

MAXPRO[®] Video Management System R670

Operator's Guide



Operator's Guide

Honeywell

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ABOUT MAXPRO[®] VMS

Introducing MAXPRO[®] VMS

MAXPRO[®] Video Management System (MAXPRO[®] VMS) is an enterprise-class video management and hybrid solution. It enables you to operate the traditional analog, network and IP based video equipment in the same surveillance network. You can deploy thousands of cameras in number of locations, and add many video devices such as recorders and monitors.

Intended Audience

This guide is intended for the operators of MAXPRO VMS system.

Advantages

- **Scalable and Future Oriented** – Over time, the video surveillance system must be capable of scaling up or down to meet the changing organization requirements. MAXPRO VMS's client-server architecture can easily adapt to the changing requirements. Expanding or downsizing your video surveillance system is easier. In addition, MAXPRO VMS's architecture focuses on implementing and integrating more features. For example, more recorder types can be integrated to MAXPRO VMS in the near future.
- **Robust and Capable** – MAXPRO VMS can be configured to manage video feeds from thousands of cameras. You can add multiple recorders and switchers to your video surveillance network and remotely monitor the locations. Refer to Performance Capacity Document (PCD) for more information.
- **Open Architecture** - MAXPRO VMS is built using industry standard protocols and technologies, which give you the added advantage of selecting the best available IP cameras and streamers for your video surveillance network.
- **Integration Capability** - MAXPRO VMS is designed to integrate seamlessly with other enterprise systems like access and intrusion control in the near future.

- User Friendly and Feature Rich – MAXPRO VMS’s user access based and easy-to-use user interface enables you to configure and manage every element of the video surveillance network. Using the user interface, you can easily add cameras, recorders, and other devices, and create new video surveillance locations and users.
- Effective Site Monitoring locations is more effective through features like color correction, digital zoom, operator messaging, logical partitioning of video devices, analytic features like motion detection, and others.
- Redundancy support - MAXPRO VMS software includes support for Redundancy where you can configure a redundant recorder for unforeseen/maintenance scenarios. It allows you to configure the Redundant recorder using various Failover constraints. There are various Failover constraints that you can configure (Automatically/Manually) to trigger the Failover. Refer the [MAXPRO® VMS Installation and Configuration Guide](#) for more details on how to configure the Redundancy recorder.
- Search for Recorded Video and Events - Search feature enables you to search for recorded video and events in various recorders.
- Event Handling - Events such as failure of camera or loss of video can be logged and event reports can be generated. You can retrieve and view video pertaining to specific events. In addition, you can configure alarms to notify the operators when events occur.
- Reports - You can also generate reports to view user activities such as creation of clips, configuring of devices, and other activities performed by a user.

MAXPRO VMS Features

The following are the new features in MAXPRO VMS:

New Features in R670 Release

Mask Compliance Detection

Mask Compliance Detection feature detects the people who are with and without Masks in a given scene. This feature detects in a real time scenario and generates an event for People with/without mask. It helps in monitoring the people those who are violating the compliance of not wearing a mask in public places. This feature requires dedicated license to configure and use.

Social Distancing Violation Detection

Social Distancing Violation detection feature detects distance between two people and raises an alarm if the social distance norm is violated. This feature helps to ensure social distancing is followed in your premises. This feature requires dedicated license to configure and use.

Non-Compliant Social Distancing Regions

This feature helps user to identify the areas in which the sub regions/areas of camera views where the most number of Non-complaint social Distancing violations are happening.

In order to generate this alarm, user need to create at least one region. The system monitors the Social distancing violations and then monitors in to each region how many social distancing violations are occurred. The algorithm calculates the most violated regions and raises an alarm. This alarm is displayed in percentage of violation for a given time. This alarm is generated periodically every 5 hours (Configurable). A maximum of 6 ROI's can be created.

Analytic Alarms In NVR

The below screen displays the list of alarms that are generated in NVR for Mask Detection, Social Distancing violation and Non-Compliant Social Distancing Regions features.

Description	Event details	Device	IO Status	Date Time
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Non-Compliant Social Distancing Regions	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8

Analytics Tab

In VMS R670 release LPR tab is changed to Analytics tab to display LPR, Facial Recognition and Social Distancing Violation alarms in one place. You can view real time alarms fetched from the Analytics camera and take specific actions on the alarms.

Scalable Analytic Server

This feature is introduced to manage the load on a NVR box while rendering analytics based cameras. Earlier only one local analytics server was available for multiple cameras that support analytics. This results in high consumption of CPU and low rendering capability of live video in NVR cameras.

Scalability feature helps customer to share the analytics server load on different remote machines and utilize the analytic algorithms efficiently. User can map the required cameras to each remote server and view the alarms in VMS.,

Bulk configurations of cameras from NVR

This feature allows you to perform Bulk camera configuration for main and sub stream's, to ease the effort of configuring multiple cameras at the customer site. This feature improves the productivity for dealers and system integrators while configuring many NVRs. The configuration of cameras from the NVR is done one by one today (either post discovery or manual addition). This leads to higher lead time to configure and setup customer sites. Refer to the MAXPRO VMS R670 Installation and Configuration Guide on how to configure and use this feature.

Bi-Directional Audio Support for MAXPRO NVR

This feature helps an operator to send Bi-directional audio warnings/messages to any audio output of cameras from MAXPRO VMS machines. Currently Mic and speech is supported from VMS viewer only.

This feature supports standard audio Codec format G.711 ulaw and only Honeywell ONVIF Camera model are supported.

Series 60 Camera Integration

MAXPRO VMS R670 supports Series 60 Camera integration with MAXPRO NVR 6.7 recorder. The following tables explain the list of supported camera models and firmware details.

Type	Camera Models	Firmware Details
Premium Model	HC60W35R2	Honeywell_L60- Series_IPC_HC60WXXRX_V1.0.21.20200 828
	HC60W35R4	
	HC60W45R2	
	HC60W45R4	
	HC60WB5R2	
	HC60WB5R5	
	HC60WZ2E30	
Mainstream Model	HC60W34R2L	
	HC60W34R2	
	HC60W44R2L	
	HC60W44R2	
	HC60WB4R2L	
	HC60WB4R2	
Series60 IR PTZ	HC60WZ5R30	
Series30	HC30W25R3-12V	

Support for Ex-Proof Camera models

MAXPRO VMS R670 supports Ex-Proof Camera integration with MAXPRO NVR 6.7 recorder. The following tables explain the list of supported camera models, Codec and Resolutions supported.

Camera Models	Codec & FPS Supported	Resolutions Supported
HEIPTZ-2201W-IR	H264, H265, MPEG FPS: 50 for PAL FPS: 50 for NTSC	1920 x 1080, 1280 x 960, 1280 x 720, 704 x 576, 640 x 480, 352 x 288
HEICC-2301T	H264, H265, MPEG FPS: 50 for PAL FPS: 60 for NTSC	1920 x 1080, 1280 x 960, 1280 x 720, 704 x 480, 640 x 480, 352 x 240

Support for Video Analytics Server - AllGovision

MAXPRO R670 released supports Allgovision Analytics Server for non Facial and License Plate Recognition features. The following alarms are supported and displayed in Analytics tab. Refer to the MAXPRO VMS R670 Installation and Configuration Guide on how to configure and use this feature and view these alarms.

Alarms	Alarms	Alarms
Trespass	Vehicle Counting	Safety Gear Detection
Loitering	Wrong Way Detection	Jaywalking
Tripwire	Over speeding Detection	Pedestrian Counting
Left Object Detection	Traffic Signal Detection	Pedestrian Dwell Time

People Counting	License Plate Recognition	Yellow Box Violation
Camera Tampering	License Plate Detection	Illegal Lane Change
Missing Object Detection	Vehicle Halt Detection	Wrong Lane Violation
Illegal Parking	Speed Drop Detection	No Flame Detection
Vehicle Congestion	Face Recognition	Social Distancing Violation
Tailgating	Auto PTZ Tracking	No Mask Detection
Crowd Detection	Graffiti Detection	Accident Detection
Counter Flow	Garbage Detection	
Video Smoke Detection	Video Loss Alarm	
Fire Detection	Slot Based Parking Management	
Slip and Fall Detection	Fog Detection	
Face Detection	Gesture Recognition	
Queue Management	Crowd Behavior Analysis	

IDEMIA Server Integration for FR

IDEMIA server allows you to Integrate the VMS/NVR and Cameras with Facial Recognition based analytics server for leveraging the facial recognition and analytics capability (ability to blacklist/white-list). This server handles the FR based analytics alarms/events on the VMS thick client. Also integrates the additional analytics events of IDEMIA in Analytics tab. Refer to the MAXPRO VMS R670 Installation and Configuration Guide on how to configure and use this feature

User can perform the following:

- Monitor FR analytics server alarms MAXPRO VMS Analytics tab
- Enable/disable alarms per FR Analytics server
- Access the details related to Analytics server
- View Bounding boxes on the analytics tab for the events coming in.
- Acknowledge events coming into the analytics tab
- Search the events with description or confidence score and filter based on specific analytics type
- View the associated clip with the event
- View additional analytics events from IDEMIA
- Real-time alert based on face/body /clothing identification
- Crowd analysis
- Intrusion detection
- Person and object counting

Intelligent Command Support

MAXPRO Intelligent Command is a common user interface that provides valuable enhancements to security systems. These ensure compliance with stringent industry regulations. For instance, Intelligent Command enables operators to respond rapidly and effectively to alarms or incidents by providing a Standard Operating Procedure (SOP) that shows the process that should be followed. This reduces both compliance exceptions and security risks.

The MAXPRO interface gives users a stronger situational awareness of the whole security system through a single map view of all the access, video and intrusions solutions. See IC User guide for detailed information.

New Features in R630 Release

Mask Compliance Detection

Mask Compliance Detection feature detects the people who are with and without Masks in a given scene. This feature detects in a real time scenario and generates an event for People with/without mask. It helps in monitoring the people those who are violating the compliance of not wearing a mask in public places. This feature requires dedicated license to configure and use. See [Mask Compliance Detection](#) section how to configure and use this feature.

Social Distancing Violation Detection

Social Distancing Violation detection feature detects distance between two people and raises an alarm if the social distance norm is violated. This feature helps to ensure social distancing is followed in your premises. This feature requires dedicated license to configure and use. See [Social Distancing Violation Detection](#) section how to configure and use this feature.

Alarms for both Mask Detection and Social Distancing

Following are the list of alarms that are generated in NVR for Mask and Social Distancing detection features:

- Person Detected with Mask
- Person Detected without Mask
- Social Distancing Violation

Operating Conditions

There are various recommendation with respect to operating conditions for both Mask Detection and Social Distancing to give good results. It is recommended to refer these operating conditions before using these feature. See [Recommended Operating Conditions For Mask Detection](#) and [Recommended Operating Conditions For Distancing Violation detection](#) section for more information.

Support for Remote Analytics Server

MAXPRO R630 released support for Remote analytics Server configuration for Mask, Social Distancing and SVMd on i8700 Machines. This configuration is required if the existing systems are not capable to take up the load of Analytics and to avoid overshoot of system resources memory. Refer to the MAXPRO NVR R630 Installation and Configuration Guide on how to configure.

Note: Analytics server is supported only on Windows 10 OS platform.

People Counting Dashboard Utility

VMS Occupancy Dashboard Utility allows you to track the number of people entered or exited from a specific area or premises or pathway. This utility helps to manage the space in commercial buildings to take appropriate actions based on the number of people entered or exited. The Occupancy Dashboard displays the Occupancy Summary and Trend based on the cameras configured and duration. This utility needs to be used along with MAXPRO VMS and HVA.

The actions are:

- Monitoring/Managing parking area/building
- Space management in big stadiums/shopping mall

See [People Counting VMS Dashboard Utility](#) section for more information on configuration.

VMS in VMS support for Mask and Social Distancing Detection

MAXPRO VMS R630 release supports Mask and Social Distancing Violation Detection support for VMS in VMS scenario with Bounding boxes. User can view bounding boxes in both Master and Child VMS recorders. This enhancement allows user to track the Mask and Social Distancing alarms and events in a wide range of recorders

For Master VMS both Alarm and events along with attributes are supported. For Child VMS attributes are not supported.

User need to enable View Annotations in Preference dialog box after configuring VMS in VMS.

Faster Drag and Drop for MAXPRO NVR cameras in MAXPRO VMS client

The time taken for the video to render in VMS client after drag and drop on to the video panel has been considerably improved. This feature requires a configuration to be enabled.

To enable this feature user need to configure the values in config files based on 32/64 bit rendering modes. Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure.

Series 60 Camera Integration

MAXPRO VMS R630 supports Series 60 Camera integration with MAXPRO NVR 6.3 recorder. The following tables explain the list of supported camera models, and events/alarms supported.

Type	Camera Models	Firmware Details
Premium Model	HC60W35R2	Honeywell_60- Series_IPC_HC60WXXRX_V1.0.21.20200 828
	HC60W35R4	
	HC60W45R2	
	HC60W45R4	
	HC60WB5R2	
	HC60WB5R5	
	HC60WZ2E30	
Mainstream Model	HC60W34R2L	
	HC60W34R2	
	HC60W44R2L	
	HC60W44R2	
	HC60WB4R2L	
	HC60WB4R2	

Supported Events/Alarms

Series 60 Camera models support the following events/alarms:

Event
Tampering
Image too bright
Image too dark
Image too blur event
Motion Detection
Intrusion Detection
Loitering Detection
Line crossing Detection
Unattended Object Detection
Missing Object Detection
Face Detection

Supported key Features

- HTTPS integration: The camera supports complete HTTPS protocol while integrating with NVR.
- Smart Stream III
 - Smart Codec

- Smart FPS
- Dynamic intra Frame Period (DIF)
- Alarms
- Profile S compliant
- Multicast
- Edge Sync Recording Support
- Full Encrypted Communication (including Encrypted Profile G communication)

Thermal Camera Integration - HRCF-FD384H/HRCF-FD640H

MAXPRO R630 supports integration of Silent Sentinel and Thermal Cameras. Following are the cameras and firmware details:

Type	Camera Model	Firmware Details
Silent Sentinel	HRCF-FD640H	V4 :v1.0.1D20200603
	HRCF-FD384H	
Thermal Camera	HVCT-B4010I	V5.5.26 build 200514
	HVCT-B4020I	
	HVCT-D4010I	

Refer the MAXPRO integration with MODUM Technical Notes for detailed information on the how to integrate the HRCF-FD384H/HRCF-FD640H Thermal cameras with MAXPRO NVR.

New Features in R600 Release

SSA - Software Service Agreement for MAXPRO

Software Service Agreement (SSA) is a flexible version specific licensing process which allows a user to get the support on the MAXPRO VMS licenses across multiple versions. From R600 release user need to buy a valid license to upgrade or for fresh installation. In addition, user can buy SSA support license for a specific duration which helps to get support from Honeywell.

Please contact Honeywell Customer support. See the back cover for the contact information in respective regions. Refer to the **MAXPRO® VMS Installation and Configuration Guide**.

License Plate Recognition (LPR)

Enhancements has been made in LPR feature to support events with cropped images, categorization and details pane. LPR scans can be monitored through a dedicated window in MAXPRO thick client. This new windows also supports filtering and searching events based on camera and category (White/Black listed/unknown).In addition you can also view the specific event video from the LPR feed. Refer to the **MAXPRO® VMS Installation and Configuration Guide and LPR User Guide**.

NDA Series 30 camera Integration in MAXPRO NVR & VMS

Series 30 Camera integration is supported in R600 release with MAXPRO NVR recorder. The following tables explain the list of supported camera models, firmware version and events.

Note: HC30WF5R1 model camera does not support HTTPS.

#	Camera Models	Firmware Details
1	HC30W42R3	v1.0.18.20190523 Note: If a camera has older firmware, please upgrade to this firmware version or above and perform factory default once.
2	HC30W45R3	
3	HC30W45R2	
4	HC30WB2R1	
5	HC30WB5R1	
6	HC30WB5R2	
7	HC30WE2R3	
8	HC30WE5R3	
9	HC30WE5R2	
10	HC30WF5R1	

Supported Events

Series 30 Camera models support the following events:

Event
Motion Detection
Tamper
Image too blur
Image too dark
Image too bright
People Detection
Intrusion

Supported key Features

- Smart Stream III
 - Smart Codec
 - Smart FPS
 - Dynamic intra Frame Period (DIF)
- HTTPS
- Alarms
- Profile S compliant
- Multicast

Secure video communication with Series 30 Cameras

Refer to the 800-25609-A_Honeywell 30 Series IP Cameras Network Security Guide for complete details.

MPEG2 Encoder Support with MAXPRO NVR and VMS

R600 supports legacy MPEG2 Encoders with Live and playback, Alarms and VMS in VMS functionalities. The following encoders are supported.

- ENC8M2
- VE8M2

Supported Firmware Version: 1.2.261

Supported Features are:

- Alarms
- VMS in VMS
- Live
- Playback
- Export
- Only Multi casting streaming address

User Experience Improvements in MAXPRO VMS Thick Client

A complete user interface reskin (Black theme) for MAXPRO VMS thick client with improved user experience based is implemented in R600 release.

This includes the following:

- Main Panels
- Left Panel
- Calendar look and feel
- Alarm flashing: Controlled on Thick client using config file

- Clip buttons
- Icons
- Docking controls
- Utility Drop-down, Digital correction and Create Salvo window
- Preferences drop-down, preferences window and all popup windows
- About box
- Clip Export window and clip export status window
- License window

Recorders Supported

Following are the default supported recorders for R600. Other recorders are not part of the installation. Please contact Honeywell Tech support team for support. See the back cover for contact information.

- MAXPRO NVR
- Performance Series Embedded NVR
- ADPRO XO
- VMS in VMS

Video Guard service for SIRA compliance

MAXPRO R600 release supports SIRA compliance with Video Guard Agent. This is to meet the specifications defined as part of the City wide Surveillance initiative by the Security Industry Regulatory Agency (SIRA) of Dubai, UAE, and being adopted across Middle-East countries. Refer to the **MAXPRO® VMS Installation and Configuration Guide**.

New Features in R560 Release

Smooth Reverse Playback

This is an enhancement to the existing reverse playback feature in MAXPRO VMS and it is recommended for the sites with lower GOP settings. Smooth reverse playback allows user to view the reverse playback operation without any jerk in the playback video. Depending on the FPS and GOP setting in NVR camera properties, smooth playback video is displayed. Its is recommended to set the GOP value in the range of 5 to 10 to experience smooth reverse. This helps to view the best in class playback video during site monitoring and investigation without dropping video frames. This enhancement is supported only with MAXPRO®NVR recorder and user can enable this option in MAXPRO VMS > Preferences tab. User can perform and experience the following reverse playback functions smoothly.

Note: For smooth reverse playback, it is recommended to use lower GOPs (i.e less than FPS. For Example: 30FPS/5GOP, 30/10,10/10 and so on)

- Smooth playback in reverse direction for speeds upto 2x
- Key frame reverse playback at 4x, 8x and 16x speed
- Reverse playback on slow speed (1/8x to 1/2x)
- Reverse playback for multiple cameras
- Reverse playback for multiple cameras in Sync mode (Sync playback)
- Step reverse for cameras (frame-by-frame)

Enhanced Inter NVR Sync playback

Inter recorder sync playback for cameras across MAXPRO NVR is improved from previous releases. Inter NVR sync playback features helps user to synchronize the playback video feed across multiple cameras and recorders. In R560 release user can experience sync playback with both forward and reverse direction with high speeds (and smooth playback upto 2x speed). User can also perform other operations such as step reverse and step forward in sync playback mode and can view smooth video. This feature is supported with MAXPRO NVR and Enterprise recorders only.

Note: *It is recommended to remove camera loops before performing Sync Playback.*

Support for Equip-S Series V2 Cameras

The following is the list of Equip Series V2 camera integration is supported in MAXPRO VMS:

Note: *Recommended to use NVR 5.6 and above to connect to the below camera firmwares*

#	Camera Model	Type
1	H2W2GR1	WDR cameras
2	H3W2GR1V	
3	H3W4GR1V	
4	H4W2GR1V	
5	H4W4GR1V	
6	HBW2GR1V	
7	HBW2GR3V	
8	HBW4GR1V	
9	HCW2GV	
10	H4L2GR1V	Ultra Low Light
11	HCL2GV	
12	HBL2GR1V	

The below table details the Firmware version compatible with the NVR 5.6 Build 572:

Camera Model	Firmware	Web Version	Onvif Version	ISOM Version	Xtralis Intrusion Trace	Xtralis Loitering Trace	Intrusion Detection	Loitering Detection	Trigger Line Detection
Equip S Series V2 Firmware version					VA Packages				
Low Light	1.00000000.18, 2019-04-23 Or above	3.2.1.722805	16.1.2	1.3.1, 2019-04-21	1.01.19	1.01.19	1.0.8, 2019-01-15	1.0.8, 2019-01-15	1.0.8 2019-01-15
WDR cameras	1.00000000.18, 2019-04-09 Or above	3.2.1.716054	16.1.2	1.3.1, 2019-04-04					

The above Equip S Series V2 Firmware version supports the following features:

- New VA events added with Annotation support
 - Xtralis IntrusionTrace™
 - Xtralis LoiterTrace™
 - Intrusion Detection
 - Loitering Detection
 - Trigger Line Detection

Note: Annotation feature is supported only with Xtralis XO packages.

- Profile -G Edge Sync recording
- Multicast

Introduced Advanced Rendering settings

This feature provides flexibility to select different rendering combinations between CPU and GPU modes for decompression and rendering process. Earlier only GPU Rendering capability was available to handle the camera video packets along with decompression. With Advance Rendering settings user can choose to distribute the load on CPU and GPU accordingly. This helps the user to improve the rendering performance of the system.

- CPU Decompress + CPU Render: This option executes low performance because entire video rendering process will be on CPU. This option is for debugging purpose and is recommended not to be selected.
- GPU Decompress + CPU Render: By default this option is selected and decompression/rendering process is shared between GPU and CPU.

- GPU Decompress + GPU Render: This option is for high resolution cameras and for cameras with 60 FPS on 4K monitors. Selecting this option may reduce the number of cameras but the video quality will be best.

Note: GPU Decompress + GPU Render option has some limitations such as Flip/Mirror/Digital corrections features may not be supported.

Change in UI Naming Convention

- In Preferences dialog box:
 - **Enabled GPU Rendering** is now renamed as **Support 64 Bit Rendering** with more granular control with advanced rendering options.
 - **Set FPS Limit for Unselected Panel** is now renamed as **Switch to I Frames for unselected panels**.





Enhancements in ADPRO XO Recorder



- Export HBOX clip player with clips: MAXPRO VMS integration with ADPRO XO recorder allows user to export clip (HBOX format) along with the HBOX clip player. This helps the user to play the clip in any machine without depending on supported clip format player. See section "Export HBOX clip player with clips" on page 4-225s.
- Capability to playback associated videos for Input Alarms: This feature enables user to playback the associated video with input alarm. User can view the video for an input alarm from all the associated cameras. This feature is support only from ADPRO XO recorder integration with VMS. See section "Playback associated videos for Input Alarms" on page 4-227s.

Enhancements in Time line color in Viewer



Timeline in Viewer tab is improvised to identify various recordings using colors. Based on the legends user can identify recordings such as Continuous, Event, User based, Archival and Failover. The following are the various timeline indicators introduced.

For Recording

Color	Indicates...
	Continuous recording.
	Event based recording.
	User based recording.
	On Device

Color	Indicates...
	Synced from Device
	Redundant

For Archival

Color	Indicates...
	Archival of Continuous recording
	Archival of Event based recording

Enhancements in VMS in VMS Discovery

VMS in VMS discovery will now help to discover and add sites with same IDs (under different Child VMS) in order to maintain the logical grouping of cameras in Master VMS. Consider an example as explained below:

Example Scenario:

- CameraA of Site1 (Site ID 1) in VMSA
- CameraB of Site1 (Site ID 1) in VMSB

Before R560:

- After VMS in VMS discovery: Both VMSA and VMSB is displayed in “Master VMS”. CameraA and CameraB displayed in Site1 of “Master VMS”

After R560:

- After VMS in VMS discovery:
 - CameraA will appear under Site1 in “Master VMS”
 - CameraB will appear under Site1_VMSB in “Master VMS”

New Features in R550 Release

Edge Analytics Annotation Support

Annotations support for Intrusion Trace and Loiter Trace in Live and Playback video is supported in MAXPRO® VMS with MAXPRO® NVR recorder integration. This feature helps to trace and locate the moving subjects in live/recorded video and generates an alarm if intrusion or loitering is detected.

Equip-S series camera supports Annotation feature along with Intrusion trace and Loitering Trace alarms. These alarms are in-built with Equip-S series camera and are made available by installing required analytics licenses.

See [Annotations](#) section for more information.

ADPRO XO Recorder Integration Support

ADPRO XO Recorder is integrated with MAXPRO VMS in R550. In MAXPRO VMS user can also see the Annotation bounding boxes with XO recorder integration. User needs to update new license to avail the features of XO recorder in VMS.

Note: *It is recommended to change the default username and password after the first login.*

The following are the qualified XO Recorder models and the Firmware versions supported with MAXPRO VMS R550.

#	XO Recorder Model (Version)	Firmware Version
1	ADPRO IFT	IFT
		IFTE
2	Fast Trace 2	XO 04.02.0010
3	ADPRO IFT Gateway	XO 04.02.0012

Following are the features supported with ADPRO XO Recorder integration.:

#	Features Supported
1	Add/delete/modify AdproXO recorder in VMS
2	Discover Cameras, Relays and Sensors
3	Live Video
4	Multi Stream
5	Snapshot save, digital correction, Mirror and Flip.
6	PTZ operations
7	Playback Operations Note: Reverse playback operation is not supported. Playback operation may start a few seconds behind the selected time because of GOP settings.
8	Camera Status/Alarms
9	Events Search
10	Anonymization
11	HVA

Patches Merged in SP1

5.0 T Patch

- Refer to the 800-23558-E_MAXPRO™ VMS R500 SRB T-Patch for complete information on new features in R500 T Patch.

Windows Expiry Patch

This patch is to make MAXPRO VMS application not to apply password expiry option for windows users. Refer to the MAXPRO VMS_ Windows Expiry_Patch_Release Notes for detailed information.

Include Archived Clips

This feature allows user to search Archived clips including the recording clips. User needs to select Include Archived Clips check box under Filter area while searching for recorded clips. Based on the search criteria the archived clips are displayed in Grey color as shown below. When user drag and drop the archived clips in to the panel then camera name and clips status is displayed. To play the Archived clips through a client machine, refer to the [MAXPRO® VMS Installation and Configuration Guide](#) for details.

Primary and Archived Location

The location of Archived clips is now displayed in the Result windows in Location column as highlighted below. The type of status is explained below.

- Archived: The clip is available only in Archived path.
- Primary, Archived: The clips is available in both primary storage and Archived path.

Camera Name & Clip status

In Viewer screen following are the improvements:

- Under Snapshots/clips, the folder naming structure is changed to camera name.
- When a user drag and drops a archived clip into panel, the archival camera name with clip status Rec is displayed as shown below.
- If Archived clips are played in MAXPRO clip player then the camera name and clip status is also displayed.

Improved GPU rendering

GPU Rendering capability is now enhanced to handle camera video packets along with decompression technique. User can view smooth and clear live video through GPU rendering. User should modify the registry value in client or server machine to

enable GPU rendering mode. Refer to the [MAXPRO® VMS Installation and Configuration Guide](#) for complete details on How to configure the Registry value to experience the improved GPU rendering mode.

GPU Rendering Combinations

The below table explains the combination settings between Enable GPU Rendering option and Registry settings

IF	And IF	Then
user enables Support GPU Rendering check box in Preferences > Rendering options tab	user sets GPU_Rendering_Value flag to 1	Both Decompression and Rendering will be processed through in GPU mode.
user enables Support GPU Rendering check box in Preferences > Rendering options tab	user sets GPU_Rendering_Value flag to 0	Decompression process will happen through GPU and Rendering will be processed in CPU mode.
user does not select Support GPU Rendering check box in Preferences > Rendering options tab	user sets GPU_Rendering_Value flag to 1	Both decompression and Rendering will be processed through CPU.

60FPS support for EQUIP-S 1080P cameras

EQUIP-S 1080 P Model cameras are now supported with 60FPS rendering through GPU Mode. The following are the list of cameras support 60 FPS.

Note: *Cameras beyond 1080 resolution will not support 60 FPS rendering.*

- H4L2GR1V
- HBL2GR1V
- HCL2GV
- H4W2GR1V
- HBW2GR1V
- HBW2GR3V
- H3W2GR1V
- HCW2GV
- H2W2GR1

Video Anonymization Environment selection options

This feature allows you to configure or mask identifiable objects based on the scene environment. User need to select the required environment from the drop down list based on the camera mounting position. See [Video Anonymization](#) on page 214 for complete details How to configure and view anonymized video based on the environment.

The following are the Environments supported in this T-Patch

- Variable Scene: If the scene contains both stationary and moving people or objects then select this option to anonymize the objects in the scene.
- High Motion Scene: To anonymize the objects in high motion in the scene.
- Still Scene: To anonymize the objects in a scene where the scene predominantly contains stationary people and objects.

New Column for Anonymization in Video Inputs

A additional column Anonymization in Video Inputs screen is introduced to view the list of camera associated/configured with anonymization feature. User can also apply filter True/False to view the list of cameras associated, where True is associated camera and False is not associated.

Platform Refresh: R500 Installation is supported on Windows 2016 Operating systems (Server)

Privacy Protection Settings (GDPR)

Anonymization Support: Anonymization feature is to help the business owner to meet the EU GDPR compliance standards easily. The objective of this feature is to hide the identifiable personal data or personal identity in a video surveillance system using masking techniques. This feature is specific to European Union region. MAXPRO VMS R500 release enables user to configure and experience this feature. The configuration can be done in Configurator tab and only an Administrator can use this feature and grant access. EquipIP Series cameras supports this feature and user can associate the required cameras to anonymize. Anonymization is also implemented on HVA streams. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information

The Anonymization feature supports the following type of masking:

- Blur: Blurs the Identifiable object
- Pixelize: Pixelizes the Identifiable object

Note: *This feature is license based and it is not supported in Viewer Edition. In R500 Enterprise Edition for both (GDPR) features, 60 days trial license is enabled. For R500 Viewer Edition these features are not available in the permanent demo license.*

- New User Privilege: Introduced new user privilege “Hide Subject Identity” to control the accessibility to view Anonymized video. An Administrator can decide to enable this option to hide the subject identity for a specific Operator. By default this check is enabled for all the operators.

- Clip Export with Anonymization is supported: Anonymization feature is supported for both Playback and Clip Export operation.

Note: If a user exports a clip using Clip Export option then only WMV format is supported.

Four Eye Authentication: This feature is also part of Privacy Protection setting and to meet the EU GDPR compliance standards easily. This is to restrict all users in a surveillance system to perform Playback operation. While performing playback operation at least two people from different roles should authenticate. For an Administrator, authentication is not required and can perform any playback operation. However, using license; authentication for an administrator can be configured.

For a non Administrator user, by default a pop up is displayed and an Administrator user or a User from some other group needs to authenticate to perform playback operation. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information

Note: This feature is license based and it is not supported in Viewer Edition. For R500 Enterprise Edition 60 days of trial license is applicable for both (GDPR) features. For R500 Viewer Edition these features are not available in the permanent demo license.

The following table explains the Four eye authentication based on the user and roles

User	Authenticating User	Valid Authentication
User 1 [of Group 1]	User 1 [of Group 2]	Yes
User 1 [of Group 1]	User 2 [of Group 1]	No

I18N Localization Support

- I18N support includes new strings from R410 to R490 and in MAXPRO VMS R500 release additional Turkish Language is supported.

VMS in VMS Enhancements

- Apart from cameras, relays and sensors, user can now discover sites, workstations, partitions and users from child VMS. This feature helps user to import the configurations instead of reconfiguring and in turn saves time for Large scale deployments. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information.

Extended Salvo layouts

- Additional 5X5, 6X6, 7X7 and 8X8 salvo layout combinations are introduced in this release to reduce the cost involved in monitors.

Default Events Association

- After upgrading to R500, if user discovers the recorders then for only newly added recorders, by default all the events will not get associated to cameras.

Only few events will be associated with the devices and cameras. The following are the list of events associated by default. If user need more events to be associated then it needs to be configured manually. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information on Associating Events

#	Event Name
1	CAMERA_VIDEO_LOSS
2	CAMERA_DISABLED
3	CAMERA_ENABLED
4	DISCONNECTED
5	CONNECTED
6	CAMERA_DELETED
7	CAMERA_ADDED
8	CAMERA_VIDEOLOSS_ALARM
9	CAMERA_VIDEOLOSS_CONFIGURATIONFAILED
10	CAMERA_VIDEOLOSS_CONFIGURATIONOK
11	CAMERA_VIDEOLOSS_OK
12	CONNECTION_LOST
13	OFFLINE
14	VIDEO_LOST
15	VIDEO_RESTORED

New Equip 1080p and 4MP Camera Integration

- Configuration is done through Honeywell proprietary ISOM APIs
- After integrating the new Equip Camera, system will be able to support the following
 - H.264, H.265 and MJPEG coded support
 - HTTPS support
- New events supported: Equip series Camera integration generates the following additional events.
 - Abandoned Object detection
 - Object Missing detected
 - Trigger Line detection

The following Equip series camera models are supported using ISOM API's.

#	Camera Model	Description	Firmware Version Details
1	H4L2GR1V	2MP Lowlight outdoor dome	Version: 1.000.0000.10, Build Date: 2018-05-29
2	HBL2GR1V	2MP Lowlight IR bullet	ISOM Version 1.2.1_Build 20180529
3	HCL2GV	2MP Lowlight box camera	VA Package Version: 1.0.8_build20180529
4	H4W2GR1V	2MP WDR outdoor dome	
5	H4W4GR1V	4MP WDR outdoor dome	
6	HBW2GR1V	2MP WDR bullet, 2.7-13.5mm	Version: 1.000.0000.9, Build Date: 2018-05-25
7	HBW2GR3V	2MP WDR bullet, 5-60mm	ISOM Version: V 1.2.1_Build 20180524
8	H3W2GR1V	2MP WDR indoor dome	
9	H3W4GR1V	4MP WDR indoor dome	
10	HCW2GV	2MP WDR box camera	
11	H2W2GR1	2MP Pancake camera	

Multicast Support

Allows you to view the Live video continuously in VMS clients despite of any interruption in NVR recorders. Previously without Multicast, only one camera can see only 16 times now this limit is broken. User can view live video in N number of clients. However, the camera should be Multicast capable. Multicast cameras should be accessed from client network and only Equip-S model cameras are supported. Ensure that Multicast is enabled in the Network switch.

See [Settings for Video Rendering](#) section on how to enable this option. Refer to [MAXPRO® VMS Installation and Configuration Guide](#) for more information on various configurations.

Enhancements in Network Throttling

Depending on the available network bandwidth at site, for better user experience and to improve the performance of Live video streaming, user needs to manually configure the config file and the Registry Entries. Refer to [MAXPRO VMS Installation and Configuration Guide](#) for more information on how to configure.

Custom Branding Utility

A distributable utility to customize the brand parameters of a business organization is introduced. User can contact to Honeywell Dealer or Tech support to obtain this utility. Please see the back cover for contact information.

Global Bookmarks

Bookmarks tab is included in Viewer to create bookmarks on a live video and save under the bookmarks tab. This window and options are displayed based on the user privileges. User can Create Bookmarks, Play video from Bookmarks time, send operator and monitor messages to the user and configure the bookmark retain and recycle settings in Preference > Bookmarks Settings tab.

Third Party ONVIF Profile G supported cameras:

Following new Third Party ONVIF compliance Profile-G cameras are now supported in NVR 4.7.

Profile G Cameras	Camera Type	Firmware Details
Tyco	ADCi350-B111	V3.1.0.170215
Samsung	QNO-7010R	1.04_170224
Panasonic	WV-SFV631L	2.41

MAXPRO Web Configurator

Enhanced the Web configurator user interface with new themes, for a better user experience while configuring the System, Server and Security configurations for Web client and mobile.

Network Throttling

Introduced the following options for better management of resolution and frames. This feature automatically measures the latency in streams periodically and manages the stream with lower resolution and lower frame rate in low network bandwidth sites. This enables user to view smooth video without fluctuations. This feature is applicable for Live streaming only.

- Mange Resolution
- Manage Frames

Rendering Options

- Show Stream Details: Allows you to view the stream details such as type of camera Resolution, FPS on the video panel.

Inter-NVR Sync playback

Enhancements made in Inter NVR Sync Playback feature, where user can sync the playback video across MAXPRO NVR recorders. This feature is supported from R450 release and only supported for MAXPRO NVR recorder.

On Demand live Streaming (VOD)

On Demand live Streaming (VOD): On Demand Live Streaming / recording feature enables you to configure and store recordings at camera level. This feature saves the bandwidth for remote sites with limited and costly connectivity (e.g. using 4G). MAXPRO NVR configured as On Demand Live Streamer will stream video from cameras only. Later when a client requests a live stream for viewing, the recordings at the camera level can be synced back to view in NVR viewer. VOD is used to pull video streams only when you want the stream for viewing or analysis (such as Smart VMD, HVA Analytics in VMS and so on). When this feature is enabled, recording will not take place in MAXPRO NVR. This feature is compatible from MAXPRO NVR Viewer, MAXPRO NVR Web Clients and MAXPRO NVR Mobile app clients.

Profile-G or Edge Sync Support:

Allows you to synchronize the recordings from the camera SD card to NVR. This feature enables the user to playback only those recording which are saved on demand in the SD card. Flexibility to enable the Edge sync in Camera page and configure the day/ time for Edge Sync Settings in System window to get the recordings from the camera. This feature is supported only for equiP 1080p WDR, 4MP WDR and IR PTZ model cameras

H.265 Codec Support

H.265 Codec cameras now supports GPU based Rendering. You can render upto 23 H.265 cameras with 1080P Resolution at 30 FPS/30 GOP. Refer MAXPRO NVR Desktop Client - Workstation Specifications and Performance Metrics for more information.

Low bandwidth Stream Settings:

Use Low Resolution Stream

This feature is for low bandwidth sites and to view the low resolution video in any size of salvo layout. User needs to configure the low resolution for any stream in NVR camera page. Select the Low Resolution check box in VMS > Preference > Advanced Settings tab, to view the low resolution video in single or multiple salvo layout.

Note: *Either you can select the Enable Switch Stream feature or Use Low Resolution stream feature.*

Receive Only I Frame/Low Bandwidth Streaming

This feature allows user to receive and view only I Frame considering the bandwidth at the site. User needs configure the low resolution and choose to render only I Frame in NVR. This enables user to view the required clips even with low bandwidth.

Use Extended time Outs

This helps in increasing the default time outs for NVR connections, stream connections and snapshots retrieval. This feature is only supported for MAXPRO NVR.

Optimize Stream Usage Settings:

Enable Stream Switch

Enable stream switch automatically switches between low and high resolution streams in the salvo layout based on the current video panel size. User should have minimum two streams available to use this feature. By default camera will stream in high resolution video in single salvo layout and the same camera when it is drag and dropped in multiple salvo, it streams with low resolution video. User needs to configure the Primary and secondary streams with high or low resolutions or vice versa in MAXPRO NVR camera page. Based on the configuration, user can drag and drop the camera in VMS, in single or multiple salvos.

Note: *Either you can select the Enable Switch Stream feature or Use Low Resolution stream.*

Manual Archival support for Primary and Failover Recorders

Manual Archival feature enables you to manually Archive the clips of both Primary and Redundant Recorders. You can search the required recording clips in Search tab and then archive. Before performing the manual archive ensure that you configure the Drive path in NVR and then map the Archival storage drive path in VMS > Viewer tab.

Embedded NVR Recorder (Embedded Recorder) Support

User can configure and use the Embedded Recorder features. Refer to the [MAXPRO® VMS Software Release Guide](#) for the list of features supported.

New EquiP Series Camera Models Support

Additional 8 new EquiP camera models are now supported (HFD6GR1, HSW2G1, HCD8G, HBD8GR1, H4D8GR1, HDZ302DE, HDZ302D, HDZ302DIN) in MAXPRO NVR 4.1 and the same can be accessible in MAXPRO VMS R410. In addition the following are the advanced features that are offered through these cameras:

- Intrusion trace (Need to purchase separate license to enable this feature in camera)
- Face Detection
- Audio Detection (For cameras with Built-in Microphone or External Microphone)
- SD Card Failure

3D Positioning

3D Positioning feature enables you to view a specific object in a live video in 3-dimensional view. On a live video you need to draw a region to view a specific object. This feature is supported only with New Equip PTZ (HDZ302DE, HDZ302D, HDZ302DIN) camera models. If the camera is added in NVR box then you can perform 3D positioning in MAXPRO VMS.

New Equip Camera Model Dewarping

New Equip FishEye Camera (HFD6GR1) is capable of delivering FishEye view of the surrounding and which can also be dewarped to different view types depending on the mounting position. User needs to configure this feature in NVR box.

H.265 Codec Support

H265 codec type is supported to optimize the storage requirements for higher resolution cameras. H265 is only supported for New Equip model cameras. (HFD6GR1, HSW2G1, HCD8G, HBD8GR1, H4D8GR1, HDZ302DE, HDZ302D and HDZ302DIN). You can view these higher resolution cameras in MAXPRO VMS R410 if it is added in MAXPRO NVR box.

Limitations of H.265 Codec Type:

- H.265 is not supported in MAXPRO Mobile app
- H.265 is not supported in Web client
- H.265 cameras utilizes CPU based Rendering

Meta Data Conversion Utility

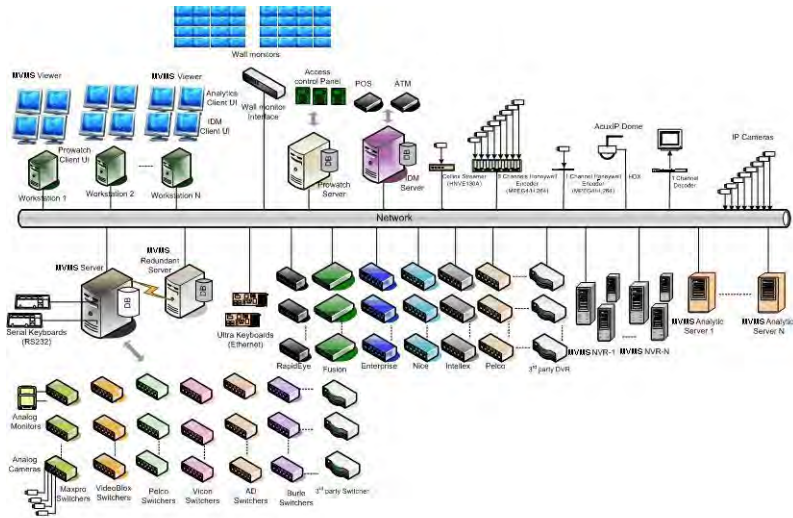
Meta data conversion utility allows you to replace or update the unique system ID number of the recorded clips and Meta data details for all or specific cameras in a Primary/Redundant NVR box. You can use this utility only if you are opting for Redundancy feature.

You need to run this utility before configuring the Redundancy feature in MAXPRO VMS and ensure that all the Primary NVR boxes are updated with proper unique IDs for the cameras.

This utility helps you to retain your recorded clips and Meta data details during Failover /Failback operations. This allows a user to effectively playback the recorded clip without loss of video.

MAXPRO VMS architecture

MAXPRO VMS is based on the client-server architecture. The following diagram illustrates the client-server architecture and different components that can be added to constitute the MAXPRO VMS system.



MAXPRO VMS Client Workstation

The user interface installed on a workstation acts as the client and enables you to monitor sites and configure the video devices such as cameras, monitors, keyboards, and others. Up to four digital monitors can be connected to each client workstation.

