LabVIEW™ Datalogging and Supervisory Control Module Run-Time System

Version 6.1

Welcome to the LabVIEW Datalogging and Supervisory Control (DSC) module Run-Time System, the LabVIEW solution for all kinds of distributed data logging and automation needs. These release notes describe system requirements and installation. They also contain information that was not available for inclusion in the printed documentation, and a list of known issues.

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Installation

The following sections describe how to install the LabVIEW Datalogging and Supervisory Control (DSC) module Run-Time System on your computer.

Installing the LabVIEW DSC Module Run-Time System

1. It is strongly recommended that you exit all programs before running the setup. Applications that run in the background, such as virus scanning utilities, may cause the installer to take longer than average to complete.
2. Insert the LabVIEW DSC module Run-Time System CD in your CD-ROM drive.
3. Run the installer as follows:
   a. If your computer system has the AutoPlay feature enabled, the installation will begin automatically.
   b. If your system does not use AutoPlay, run the following program:

      `x:\setup.exe`

      where *x* is the letter of your CD-ROM drive.
4. Follow the onscreen instructions.
5. Reboot your computer.

Required System Configuration

The LabVIEW DSC module Run-Time System runs on any system with the following:

- Windows Me/98/95, Windows NT 4.0, Windows 2000, or Windows XP.
- A minimum of 32 MB of RAM, 128 MB recommended.

- At least 60 MB of free disk space (for the system to use as swap space), 127 MB of swap space recommended. Increasing your computer resources will have a significant effect on performance of LabVIEW DSC module applications.

Additional Installations

In addition to the LabVIEW DSC module Run-Time System itself, you might need to install additional drivers for use with your application software during the LabVIEW DSC module Run-Time System setup. You might also need to install additional data servers for your application software. Refer to the documentation for your application software for installation instructions.

Install the Application Software

Follow the instructions provided by the system developer for installing the application software. After installing the files, note the location of the `.scf` and `.ccdb` files.

Install the Required Servers

If your application software uses the NI-DAQ Server for LabVIEW, install the NI-DAQ Server from the LabVIEW DSC module Run-Time System CD. Other servers must be installed separately.

Update Preference Files

Refer to the documentation for your application software to ensure any specific preference files for the application are placed in the correct locations. These files contain non-default settings for LabVIEW DSC module utilities such as `htv.ini`. You can edit these files with a simple text editor such as Notepad. Specific instructions about these preference files should be included with your application software.

Finish Server Setup

If you are using National Instruments IAS/IAK device servers, you might need to resolve the paths to the servers stored in the `.ccdb` file. Use the Server Explorer to do this. The Server Explorer is installed when you install the LabVIEW DSC module. Start the Server Explorer from your Windows program menu or from the Tag Configuration Editor, select **File»Open**, locate the `.ccdb` file for your application software, and choose **File»Set this file as Active CCDB**.

VI-based servers (if used by your application) provide their own Server Registration VIs.

Configure LabVIEW Startup

Launch the LabVIEW DSC module Run-Time System. The first time you run it, you might want to configure one or more startup VIs. These startup VIs are the user interface panels that appear when you launch the Run-Time System. Use the **Select Tools»Datalogging & Supervisory Control» Advanced»Startup VIs**. Use the Configure Startup VIs dialog box to locate the appropriate startup VIs, as identified in your application software documentation.

If your application starts the Tag Engine when it launches, and the servers are not registered properly, you will receive error messages identifying the servers that did not start. Consult your application software documentation for more information about which servers are required, and how to register them.

Uninstalling the LabVIEW DSC Module

To uninstall the LabVIEW DSC module, select **Start»Settings»Control Panel** and double-click **Add/Remove Programs**. In that window, select and remove the following components:

- NI LabVIEW Datalogging and Supervisory Control Run-Time System 6.1
- NI DSC Common Tools
- NI Historical Data Viewer
- NI Logos 4.4
- NI Server Explorer
- NI Measurement and Automation Explorer 2.2

All of these components, except for the NI LabVIEW Datalogging and Supervisory Control Run-Time System 6.1 component, may be shared with other National Instruments software that you have installed.

New Features for Version 6.1

The following sections describe the new features available in this version of the LabVIEW DSC module.

String Tag Data Type

When you configure a string tag, you can select whether to treat the data in the tag as text or as binary information. In the Tag Configuration Editor, string tag dialog boxes have a new checkbox called **Text Data Only**. If this box is checked, the string tag data is published and logged as text, otherwise it is published and logged as a binary object (BLOB).

You can set the default type for string tags to either text or BLOB in the **Set Default Parameters** dialog box in the Tag Configuration Editor (**Configure»Default Parameters**).

