in Secure state) that can exploit this issue: <ul style="list-style-type: none"> Trip log file collections for the WorkstationST applications, user sees a diagnostic alarm 504 Advanced Diagnostic controller commands, normally from the ToolboxST application, user sees a diagnostic alarm 504 On-line downloads from the ToolboxST application to the controller, user sees a diagnostic alarm 504 and potentially a controller reboot The controller firmware was revised to ignore Diagnostic Alarm 504 events when tied to a transient process. Additionally, during an on-line download, the firmware was revised to ignore process name mismatches. <p>- Reference: IRD11424, WI21356, WI23026</p>

Component	Component Version	Release Notes
PPDA	V04.07.02C	<ul style="list-style-type: none"> • In systems containing PPDA I/O modules, attempts to configure a JPDFG2A terminal board variant would result in a diagnostic error: "Configured TB at Physical Position...does not match the actual hardware," despite the hardware position mentioned in software and actual hardware being correct. • The user is therefore unable to configure the card, because the firmware did not support it. • The PPDA I/O firmware was corrected, and now supports the JPDFG2A terminal board. <p>Reference: WI22304</p>
PPRA	V04.07.03C	<ul style="list-style-type: none"> • In systems with PPRO/PPRA I/O packs, particularly under slow speed conditions (<5Hz), the user sees the PR#_Zero bit in signal space would show FALSE when the reported speed was ZERO • This inhibits application-specific zero speed behavior until PPRO/PPRA pack is rebooted. • The issue was corrected in PPRO/PPRA firmware by ensuring that, when the speed reported to the application is cleared for any reason, a cleared speed value is sent to the protection core logic as well. This prevents the case where the application is reading a speed input below zero speed and the protection logic shows a speed above zero speed. <p>Reference: WI23422, WI23423</p>
PPRO	V04.07.03C	<ul style="list-style-type: none"> • In systems with PPRO/PPRA I/O packs, particularly under slow speed conditions (<5Hz), the user sees the PR#_Zero bit in signal space would show FALSE when the reported speed was ZERO • This inhibits application-specific zero speed behavior until PPRO/PPRA pack is rebooted. • The issue was corrected in PPRO/PPRA firmware by ensuring that, when the speed reported to the application is cleared for any reason, a cleared speed value is sent to the protection core logic as well. This prevents the case where the application is reading a speed input below zero speed and the protection logic shows a speed above zero speed. <p>Reference: WI23422, WI23423</p>
PTUR	V04.07.03C	<ul style="list-style-type: none"> • In systems with PTUR configurations, the user encounters the fact that TTUR terminal boards with TRPG auxiliary terminal boards other than TRPGH2B are not supported. • User is unable to configure a previously valid PTUR configurations. • PTUR firmware now provides backward compatibility with these legacy configurations. <p>Reference: WI22195</p>
PCAA	V04.07.01C	<ul style="list-style-type: none"> • The PCAA module would unexpectedly reboot every 248 days. • The PCAA module shuts down causing loss of connection to all associated FOUNDATION Fieldbus devices. • PCAA firmware resolves the issue. The issue was exclusive to the BPPC form (IS230PCAAH1B) of the module. <p>Reference: IRD11431, WI21981</p>

Component	Component Version	Release Notes
PMVE	V04.07.02C	<ul style="list-style-type: none"> During a Mark V LM upgrade the PMVE Accelerometer inputs did not work. An issue was identified with a sensor having a DC offset. The PMVE - MVRB Accelerometers used an incorrect transfer function for voltage. The Accelerometer input would be incorrect causing it to fail testing during the upgrade. The PMVE firmware was updated so the MVRB accelerometer transfer function provides a more accurate input voltage. <p>Reference: WI17980</p>
		<ul style="list-style-type: none"> Mark V to Mark Ve migration products (PMVE) are experiencing diagnostic alarm (numbers 5532-5538 and 8532-8538), <i>Pack Internal Null Voltage Out of Limits</i> Nuisance diagnostic alarms (numbers 5532-5538 and 8532-8538), <i>Pack Internal Null Voltage Out of Limits</i> could cause inattentiveness to actual related alarms. The issue was traced to the firmware, which has incorrect limits on the null voltages. PMVE firmware fixes the issue. <p>Reference: PAC-20140513-0440, IRD11324, WI19743</p>
		<ul style="list-style-type: none"> Regarding the PMVE - MVRA - Servo Suicide Diagnostic Alarm. While configuring regulators 5-8, it was found that these regulators cannot be configured for 40 ohm 120mA servos because the jumpers are not configurable for this servo. Customer seeing <i>Servo [] Output Suicide Active</i> alarm (numbers 5493-5500 and 8493-8500) indicating problems with this device when none exist. PMVE firmware fixes the issue. A Cause and Solution were added to these alarms in the Help Documentation. <p>Reference: WI16172</p>
		<ul style="list-style-type: none"> During Mark V to Mark Ve migration (TCQE to MVRB) a problem was identified with PMVE Accelerometer inputs for MVRB. User documentation does not explicitly identify that the MVRB is a replacement for TCQB, but not TCQE because its DC offset is not supported by the MVRB. This could cause confusion with the applicability of the upgrade at some facilities. Updated Help documentation fixes the issue. <p>Reference: WI18293</p>
PPRFH1A	V04.07.09C	<ul style="list-style-type: none"> Could not upgrade PROFIBUS® Master Gateway (PPRFH1A) to the latest version due to not being allowed to operate at a frame rate of 20ms. Customer would receive a PPRF diagnostic alarm (number 53), <i>Unsupported Frame Period Diagnostic</i>. PROFIBUS Master Gateway (PPRFH1A) firmware now allows operation at a frame rate of 20ms to provide compatibility with older configurations. Frame rates of 20ms are not recommended for new applications. The updated PPRFH1A fixes the issue. <p>Reference: WI22740</p>

Component	Component Version	Release Notes
WorkstationST	V04.07.09C	<ul style="list-style-type: none"> • The OPC DA client embedded in the OPC DA server was not correctly handling error responses for calls to AddItems from OPC DA servers. • The customer would see an OPC DA server error. • The updated WorkstationST Package fixes the issue. <p>Reference: WI21972</p>
		<ul style="list-style-type: none"> • The Alarm Server crashes when the Wind SCADA client connects. With ControlST 4.7.7 and WindSCADA 10.0 release in wind, we are seeing repeated disconnects of WorkstationST Alarm Viewer • The Alarm Viewer disconnects and the Alarms Server shuts down. The Alarm Server logs show the Alarm Server is failing when attempting to create an alarm client message for a client using protocol less than 5. • Corrected an issue where older alarm clients using protocol version less than 5 would cause an Alarm Server failure. The updated WorkstationST Package fixes the issue. <p>Reference: WI21972</p>
		<ul style="list-style-type: none"> • A problem with the use of CIMPLICITY Web Space was identified. • The customer would see that only one user is allowed to be in CIMPLICITY CimView. • In order for CIMPLICITY WebSpace to be used, the Privileges system must be able to adjust to a scenario where multiple users are all residing in the same windows session 0. This was fixed by extending the ControlST Users and Roles / Privileges feature to work with a CIMPLICITY WebSpace client. The updated WorkstationST Package fixes the issue. <p>Reference: WI22208</p>
		<ul style="list-style-type: none"> • When using the Tagout feature in the WorkstationST application, after multiple screen opens the CPU usage in CIMPLICITY goes to abnormal levels. • The customer would see that after multiple screen opens the CPU usage in CIMPLICITY goes to abnormal levels. • When using the Tagout feature, after multiple screen opens, leaking of UDP port 18310 resources eventually caused high CPU usage in CIMPLICITY CimView. The issue was resolved by fixing the Tagout feature leak. The updated WorkstationST Package fixes the issue. <p>Reference: WI22295</p>
		<ul style="list-style-type: none"> • During work to add IEC61850 relay data into the Triangle Microworks (TMW) SCADA Data Gateway product, it was found that the Alarm Viewer will not reset alarms from the TMW SCADA Data Gateway product. • The customer would be unable to reset alarms from the TMW SCADA Data Gateway product. • After working with TMW, fixed an issue in the OPC AE embedded client to detect and use the Active Bit (New State word) from the OPC AE Server to determine the alarm is in the Normal state. The updated WorkstationST Package fixes the issue. <p>Reference: PAC-20150511-1956-001, WI23149</p>

Component	Component Version	Release Notes
WorkstationST	V04.07.09C	<ul style="list-style-type: none"> • While trying to shelve / un-shelve alarms, an issue was identified that caused the alarm shelving / un-shelving toolbar buttons to be disabled for OPC AE alarms. • Customer would be unable to shelve/un-shelve OPC AE alarms. • The updated WorkstationST Package fixes the issue. <p>Reference: WI23149</p>
		<ul style="list-style-type: none"> • An issue was identified that was causing the display of magenta color around the Bad Quality image during a loss of connection to the Alarm Server. • Customer would see a magenta color around the Bad Quality image during a loss of connection to the Alarm Server. • The updated WorkstationST Package fixes the issue. <p>Reference: WI23149</p>
		<ul style="list-style-type: none"> • Corrected an issue where Mark VI controller configuration changes were not auto updated to WorkstationST unless the change involved a change to the controller EGD exchange layout. • The WorkstationST logs were filling up with periodic messages for attempted updates. The work around is to download the Workstation configuration. • The WorkstationST synchronization feature was modified to now update to use the new controller configuration. <p>Reference: WI23972</p>

21.4 YHRA V04.06.03C (July 2015)

This update includes a single component to add support for YHRA functionality with HART DTMs and Device Manager Essentials (DME), and resolves four issues.

Component	Component Version	Release Notes
YHRA	V04.06.03C	Added support for HART commands 75/77, allowing YHRA to function with HART DTMs and DMEs. Reference: WI 23776
		Eliminated unused services from the product. Reference: WI 24184
		Resolved an issue that was preventing the <i>Hart Input Channel # Address mismatch</i> alarm to be cleared even when the HART function was disabled. Reference: WI 23926
		Resolved an issue causing unhealthy output 2 HART signals (such as due to mismatched HART IDs) to remain unhealthy even after the condition was corrected. Reference: WI 23925
		Resolved an issue causing duplicate device IDs to be reported when a HART device was disconnected. This issue could occur when HART was enabled for a channel, but no device was connected. Reference: WI 12328

21.5 Mark VIe V04.07.08C (October 2015)

21.5.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Mark VIe	V04.07.08C	<p>It is possible for the CV output of the DCS Block Library PID_MA_ENH block to oscillate between good and bad values in the non-designated controller in a dual system. The issue was caused by using CPU cycles to determine time since last block execution. CPU cycles is a simplex value from the processor and was voted causing the oscillations. The issue has been resolved by using configured task execution period rather than measuring the time since last execution.</p> <p>Reference: WI 25286</p>
		<p>The DCS Block Library PID_MA_ENH_V2, PID_MA_ENH, OVR_ST_ENH_V2 and OVR_ST_ENH blocks position deviation logic is now enabled when the position feedback variable is not bad quality rather than using good quality keeping position deviation logic enabled in the uncertain region.</p> <p>Reference: WI 25291</p>
		<p>It is possible that the initial proportional correction in the DCS Block Library PID_MA_ENH block could be incorrect when the set point changes more than the value of the ERR_CDB input. The issue was caused by using the prior frame set point value. The issue has been resolved by using the current frame set point value.</p> <p>Reference: WI 25289</p>
		<p>In a given scenario, sequence numbers in the Compressed Data Log (CDL) can be duplicated. When the firmware creates a new CDL log file in the flash memory of the controller, within the 10 minute window, before a data sample is written to the new file, a reboot of the controller occurs and inadvertently closes the file. The log file verification firmware has been updated to resolve this scenario.</p> <p>Reference: WI 25698</p>
		<p>Security update</p> <p>Reference: WI 26556</p>
		<p>An issue exists where the Mark VIe controller based web server process could crash when the controller transitions between the secure and open states with clients connected. The issue was caused by improperly accessing the secure connection data structures after they were deleted. The issue has been resolved.</p> <p>Reference: WI 25128</p>
		<p>Reference: WI 25128</p>