MAXPRO VMS Server

The server consists of the trinity framework and database of all the connected recorders, users and system data. Typically the client is also installed on the server to allow local management if desired.

The trinity framework for MAXPRO VMS is designed to provide a central platform for video products such as Rapid Eye, Fusion and Embedded Recorders. A central platform gives you the capability to manage diverse video products through the same user interface. This brings in the advantage of a similar look and feel across video products. Trinity is a service oriented framework, which means that each video product can use certain services and components from MAXPRO VMS. The long term objective of developing the service oriented trinity framework is to support more technologies and other video products in the future.

The recorder is used for video storage in the MAXPRO VMS server and is one of many recording engines that can be chosen. The other core components in the server act as the system controller and manage the communication among the components of the MAXPRO VMS system such as the camera server, database server, recorders, cameras, workstations, and other devices in the network.

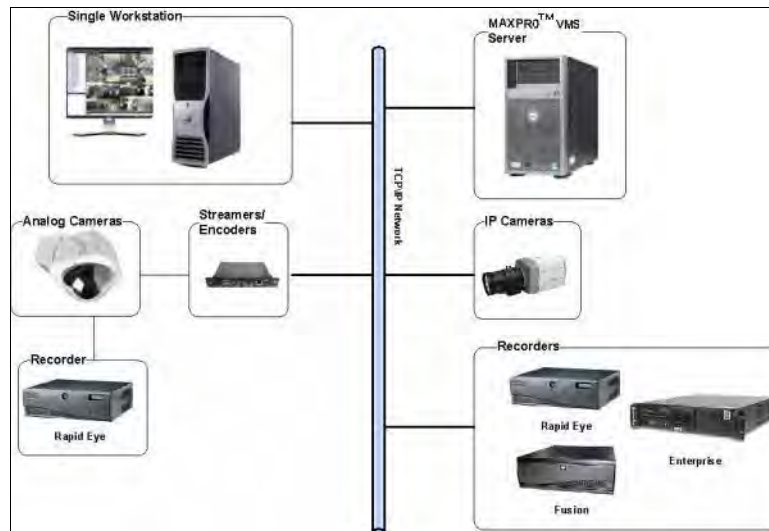
Other Components

Additional components such as switchers, recorders, analytics servers, camera servers, and other devices can be added according to your needs to constitute the MAXPRO VMS architecture. Presently, you can view video from the switchers Vicon, Burle, American Dynamics, Pelco, VideoBlox, and MAXPRO. You can also view video and play recordings from the digital recorders Rapid Eye, Fusion, Intellex and Embedded Recorders. More recorders will be compatible with MAXPRO VMS in the future versions.

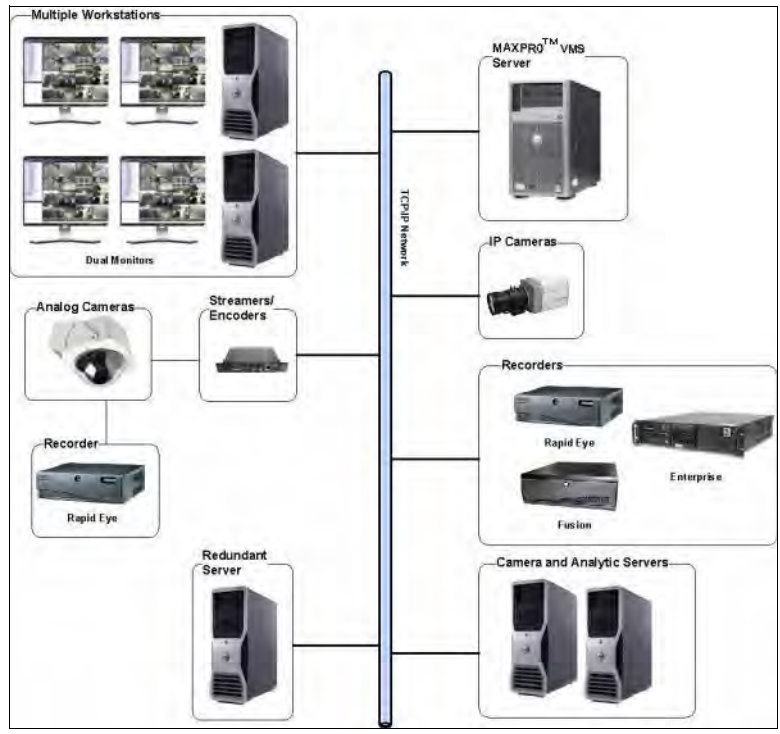
Examples of MAXPRO VMS Configuration

The scalable architecture enables you to expand or downsize the video surveillance network as and when needed. You can downsize the video surveillance network to a single client workstation and server configuration. It can also be expanded to include multiple client workstations and servers

The following diagram shows the single workstation architecture.



The following diagrams shows the multiple workstation architecture.



Typographical Conventions

This guide uses the conventions listed in the following table.

Font	What it represents	Example
Honeywell Sans Medium	Words or characters that you must type. The word “enter” is used if you must type text and then press the Enter or Return key.	Enter the password .
	Menu titles and other items you select	Double-click Open from the File menu.
	Buttons you click to perform actions	Click Exit to close the program.
Honeywell Cond Extrabold	Heading	Installation
Honeywell Sans Extrabold	Cross-reference to external source	Refer to the System Administrator Guide .
Honeywell Sans (Italic)	Cross-reference within the guide	See Installation .

SYSTEM REQUIREMENTS AND LICENSING

System Requirements

The following tables list the system requirements for MAXPRO VMS Server and Client computers.

Note: 32 bit systems are not supported.

MAXPRO VMS Server (Performance Spec with Windows 2012 Server Standard R2 64 bit, Windows 2016 Server Standard 64 bit, Windows 2019 Server Standard 64 bit up to 10 Clients)

Specification	Description
Processor	Intel Quad Core Xeon E3 1225V3 3.2GHz S1150
Recommended Operating System	Microsoft Windows® 2012 Server STD 64 Bit (for only Upgrade) Microsoft Windows® 2016 Server STD 64 Bit (Recommended for Fresh installation) Microsoft Windows® 2019 Server STD 64 Bit (Recommended for Fresh installation)
Recommended Computer Type (Server or Workstation)	Server - dual power supply suggested
Recommended System Memory (RAM)	16GB
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW

Specification	Description
Disk	Two separate hard drives or two sets of RAID arrays Disk / RAID set 1 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for Windows operating system, MAXPRO VMS Server Software, Microsoft SQL Server software Disk / RAID set 2 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for MAXPRO VMS database files Microsoft SQL Server database files Note: if fault tolerance is required RAID set one is RAID 1, 10 or 0+1 and RAID set two is RAID 10 or 0 + 1.
Multiple Monitor Card -Display Adapter (Video Resolution)	Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Serial Ports	Only required if serial device are to be connected - Suggested 8 Port MOXA PCI-e serial RS232
Network Connection	1Gbit/sec or greater.

MAXPRO VMS Server (Performance Spec with Windows 2012 Server Standard R2 64 bit, Windows 2016 Server Standard 64 bit, Windows 2019 Server Standard 64 bit up to 25 Clients)

Specification	Description
Processor	Intel 6 Core Xeon E5 2630V2 2.6GHz S2011
Recommended Operating System	Microsoft Windows® 2012 Server STD 64 Bit (for only Upgrade) Microsoft Windows® 2016 Server STD 64 Bit (Recommended for Fresh installation) Microsoft Windows® 2019 Server STD 64 Bit (Recommended for Fresh installation)
Recommended Computer Type (Server or Workstation)	Server - dual power supply suggested
Recommended System Memory (RAM)	32 GB (add "/pae" to boot.ini file to recognize more than 4GB of RAM)
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW

Specification	Description
Disk	Two separate hard drives or two sets of RAID arrays Disk / RAID set 1 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for Windows operating system, MAXPRO VMS Server Software, Microsoft SQL Server software Disk / RAID set 2 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for MAXPRO VMS database files Micro-soft SQL Server database files Note: if fault tolerance is required RAID set one is RAID 1, 10 or O+1 and RAID set two is RAID 10 or O + 1."
Multiple Monitor Card - Display Adapter (Video Resolution)	Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Serial Ports	Only required if serial device are to be connected - Suggested 8 Port MOXA PCI-e serial RS232
Network Connection	1Gbit/sec or greater.

MAXPRO VMS Server (Performance Spec with Windows 2012 Server Standard R2 64 bit, Windows 2016 Server Standard 64 bit, Windows 2019 Server Standard 64 bit above 25 Clients)

Specification	Description
Processor	Intel two Quad Core Xeon E5 2630V2 2.6GHz S2011
Recommended Operating System	Microsoft Windows® 2012 Server STD 64 Bit (for only Upgrade) Microsoft Windows® 2016 Server STD 64 Bit (Recommended for Fresh installation) Microsoft Windows® 2019 Server STD 64 Bit (Recommended for Fresh installation)
Recommended SQL	Full version of SQL for 2014/2016/2017. For Fresh installation, if the machine does not have the latest version of SQL then the installer will install SQL 2017 Express version. For Upgrade scenario, the system will retain the previously installed SQL version.
Recommended Computer Type (Server or Workstation)	Server - dual power supply suggested
Recommended System Memory (RAM)	32 GB (add "/pae" to boot.ini file to recognize more than 4GB of RAM)

Specification	Description
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW
Disk	Two separate hard drives or two sets of RAID arrays Disk / RAID set 1 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for Windows operating system, MAXPRO VMS Server Software, Microsoft SQL Server software Disk / RAID set 2 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for MAXPRO VMS data-base files Microsoft SQL Server database files Note: if fault tolerance is required RAID set one is RAID 1, 10 or 0+1 and RAID set two is RAID 10 or 0 + 1.
Multiple Monitor Card - Display Adapter (Video Resolution)	Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Serial Ports	Only required if serial device are to be connected - Suggested 8 Port MOXA PCI-e serial RS232
Network Connection	1Gbit/sec or greater.

MAXPRO VMS Workstation Computer (Standard Spec with Windows 10 Enterprise 64-Bit (Upgrade Only) up to 1 monitors)

Specification	Description
Processor	Intel(R) Core(TM) i7-8700 CPU @ 3.4GHz
Recommended Operating System	Microsoft Windows® 10 Enterprise (64 bit)
Recommended Computer Type (Server or Workstation)	Workstation
Recommended System Memory (RAM)	8GB.
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW.
Disk	Single Disk or RAID 0 or 0+1 10K SATA 80GB or 10K to 15K SAS 73GB: Windows Operating System

Specification	Description
Multiple Monitor Card - Display Adapter (Video Resolution)	1 x 1024 MB PCIe x16 NVIDIA NVS510, DVI or VGA or HDMI Intel® HD Graphics Version 25.20.100.6617
Network Connection	1Gbit/sec or greater.
Video Resolution	1920*1080P and 4k

MAXPRO VMS Workstation Computer (Standard Spec with Windows 10 Enterprise 64-Bit (Upgrade Only) up to 2 monitors)

Specification	Description
Processor	Intel(R) Core(TM) i7-8700 CPU @ 3.4GHz
Recommended Operating System	Microsoft Windows® 10 Enterprise (64 bit)
Recommended Computer Type (Server or Workstation)	Workstation
Recommended System Memory (RAM)	8GB.
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW.
Disk	Single Disk or RAID 0 or 0+1 10K SATA 80GB or 10K to 15K SAS 73GB: Windows Operating System
Multiple Monitor Card - Display Adapter (Video Resolution)	2 x 1990MB PCIe x16 NVIDIA NVS 300, Dual DVI or Dual VGA or DVI+VGA. This is for a four monitor setup with each monitor requiring 1024 MB approximately Intel® HD Graphics Version 25.20.100.6617
Network Connection	1Gbit/sec or greater
Video Resolution	1920*1080P and 4k

MAXPRO VMS Workstation Computer (Standard Spec with Windows 10 Enterprise 64-Bit (Upgrade Only) up to 4 monitors)

Specification	Description
Processor	Intel(R) Core(TM) i7-8700 CPU @ 3.4GHz
Recommended Operating System	Microsoft Windows® 10 Enterprise (64 bit)
Recommended Computer Type (Server or Workstation)	Workstation
Recommended System Memory (RAM)	16GB.
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD +/- RW.
Disk	Single Disk or RAID 0 or 0+1 10K SATA 80GB or 10K to 15K SAS 73GB: Windows Operating System
Multiple Monitor Card - Display Adapter (Video Resolution)	4 x 4038 MB PCIe x16 NVIDIA NVS 510, Dual DVI or Dual VGA or DVI+VGA. This is for a four monitor setup with each monitor requiring 1024 MB approximately. Intel® HD Graphics Version 25.20.100.6617
Network Connection	1Gbit/sec or greater
Video Resolution	1920*1080P and 4k

Viewing the Version and License Information of MAXPRO VMS

You can view the version and license information of MAXPRO VMS from the user menu.

1. Click the User menu. The user menu options appear.
2. Click About. The version and license information of MAXPRO VMS displays.

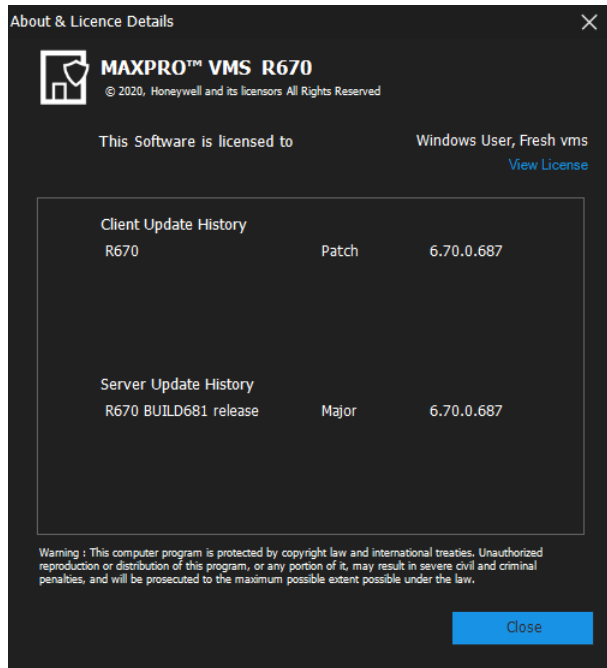


Figure 1-1 About MAXPRO VMS

Generating and Installing the License for MAXPRO VMS

The MAXPRO Video Management System (MAXPRO VMS) setup comes with a 90 day trial period and enables you to add up to 10000 cameras across all Digital Video Recorders (DVR) and 25 clients. MAXPRO VMS supports 17 integrations. You need to purchase license to continue using MAXPRO VMS. You can purchase license for any number of cameras and clients.

Before you begin

Procure the voucher number from the MAXPRO VMS sales support team. To contact the MAXPRO VMS sales support team, USA customers go to the URL: <http://www.honeywellvideo.com/contact/sales/index.html> and European customers send an email to HISHelp.Europe@honeywell.com.

To purchase and install MAXPRO VMS license

1. Click the About option in the user menu. The About MAXPRO Video Management System dialog box appears.
2. Click License. The License Management Console dialog box appears.

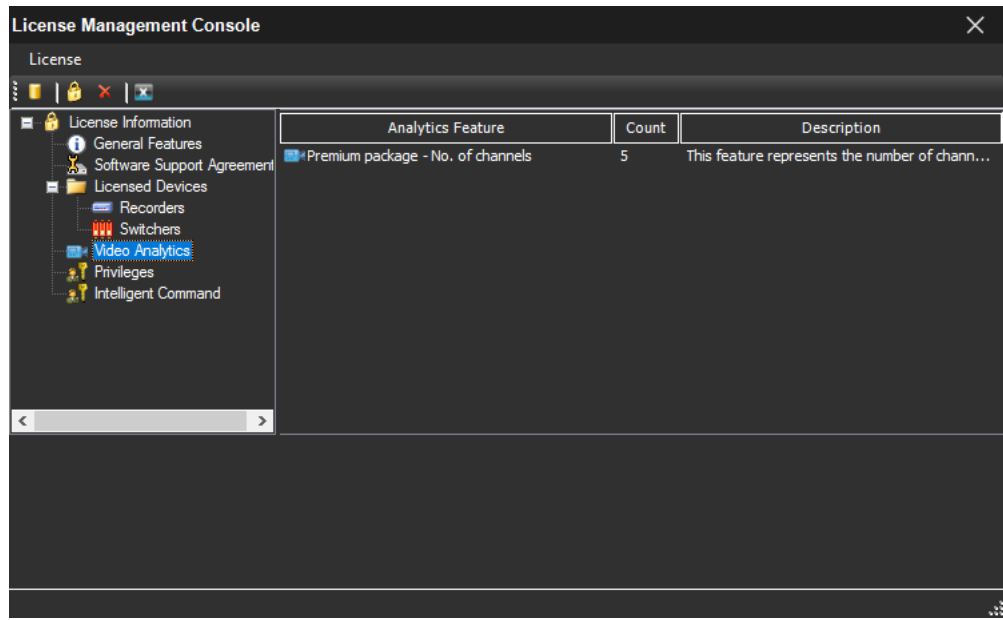


Figure 1-2 License Management Console

3. In the License window, click Create Host ID File. The Browse For Folder dialog box appears.
4. Select the path where you want to generate Host ID file, and then click OK.

Note: Host ID is a unique ID generated for the computer.

5. Send the Host ID file with the voucher number as the subject videolicenserequests@honeywell.com through email. For example, if the voucher number is 4356-6754-0000-78556-985436 type, VOUCHID: 4356-6754-0000-78556-985436 in the subject.
6. Honeywell reverts with a unique license certificate to your email. Copy the file and paste it in a folder.
7. Perform *step 1* and *step 2* and then select Install License in the License window. The New License Configuration Wizard dialog box appears.
8. Click Next. The Locate Your License File dialog box appears.
9. Click the Browse button to locate your license certificate, and then click Next. The License Comparison dialog box appears.
10. The License Comparison dialog box displays the details of the existing license and the newly procured license. Compare the columns Existing License and Selected License corresponding to General Features and Devices, and then click Next. The Device Configuration Changes dialog box appears.

Note: Any discrepancy in the license must be notified to Honeywell Sales Support. For example, the maximum supported cameras row under Selected License column displays the number of cameras for which the license is purchased. If the number of cameras is less or more than number of cameras for which the license was purchased, contact the Honeywell Sales Support immediately.

11. Check for the accuracy of details, and then click Next. The Confirm New License dialog box appears.
12. Click Finish. The New License Configuration Wizard dialog box appears.
13. Click Yes.

Note: You can install the License only in Server Machines. If you try to install the license in Client machine it will fail.

Terminating the License

You can terminate the license when you do not want to use MAXPRO VMS or when you want to use the existing license on a different computer.

To terminate license

1. Click the About option in the user menu. The About MAXPRO Video Management System dialog box appears.
2. Click License. The License Management Console dialog box appears.
3. In the License window, click Terminate License. A message asking for confirmation appears.
4. Click Yes. The Browse for Folder dialog box appears.
5. Select the path to save license terminate certificate file.

To use the existing license in a new computer

1. Generate the Host ID file for the new computer.
2. Send the Host ID file, license terminate certificate file, and the voucher number to videolicenserequests@honeywell.com.
3. Honeywell reverts back with a unique license certificate. Copy the file and paste it in a folder.
4. Perform *step 9* through *step 13* of To purchase and install MAXPRO VMS license procedure.

Note: You can upgrade the number of clients and cameras by purchasing the upgrade license. Upgrade license helps you to add more clients and cameras along with the existing clients and cameras. You can also purchase supersede license if you do not want to continue with the existing clients but add new clients to the MAXPRO VMS unit.

To use the existing license in a new computer

1. Generate the Host ID file for the new computer.
2. Send the Host ID file, license terminate certificate file, and the voucher number to videolicenserequests@honeywell.com.
3. Honeywell reverts back with a unique license certificate. Copy the file and paste it in a folder.

4. Perform *step 9* through *step 13* of To purchase and install MAXPRO VMS license procedure.

Note: You can upgrade the number of clients and cameras by purchasing the upgrade license. Upgrade license helps you to add more clients and cameras along with the existing clients and cameras. You can also purchase supersede license if you do not want to continue with the existing clients but add new clients to the MAXPRO VMS unit.

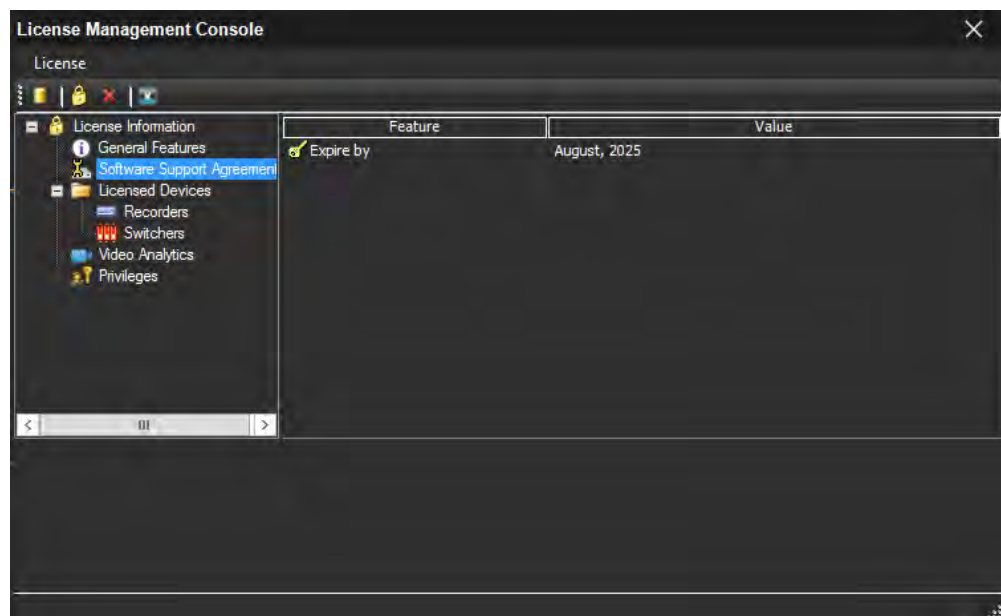
SSA - Software Service Agreement for MAXPRO

Software Service Agreement (SSA) is a flexible version specific licensing process which allows a user to get the support on the MAXPRO VMS licenses across multiple versions. From R600 release user need to buy a valid license for R600 to upgrade or for fresh installation. In addition user can buy SSA support license for a specific duration which helps to get support from Honeywell.

Please contact Honeywell Customer support. See the back cover for the contact information in respective regions.

Note: license is valid only for a specific release. When applied, on a wrong version, the license will be rejected. For example if you install R500 license on a R600 installed machine, then a message **Selected license is invalid for MAXPRO VMS R600.** Please select correct license file is displayed.

To install the procured license see [Generating and Installing the License for MAXPRO VMS](#) for more information. Once the SS A license is procured and installed, the License console Management window displays the SSA info entry as shown below.



Viewing the Version and License Information for Recorder

To view license information of a recorder

1. Click the Configurator tab.
2. Expand Devices in the navigation area and then click Recorders. The Recorders screen appears in the display area.
3. Double-click the recorder or select the recorder, and then click Update. The general settings for the recorder appear.
4. Click the Advanced Settings tab.
5. Click the About tab. The version and license information is displays. The following table lists the version and license details.


Version Information	
Version	The version of recorder.
Host Information	
Host Name	The name of the EBI, Experion, or HSS server, if the recorder is used in conjunction with EBI, Experion, or HSS server. None, if the recorder is not used in conjunction with EBI, Experion, or HSS server.
General License Information	
Cameras	The number of cameras licensed for your system.
IE Clients	The number of Microsoft Internet Explorer clients licensed for your system.
Redundancy	Indicates whether database server redundancy is licensed for your system.
Video Analytics License Info	
Premium Algorithm	Indicates whether the premium algorithm is licensed for your system.
Object Tracking Algorithm	The number of cameras licensed to use the object tracking algorithm.
Object Tracking and Classification Algorithm	The number of cameras licensed to use the object tracking and classification algorithm.
Stationary Object Detection Algorithm	The number of cameras licensed to use the stationary object detection algorithm.
Third Party License Information	

Third party licenses	Click View Licenses to see the license details of third party products used by the recorder for functions, such as video compression.
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Logging on using profiles

The MAXPRO VMS server addresses are saved in profiles. You need to select the profile before logging on. You can set a profile as the default profile. When a profile is set as default, you do not need to select the profile each time you log on to MAXPRO VMS. You can also modify and delete profiles.

Logging on to MAXPRO VMS

1. Double-click  in the desktop. The Log On dialog box appears.
or
Click Start -> Programs -> Honeywell -> MAXPRO VMS. The Log On dialog box appears.

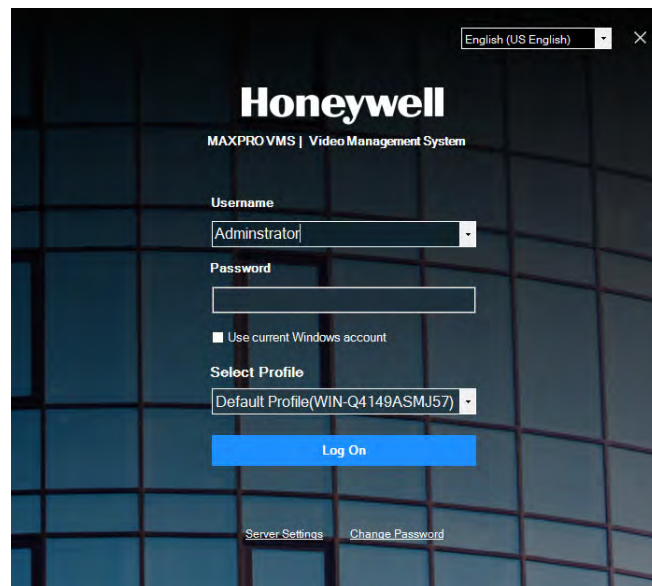



Figure 2-1 MAXPRO VMS Log on

2. Click the Language option, and then select the required language.

3. In the User Name box, type the user name. The default user name is “Admin”.
4. In the Password box, type the configured password.

Note: Honeywell recommends you to change the default Password before you logon to MAXPRO VMS. See [Changing the Default Password](#) section. Refer to [Securing MAXPRO® VMS Technical Notes](#) for further details. Logon as Administrator only when an administrative activity need to be performed, Operator is preferred for all other activity.

Select the Windows Logged-In User check box for logging on using the Windows user name and password. If the Windows Logged-In User check box is cleared, the MAXPRO VMS user name and password is used for authentication.

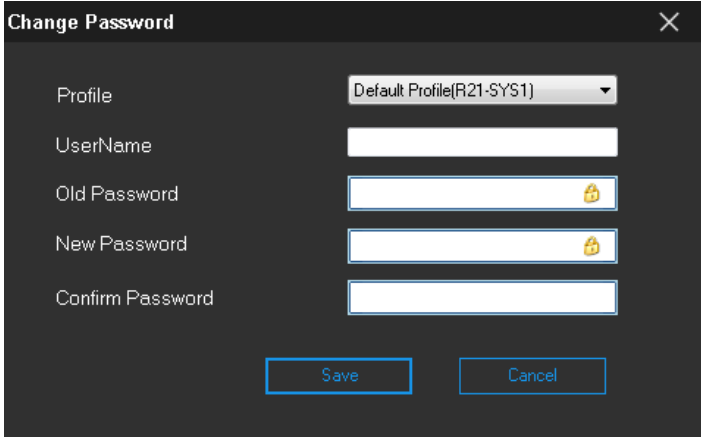
5. In the Profiles box, select the profile corresponding to the MAXPRO VMS server you want to connect to and press ENTER or click .

Changing the Default Password

Honeywell recommends you to change the default password and create a new password before logging on to MAXPRO VMS software. Refer to [Securing MAXPRO® VMS Technical Notes](#) for further details

To change the default password:

1. In the client workstation, double-click  in the desktop to display the Log On dialog box.
2. Click Change password. The Change Password dialog box appears.



The image shows a 'Change Password' dialog box with a dark background. It contains the following fields and controls:

- Profile:** A drop-down menu currently showing 'Default Profile(R21-SYS1)'.
- UserName:** A text input field.
- Old Password:** A text input field with a lock icon on the right.
- New Password:** A text input field with a lock icon on the right.
- Confirm Password:** A text input field.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom.

3. Select the Profile from the drop-down list for which you want to change the password.
4. Type the Username. For Fresh installation admin is the user name.

5. Type the Old Password.

Note: Old password is blank for Fresh installations.

In upgrade scenarios, enter the old password which is configured before upgrading. Refer to [Securing MAXPRO® VMS Technical Notes](#) for further details. Logon as Administrator only when an administrative activity need to be performed, Operator is preferred for all other activity.

6. Type the New password. The new password should meet the following requirements:

- minimum character Length should be 12
- one number
- one uppercase letter and
- one special character

7. Type the new password once again to Confirm Password.

8. Click Save.

Password Requirement

Ensure that the new password must meet the following requirements.

1. Minimum length – 12 and Maximum length – 20
2. Password should consists one number, one uppercase letter and one special character.
 - a. Number– a digit zero through nine in any script except ideographic scripts.
 - b. Uppercase letter – any kind of letter from any language which has uppercase variant.
 - c. Special character – any kind of punctuation character – any kind of hyphen, dash, opening bracket, closing bracket, quotes, underscore etc

Saving a Server Address in a Profile

1. In the client workstation, double-click  in the desktop to display¹ the Log On dialog box.
2. Click Server Settings. The Server Settings dialog box appears.

1.

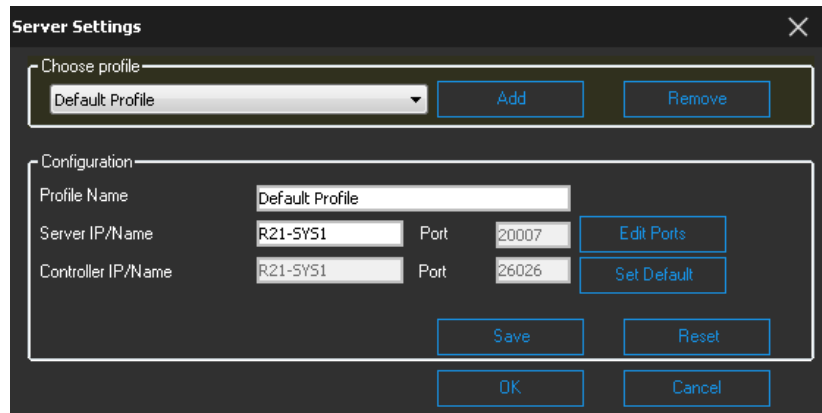


Figure 2-2 Server Settings

3. Click Add.
4. In the Profile Name box, type a name to identify the profile.
5. In the Server IP/Name box, type the numerical IP address or the network name of the MAXPRO VMS server.
6. Click Save.
7. Click OK. The server address is saved in the profile.

Note: You can click Set Default to set the profile as default profile.

Setting the Default Profile

To set the default profile

1. Select the profile you want to set as default before logging on to MAXPRO VMS.
2. In the user menu, click Profiles and select Set Default Profile. The profile is set as the default profile. The default profile appears selected in the Profile box in the Log On dialog box.

Modifying a Profile

You can modify the profile name and the server address saved in the profile.


To modify a profile

1. In the client workstation, double-click  in the desktop to display the Log On dialog box.
2. Click Server Settings. The Server Settings dialog box appears.

3. In the Choose Profile box, select the profile you want to modify. The profile details appear under Configuration in the Server Settings dialog box.
4. In the Profile Name box, you can change the profile name.
5. In the Server IP/Name box, you can change the server address.
6. Click Save.
7. Click OK.

Deleting a Profile

To delete a profile

1. In the client workstation, double-click  in the desktop to display the Log On dialog box.
2. Click Server Settings. The Server Settings dialog box appears.
3. In the Choose Profile box, select the profile you want to delete.
4. Click Remove.
5. Click OK. The profile is deleted.

Logging Off

You can log off from MAXPRO VMS from the user menu. The name of the currently logged in user is displayed as the user menu on the top right of each screen.

To log off from MAXPRO VMS

1. Click the User menu. The user menu options appear.
2. Click Log Off. The log on dialog box is displayed after logging off from MAXPRO VMS.

Closing the MAXPRO VMS User Interface

You can close the MAXPRO VMS user interface from the user menu. The name of the currently logged in user is displayed as the user menu on the top right of each screen.

To close the MAXPRO VMS user interface

1. Click the User menu. The user menu options appear.
2. Click Exit. A dialog box appears prompting you to confirm the action.
3. Click Yes.

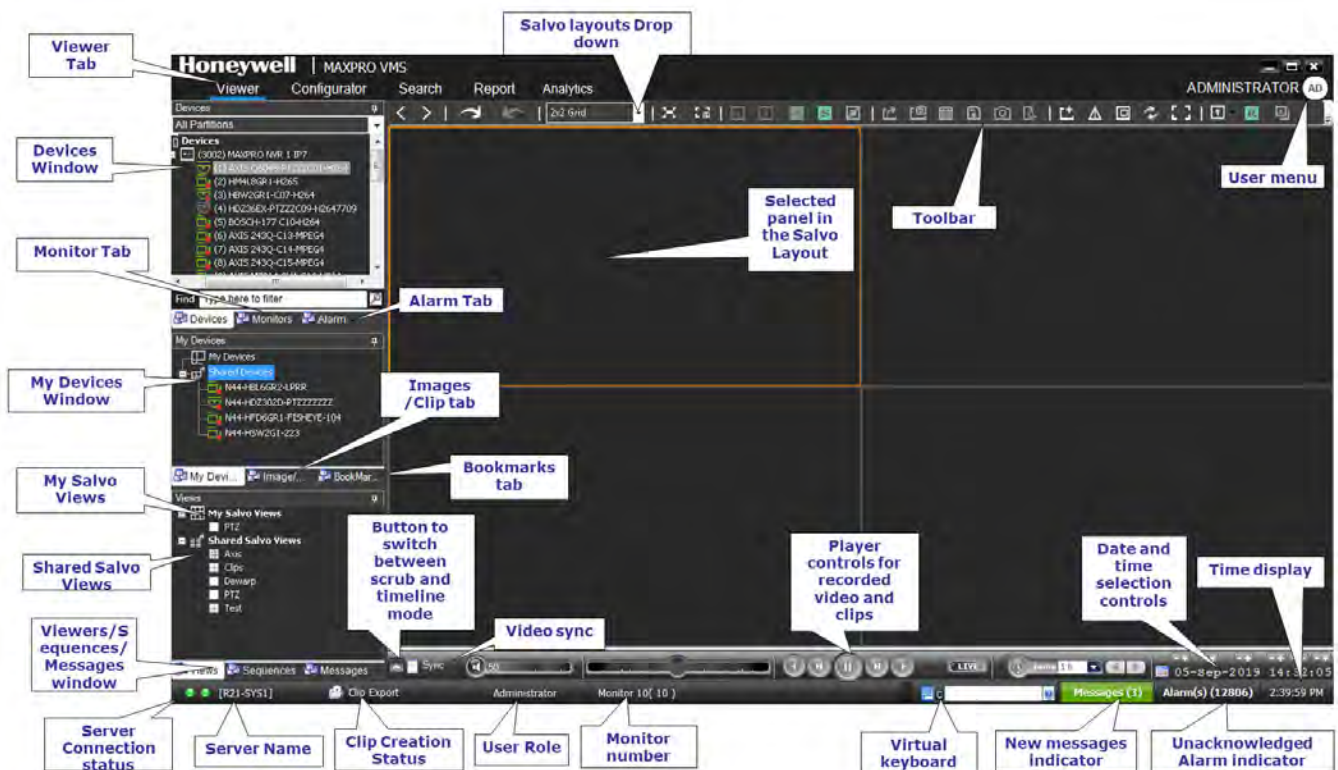
Familiarizing with the MAXPRO VMS user interface

The user interface of MAXPRO VMS is easy-to-use because of its intuitive icons and user friendly features. You can monitor the sites and configure the devices in the video surveillance network through the MAXPRO VMS user interface. The user interface consists of tabs, tree-structures, status bar, floating windows, and icons. On opening the user interface, you see five tabs, namely the Viewer, Configurator, Search, Report and Analytics. Based on the tab you select, windows, tree structures, and other settings relevant to the tab appear on the screen.



A status bar is displayed in the lower part of the user interface. The status bar indicates the connection status with the MAXPRO VMS server and controller, the MAXPRO VMS server name, status of clip creation, role of the user, number of unacknowledged alarms, number of messages sent to you, the CPU usage, and time. In addition, you can turn on the Virtual Keyboard feature to select salvo layouts, panels, cameras, and monitors.

Viewer tab

The following figure illustrates the Viewer tab.



The following components are displayed on the screen.


Component	Description
Devices window	<p>A floating window that displays recorders, switchers, and cameras in a tree structure. You can select one or more devices from the Devices window to view video in the Salvo Layout.</p> <p>A drop-down list on the top of the Devices window lists the partitions. You can select a partition in the drop-down list to view the devices from the particular partition. Selecting the All Partitions option in the drop down box displays the devices from all the partitions in the tree view.</p> <p>The status of the devices also appear in the window. See . You can right-click on the devices to display context menu.</p> <p>Intellisense search</p> <p>The Intellisense search option makes the search of cameras simpler and easier. When a part of the camera name is types in the text box, the Intellisense search displays the list of cameras that are connected to various recorders in the Devices window. For example, if you are searching for Camera 2 connected to particular recorder, then type Ca in the text box, the list of camera names that contain 'ca' are displayed.</p> <p>Intellisense search also supports wild characters while searching. For example,</p> <ul style="list-style-type: none"> • ca* – camera names that begins with the 'ca' are displayed. • *ca – camera names that ends with the 'ca' are displayed. • *ca* – camera names that contain the 'ca' are displayed. • !ca – cameras that does not have 'ca' in their name are displayed. <p>Select the required filter string and click on the filter button. You can toggle between the Filter On and Off mode using the option  or right-click , and select between Filter ON and Filter OFF. The hot key to activate intellisense search is F4.</p>

Component	Description
Devices window continued...	<p>The context menu options in the Devices window include:</p> <ul style="list-style-type: none"> • Show Live - to view live video. • Preview - to view the preview of a particular camera for different timings in a day. • Calender - to view the video for the current month. • Snapshot View - to view the snapshots from the recorded video. You can view the snapshots from 1 second, 5 seconds, 15 seconds, 1 minute, 5 minutes, 15 minutes, 30 minutes, 45 minutes, 1 hour, 3 hours, 6 hours, 12 hours, and 1 day. • Show Device ID - to display the device ID. The ID is specified while adding the device and is useful to perform operations using virtual keyboard. • Hide Device ID - to hide the display of device ID. • Refresh - to refresh the camera status. • Refresh from Device - to refresh the camera status from device. • Reload Device - to reload device. • Group By - to group the cameras based on the site or device. • Sort By - to sort the list of devices by name or callup number. By default, names and callup numbers are sorted in ascending order. • Add to MyDevices - to add devices to MyDevices. • Collapse All - to collapse the device tree. • Expand All - to expand the device tree.
Monitors window	<p>Click to display a floating window that lists the monitors. You can view both analog and digital monitors from this window. A drop-down list on the top of the Monitors window lists the partitions. You can select a partition in the drop-down list to view the monitors from the particular partition. Selecting the All Partitions option in the drop down box displays the monitors from all the partitions in the tree view. You can right-click on the Monitors to display context menu. The context menu options include:</p> <ul style="list-style-type: none"> • is specified while adding the device and is useful to perform operations using virtual keyboard. • Show Device ID - to view the device ID. The ID Add to MyDevices - to add devices to MyDevices. • Sort By Name - to sort the list of devices by name. By default, names are sorted in ascending order. • Expand All - to expand the monitors tree. • Collapse All - to expand the monitors tree.
Alarm Window	<p>Click to display a floating window that lists the alarms. You can acknowledge and clear the alarms from this window.</p>

Component	Description
Image/Clip Window	<p>Click to display a floating window that lists the images and clips in a tree structure. You can select the images and clips to view. You can right-click on the images folder or the images to display context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Refresh - to refresh the images/clips in the respective folder. • Verify Package - to extract the package clip • Image View - to view the images. • Show In Folder - to view the folder in which the images are stored. • Add New Location - to add a new location other than default location to store the clip export • Remove Location - You can remove the newly added location • Search For Multiple Clips - to search for multiple clips • Switch To List View - to view the images/clips in list view other than folder view • Delete - to delete an image.
Bookmarks Window	<p>Click to display a floating window which includes the list of bookmarks created by the user. These bookmarks are displayed based on the user privileges. You can right-click on the any Bookmark to display context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Play From Bookmark Time - to view the video from the specific bookmark time. You can also drag and drop any bookmark on to the video panel to view video from that bookmark time. • Send Message - to send Bookmark to the desired users in the form of operator message • Delete - to delete the selected bookmark.

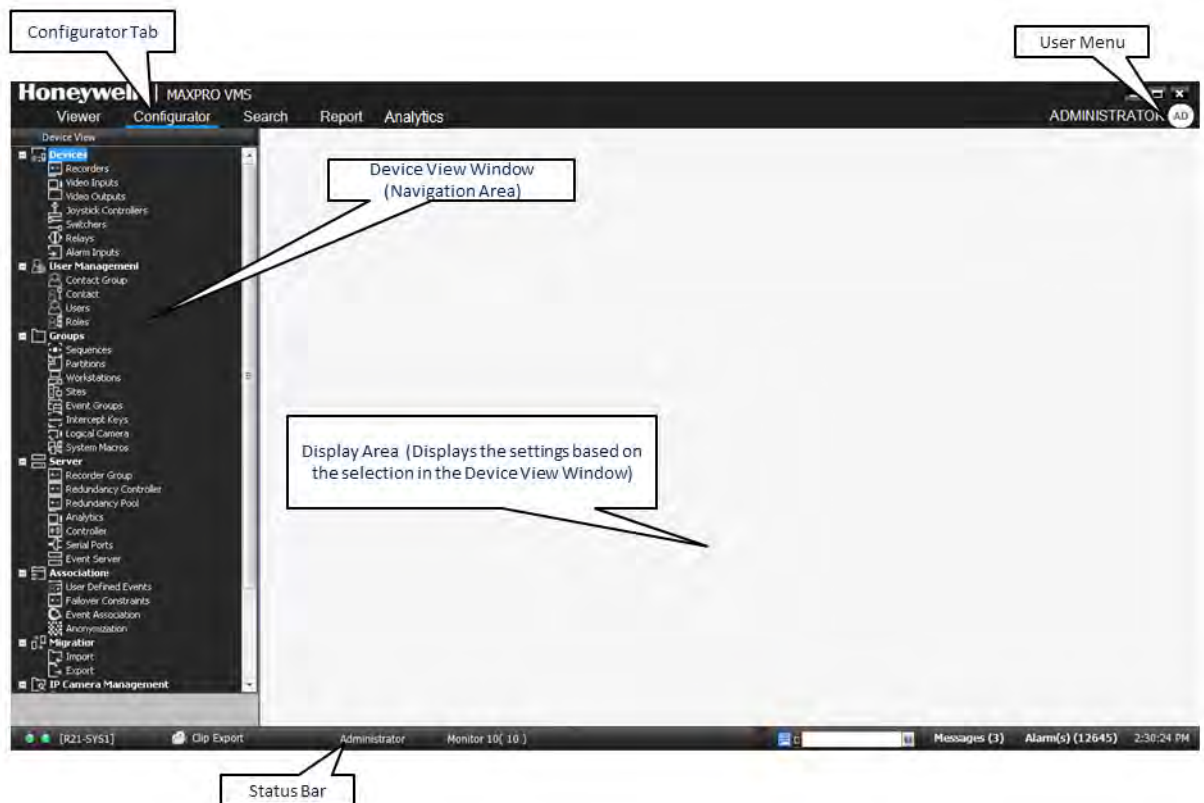
Component	Description
<p>My Devices Window</p>	<p>A floating window that lists in a tree structure, the devices such as cameras, monitors, and sequences. You can drag and drop devices from the Devices, Sequences and Monitors window to MyDevices window You can group these devices according to your preferences in separate folders. To create a folder</p> <ol style="list-style-type: none"> 1. Right-click on MyDevices or SharedDevices in the My Devices window and select Add New Folder. A new folder appears with a default name. 2. Type a name for the folder and press ENTER. <p>Note: Ensure that the folder name should not contain & character. If the folder name contains & character you cannot drag drop the folder in VMS viewer. This feature is useful to group video sources which are frequently selected. The video sources can be selected easily when needed instead of looking in the Device window which generally consists of many video sources. The status of the devices also appear in the window. The devices are displayed only when the user who included the devices in My Devices window logs on. You can copy a device from MyDevices to Shared Devices and from Shared Devices to MyDevices using the drag and drop option. Devices grouped under shared devices are displayed on all client workstations irrespective of the logged in user. To group devices under SharedDevices, drag and drop the devices from MyDevices. Similarly you can drag and drop to copy devices from SharedDevices to MyDevices. This ensures that you retain the device even if an operator deletes the device in SharedDevices.</p>
<p>My Devices window continued...</p>	<p>You can right-click on my devices to display a context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Show Live - to view live video. • Preview - • Show Device ID - to display the device ID. The ID is specified while adding the device and is useful while performing or using virtual keyboard. • Remove - to remove the device from the list. • Refresh - to refresh the camera status. • Refresh Tree - to refresh the tree list. • Refresh from Device - to refresh the camera status from device. • Sort By Name - to sort the list of devices by name. By default, names are sorted in ascending order.