When you export your tag configuration to a spreadsheet file, this information is represented in the Log Resolution column as 0=Binary or 1=TEXT. You can view this information in the Tag Configuration Editor if you choose **Edit»Column Setup** and add the **Log Resolution** column.

Logging and Accessing Data, Alarms, and Events on a Network Computer

You have the option to log or retrieve historical data, alarms, and events to or from a computer on the network that has Citadel installed.

You will see new options in the **Historical Logging Configuration** dialog box (**Configure»Historical** in the Tag Configuration Editor) and the **Event Configuration** dialog box (**Configure»Events** in the Tag Configuration Editor), that allow you to log to a networked computer.

The **Shift Display** field and **Log Format** page no longer appear for event configuration, because the LabVIEW DSC module no longer logs to `.evt` files.

Refer to the *LabVIEW Datalogging and Supervisory Control Module Run-Time System Manual* for more information about logging historical data and events.

Viewing Data on a Networked Computer Using Historical Trend Viewer (HTV)

The **Select Tags for HTV** dialog box in HTV (**Tools»Datalogging & Supervisory Control»View Historical Trends**) has changed so that you can view data on another computer that has Citadel installed. Refer to the *LabVIEW Datalogging and Supervisory Control Module Run-Time System Manual* for more information about the classic Historical Trend Viewer.

New Options for Viewing Historical Data

Previous versions of BridgeVIEW and the LabVIEW DSC module gave you the option of viewing historical data with the "classic" Historical Trend Viewer (HTV) or the Historical Trend control. Version 6.1 of the LabVIEW DSC module includes the new NI HyperTrend ActiveX control and support for the new Historical Data Viewer in Measurement & Automation Explorer (MAX). Refer to the *LabVIEW Datalogging and Supervisory Control Module Run-Time System Manual* for more information about extracting and viewing historical data.

Logging and Retrieving Data in Sets

To log and retrieve data in sets, you configure the Data Set Logger server to track your data sets, then you can use the Historical Data Viewer in MAX to retrieve your data set values. Refer to the *LabVIEW Datalogging and Supervisory Control Module Run-Time System Manual* for more information about logging data in sets.

Compatibility Issues

To run an application created in a previous version of the LabVIEW Datalogging and Supervisory Control (DSC) module, or in BridgeVIEW, you will need to have the application developer recompile the VIs in your application to upgrade them to LabVIEW 6.1. Recompiling VIs requires the development version of LabVIEW 6.1 as well as the LabVIEW DSC module.

Known Issues

The following known issue exists in the LabVIEW Datalogging and Supervisory Control (DSC) module Run-Time System, Version 6.1.

Tag Monitor Security

When you start the Tag Monitor from LabVIEW, the user currently logged in is set as the active user in the Tag Monitor. If the Tag Monitor continues running when a new user logs into LabVIEW who also has access to the Tag Monitor, the active user in the Tag Monitor will *not* change. In other words, User A will be logged into Tag Monitor while User B is logged into LabVIEW. You can always verify which user is logged into the Tag Monitor by examining the status bar at the bottom of the Tag Monitor window.

In certain situations, this may lead to undesired access to tag data. However, you can configure which users and groups have access to the Tag Monitor itself. If the user who logs in to LabVIEW does not have access to the Tag Monitor, the Tag Monitor will close.

At this time, the Tag Monitor does not support a direct login mechanism. However, if you launch the Tag Monitor from the command line, the following command line arguments are supported:

```
Tagmonitor.exe ["filename"] [-usr "username"] [-pwd "password"]
```

`filename`	Fully qualified path to a Tag Monitor configuration file you have saved in the past; filenames with spaces must be enclosed in quotation marks
`-usr`	User login name; the user name must be enclosed in quotation marks
`-pwd`	Password for the user account specified with –usr; the password must be enclosed in quotation marks, and should not contain quotation marks within it

Accessing Remote Databases with the Classic Historical Trend Viewer

You can select a `.scf` file that is located on another computer on the network with the HTV **Select Tags** dialog box. If you do, however, HTV attempts to access the database as if it were a local database rather than across the network. To access the database correctly, select the computer and path directly, using the **Data Directory** field of the **Select Tags** dialog box.

Tag Monitor and Binary String Tags

You can define string tags in the LabVIEW DSC module that are treated either as text data or as binary data. If you use the Tag Monitor to subscribe to string tags that support binary data, you will see a message indicating that the tag is of an unsupported data type. Despite this message, you can still set the value of the tag from the Tag Monitor. When you do you will be writing text data into the binary tag. Because a binary tag can contain any information, including text, this is not considered incorrect behavior on the part of the Tag monitor.