Component	Component Version	Release Notes
Mark VIe	V04.07.08C	<p>When doing an upgrade of the controller it is possible for the configuration to build properly in ToolboxST only to have the controller fail to load the configuration stating too many alarms and events are configured. This issue can occur if the number of items in the reduced symbol table is greater than the supported number of alarms/events by having the DownloadInfo property checked for many non alarms/events. The issue was caused by an improper check in the runtime assuming that the number of symbols in the reduced symbol table was equivalent to the number of alarms and events. Refer to ToolboxST User Manual (GEH-6700Z) for information on the maximum number of process alarms, events, and holds.</p> <p>Reference: WI 25293</p>
		<p>When the Mark VIe controller is not in Secure mode, executing the controller advanced diagnostic command <i>Get CRL for controller from CA Server</i> causes diagnostic alarm 544 <i>Communications error with Certificate Authority Server</i> to activate. The diagnostic can only be cleared by rebooting the controller. The issue has been resolved by removing the diagnostic alarm generation when the CRL is requested from the advanced diagnostic command.</p> <p>Reference: WI 25707</p>

21.6 EX2100e and EX2100e_Reg V04.07.04C (October 2015)

21.6.1 Issues Resolved with this Release

Component	Component Version	Release Notes
EX2100e/ EX2100e_Reg	V04.07.04C	<p>The EX2100e Exciter and EX2100e Regulator can trip if a network storm occurs on the Unit Data Highway (UDH) network. The issue was caused by a watchdog process running at a priority lower than the UDH network subsystem. The issue has been resolved by raising the priority of the watchdog process above the UDH network subsystem.</p> <p>Reference: WI 25696</p>

21.7 ToolboxST and WorkstationST V04.07.10C (October 2015)

Note These ToolboxST and WorkstationST updates are interdependent and must be installed together.

21.7.1 Issues Resolved with this Release

Component	Component Version	Release Notes
ToolboxST	V04.07.10C	An issue was identified where the MDL Translator was not translating the Second Language descriptions out of the Parameters.m file correctly. The issue was corrected so the second language descriptions present in Parameters.m file will be translated in MDL translator. Reference: WI 26816
		An issue was identified when the HMI resource is defined per our requirements (with a space), the corresponding variables were losing initial values and were set to "0" when translated. Corrected the issue so initial values will be properly translated even if HMI resources has space in between. Reference: WI 26818
WorkstationST	V04.07.10C	Corrected an issue that caused the WorkstationST Alarm Viewer to display all of the buttons on the live alarm display to be disabled and indicated that no privileges were enabled. This occurred when there were no users and roles defined in the system. Reference: WI 25395

21.7.2 Enhancements

21.7.2.1 MDL Translator - Variables Under Task

Variable creation, previously only available at the program level, is now available at the task level as well. Updated the Variable Attributes as follows:

Source Number	ToolboxST Attribute Name	Attribute Name in .m File	Comments
38	-	TaskName	If a valid task name is mentioned, the corresponding variable will be created under the task. If task name is either not defined or invalid, then the variable is created at program level and a build warning is logged in case of invalid task name.
39	Scope	Scope	Default value is 'Global'. Assigning 'Local' scope will result in an error during a build phase without a proper 'TaskName' as, all the program variables scope is 'Global' by default.

Reference: WI 26155

21.7.2.2 MDL Translator - Protection at Task Level

Password protection, previously only available at the program level, is now available at the task level as well. Both passwords and access roles for programs and tasks are kept in a *Password.txt* file located in the .mds project folder.

If a Password.txt file is not present and a library container exists, any passwords or access roles in the library container are valid. If there is a password or access role mismatch in either the ToolboxST application or a library container and in the *Password.txt* file, the password in the .txt file takes precedence.

Reference: WI 26158

21.8 Legacy Support - Mark VI V05.16.01C (October 2015)

21.8.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Mark VI	V05.16.01C	Revised Mark VI VSVO A/D Calibration Fault (Code 72) Modified filtering of internal reference voltages and associated diagnostic alarm (Fault 72). Reference: WI 25015

Note This product is also available in stand-alone form of eTCSS V04.09.02C.





21.9 Virtual Controller V04.07.04C (October 2015)

21.9.1 Issues Resolved with this Release

Component	Component Version	Release Notes
Virtual Controller	V04.07.04C	<p>Check on maximum number of Alarms\Events\Holds has been added.</p> <p>Reference: WI 26022</p>
		<p>The DCS Block Library PID_MA_ENH block position deviation logic is now enabled when the position feedback variable is not bad quality rather than using good quality keeping position deviation logic enabled in the uncertain region.</p> <p>Reference: WI 25806, WI 25715</p>
		<p>The DCS Block Library PID_MA_ENH output now changes to INIT_POS in MA, MA_EXT, and MA_REM modes. PID_MA_ENH now uses the correct priority inc/dec ramp rate in manual mode.</p> <p>Reference: WI 25806, WI 25709</p>
		<p>An issue in the INC/DEC logic was resolved. The DCS Block Library PID_MA_ENH and OVR_ST_ENH blocks CVO output no longer oscillates.</p> <p>Reference: WI 25806, WI 25712</p>
		<p>It is possible for the CV output of the DCS Block Library PID_MA_ENH block to oscillate between good and bad values in the non-designated controller in a dual system. The issue was caused by using CPU cycles to determine time since last block execution. CPU cycles is a simplex value from the processor and was voted causing the oscillations. The issue has been resolved by using configured task execution period rather than measuring the time since last execution.</p> <p>Reference: WI 25806, WI 25713</p>
		<p>It is possible that the initial proportional correction in the DCS Block Library PID_MA_ENH block could be incorrect when the set point changes more than the value of the ERR_CDB input. The issue was caused by using the prior frame set point value. The issue has been resolved by using the current frame set point value.</p> <p>Reference: WI 25806, WI 25714</p>
		<p>Reference: WI 25806, WI 25714</p>

21.10 ControlST V04.07.10C (December 2015)

21.10.1 Issues Resolved with this Release

Component	Component Version	Release Notes
 ToolboxST	V04.07.10C	Refer to the section, ToolboxST and WorkstationST V04.07.10C
Mark VIe Virtual Controller	V04.07.04C	Refer to the section, Virtual Controller V04.07.04C
 Mark VIe	V04.07.08C	Refer to the section, Mark VIe V04.07.08C
EX2100e and EX2100e_Reg	V04.07.04C	Refer to the section, EX2100e and EX2100e_Reg V04.07.04C
 YHRA	V04.06.03C	Refer to the section, YHRA V04.06.03C
Mark VI	V05.16.01C	Refer to the section, Legacy Support - Mark VI V05.16.01C
 WorkstationST	V04.07.10C	Refer to the section, ToolboxST and WorkstationST V04.07.10C

21.11 ControlST V04.07.11C (January 2016)

21.11.1 Issues Resolved with this Release

ControlST V04.07.11C was released to fix an issue with the Setup.exe which caused it to fail to install on Windows XP. There were no other changes.

21.12 Legacy Support - EX2100 V12.01.00C (February 2016)

21.12.1 Enhancements

Component	Component Version	Release Notes
EX2100 Excitation Control eTCSS	V12.01.00C	This release adds support for firing control phase compensation. Specifically, to support hybrid bridges with SCR's on the negative side of the bridge, set parameter FirPhaseAdj located on the FiringControl drawing to 180. The location on the diagram is G11. The ACL runtime version is V05_01_00C per the prior release.


21.13 Virtual Mark VI V03.00.09C (February 2016)

21.13.1 Enhancements

Component	Component Version	Release Notes
Virtual Mark VI Controller	V03.00.09C	Virtual Mark VI now supports latest Controller Runtime (V05.16.01C)


21.14 Mark VIe V04.07.09C (March 2016)

21.14.1 Enhancements

Component	Component Version	Release Notes
 Mark VIe	V04.07.09C	The WFMS Time to Live function limits how many routers WFMS Ethernet packets can pass through, it is decremented by 1 each time a packet passes through a router. The Time to Live (TTL) field in Wind Control (WFMS) is now 64. Reference: WI 29688

21.15 LS2100e V04.07.02C (March 2016)

21.15.1 Issues Resolved with this Release

Component	Component Version	Release Notes
 LS2100e	V04.07.02C	The LS2100e control includes various means for system and turbine protection. To eliminate a known class of nuisance trip, the Source Hardware Current Difference Trip (Source Hw IDiff Trip) has been disabled. Refer to CSB25339 for complete details. Reference: WI 29970

21.16 WETA V04.07.04C (May 2016)


21.16.1 Issues Resolved with this Release

Component	Component Version	Release Notes
WETA	V04.07.04C	<p>An issue was fixed on WETAH1C where a change in the parameters RotorMaxRPM or RotorTeethPerRev would not update after a reboot. Additionally, the WETAH1A and WETAH1C will now trigger a reboot after modifying and downloading the RotorMaxRPM or RotorTeethPerRev parameters.</p> <p>Reference: WI 19644</p>
		<p>An issue was fixed where a sudden drop in wind speed would cause a nuisance diagnostic 74 - <i>NRG Wind Anemometer Sensor Failure</i>.</p> <p>Reference: WI 30818</p>


21.17 ControlST V04.07.12C (Sept 2016)

21.17.1 Issues Resolved


21.17.1.1 ToolboxST V04.07.12C

Component	WI Number	Release Note
 ToolboxST	27177	Corrected the issue that caused ToolboxST application to crash when cancel was selected on the build dialog with exactly 100 previous errors shown in the log window.
	31123	ToolboxST will now skip unused variables that do not have an address assigned when importing control constants from the system view.
	33689	Corrected a problem where a Go To Definition in Logic requested from a CIMPLICITY screen would fail to open a Mark VIe component editor when the System Overview was already displayed.
	34563	Fixed an application error that occurs after the installation of .NET 4.6.2. Refer to CSB25346 for more information.
	35162	Resolved an issue where a device in a Shared IONet would lose its connected variables if the other device in the Shared IONet was renamed.

21.17.1.2 WorkstationST V04.07.12C

Component	WI Number	Release Note
 WorkstationST	33028	Corrected a problem where data updates to SDI and OPC DA clients would sometimes be missed. For example, 1 second EGD data sampled by a client at 500 milliseconds would sometimes yield missed samples.
	34146	Fixed an issue where the Alarm Viewer was showing the Alarm Help File for the root Analog Alarm variable instead of the Alarm Help for the current Alarm State (example H, HH).

21.17.1.3 PSCA V04.07.01C

Component	WI Number	Release Note
 PSCA	34144	For the electric drive interface of the PSCA H1B, a compatibility issue has been fixed where the connected drive would respond with an unexpected additional parameter (evidenced by the presence of the "Electric Drive Port # Save Command Failed" diagnostic alarm).
	34145	The formatting and descriptions for Electric Drive parameters in ToolboxST have been updated.

21.17.1.4 WETA V04.07.04C

Refer to the section, [WETA V04.07.04C \(May 2016\)](#)


21.17.1.5 LS2100e V04.07.02C

Refer to the section, [LS2100e V04.07.02C \(March 2016\)](#)

21.17.1.6 Mark VIe V04.07.09C

Refer to the section, [Mark VIe V04.07.09C \(March 2016\)](#)

21.17.1.7 Mark VI V05.17.00C

Component	WI Number	Release Note
 Mark VI	27461	Right Click Help links now display block help.
	34519	Includes SBLIB V13.04.03C with new blocks PULSEV2 and PULSEV2_S

21.17.1.8 Other Legacy Tools Bug Fixes

Component	Version	Developer Release Note
Virtual Mark VI Controller	V03.00.10C	Updated to support Mark VI runtime V05.17.00C, which includes new PulseV2 and PulseV2_S blocks. Reference: WI 34938
EX2100	V12.01.00C	Refer to the section, Legacy Support - EX2100 V12.01.00C (February 2016)
Control System Solutions Toolbox	V11.07.16C	Fixed an application error that occurs on Windows server 2012 R2
SDB Server	V05.03.07C	Bug fixes

21.18 PMVD V04.06.05 (December 2016)

Reference	Release Note
36523	An issue was fixed where a sudden drop in wetting voltage could cause all digital inputs to drop out.
36854	An issue was fixed where the signal filters on digital inputs were not working properly.