Component	Description
Messages window	<p>You can right-click on the devices to display a context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Review - to review the message. • Show Live - to view live video. • Send To - to forward the message to operators or digital monitors. • Clear - to clear the message. • Clear All - to clear all the messages.
Sequences window	<p>Click to display a floating window that lists the sequences. You can play the sequence using the play sequence action.</p> <p>You can right-click on the devices to display a context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Play Sequence - to play any sequence. • Show Sequences ID - to display the device ID. The ID is specified while adding the device and is useful to perform operations using virtual keyboard. • Add to My Devices - to add sequences to My Devices list. • Sort By Name - to sort the list of sequences by name. By default, names are sorted in ascending order.
Views window	<p>A floating window that lists the salvo views. View window consists of My Salvo Views and Shared Salvo Views. Salvo views corresponding to the logged on user are listed under My Salvo Views in Views window. You can copy a salvo view from My Salvo Views to Shared Salvo Views using the drag and drop option or right-click and select Add to Shared Salvo Views. Similarly, you can copy a salvo view from Shared Salvo Views to My Salvo Views using the drag and drop option. Devices grouped under Shared Salvo Views are displayed on all client workstations irrespective of the logged in user.</p> <p>To add a salvo view to Shared Salvo Views, right-click on a salvo view, and then click Add to Shared Salvo Views. You can copy a salvo view from Shared Salvo Views to My Salvo Views by dragging and dropping a salvo view.</p> <p>You can right-click on the devices to display a context menu. The context menu options include:</p> <ul style="list-style-type: none"> • Show - to view the salvo view. • Rename - to rename a salvo view. • Remove - to remove a salvo view. • Save - to save a salvo view. • Add to Shared Salvo Views - to add a salvo view to the Shared Salvo views. • Show View ID - to display the view ID. The ID is specified while adding the device and is useful to perform operations using virtual keyboard. • Refresh Tree- to refresh the tree list. • Sort By Name - to sort the list of salvo views by name. By default, names are sorted in ascending order.

Component	Description
Salvo Layout	An arrangement of panels in which video is displayed.
Timeline window	A window that enables you to view recorded video from a specific date and time. It also consists of other features such as loop playback of video using mark in and mark out and selective viewing through bookmarks. You can also view the Redundant recorder recordings in a different color. You can also create clips from video recordings. You can select between the scrub mode or full timeline mode using  .

Configurator tab

The following figure illustrates the Configurator tab.

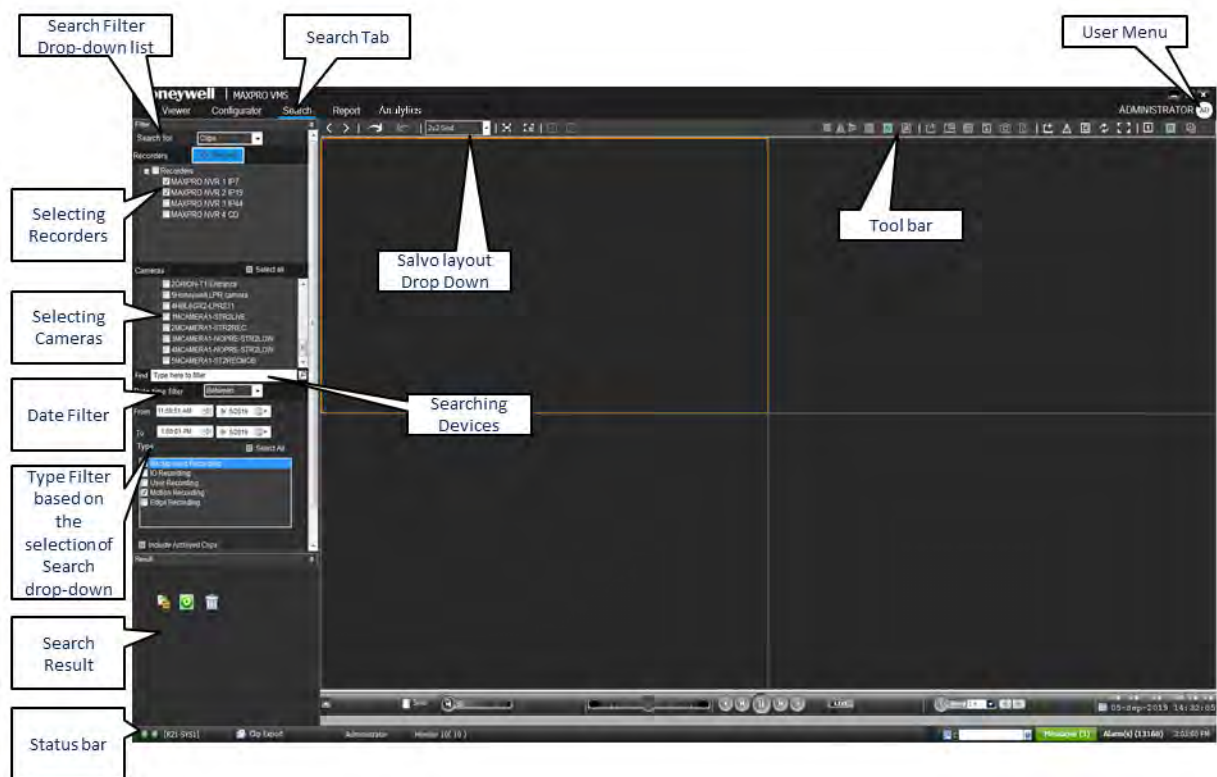


The settings in the Configurator tab enable you to add and configure the video devices and setup the MAXPRO VMS system.

Search tab

The following figure illustrates the Search tab.

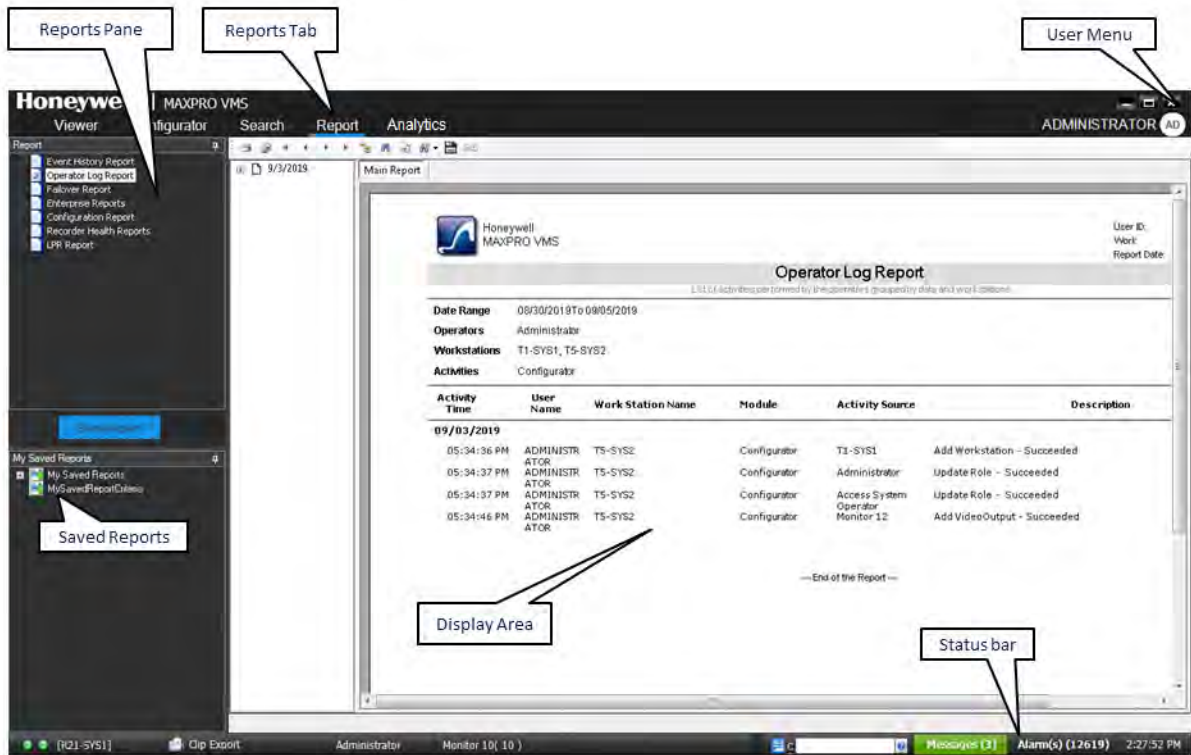
Components	Description
Device View Window (Navigation Area)	Displays branches in a tree structure namely, Devices, User Management, Groups, Server, Association, Migrator, IP Camera Management and Scheduling. Each branch can be expanded to display more items. For example, the Devices branch when expanded displays items such as Recorders and Cameras. Selecting an item displays the relevant settings in the display area. For example selecting the Recorders displays the settings to add, update, and delete recorders.
Display Area	Displays the settings based on your selection in the Device View window.



You can search for recorded video and events from various recorders from the Search tab.

Report tab

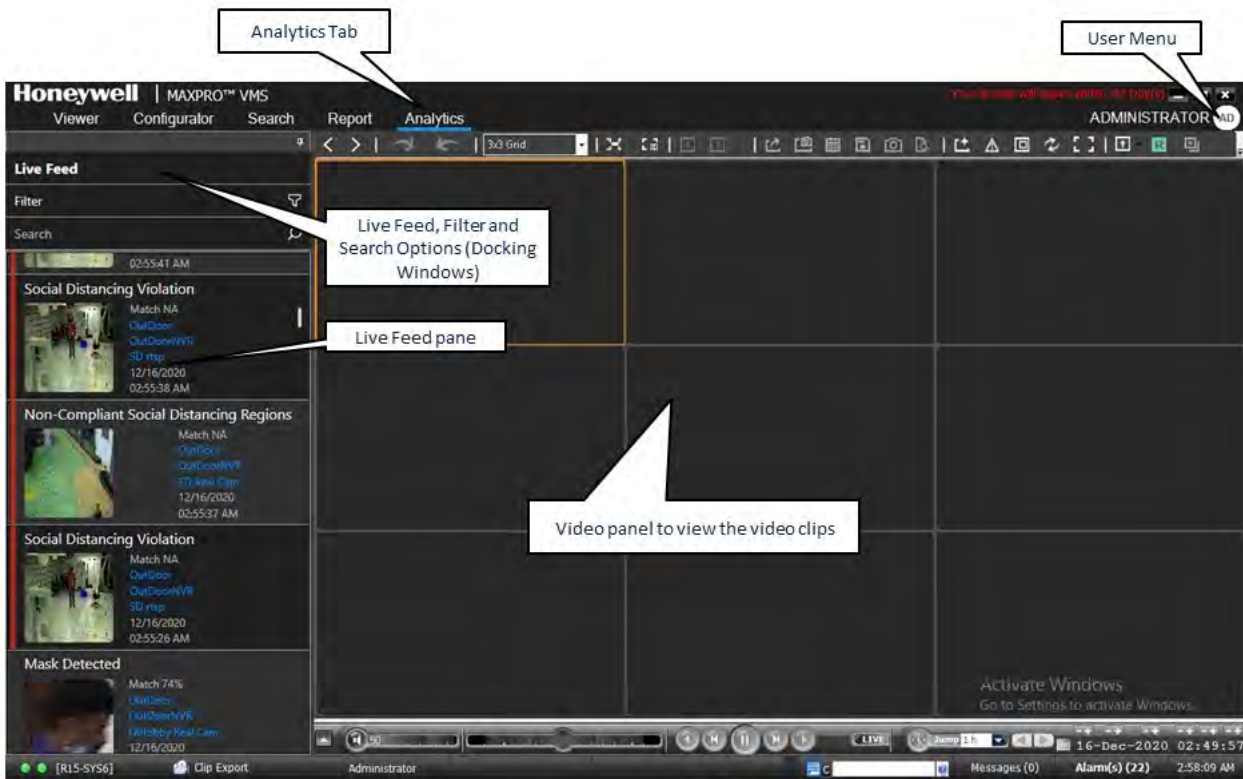
The following figure illustrates the Report tab.



You can generate the event history and operator log report from the Report tab.

Analytics Tab

The following figure illustrates the Analytics tab.



Introducing Web Client

The MAXPRO VMS Web Client allows you to remotely access the MAXPRO VMS server and perform video surveillance using a web browser such as Internet Explorer. It gives you the flexibility to view live video and perform the basic video surveillance functions remotely over the web.

MAXPRO VMS Web client is available with MAXPRO VMS R310 Build 321 or above. By default MAXPRO VMS installs the Web client and MAXPRO Web Configurator along with the VMS R310 installation. You can use the web client once you have installed the VMS R310 Build 321 or above.

MAXPRO VMS Web Client functions involve the following tasks:

- Viewing the live video
- Viewing Recorded Video (Playback)
- Taking Snapshot
- Viewing Presets

Installing Web Client

By default MAXPRO VMS R310 Build 321 or above installs the Web Client component on your machine. It also installs the MaxproWEBConfigurator utility to change or update the system and server configuration. If you want to access the MAXPRO VMS Server using Web Client remotely through a supported web browser then you should install Silverlight on the remote machine.

Note: *If the VMS install or upgrade prompts to install the MAXPRO Web component manually, refer to steps in appendix B for manual install*

Prerequisites to access MAXPRO VMS Server through Web Client

The following are the prerequisites to access the MAXPRO VMS server through Web Client.

- Silverlight: Ensure that Silverlight version 5 and above is installed on your machine. If you don't have the Silverlight plug-in on your machine, you can download it from the following Microsoft link. "<http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx>"
- Web Browsers Supported on Windows Systems: Ensure that Internet Explorer version 8 or above, or Firefox version 15.0.1 or above or Chrome version 32.x or above is installed on your PC.
- Web Browsers Supported on MAC systems: Ensure that Safari version 7 or above is installed on your MAC machine.

Caution: For better security, close the browser upon logout.

Setting the MAXPRO Web Configurator

MAXPRO VMS by default installs the Web Configurator and  is displayed on your desktop.

MAXPRO VMS Web Configurator is a utility and it allows you to perform the following:

1. System Configuration
2. Server Configuration
3. Security Configuration

System Configuration tab: The system configuration tab allows you to:

- update the administrator user credentials used by the web server. By default admin is the username and type the configured password. It is recommended not to change the default settings.

Note: *You can update only the Administrator credentials used by Web Server only. The Administrator credentials used by the Web Server should be configured as a non-Windows Administrator user in the MAXPRO VMS through the desktop client.*

- allows you to enable the operations for cameras from web client. It is not recommended to use this feature in the current release.
- allows you to select the FPS for a better Stream quality. It is recommended not to change the default settings.
- select the protocol for secure communication. The available options are HTTP and HTTPS. By default HTTP is set.

Server Configuration tab: The server configuration tab allows you to update the Web Server and MAXPRO VMS Server IP details.

Security Configuration tab: The Security Configuration tab automates the manual process of Creating Self Signed Certificate, Installing the Certificate, Binding the generated certificate with https and registers the same with IIS to use the same. It also allows you to configure the Silverlight control to access a service in another domain.

Note: *Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.*

To set the Web Configurator

1. Double-click  on the desktop. The MAXPRO Web Configurator dialog box appears.

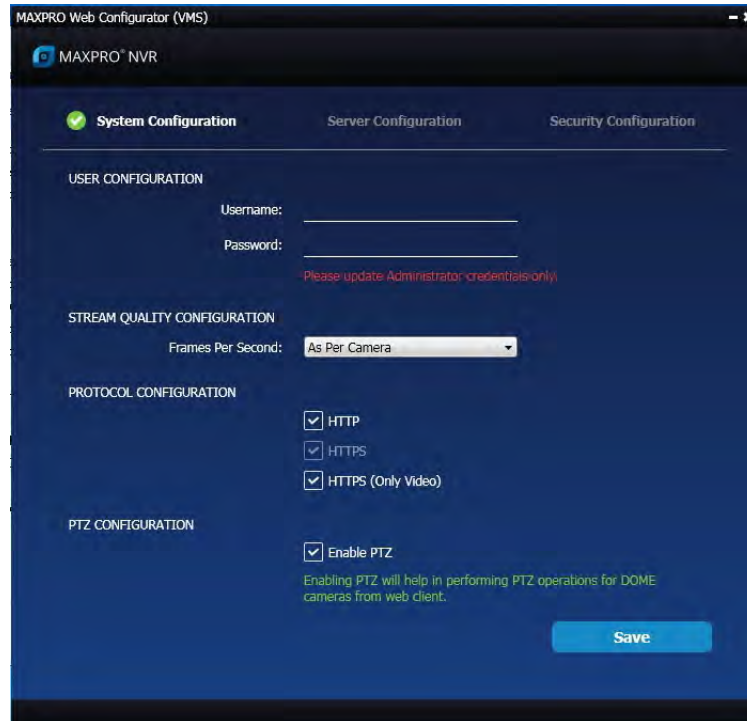


Figure 2-3 System Configuration

Note: By default the System Configuration tab is selected.

2. Under User Configuration: When the (non-window) Administrator login name and password is changed then you can update the credentials here to change the login and password of MAXPRO VMS Web Client to logon to web client.
 - Type the Username and Password and then click Update.

Note: You can update only the Administrator credentials used by the Web Server. If you are changing the default administrator user credentials in VMS through the desktop client, then you should change and update the credentials in MaxproWEBConfigurator as well for Web Server to communicate with VMS and Web Clients to work.

The Administrator credentials used by the Web Server should be configured as a non-Windows Administrator user in the MAXPRO VMS through the desktop client. As a good security practice, it is recommended to update the default credentials on your system.

3. Under Stream Quality Configuration:
 - Select the required FPS options as applicable and then click Save. The available options are:

- **As Per Frame:** Select this option to view the video as per the camera stream settings. If the camera supports 30 frames per second to stream the video then you can view 30 frames per second and accordingly your bandwidth is consumed. By default As Per Frame option is selected and it is recommended not to change this option, because this provides you with the best quality video.
 - **Only IFrame:** select this option if your bandwidth is low and if you want to view only one IFrame per second.

Note: MAXPRO VMS Web Client supports streaming quality resolution up to 1080p. Cameras configured above 1080p resolution are not supported. If you drag and drop a camera configured with megapixel resolutions (above 1080p) resolution then a message appears and video is not displayed as shown below.



4. Under Protocol Configuration:

- Click the appropriate Protocol options for secure communication. The available options are HTTP, HTTPS and HTTPs (Only Video). By default HTTP protocol is selected.

Note

- Video to the Web Client is always transmitted over HTTP. Non-video data is transmitted over HTTPS/HTTP based on the protocol configuration settings.
 - Please ensure ports required for both video and non-video data are considered in any port forwarding settings required.
-

Note: If you want to access the web client using secured connection then click the HTTPS option. When you access the MAXPRO VMS server using the URL `https://<MAXPRO VMS Server IP or Machine /Computer name>/MAXPROWEB/` then the following message is displayed. Click Continue to this website to proceed.



The above message appears by default when you access the VMS server for the first time. You can choose to buy a domain name specific certificate, create it and then install it. See [Creating Self Signed Certificate](#) and [Installing the Certificate](#) sections. Honeywell recommends to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.

Or

You can create a self signed certificate and then install it. See [Creating Self Signed Certificate](#) and [Installing the Certificate](#) sections.

The above settings are applicable to Internet Explorer, Chrome, Firefox and Safari web browsers and these settings are valid if the web client is accessed using the Domain/Host Name. If you access the web client using the IP then the above settings are not valid.

5. Under PTZ Configuration:

- Select the Enable PTZ check box to perform PTZ operations on a camera from Web Client. Enable PTZ will help in performing PTZ operations for DOME camera from Web Client. It is not recommended to use this feature in the current release.

Note: This feature is not supported and It is not recommended to use this feature in the current release.

6. Click Save.

7. Click the Server Configuration the following screen appears.

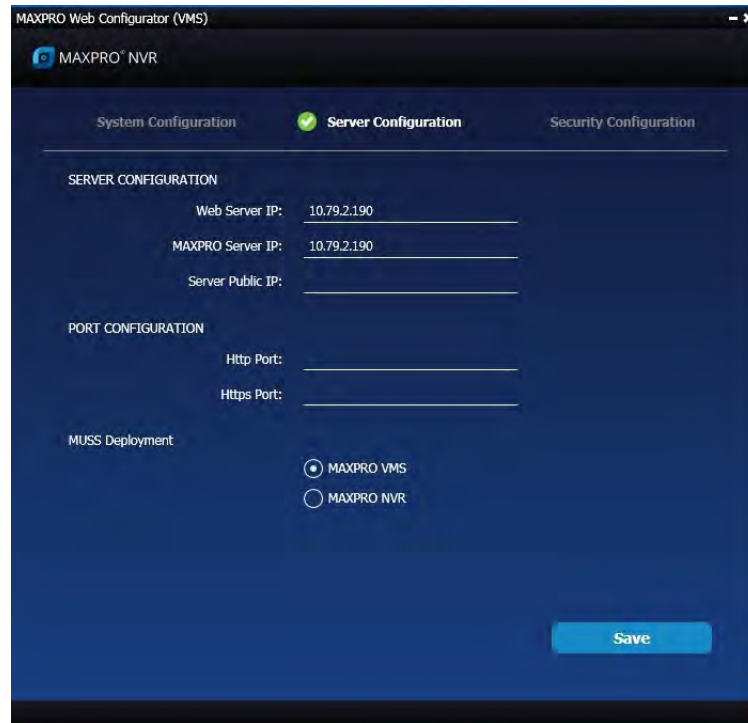


Figure 2-4 Server Configuration

Note: The Web Server and MAXPRO Server are both installed on the VMS server machine by default and the IPs are set by default to local IP or computer/machine name. It is recommended to change these settings to VMS Server (local) computer/machine name, if it is not set by default in your system. For Honeywell supplied VMS boxes, default computer/machine name is MAXPRO-VMS and can be updated in the configuration from the tool.

8. Under Server Configuration:

- Web Server IP: If the MAXPRO VMS server computer/machine name or IP (as applicable) is changed then you should change the Web Server IP. Type the new computer/machine name or IP (as applicable) in this box.
- MAXPRO Server IP: If the MAXPRO VMS server computer/machine name or IP (as applicable) is changed then you should change the MAXPRO Server IP. Type the new computer/machine name or IP (as applicable) in this box.
- Server Public IP: If you want to host the MAXPRO Web client via Internet (or Public) then you need to provide the Public Server IP. Type the new Public IP (as applicable) in this box.

Note: Both Web Server IP and MAXPRO Server IP should be same.

9. Under Port Configuration:

- Http Port: If you want to change the http default port 80 to some other port number then type the required port number and click Apply.

- **Https Port:** If you want to change the https default port 443 to some other port number then type the required port number and click Apply.

Note: *Port change option in the configurator tool is available only in R310 Build 292 or higher version.*

10. Under MUSS Deployment, click the MAXPRO VMS or NVR option to deploy.

- MAXPRO VMS
- MAXPRO NVR

11. Click Save.

12. Click the Security Configuration tab. The Security Configuration screen appears.

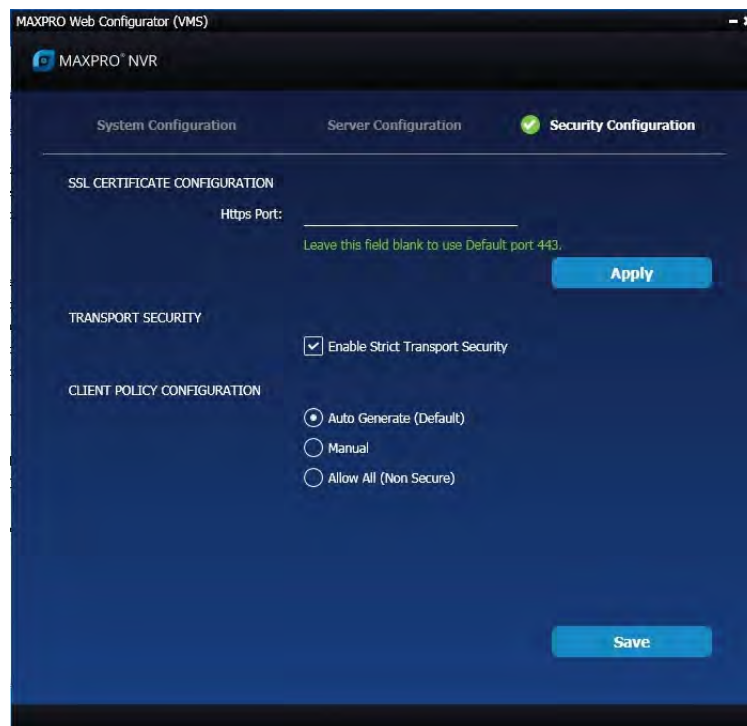


Figure 2-5 Security Configuration

13. Under SSL Certificate Configuration:

- Type the Port number in the box provided if the Https binding is other than 443 and the click Apply. The default port is 443.

14. Under Transport Security, select the Enable Strict Transport Security check box to avoid or protect from hacking.

15. Under Client Policy Configuration: Allows you to modify the C:\inetpub\wwwroot\clientaccesspolicy.xml & C:\inetpub\wwwroot\crossdomain.xml file.

- Click the required Silverlight Client Policy option. The available options are
 - **Auto Generate (Default):** This options makes entries to the above files such that the local Silverlight application (Web client) is able to make request to local ISOM.
 - **Manual:** If Web Client and ISOM are on different machine or any other Silverlight application is trying to access ISOM then the above xml file need to be modified. Choose manual to make the modification manually. For more information on configuring Cross Domain or Client Access Policy browse the below websites: http://www.adobe.com/devnet/articles/crossdomain_policy_file_spec.html
[https://msdn.microsoft.com/library/cc197955\(v=vs.95\).aspx](https://msdn.microsoft.com/library/cc197955(v=vs.95).aspx)
 - **Allow All (non Secure):** Non secure mode. If you want to allow all Silverlight clients to connect to ISOM hosted on the machine then you can click this option. Use with caution. This options also helps to troubleshoot the wrong configurations by providing full access temporarily.

Note: *Auto mode is flexible and is the recommended mode.*

Caution: **Ensure that you exercise caution while choosing the options other than the Default.**

16. Click Save.

Logging on to MAXPRO VMS Web Client

To log on to MAXPRO VMS Web Client

1. Type the URL `https://<MAXPRO VMS Server IP or Machine/Computer name>/MAXPROWEB/` in your web browser and then press Enter. The login page appears.

Note: *<MAXPRO VMS Server IP or Computer/Machine name> needs to be replaced by the IP address or computer/machine name (as applicable) of the MAXPRO VMS Server machine on which both the Web Server and VMS Server are installed by default.*

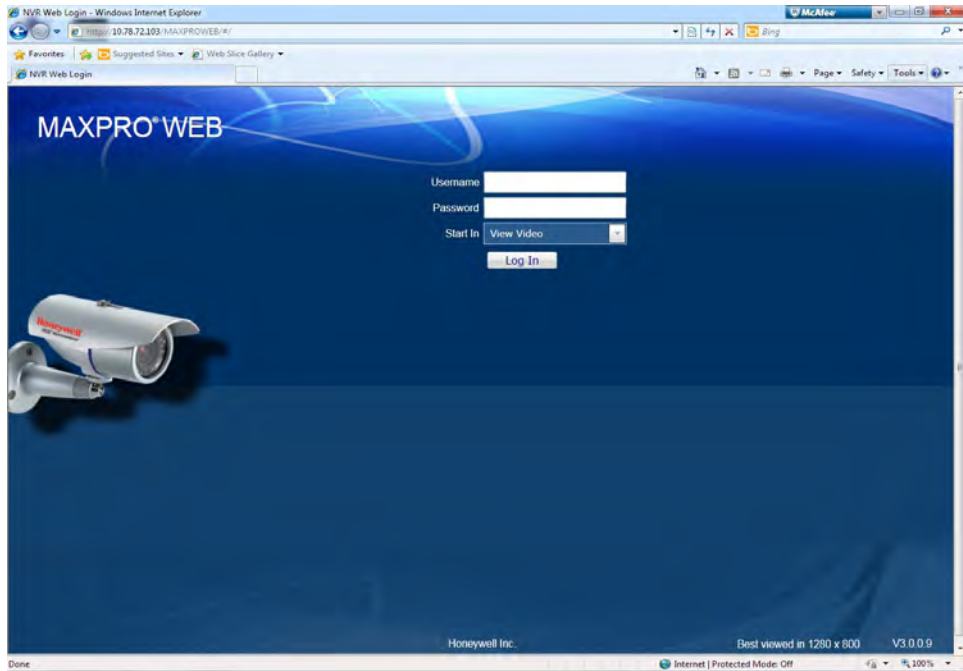


Figure 2-6 MAXPRO WEB Login page

Note: If Silverlight is not installed on your machine then a message



is displayed. If you are using Internet connection then you can click the link [Get Microsoft Silverlight](#) to download the Silverlight. See [Prerequisites to access MAXPRO VMS Server through Web Client](#) section to install Silverlight.

2. Type your Username. The default user name is “admin”.
3. Type your configured Password.

Note: Enter the user credentials that are configured in VMS. By default the Start In drop-down list is selected with View Video option.

4. Click Login. The below MAXPRO VMS Web page appears if your credentials are successfully validated. The name of the currently logged in user is displayed as admin on the top left of the page.

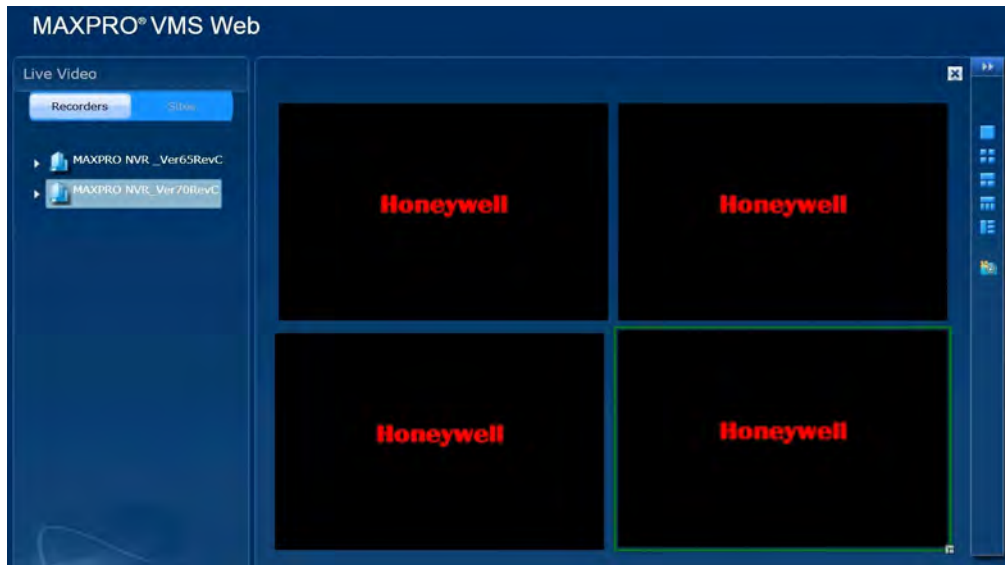


Figure 2-7 MAXPRO VMS Web Page -Initial View

5. Under Live Video pane, click the MAXPRO VMS node. The list of cameras configured in the MAXPRO VMS server is displayed.

Note: The list of cameras displayed is based on the user or operator permissions configured in the MAXPRO VMS Server.

Sign out

To sign out from the MAXPRO VMS Web Client page

- Click Sign out on the top right corner of the page.

Caution: For better security, close the browser upon logout.

Familiarizing with the Web Client Page

The web page of MAXPRO VMS Web client consists of tree-structure, floating window, and icons. On opening the page, you see the following: Live Video Pane and default Salvo view.

MAXPRO VMS Web Page

The following figure illustrates the MAXPRO VMS Web Page.

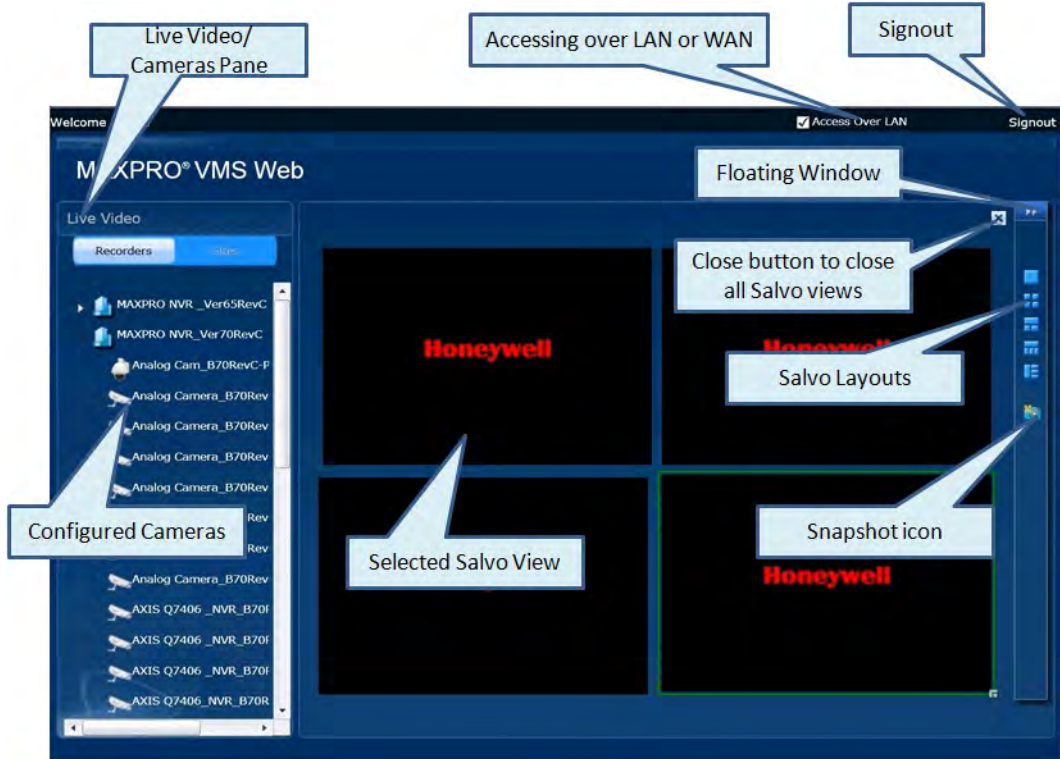


Figure 2-8 MAXPRO VMS Web Client Page-Familiarization








The following components are displayed on the screen.



Component	Description
Live Video or Camera Pane	Displays the list of cameras which are configured in MAXPRO VMS.
Configured Cameras	List of configured cameras which are available to render video. To view the list of cameras in Live video pane, you should configure the cameras in MAXPRO VMS, refer to MAXPRO® VMS Installation and Configuration Guide . The list of cameras listed is based on the user or operator permissions configured in the MAXPRO VMS.
Accessing over LAN or WAN	Select this check box if you want to access web client using LAN connection. Clear this check box if you want to access web client using WAN connection. By default this check box is selected when you login the web client page.
Salvo Layout	An arrangement of panels in which video is displayed. Select the required layouts to view the video. The Salvo views can be resized. See Resizing the Salvo section.

Component	Description
Snapshot Icon	Click to take a snapshot of entire salvo layout.
Floating Window	Click to display different salvo layouts and snapshot icon. You can select the required salvo view to view the video in the panel.
Close Button	Click to close all the panel at once.

Video Control Options

The toolbar that appears on top of a panel enables you to view the name of the video source and take snapshot for a particular video panel. The toolbar that appears on the bottom and on the right of a panel consists of icons that enable you to perform the following actions:

Icon	Click to...
	set the date and time for playback. See Viewing Recorded Video section.
	view the live video. See Live Video section.
	displays a drop-down list of presets. You can select a preset for the camera. See Viewing Presets and Creating Self Signed Certificate sections.
	display the playback settings. See Viewing Recorded Video section.
	view the live video while you are in playback. See Viewing Recorded Video section.
	take a snapshot for the required panel. You can view this icon when you hover the mouse on the top of a panel. See Taking a Snapshot section.
	close the required panel. You can view this icon when you hover the mouse on the top of a panel

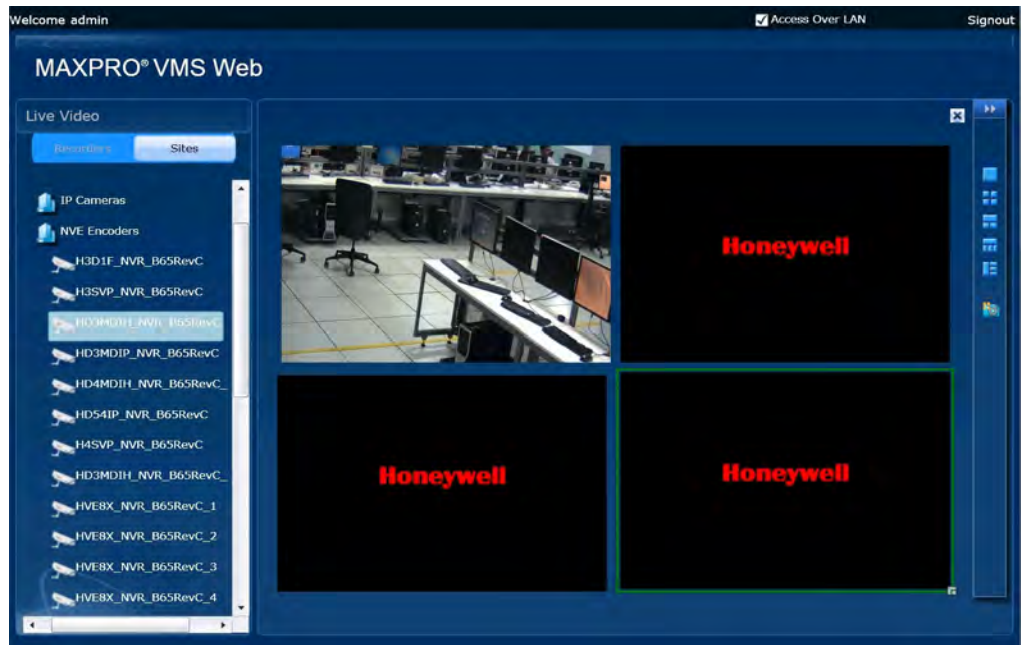
Icon	Click to...
	select the required salvo view to arrange the panels. See Resizing the Salvo section.
	close all the panels in a salvo layout.

MAXPRO VMS Web Client Features

MAXPRO VMS Web Client features includes viewing live video, playback, taking snapshots and viewing presets.

Live Video

You can view live video using the option available in MAXPRO VMS web client. The panels in the salvo layout display video. You can select the video source from cameras on the Live Video pane.



Note: To view the list of cameras in Live video pane, you should configure the cameras in MAXPRO VMS refer to [MAXPRO VMS Installation and Configuration Guide](#). The list of cameras listed is based on the user or operator permissions configured in the MAXPRO VMS.

To view live video

- Drag and drop the required video source from the Live video pane on a panel in the salvo layout.

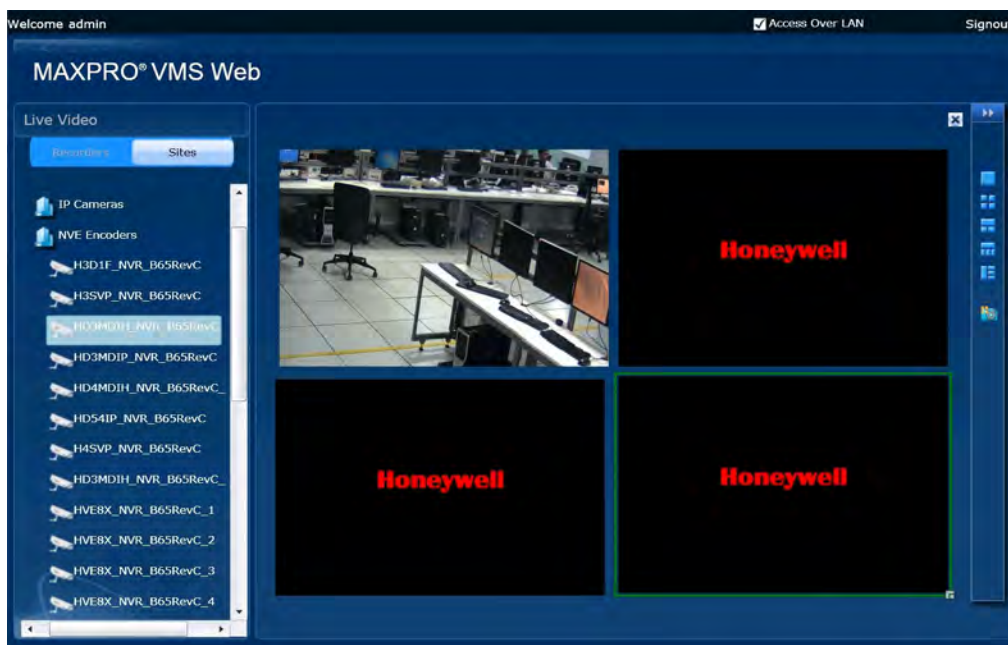


Figure 2-9 Web Client - Live Video

Note: Anonymization is not supported in Web. If user is tries to see Anonymized video and also camera Anonymized option is enabled then an error message “Trying to access Anonymized Stream” is displayed.

Troubleshooting Tip. If the video is not streaming through web client then perform the below steps to reset Internet Explorer (browser) to default settings except user specific settings like favorites, bookmarks etc:

1. In Internet Explorer navigate to Tools -> Internet Options -> Advanced tab and then click the Reset button. The Reset Internet Explorer Settings dialog box appears.
2. Select ‘Delete personal settings’ check box and then click the Reset button.
3. Close and then open the Internet explorer.

Note: MAXPRO VMS Web Client supports streaming quality resolution up to 1080p. Cameras configured above 1080p resolution are not supported. If you drag and drop a camera configured with mega-pixel resolutions (above 1080p) then a message appears and video is not displayed as shown below.