Alarm and Event Priorities

Alarm and event priorities displayed in the Alarm & Events Display and the Tag Monitor come from Citadel and use the range 1–10. Because the LabVIEW DSC module tags allow you to define alarm priorities in the range 1–15, the Tag Engine converts LabVIEW DSC module priorities to the 1–10 scale for logging and publishing over the network via Logos and Citadel. These priorities are converted as shown in the following table.

Table 1. Conversions for Alarm and Event Priorities

Converted From (Value in LabVIEW DSC Module Tags)	Converted To (Value in Citadel)
1	1
2	1
3	2
4	2
5	3
6	5
7	5
8	6
9	7
10	7
11	8
12	8
13	9
14	9
15	10

Replacement Keyboard Driver

The LabVIEW DSC module offers a replacement keyboard driver for use with Windows NT 4.0 and Windows Me/98/95. This keyboard driver provides the ability to disable certain Windows keyboard shortcuts such as <Ctrl-Alt-Del>. This keyboard driver is not for use in Windows 2000 or Windows XP. Also, for computers using custom keyboard drivers from third-party manufacturers running Windows NT 4.0, we recommend that you do not use this keyboard driver.

Corrections and Additions to LabVIEW DSC Module Run-Time System Documentation

The following sections contain information that has changed or that was unavailable for inclusion in the printed LabVIEW Datalogging and Supervisory Control (DSC) module Run-Time System documentation.

Deleting Databases and Database Views in Historical Data Viewer

The Historical Data Viewer Help does not describe the options for deleting a database from the Historical Data Viewer in MAX. When you delete a database from the Historical Data Viewer tree, you have the option of deleting the database view from the tree or deleting both the database view and the underlying database and data. A dialog box permits you to choose the deletion option you want.

Data Set Logger Usage

The Data Set Logger offers many potential combinations of start and end conditions for you to use when defining data set behavior. You might use **ID Tag Changes** for both the start and end condition of a data set. In this case, if the tag you select as your ID tag is an analog tag with an update deadband of zero, or if it is a string tag that is configured to always update the database when a value is written, you will generate a new data set each time you write a value to the ID tag, even if you write the same value to the ID tag several times in a row.

For example, if you have a string tag named Serial Number, and write the value `abc123` to it, you will start a new data set whose ID value is `abc123`. If you write `abc123` to the tag again, and you have configured the tag to always update whenever a value is written to it, a new data set with the same ID will be created. The Data Set Logger can handle multiple data sets with the same ID tag value, but this may not be the behavior you intended.

By default, tags are not configured in this manner. If you have configured your tags in this way, be aware that this behavior could result. To avoid it, enable deadbands for the ID tag, or configure the data set to use different start and end conditions.

Required Application Files

The following list describes the files that might be needed for running a LabVIEW DSC module application. These files need to be deployed to the same location on each client computer.

- VIs (Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for detailed information about which VIs are required.)
- Tag configuration (`.scf`) files
- Preference files (`.ini`, `.cfg`) from the `LabVIEW` directory such as the following:
  - `lvdsc.ini`
  - `DSCEngine.ini`
  - `LabVIEW.ini`.
  - `\vi.lib\lvdsc\servers\Data Set Logger\dscdatasets.ini`
  - `\project\lvdsc\scf.ini`
  - `\project\lvdsc\htv.ini`
  - `\vi.lib\extensions\uistartup\uistart.cfg`
  - `\vi.lib\extensions\security\lvsec.cfg`

  Do *not* include the following file, because it can prevent proper server registration:

  `\vi.lib\lvdsc\init.ini`
- Hardware configuration files (such as `.iak` files for FieldPoint, MAX configuration data, and so on)
- The common configuration database file (`.ccdb`). This file can be identified by examining the title bar of the Server Browser utility (**Tools»Datalogging & Supervisory Control»Advanced»Server Browser**), or by examining the following value in the Windows Registry key:

  `HKEY_LOCAL_MACHINE\Software\National Instruments\NI-Servers`
  `Value: Active CCDB`
- Server software for all servers your application depends on for data. You may have to register VI-based servers yourself.
- `lookout.sec`

For your application to work, you must put the files in the same directory where you installed the LabVIEW Datalogging and Supervisory Control Run-Time System. This directory will contain `DSCRTS.EXE`. You will not need to run this executable if an executable was built for your particular application.

More Information and Updates

For information on LabVIEW Datalogging and Supervisory Control module updates, point your browser to

`http://www.ni.com/labviewdsc`

To download the newest patches and other software updates, point your browser to

`http://digital.ni.com/softlib.nsf`