21.19 WEMA V04.07.02C (January 2017)

Reference	Release Note
27232	Digital Outputs CustomRelay1DO and CustomRelay2DO no longer generate diagnostic alarms 40 and 41 "Digital Output # (TB3- Ports # & #) failed" when configured as Unused.

21.20 ControlST V04.07.12C SP02 (May 2017)

21.20.1 EX2100e and EX2100e_Reg V04.07.05C

Reference	Release Note
38537	Added Support for UCSB H4.

21.20.2 LS2100e V04.07.03C

Reference	Release Note
38537	Added Support for UCSB H4.

21.20.3 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 2 (SP02), were previously released as individual component updates, and, with the release of SP02, have been repackaged as SP01.

- [WEMA V04.07.02C](#)
- [PMVD V04.06.05C](#)

21.21 ControlST V04.07.12C SP03 (October 2017)

21.21.1 WorkstationST V04.07.13C

Reference	Release Note
40576	Corrected a problem where script calls from CIMPLICITY would hang after an HMI was left for weeks without activity.

21.21.2 PHRA V04.07.01C

Reference	Release Note
17770	An issue was fixed where the PHRA could reboot if a connected HART device responds with a maximum-length HART message.

21.21.3 YHRA V04.06.04C

Reference	Release Note
39911	An issue was fixed where the YHRA could reboot if a connected HART device responds with a maximum-length HART message.

21.21.4 Previously Released

As of February 2017, ControlST component updates are delivered in the form of “Service Packs.” A Service Pack is a cumulative collection of the latest version of all components released for a particular ControlST branch.

The following components, also in Service Pack 3(SP03), were previously released as individual component updates, and, with the release of SP02, have been repackaged as SP01.

- [WEMA V04.07.02C](#)
- [PMVD V04.06.05C](#)
- [EX2100e and EX2100e Reg V04.07.05C](#)
- [LS2100e V04.07.03C](#)

21.22 ControlST V04.07.12C SP04 (March 2018)

21.22.1 ToolboxST V04.07.13C

Reference	Release Note
42775	When instantiating Tasks or Programs from a library into a controller device, prior versions of ToolboxST allowed modification of the Connection property of task or program variables even in linked tasks. Re-instanting would not restore the library version of the variable connection. This led to situations where inadvertent changes could be made to application logic. While this functionality was originally by design, it was later obsoleted by the addition of the Value Override property on variables. To prevent future accidental changes to logic, the instanting behavior has been changed to always restore the Library version of the Program Variable or Task Variable connection, and modification of Connection has been disallowed when linked going forward. There is a small chance that some application makes use of the old behavior; for these rare cases a log event will be generated when the Connection property is restored to match the library during an Instance of the program.

21.22.2 Previously Released

The following components, also in Service Pack 4 (SP04), were previously released since ControlST V04.07.12C.

- WorkstationST V04.07.13C
- PHRA V04.07.01C
- YHRA V04.06.04C
- WEMA V04.07.02C
- PMVD V04.06.05C
- EX2100e and EX2100e_Reg V04.07.05C
- LS2100e V04.07.03C

21.23 ControlST V04.07.12C SP05 (February 2021)

This is a maintenance release driven by Knowledge Article KB0027761 - Mark VIe UCSB controller failure to boot on flash memory double bit error.

21.23.1 EX2100e V04.07.07C

Reference	Release Note
55831	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

21.23.2 EX2100e_Reg V04.07.07C

Reference	Release Note
44325	To limit intempestive channel changover with Erax link status, a 5ms timer is added to manage the lamMaster.
55831	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

21.23.3 LS2100e V04.07.04C

Reference	Release Note
55832	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

21.23.4 Mark VIe V04.07.11C

Reference	Release Note
43253	Block XDAXC00_V2 has been added to the Turbine Block Library. XDAXC00_V2 matches operation of Mark VI XDAXC00 v1.6 so it operates correctly during conditions when multiple variables are in saturation to prevent limit cycling between valves.
55829	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

21.23.5 Mark VIeS V04.07.01C

Reference	Release Note
55830	A situation where UCSB controllers may fail to boot due to corruptions in the NAND filesystem have been corrected by improving the error-correction algorithms (ECC).

21.23.6 PHRA V04.07.02C

Reference	Release Note
44441	The PHRAH1B now properly allows communication through HART DTMs (Device Manager Essentials) to devices connected on AnalogOutput02 (HART Channel 12).

21.23.7 Previously Released

The following components, also in Service Pack 5 (SP05), were previously released since ControlST V04.07.12C.

- PMVD V04.06.05C
- ToolboxST V04.07.13C
- WEMA V04.07.02C
- WorkstationST V04.07.13C
- YHRA V04.06.04C

21.24 V04.07 Known Issues

There are no Known Issues.

Reference	Issue
NA	The issue causing ControlST V04.07.10C to fail to install on Windows XP was fixed in ControlST V04.07.11C

Refer to the *ControlST Software Suite Upgrade Instruction Guide* (GEI-100694), *Appendix B, Known Issues* for additional information.

22 V04.06 Release Notes

Initial release - November 2012

Feature	Documentation	Description
Advanced Alarm Management	<p><i>GEH-6700, ToolboxST* for Mark* Vle Control, revised</i> <i>GEH-6701, ToolboxST for Power Conversion Control, revised</i> <i>GEH-6705, ToolboxST for Mark VleS Control, revised</i> <i>GEH-6706, ToolboxST for WorkstationST, revised</i> <i>GEH-6707, ToolboxST for EX2100e, revised</i> <i>GEH-6708, ToolboxST for LS2100e, revised</i> <i>GEH-6709, ToolboxST for Mark Stat Power Conversion Control, new</i> <i>GEH-6760, WorkstationST* GSM 3.0 Application Guide, revised</i></p> <p><i>GEI-100600, Mark Vle Product Description, revised</i> <i>GEI-100620, WorkstationST Alarm Viewer, revised</i> <i>GEI-100694, WorkstationST CIMPPLICITY* Advanced Viewer Integration, revised</i> <i>GEI-100745, Mark Vle ICS Product Description, revised</i></p> <p><i>GHT-200088, How to Shelve and Place Alarms Out-of-service, new</i></p>	<p>Added an alarm shelving feature and enhanced the out-of-service feature.</p> <p>A dedicated screen in the Alarm Viewer was added to monitor either set of alarms.</p> <p>A new live alarm summary capability has been added that provides alarm totals based on a number of criteria that can be selected by the user.</p> <p>Alarm symbols have been added and can be displayed in the Alarm Viewer in both the Live Alarm Data display and the Live Alarm Summary Data display.</p>
1MW BDEW Certified Solar Inverter	<p><i>GEI-100762, Mark Vle Control Solar Energy Converter (SECA) Module Description, revised</i> <i>GEH-6779, Mark Vle Control System Hardware for Renewable Energy, revised</i></p>	New SECA alarms have been added.

Feature	Documentation	Description
<p>New BPPC I/O packs include AEPA, WEPA, WETA, AEPC, PTCC, PAOC, and PRTD</p>	<p><i>GEI-100572, Mark VIe Control Thermocouple Input (PTCC) Module Description</i>, revised <i>GEI-100577, Mark VIe Control Analog Output (PAOC) Module Description</i>, revised <i>GEI-100578, Mark VIe Control Resistance Temperature Device Input (PRTD) Module Description</i>, revised <i>GEI-100686, Mark VIe Control Alternative Energy Pitch Axis (AEPAH1A) Module Description</i>, revised <i>GEI-100731, Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description</i>, revised <i>GEI-100733, Mark VIe Control Wind Energy Top Box Interface (WETA) Module Description</i>, revised <i>GHT-200051, How to Upgrade a BPPB-based I/O Module to a BPPC-based I/O Module</i>, revised</p>	<p>BPPC content added, including:</p> <ul style="list-style-type: none"> • Compatible BPPx processor boards in Compatibility section (H1A and H2B support), including frame rates, redundancy and networking updates • Operation section updates about BPPx processor board • Replacing an I/O pack section updates to replace and upgrade a BPPB I/O pack to a BPPC I/O module • Module specific updates
<p>Compressed Data Log (CDL)</p>	<p>None</p>	<p>The compressed data log limit for the 1.5 MW wind turbine was increased to allow assigning up to 300 variables.</p>
<p>Controller to Controller IONet Communications</p>	<p><i>GEH-6721 Vol III, Mark VIe Control Volume III Diagnostics and Troubleshooting</i>, revised <i>GEH-6788, EX2100e Excitation Control Diagnostic Alarms for Regulator Systems Troubleshooting Guide</i>, revised <i>GEH-6789, EX2100e Excitation Control Diagnostic Alarms for Thyristor Systems Troubleshooting Guide</i>, revised <i>GEH-6799, LS2100e Static Starter Control Maintenance and Troubleshooting Guide</i>, revised <i>GEH-6812, Mark Controllers Shared IONet User Guide</i>, new</p> <p><i>GEI-100665, Mark VIe Controllers UCCx and UCSx Instruction Guide</i>, revised</p>	<p>Beginning with ControlST V04.06, the Controller to Controller feature provides communications between a Mark Stat power conversion controller and a Mark VIe general-purpose controller. In addition, two general-purpose Mark VIe controllers can also use this feature. These controllers must reside within a shared IONet group. Mark VIeS Safety controllers are not supported.</p> <p>The common controller diagnostic alarm 514-537 has been added.</p>

Feature	Documentation	Description
SecurityST and Compliance	<p><i>GEH-6700, ToolboxST for Mark Vle Control, revised</i></p> <p><i>GEH-6707, ToolboxST for EX2100e, revised</i></p> <p><i>GEH-6708, ToolboxST for LS2100e, revised</i></p> <p><i>GEH-6709, ToolboxST for Mark Stat Power Conversion Control, new</i></p>	<p>The ToolboxST application can be used to increase security protection for controllers. Controllers can be run in either of two states: Open or Secure. When the controller is in the Open state, it processes all commands received. In the Secure state, certificates are used to verify both the identity of the user accessing the controller and the actions that the user is allowed to perform.</p>
Fieldbus, HART®, and PROFIBUS Device Manager	<p><i>GEH-6821, Device Manager User Guide, New</i></p> <p><i>GEI-100757, WorkstationST Device Manager Gateway, revised</i></p>	<p>Field Device Tool (FDT™) Technology support for HART and PROFIBUS has been added to the WorkstationST Device Manager Gateway feature.</p> <p>GE has developed Device Manager Essentials (DME), a FDT Frame Application that provides essential functionality for diagnostics and maintenance of intelligent field devices.</p>
GE Drilling Log On and Log Off event	<p><i>GEH-6700, ToolboxST for Mark Vle Control, revised</i></p> <p><i>GEH-6701, ToolboxST for Power Conversion Control, revised</i></p> <p><i>GEH-6705, ToolboxST for Mark VleS Control, revised</i></p> <p><i>GEH-6706, ToolboxST for WorkstationST, revised</i></p> <p><i>GEH-6707, ToolboxST for EX2100e, revised</i></p> <p><i>GEH-6708, ToolboxST for LS2100e, revised</i></p> <p><i>GEH-6709, ToolboxST for Mark Stat Power Conversion Control, new</i></p>	<p>An event message indicating the logged-on user (and role) is generated in the Alarm Viewer any time a user logs on or logs off using the Privileges User Logon Manager.</p>
Mark Stat Power Conversion Device	<p><i>GEH-6700, ToolboxST for Mark Vle Control, revised</i></p> <p><i>GEH-6701, ToolboxST for Power Conversion Control, revised</i></p> <p><i>GEH-6705, ToolboxST for Mark VleS Control, revised</i></p> <p><i>GEH-6706, ToolboxST for WorkstationST, revised</i></p> <p><i>GEH-6707, ToolboxST for EX2100e, revised</i></p> <p><i>GEH-6708, ToolboxST for LS2100e, revised</i></p> <p><i>GEH-6709, ToolboxST for Mark Stat Power Conversion Control, new</i></p>	<p>The Mark Stat Power Conversion device has been added to the ToolboxST application.</p>
PDIA, PDIO	<p><i>GEI-100574, Mark Vle Control Discrete Input (PDIA) Module Description, revised</i></p> <p><i>GEI-100611, Mark Vle Control Discrete Input/Output Module Description, revised</i></p>	<p>Support is included for new TBCI, TDBS, TDBT, and STCI terminal boards (new hardware for use in hazardous locations, certifications pending).</p>