You can view live video in different panels of the salvo layout. When you hover the mouse over a video display, a toolbar appear over the panel. The toolbar enables you to perform actions such as Playback, Live video, taking snapshots and viewing Presets.

Note: Each MAXPRO VMS box has a limit of 32 streams for both live and playback feature combined. Even if the same camera is opened for live in multiple web clients then it consumes only 1 stream. Each playback function consumes 1 additional stream always.

Resizing the Salvo

You can view the salvo layout when you select the available options on the floating window tab. At a time, you can select one of the salvo layout. For example: If you want to view video from two cameras, select a salvo layout with two or more panels.

To resize the salvo layouts

- Click the required salvo layout options available on the floating window.

Viewing Recorded Video

You can easily retrieve and view recorded video using the date and time controls in the panel toolbar. When you select a camera from the live video pane to view video, a toolbar appears.

Note: Each MAXPRO VMS box has a limit of 32 streams for both live and playback feature combined. Even if the same camera is opened for live in multiple web clients then it consumes only 1 stream. Each playback function consumes 1 additional stream always.

To play recorded video

1. Drag and drop a camera from the Live video pane into the panel.
2. Hover the mouse at the bottom of a panel over live video. A tool bar appears.

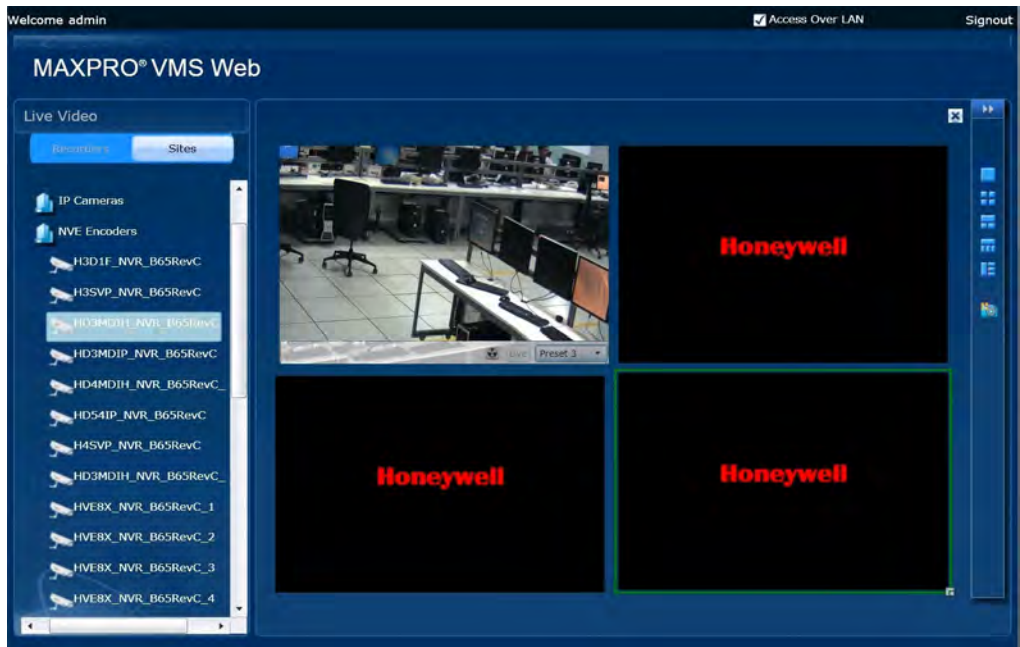



Figure 2-10 Web Client - Playback

3. Click .
4. Select the date and time in the date and time calendar box



and then click . The video recording is played from the selected date and time.

Navigation Tip. At any point of time, click  to go back to the Live video view.

Note: When an Operator (non-admin) logs into the Web Client and tries to view playback for any video then an error message “Four Eye authentication Privilege Failure” is displayed.

Viewing Presets

Preset can be viewed in web client if the camera is a camera. To view Presets in web client you need to define the presets in MAXPRO VMS. To configure presets in MAXPRO VMS, refer to [MAXPRO® VMS Installation and Configuration Guide](#).

To View Presets

1. Hover the mouse at the bottom of a panel over live video. A tool bar appears.

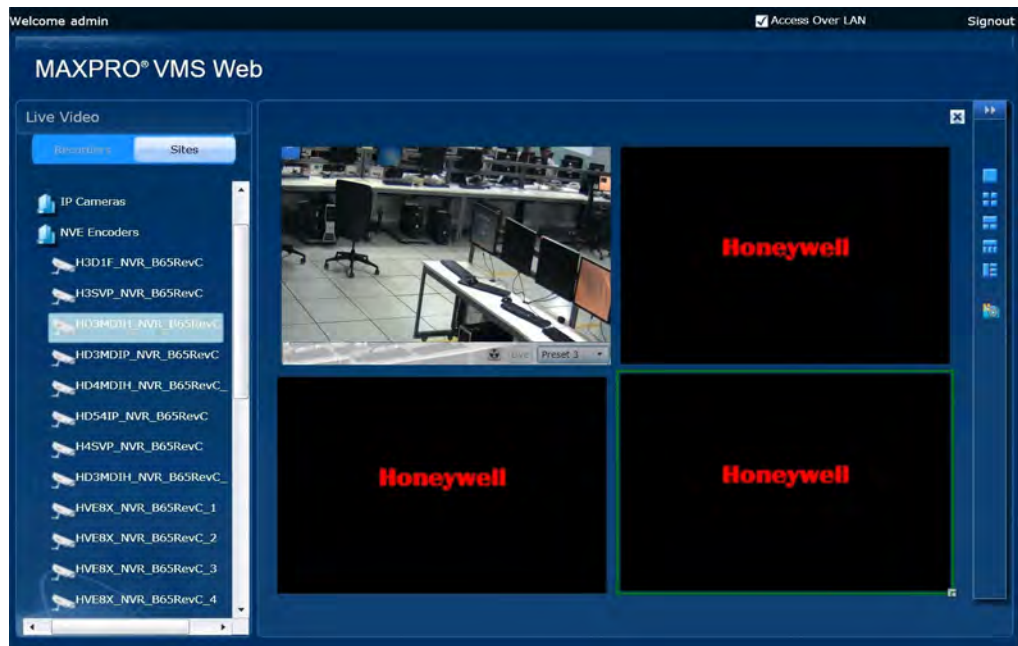


Figure 2-11 Web Client - Presets

2. Click **Preset 3** and then select the required preset from the drop-down list to view the configured preset.


Note: To view Presets in web client you need to define the presets in MAXPRO VMS. refer to [MAXPRO VMS Installation and Configuration Guide](#).

Taking a Snapshot

You can take snapshot of the single video panel in a salvo and also all video panels in a salvo.

Note: Snapshot feature is not supported on Mac and print screen feature in Mac can be used alternatively.

To take a snapshot of all the video panels in a salvo

1. Click  on the rightmost pane of the web page. A confirmation message appears.

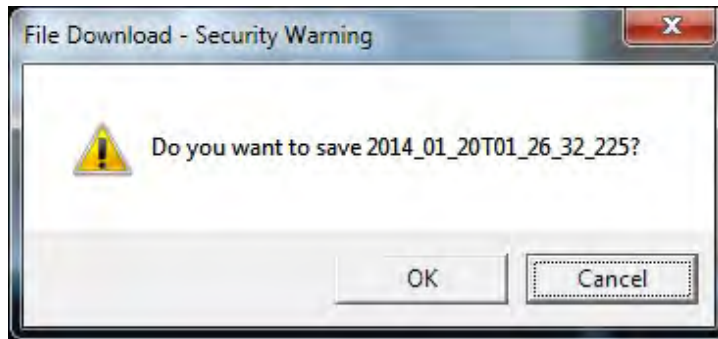



Figure 2-12 Confirmation dialog - All Salvo Views

2. Click OK to save the snapshot.

To take snapshot of the single video panel

1. Hover the mouse at the top of a panel over a live a video. A tool bar appears.
2. Click . A confirmation message appears

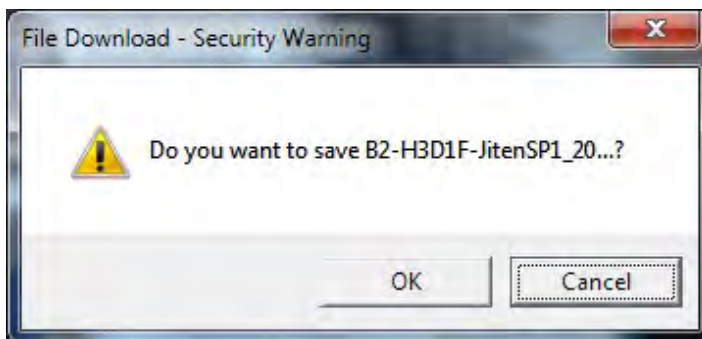


Figure 2-13 Confirmation dialog - Single Video Panel

3. Click OK to save the snapshot.

Caution: For better security, close the browser upon logout.

Creating Self Signed Certificate

Note: Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.

Self signed certificate is required if you want to access the MAXPRO VMS server using your domain name. You should create a certificate, bind it to the https and then install the certificate to access the server using the web browser (Internet Explorer, Chrome, Firefox and Safari).

To create self signed certificate

1. Open the Internet Information Manager (IIS) window.
2. Select the server node under Connections pane.
3. Under IIS, double -click the Server Certificate option as shown below.

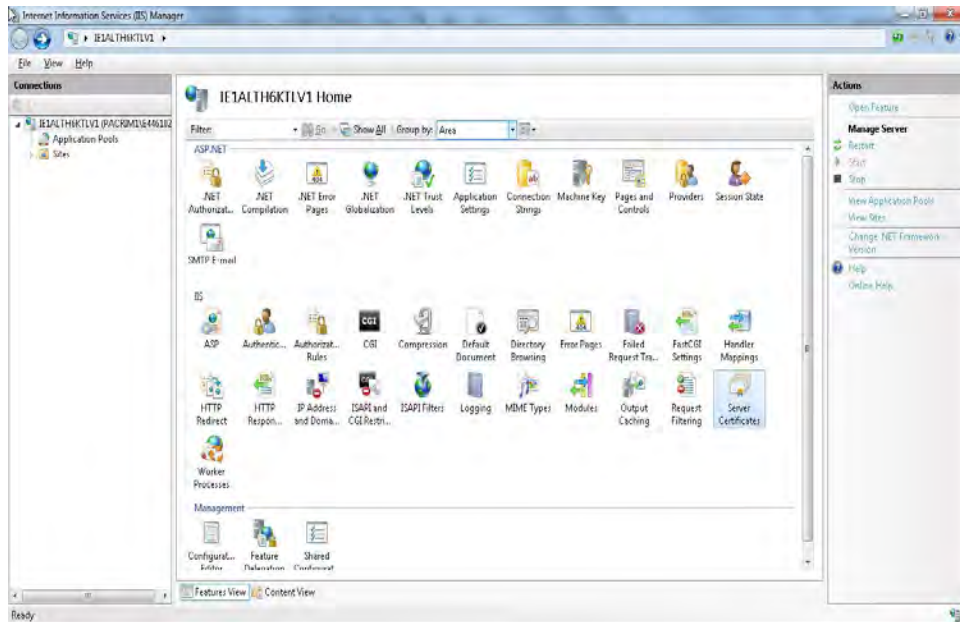


Figure 2-14 Server Certificate.

The Server Certificate window is displayed as shown below.

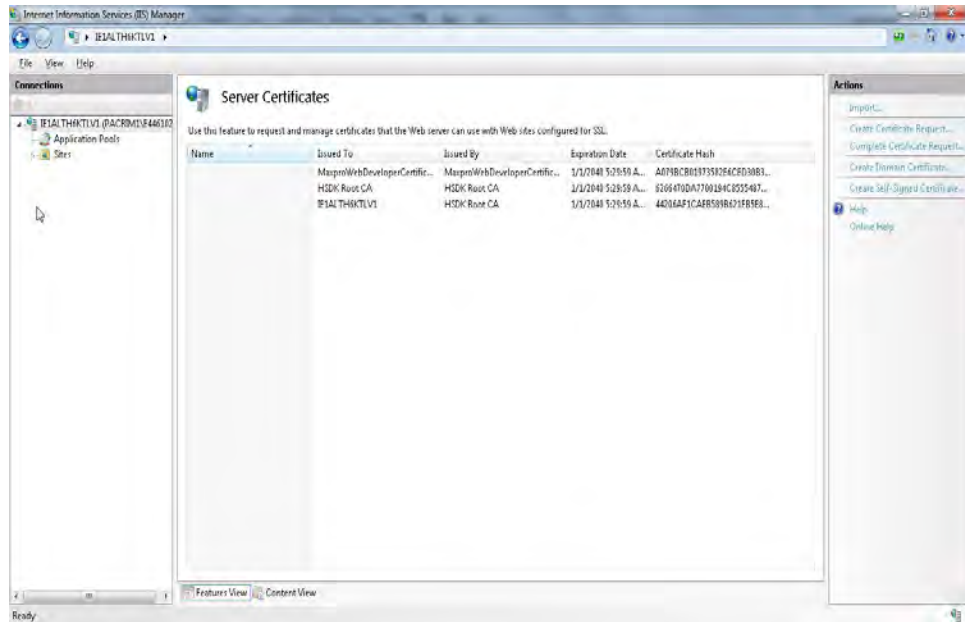


Figure 2-15 Server Certificate

- Click the Create Self-Signed Certificate on the rightmost pane. The Specify Friendly Name dialog appears.

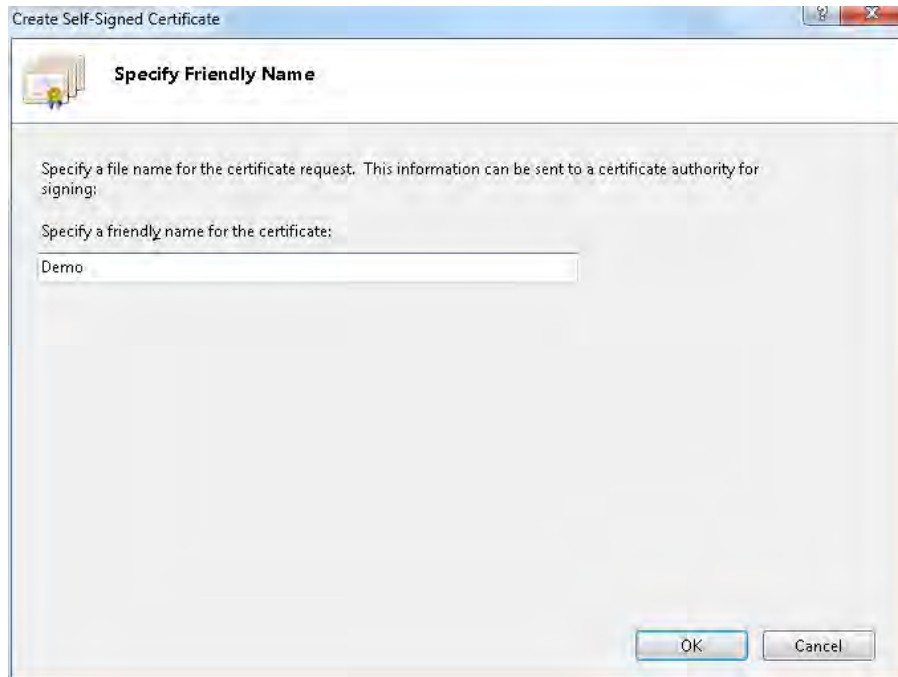


Figure 2-16 Specify Friendly Name

- Type a friendly name for the certificate and then click OK. A new certificate is generated and listed under server certificates list as shown below.

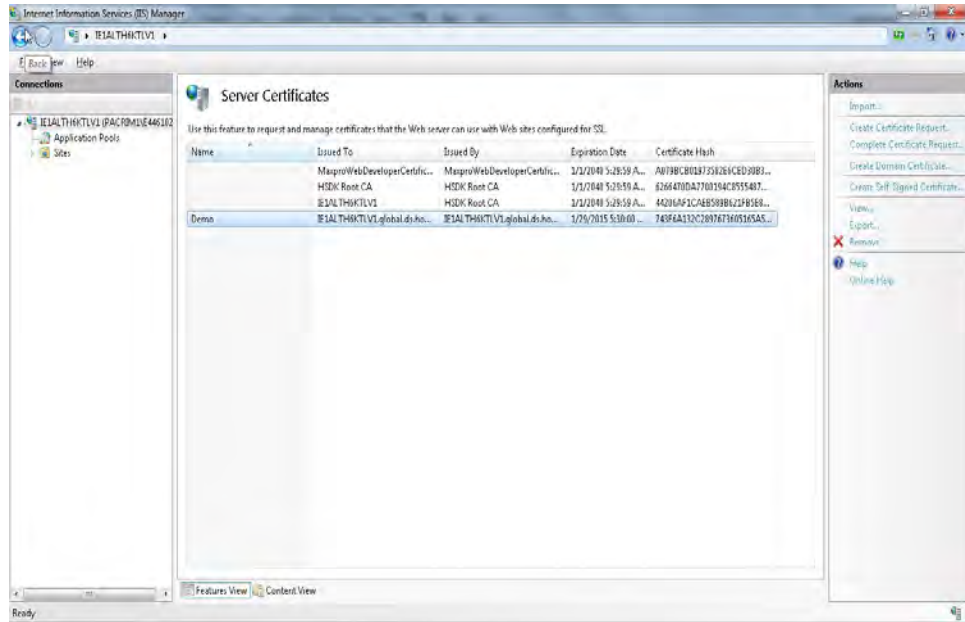


Figure 2-17 Generated Certificate

Binding the generated certificate with https

To bind the generated certificate with the https

1. In the Internet Information Manager (IIS) window, expand the server node under Connections pane.
2. Navigate to Sites > Default Web Site.
3. Click Bindings in the rightmost pane. The Site Bindings dialog appears.

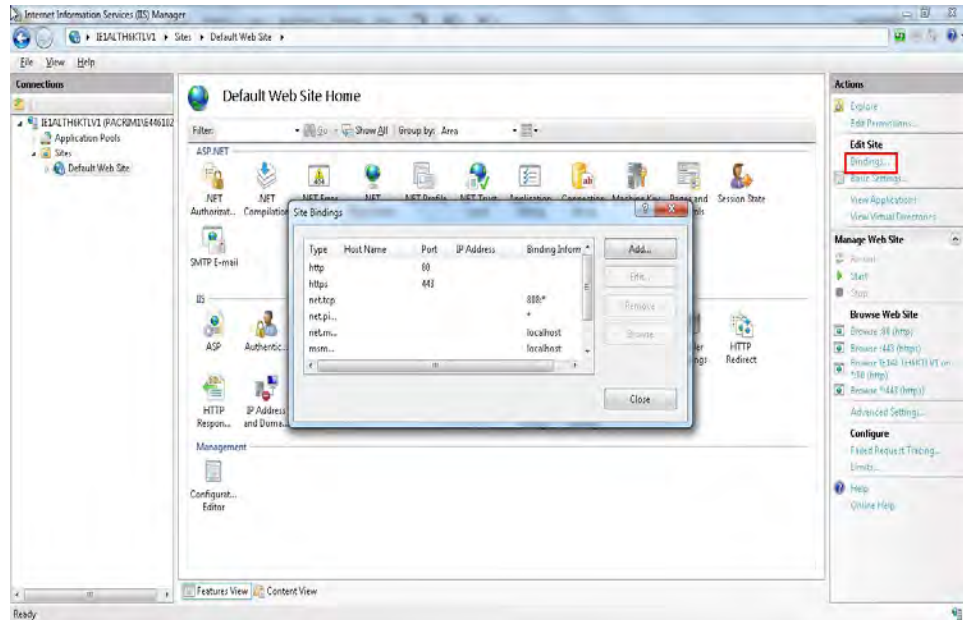


Figure 2-18 Site Bindings Dialog

4. Select the type as https and then click Edit. The Edit Site Bindings dialog appears.

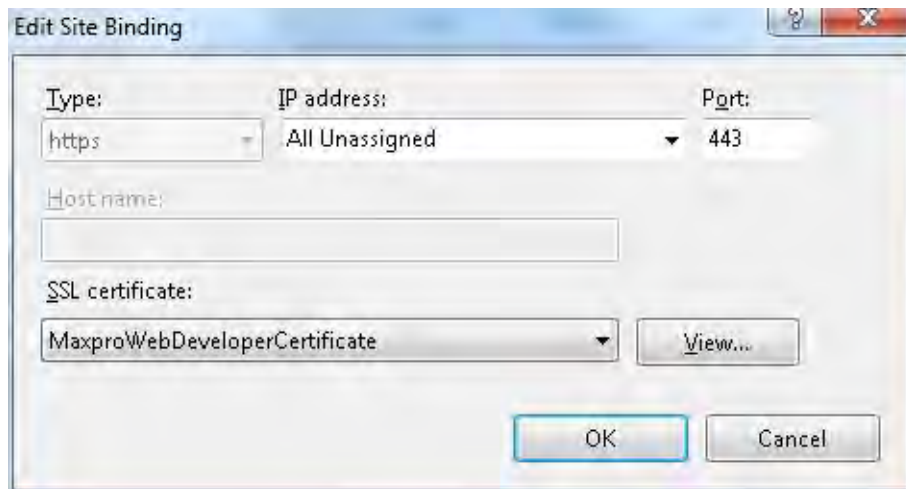


Figure 2-19 Edit Site Bindings

5. Select the Demo SSL certificate from the SSL Certificate drop-down list.
6. Select All Unassigned from the IP Address drop-down list.

Note: Ensure that you select All Unassigned option from the IP Address drop-down list and the port should be 443.

7. Type the port number as 443.
8. Click OK.

Installing the Certificate

Once you have created a self signed certificate you need to install the certificate in the Internet Explorer on machines accessing the web client. If you do not install the certificate then the web browser displays the following error.

Note: Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.

Caution: For better security, close the browser upon logout.

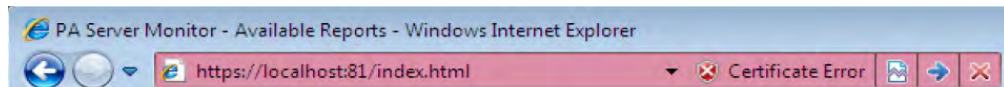


Figure 2-20 Certificate Error

To view the error details, click on the Certificate Error message. A Untrusted Certificate message box is displayed as shown below.

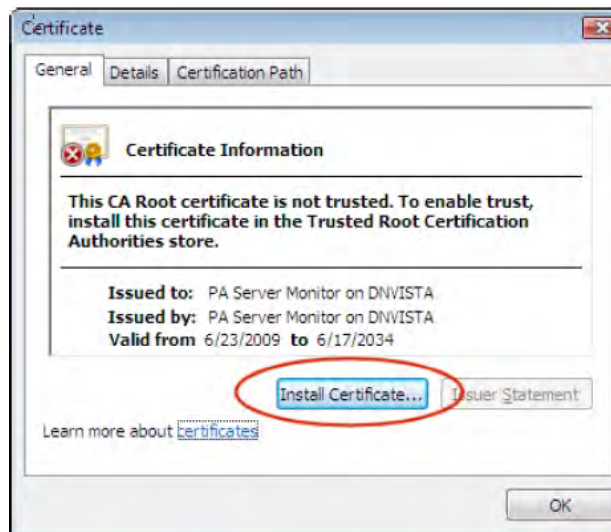


Figure 2-21 Untrusted Certificate

To install the certificate

1. Click View Certificate as shown in figure 21. The Certificate dialog box appears

Note: You can install the certificate using Internet Explorer. Once the installation is done you can access the MAXPRO VMS server using other browsers on the same machine using your domain name.

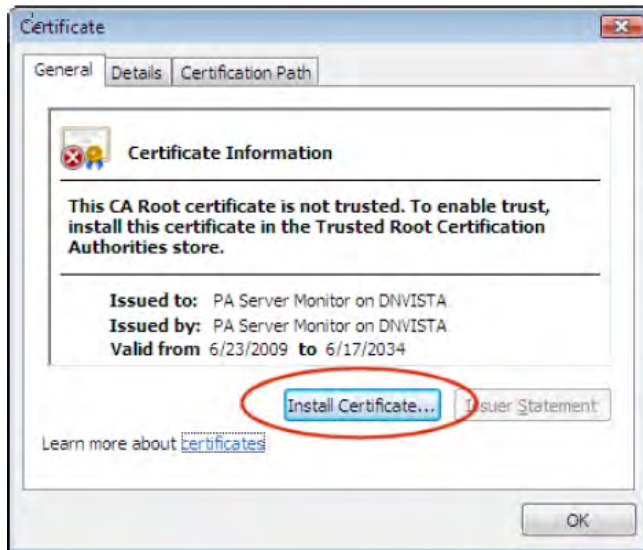


Figure 2-22 Certificate

2. Click the Install Certificate button. Certificate Import Wizard dialog box appears

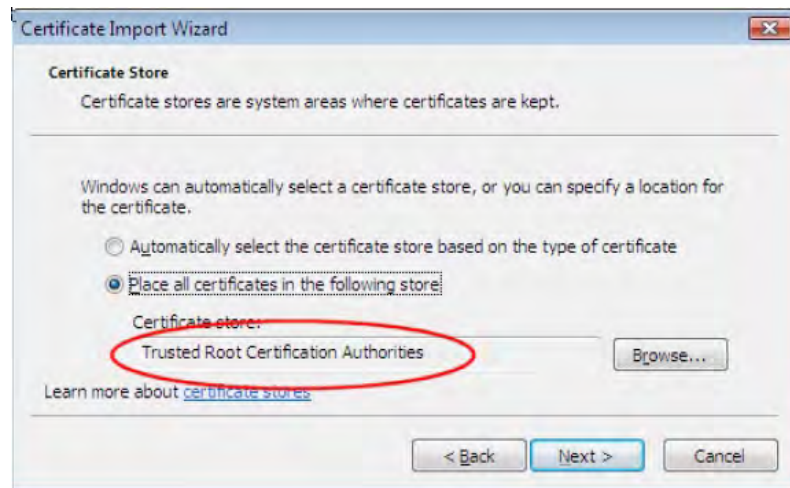


Figure 2-23 Certificate Import Wizard

3. Click the Browse button and then select the Trusted Certificate Authorities option.
4. Click Next until Finish button is displayed.
5. Click the Finish button. A confirmation message “you want to add the new certificate” is displayed.

Setting Preferences

The Preferences option in the user menu enables you to configure the general settings and the On Screen Display (OSD) settings. In general settings, you can configure the frame rate for panels that are not selected in the salvo layout, the video rendering settings, the video to be displayed for alarms, the alarm threshold settings, the Event Handling mode settings and the SnapShot Clip Export Settings. The OSD settings can be configured to change the color for the text that appears over the video displayed in a panel.

You can also select the default values for the general and OSD settings using the Preferences option. MAXPRO VMS R310 and above versions supports three modes of encryption between client and server. On the Advance Settings tab you can select the options such as Default Encryption, Windows Authentication Encryption and Certificate Based Encryption under the Application Security Settings for secure communication.

Note: *Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.*

Settings for Video Rendering

There are two types of rendering modes namely, Default and No Video Display. The Default rendering is the recommended mode which enables the user to view live video from multiple cameras at optimum quality. Selecting No Video Display will not display any video. You can also set the frame rate for panels that are not selected in the salvo layout. The frame rate for the panels that are not selected can be set to improve the video signal transmission over lower bandwidth networks.

To select the video rendering option

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed. By default, the General Settings tab is selected.

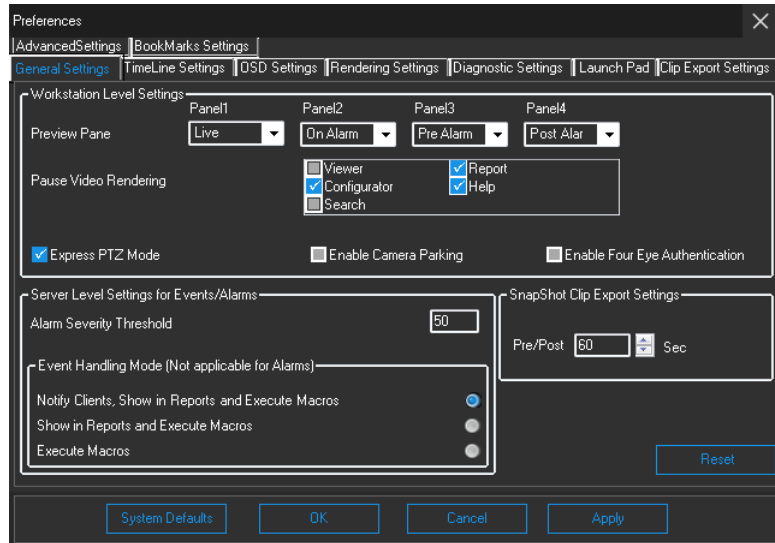


Figure 2-24 Preferences

2. Click the Rendering Settings tab.

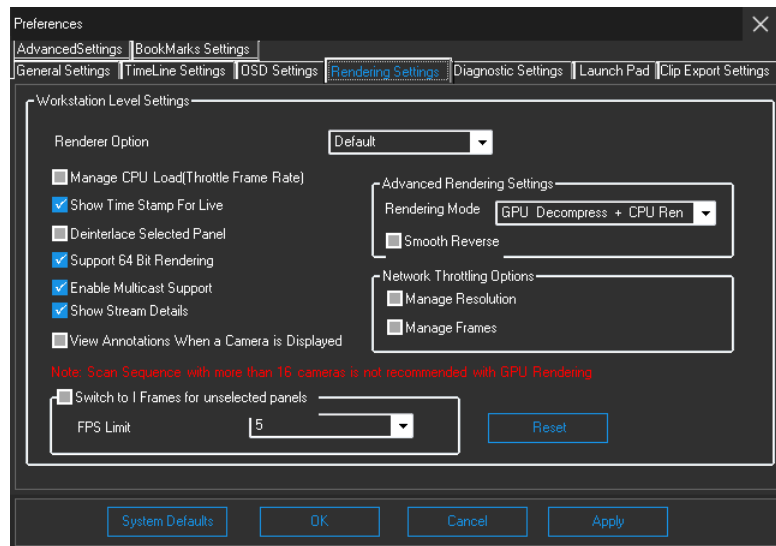


Figure 2-25 Rendering Settings

3. In the Renderer Option drop-down list, select one of the options for video rendering.
4. Select the Manage CPU Load (Throttle Frame Rate) check box if you want to throttle the frame rate if the CPU usage reaches 90 per cent.
5. Select the Show Time Stamp For Live check box if you want the camera name and time to be displayed on the live video.
6. Select the Deinterlace Selected Panel check box if you want to deinterlace the selected panel.

7. Select the Support 64 Bit Rendering check box if you want to render in 64 bit mode. To know about the improvised GPU rendering feature, refer to the [MAXPRO® VMS Installation and Configuration Guide](#) for complete details on How to configure the Registry value to experience the improved GPU rendering mode and to render video through GPU rendering mode.

Note: *This feature is applicable only for NVR Driver 64 bit machines and for other machines 32 bit rendering server is required. Scan Sequence with more than 16 cameras is not recommended with GPU Rendering.*

8. Select the Enable Multicast Support check box to view Live video continuously in VMS clients despite of any interruption in NVR recorders. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information on various configurations of Multicast.

Note: *Ensure that you enable this option in NVR and in the Network switch to function. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information*

9. Select Show Stream Details check box to view the stream details in the video panel.
10. Select View Annotations When a Camera is Displayed check box if you want to view the annotated bounding boxes immediately when a camera is displayed in salvo. This is applicable for Mask Detection and Social Distancing Violation detection also.
11. Select the Switch to I Frame For Unselected Panel check box if you want to render I Frame video packets for the unselected panels.
12. In the FPS Limit box, select a frame rate. The default frame rate is 5 fps and is the recommended setting for unselected panels.

13. Under Advanced Rendering Settings:

- **Rendering Mode:** Select the required option from this drop-down list to change the rendering mode in combination with GPU and CPU. The available options are:
 - **CPU Decompress + CPU Render:** This option executes low performance because entire video rendering process will be on CPU. This option is for debugging purpose and is recommended not to be selected.
 - **GPU Decompress + CPU Render:** By default this option is selected and decompression/rendering process is shared between GPU and CPU.
 - **GPU Decompress + GPU Render:** This option is for high resolution cameras and for cameras with 60 FPS on 4K monitors. Selecting this option may reduce the number of cameras but the video quality will be best.

Note: *GPU Decompress + GPU Render option has some limitations such as Flip/Mirror/Digital corrections features may not be supported.*

14. Select the Smooth Reverse Playback check box to enable and experience smooth reverse playback where reverse playback is supported in full frame rate up to 2x speed. The recommended FPS and GOP settings are 30 FPS 5 GOP, 30 FPS 10 GOP and 10 FPS 10 GOP.

15. Under Network Throttling Options:

- Manage Resolution: Select this check box to manage the fluctuations in the resolutions.
- Manage Frame: Select this check box to manage the frames per second in a video.

16. Click Apply.

17. Click OK to close the dialog box.

Pausing the Video Rendering

You can pause the video rendering to momentarily stop the rendering of video when a tab that does not display video is selected. For example, when the Report tab is selected, the video rendering can be paused to improve the application performance. The rendering of video starts again when you select a different tab in the user interface.

To select the tab which pauses video rendering

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed. By default, the General Settings tab is selected.
2. In the Pause Video Rendering box, select the check box next to the tab names that you want to select.

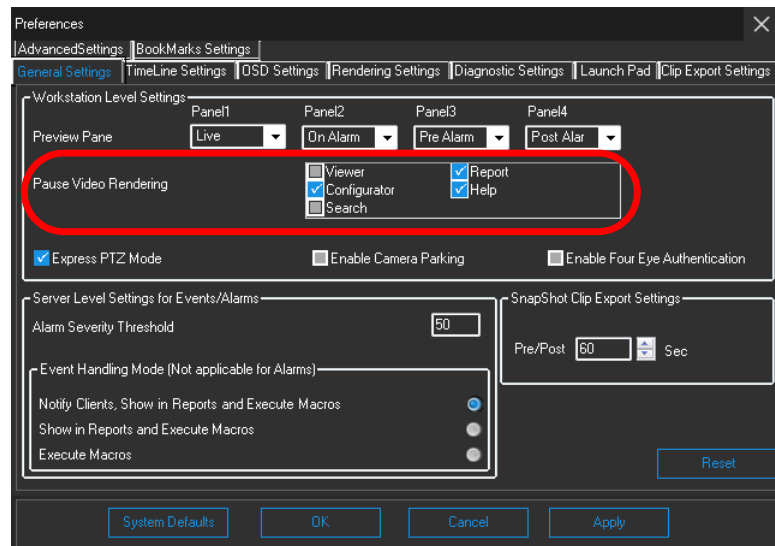


Figure 2-26 Pausing the Video Rendering

3. Click Apply.

4. Click OK to close the dialog box.

To enable the display of controller text on digital monitor

1. Click the OSD Settings tab.

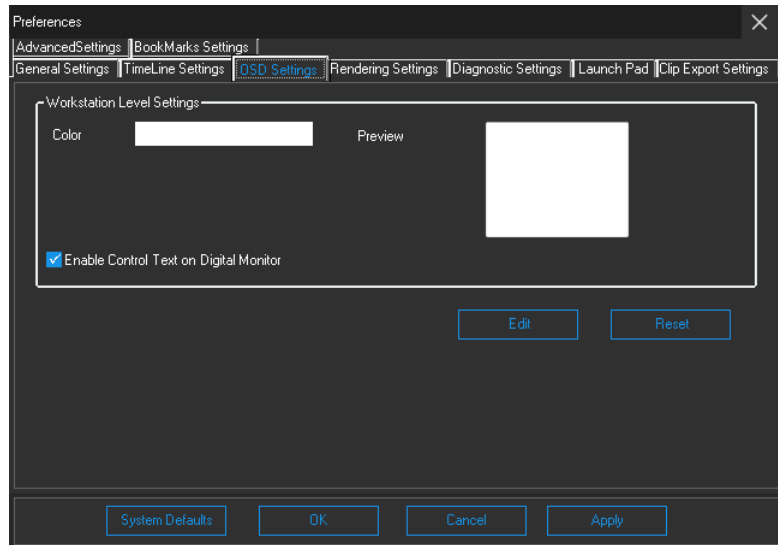


Figure 2-27 Enabling Control text on Digital Monitors

2. Select the Enable Control Text on Digital Monitor check box to display controller text on digital monitor.

Camera Parking

To enable the camera parking feature

1. Click the Preferences option in the user menu. The Preferences dialog box appears. By default, the General Settings tab is selected

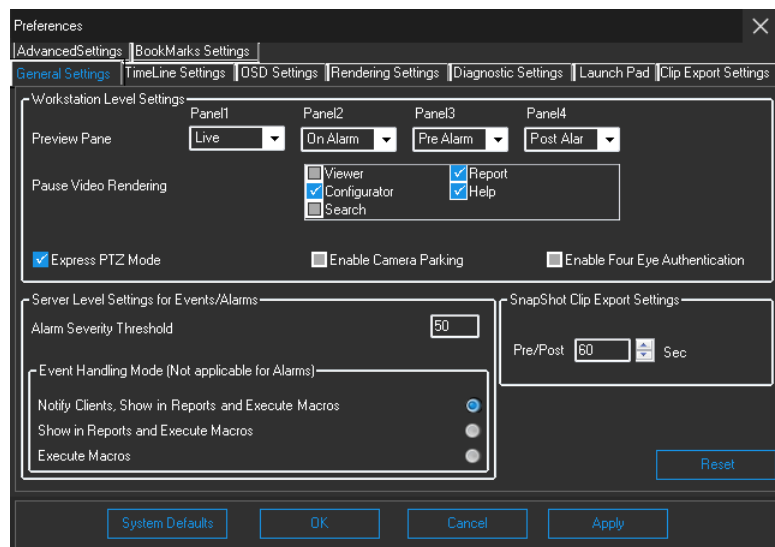


Figure 2-28 Enabling the Camera Parking Feature

2. Select the Enable Camera Parking check box to enable the Camera Parking feature. Click to clear the Enable Camera Parking check box to disable this feature.

Note: Use this feature while viewing live video from cameras. See "Camera Parking" on page 4-123 for more information.

Express Mode

This feature helps you to perform pan, tilt and zoom operations by marking an area of interest on the live video using the rubber band technique. You can perform only analog operations using this technique.

To enable the express mode

1. Click the Preferences option in the user menu. The Preferences dialog box appears. By default, the General Settings tab is selected.

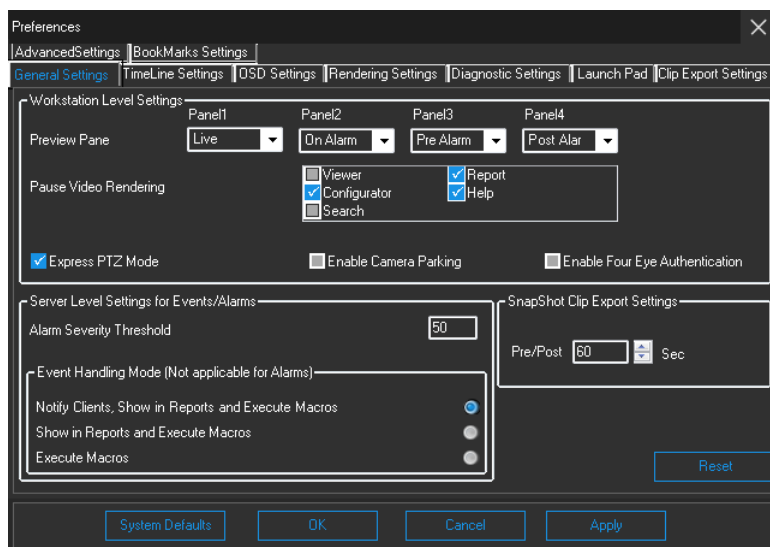


Figure 2-29 Enabling the Express Mode

2. Select the Express Mode check box to enable the Express Mode feature.

Event handling Mode Settings

Event handling mode feature enables you to manage the load of the events at server level. It allows you to select the required mode option as follows:

Option	Description
Notify Clients, Show in Reports and Execute Macros	click to notify the clients, display in reports and execute the macros.

Option	Description
Show in Reports and Execute Macros	click to show only reports and execute macros.
Execute Macros	click to execute only macros.

Note: *Event Handling Mode feature is not applicable for Alarms.*

To set the Event handling mode

1. Click the Preferences option in the user menu. The Preferences dialog box appears. By default, the General Settings tab is selected.

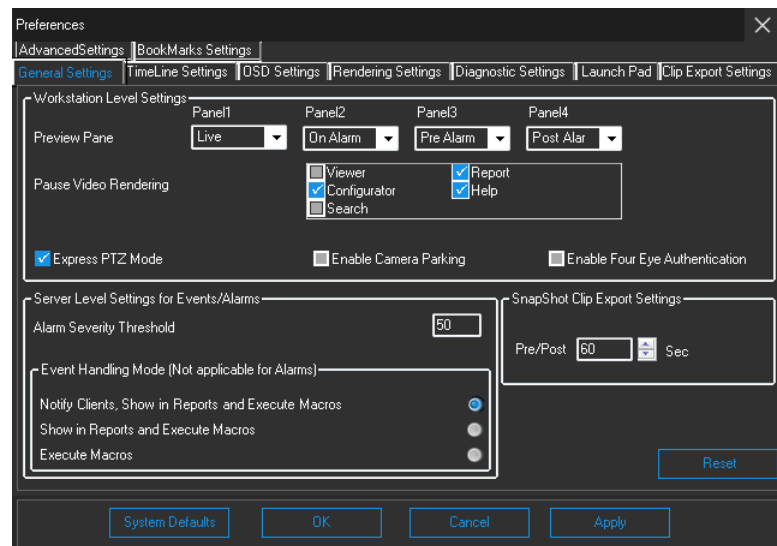


Figure 2-30 Event Handling Mode Settings

2. In the Event Handling Mode area, click the required mode option.
3. Click Apply.
4. Click OK to close the dialog box.

Settings for Alarm Preview Pane

When the video related to an alarm is played from the Alarm window, the salvo layout changes to a four panel layout. You can define the video display for each panel namely, Pre Alarm, Post Alarm, Live, and On Alarm. The following table defines these options.

Option	Description
Pre Alarm	The video before the occurrence of the event that triggered the alarm is played.

Option	Description
Post Alarm	The video after the occurrence of the event that triggered the alarm is played.
Live	Live video is played.
On Alarm	The video is played from the occurrence of the event that triggered the alarm.

Note: You can view video related to alarms only for the cameras connected to the Recorder. For Pre Alarm, Post Alarm, and On Alarm, the video is played only when the video recording pertaining to the date and time of alarm is available.

To define the video display for each preview panel

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed. By default, the General Settings tab is selected.

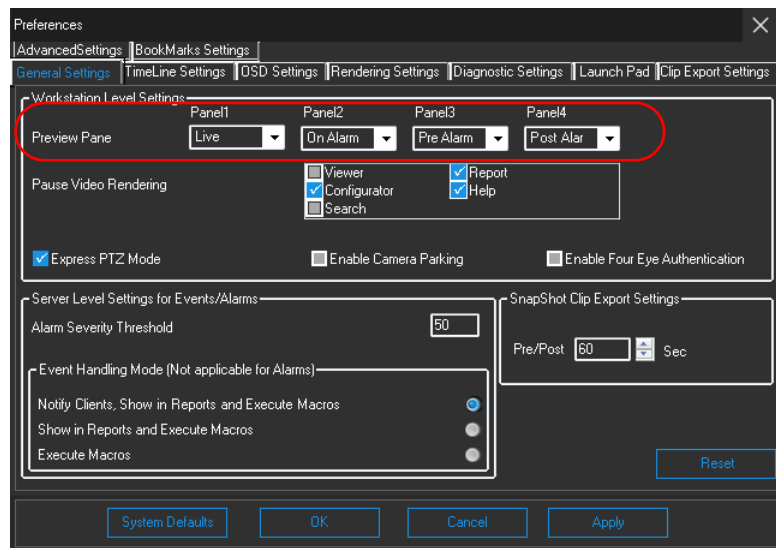


Figure 2-31 Settings for the Alarm Preview Pane

2. In the Preview Pane area, select the video option for each panel. When you select Pre Alarm and Post Alarm, a dialog box appears. Select the time in seconds for which you want to view video related to pre alarm and post alarm in the dialog box and click OK.
3. Click Apply.
4. Click OK to close the dialog box.

Setting the Alarm Threshold Value

When configuring the event settings for a recorder, camera, and switcher, you can specify a value known as the Severity Level for each event. When the event occurs, the Severity Level value is compared with the value in the Alarm Severity Threshold box in the preferences dialog box. The alarm is triggered only when the Severity Level value is greater than the Alarm Severity Threshold value.

For example, the alarm is triggered if the Severity Level for an event is 50 and the Alarm Severity Threshold value is 40. Use this feature to limit what alarms go to which client.

To set the alarm severity threshold value

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed. By default, the General Settings tab is selected.
2. In the Alarm Severity Threshold box, type a value.
3. Click Apply.
4. Click OK to close the dialog box.

SnapShot Clip Export Settings

This feature allows you to capture a snapshot for clip export before and after the time specified in the Pre/Post box. You can specify a time prior and post to which a snapshot for clip export is captured.

To set the snapshot clip export time

1. Click the Preferences option in the user menu. The Preferences dialog box appears. By default, the General Settings tab is selected.

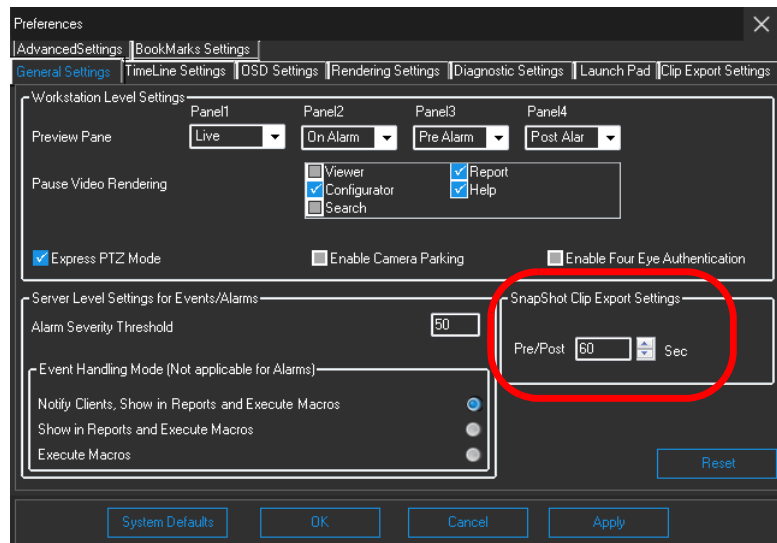


Figure 2-32 Snap Shot Clip Export Settings

2. In the Snapshot Clip Export Settings area, type or select the required value in the Pre/Post box.

Configuring the Timeline Settings

To configure the timeline settings

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed.
2. Click the Timeline Settings tab.

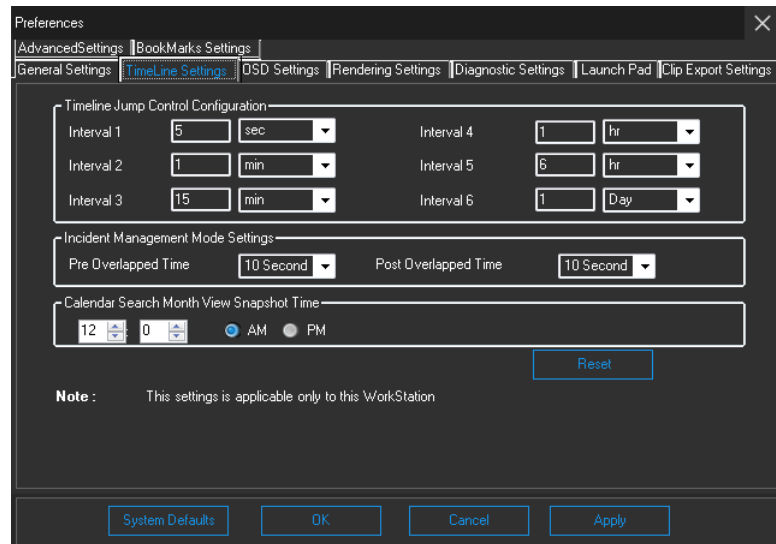


Figure 2-33 Timeline Settings

3. Under Timeline Jump Control Configuration, set the time for the intervals.
4. Under Incident Management Mode Settings, choose the following times for clip creation.
 - From the **PreOverlapped Time** drop down list, select a time that appends to the start time of clip creation for a camera.
 - From the **Post Overlapped Time** drop down list, select a time that appends to the end time of the clip creation for a camera.

Note: This time allows camera recorded time to automatically have an overlap when marking in and marking out.

5. Click Apply in the Preferences dialog box.
6. Click OK to close the Preferences dialog box.

Configuring the OSD Settings

You can configure the OSD settings to change the color of the text that appears over the video displayed in a panel.

To set the font properties

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed.
2. Click the OSD Settings tab.

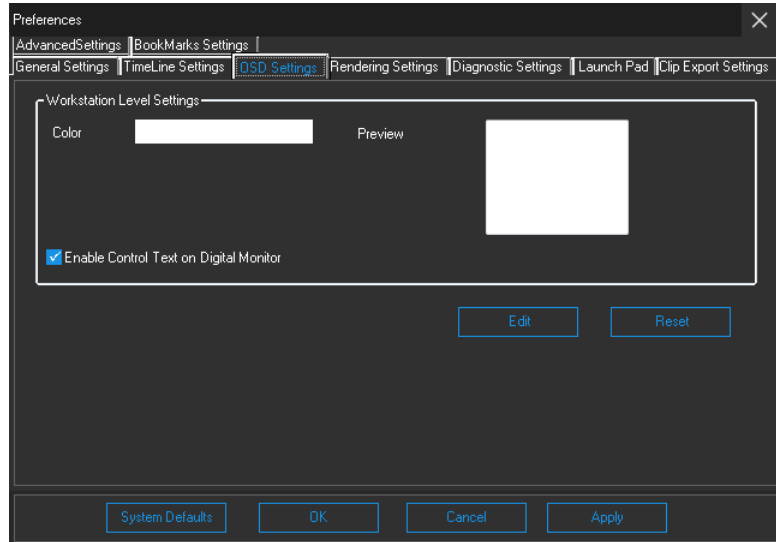


Figure 2-34 OSD Settings

3. Click Edit and select the color properties in the dialog box.
4. Click OK to close the font properties dialog box.
5. Click Apply in the preferences dialog box.
6. Click OK to close the preferences dialog box.

Configuring Diagnostic Settings

To configure the diagnostic settings

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed.
2. Click the Diagnostic Settings tab.

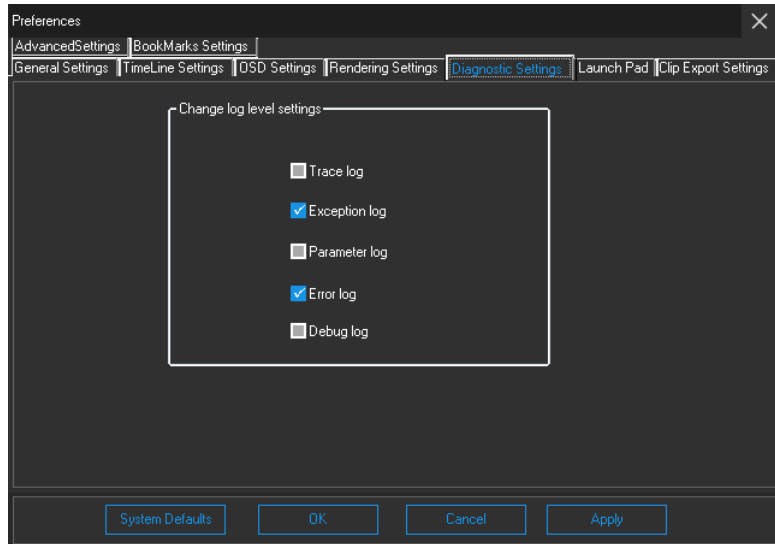


Figure 2-35 Diagnostic Settings

3. Under Change log level settings, select the required log.
4. Click Apply in the Preferences dialog box.
5. Click OK to close the Preferences dialog box.

Configuring the Launch Pad Settings

You can configure the Launch Pad settings to launch the application of your choice from MAXPRO VMS.

To configure the launch pad settings

1. Click the Preferences option in the user menu. The name of the currently logged in user is displayed as the user menu on the top right of each screen. The Preferences dialog box is displayed.
2. Click the Launch Pad tab.

Note: Users (other than Administrators) does not have permission to edit the Launch Pad configuration.

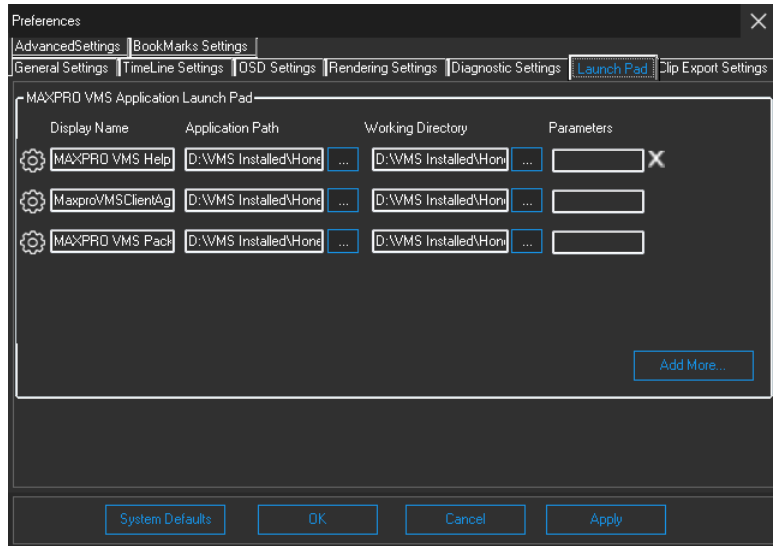



Figure 2-36 Launch Pad Settings

3. Under Display Name, type the name of the application you want to launch from MAXPRO VMS.
4. Under Application Path, select the application path that points to the application to be launched.
5. Under Working Directory, select the working directory that points to the application to be launched.
6. Under Application Parameters, type the parameters if any to launch the application.

Note: Click *Add More...* to add more than three applications.

7. Click *Apply* and then *OK* to save the data.

Note: Click  on the toolbar on the top of the salvo layout, and then select the application that you want to launch from MAXPRO VMS.

Configuring the Clip Export Settings

You can configure the Clip Export Settings to change the default naming convention for the clips that are created from the recorded video.

To configure the clip export settings

1. Click the Preferences option in the user menu. The name of the currently logged in user is displayed as the user menu on the top right of each screen.. The Preferences dialog box appears.
2. Click the Clip Export Settings tab.

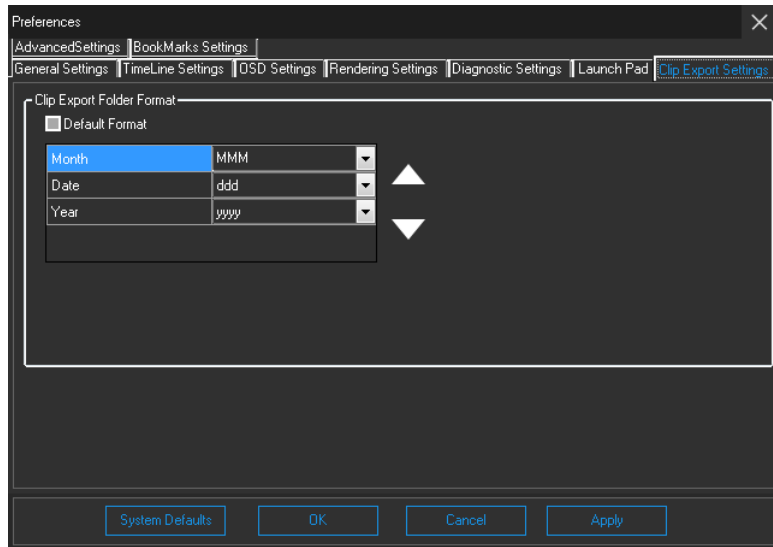



Figure 2-37 Clip Export Settings

3. Select the Default Format check box to apply the default naming convention for the clips.
4. To change the default naming convention:
 - Select the desired formats for Month, Date, and Year.
 - Use the  to arrange the Month, Date, and Year in the order of your choice.
5. Click Apply and then OK to save the data.

Configuring the Advanced Settings

Encryption secures the communication between server and client. You can encrypt the data between client to server using encryption feature. MAXPRO VMS supports three types of encryption modes to communicate with NVR box through client. Each encryption has specific pre-requisites. The following are the pre-requisites for each encryption mode.

Note: Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.


- Default Encryption: None

- Windows Authentication Encryption:
 - System clock time should be synced between client and server machine. It also recommended to use the time sync utility to sync the time between client and server.
 - **Workgroup:** If the machines are in workgroup then the password used by a client to log on as a windows user should be the same as Server PC.
 - **Domain User:** All valid domain users are allowed to login.
- Certificate Based Encryption (Recommended):
 - System clock time should be synced between client and server machine. It also recommended to use the time sync utility to sync the time between client and server.
 - Certificate needs to be installed in all Client and Server PCs. A client without a certificate is not allowed to login.
 - Internet connection is required to Install the certificate.
 - Certificate Based Encryption works across workgroup and domain.

Note: VeriSign Class 3 Code Signing 2010 CA issued certificate is tested for certificate based encryption. Honeywell recommends you to use a valid certificate from a Certificate Authority that would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-23557-E - Securing MAXPRO VMS_NVR Technical Notes.

Also MAXPRO VMS supports Low bandwidth Stream and Optimize Stream Usage settings to optimize and view the live video in Low bandwidth sites. It optimizes the stream usage while switching between the salvo view. If it is a single salvo a high resolution video is displayed and if it is a multiple salvo layout then low resolution video is displayed. However, user need to configure the resolution in NVR camera page.

To configure the Advanced settings

1. Click the Preferences option in the User menu . The Preferences dialog box appears.
2. Click the Advanced Settings tab.

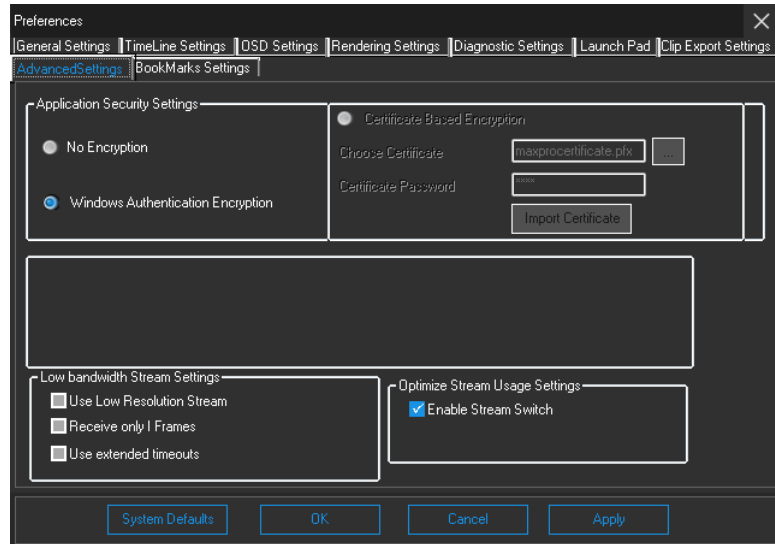


Figure 2-38 Advanced Settings Tab

3. Click Certificate Based Encryption option (Recommended), a certificate is used for encrypting the data between client and server. To encrypt the data using Certificate Based Encryption, perform the following:

- a. Browse the certificate (.pfx file).
- b. Type the Certificate Password and then click the Import Certificate button to import the certificate.

Tip: You can also import the certificate from the following link. [http://technet.microsoft.com/en-us/library/cc776889\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc776889(v=ws.10).aspx)

Or

Under Application Security Settings, select the Default Encryption or Windows Authentication Encryption options as applicable.

Note: Honeywell recommends you to opt for Certificate Based Encryption and use a valid certificate from a Certificate Authority. The CA certificate would ensure robust security along with integrity and authenticity, instead of using self-signed certificate. Refer to the 800-2357-E - Securing MAXPRO VMS_NVR Technical Notes on how to Secure Communication between Client and Server for MAXPRO NVR & VMS section.

4. Click OK. Application security settings message box is displayed.

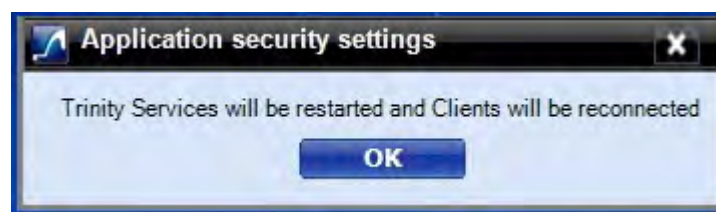


Figure 2-39 Application security settings

5. Click OK to restart the Trinity Services. A services restarting progress bar is displayed. It takes several minutes to restart all the services.

Note: All services will be restarted and all clients will be auto-reconnected.

6. Under Low Bandwidth Settings:
 - Use Low Resolution Stream: Select this check box to render video the low resolution video in any format of salvo layout. User needs to configure the low resolution (for any Primary or secondary stream) in MAXPRO NVR camera page. Refer to [MAXPRO® VMS Installation and Configuration Guide](#) for more details on how to configuring Low bandwidth stream.
 - Receive Only I Frame: Select this check box to view only I Frame considering the bandwidth at the site.
 - Use Extended timeouts: Select this check box to increase the default time outs for NVR connections, stream connections and snapshots retrieval.
7. Under Optimize Stream Usage Settings:
 - Enable Stream Switch: Select this check box to automatically switch between low and high resolution streams in the salvo layout based on the users selection.
8. Click Apply to close the Preferences dialog box.

The following figures depicts the Encryption certificate deployment scenarios:



Default Settings

1. Click Reset to apply default settings while setting preferences.
2. Click System Defaults to apply the system default settings while setting preferences.

Setting Custom Profile

After logging in to the MAXPRO VMS user interface, you can adjust the floating windows to your desired position in the MAXPRO VMS user interface using the “Custom Profile” option. The profile settings that you have made persist when you switch between the different tabs in the user interface and while logging on and logging off the MAXPRO VMS user interface.

To set a custom profile

1. Choose the Profile>Custom Profile option in the user menu.

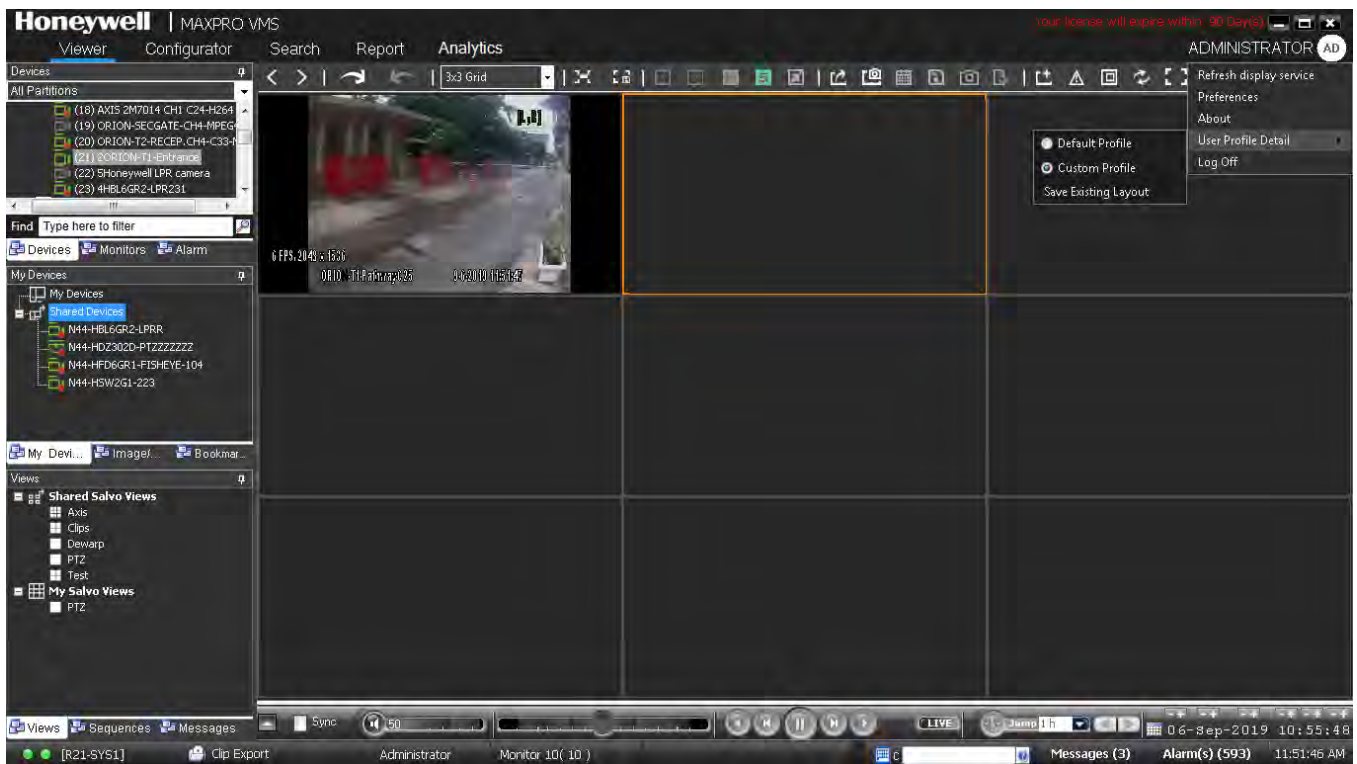


Figure 2-40 Custom Profile

2. Adjust the floating windows to your desired position in the user interface.
3. Choose Profile>Save Existing Layout to save the changes.

Note: At any point of time, you can reset the floating window to its default position by choosing the Profile>Default Profile option.

Overview

This chapter explains how to monitor a site using MAXPRO VMS application. It also describes how to use various features and options to perform surveillance operation.

Salvo Layouts and Panels

The salvo layout is arrangement of panels that displays video. You can view the salvo layout when you select the Viewer tab. At a time, you can select one of the salvo layouts from the toolbar on the top of the screen. For example, if you want to view video from two cameras, select a salvo layout with two or more panels from the drop-down list.

Following are the features of the salvo layout.

Easy video source selection

You can drag and drop a video source such as a camera or scan sequence from the Site window on the Salvo layout. The video is displayed in the panel of the salvo layout. You can also double-click the video source name to select it.

Salvo Layout Drop down with Preview

You can select the required salvo layout from the drop-down list available on the tool bar. This also includes preview to view the salvo layout next to the list. Hover the mouse on the required salvo layout and the corresponding preview is displayed on the right pane.

Multiple video source selection

You can drag and drop multiple video sources from the Site window on the salvo layout. The salvo layout starts displaying video from the devices in different panels

Note: *Ensure that enough panels are available before you drag and drop multiple video sources on the salvo layout. This is necessary to avoid automatic closing of the present video display. For example, if a salvo layout consists of only one panel displaying video, select another salvo layout containing more panels before dragging and dropping multiple video sources.*

Multiple panel selection

You can select multiple panels on the salvo layout. This enables you to perform actions on multiple video displays simultaneously. For example, you can select multiple video display and start playing of video, apply color correction, and perform other similar actions. See [Video Control Options in Panel Toolbars](#).

Use of joystick controller

You can use the joystick controller (Ultrakey keyboard) to perform actions such as panning, tilting, and zooming of camera, selecting a salvo layout, selecting a camera, playing a sequence, and selecting a monitor. The keys in the joystick controller can be associated with the intercept keys to perform these actions.

Context menu commands

When you right-click on a panel, a context-menu appears. The commands in the context-menu vary based on the type of video display such as live or recorded. See [Viewing Live Video](#).

Enlarged display

You can double-click a panel to maximize its size and view an enlarged display of the video. Double-click the panel again to restore the panel to its original size.

Surrounding Cameras

The Surrounding Cameras feature allows you to associate a group of cameras to each camera. This feature is particularly useful when you want to view video from a group of cameras at the same time. For example, when you want to view video from cameras located in the same area. See [Surrounding Cameras](#) for more information.


Salvo Views

Salvo views enable you to save a salvo layout. The cameras and scan sequences displaying video in a salvo layout is saved in a salvo view. When you want to view video from the same cameras and scan sequences again, you can select the corresponding salvo view.

Corridor View

MAXPRO VMS allows you to discover and add a camera with Corridor view option. You should enable the Corridor view option in camera page to use this feature. This feature is supported only for MAXPRO® NVR recorders.

AspectRatio Stretch

AspectRatio stretch feature enables a salvo layout to display a view by maintaining same aspect ratio. This option is available on the tool bar and it supports three stretch view namely Default S, AspectRatio 16:9 and AspectRatio 4:3. Click  to shuffle between aspectratio stretch view.

Identifying the type of video display

The type of video displayed in a panel is indicated. For example, Live for live video and Rec for recorded video.

Swapping of video display between panels

The video display in a panel can be dragged and dropped on another panel. This feature lets you swap the video display between panels.

Adding devices to My Devices window

The video display in a panel can be dragged and dropped on My Devices window. This adds the video source such as the camera or sequence to the tree structure in My Devices window.

Panel Toolbars


Hovering the mouse over a panel displays a toolbar. The toolbar that appears on top of a panel enables you to view the name of the video source and close the video display. The toolbar that appears on the bottom of a panel consists of icons that enable you to flip the video display, view the mirror image of the video display, cancel the digital PTZ effects on the video display, and perform color correction on the video display. You can also move the camera to a preset position, save a preset position, and start recording of video. See [Video Control](#) in Panel Toolbars.

salvo View

Creating a Salvo View

1. Click the Viewer tab.

Note: Before you create a salvo view, select the salvo layout you want and the preferred cameras and scan sequences. The selected salvo layout, cameras, and scan sequences are saved in the salvo view.

2. Right-click on the toolbar, and then click Create Salvo view or Click  on the toolbar on the top of the salvo layout. A drop down box appears.
3. To create a salvo view, in the Enter salvo view name box, type a name for the salvo view and click OK. Goto step 5.
4. To create a shared salvo view, in the Enter salvo view name box, type a name for the salvo view, and then click Shared Salvo check box. Goto step 6.
5. The salvo view is created and appears in the My Salvo Views under Views window.
6. The salvo view is created and appears in the Shared Salvo Views under Views window.

Selecting a Salvo View

To select a salvo view

- In the Views window, double-click the salvo view or drag and drop the salvo view on the salvo layout or right-click the salvo view in the Views window, and then click Show.

Renaming the Salvo View

To rename the salvo view

1. Right-click the salvo view in the Views window, and then click Rename.
2. Type a new name for the salvo view in the Site window and press ENTER.

Editing the Salvo View

To edit the salvo view

You can edit the salvo view when you want to,

- change the cameras in the existing salvo view
- change the salvo layout for the existing salvo view

Changing Cameras in the Existing Salvo View


1. In the Views window, double-click the salvo view or drag and drop the salvo view on the salvo layout or right-click the salvo view in the Views window, and then click Show.
2. Realign the cameras or add new cameras in the same salvo view layout.
3. Click Save Salvo View in the salvo view pane.

Changing the Salvo Layout for the Existing Salvo View

Method one

1. Select a salvo layout and re-align cameras if you want.
2. In the Views window, right-click the salvo view for which you want to change the layout, and then click Save.

Method two

1. Select a salvo layout and re-align cameras if you want.
2. Click  on the toolbar on the top of the salvo layout. A drop-down list appears.
3. In the Enter salvo view name box, type the salvo view name for which you want to change the layout, and then click OK. A message asking for confirmation appears.
4. Click Yes to save.

Note: The above procedures for Selecting a Salvo, Renaming a Salvo, and Editing a Salvo remains the same for the Shared Salvo View.

Capturing Salvo Image

You can capture the entire salvo view as an image and store. The image is stored in the images and clips directory.

To capture salvo image

- Click  on the toolbar on the top of the salvo layout. The salvo image is created.

Deleting a Salvo View

To delete a salvo view

- Right-click the salvo view in the Site window to display a context menu. Click Delete. The salvo view is deleted

Salvo Bar

A salvo bar appears on top of a salvo view. The salvo bar indicates the name of the salvo view. You can save a salvo view after you realign the cameras using the Save option on the Salvo Bar. You can also use the Save As option to save an existing salvo view with a different name. The context menu options on the salvo bar include Send Message, Create Salvo View, and FullScreen.

Extended Salvo layouts drop-down

Additional 10, 13 grid salvo layout combinations are introduced in this release with preview. Hover the mouse on the required salvo layout, the corresponding preview is displayed on the right side pane. Below image displays the additional salvo layouts with preview.

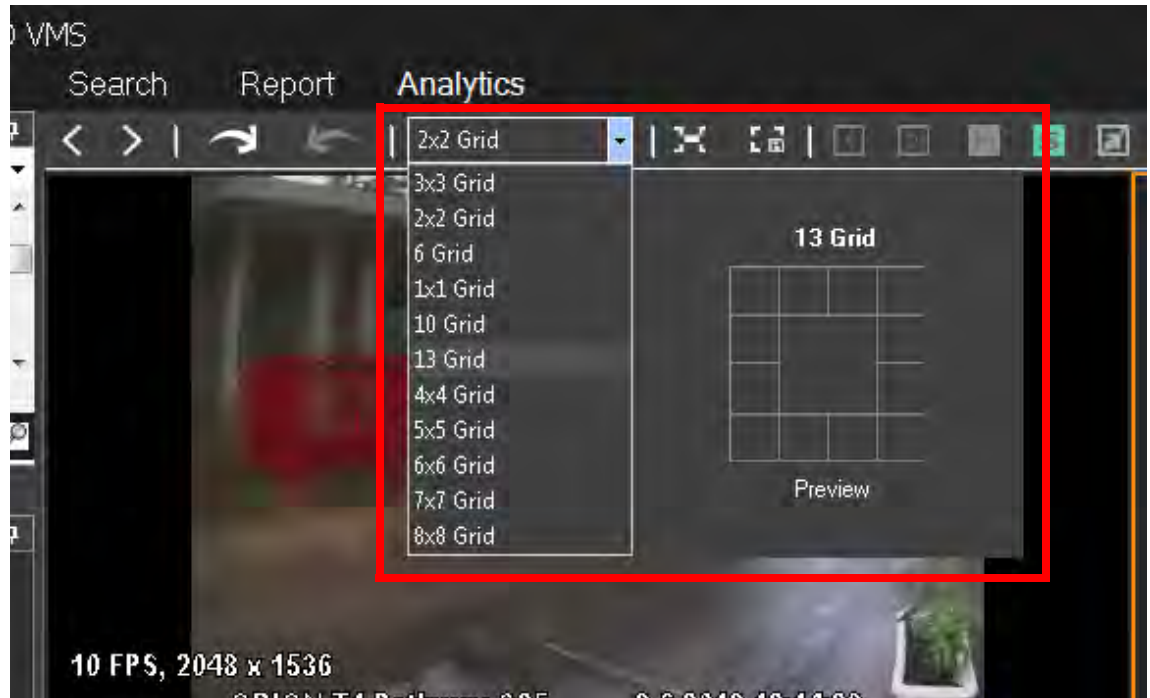



Figure 3-1 Extended Salvo Layouts



AspectRatio Stretch

AspectRatio stretch feature enables a salvo layout to display a view by maintaining same aspect ratio. This option is available on the tool bar and it supports three stretch view namely Default S, AspectRatio 16:9 and AspectRatio 4:3. Click  to shuffle between aspectratio stretch view.



Surrounding Cameras

You can associate a camera to a group of cameras using the “Surrounding Cameras” feature. This feature enables you to view video from a group of related cameras at the same time. For example, when you want to view video from cameras located in the same area.

To define the surrounding cameras for a camera


1. Click the Viewer tab.
2. Click  on the toolbar on the top of the salvo layout. The surrounding cameras salvo layout appears.
3. Select the camera for which you want to associate a group of cameras from the Devices window or My Devices window. You need to drag and drop the camera in the central panel of the salvo layout. The panel starts displaying video from the camera.
4. From the Site window or My Devices window, select the cameras you want to associate with the camera selected in the previous step. The panel starts displaying video from the cameras.
5. Click  to save the surrounding cameras salvo layout.

Switching to the Surrounding Camera View for a Camera

- Click  on the toolbar. The surrounding cameras salvo layout appears. Select the camera from the Site window or My Devices window. The surrounding cameras salvo layout starts displaying video from the camera and the associated cameras.
- or
- Hover the mouse over the panel displaying video from the camera. A panel toolbar appears. Click  in the panel toolbar. The surrounding cameras salvo layout starts displaying video from the camera and the associated cameras.

Switching AspectRatio

To switch between the aspect ratio

- Click  on the toolbar to shuffle between Aspectratio stretch view as shown below: The following views are displayed as shown below:
- Default Stretch View [figure 2](#).
- AspectRatio 16:9 View [figure 3](#).
- AspectRatio 4:3 View [figure 4](#).

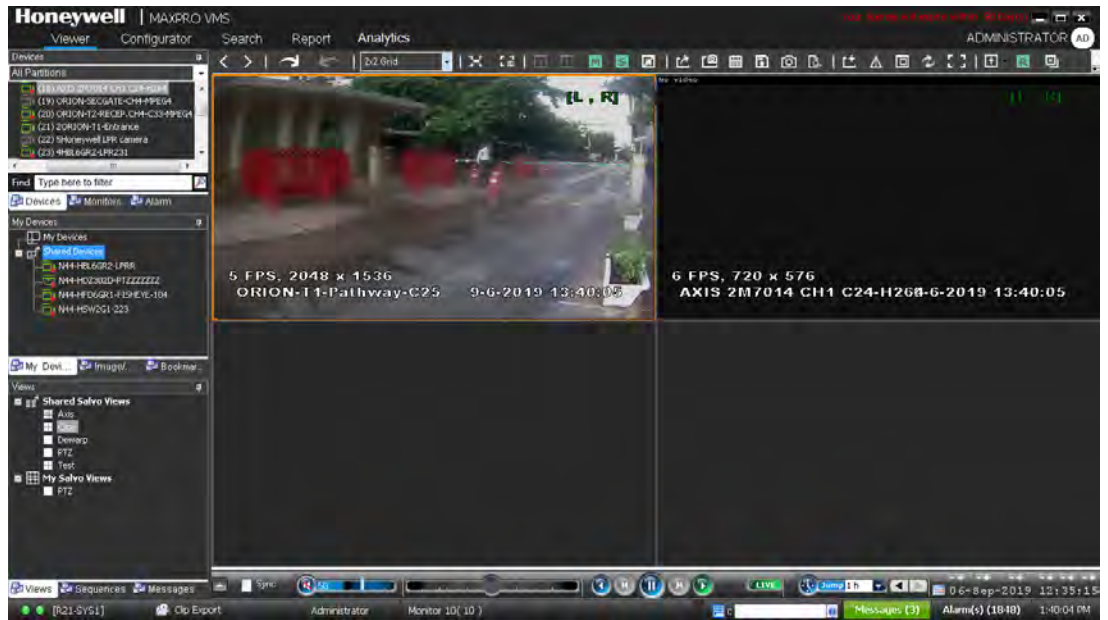


Figure 3-2 Default Stretch View

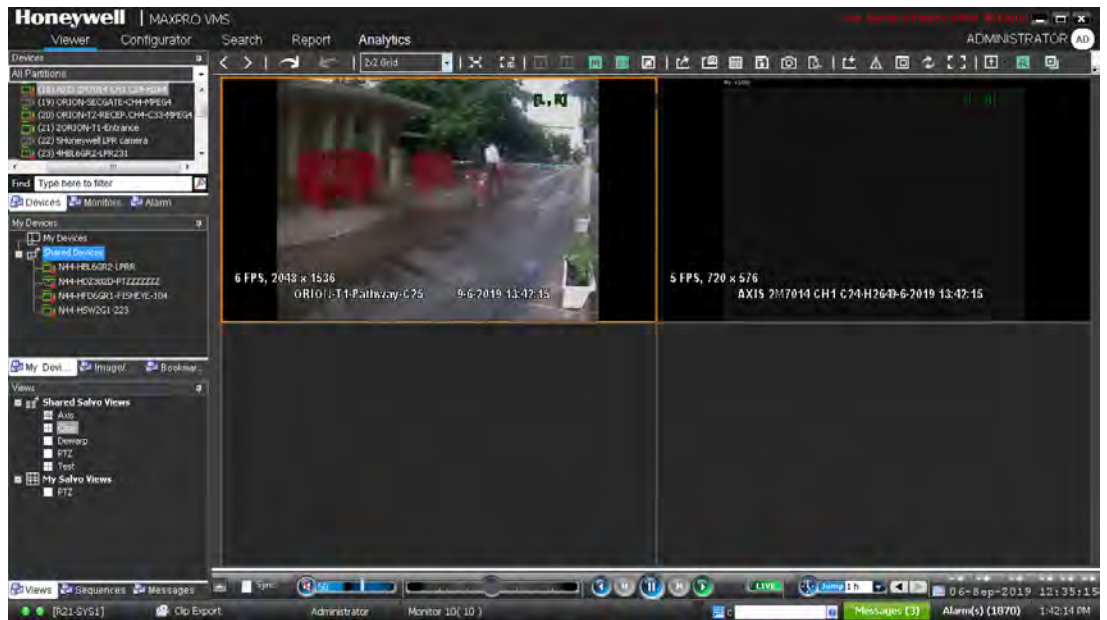


Figure 3-3 AspectRatio 16:9 view

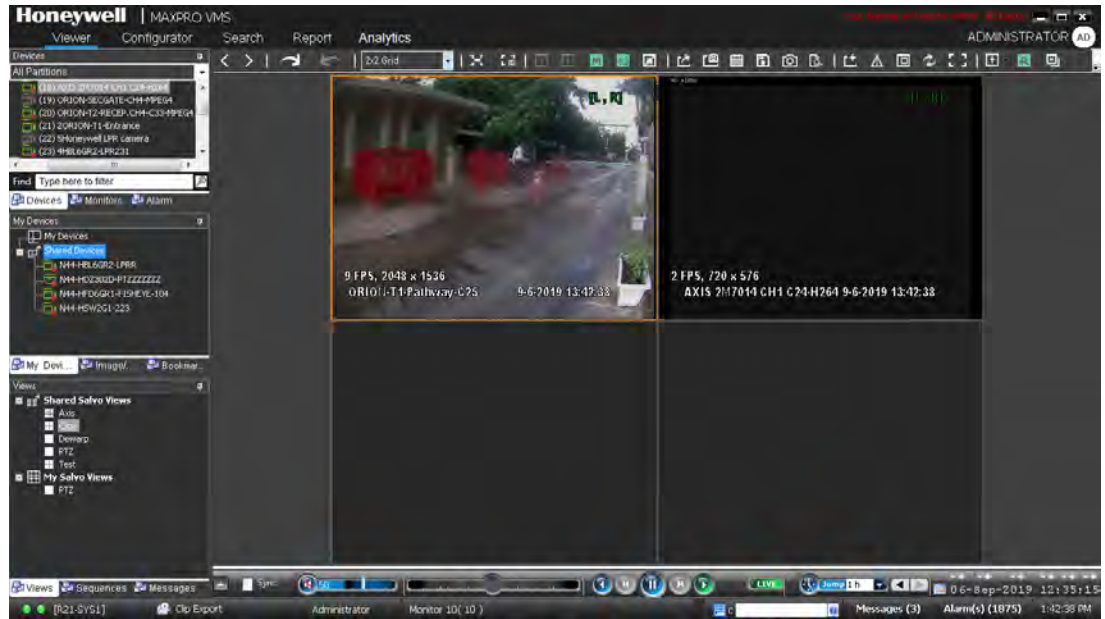


Figure 3-4 AspectRatio 4:3 view

Live Video

You can view live video and play any selected sequence using the options available in MAXPRO VMS. It also include Anonymized video.

Viewing Live Video

The panels in the salvo layout display video. You can select the video source such as cameras or sequences from the Site or My Devices window.

To view live video

1. Click the Viewer tab.
2. Double-click the video source in the Site window or My Devices window. You can also drag and drop the video source on a panel in the salvo layout. The live video is displayed in the panel and the label Live appears over the video display.

Note: If the Text overlay of the camera added in the panel, displays FO on the top right corner then the camera is active under Failover mode.

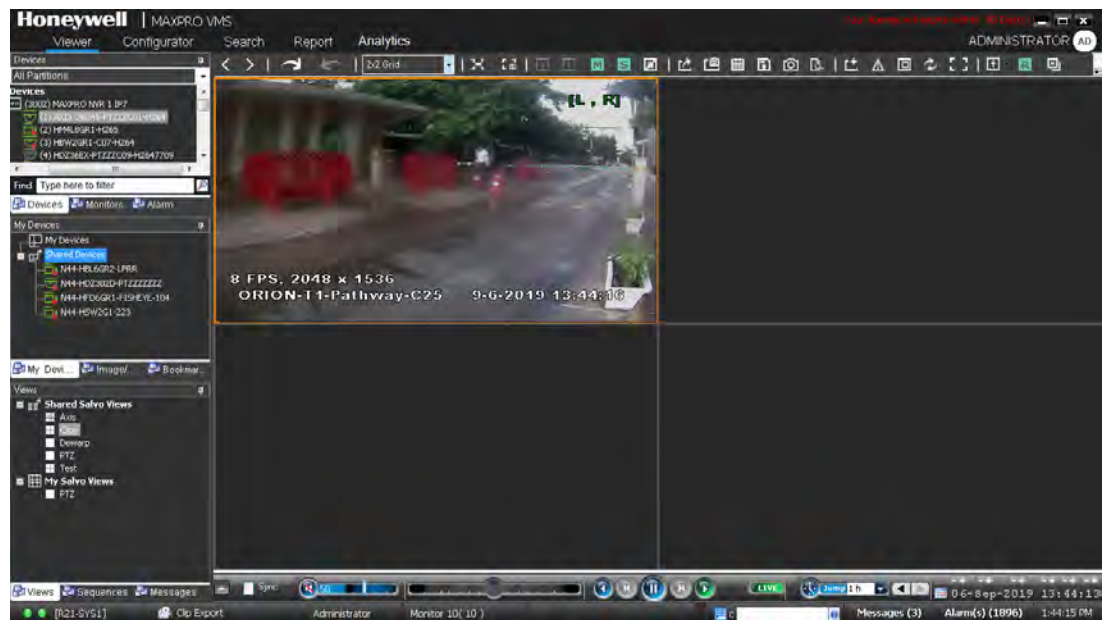


Figure 3-5 A panel displaying live video



Note: The video source can also be selected using the virtual keyboard and joystick controller.

You can select multiple video sources and view live video in different panels of the salvo layout. When you hover the mouse over a video display, toolbars appear over the panel. The toolbars enable you to perform actions such as flipping the video display, applying color correction, and so on. See [Video Control Options in Panel Toolbars](#).

Undo and Redo

Use the Undo and Redo options to undo and redo the drag and drop operation of video sources to the salvo layouts.