Feature	Documentation	Description
PTCC	<p><i>GEH-6721 Vol II, Mark VIe Control, Volume II System Hardware Guide, revised</i></p> <p><i>GEI-100572, Mark VIe Control Thermocouple Input (PTCC) Module Description, revised</i></p>	Compatible BPPx processor boards (H1B and H2B support) in Compatibility section, including frame rates, redundancy and networking updates.
Privileges	<p><i>GEH-6700, ToolboxST for Mark VIe Control, revised</i></p> <p><i>GEH-6701, ToolboxST for Power Conversion Control, revised</i></p> <p><i>GEH-6705, ToolboxST for Mark VIeS Control, revised</i></p> <p><i>GEH-6706, ToolboxST for WorkstationST, revised</i></p> <p><i>GEH-6707, ToolboxST for EX2100e, revised</i></p> <p><i>GEH-6708, ToolboxST for LS2100e, revised</i></p> <p><i>GEH-6709, ToolboxST for Mark Stat Power Conversion Control, new</i></p> <p><i>GEI-100697, WorkstationST CIMPLICITY Advanced Viewer Integration, revised</i></p>	SecurityST has been renamed to Privileges.
Shared IONet	<p><i>GEH-6700, ToolboxST for Mark VIe Control, revised</i></p> <p><i>GEH-6705, ToolboxST for Mark VIeS Control, revised</i></p> <p><i>GEH-6721, Mark VIe Control Volume I System Guide, revised</i></p> <p><i>GEH-6724, Mark VIe control Initial Startup, revised</i></p> <p><i>GEH-6812, Mark Controllers Shared IONet User Guide, new</i></p> <p><i>GEI-100697, WorkstationST CIMPLICITY* Advanced Viewer Integration, revised</i></p> <p><i>GEK-SA-1031, Mark VIe Procedures for Energy Products Europe (EPE), revised</i></p>	<p>Beginning with ControlST V04.06, Mark controllers are capable of sharing a single Ethernet input/output network (IONet).</p> <p>In a Shared IONet group containing one Mark VIe controller and one Mark VIeS Safety controller, the Mark VIeS Safety I/O module inputs can be shared between both controllers. However, the safety controller only receives inputs from its owned safety-certified I/O modules. The safety controller continues to send outputs using a broadcast addressing scheme.</p> <p>In a Shared IONet group with either two Mark VIe controllers or one Mark VIe controller and one Mark Stat controller, either controller can receive each other's inputs and send outputs as in a peer-to-peer type of communication. The Mark VIe controller delivers outputs to I/O modules through a multicast packet that contains a specific section for each output device.</p>

Feature	Documentation	Description
Advanced Software Platform Improvements (Ex2100e)	<i>GEI-100683, Exciter Block Library</i> , revised	A new block (UELBHTC) was added to the exciter block library, including block diagram and pin descriptions updated for PSS and PSSB pin description updates.
UCSB	<i>GEH-6721_Vol_I, Mark VIe Control Volume I System Guide</i> , revised <i>GEI-100665, Mark VIe Controllers UCCx and UCSx Instruction Guide</i> , revised	Specifications have been added for UCSBH4A.

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Initial release - June 2012

Feature	Documentation	Description
Alarm Block Templates	<p><i>GEH-6700, ToolboxST for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST for Mark VIeS Control</i>, revised</p> <p><i>GEH-6706, ToolboxST for WorkstationST</i>, revised</p> <p><i>GEH-6707, ToolboxST for EX2100e</i>, revised</p> <p><i>GEH-6708, ToolboxST for LS2100e</i>, revised</p>	New item added to System Information Editor Tree View - used in conjunction with the ANALOG_ALARM block in certain controller configurations to configure alias names
Flex 50 DCS Block Enhancements	<i>GEI-100679, Mark VIe Controller DSC Block Library</i> , revised	Add four new blocks: <ul style="list-style-type: none"> • GRP_V2 • S_O_V_V2 • M_O_V_V2 • STARTER_V2
I/O Health in the VAR_HEALTH block and Link_OK status	<i>GEI-100682, Standard Block Library</i> , revised	Updates to the VAR_HEALTH and Link_OK blocks.
LS2100e Digital Front-end (DFE)	<p><i>GEH-6797, LS2100e Static Starter Control Installation and Startup Guide</i>, revised</p> <p><i>GEI-100780, LS2100e Static Starter Control I/O Terminal Board (LSTB)</i>, revised</p> <p><i>GEI-100781, LS2100e Static Starter Control Gating Interface (LSGI) Board</i>, revised</p>	Revisions to support LS2100e DFE project
Mark V Feature GSM Server	<i>GEI-100829, WorkstationST Application Mark V Feature GSM Server Instruction Guide</i> , new	The Mark V Feature GSM Server is a limited version GSM Server that supplies information from only Mark V controllers. It provides native support (no translation tables required) for the GSM 1.0 protocol, and is not limited by the WorkstationST real-time data limit of 970 points. It provides the same level of support for Mark V controllers that the eTCSS generation GSM Server provided.

Feature	Documentation	Description
Mark VIe Control for GE Drilling Blow-out Preventer (BOP)	<i>GEH-6763, Mark VIe Control PSCH Specialized Serial Communication Module Instruction Guide</i> <i>GEI-100751, Mark VIe Control SSpecialized Serial Communication (PSCH) Module Description, new</i>	Provides control for GE Drilling Blow-out Preventer (BOP).
Model-based Control Development – ARES BlockLib Update	<i>ARESBlockLib.chm</i> , revised	Added new simulation models to the ARES Block Library
OPC UA Support	<i>GEH-6700, ToolboxST* for Mark* VIe Control</i> , revised <i>GEH-6706, ToolboxST for WorkstationST</i> , revised <i>GEI-100621, WorkstationST OPC DA Server</i> , revised <i>GEI-100623, WorkstationST Service</i> , revised <i>GEI-100628, WorkstationST Historian</i> , revised <i>GEI-100795, Trender for the ToolboxST Application</i> , revised <i>GEI-100828, WorkstationST OPC UA</i> , new	New system File menu option <i>Create System With</i> – create new system from selected components of an EGD Configuration Server New WorkstationST* features: <i>OPC® UA Server</i> tab; OPC UA client and test client; <i>Variables</i> tab (client-driven variables moved to this tab) OPC UA added as a data source to Add Traces wizard (Trender)
PCNO	<i>GEI-100737, Mark VIe Control CANopen® Master Gateway (PCNO) Module Description</i> , no changes	Updates for AERO programs - DPS 8000
PDIA and PDIO	<i>GEI-100574, Mark VIe Control Discrete Input (PDIA) Module Description</i> , revised <i>GEI-100611, Mark VIe Control Discrete Input/Output (PDIO) Module Description</i> , revised	The PDIA and PDIO firmware has been updated in support of new terminal board hardware revisions that meet the hazardous location requirements for GE Oil & Gas usage in the Mark VIe control system. The new terminal board revisions are as follows: <ul style="list-style-type: none"> • STCIH8A and TBCIH4C used with the PDIA • TDBTH8A and TDBSH8A used with the PDIO
PPRA	<i>GEI-100738, Mark VIe Control Emergency Turbine Protection (PPRA) Module Description</i> , no changes	Change the trip level ARM for overspeed away from zero speed (50%).
PPRF	<i>GEI-100614, Mark VIe Control PROFIBUS Master Gateway (PPRF) Module Description</i> , revised	Updates to provide indication of controller and IONet problem to PROFIBUS® network.
PSVP	<i>GEH-6721, Mark VIe control, Volume II System Hardware Guide</i> , revised <i>GEI-100741, Mark VIe Control Servo Control for Steam (PSVP)</i> , revised	Updates to add servo regulator to support TMR PSVP pilot cylinder configuration.

Feature	Documentation	Description
Reference Plant Controls - I/O Report and Forcing Incorporation Enhancement	<p><i>GEH-6700, ToolboxST for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST for Mark VIeS Control</i>, revised</p> <p><i>GEH-6706, ToolboxST for WorkstationST*</i>, revised</p> <p><i>GEH-6707, ToolboxST for EX2100e</i>, revised</p> <p><i>GEH-6708, ToolboxST for LS2100e</i>, revised</p>	Added <i>Reports for Force Lists and I/O Variables</i> to the system <i>View</i> menu. From a system level, you can now get a report of all forced system variables and all I/O system variables for multiple controllers from one location.
UCVH	<p><i>GEH-6410, Innovation Series Controller, System Manual</i>, revised</p> <p><i>GEH-6421, Mark VI Control, Volume II System Guide</i>, revised</p> <p><i>GEI-100550, Mark VI UCVx Controllers</i>, revised</p> <p><i>GEI-100603, Innovation Series Controller VME Platforms</i>, revised</p>	Added new UCVH controller for Mark VI/eTCSS.
VAMB	<p><i>GEI-100594, Mark VI Control Acoustic Monitoring (VAMB)</i>, revised</p> <p><i>GEH-6421, Mark VI Control, Volume II System Guide</i>, revised</p>	Updates to the VAMB board for Mark VI controllers.
WorkstationST HMI parameter for CIMPLICITY zoom key	<i>GEI-100697, WorkstationST/CIMPLICITY Advanced Viewer Integration</i> , revised	Added new property to WorkstationST HMI Config tab, Graphics Without a Project item to use the Alt key with the mouse for zooming.
XML backward compatibility for system components	<p><i>GEH-6700, ToolboxST for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST for Power Conversion Control</i>, revised</p> <p><i>GEH-6705, ToolboxST for Mark VIeS Control</i>, revised</p> <p><i>GEH-6706, ToolboxST for WorkstationST</i>, revised</p> <p><i>GEH-6707, ToolboxST for EX2100e</i>, revised</p> <p><i>GEH-6708, ToolboxST for LS2100e</i>, revised</p>	<p>New sections in system chapter: File Compatibility and Backward Compatibility</p> <p>New system property: <i>Maintain Backward Compatibility</i> – ability to save a *.tcw file with last saved version</p>
2.75 MW 103 m	<i>GEH-6726, Permanent Magnet Generator (PMG) Wind Power Converter System Guide</i> , revised	<p>Implement CWE additional grid compliance requirements for the 2.75 MW:</p> <ul style="list-style-type: none"> • NERC PRC-024-1 requirements • SDL Phase 2 requirements • Beta Shunt Resonance <p>Implement CWE requirements for BTP Generator compatible converter:</p> <ul style="list-style-type: none"> • Create .tre configuration file for manual upload • Create and release converter software version making the BTP Generator a selectable option

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Initial release - December 2011