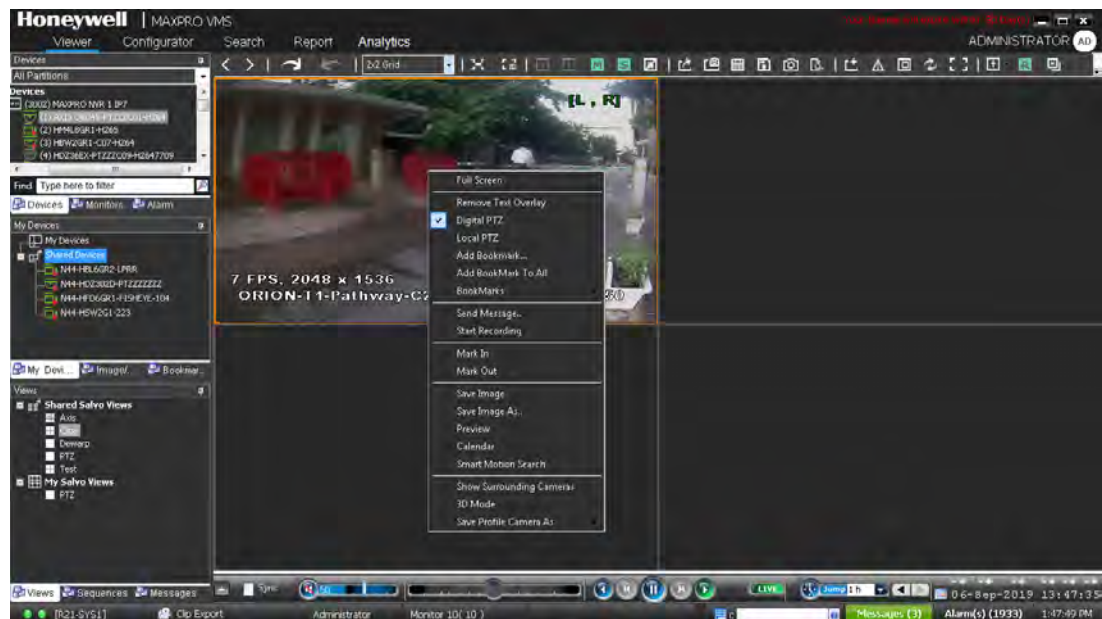
To undo and redo the drag and drop of a video sources

1. To undo the drag and drop operation of video sources, click  on the toolbar on the top of the salvo layout or press CTRL + Z keys.
2. To redo the drag and drop operation of video sources, click  on the toolbar on the top of the salvo layout or press CTRL + Y keys.

Note: This undo and redo feature is applicable for changing the salvo layouts, switching between cameras and closing the camera operations only.

Context Menu Options

When you right-click on a panel displaying live video, a context menu appears as shown below.



The following table lists the commands in the context menu.

Command	Click to...
Full Screen	maximize the salvo layout to full screen. Alternatively, you can click in the toolbar on the top of the salvo layout.

Command	Click to...
Remove Text Overlay	to remove text overlay displayed on the video. Alternatively, you can click in the toolbar on the top of the salvo layout.
Digital PTZ	enable digital PTZ. See Panning Tilting and Zooming for information on digital PTZ.
Local PTZ	to perform PTZ operation in camera by bypassing the trinity controller. See Panning, tilting, and zooming for information. Note: You can access Local PTZ, if you have permissions to analog PTZ
Add Bookmark	add a bookmark in the timeline. You can also add a bookmark by pressing the CTRL + B keys.
Add Bookmark to All	add bookmarks to all the cameras displayed on the salvo layouts.
Bookmarks	navigate to any bookmark and select to play the video related to that bookmarks time. You can also choose Remove to remove the bookmark from the context menu.
Send Message	send message to an operator or to another monitor. See Operator messaging for more information.
Start Recording	start the recording of video. Alternatively, you can click in the panel toolbar to start recording of video.
Mark In	add a mark in point in the timeline. You can also add a mark in point by pressing the CTRL + I keys. See Video Recording and Viewing for more information.
Mark Out	add a mark out point in the timeline. You can also add a mark out point by pressing the CTRL + O keys. See Video Recording and Viewing for more information.
Save Image	save the frame displayed in the panel as an image in the BMP format. Alternatively, you can click in the toolbar on the top of the salvo layout to save the image in BMP format. See Saving Images .
Save Image As	save the frame displayed in the panel in different image formats such as JPG, PNG, and GIF. See Saving Images for more information.
Preview	view the preview of live video
Calender	view the recording in calender format based on date and time
Smart Motion Search	configure the smart motion search on live video. See Smart Motion Search for more information.

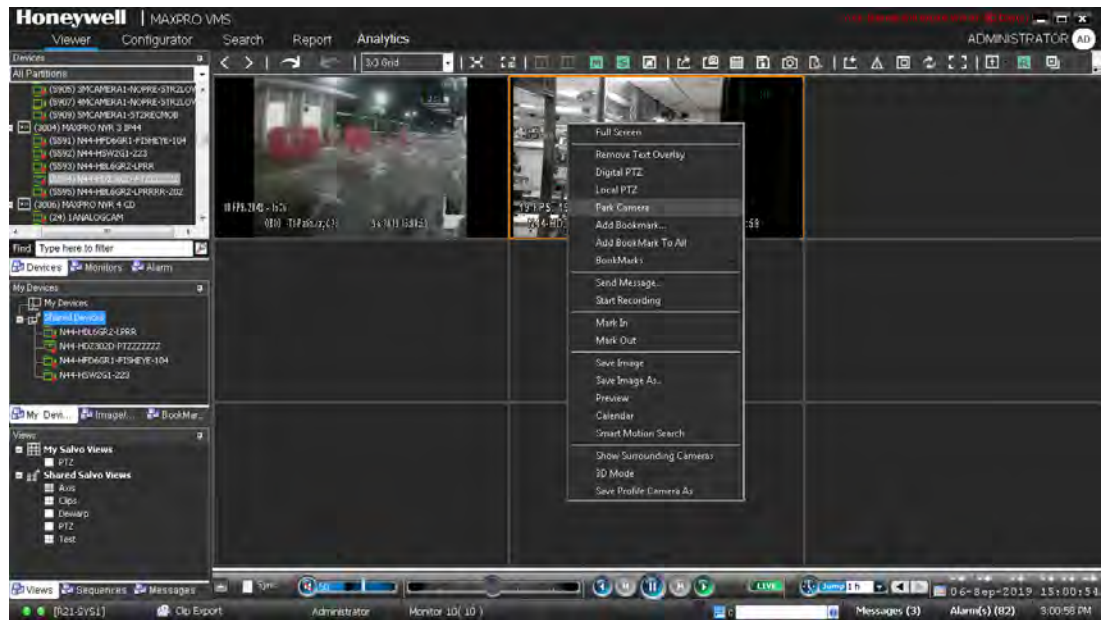
Command	Click to...
Show Surrounding Cameras	to view video from the associated cameras. See Surrounding Cameras for more information.
3D Mode	This feature is applicable only to New EquiP PTZ model cameras. Select this option to enable the 3D view. You can also center the field of view by clicking on any object in the live video. See How to Enable/Use 3D Mode View on page 124 section for more information.
Save Profile Camera As	Save the camera view as a profile and this profile camera will be displayed under the Devices tree. Profile camera created in MAXPRO® NVR cannot be discovered in MAXPRO® VMS and in VMS in VMS scenario.
Enable Square Select	select a rectangular area on the video display. The selected area is automatically zoomed in or enlarged.
Park Camera	enable the camera parking feature. This is only for selected PTZ cameras. See Camera Parking for more information.
Stop Recording	Alternatively, you can click in the panel toolbar to stop recording of video.
Reset 3D	This option is displayed when you enable 3D Mode. Click this option to reset the 3D view. See How to Restore 3D Mode view for more information. Note: Rest 3D option resets the 3D view only at the first level.

Camera Parking

Camera Parking is applicable only for selected PTZ cameras. This feature overrides the Home Preset location of a PTZ camera. Using this feature, you can explicitly park a camera at a particular location of your choice.

To use the Camera Parking feature

1. On the panel displaying live video, use the pan, tilt, and zoom options to position the camera to a location of your choice.
2. Right-click the panel, and select Park Camera in the context menu as shown below.



3. To define a new location, use the pan, tilt, and zoom options to select a new location.
4. Right-click the panel, and then click Update Parked Location in the context menu. The camera is parked to the selected location.

How to Enable/Use 3D Mode View

This feature is supported only for New EquiP PTZ (HDZ302DE, HDZ302D, HDZ302DIN) camera models.

To enable 3D mode view:

1. Right-click on the live video, the context menu options are displayed as shown below.

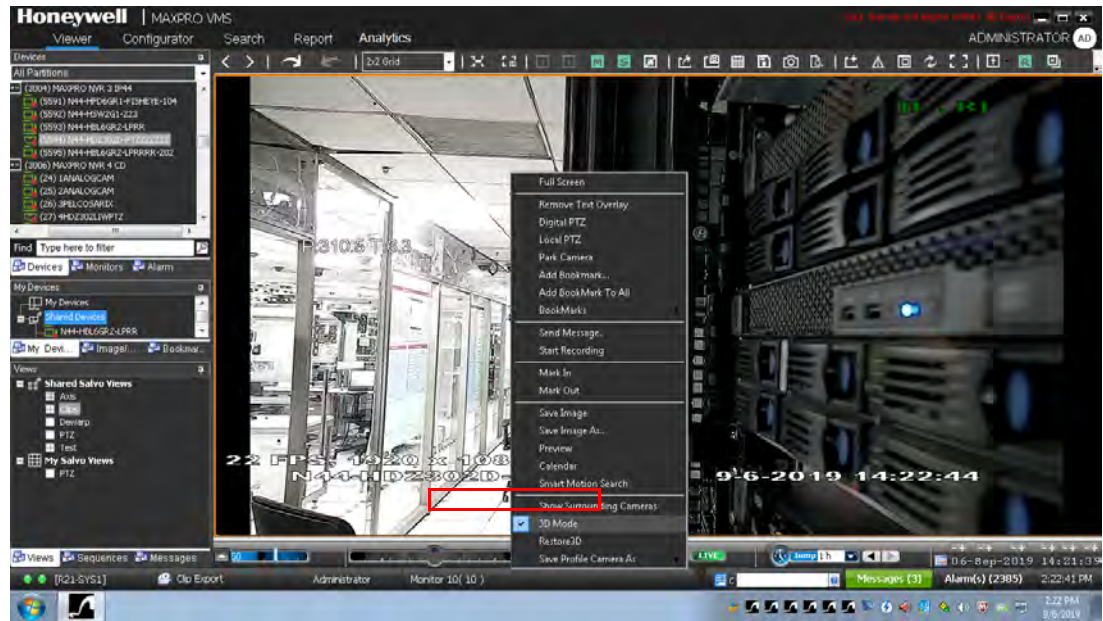


Figure 3-6 3D Mode option

2. Click the 3D Mode option. 3D positioning for that camera is enabled.
3. Use the mouse to draw a rectangular region on any object in live video as shown below.

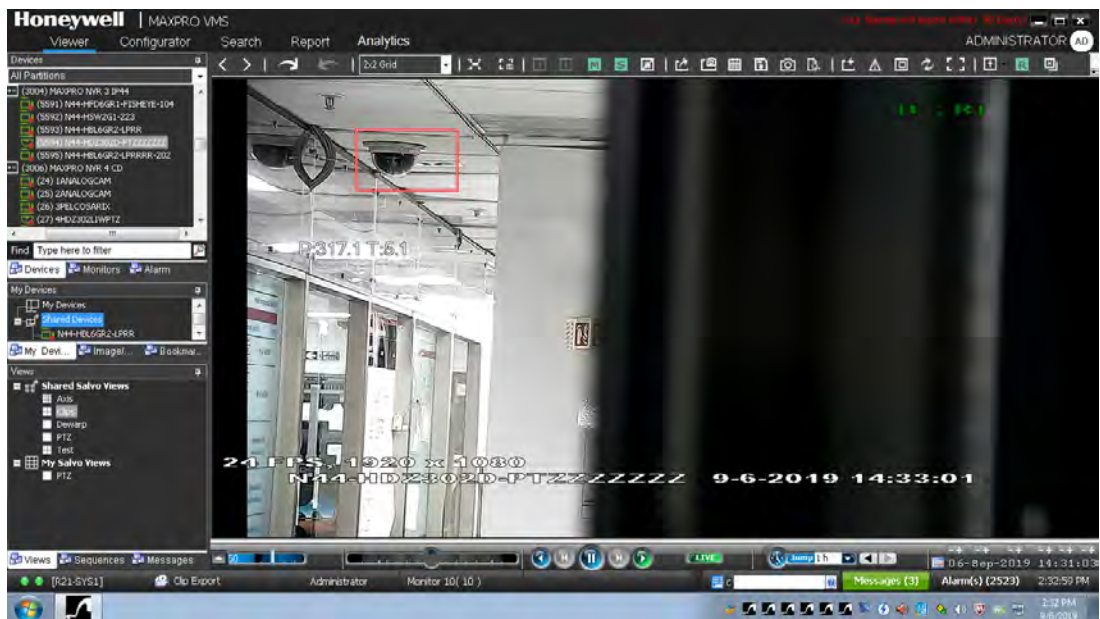


Figure 3-7 3D Rectangle Region

4. Release the mouse control immediately after drawing a rectangle. Only the object in the rectangular region is zoomed and positioned to center as shown below. You can also draw more regions on top of existing one to have a better view.

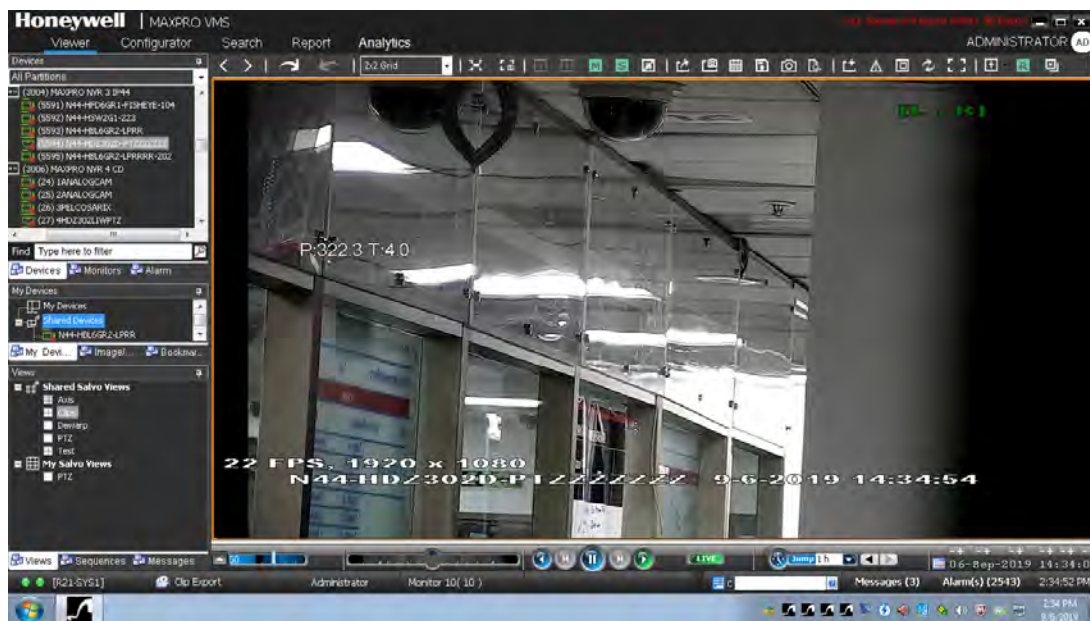


Figure 3-8 Region Positioned

Positioning the Field of View

After enabling the 3D Mode option in live video, you can also center any object in the scene with a mouse click.

For example. In a live video, if you want to center an object which is located on top right corner then you can simply click on that object. The object will be positioned to center as shown below. Similarly you can center any corner objects.

To center the any object in the scene

1. Click on any object in the scene. For example in this below image a Camera is highlighted.

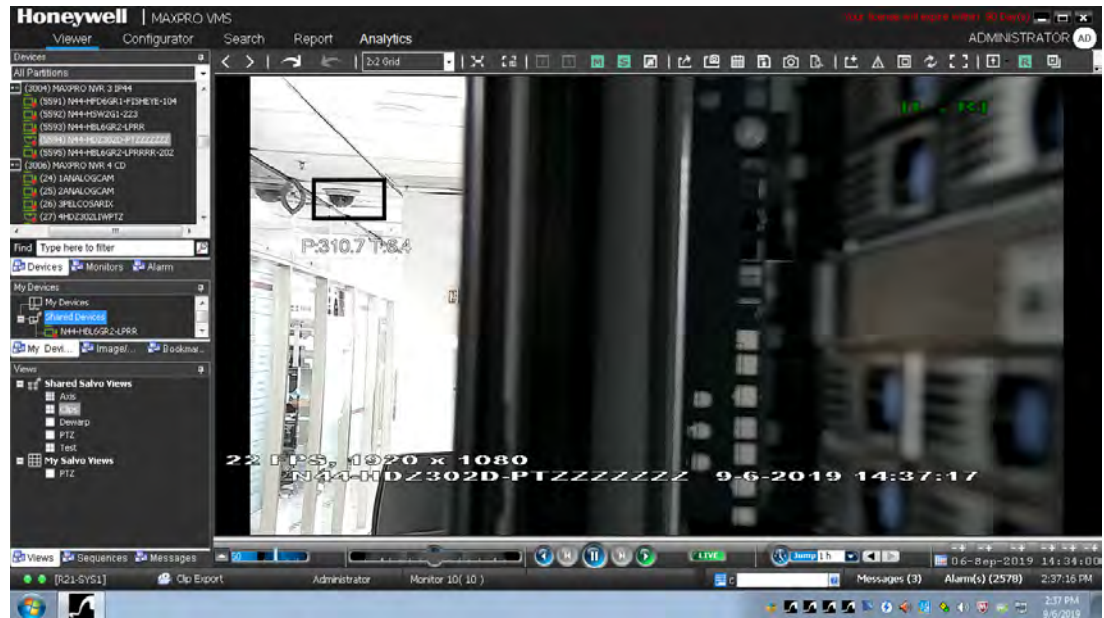


Figure 3-9 Camera Object Highlighted

2. Click on any object in the scene then the object is positioned to the center of the salvo pane as shown below.

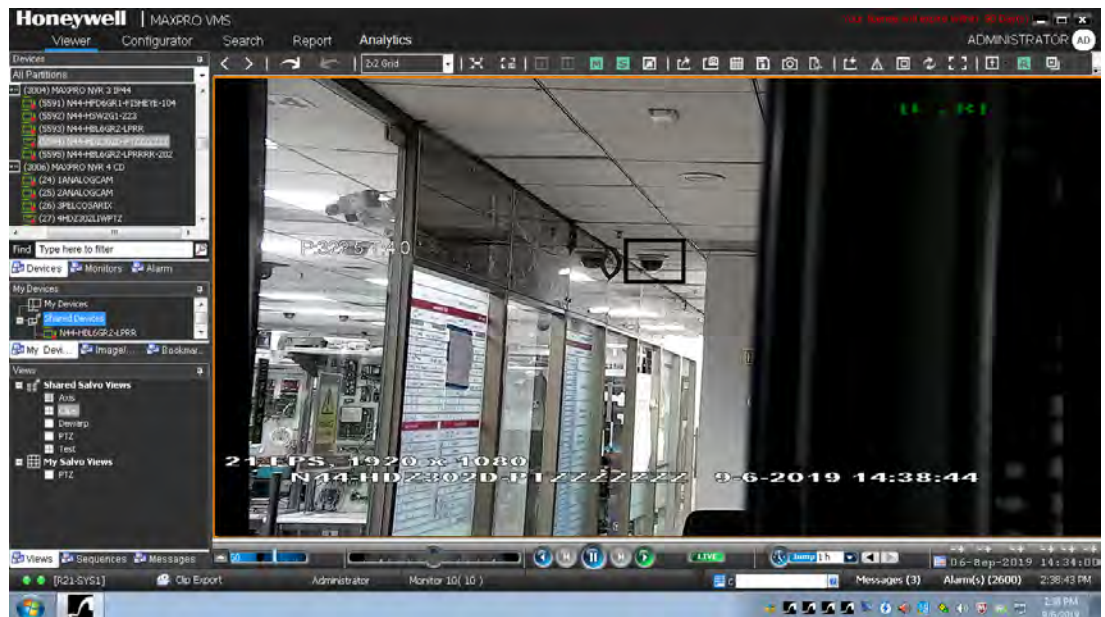


Figure 3-10 Camera Object is Centered

How to Restore 3D Mode view

Restore3D Mode option is displayed only when you enable 3D mode.

To restore the 3D mode view:

1. Right-click on the same live video onto which the 3D mode is enabled. A context menu options are displayed as shown below.

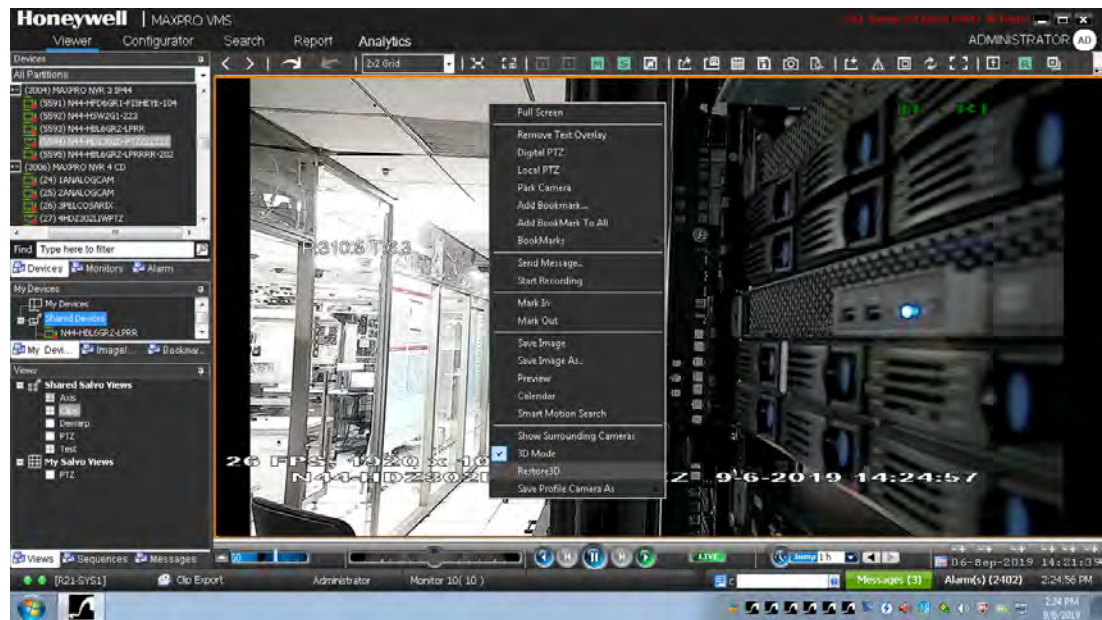


Figure 3-11 Context Menu Options

2. Click Restore 3D option.

Note: Restore3D option resets only 1 level of previous view. For example if you had drawn a rectangular region twice to view the object closely, then this option resets only the view of second rectangle region.

Playing a Sequence

A sequence is a set of live video streamed one after the other from cameras for a specified time interval. Refer to the MAXPRO VMS R630 Installation and Configuration Guide for information on how to create sequences.

To play a sequence

1. Click the Viewer tab.
2. Click the Sequences window.
3. Double-click the sequence you want to play or select the sequence, and then click Play Sequence. You can drag and drop the sequence on a panel in the salvo layout.

You can also play a sequence using the joystick controller (Ultrakey keyboard).

Saving a Profile Camera View

Profile camera feature is supported only for MAXPRO NVR Recorders. Save the camera view as a profile and the saved profile camera is displayed under the Devices tree. Profile camera created in MAXPRO® NVR cannot be discovered in MAXPRO® VMS and in VMS in VMS scenario.

To save a Profile camera view

1. Right-click on the required camera in the salvo layout which is displaying live video and then choose Save Profile Camera As as shown below.

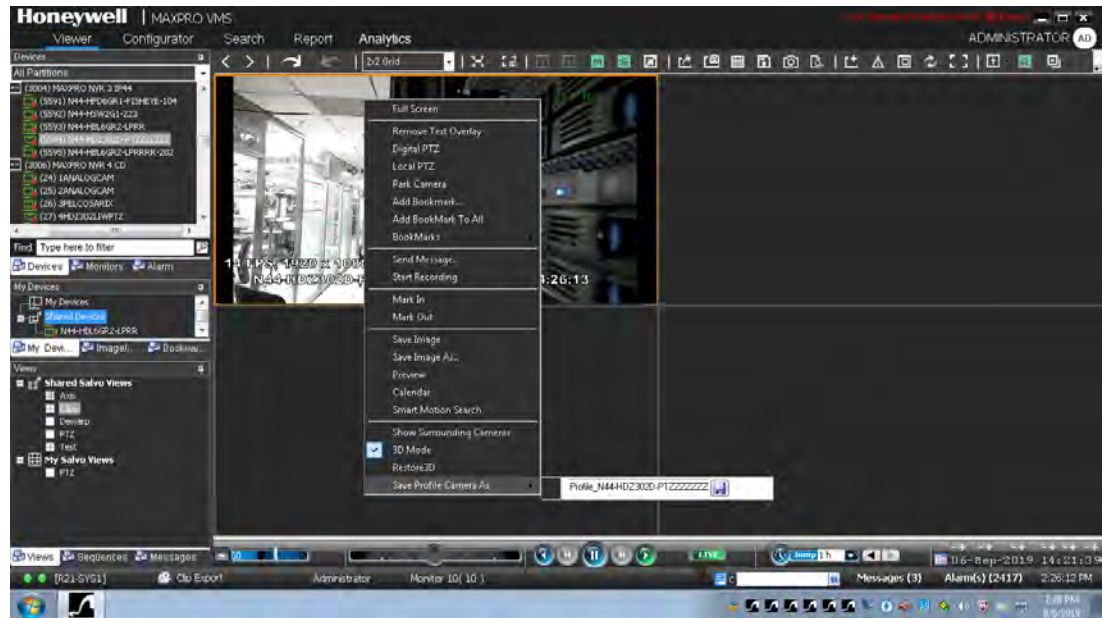



Figure 3-12 Profile Camera View

2. Type a name for the Profile View and then click . The created profile camera is added and displayed under the device tree.

Tip: You can also perform **Pan**, **Tilt** and **Zoom** operations on the required camera in the salvo to set a better view and then save as Profile view.

Viewing Anonymized Video

Ensure that you have associated the required cameras with suitable masking type in the Configurator tab > Anonymization screen. Refer [MAXPRO® VMS Installation and Configuration Guide](#) on how to configure.

- In the Viewer tab, drag and drop the associated camera on to the panel. The specific camera video with the type of masking is displayed as shown below. The available masking types are

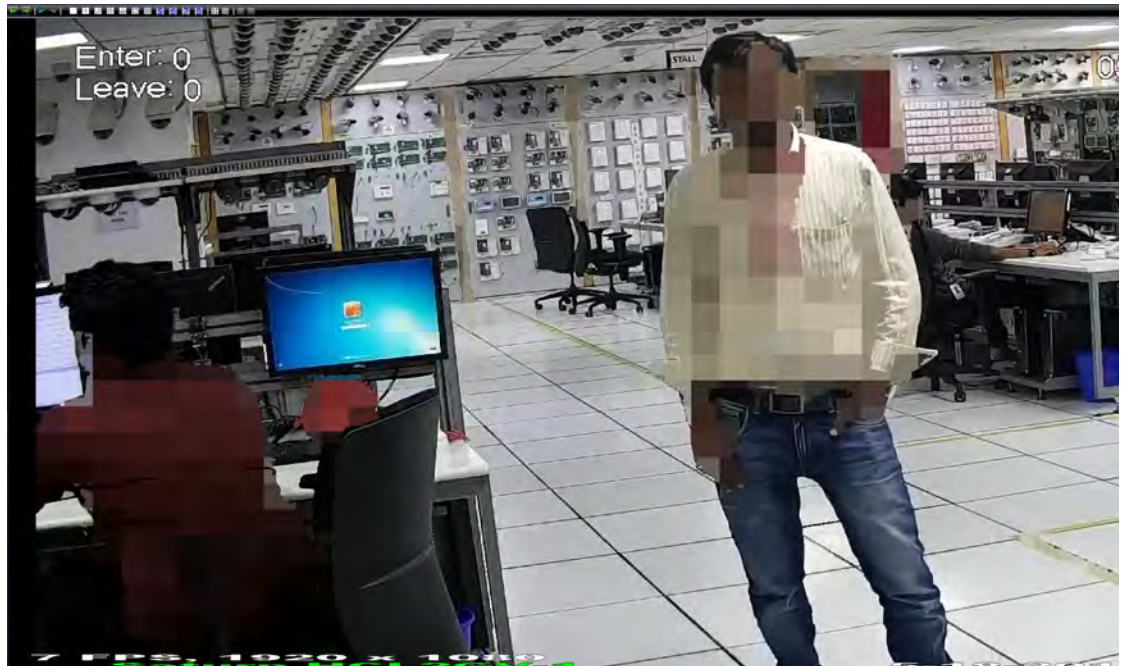
- Blur: Blurs the Identifiable object
- Pixelize: Pixelizes the Identifiable object

Note: Only an Administrator can provide access to this feature to an Operator.

The following images display the views of maskings:
For Blur:



For Pixelize:



Video Recording and Viewing

Video Recording

In the Configurator tab, you can configure the settings to record video for the cameras connected to the recorder. Four types of record settings are available for the cameras connected to the recorder. They are user activated, background/ continuous recording, motion detected recording, and scheduled recording. The above settings are also applicable on the Redundant recorders or backup recorders which can be configured for failover scenarios.

A new authentication feature called Four Eye Authentication is introduced in R500 release. This feature is for Privacy Protection setting and to meet the EU GDPR compliance standards easily. This is to restrict all users in a surveillance system to perform Playback operation. While performing playback operation at least two people from different roles should authenticate. See [Four Eye Authentication](#) section for more information.

Note: *This feature is license based and it is not supported in Viewer Edition. For R500 Enterprise Edition 60 days of trial license is applicable for both (GDPR) features. For R500 Viewer Edition these features are not available in the permanent demo license.*

Refer to the [MAXPRO® VMS Installation and Configuration Guide](#) for more information on configuration.

Note: *In MAXPRO VMS, the settings for video recording cannot be configured for the cameras connected to the Rapid Eye, Fusion, Intellex and Embedded recorders. You cannot start the recording (user activated recording) of video from cameras connected to these recorders. However, you can play the recorded video saved in these recorders. In addition, you can also view live video from the cameras connected to these recorders. See [Viewing Live Video](#) for more information.*

About the Recording Settings for Recorder

User Activated

You can configure the user activated settings for recording moments of interest while viewing live video from the camera. After configuring the user activated settings, the operator can start recording of video when needed. The video is recorded for the time period specified in the settings for user activated recording.

See [Video Control Options in Panel Toolbars](#) for information on how to start the user activated recording of video from a camera.

Background Recording

After configuring the background recording settings, the camera continuously records video.

Motion Detected Recording

After configuring the motion detection settings, the camera starts recording video when motion is detected.

Scheduled Recording

After configuring the scheduled recording settings, the camera starts recording video on specified date and time.

Viewing Recorded Video

You can use the following to play recorded video of primary or redundant recorders.

Timeline

You can easily retrieve and view recorded video using the timeline and the date and time controls in the Timeline window. When you select a camera from the Devices window to view video, a timeline appears in the Timeline window. The name of the corresponding camera appears on the left of each timeline. You can add comments and mark points of interest in the timeline using the bookmark feature. The bookmarks are helpful for future review of recorded video.

You can also add mark in and mark out points in a timeline. Recorded video between a mark in and mark out point can be played repeatedly. This feature is referred to as loop playback of video.

You can view the frames from the recorded video as thumbnails in the timeline. You can also create clips from recorded video.

Player Controls

You can play recorded video at speeds ranging from 1/64X to 256X. You can also forward and reverse play the video. The frames from the recorded video can also be viewed one at a time in the panel.

Using the time jump feature, you can skip time intervals while viewing recorded video. This feature is helpful when viewing recorded video that spans across a long time interval.

See [Playing Recorded Video Using the Timeline](#) for more information on timeline and player controls.

Note: *If you are viewing the recordings from backup recorder then FO is displayed on the top right corner of the panel. During playback, when the control is moving from primary recording to Redundant recording then Connecting to Failover Box message is displayed.*

Timeline

Playing Recorded Video Using the Timeline

Timeline enables you to play recorded video from a particular date and time. A timescale is displayed in the lower part of the Timeline window. You can refer to the divisions in the timescale to locate a video recording in the timeline. Using the Date and Time calendar box in the Timeline window, you can select a date and time from which you want to play recorded video.

You can add comments and mark points of interest in the timeline using the bookmark feature (See [Marking Points of Interest in the Timeline Using Bookmarks](#) for more information). This enables you to locate moments of interest when reviewing recorded video. You can also add mark in and mark out points in a timeline (See [Playing Recorded Video Using Mark In and Mark Out Points in Timeline](#) for more information) to play a selected part of video repeatedly.




Note: *While performing playback operation ensure to follow GDPR (General Data Protection Regulation) standards. At least two people must authenticate. For an Administrator user, authentication is not required and can perform any playback operation. For a non Administrator user, an Administrator user and a User from some other group needs to authenticate. See [Four Eye Authentication](#) section for more information.*

To play recorded video using the timeline

1. Click the Viewer tab.
2. Select the camera. To select the camera, double-click the video source in the Site window or My Devices window. You can also drag and drop the camera on a panel in the salvo layout. The video is displayed in the panel. Alternatively, you can click on a panel displaying video to select the corresponding camera from which you want to view video. A timeline appears in the Timeline window with the name of the camera on the left in full timeline mode.

Note: *To view recorded video from multiple cameras, you can select more than one camera at a time. The cameras can also be selected using the virtual keyboard and joystick controller.*

3. Play the recorded video from a date and time in one of the following ways.
 - Click on the timeline from where you want to view video. You can refer to the divisions on the timescale that is displayed in the lower part of the timeline window to locate the date and time.

Note: *You can set any timescale between seconds and days using the  slider. Move the slider towards left or right as required. This helps you to locate the video recording in the timeline. Click  to view the divisions on the left of the timescale. Click  to view the divisions on the right of the timescale.*

or

- Select the date and time in the date and time calendar box



and then click OK or use the

buttons corresponding to day, month, year, hours, minutes, and seconds to select the date and time. The video recording is played from the selected date and time.

Note: In the Calendar box, select the Adjust time for DST check box to synchronize the time to the Daylight Savings time. Daylight Saving Time (or summer time as it is called in many countries) is a way of getting more light out of the day by advancing clocks by one hour during the summer.

Timeline Color Indicators


The color indication for the type of recording on the timeline can be identified using Legends. Legends in the timeline window represents the type of recording (Continuous, Event or User and the type of Archival (Continuous or Event) status with specific color. Based on your settings you can identify which type of recording or archival.

For Recording

Color	Indicates...
	Continuous recording.
	Event based recording.
	User based recording.
	On Device
	Synced from Device
	Redundant

For Archival





Color	Indicates...
	Archival of Continuous recording

Color	Indicates...
	Archival of Event based recording

Note: Archival timeline colors are only visible if the Continuous/Event/User based recording does not exist for that timeframe.

In the timeline, the time duration for which recording is available is indicated in green color. The time duration for which recording is not available is indicated in white color. This helps you to locate the video recording in the timeline.

Note: The timeline shows the green color and gray color only for the cameras connected to the recorder. Presently, this feature is not supported for cameras connected to other recorders. However, you can click the timeline to play the recorded video. The timeline also shows pink color during the failover mode. The following table lists the colors that appear in the timeline.

Color	Indicates...
	recording is available for the corresponding date and time.
	recording is not available for the corresponding date and time.
	the timeline for the camera connected to other recorders. The green and white color appears only for the cameras connected to the recorder.
	Indicates the recording available from the Redundant recorder during Failover mode.

Note: If you are viewing the recordings from backup recorder then FO is displayed on the top right corner of the panel. During playback, when the control is moving from primary recording to Redundant recording then Connecting to Failover Box message is displayed.

Viewing Thumbnails



To view the thumbnail frames

- Expand the camera name in the left of the timeline. The thumbnail frames appear.

Player Controls



You can do the following actions using the player controls.

- Play the video

Click  to play video. The icon changes to .


You can click this icon to pause the playing of video.


- View frames in the recorded video

Click  to view the forward frames or click .

to view the reverse frames.

- Play video that is paused

Click  or  to forward play video.

To reverse play the video, click .

- Change the playing speed

Hover the mouse over the  while video is playing and move the slider to change the playing speed.

Note: To move the slider you can use the mouse scroll wheel. Scrolling up increases the speed and scrolling down decreases the speed.

The speed appears in the icon when you move the slider. For example, 1x in the icon indicates the playing speed.

- Skip time intervals using the time jump control


Skipping enables you to easily locate the portion you want to view in a video recording. This is particularly useful when the video recording spans across a long time intervals.




Click the drop-down arrow on the  while video

is playing and select a time interval. Click the  to jump backward or click

the  to jump forward. The video jumps to the selected time interval.


Note: *When you jump forward or jump forward, the video jumps to the selected time interval and is paused. You must explicitly click  to view the recorded video from the selected time interval.*

- Sync video across the recorders

Sync video allows you to synchronize the display of video from multiple cameras across the recorders. In the Salvo layout, select the cameras, select the Sync playback check box on the timeline window or click  on the tool bar above salvo layout to enable sync playback mode. Any actions performed like jump, forward, and rewind is synced in the entire salvo layout. When a new camera is dragged and dropped, the video from that camera is also synced.

- Volume control


Hover the mouse over the  while video is playing and move the slider to change the volume.


Click  to mute the volume.

Note: *To move the slider you can use the mouse scroll wheel. Scrolling up increases the volume and scrolling down decreases the volume.*

Context Menu Options

A context menu appears when you right-click on a panel displaying live video. The following table lists the commands in the context menu.

Command	Click to...
Full Screen	maximize the salvo layout to full screen. Alternatively, you can click  in the toolbar on the top of the salvo layout.
Enable Square Select	select a rectangular area on the video display. The selected area is automatically zoomed in or enlarged.
Remove Text Overlay	to remove text overlay displayed on the video. Alternatively, you can click in the toolbar on the top of the salvo layout.
Digital PTZ	enable digital PTZ. See Panning, tilting, and zooming for more information.
Local PTZ	to perform PTZ operation in camera by bypassing the trinity controller. See Panning, tilting, and zooming for information. Note: You can access Local PTZ, if you have permissions to analog PTZ.
Add Bookmark	add a bookmark in the timeline. You can also add a bookmark by pressing the CTRL + B keys.
Add Bookmark to All	add bookmarks to all the cameras displayed on the salvo layouts.
Bookmarks	navigate to any bookmark and select to play the video related to that bookmarks time. You can also choose Remove to remove the bookmark from the context menu.
Send Message	send message to an operator or to another monitor. See Operator messaging for more information.
Start Recording	start the recording of video. Alternatively, you can click in the panel toolbar to start recording of video.
Stop Recording	Alternatively, you can click in the panel toolbar to stop recording of video.
Mark In	add a mark in point in the timeline. You can also add a mark in point by pressing the CTRL + I keys. See Video Recording and Viewing for more information.
Mark Out	add a mark out point in the timeline. You can also add a mark out point by pressing the CTRL + O keys. See Video Recording and Viewing for more information.

Command	Click to...
Save Image	save the frame displayed in the panel as an image in the BMP format. Alternatively, you can click  in the toolbar on the top of the salvo layout to save the image in BMP format. See Saving Images for more information.
Save Image As	save the frame displayed in the panel in different image formats such as JPG, PNG, and GIF. See Saving Images for more information.
Show Surrounding Cameras	to view video from the associated cameras. See Surrounding Cameras for more information.
Alternate Camera	to view the video from the alternate camera. The video displayed from the alternate camera would sync wit the date and time of the video that was being displayed by the previous camera.

Playing Recorded Video Using Mark In and Mark Out Points in Timeline

Mark in and mark out feature is useful when you want to play a portion of video repeatedly. You can add a mark in point to mark the start date and time in the timeline. To mark the end date and time, add a mark out point in the timeline. The portion of the timeline between a mark in and mark out point is referred to as loop.

You can add bookmarks between a loop to identify moments of interest in the video. The video in a loop can also be saved as a clip. See [Creating Clips](#) for more information.

Creating a Loop by Adding a Mark In and Mark Out Point in the Timeline

To create a loop


1. Click to select the timeline in the Timeline window in which you want to add mark in and mark out points.


or

Click a panel displaying video to select the corresponding timeline.

2. To set the start date and time of the loop, add a mark in.

To add a mark in



Click the point in the timeline where you want to add a mark in and click . Alternatively, you can right-click the point in the timeline where you want to add a mark in and click Add Mark In in the context menu. The mark in can also be added from a

panel displaying video. Right-click the panel and click Add Mark In in the context menu. Alternatively, click  in the panel toolbar that displays recorded video. The mark in is added at the corresponding date and time in the timeline.

Note: To remove the added mark in, right-click the mark in and click Remove Mark In in the context menu.

3. To set the end date and time of the loop, add a mark out.

To add a mark out

To add a mark out, click the point in the timeline where you want to add a mark out and click . Alternatively, you can right-click the point in the timeline where you want to add a mark out and click Add Mark Out in the context menu. The mark out can also be added from a panel displaying video. Right-click the panel and click Add Mark Out in the context menu. Alternatively, click  in the panel toolbar that displays recorded video. The mark out is added at the corresponding date and time in the timeline.

Note: You can add multiple mark in and mark out points in the same timeline. However, you cannot add two mark in points in succession. A mark out point needs to be added after each mark in point.

Removing a Loop

To remove a loop

1. Right-click a loop in the timeline window. A context menu appears.
2. Click Remove Loop.


Note: Click Remove All Loops in the context menu to remove all the loops in the timeline.

Playing Video from the Loop

To play video from the loop

1. To select the loop, click anywhere between the mark in and mark out points.

Note: A tool tip appears when you hover the mouse over a loop. The tool tip indicates the start time and end time of the loop.


2. Click  to play the loop. You can also right-click on a loop to display a context menu and click Play Loop.

To Stop Playing of Video

To stop playing video

1. In the Timeline window, click to select the loop.
or

Click the panel displaying video pertaining to the loop. The corresponding timeline is selected.


2. Click . Alternatively, you can right-click the loop to display a context menu and click Stop Loop.

Marking Points of Interest in the Timeline Using Bookmarks

You can add bookmarks in a timeline to mark points of interest in a video recording. For example, if you notice an event in the video and you want to review the portion later, you can add a bookmark. You can also add comments to the bookmarks and browse from one bookmark to the other in the timeline. In addition, you can cut and copy a bookmark and paste it at a different point in the timeline. The bookmark comments appear as tool tips in the timeline at marked points and are helpful while reviewing recorded video.

Adding a Bookmark

You can add a bookmark in any of the following ways:

- Click the point in the timeline where you want to add a bookmark and click .
- Right-click the point in the timeline where you want to add a bookmark and click Add Bookmark in the context menu.
- Right-click on the panel displaying video and click Add Bookmark in the context menu. You can also select a panel and press the CTRL + B keys to add a bookmark. The bookmark is added at the corresponding point in the timeline.

Adding Comments to a Bookmark

To add comments to a bookmark

1. Right-click the bookmark in the timeline and click Add Comments in the context menu. A dialog box appears.
2. Type your comments and click OK. The comments are saved and appear as ToolTip when you hover the mouse over the bookmark.

Note: To edit the comments, right-click the bookmark and click Edit Comments in the context menu. Modify the comments in the dialog box and click OK.

Adding Bookmarks to all the Cameras Displayed in the Salvo Layout

To add bookmarks to all the cameras displayed in the salvo layout

- Right-click the bookmark for a particular camera in the timeline and then click Apply To All in the context menu.

Or

- Right-click on the panel displaying video and click Add Bookmark to All in the context menu.

Note: To add a bookmark to a selected panel, right-click a bookmark in the timeline and then click Apply to Selected in the context menu.

Removing a Bookmark for a Camera displayed in the Salvo Layout

To remove a bookmark from a camera displayed in the salvo layout

- Right-click the bookmark for a particular camera in the timeline and then click Remove Bookmark in the context menu.

Note: If you want to all the bookmarks for a camera, right-click the bookmark and then click Remove All Bookmarks in the context menu.

Browsing from one Bookmark to the Other

Using this feature, you can skip those portions in the timeline that are not bookmarked. This enables you to selectively view video only from bookmarked portions in the timeline.

To browse from one bookmark to the other

1. Select a timeline by clicking it in the Timeline window. You can also click on a panel displaying video to select the corresponding timeline.
2. Click the icon to view video from the next bookmarked point or click the icon to view video from the previous bookmarked point.

or

Right-click a bookmark in the timeline to display a context menu. Click Next Bookmark to view video from the next bookmarked point or click Previous Bookmark to view video from the previous bookmarked point in the timeline.

Cut, Copy, and Paste Bookmarks


To copy, copy and paste bookmarks

1. Right-click a bookmark in the timeline to display the context menu. Click the Cut or Copy command in the context menu as needed.
2. Right-click the point in the timeline where you want to paste the bookmark and click Paste in the context menu.

Deleting a Bookmark

You can delete a bookmark in any of the following ways:

- Right-click the bookmark you want to delete. A context menu appears. Click Remove Bookmark in the context menu.

- Click to select the bookmark you want to delete and then click  or press the DELETE key.

Four Eye Authentication

This feature is also part of Privacy Protection setting and to meet the EU GDPR compliance standards easily. This is to restrict all users in a surveillance system to perform Playback operation. While performing playback operation at least two people from different roles should authenticate. For an Administrator, authentication is not required and can perform any playback operation. However, using license; authentication for an administrator can be configured.

For a non Administrator user, by default a popup is displayed and an Administrator user or a User from some other group needs to authenticate to perform playback operation.

Note: *This feature is license based and it is not supported in Viewer Edition. For R500 Enterprise Edition 60 days of trial license is applicable for both (GDPR) features. For R500 Viewer Edition these features are not available in the permanent demo license.*

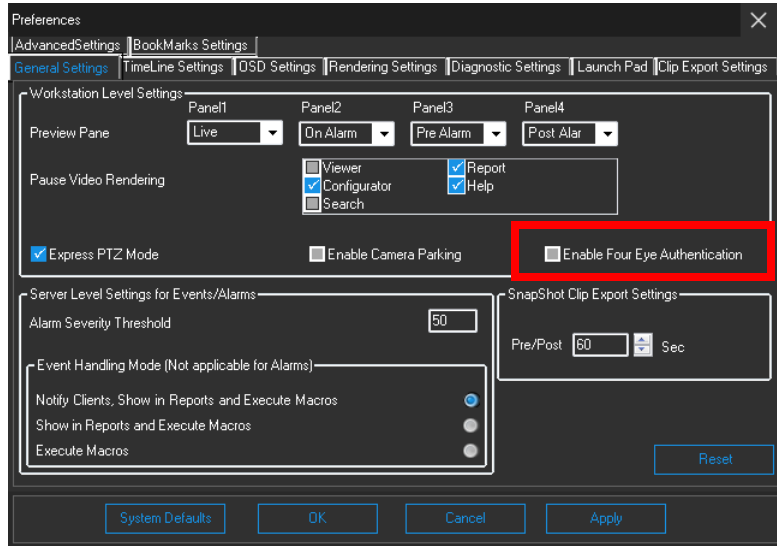
The following table explains the Four eye authentication based on the user and roles

User	Authenticating User	Valid Authentication
User 1[of Group 1]	User 1[of Group 2]	Yes
User 1[of Group 1]	User 2[of Group 1]	No

How to enable Four Eye Authentication

Note: *Only an Administrator can provide access to this feature to an Operator.*

- In the Preference Tab > General Settings, select the Enable Four Eye Authentication check box as highlighted below.



How Four Eye Authentication feature Works

For an Non Administrator user

1. When an Non Administrator user (Operator) tries to perform a playback operation then the following dialog box appears on the screen.

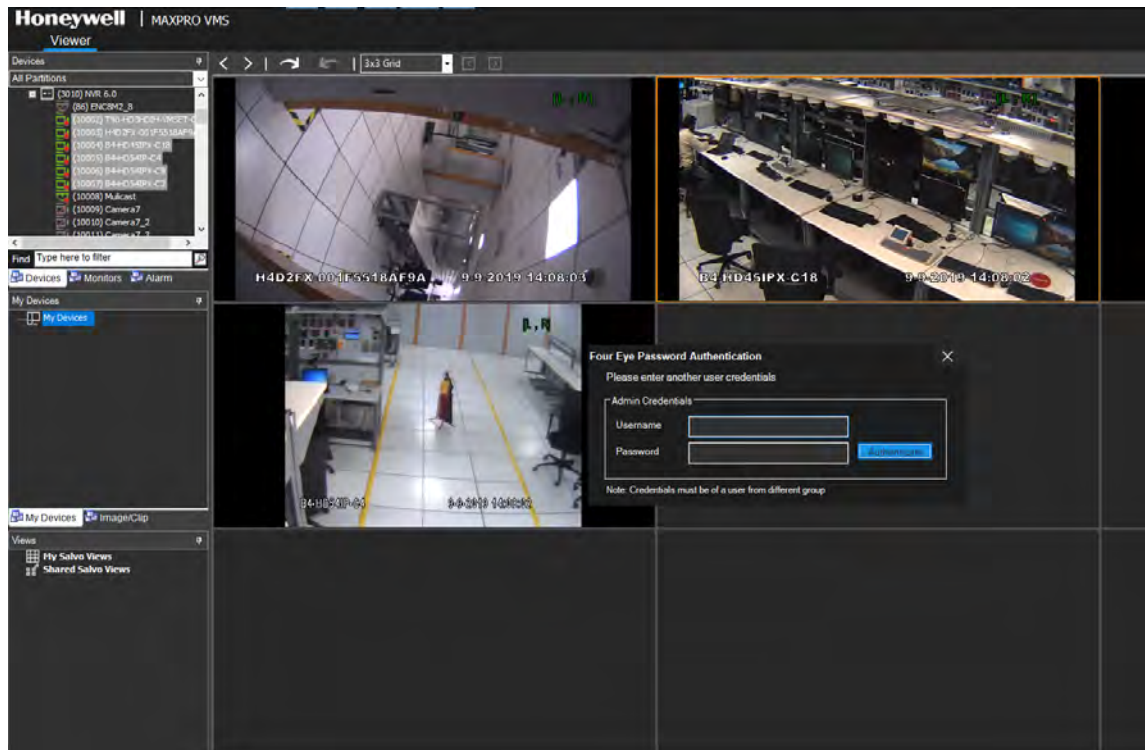


Figure 3-13 .Four Eye Authentication box

2. Enter the credentials of Administrator user or a User from some other group.

Note: For authentication, the logged in user and the Administrator user should not be from the same group

The following table explains the Four eye authentication based on the user and roles

User	Authenticating User	Valid Authentication
User 1[of Group 1]	User 1[of Group 2]	Yes
User 1[of Group 1]	User 2[of Group 1]	No

3. Click the Authenticate button to view the playback video. After authentication the Four eye authenticated user and logged in user icons are displayed on the top right corner of the screen as highlighted below. For example: In the below image for Worker user, a Manager authenticates and the corresponding users are created.

- Until the four eye authenticated user is available the operator can perform any playback operation.

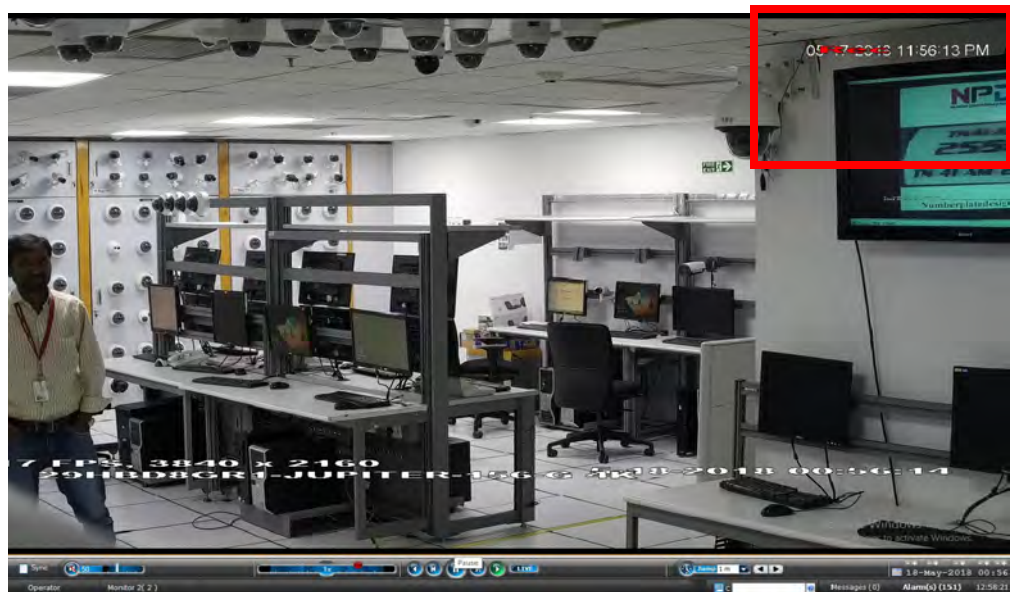
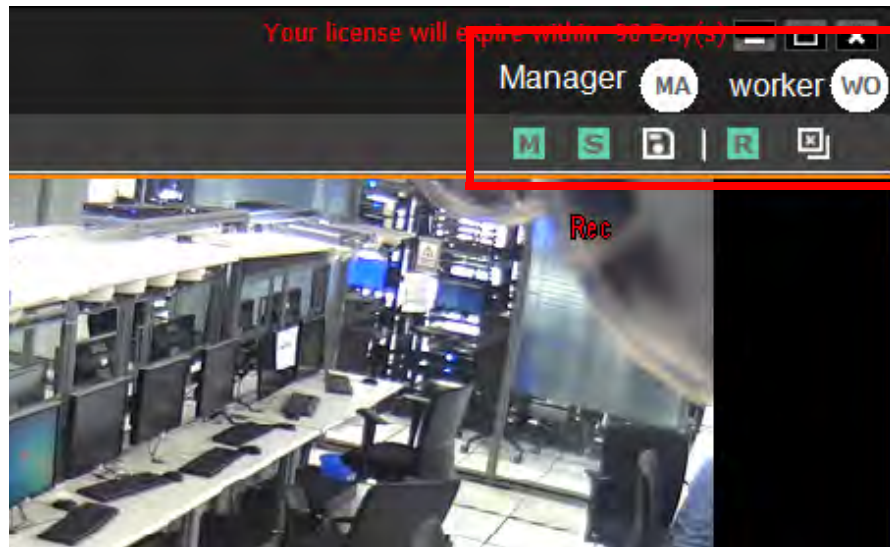


Figure 3-14 Authentication success

- If the four eye authenticated user logs off as highlighted below then again for any playback operation the Admin authentication is required.



Video Control

Video Control Options in Panel Toolbars

The panel toolbars appear when you hover the mouse over the video displayed in a panel. The toolbar that appears on top of a panel enables you to view the name of the video source and close the video display.









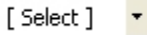








Figure 3-15 Toolbar on the right of the panel







Figure 3-16 Toolbar on the bottom of the salvo panel

The toolbar that appears on the bottom and on the right of a panel consists of icons that enable you to perform the following actions.

Icon	Click to...
	zoom in to the video.
	zoom out of the video.
	flip the video display. Alternatively, you can click this icon in the toolbar on the top of the salvo layout.
	view the mirror image of the video display. Alternatively, you can click this icon in the toolbar on top of the salvo layout.
	reset the digital PTZ effects on the video display
	display the color correction window. Move the sliders to set the brightness, contrast, hue, and saturation. You can select the Blur checkbox to blur the video display and the Sharpness check box to increase the image sharpness or clarity. Alternatively, you can click this icon in the toolbar. Select the Apply color changes check box to save the settings. Clicking the Reset button sets the color correction settings to default values.

Icon	Click to...
	<p>displays a drop down box of presets. You can select a preset for the camera.</p> <p>The drop down list is disabled when digital PTZ is enabled. You need to disable the digital PTZ feature to select a preset. See Panning, tilting, and zooming for information on enabling and disabling the digital PTZ feature.</p>
	<p>move a preset camera position.</p> <p>To move a preset, select a preset number from the drop down list and then click the icon. The camera position (pan, tilt, and zoom) is moved to the selected preset.</p> <p>The icon is disabled when digital PTZ is enabled. You need to disable the digital PTZ feature to move a preset. See Panning, tilting, and zooming for information on enabling and disabling the digital PTZ feature.</p>
	<p>store a preset camera position.</p> <p>To store a preset, select a preset number from the drop down list and then click the icon. The camera position (pan, tilt, and zoom) is saved in the selected preset.</p> <p>The icon is disabled when digital PTZ is enabled. You need to disable the digital PTZ feature to store a preset. See Panning, tilting, and zooming for information on enabling and disabling the digital PTZ feature.</p>
	<p>start recording of video. You can click the icon again to stop recording of video. This initializes user activated recording.</p> <p>Right-clicking on a panel displays a context menu. You can click the Start Recording command to start recording of video. This initializes user activated recording.</p>
	<p>view video from associated cameras. See Surrounding Cameras.</p>
	<p>pan left.</p>
	<p>pan right.</p>
	<p>tilt up.</p>
	<p>tilt down.</p>

Icon	Click to...
	open iris.
	close iris.
	focus far.
	focus near.

Panning, tilting, and zooming

You can pan, tilt, and zoom (PTZ) the video displayed in a panel. You can perform three types of PTZ namely, analog PTZ, Digital PTZ and Local PTZ.

Analog PTZ is the panning, tilting, and zooming of PTZ cameras.

Using the digital PTZ feature in MAXPRO VMS, you can perform panning and tilting on live and recorded video and clips. The digital PTZ feature when enabled allows you to perform panning and tilting on the video display that is zoomed or enlarged.

Local PTZ feature can be used when normal PTZ does not work. You can switch to client side PTZ using Local PTZ feature.

Zooming the Video Display

Use the mouse scroll wheel to enlarge (zoom in) or reduce (zoom out) the video display in the panel. Alternatively, hover the mouse over the video display. A toolbar appears in the lower part of the panel. You can click to zoom in and to zoom out the video display.

Panning and Tilting

To perform analog PTZ

1. Click the Viewer tab.
2. Center-click anywhere on the video panel. A point is highlighted.

3. Move the mouse to the preferred location, and then click and hold left mouse button to perform pan and tilt. A arrow appears in the direction where the mouse is being moved.
4. Center-click again to stop panning and tilting.

Note: *The digital PTZ must be disabled to use analog PTZ. To disable the digital PTZ feature, click and clear Digital PTZ in the context menu.*

5. Click the video display and drag the mouse pointer in the direction to pan or tilt. An arrow appears on the video display indicating the pan or tilt direction.

To perform digital PTZ

1. Right-click on the video display in a panel. A context menu appears.
2. Select Digital PTZ. The digital PTZ feature is enabled for the video display in the panel.
3. Zoom the video display.
4. Center-click anywhere on the video panel. A point along with left, right, up, and down arrows appear.
5. Move the mouse in the required direction to pan and tilt.
6. Center-click again to stop panning and tilting.

You can also use the joystick controller (Ultrakey keyboard) to perform panning, tilting, and zooming.

To perform Local PTZ

1. Right-click on the video display in a panel. A context menu appears.
2. Select Local PTZ. The local PTZ feature is enabled for the video display in the panel.
3. Center-click anywhere on the video panel. A point is highlighted.
4. Move the mouse to the preferred location, and then click and hold left mouse button to perform pan and tilt. A arrow appears in the direction where the mouse is being moved.
5. Center-click again to stop panning and tilting.

Note: *The digital PTZ must be disabled to use Local PTZ. To disable the digital PTZ feature, click and clear Digital PTZ in the context menu.*

6. Click the video display and drag the mouse pointer in the direction to pan or tilt. An arrow appears on the video display indicating the pan or tilt direction.

Images and Clips


Saving Images

While viewing video in the panel, you can save a frame of the video as an image. The image can be saved in Bitmapmed Graphics (BMP), Joint Photographic Experts Group (JPG) format, Portable Graphics format (PNG), and Graphics Interchange Format (GIF).

To save a frame displayed in a panel as an image

1. Click the Viewer tab.
2. Right-click the panel to display a context menu.
3. Select Save Image to save the image in .BMP format. Alternatively, you can click on the toolbar on top of the salvo layout. The images are saved in the ImagesAndClips folder at the location in the hard drive in which MAXPRO™ VMS files are installed. For example, X:\Program Files\Honeywell\TrinityFramework\ImagesAndClips. Here, X: is the hard drive.
Or
Select Save Image As to save the image in other formats. The Save As dialog box appears when you select the Save Image As command. You can select the format in the Save As Type box and type the name for the image in File Name box. You can also select a folder to save the image.

To save the salvo layout as an image

- Click  on the toolbar on top of the salvo layout.


The salvo layout is saved as an image (.BMP format) in the ImagesAndClips folder.

Note: *The images saved in the ImagesAndClips folder appear in the Image/Clip window. See [Viewing Images and Clips](#) for information on how to view images.*

Creating Clips

Clips can be created and exported from both primary and redundant recorder cameras. You can create clips from the recorded video. These clips can be saved with digital signatures. Digital signatures ensure authenticity of clips. Digital signatures are primarily used to authenticate videos that are produced in courts as evidence. A digital signature generates a unique string for the clip using algorithms recommended by the W3C. The World Wide Web Consortium (W3C) is an international consortium where member organizations, a full-time staff, and the public work together to develop Web standards. If the video in the clip is modified, a verification check for the unique string fails indicating that the content is tampered. When a clip is saved with the digital signature, a package file with the .PKG extension is created to save the clip.

To create a clip

1. Click the Viewer tab.
2. Specify the loop for which you want to create a clip.
3. Click  in the Timeline window. A dialog box appears with the name of the cameras from which video is displayed in the salvo layout.

or

Right-click a loop in the Timeline window and select Export Clip in the context menu. The Create Clip dialog box appears.

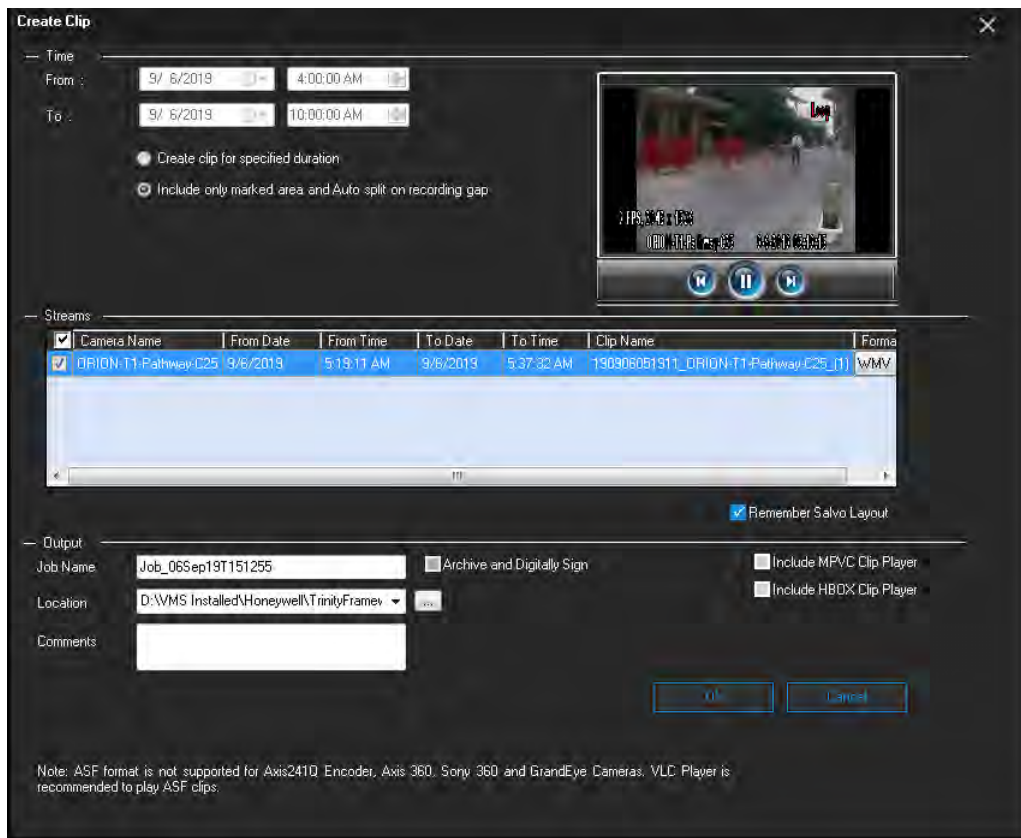



Figure 3-17 Creating a Clip

4. Select one of the following options in the dialog box.

Option	Select to...
Include only marked area and Auto split on recording gap	save one or more loop in the timelines as clips.
Create clip for entire duration	specify the time duration of video that you want to save in the clip. After selecting this option, the date and time (start and end) can be specified in the From and To boxes.

5. Under Streams, select the cameras. Only the video from the selected cameras are saved as clips.
6. In the Format drop-down list under Streams, select the required format. The formats supported by the recorders are listed in the following table.

Recorder	Format Supported
MAXPRO NVR	WMV,, .ASF, MPVC
Embedded Recorders	DAV Note: You can play the DAV files using Windows Media Player after installing KLite Codec. You can also play DAV files with a 3rd party DAV players such as Amcrest's Smartplayer.
ADPRO XO	HBOX Note: MAXPRO VMS integration with ADPRO XO recorder allows user to export clip (HBOX format) along with the HBOX clip player. See How to export

7. In the Job Name box, type a name for the job or retain the default name assigned by MAXPRO VMS.
8. In the Location box, you can select the folder in which you want to save the clip. The default folder location is displayed in the Location box. You can click  to select another folder location
9. Select the Archive and Digital Signature check box, to archive the clip with the digital signature.
10. In the Comments box, type the required comments for the job to be created.
 - If MPVC format clip is selected to export then a Password field is displayed. You can provide a password if required.
11. Select the Include MPVC Clip Player check box to play the recordings of MPVC format files. This player is to playback only MPVC format clips.
12. Select the Split Clip Size check box and then select the required size and units from the corresponding drop down boxes. This option is applicable only for ASF and MPVC formats.

Note: *The Estimated Clip Size box displays the total size of the clip that is being exported. Based on this you can split the clip to optimize the CPU. You can split the clip size upto 4.7 GB. This option is applicable only for ASF and MPVC formats.*

13. Click OK to create the clip. The clip creation status is indicated in the status bar. The clip is saved with an automatically generated name.

Note

- The Clip Preview pane is not visible for recorders that do not support previewing of clips in the Clip Preview window.
 - For only few recorders, the playback session is closed while creating a clip from the cameras connected to the recorder with playback limitation. You have to restore playback session manually after the clip creation is complete.
-

To cancel the clip creation

1. Click the clip creation status indicator in the status bar. The Clip Export Status dialog box appears.
2. Right-click the job name that you want to cancel, and then select Cancel. To cancel all the jobs, select Cancel All.

Naming Convention for Clips

The following table explains the automatic naming convention for a clip using an example

Example of a clip name-080109125809_CameraDoor_(1).MP4.

Clip Name	Description
080109	The first two digits indicate the year, the next two digits indicate the month, and the last two digits indicate the date of clip creation.
125809	The first two digits indicate the hour, the next two digit indicates the minutes, and the last two digits indicate the seconds.
CameraDoor	The name of the camera.
MP4	The file extension for the clip. The file extension can be MP4 or WMV, ASF or MPVC

Note: You change the default naming convention for clips. See [Setting Custom Profile](#) for more information.

WMV, ASF and MPVC Formats

Clips can be exported in either WMV, ASF or MPVC formats. When compared to WMV format, the ASF format is much faster and more reliable. MPVC format is specifically designed The following table describes the WMV and ASF formats.

Note: 1. ASF format clips are supported as of NVR version 3.1 SP1. This format is recommended for clip durations longer than an hour for exporting as backup clips.
2. WMV format clips are recommended for clip durations that are less than an hour for exporting as evidence clips.

WMV Format	ASF Format	MPVC Format
WMV is traditional and slow.	ASF format is faster at exporting a clip. It takes 50 minutes to export a 24 hour clip without much difference in the size of the clip.	Its Honeywell Proprietary format.
	Text overlay is not supported in the NVR viewer with ASF formats.	
WMV format converts the packets into MPEG formats and then displays the video.	ASF format takes the raw data from the packets and displays the video directly without conversion. This makes the ASF format faster in processing the video.	
	ASF format does not display the Time Stamp on the clip. To view the Time stamp it is recommended to play the clip with the VLC Player. (http://www.videolan.org/vlc/index.html)	You can playback the MPVC format using MAXPRO Clip player which is designed only for MPVC format clips.

Viewing Images and Clips

From the Images/Clip window, you can view the images and clips saved in the ImagesAndClips folder at the location in the hard drive in which MAXPRO VMS files are installed. This path includes the clips of both primary and redundant recorders.



To view the list of saved images and clips

1. Click the Viewer tab, and then click the Images/Clip tab.
2. In the Images/Clip window, expand the Images and Clips folder. Folders with names indicating the date in which the images and clips are created appears. The first two digits of the folder indicate the date, the next two digits indicate the month, and the last digits indicate the year.
3. Expand the folder corresponding to the date on which the image or clip you want to view is saved. Inside the folder, the clips are saved in the Clips sub-folder and images are saved in the Images sub-folder.
4. You can refresh the list of images and clips in the Image/Clip window to update the list. Refreshing the list displays the latest images and clip names. To refresh, right-click in the Image/Clip window to display a context menu and click Refresh.

Images

To view the images

In the Images/Clip window, right-click the image to display a context menu and select Image View. The salvo layout changes and the image is displayed on the screen.

Note: You can click  on the toolbar to view the salvo layout again. To view the image again from the salvo layout, click .

Viewing options for images

Option	Description
Image Size	On the toolbar, you can select the image size in the box. The image sizes available are Small, Medium, and Large.

Viewing Video Related to an Image

If video recording is available, you can view video from the date and time of saving the image.

- In the Image/Clip window, right-click the image to display a context menu and click Show Video. The video is played from the starting date and time of saving the image.

Clips

To view the clips

- In the Images/Clip window, right-click the clip to display a context menu and select Show Video. The video is displayed in the salvo layout.

or

- Double-click the clip.

or

- Drag the clip on a panel in the salvo layout.

To view the clips folder

- In the Images/Clip window, right-click the Clips folder or any clip to display a context menu and click Show In Folder to view the folder in which the clips are saved.

You can view the first frame of video in a clip as an image.

To view the first frame as an image

- In the Images/Clip window, right-click the clip to display a context menu and select Image View. The salvo layout changes and the first frame from the clip is displayed on the screen.

Deleting Images and Clips

In the Image/Clip window, you can delete the images and clips that you do not need.

To delete an image or clip

1. Click the Viewer tab.
2. Expand the folder in which the image or clips is saved in the Images/Clip window.
3. Right-click the image or clip which you want to delete. A context menu appears.
4. Click Delete.

Bookmarks

The Bookmarks feature allows user to create bookmarks on a live video and save under the bookmarks tab. The bookmarks window displays only those bookmarks created by specific user based on the privileges. It also allows you to filter and view the bookmarks. You can perform the following on this window:

- Create Bookmarks
- Play the video from the Bookmark time
- Send a message to any user under MAXPRO VMS. You can send Operator and Monitor messages.
- View the list of Bookmarks from the context menu.
- Delete a Bookmark
- Configure the Bookmark settings in Preference window to retain/recycle.

A typical Bookmarks pane is highlighted in the below screen.



Figure 3-18 Bookmarks tab

The Bookmarks pane contains the following fields as explained in the below table:

Option	Description
BookMark Time	Time and date of bookmark created
Device ID	Device ID number.
Bookmark Description	Description of the bookmark
Camera Name	Name of the camera on which the bookmark is created.
Bookmark Filters	to search and fine the bookmarks of Today, Yesterdays, Last 7 days and Last 30 days.

Creating Bookmarks

- On a live video, right-click to view the context menu options and then select Add Bookmarks. A bookmark is created from that date and time and displayed under Bookmarks list as highlighted below.

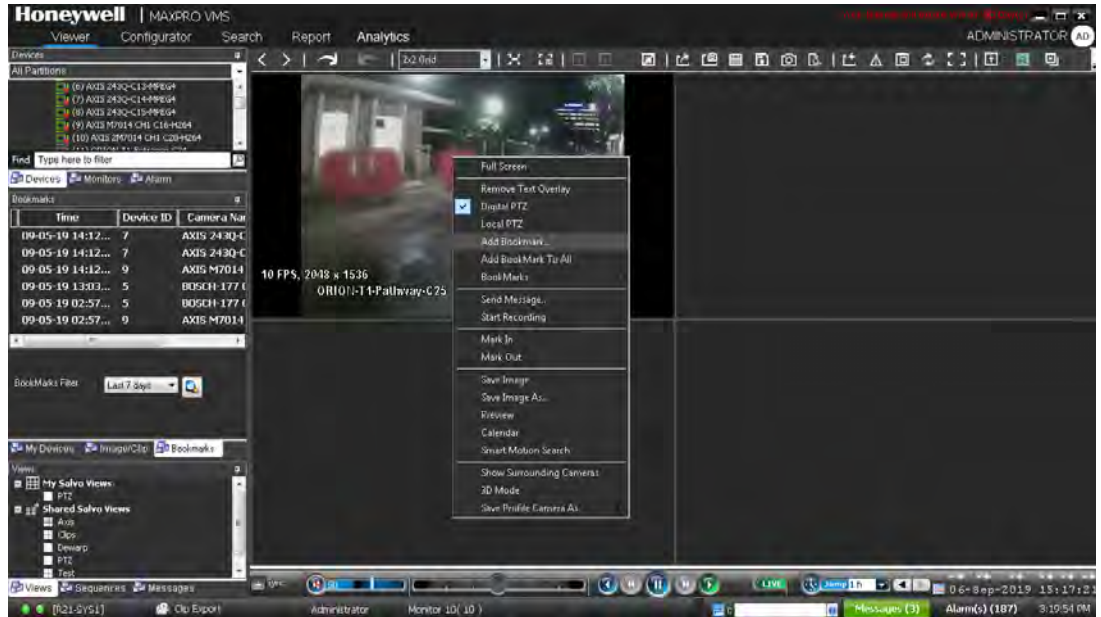



Figure 3-19 Add Bookmarks

Filtering the Bookmarks

- In Bookmarks pane > BookMarks Filter drop-down list, select the required duration from which you want to view the list of bookmarks. The available options are:
 - Today
 - Yesterday
 - Last 7 Days
 - Last 30 Days
- Click  to view the list.

Playing the video from the Bookmark time

- In Bookmarks pane, click on the required bookmark that you want to play.
- Perform any one out of the following:
 - Right-click on the bookmark and then select Play Bookmark as highlighted below.
 - Or
 - Drag and drop the required bookmark on to the video panel. The video is displayed from the selected duration.

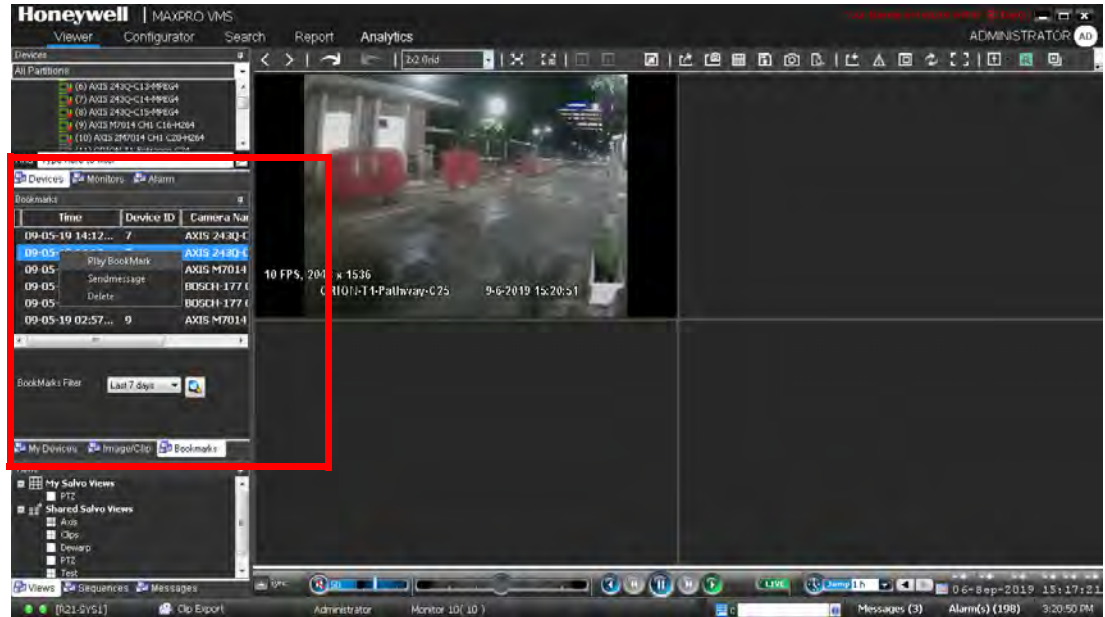
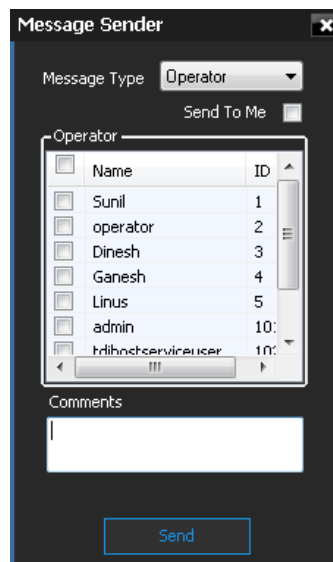


Figure 3-20 Play Bookmark

Sending Bookmark as a message

1. In Bookmarks pane, right-click on the required bookmark and then select Send Message as shown in [figure 20](#) above. The Message Sender dialog box appears.



2. Perform the following:
 - Message Type: Select the type of message you want to send. The available options are Operator and Monitor message. Based on this selection the Operator list or Monitor list is displayed.
 - Send To Me: Select this check box if you want to receive a message.

- Operator: If you have selected Operator as Message type then from the list of operators, select the required operator check box to whom you want to send message.
Or
Monitor: If you have selected Monitor as Message type then from the list of monitors, select the required monitor check box to which you want to send message.
 - Comments: Add additional comments if any.
3. Click Send. A message is sent and you can see the list of messages sent in the Messages window.

Viewing the list of Bookmarks from the context menu

- On a live video, right-click to view the context menu options and then choose Bookmarks. The list of bookmarks are displayed as shown below.



Figure 3-21 Context Menu Bookmarks

Deleting a Bookmark

- On a live video, right-click to view the context menu options and then choose Bookmarks > Remove Bookmarks as shown in [figure 21](#). The selected bookmark will be removed from the list.
Or
In Bookmarks pane, right-click on the required bookmark to delete and then select Delete as shown in [figure 20](#). The bookmark will be deleted from the list.

Configure Bookmark Settings

To configure the bookmark settings:

1. Click the Preferences option in the user menu. The Preferences dialog box is displayed. By default, the General Settings tab is selected.

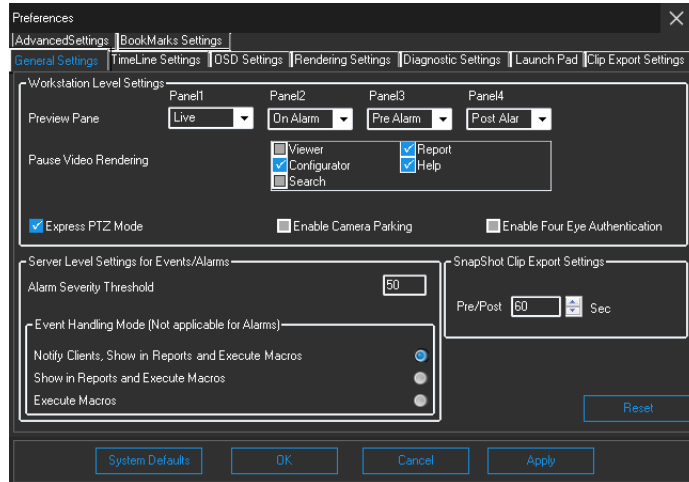


Figure 2-22 Preferences

2. Click the Bookmark Settings tab.

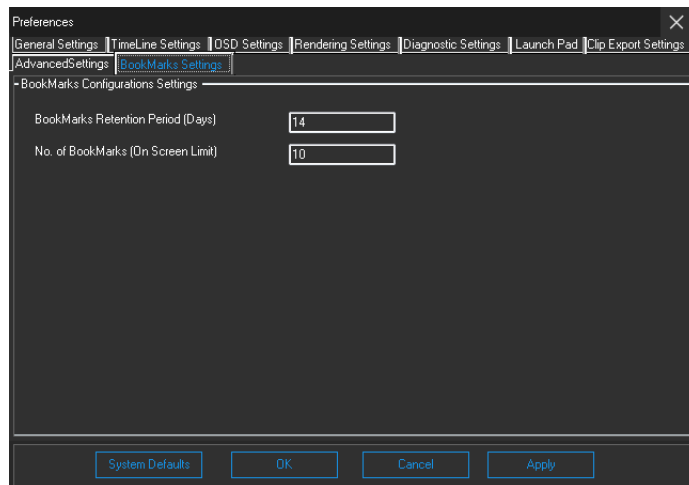


Figure 3-23 Bookmarks Settings tab

3. Under Bookmark Configuration Settings:
 - BookMarks Retention Period (Days): Specify the number of the day that you want to retain the bookmarks. Post this date the bookmarks will be deleted.
 - No. of BookMarks (On Screen Limit): Specify the number of the bookmarks that you want to view under the bookmarks pane.
 - Click Apply and then click OK.

Monitoring Redundancy Recorders

After you configure the Redundancy recorder in the Configurator tab, you can monitor or trigger the Failover manually/Automatically in the following scenarios:

- ‘Scenario 1: For maintenance purpose: If you want to perform any maintenance activities on the existing primary recorders then click Manual option under Failover and then click the Trigger Failover in the Configurator tab. The Manual Failover successful message is displayed in the status bar and the Trigger Failover button turns to Trigger Failback.

The following indications can be identified when the Failover is successful:

- In the **Devices** tree, under a specific recorder for all the cameras **R** is displayed. It means the recorder and cameras are under redundancy.
- If you drag and a drop a camera in redundancy mode, the top right corner of the camera panel displays **FO** (Failover).
- In **Alarms** window, **Manual Failover** and **Manual Failback** alarms are generated for Manual Failover.
- If a primary recorder camera is rendering continuously and if you trigger Failover for 1 day then the timeline displays the recording indication as: First green color for a primary recording and then Pink color during failover mode and then green color for rest of the days.

Once the maintenance activity is done you can click the Trigger Failback button to shift to primary recorder.

- Scenario 2: While upgrading a build: If you want to upgrade the Primary recorder with the latest version of VMS then you can trigger the failover manually to backup recorder and then upgrade the primary recorder. The Trigger Failover button turns to Trigger Failback. Once the upgrading is done then you can switch back to primary recorder. The failover indications are same as explained in scenario 1 and can be identified when the failover is successful.

Refer to [MAXPRO® VMS Installation and Configuration Guide](#) for more information on how to configure Redundancy Controller, Redundancy Pool and Failover Constraints.


Automatic Failover Alarms

The Alarms for Automatic Failover are different when compared to manual Failover. For Automatic Failover the reason for Failover is displayed such as CPU Fail, high Bitrate, Low FPS and so on.

Incident Management Mode

The Incident Management Mode feature helps in creating a story line of a particular incident that is captured using the video recorded from one or more surveillance cameras. You can create a clip for the incident that is triggered, and view it as a story line. You can save the clip with digital signature and send it for further evidence. You can create a story line from a maximum of 16 cameras.

To start the Incident Management Mode

1. Click the Viewer tab.
2. Drag and drop the cameras to the salvo layout or drag and drop a salvo view to the salvo layout.
3. Click  on the toolbar on the top of the salvo layout. The Incident Management Mode is activated.

Note: You can drag and drop a new camera after starting the Incident Management Mode.

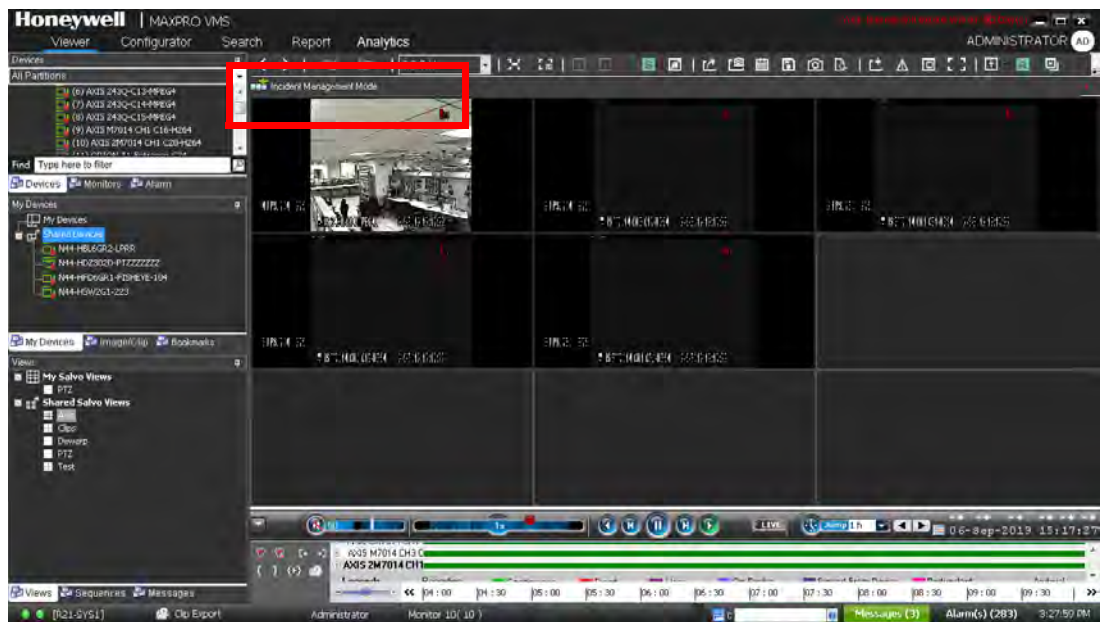


Figure 3-24 Incident Management Mode Activated

Note: The cameras displayed on the salvo layout automatically enter into the playback mode after the Incident Management Mode is activated. All the cameras display the same time in the Incident Management mode

4. Create loops for the each of the cameras. You can mark in multiple cameras at a time in the Incident Management Mode.

Note: Marking in multiple cameras automatically marks out all the previously marked in cameras.