Feature	Documentation	Description
Advanced Alarm Management	<p><i>GEI-100620, WorkstationST* Alarm Viewer, revised</i> <i>GEI-100624, WorkstationST OPC® AE Server, revised</i> <i>GEI-100626, WorkstationST Alarm Server, revised</i> <i>GEI-100697, WorkstationST/ CIMPLICITY* Advanced Viewer Integration, revised</i> <i>GHT-200020, How to Configure Alarm Capability in the ToolboxST* Application, revised</i> <i>GHT-200038, How to Define Roles and Users in the ToolboxST Application, revised</i> <i>GHT-200079, How to Export Alarm Data for Rationalization, new</i> <i>GEH-6700, ToolboxST for Mark* Vle Control, revised</i> <i>GEH-6706, ToolboxST User Guide for the WorkstationST Application, revised</i> <i>GEH-6760, WorkstationST GSM 3.0 Application Guide, revised</i></p>	<p>Update alarm management to include Out of Service and Return to Normal states. The Alarm Viewer now includes an Alarm Reports tab to create a variety of reports for analyzing and managing alarms. Exporting of alarm data is available to third-party rationalization software to enable evaluation of system alarms.</p> <p>PCNO supports additional numbers of DVPs. PPRF can now support frame period of 10 ms and 20 ms. It also supports additional number of I/O points at 40 ms.</p>
BPPC 2011 I/O Packs	<p><i>GEI-100573, PDOA, revised</i> <i>GEI-100574, PDIA, revised</i> <i>GEI-100576, PAIC, revised</i> <i>GEI-100611, PDIO, revised</i> <i>GEI-100614, PPRF, revised</i> <i>GEI-100737, PCNO, revised</i> <i>GHT-200051, How to Upgrade a BPPB-based I/O Module to a BPPC-based I/O Module, revised</i></p>	<p>Support for new local processor board embedded in I/O packs. Enables 10 ms execution of Profibus I/O.</p>
Brilliance* 1 MW Solar Photovoltaic Inverter	<p><i>GEH-6772, Brilliance Solar 1 MW Photovoltaic (PV) Inverter Installation Guide, new</i> <i>GEH-6773, Brilliance Solar 1 MW Photovoltaic (PV) Inverter Operation and Maintenance Guide, new</i> <i>GEI-100763, Brilliance Solar 1 MW Photovoltaic (PV) Inverter Product Description, new</i></p>	<p>A new 1 MW utility scale photovoltaic (PV) inverter designed specifically for multi-megawatt solar projects with direct connection to the grid through a medium voltage transformer. The inverter is UL 508C and 1741 certified, and CE certified.</p>

Feature	Documentation	Description
Distributed Control System (DCS) enhancements phase III	<i>GEI-100682, Mark VIe Control Standard Block Library, revised</i>	New blocks LOGIC_BUILDER and LOGIC_BUILDER_SC have been added to the standard block library.
EX2100e Digital Front-end (DFE) for EX2000 L-frame	<i>GEH-6120, EX2100 Digital Exciter User Guide, revised</i> <i>GEH-6121, EX2000 Digital Exciter Startup, Adjustment, and Troubleshooting Guide, revised</i> <i>GEH-6204, Control System Toolbox for Configuring AC2000 and DC2000 Drives, and EX2000 Exciters, revised</i>	EX2100e DFE upgrades for legacy EX2100 L-frame exciters to provide a cost-effective replacement of the controls section of the exciter while retaining the power conversion modules and power magnetics.
Fieldbus and HART Device Manager	<i>GEI-100757, WorkstationST Device Manager Gateway, revised</i>	Updates to reflect the addition of support for Yokogawa® Plant Resource Manager (PRM®) to the Device Manager Gateway.
LS2100e and EX2100e locally stored capture buffer data on UCSB	<i>GEI-100682, Mark VIe Control Standard Block Library, revised</i>	ControlST support for capture buffers to record and trend time-coherent data directly from application software. Provides common data capture tools for the turbine-generator set and plant equipment.
Pressure transducers for turbine controls	<i>GEI-100737, PCNO, revised</i> <i>GEH-6721 Mark VIe Control, Volume II System Hardware Guide, revised</i> <i>GEH-6700, ToolboxST for Mark VIe Control, revised</i>	To accommodate DPS 8000 pressure transducers for Aero applications, additional 125 and 250 kpbs baud rates have been added with the associated configuration in the ToolboxST application. New information was added to <i>GEH-6700, Chapter 12, Configure a PCNO Module.</i>
2.75 MW 103 m	<i>GEH-6726, Permanent Magnet Generator (PMG) Wind Power Converter System Guide, new</i>	Implement additional grid compliance requirements for the 2.75 MW: <ul style="list-style-type: none">• NERC PRC-024-1 requirements• SDL Phase 2 requirements• Beta Shunt Resonance Implement requirements for BTP Generator compatible converter: <ul style="list-style-type: none">• Create .tre configuration file for manual upload• Create and release converter software version making the BTP Generator a selectable option

Feature	Documentation	Description
NAI - Mark VIe controls BWR/PWR feed pump turbine control application	<i>GEI-100741, PSVP, revised</i>	<p>Added the following PSVP Steam Servo functionality:</p> <ul style="list-style-type: none"> • New Pilot/Cylinder position regulator, RegType = 6LVp/CylIMID • Updated limit check function to properly handle both pilot and operating cylinder position feedbacks • Updated calibration function to initialize current command value correctly and calibrate all six LVDT/R sensor feedbacks.
Offshore - 4.1 - 118 - Pitch	<p><i>GEH-6736, Mark VIe Control 30 Nm Pitch Control for ESS Wind Turbine System Guide, new</i></p> <p><i>GEH-6737, 1.5 MW Wind Turbines 20 Nm Non-ESS Pitch Control System Guide, revised</i></p> <p><i>GEI-100731, Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description, revised</i></p> <p><i>GEK-SA-1054, 4.1-118 Wind Turbines 40 Nm Non-ESS Pitch Control System Guide, new</i></p>	Modified WEPA firmware and added 40 Nm AEPC product to support the 40 Nm pitch system with its modified CANbus interface, larger motors and eight batteries.
ToolboxST application Multi-process Rearchitecture	None	ToolboxST now uses separate processes to host each Mark VIe editor view. The user will not see a change, but multiple ToolboxST.exe processes display in the task manager. Also, new dialogs display if one process stalls but the other does not.
WindSCADA* 2011	<i>GEH-6706 ToolboxST for WorkstationST Application, revised</i>	<p>A new section was added within the OPC DA Server Tab section: Import WindSCADA OPC Data. The feature allows importing of a .csv file with OPC aliases and exporting data back to a .csv file.</p> <p>Updates to the section CommandLineST</p>

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Initial release - July 2011

Feature	Documentation	Description
BPPC	<p><i>GHT-200051, How to Upgrade a BPPB-based I/O Module with a BPPC-based I/O Module, new document</i></p> <p><i>GEH-6700, ToolboxST* User Guide for Mark VIe Control, revised</i></p> <p><i>GEH- 6705, ToolboxST User Guide for Mark VIeS Control, revised</i></p> <p><i>GEH-6779, Mark VIe Control for Renewable Energy, new document</i></p> <p><i>GEI-100612, Mark VIe Control Core Analog (PCAA) Module Description, revised</i></p> <p><i>GEI-100740, Mark VIe Control Core Analog I/O for Aero (PCLA) Module Description, revised</i></p> <p><i>GEI-100739, Mark VIe Isolated Discrete Input (PDII) Module Description, revised</i></p> <p><i>GEI-100734, Mark VIe Control Wind/Solar Energy Main Converter (WEMA) Module Description, revised</i></p>	<p>New processor board to address obsolescence and provide enhanced processing capabilities.</p> <p>New screens have been added for upgrading the component and multiple modules or just a single module, and the Upgrade Wizard has been replaced.</p>
DCS Blockware Enhancements	<p><i>GEI-100679, Mark VIe Distributed Control System (DCS) Block Library Instruction Guide, revised</i></p>	<p>Enhancements to DCS blocks.</p>
ELC Enhancements 2010 Legacy eTCSS Content	<p>None</p>	<p>Updated for Innovation Series Controller, version 06.07</p>
EX2100e DC Rotating Exciter Regulator	<p>None</p>	<p>This release adds support for dual control EX2100e regulators for DC rotating exciters. Features added include:</p> <ul style="list-style-type: none"> • Failure resolution of generator field voltage and current feedbacks • Operation of the internal field ground detector for dual controls

Feature	Documentation	Description
FOUNDATION Fieldbus™	<p><i>GEI-100756, FOUNDATION Fieldbus Linking Device Instruction Guide</i>, new document</p> <p><i>GEI-100757, WorkstationST* Device Manager Gateway Instruction Guide</i>, new document</p> <p><i>GEI-100758, FOUNDATION Fieldbus Block Library Instruction Guide</i>, new document</p> <p><i>GEH-6761, FOUNDATION Fieldbus Application Guide</i>, new document</p> <p><i>GEH-6762, FOUNDATION Fieldbus User Guide</i>, new document</p> <p><i>GHT-200069, How to Qualify a FOUNDATION Fieldbus Field Device</i>, new document</p> <p><i>GEA-S1260, Linking Device Fact Sheet</i>, revised</p>	<p>Added FOUNDATION fieldbus as an option to the ToolboxST application for use with Mark VIe controls. FOUNDATION fieldbus provides a standardized communications and controls system. Benefits of FOUNDATION™ technology include:</p> <ul style="list-style-type: none"> • Reduced wiring • Multi-variables from a single multi-channel field instrument • Simpler integration • Easier maintenance • Device diagnostics Device diagnostics
PCNO Product ID Rule Validation Modification	None	<p>An enhancement of a PCNO design feature relating to handling of Woodward GS6 and GS16 valves. The revised PCNO now goes Online with any Product ID value; however, it still verifies the Vendor ID reports a correct value for Woodward.</p>

Feature	Documentation	Description
LS2100e Static Starter	<p>Installation and maintenance guides: <i>GEH-6797, LS2100e Static Starter Control Installation and Startup Guide</i>, new document <i>GEH-6799, LS2100e Static Starter Control Maintenance and Troubleshooting Guide</i>, new document</p> <p>Board level descriptions: <i>GEI-100222, Current Sensor Interface (FCSA) Board DS200FCSAG1A</i>, revised <i>GEI-100223, Gate Pulse Amplifier (FGPA) Board DS200FGPA</i>, revised <i>GEI-100224, High Voltage Gate Interface (FHVA) Board DS200FHVAG1A</i>, revised <i>GEI-100225, Voltage Feedback Scaling (NATO) Board DS200NATOG1A</i>, revised <i>GEI-100530, High Voltage Bridge Interface (FHVB) Board for Gas Turbine</i>, revised <i>GEI-100780, LS2100e Static Starter I/O Terminal (LSTB) Board</i>, new document <i>GEI-100781, LS2100e Static Starter Gating Interface (LSGI) Board</i>, new document</p> <p>User guides: <i>GEH-6708, ToolboxST User Guide for the LS2100e Static Starter</i>, new document <i>GEH-6798, LS2100e Static Starter Control User Guide</i>, new document</p> <p>Other: <i>GEI-100787, Touchscreen Local Operator Interface for EX2100e and LS2100e Control Systems Instruction Guide</i>, revised <i>GEI-100792, LS2100e Static Starter Product Description</i>, new document <i>GEA-S1266, LS2100e Static Starter Fact Sheet</i>, new document</p>	<p>The LS2100e Static Starter control is an adjustable speed ac drive system specifically designed to start a gas turbine generator set. By operating the generator as a synchronous motor, the static starter accelerates the turbine set according to a specific speed profile that provides optimum starting conditions for the gas turbine. The LS2100e control eliminates the need for separate starting hardware, such as an electric motor or diesel engine, torque converters, and associated auxiliary equipment, thus opening up critical space around the turbine base.</p>

Feature	Documentation	Description
Mark Ve Life Extension	<p><i>GEI-100789, Mark V Upgrade Platform ARCNET Interface (PIOA) Module Description, new document</i></p> <p><i>GEI-100790, Mark V Upgrade Platform Digital Interface (PMVD) Module Description, new document</i></p> <p><i>GEI-100791, Mark V Upgrade Platform Turbine Protection (PMVP) Module Description, new document</i></p> <p><i>GEI-100799, Mark V Upgrade Platform Ethernet Interface (PMVE) Module Description, new document</i></p> <p><i>GEH-6800, Mark VIe Control Migration from Mark V Control Vol. I and II, new document</i></p>	Support for a complete upgrade from Mark V control to Mark VIe control and a partial upgrade from Mark Ve control to Mark VIe control have been added.
P004 Compliance (Translation)	<p><i>GEI-100620, WorkstationST Alarm Viewer Instruction Guide, revised</i></p> <p><i>GEI-100623, WorkstationST Service, revised</i></p> <p><i>GEI-100694, ControlST Upgrade Instruction Guide, revised</i></p> <p><i>GEI-100697, WorkstationST CIMPLICITY Advanced Viewer Integration, revised</i></p> <p><i>GEI-100793, Resource Translation Manager User Guide, new document</i></p> <p><i>GEI-100795, Trender for the ToolboxST Application, new document</i></p> <p><i>GHT-200009, How to Configure a Second Language for ControlST HMI Applications, revised</i></p>	Changes have been made for multi-language support to display the Alarm Viewer, Trender, and Status Monitor in a country's native language.
Series Compensation (1.5 and 2.5 MW - 50/60 Hz)	<p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control, revised</i></p>	Enhancements related to transmission line maximum MW carrying limit - they are limited by Voltage levels and line impedance. A MW limit can be increased by reducing Line impedance (through increased capacitance).
UCSB	<p><i>GEI-100665, Mark VIe Controllers UCCx and UCSx Instruction Guide, revised</i></p>	New H3A version of UCSB.
UL1741 Certified Solar Inverter	<p><i>GEI-100791, Mark VIe Control Turbine Protection PMVP Module Description, new</i></p> <p><i>GEH-6770, Brilliance Solar 700 kW PV Inverter Operation and Maintenance Guide, revised</i></p> <p><i>GEH-6771, Brilliance Solar 700 kW PV Inverter Installation Guide, revised</i></p>	The converter conforms to the UL1741 Interconnection Specification, including response to area EPS abnormal conditions, harmonics and unintentional islanding.

Feature	Documentation	Description
Unicode Character Names in Mark VIe Controller Device Name	All <i>ToolboxST user guides (GEH-6700, 6701, 6705, 6706, 6707, 6708), Chapter 2</i> , revised	The enhancement addresses an issue with Unicode™ characters being used as folder names and the zip process failing during a ToolboxST build. Added File menu option Extract System Archive to facilitate the unzip of files Unicode characters.
WEPA Enhancement for 1.6 100	<i>GEI-100731, Mark VIe Control Wind Energy Pitch Axis (WEPA) Module Description (WEPA.chm)</i> , revised	The 1.6 MW - 100 meter diameter wind turbine is designed to offer a wind turbine for lower wind zones (IEC TCIIIb). The design puts a 2.5 MW rotor and pitch system on a 1.5 MW tower and nacelle. The WEPA firmware is adapted so the signals on a 2.5 MW turbine that come from CANbus and command the pitch system can come from IONet EGD and be driven by a UCSA on an ESS turbine.
Wind MDL Translator Enhancement	None	Enhancements to use the Simulink™ translator with wind systems.
Windows® 7 64-bit and Windows 2008 R2 support	All <i>ToolboxST user guides (GEH-6700, 6701, 6705, 6706, 6707, 6708)</i> , revised	Update the ControlST software suite for compatibility with the Windows 7 and Windows 2008 operating system.
2.75 - 100 Electrical 690 V	None	Upgrade electrical system for 2.75 MW Wind Turbine rating using Gen1 converter

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Initial release - December 2010

Feature	Documentation	Description
<p>EX2100e Excitation Control</p>	<p>Installation Guides: <i>GEH-6780, 6783, and 6787</i>, new documents</p> <p>Maintenance and Troubleshooting guides: <i>GEH-6782, 6784, 6785, and 6786</i>, new documents</p> <p>Product descriptions: <i>GEI-100783 and 784</i>, new documents</p> <p>Board level descriptions: <i>GEI-100770 - 779, 782, and 788</i>, new documents</p> <p><i>GEI-100466, 509, and 531</i>, revised</p> <p><i>GEH-6676, Power System Stabilizer for EX2100 and EX2100e Excitation Control User Guide</i>, revised</p> <p><i>GEH-6707 ToolboxST User Guide for EX2100e Excitation Control</i>, new document</p> <p><i>GEH-6781, EX2100e Excitation Control User Guide</i>, new document</p> <p><i>GEH-6788, Power System Stabilizer for EX2100e Excitation</i>, new document</p> <p><i>GEI-100547, EX2100 and EX2100e Excitation Control Factory Tests and Documentation</i>, revised</p> <p><i>GEI-100665, Mark VIe Controllers UCCx and UCSx Instruction Guide</i>, revised</p> <p><i>GEI-100787, EX2100e Touchscreen Local Operator Interface Instruction Guide</i>, new document</p>	<p>New excitation control and regulator control. The EX2100e excitation system is GE Energy's advanced platform for generator excitation controls. The EX2100e has enhanced technology, including a new controller from the Mark VIe control line and the current ControlST software suite. In addition, the EX2100e offers a 35A brushless dual redundant regulator option for cost effective reliability.</p>
<p>PAMC CDM Hardware Redesign</p>	<p><i>GEI-100736, Mark VIe Control Acoustic Monitoring Input (PAMC) Module Description</i>, revised</p> <p><i>GEH-6721 Vol. II</i>, revised</p>	<p>PAMC's new Combustion Dynamics Monitoring (CDM) Hardware is supported by new firmware in the ControlST 4.02 release. Documentation for configuration parameters, diagrams to describe functionality, and sample equations are provided.</p>

Feature	Documentation	Description
Wind MTBT Enhancement	<p><i>GEI-100731, 2.5 MW WEPA Wind Energy Pitch Axis Module Description</i>, revised</p> <p><i>GEI-100686, Alternative Energy Pitch Axis (AEPA) I/O Control Board Instruction Guide</i>, revised</p>	Program enhancements that affect the WEPA and AEPA boards.
Woodward Digital Value Positioners (DVP) for CANopen® Network	<p><i>GEI-100737, Mark VIe Control CANopen Master Gateway (PCNO) Module Description</i>, revised</p> <p><i>GEH-6721 Vol. II and III</i>, revised</p>	<p>Added DVPs to the list of supported devices on the PCNO CANopen network</p> <ul style="list-style-type: none"> • One to eight with single IONet and frame rates ≥ 20 ms • One to four with dual IONets or frame rates < 20 ms
Windows 7/Software Obsolescence	<p><i>GEH-6757, WorkstationST GSM 3.0 Application Guide</i>, revised</p> <p><i>GEI-100619, EGD Management Tool (EMT)</i> removed from distribution</p> <p><i>GEI-100620, WorkstationST Alarm Viewer</i>, revised</p> <p><i>GEI-100623, WorkstationST Service</i>, revised</p> <p><i>GEI-100626, WorkstationST Alarm Server</i>, revised</p> <p><i>GEI-100629, WorkstationST HMI Configuration</i>, revised</p> <p><i>GHT-200013, How to Import Control System Solutions (toolbox) Turbine Historian Configurations to the WorkstationST Historian Feature</i>, revised</p> <p><i>GHT-200017, How to Upgrade a Mark VI Component from the Control Systems Solutions (toolbox) Application to the ToolboxST Application</i>, removed from distribution</p> <p><i>GHT-200054, How to Use the Mark VIe Tools in the Simulink Environment</i>, revised</p>	Update the ControlST software suite for compatibility with the Windows 7 operating system.
ELC Enhancements	None	Updates to the Virtual Controller

Feature	Documentation	Description
Utility Scale Solar Inverter	<p><i>GEH-6770, Utility Scale Solar PV Inverter - 600 kW - Operation and Maintenance</i>, revised</p> <p><i>GEH-6771, Brilliance* Solar Photovoltaic (PV) Inverter Installation Guide</i>, revised</p> <p><i>GEI-100734, Wind and Solar Energy Main I/O Control Board (WEMA) Board Instruction Guide</i>, revised</p> <p><i>GEI-100761, Brilliance Solar Photovoltaic (PV) Inverter Product Description</i>, revised</p> <p><i>GEI-100762, Solar Energy Converter Assembly (SECA) Instruction Guide</i>, revised</p>	Incorporates the Brilliance Solar Photovoltaic (PV) Inverter
HMI Simplification	<p><i>GEH-6751, ControlST Human-machine Interface Application Guide</i>, new document</p> <p><i>GEH-6753, ControlST Network Topology Application Guide</i>, new document</p> <p><i>GEH-6754, ControlST HMI Tier Application Guide</i>, new document</p> <p><i>GEH-6755, ControlST Engineering Workstation Application Guide</i>, new document</p> <p><i>GEH-6756, ControlST Operator Interface User Guide</i>, new document</p>	<p>The HMI product line and ControlST software suite are applied to the Mark VIe Integrated Control System consisting of Mark VIe turbine/plant controls, Mark Ve turbine controls, EX2100 and EX2100e excitation systems, and LS2100 static starters. Application of HMI products to legacy Mark V and Mark VI controls is supported.</p> <p>Basic Features:</p> <ul style="list-style-type: none"> • Alarm and event management AS for each product type is the same, including process and diagnostic alarms, process events, sequence of events, and sequence holds for steam turbine automatic starts. For systems with 10 or more HMIs and OIs, redundant alarm servers are recommended. • Software configuration includes the adjustment of tuning control constants. • Drivers for 3rd party communications include Modbus®, OPC DA, OPC AE, and GE Standard Messaging (GSM). • An AG can be provided for SCADA protocols IEC 61850, IEC 60870-5-101, and DNP3.
AM Gateway	None	The AM Gateway was added to the WorkstationST Features list to support remote DLN tuning.

Feature	Documentation	Description
Mark VIe Controller - UCSB	<p><i>GEI-100665, Mark VIe Controllers UCCx and UCSx Instruction Guide</i>, revised</p> <p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control</i>, revised</p> <p><i>GEH-6721_Vol_I, II, and III</i>, revised</p>	<p>The UCSB controller is a stand-alone, single-board controller with scalable processing power. It includes built-in power supplies and requires no batteries or jumper settings. Controllers run the ControlST software suite, providing a common software environment for turbine and generator excitation controls in the power island and balance of plant equipment to simplify operations and maintenance.</p>
Mark VI Virtual Controller	<p><i>GEH-6749, Mark VI Virtual Controller User Guide</i>, new document</p>	<p>New document created specifically for Mark VI Virtual Control.</p>

27 V04.01 Release Notes

Initial release - August 2010

Feature	Documentation	Description
ALC for WindExtend (WETA)/Sonic Wind Sensors for 1.5 Turbines	GEI-100733, <i>WETA Wind Converter Top Box Board Description</i> , revised	<ul style="list-style-type: none"> Modify WETA to support advanced load control for the WindExtend project Provide support for 2-wire Thies and 2-wire FT sonic wind sensors for the 1.5 fleet
ARTEMIS OTS ToolboxST Enhancements	GHT-200059, <i>How to Use Trender in an Operator Training Simulator (OTS)</i> , new document GEH-6700, <i>ToolboxST User Guide for Mark Vle Control, Chapter 6, LiveView section</i> , revised	<ul style="list-style-type: none"> Modifications to trender and LiveView to support operator training features in conjunction with ARTEMIS
ARTEMIS OTS Virtual Controller Enhancements	GEH-6742, <i>Mark Vle Virtual Controller User Guide</i> , revised	<ul style="list-style-type: none"> Modifications to the virtual Mark Vle and virtual Mark VleS to support operator training features in conjunction with ARTEMIS
EGD message routing for wind pitch	None	<ul style="list-style-type: none"> Support the routing of EGD messages from the controller to a device (Bachmann®) not directly connected to the same Ethernet subnet.
External Device Replication	GEH-6700, <i>ToolboxST User Guide for Mark Vle Control, Chapter 2, System Configuration</i> , revised	<ul style="list-style-type: none"> ToolboxST application support for easy duplication of external devices, for example, wind turbines
Global Script to Browse for a Variable	GEI-100697, <i>WorkstationST/CIMPLICITY Advanced Viewer Integration Instruction Guide</i> , the section, <i>Configuration</i> , revised	<ul style="list-style-type: none"> Added a new global script option to browse for a variable
JPDG for PPDA	GEH-6721, <i>Mark Vle Control Vol. II System Hardware Guide</i> , revised GEI-100613, <i>Mark Vle PDM Power Distribution Modules</i> , revised	<ul style="list-style-type: none"> Combination board of JPDE, JPDM, and JPDH to be used for dual redundant applications

Feature	Documentation	Description
LiveView enhancements	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control</i></p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i></p> <p><i>GEH-6702, ToolboxST User Guide for EX2100ST Excitation Control</i></p> <p><i>GEH-6704, ToolboxST User Guide for Mark VI Control</i></p> <p><i>GEH-6705, ToolboxST User Guide for Mark VIe Control</i></p>	<ul style="list-style-type: none"> • LiveView added as a standalone from GE HMI Viewer Tools • New General controls: Circle, Rectangle • New Animation controls: Push Button, Switch Control • New Behavior properties: Momentary or Toggle
PCNO	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control, Chapter 13, Special I/O Functions, revised</i></p> <p><i>GEH-6721, Mark VIe Control Vol. II System Hardware Guide, revised</i></p> <p><i>GEH-6721, Mark VIe Control Vol. III Diagnostics and Troubleshooting, revised</i></p> <p><i>GEI-100737, Mark VIe PCNO CANopen Master Gateway Module</i></p>	<ul style="list-style-type: none"> • New device that is supported: GE Sensing DPS 4000 Pressure Transducers (up to 15 supported) • Qualification of a new pressure sensor family on the PCNO (CANopen) I/O pack
Redundant CDH Ethernet Interface for Mark VIe	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control, Chapter 2, Networks, new section</i></p> <p><i>GEH-6721, Mark VIe Control Vol. I System Hardware Guide, revised</i></p> <p><i>GEH-6721, Mark VIe Control Vol. II System Hardware Guide, revised</i></p> <p><i>GEH-6721, Mark VIe Control Vol. III Diagnostics and Troubleshooting, revised</i></p> <p><i>GEI-100665, Mark VIe Controllers UCCx and UCSx, revised</i></p>	<ul style="list-style-type: none"> • Second UCSA Ethernet NIC supports direct controller to controller communication over the Controller Data Highway (CDH). Redundancy supported with CDH communicator functionality
Sonic Wind Sensors for 1.5 Turbines	<p><i>GEI-100733, WETA Wind Converter Top Box Board Description, revised</i></p>	<ul style="list-style-type: none"> • Provide support for 2-wire Thies and 2-wire FT sonic wind sensors for the 1.5 fleet.
Virtual Mark VIe enhancements	<p><i>GEH-6742, Mark VIe Virtual Controller User Guide, revised</i></p>	<ul style="list-style-type: none"> • Note added about selecting Controller Backup Option in Download wizard to download backup files to the virtual controller.

28 V04.00 Release Notes

Initial release - June 2010

Feature	Documentation	Description
ARES Blocks	<i>GEI-100690, Mark VIe Control ARES Block Library, new document</i>	<ul style="list-style-type: none"> • New ARES-based model blocks have been added for the following gas turbine engine configurations: <ul style="list-style-type: none"> - 7FA.03 AO (for example, current 7FA+e) - 7FA.04 Heat Rate Phase II Extended Turndown model - 7FA.05 (for example, 7FA210) - 9FB (PG9371-05A-1108A)
ControlST Enhancements for Large Wind Farms	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control, revised</i></p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control, revised</i></p> <p><i>GEH-6702, ToolboxST User Guide for EX2100ST Control, revised</i></p> <p><i>GEH-6704, ToolboxST User Guide for Mark VI Control, revised</i></p> <p><i>GEH-6705, ToolboxST User Guide for Mark VIeS Control, revised</i></p> <p><i>GEH-6706, ToolboxST User Guide for WorkstationST, revised</i></p> <p><i>Chapter 2 of all docs</i></p>	<ul style="list-style-type: none"> • Enhancements are added to the ControlST software suite for efficient operation of large Wind Farms. Enhancements include: <ul style="list-style-type: none"> - System-level Scan and Download - System-level Import and Export of Control Constants - Security enhancements (Role-based security)

Feature	Documentation	Description
HMI Integration of the Mark V Controls	<p><i>GEH-6757, ControlST GSM 3.0 User Guide</i>, new document</p> <p><i>GEH-6759, Mark V Feature System Guide</i>, new document</p> <p><i>GEH-6760, ControlST GSM 3.0 Application Guide</i>, new document</p> <p><i>GEI-100620, WorkstationST Alarm Viewer</i>, revised</p> <p><i>GHT-200013, How to Import Control Systems Solutions (toolbox) Turbine Historian Configurations to the WorkstationST Historian Feature</i>, new document</p> <p><i>GHT-200014, How to Import Data Historian Configurations to the ToolboxST Recorder Feature</i>, new document</p> <p><i>GHT-200017, How to Upgrade a Mark VI Component from the Control System Solutions (toolbox) Application to the ToolboxST Application</i>, new document</p> <p><i>GHT-200018, How to Configure the ToolboxST Application to Receive Mark VI Data from a Control System Solutions (toolbox) Application</i>, new document</p> <p><i>GHT-200029, How to Set up Alarm Help for Use in the WorkstationST Alarm Viewer</i>, new document</p> <p><i>GHT-200040, How to Convert a Mark V Component for Use in ControlST Applications</i>, new document</p> <p><i>GHT-200047, How to Import Control System Solutions (toolbox) Network Interface Configurations to a ToolboxST External Device</i>, new document</p>	<ul style="list-style-type: none"> • Add Mark V configuration support to the ControlST software suite, including Mark V Modbus and GSM protocols for continuity with installed turbine controls.
Keylok™ Fortress UPD protection device	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control</i>, revised</p> <p><i>GEH-6701, ToolboxST User Guide for Power Conversion Control</i>, revised</p> <p><i>GEH-6702, ToolboxST User Guide for EX2100ST Control</i>, revised</p> <p><i>GEH-6704, ToolboxST User Guide for Mark VI Control</i>, revised</p> <p><i>GEH-6705, ToolboxST User Guide for Mark VIeS Control</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for WorkstationST</i>, revised</p> <p><i>Chapter 1, the section Installation</i> of all docs</p>	<ul style="list-style-type: none"> • Added support for a new Keylok Fortress UPD protection device with WEEE and CE certifications, in addition to the existing dongle.

Feature	Documentation	Description
Proficiency Historian	<p><i>GEH-6744, ControlST Historian with PI System Guide</i>, revised</p> <p><i>GEH-6745, ControlST Historian with Proficiency System Guide</i>, new document</p> <p><i>GEI-100628, WorkstationST Historian</i>, the sections <i>Configuring Historian Reports</i>, <i>Configuring Continuous storage</i>, and <i>Archive Backup Management</i>, new sections</p> <p><i>GEI-100752, Historian Report Configuration Instruction Guide</i>, new document</p> <p><i>GEI-100753, Historian Report Post-installation Instruction Guide</i>, new document</p>	<ul style="list-style-type: none"> The Proficiency Historian is integrated into the ControlST software suite as an alternative to the PI-based Historian product.
PSVP Servo Module	<p><i>GEI-100741, Mark VIe PSVP Servo Control Module</i>, new document</p>	<ul style="list-style-type: none"> Support for a new I/O module for PWR Nuclear facilities has been added to the ControlST software suite. Used for steam turbine retrofits to enable retention of site wiring to non-redundant servo actuator coils with an upgrade to a redundant control system.
Simulink Translator	<p><i>GEH-6743, Simulink Translator Tool for Mark VIe Blockware User Guide</i>, new document</p> <p><i>GHT-200052, How to Use Matrix Blocks in the Mark VIe Control</i>, new document</p> <p><i>GHT-200054, How to Use the Mark VIe Tools in the Simulink Environment</i>, new document</p>	<ul style="list-style-type: none"> New matrix manipulation blocks for Mark VIe to support 1.5 XLE Wind. Includes S-function equivalents and Simulink to ToolboxST translator modifications. Simulink is a part of the MATLAB™ model application used for wind turbine control. The Simulink translator tool translates MATLAB-Simulink models into Mark VIe blockware for use in a ToolboxST system .tcw file.

Feature	Documentation	Description
Turbine Emergency Overspeed Protection Module	<p><i>GEI-100738, Mark VIe PPRA Emergency Turbine Protection Module</i>, revised</p> <p><i>GEI-100709, Mark VIeS PPRA Safety Guide</i>, new document</p> <p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control, Chapter 6</i>, revised</p> <p><i>GEH-6702, ToolboxST User Guide for EX2100ST Control, Chapter 5</i>, revised</p> <p><i>GEH-6704, ToolboxST User Guide for Mark VI Control, Chapter 5</i>, revised</p> <p><i>GEH-6705, ToolboxST User Guide for Mark VIeS Control, Chapter 5</i>, revised</p> <p><i>GEH-6706, ToolboxST User Guide for WorkstationST, Chapter 3</i>, revised</p> <p><i>GEI-100620, WorkstationST Alarm Viewer</i>, revised</p> <p><i>GEI-100621, WorkstationST OPC DA Server</i>, revised</p> <p><i>GEI-100624, WorkstationST OPC AE Server</i>, revised</p> <p><i>GEI-100628, WorkstationST Historian</i>, the section <i>Modifying Data Collection</i></p> <p><i>GEI-100697, WorkstationST CIMPLICITY Advanced Viewer Integration</i>, revised</p> <p><i>GHT-200008, How to Display a Variable on an HMI Screen</i>, revised</p> <p><i>GHT-200031, How to Configure OPC AE Alarm and Event Capability</i>, revised</p> <p><i>GHT-200053, How to Configure an Alias for ControlST HMI Applications</i>, new document</p>	<ul style="list-style-type: none"> • Safety-certified overspeed protection module has been added to the ControlST software suite. • A new naming option <i>Alias</i> has been provided to allow users the ability to assign an additional name to variables. • A new column <i>Variable Alias</i> has been added to the Alarm Viewer providing an additional means to sort alarms and events. • A new option <i>Create Filter from Selection</i> has been added to the Alarm Viewer shortcut menu. It creates a filter from the alarms and events currently selected on the screen. • In Alarm Viewer Settings/Historical Chart Settings/Chart Options section, the option <i>Show Alias Names</i> has been added to allow displaying Alias names. • <i>Variable Alias</i> has been added as a filter element to the Alarm Viewer Filter Definitions. • The Filter Definition <i>Variable Description</i> has been changed to <i>Description</i>. • <i>Quality</i> has been added as a filter element to the Alarm Viewer Filter Definitions. • <i>Save View As</i> has been added to the Alarm Viewer File menu. • The <i>Use Alias Name Property</i> has been added to the OPC AE Server documentation. • <i>Alias</i> column has been added to the Trender • <i>Alias</i> column has been added to the Watch Window • <i>Variable selection by alias</i> added to Standalone Trender • <i>Variable selection by alias</i> added to Standalone Watch Window • WorkstationST Historian is configured using either variable name or alias based on <i>Use Alias Name</i> property • Alias added to the WorkstationST Recorder files
Turbine Emergency Overspeed Protection Module (Continued)		<ul style="list-style-type: none"> • <i>Alias</i> column added to reports • New Alias report • New Second Language Report • Import of Alias Report • Import of Second Language Report • Local Workstation application added as a datasource for Watch Window • <i>Variable selection by aliases</i> added to CIMPLICITY Advance Viewer
Virtual Controller Enhancements	<p><i>GEH-6742, Mark VIe Virtual Controller</i>, revised</p>	<ul style="list-style-type: none"> • Add dynamic binding for Ethernet Global Data (EGD) protocol, diagnostics for fault detection, and a simplified software API.

Feature	Documentation	Description
WindBOOST* for Wind DFIGe	None	<ul style="list-style-type: none"> WindBOOST performance enhancement enables increased power capability from 1.5 to 1.6 MW, when there is sufficient wind.
Wind Pitch 2.5 MW Enhancement	<i>GEH-6735, 2.5 MW 30 Nm Wind Pitch System Guide</i> <i>GEI-100731, 2.5 MW WEPA Wind Energy Pitch Axis Module</i>	<ul style="list-style-type: none"> A CANopen gateway is added for interface to the Bachmann programmable logic controller (PLC). The pitch control system is upgraded for larger turbine blades and pitch motors.
Wind SCADA	<i>GEI-100623, WorkstationST Service, the section View Additional Status Detail Option, revised</i>	<ul style="list-style-type: none"> The existing RT-Core SCADA interface is upgraded to the WorkstationST software platform.

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29 V03.06 Release Notes

Initial release - March 2010

Feature	Documentation	Description
Keylok Fortress UPD protection device	None	<ul style="list-style-type: none">Added support for a new Keylok Fortress UPD protection device with WEEE and CE certifications, in addition to the existing dongle.
WindBOOST for Wind DFIG		<ul style="list-style-type: none">WindBOOST performance enhancement enables increased power capability from 1.5 to 1.6 MW, when there is sufficient wind.
Wind Permanent Magnet Generator	<i>GEI-100670, 2.5 PMG Converter Product Description</i>	<ul style="list-style-type: none">Addition of permanent magnet generator feature for the 2.5 MW Wind turbine
Wind Pitch Control	<i>GEH-6735, 2.5 MW 30 Nm Wind Pitch System Guide</i>	<ul style="list-style-type: none">Addition of pitch control for the 2.5 MW Wind turbine

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30 V03.05 Release Notes

Initial release - October 2009

Feature	Documentation	Description
Auto-reconfiguration	<p><i>GEH-6700, ToolboxST for Mark VIe Control</i></p> <ul style="list-style-type: none"> • <i>Chapter 6, the section General Tab</i> • <i>Chapter 6, the section Mark VIe Menus</i> • <i>Chapter 6, the section Upgrading Modules</i> • <i>Chapter 6, the section Auto-reconfiguration Reports</i> <p><i>GEH-6721, Mark VIe Control System Guide Volume II</i></p> <ul style="list-style-type: none"> • Each I/O pack has an Auto-reconfiguration section <p><i>GEI-100XXX, the GEIs for each type of Mark VIe I/O pack (such as <i>GEI-100576, Mark VIe Analog Input/Output Pack Description</i>)</i></p> <ul style="list-style-type: none"> • Each document has a section on Auto-reconfiguration. 	<ul style="list-style-type: none"> • The Auto-reconfiguration feature facilitates the download of the necessary configuration files when an I/O pack is replaced. It requires no user interaction once power is turned on to the pack after replacement. • The feature is enabled in the Property Editor of the General Tab for the Mark VIe control in the ToolboxST application. • All packs must be upgraded to ControlST V3.05 or higher using the Upgrade function from the File menu in the Component Editor of the ToolboxST application. • Requires ControlST - Version 3.05 or higher • The Auto-reconfiguration feature works with most existing I/O packs as of July 2008. • The Auto-reconfiguration feature applies only to I/O packs; it is not available for controllers or boards. • Two new report options (Configuration Report and Difference Report) have been added to support the Auto-reconfiguration feature. These are available from the View menu in the Mark VIe Component Editor. • Green light functions have been added to the ATTN LED on the packs. These provide the operator with status information during the Auto-reconfiguration process. <ul style="list-style-type: none"> - Solid - BIOS (at power on) - if it remains in this state, the pack is dead. Older packs may not have the ability to display the green LED when power is applied. - 2 Hz 50% - Awaiting Auto-reconfiguration release - 1 Hz 50% - I/O pack in WAIT or STANDBY - Two 4 Hz flashes every 4 sec - Application Online • Red light functions for the ATTN LED have been modified. These provide the user with status and diagnostic information. <ul style="list-style-type: none"> - Solid - Booting - prior to reading Dallas ID - 2 Hz 50% - Awaiting an IP Address - 1 Hz 50% - No firmware to load (Program Mode) - 1/2 Hz 50% - Application not loaded (pack) - 4 Hz 50% - Diagnostic present
CMS	<p>All six <i>ToolboxST User Guides</i> The chapter, <i>Configuration Management System</i>, in the following chapters:</p> <ul style="list-style-type: none"> • Mark VIe - <i>Chapter 11</i> • Mark VI, Mark VIeS, EX2100ST - <i>Chapter 10</i> • Power Conversion, WorkstationST - <i>Chapter 8</i> 	<p>New procedures added:</p> <ul style="list-style-type: none"> • Adding a System to a Repository • Getting the Latest Version <p>New logon dialog boxes</p>

Feature	Documentation	Description
Coding Practices Report	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe</i></p> <ul style="list-style-type: none"> Chapter 6, the section <i>Reports</i> 	<p>Contains information for generating the following reports:</p> <ul style="list-style-type: none"> Unwritten Variables Multiple Writes Multiple Output Assigned Variables Unused I/O
Diagnostic Alarm Simplification	<p><i>GEH-6721 Vol. III, Diagnostics and Troubleshooting</i> <i>GEI-100XXX</i>, the GEIs for each type of pack and controller (such as <i>GEI-100576, Mark VIe Analog Input/Output Pack Description</i>)</p> <ul style="list-style-type: none"> Each document has a Diagnostic Alarms section. 	<ul style="list-style-type: none"> Diagnostic alarm message text and help documentation has been revised with Possible Cause and Solution. The user can select any diagnostic alarm in the ToolboxST application and press F1 to get the specific help for that diagnostic alarm. The user can right-click on any diagnostic alarm in the Alarm Viewer and select Alarm Help to get the specific help for that diagnostic alarm. Updates to the I/O pack firmware have been made to reduce toggling diagnostic alarms and nuisance diagnostic alarms. The PPDA power distribution module now allows the user to disable nuisance diagnostic alarms for any power distribution board with no inputs connected. The I/O packs no longer display diagnostic alarms with an invalid time stamp of 1970. The user can now attach a layout drawing to each controller in a system: <ul style="list-style-type: none"> Go to the Hardware tab of a controller and right-click on Distributed I/O. From the shortcut menu, select Attach Layout Drawing Select the proper file for the selected controller To view the file, right-click on Distributed I/O and select View Layout Drawing.
Display Global Script Method	<p><i>GEI-100697, WorkstationST/CIMPLICITY Advanced Viewer Integration</i>, the section <i>CIMPLICITY Global Script Configuration</i></p>	<ul style="list-style-type: none"> WorkstationST global script contains two methods for displaying the ControlST Trender and the WorkstationST Alarm Viewer using a unique name. The unique name allows CIMPLICITY to open the same Trender or Alarm Viewer with each repeated call to the global script method.
Drag-and-drop to CimEdit	<p><i>GEI-100697, WorkstationST/CIMPLICITY Advanced Viewer Integration</i>, the section <i>Drag-and-Drop to CimEdit</i></p>	<ul style="list-style-type: none"> In addition to previously available drag-and-drop features, the ControlST V3.05 release allows you to drag and drop hardware groups and I/O modules from the ToolboxST application to the CimEdit design surface. You can also override the HMI Linked Object and HMI Link Source.
Historian Report Configuration	<p><i>GEI-100628, WorkstationST Historian</i>, the section <i>Configuring Historian Reports</i></p>	<ul style="list-style-type: none"> This document provides information on maintaining variable lists, groups, and reports, as well as defining report properties.

Feature	Documentation	Description
HMI Tagout	<i>GEI-100697, WorkstationST CIMPPLICITY Advanced Viewer Integration, the section HMI Tagout</i>	<ul style="list-style-type: none"> The Tagout feature provides the means to lock out the control of plant equipment from the HMI screen. This capability is embedded in the HMI screens and is available for components that interface with plant equipment such as motor operated valves. This function is provided for indication only. This action does not lockout this piece of equipment, it only indicates lockout status. The Owner's lockout procedures must be followed to safely lock this equipment out.
How to Guides	<i>GHT-2000XX (18 new documents)</i>	<ul style="list-style-type: none"> There are 18 How to Guides (GHTs) accessible from the ToolboxST Help shortcut menu.
Importing/exporting Watch Windows	<p>All six <i>ToolboxST User Guides</i> the section, <i>Watch Windows</i>, in the following chapters:</p> <ul style="list-style-type: none"> Mark VIe - <i>Chapter 6</i> Mark VI, Mark VIeS, EX2100ST - <i>Chapter 5</i> Power Conversion, WorkstationST - <i>Chapter 3</i> 	<ul style="list-style-type: none"> Procedures have been added to export a Watch Window to a .csv file, to import a Watch Window from a .csv file, and to add a .watch file.
Importing Reports from a .csv File	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe</i></p> <ul style="list-style-type: none"> <i>Chapter 6, the section Reports</i> 	<ul style="list-style-type: none"> Contains procedures for importing I/O Variable, I/O Configuration, Global Variable, and Block Pin reports from a .csv file.
Incremental Download	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe, Chapter 6, General Tab Properties</i></p> <ul style="list-style-type: none"> <i>Chapter 2, the section System Editor Menus (all six ToolboxST User Guides)</i> 	<ul style="list-style-type: none"> Previous Performance Improvement
Instancing from Definition	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe</i></p> <ul style="list-style-type: none"> <i>Chapter 3, the section Library Container Editor</i> 	<ul style="list-style-type: none"> The Update All Uses option has been added to the shortcut menu for libraries. This option allows changes in a user block definition to be instanced directly (<i>pushed</i>) from a library to the controller as opposed to being <i>pulled</i> from the library from each individual controller.
Second Language Support	<p>All six <i>ToolboxST User Guides</i> (<i>GEH-6700, 6701, 6702, 6704, 6705, 6706</i>)</p> <ul style="list-style-type: none"> <i>Chapter 2, the section System Information Editor</i> <p><i>GEI-100620, WorkstationST Alarm Viewer, the section Displaying Status Bar</i></p> <p><i>GHT-200009, How to Configure a Second Language for Use by ControlST HMI Applications</i></p>	<ul style="list-style-type: none"> The Diagnostic Translations option allows you to export diagnostic message text to a .csv file, add second-language translations for the diagnostic text either in the .csv file or interactively in the tool, and import .csv files containing translated text. The two-letter designator being used displays in the status bar.

Feature	Documentation	Description
SecurityST	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe Control</i></p> <ul style="list-style-type: none"> • <i>Chapter 2, the section SecurityST</i> <p><i>GEI-100697, WorkstationST/CIMPLICITY Advanced Viewer Integration, the section SecurityST</i></p>	<ul style="list-style-type: none"> • A new Role setting has been added to the Property Editor of the Users and Roles item: <ul style="list-style-type: none"> - Tag Out Privilege - allows you to tag out areas of the control system - SecurityST Live Data Modify and Live Data Force privileges are now enforced by the ToolboxST application
Select Active Measurement System	<p><i>GHT-200016, How to Configure a Measurement System for Use by ControlST HMI Applications</i></p>	<ul style="list-style-type: none"> • The Select Active Measurement System option is available from the right-click menu of the WorkstationST and ControlST icons in the taskbar notification area. • A Trender created from an HMI displays data with the user's selected measurement system.
Send Problem Report	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe</i></p> <ul style="list-style-type: none"> • <i>Chapter 6, the section Hardware Tab</i> 	<ul style="list-style-type: none"> • Added procedure for sending a controller problem report
Sequential Function Chart (SFC)	<p><i>GEH-6700, ToolboxST User Guide for Mark VIe</i></p> <ul style="list-style-type: none"> • <i>New Chapter 5</i> 	<ul style="list-style-type: none"> • Contains feature overview, procedures for creating, editing an SFC, adding Transitions and End Transitions. Also includes information for SFC online operations from ToolboxST application, as well as publishing an SFC on an EGD page.
Virtual Controller	<p>New doc: <i>GEH-6742</i></p>	<ul style="list-style-type: none"> • Discusses the Mark VIe virtual controller
Watch Windows	<p>All six <i>ToolboxST User Guides</i>, the section <i>Watch Windows</i> in the following chapters:</p> <ul style="list-style-type: none"> • <i>Mark VIe - Chapter 6</i> • <i>Mark VI, Mark VIeS, EX2100ST - Chapter 5</i> • <i>Power Conversion, WorkstationST - Chapter 3</i> 	<ul style="list-style-type: none"> • Note added to the Reconciling Constant Differences section stating that the initial value for a variable is not available from the OPC Server.

Notes



Public Information