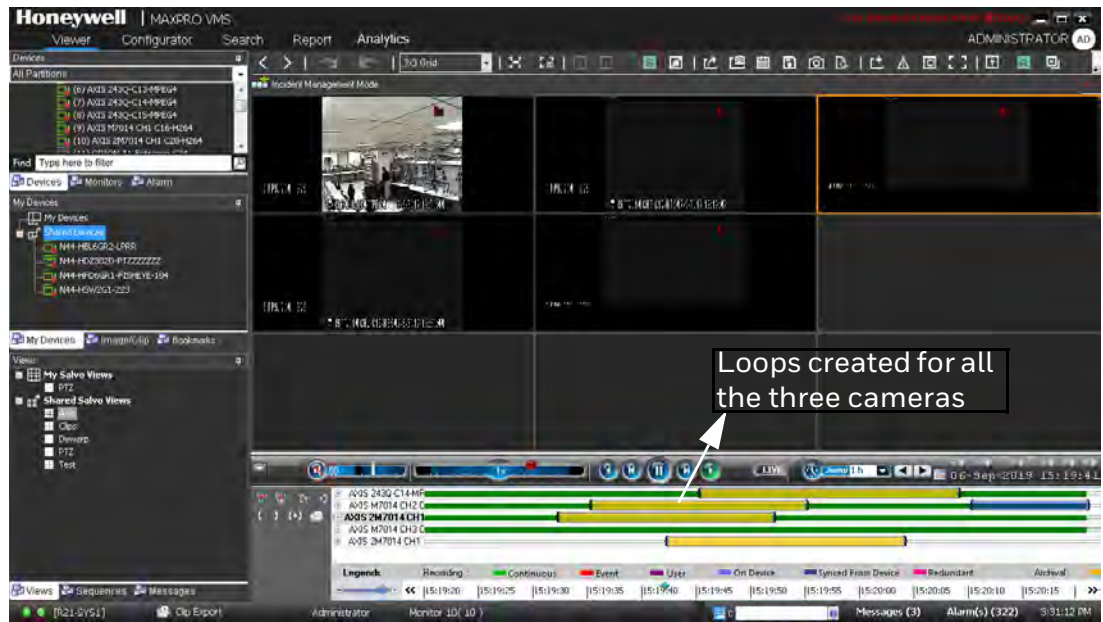



Figure 3-25 Creation of Loops

5. Click  in the Timeline window to create a clip for the incident that is recorded. The Create Clip dialog box appears displaying the loops created for all the three cameras.

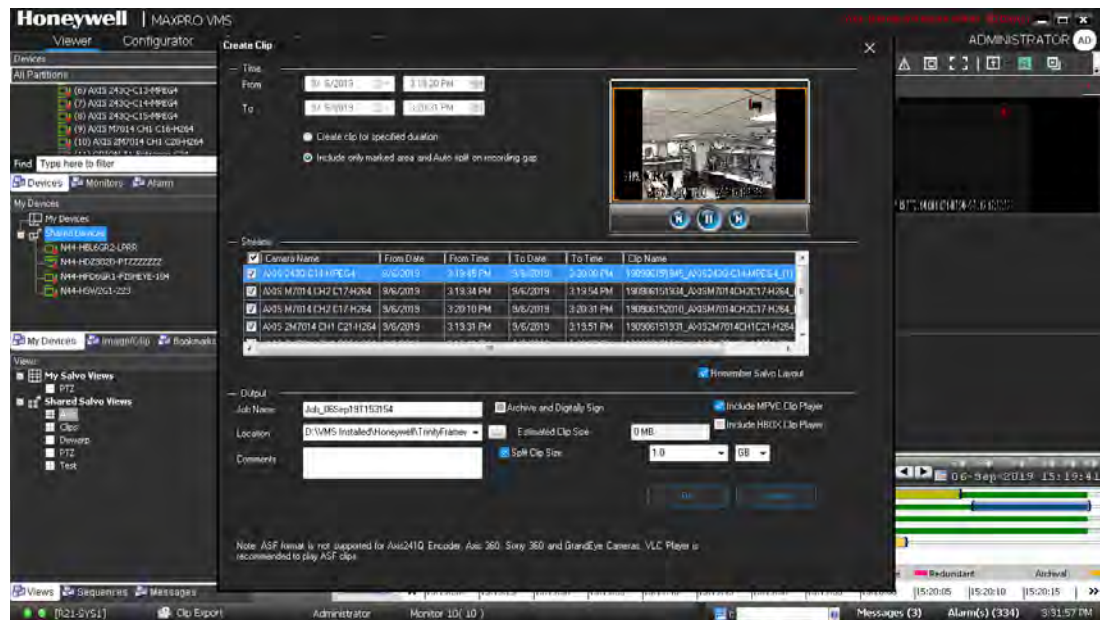


Figure 3-26 Create Clip dialog box

6. Select one of the following options in the dialog box:

Option	Select to...
Include only marked area and Auto split on recording gap	specify the time duration of video that you want to create in the clip. After selecting this option, the date and time (start and end) can be specified in the From and To boxes.
Create clip for entire duration	specify the time duration of video that you want to save in the clip. After selecting this option, the date and time (start and end) can be specified in the From and To boxes.

Note: The total clip time for a particular camera is calculated as follows: pre overlap time + loop time + post overlap time. For example, you mark in at 10:10:00 AM and mark out at 10:11:00 AM. The loop time is 1 minute. The pre overlap and post overlap times configured are 10 seconds respectively. The total clip time is 10 seconds + 60 seconds + 10 seconds = 80 seconds. The clip starts playing at 10:09:50 AM and ends playing at 10:11:10 AM.

7. Select the Adjust Time for DST check box to adjust the selected time with the day light savings time.
8. Under Streams, the list of cameras for which you created the loop are displayed. You can change the From Date, To Date, From Time, To Time, and rename or change the clip name according to your requirement. MAXPRO VMS assigns a name for the clip by default.


Note: Select a camera and use the  buttons to move it up or down.

Note: Select a camera to view its video on the Viewer window located on the right of the Create Clip dialog box. Use the First Frame, Last Frame, and Pause buttons to customize the viewing of the video.

9. In the Format drop-down list under Streams, select the required format. The formats supported by the recorders are listed in the following table.

Recorder	Format Supported
MAXPRO NVR	WMV,, .ASF, MPVC
Embedded Recorders	DAV Note: You can play the DAV files using Windows Media Player after installing KLite Codec. You can also play DAV files with a 3rd party DAV players such as Amcrest's Smartplayer

Recorder	Format Supported
ADPRO XO	HBOX Note: MAXPRO VMS integration with ADPRO XO recorder allows user to export clip (HBOX format) along with the HBOX clip player. See How to export

10. The Remember Salvo Layout check box is selected by default. The clip is played exactly in the salvo layout in which the cameras were dragged and dropped. Click to clear the Remember Salvo Layout check box if you want to play the clip sequentially as a storyline from one camera at a time.
11. The Job Name box automatically displays the package name.
12. In the Location box, you can select the folder in which you want to save the clip. The default folder location is displayed in the Location box. You can click  to select another folder location.
13. Select the Archive and Digitally Sign check box, to archive the clip with the digital signature. A package would be created with all the exported clips and stored in the specified location.
14. In the Comments box, type the required comments for the job to be created.
15. Click OK to create the clip. The clip creation status is indicated in the status bar.

Note: For only few recorder, the playback session is closed while creating a clip from the cameras connected to the recorder with playback limitation. You have to restore playback session manually after the clip creation is complete.

Viewing Packages

To view packages

- In the Images/Clip window, drag and drop the package to a salvo layout. The video is displayed in the salvo layout.

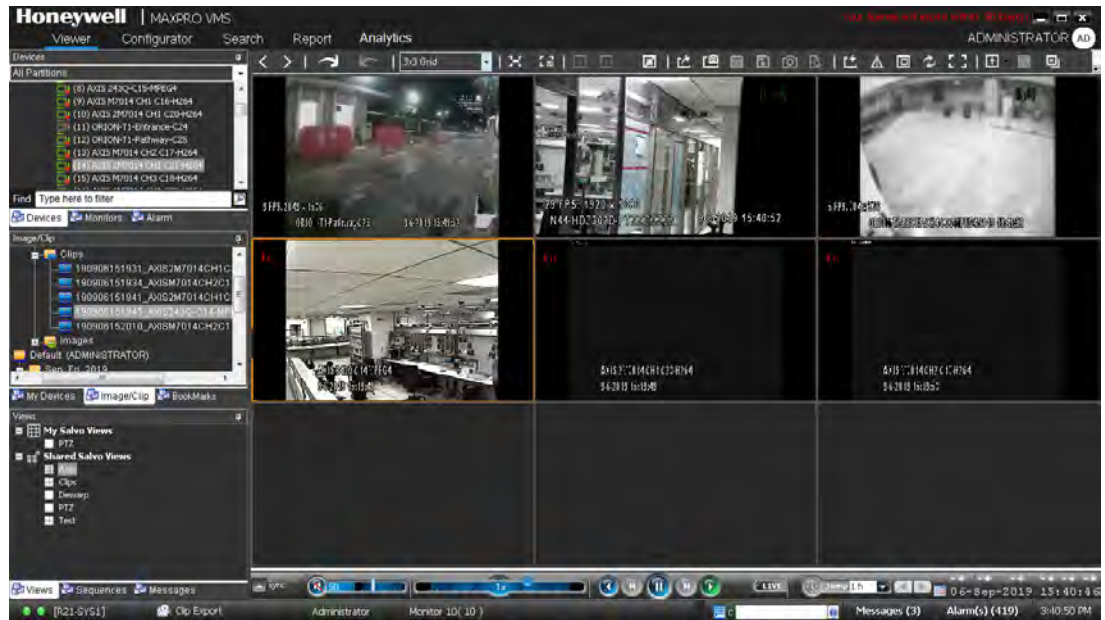



Figure 3-27 Dragging and dropping of packages

Instant Salvo Export

Instant Salvo Export feature is similar and a scaled down version of the Incident Management Mode feature. The only difference is that you need not mark in and mark out a camera explicitly while doing instant salvo export. The system automatically marks in and marks out a camera based on the pre overlap time and post overlap time.

To do an Instant Salvo Export

1. Click the Viewer tab.
2. Drag and drop the cameras to the salvo layout or drag and drop a salvo view to the salvo layout.
3. Click  on the toolbar on top of the salvo layout. The Create Clip dialog box appears.
4. Follow the steps 6 through 15 in the "Incident Management Mode" on page 4-165 to complete the clip creation.

Alarms

Alarms notify the occurrence of events to the operators. You can configure alarms to be triggered when events such as adding a camera to a recorder, recorder disk space nearing full, motion detection, and others occurs. The events that trigger an alarm can be selected while configuring the recorders, failover recorders, video inputs, and switchers. Few alarms are considered as events if the severity level is low. You can set the severity of the alarm in Preference tab. See "Setting the Alarm Threshold Value" on page 3-101.

The configured Failover recorder alarms are also displayed as:

- Recorder Manual Failover: When a failover is triggered manually.
- Recorder Manual Failback: When manual failover failback.
- Recorder Automatic Failover: When a failover is triggered automatically
- Recorder Automatic Failback: When automatic failover failback.

Each alarm goes through the following states:

New or Unacknowledged

When an alarm is triggered it appears in the Alarm window. The state of the alarm after it is triggered is referred to as unacknowledged. You can view the list of all the unacknowledged alarms in a table in the Alarm window. For each unacknowledged alarm, the following details are listed.

Column	Indicates...
Description	name of the event that triggered the alarm. For example, camera motion detected.
Event Details	name of the event attribute. Only the key event attribute is displayed in this column. For example, If an Encoder is disconnected, the encoder name would be displayed.
Device Name	name of the device such as recorder, camera, or switcher associated with the event. For example, the name of the camera that detected motion.
IO Status	status of the input and output
Date Time	date and time when the alarm is triggered.
Master Device Name	recorder description
Severity	severity of the alarm.
Site	site name where the device is located.
Global EventID	global unique identification number of the event.

The number of unacknowledged alarms is displayed in a blinking mode in the status bar red color. For example, Alarms (10) indicate that there are ten unacknowledged alarms.

Acknowledged

An acknowledged alarm indicates that the operator has taken the necessary action. After acknowledging the alarm, it is moved to the acknowledged alarms list in the Alarm window.

Cleared

After the response action is taken, you can remove or clear the alarms from the acknowledged list in the Alarm window.

Acknowledging alarms

You can acknowledge an alarm to accept that the necessary response action is being taken.

To acknowledge an alarm

1. Click the Viewer tab, and then click Alarm tab.
2. Click to select the alarm you want to acknowledge in the Alarm window. The unacknowledged alarms are listed in the first table in the Alarm window.

Note: *To select more than one unacknowledged alarm, press the CTRL key.*

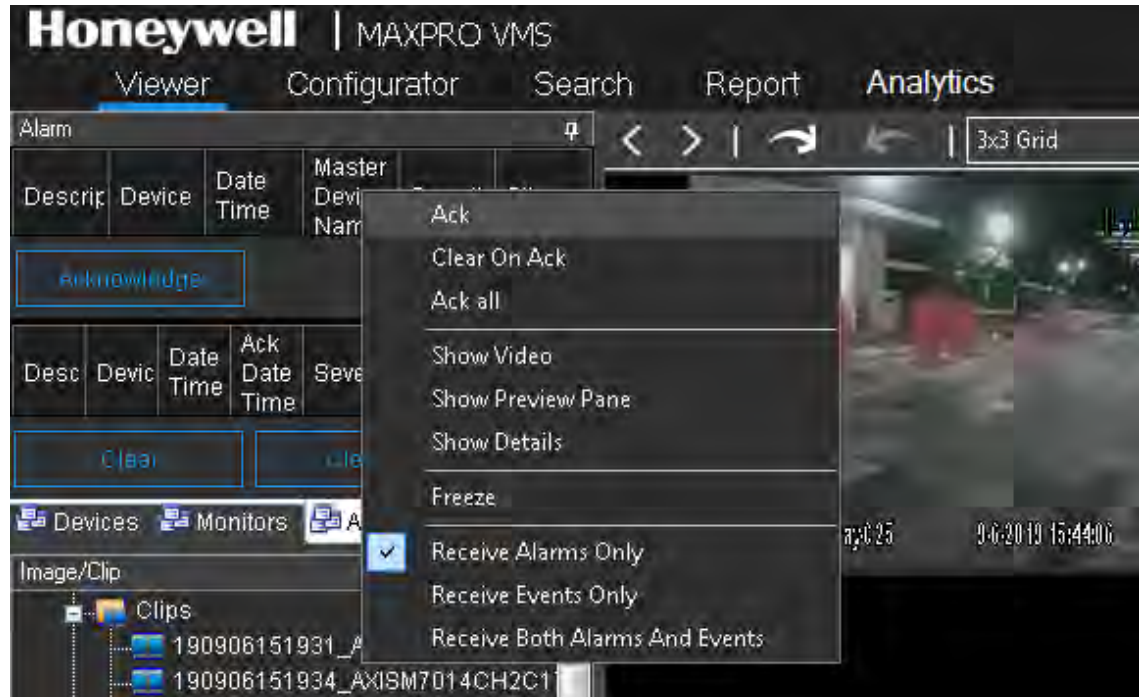
3. Click Acknowledge. The acknowledged alarm appears in the second table in the Alarm window.

If you have selected multiple alarms, all the alarms are acknowledged and appear in the second table in the Alarm window.

Note: *If the active alarm count reaches 150,000, a warning message appears on Alarms Indicator on the task bar. If the alarm count reaches 50,000 then it will be moved to backup table.*

Context Menu Options

When you right-click on the list of unacknowledged alarms in the first table, a context menu appears.



The following table lists the commands in the context menu.

Command	Click to....
Ack	acknowledge the selected alarm.
Clear on Ack	automatically clear the alarms when they are acknowledged.
Ack All	acknowledges all the alarms displayed in the Alarm window.
Show Video	view video from the time corresponding to the occurrence of the event that triggered the alarm. The video is played in the currently selected panel in the salvo layout. The video is played only when the video recording is available.
Show Preview Pane	view video related to the alarm in a four panel salvo layout. This feature is available for cameras connected to the recorder only. See Setting Preferences for more information.
Show Details	view the details of the alarm. This feature lists the device from which the alarm was triggered, description, date time when the alarm was triggered, status of the alarm, global event ID, and the event attribute associated to the alarm. You can also use the previous and next buttons to view the details of the alarms listed in the alarms window.
Freeze	stop receiving the new or unacknowledged alarms in the Alarm window. You can click this command again to start receiving the alarms. This feature is useful when the Alarm window contains many unacknowledged alarms and it becomes difficult to manage them. You can stop receiving the alarms momentarily and start receiving again when needed.

Command	Click to....
Receive Alarms Only	list only the alarms in the Alarm window. Alarms are listed only when the severity level of the corresponding event that triggered the alarm is greater than or equal to the alarm severity threshold value. See Setting Preferences for more information
Receive Events Only	list only the events in the Alarm window. Events whose severity level is greater than or equal to the alarm severity threshold value are listed. See Setting Preferences for more information.
Receive Both Alarms and Events	to list both alarms and events in the Alarm window.

Clearing acknowledged alarms

You can clear the acknowledged alarms after taking the necessary action.

To clear an acknowledged alarm

1. Click the Viewer tab.
2. Click to select the alarm you want to clear in the Alarm window. The acknowledged alarms are listed in the second table in the Alarm window.

Note: To select more than one unacknowledged alarm, press the CTRL key.

3. Click Clear. The alarm is removed from the list of acknowledged alarms.

If you have selected multiple alarms, all the alarms are cleared.

To clear all the acknowledged alarms

- Click Clear All. All the acknowledged alarms are cleared and removed from the list of acknowledged alarms.

Context Menu Options

When you right-click on the list of acknowledged alarms in the second table, a context menu appears.



The following table lists the commands in the context menu.

Command	Click to....
Clear	Clears the selected acknowledged alarm.
Clear All	Clears all the acknowledged alarms.
Show Video	view video from the time corresponding to the occurrence of the event that triggered the alarm. The video is played in the currently selected panel in the salvo layout. The video is played only when the video recording is available.
Show Preview Pane	view video related to the alarm in a four panel salvo layout. See Setting Preferences for more information.
Show Details	view the details of the alarm. This feature lists the device from which the alarm was triggered, description, date time when the alarm was triggered, status of the alarm, global even ID, and the event attribute associated to the alarm. You can also use the previous and next buttons to view the details of the alarms listed in the alarms window.

Command	Click to....
Freeze	stop receiving the new or unacknowledged alarms in the Alarm window. You can click this command again to start receiving the alarms. This feature is useful when the Alarm window contains many unacknowledged alarms and it becomes difficult to manage them. You can stop receiving the alarms momentarily and start receiving again when needed.
Receive Alarms Only	list only the alarms in the Alarm window. Alarms are listed only when the severity level of the corresponding event that triggered the alarm is greater than or equal to the alarm severity threshold value. See Setting Preferences for more information.
Receive Events Only	list only the events in the Alarm window. Events whose severity level is greater than or equal to the alarm severity threshold value are listed. See Setting Preferences for more information.
Receive Both Alarms and Events	to list both alarms and events in the Alarm window.

Controlling Alarm/Message Flashing

User can disable/enable the continuous alarm/message flashing for a workstation in the VMS application.

To enable/disable alarm flashing/blink

1. Navigate to the Bin folder and then locate MmShell.exe.config file.
2. Open the config file using Notepad.
3. Locate the below parameters and change the value to False or True for alarm blink and message blink accordingly.

Note: Alarm blink is disabled or set to False by default.

- `<add key="AlarmBlink" value="False" />`
- `<add key="MessageBlink" value="True" />`

Operator messaging

About operator and monitor messaging

Operator messaging is a feature that enables you to send video displayed in one or more panels or the whole salvo layout to other operators and digital monitors. The digital monitors are connected to the MAXPRO VMS client workstations. The MAXPRO VMS user interface is installed on client workstations. You can include your comments in the message and send it to operators and to yourself. The comments are not included when you send the message to digital monitors.

This feature is useful when you notice an event in the video and you want to communicate it to others. The other operators can view the video and watch the event you noticed.

The number of new messages sent to you appears in the blinking mode in the status bar. For example, Messages(3) in green color indicates three new messages.

Sending message to operators, and to yourself

1. Click the Viewer tab.
2. Click to select the panel. To select multiple panels, press the CTRL key.
3. Right-click on the panel and select Send Message in the context menu. A dialog box appears.
4. In the Message Type box, select Operator. The list of operators appear in the Operator group.
5. Select the check box next to the operators to select them. The message is sent only to the selected operators. You can select the check box next to the Name column to select all the operators.
6. Select the check box next to Send to me to send the message to you.
7. In the Comments box, type your comments or remarks.
8. Click Send to send the message. When the operators receives the message, it appears in the Messages window. The number of messages also appears in the blinking mode in the status bar.

Sending the Message to Digital Monitors

Note: When message is sent to a digital monitor (client workstation), the video is displayed in a panel that is selected in the salvo layout.

1. Click the Viewer tab.
2. Click to select the panel. To select multiple panels, press the CTRL key.
3. Right-click on the panel and select Send Message in the context menu. A dialog box appears.
4. In the message type box, select Monitor.

5. Select the check box next to the monitors to which you want to send the message.

Note: You can select the check box next to the Name column to select all the monitors.

6. Click Send to send the message.

Forwarding a Received Message

You can forward the messages in the Messages window to operators and digital monitors.

To forward a message

1. Click the Viewer tab.
2. Right-click the message you want to forward in the Messages window. A context menu appears.
3. Select Send To in the context menu. A dialog box appears.
4. Do one of the following:
 - To forward the message to operators, select **Operator** in the **Message Type** box. You can select the check box next to the operators to select them or select the check box next to the **Name** column to select all operators.
 - To forward the message to digital monitors, select **Monitor** in the **Message Type** box. You can select the check box next to the monitors to select them or select the check box next to the **Name** column to select all monitors.
5. Click Send to forward the message.

Sending the whole Salvo Layout you are Viewing as a Message

You can send the whole salvo layout as a message to operators, to you, and to digital monitors. When the message is opened, the salvo layout you have sent appears with the video display in panels.

To send the whole salvo layout as a message

1. Click the Viewer tab.
2. Right-click on the toolbar on the top of the salvo layout and click Send Message in the context menu. A dialog box appears. Perform one of the following:
 - To send the salvo layout to you, select the Send to me check box.
 - To send the salvo layout to operators, select Operator in the Message Type box. You can select the check box next to the operators to select them or select the check box next to the Name column to select all operators.
 - To send the salvo layout to digital monitors, select Monitor in the Message Type box. You can select the check box next to the monitors to select them or select the check box next to the Name column to select all monitors.
3. Click Send to send the message.

Viewing Live Video

You can view live video from the messages.

To view live video

1. Click the Viewer tab.
2. Click the Messages window. Select the message from which you want to view live video, right-click and then select Show Live.

Reviewing Messages

To open a message and review video

1. Click the Viewer tab.
2. In the Messages window, right-click the message, and then click Review in the context menu. The video is displayed in a panel based on the time the message was sent.

To open a message and view live video

1. Click the Viewer tab.
2. Right-click the message in the Messages window and click Show Live in the context menu. The live video is displayed from the camera from which the message was sent.



Note: By default, message is in “Show Live” mode when you double-click or drag it.


Viewing and Deleting Messages

The messages sent by other operators to you are listed in the Messages window. You can open the message to view the video and read the comments. You can also send the messages in the Messages window to other operators and digital monitors. The digital monitors connected to the MAXPRO VMS client workstations. The MAXPRO VMS user interface is installed on client workstations. In addition, you can delete the messages from the Messages window.

Viewing Video and Comments in a Message

The following icons appear next to a message in the Messages window.

Icon	Click to view...
	video from all the panels in a salvo layout.
	video from a panel.

Icon	Click to view...
	video from more than one panel.

To open a message and view video

1. Click the Viewer tab.
2. Perform one of the following:
 - In the **Messages** window, right-click the message, and then click **Review** in the context menu. The video is displayed in a panel on the salvo layout.
 - In the **Messages** window, right-click the message, and then click **Show Live** or drag and drop the message on the salvo layout or double-click the message. The video is displayed in a panel on the salvo layout. drop the message from the **Messages** window to a panel in the salvo layout. The video is displayed in the panel.
 - Double-click the message in the **Messages** window. The video is displayed in a panel.

To view the comments in a message

- Right-click the message in the **Messages** window and click **Show Details** in the context menu. The comments appear as a ToolTip.

Note: You can hover the mouse over the message icon to view the comments in a tooltip.

Sending the Messages to other Operators and Digital Monitors

To send messages to other operators and digital monitors

1. Click the Viewer tab.
2. Right-click the message in the Messages window and click Send To in the context menu. A dialog box appears.
3. Perform one of the following:
 - To send the message to operators, select **Operator** in the **Message Type** box. You can select the check box next to the operators to select them or select the check box next to the **Name** column to select all operators.
 - To send the message to digital monitors, select **Monitor** in the **Message Type** box. You can select the check box next to the monitors to select them or select the check box next to the **Name** column to select all monitors.
4. Click Send to send the message.

Deleting Messages

To delete a message in the Messages window

- Right-click the message you want to delete and click Clear in the context menu.

To delete all the messages in the Messages window

- Right-click a message and click Clear All in the context menu.

Searching for Recorded Video

You can search for video recorded clips and Archived clips from cameras connected to the various recorders. You can filter the search for recorded video based on search conditions like video recorded today, yesterday, and others.

To search for recorded video

1. Click the Search tab.

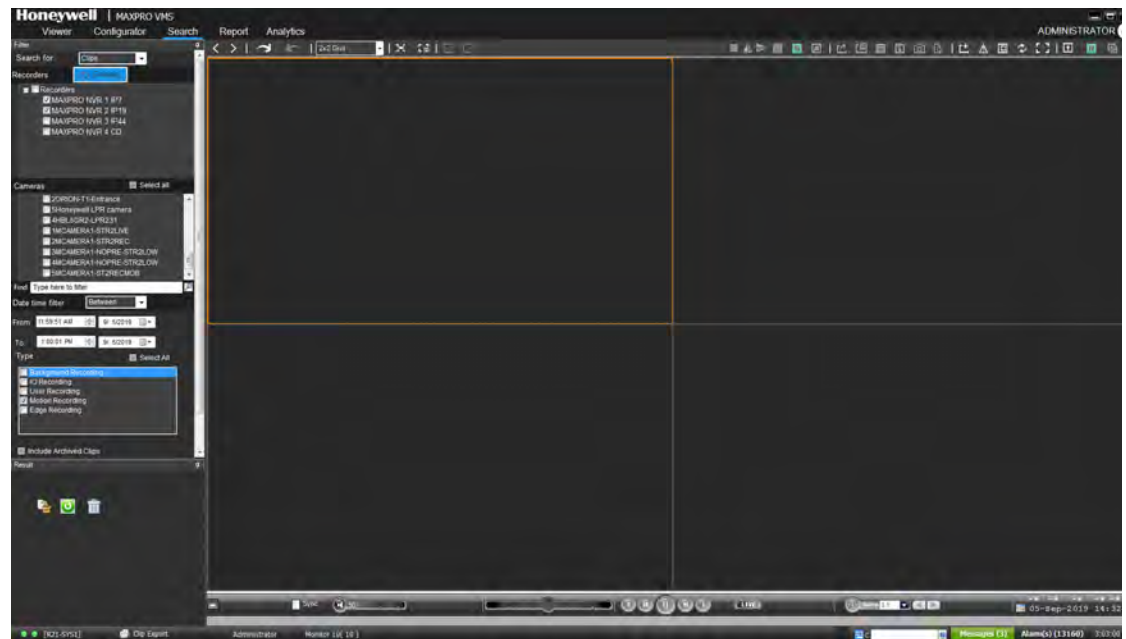


Figure 3-28 Search

2. In the Search for drop down list, select one of the following:
 - Events
 - Clips
 - Bookmarks
3. The list of recorders are displayed under Recorders in the Filter window. You can select more than one recorder by selecting the check box corresponding to it. If you want to reload the recorders, click the Reload button
4. The list of cameras that are connected to the selected recorder is displayed under Cameras section in the Filter window. Select the check box next to the cameras from which the video is recorded.

Note: Select the Select all check box to select all the cameras for the selected recorder(s).

5. Select one of the following search conditions in the Date time filter drop-down list.

Condition	To search for...
Today	video recorded today.
Yesterday	video recorded yesterday.
Last 7 Days	video recorded in the last seven days.
Last 30 Days	video recorded in the last 30 days.
On	video recorded on a particular date. The From box to select the date is enabled when you select On.
On or Before	video recorded up to a particular date. The From box to select the date is enabled when you select On or Before.
Between	video recorded between a time duration. The From and To boxes are enabled when you select Between. You can select the start time and date in the From box. The end time and date can be selected in the To box.

6. If you are doing an “Event” search, then under Type select the check box corresponding to the events that you want to search.

Or


If you are doing a “Clip” search, then under Type select the check box corresponding to the recording you want to search.

Or


If you doing a “Bookmark” search, then under Type, type the bookmark to be searched in the Enter Bookmark text box.

7. Select the Include Archived Clips check box to search for archival clips.

Note: To get the exact Archived clip count in the result window ensure that VMS and NVR server is upgraded to R500 SP1.

8. Click . The recorded video is searched based on the search conditions. The search results are listed in the Results window.

Or

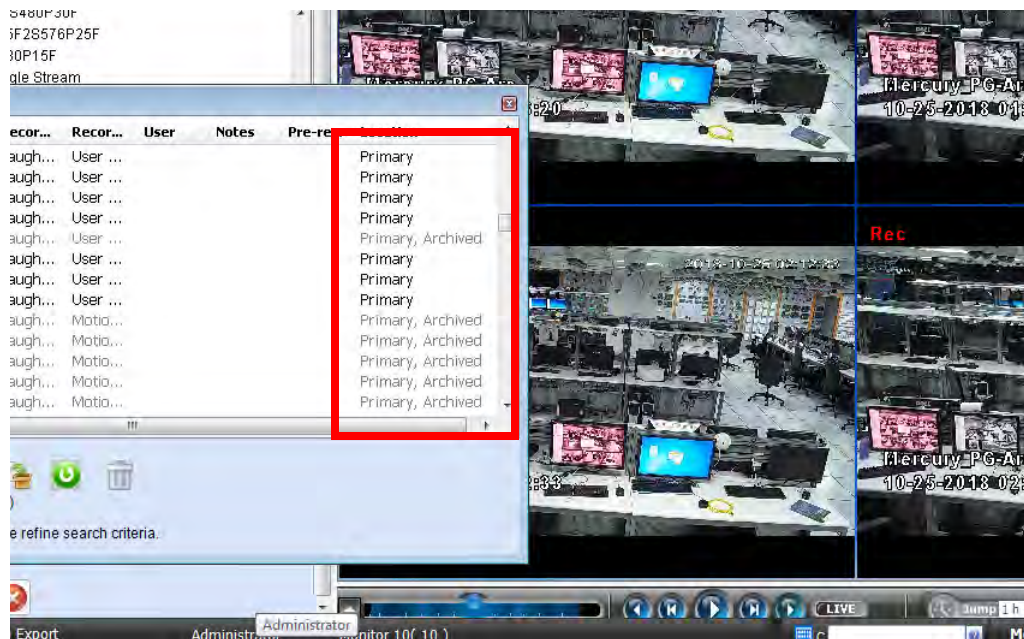
Click  to cancel the search operation.



Viewing Primary and Archived Location

The location of Archived clips is displayed in the Result windows in Location column as highlighted below. The type of status is explained below.

- Archived: The clip is available only in Archived path.
- Primary, Archived: The clips is available in both primary storage and Archived path.



Deleting the Recorded Video

Caution: Deleting the recorded video from the search result also deletes it from the recorder.

To delete the recorded video

1. Select the recorded video from the list of search results.

Note: To select more than one search result, press the CTRL key.

2. Click . The recorded video is deleted from the recorder.


Archiving and Restoring video

1. Select the recorded video from the list of search results.

2. Click .

To restore an archived video

1. Select the archived video from the list of search results.

2. Click . Refer to [MAXPRO® VMS Installation and Configuration Guide](#) on how to perform Manual Archival for Primary and Redundant Recorder.



Note: The archived videos appear in black.

Intellisense search

The Intellisense search option makes the search of cameras simpler and easier. When a part of the camera name is typed in the text box, the Intellisense search displays the list of cameras that are connected to various recorders in the Devices window. For example, if you are searching for Camera 2 connected to particular recorder, then type Ca in the text box, the list of camera names that contain 'ca' are displayed.

Intellisense search also supports wild characters while searching. For example,

- ca* – camera names that begins with 'ca' are displayed.
- *ca – camera names that ends with 'ca' are displayed.
- *ca* – camera names that contain 'ca' are displayed.
- !ca – cameras that does not have 'ca' in their name are displayed.

Select the required filter string and click on the filter button. You can toggle between the Filter On and Off mode using the option  or right-click , and select between Filter ON and Filter OFF. The hot key to activate intellisense search is F4.

About Remote Monitor

The Remote Monitor Mode feature helps you to remotely control the digital monitors from a single workstation. This feature is particularly useful for controlling the display of video on wall mounted digital monitors.

To control the remote monitors

1. Click the Viewer tab.
2. Click the Monitors tab. The Monitors window displays the available list of monitors.

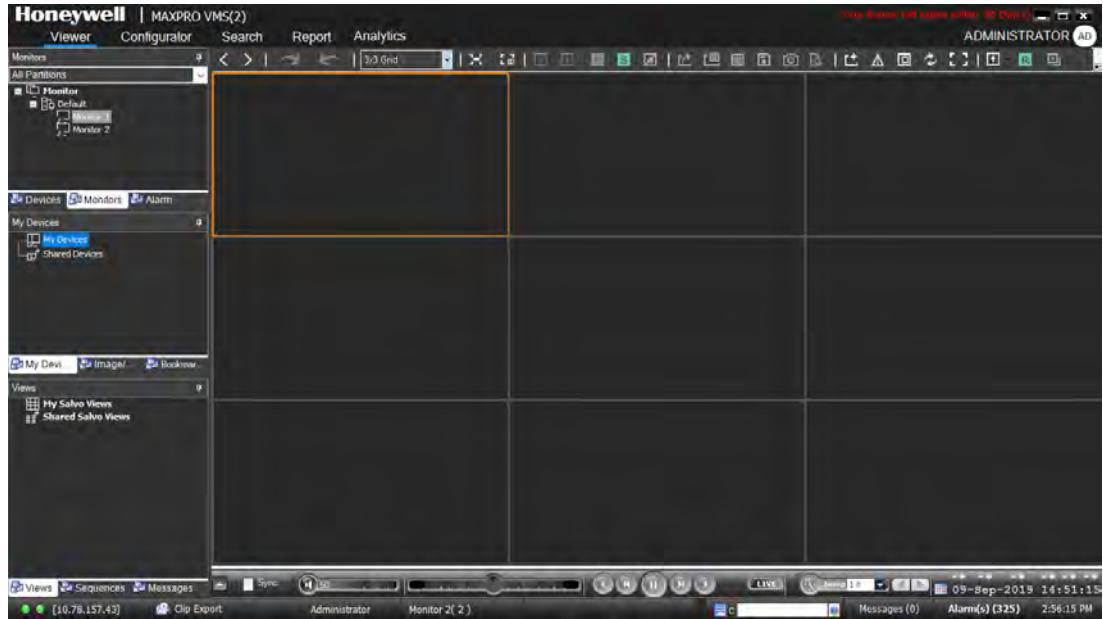



Figure 3-29 List of monitors and initial state of salvo in monitor2

You can control monitor 1 from monitor 2 by activating the remote monitor mode

3. Click  on the toolbar on the top of the salvo layout. The Remote Monitor Mode is activated.
4. Drag and drop monitor 1 to monitor 2.

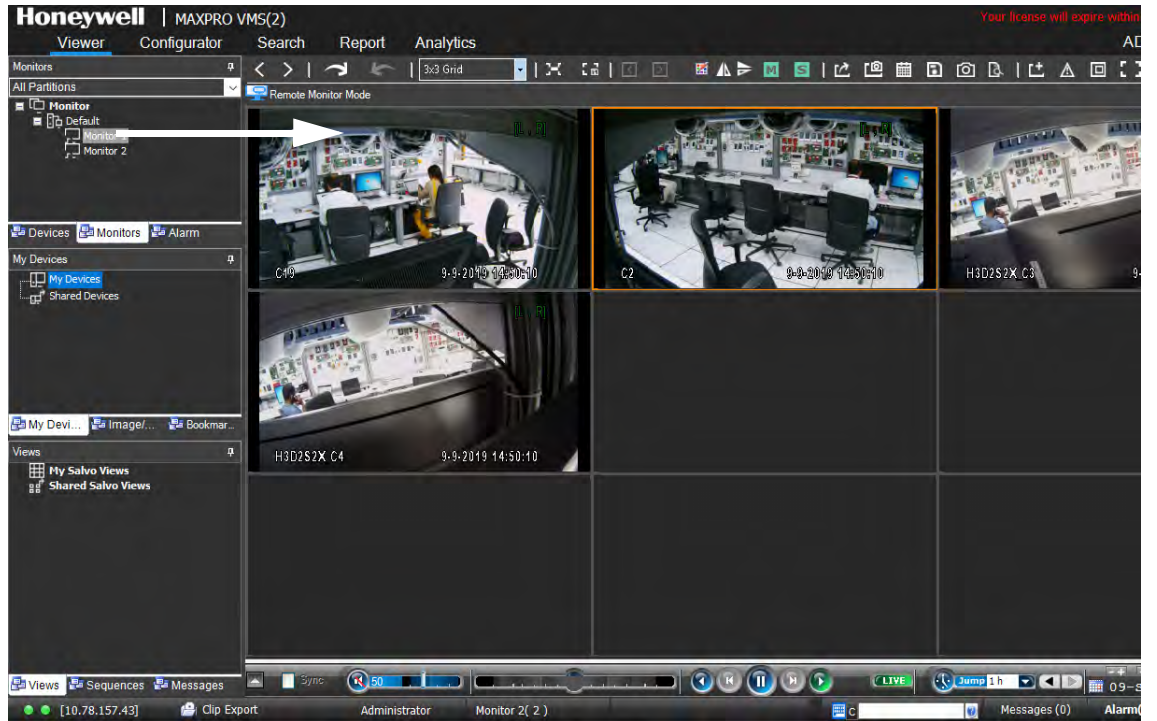


Figure 3-30 Dragging of monitor 1 to monitor 2

5. Perform an operation such as pausing the video from monitor 2.

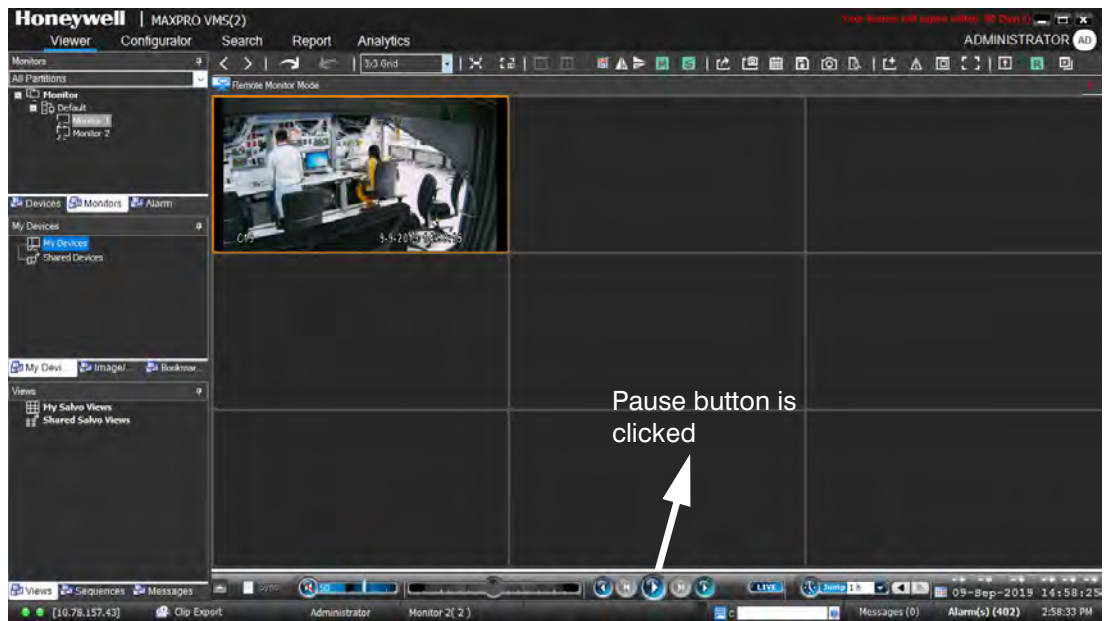


Figure 3-31 Pausing video in Monitor 2

This action also pauses the video in monitor 1.

Note: The list of actions that you can perform in remote monitor mode include the following: selecting the cameras from which video is displayed, selecting the salvo layouts, creating salvo views and starting the recording of video.

About Image View

You can view images or frames from the video recording.

To view the images from a video recording

1. Click the Viewer tab.
2. Right-click the camera from which you want to view the images in the Devices window. A context menu appears. Click Image View to display the images.

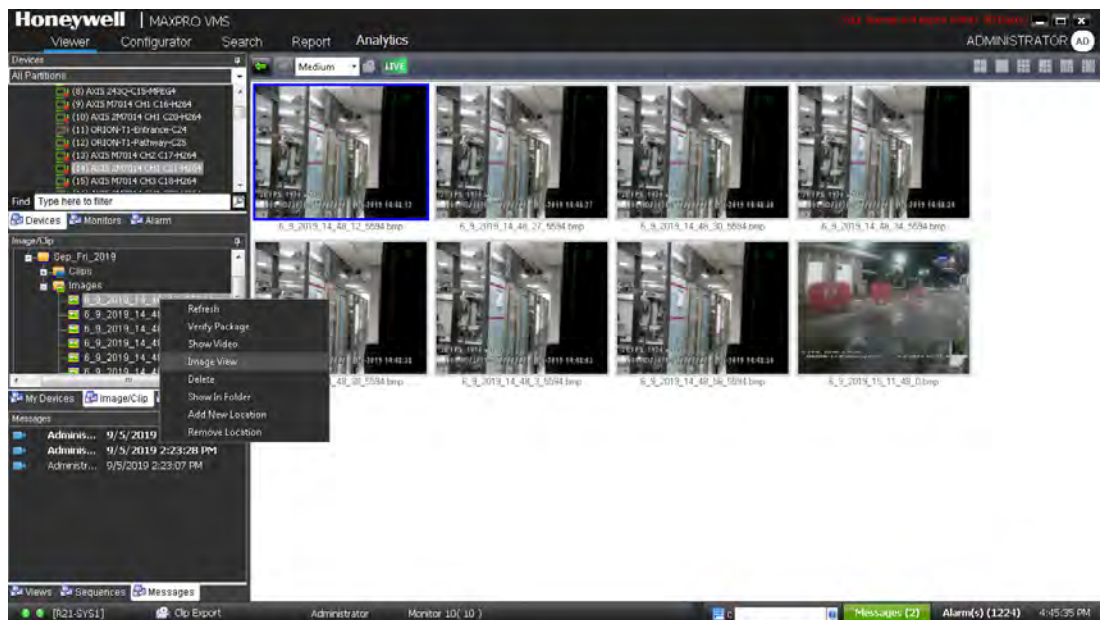




Figure 3-32 Image view

You can move the timeline Slider to view images from different times. You can also use the Date and Time Control to view images from different times.

You can view the images in different sizes by selecting an option in the drop down box on the top. For example, Small, Medium, and Large.

Note: You can click  on the toolbar to view the salvo layout again. To view the images again, click .

Persistence

Persistence is the ability to retain the data that was stored while using the application which otherwise is lost as it is stored on a temporary memory. MAXPRO VMS supports persistency for some of the operations in the viewer. The settings stored in the viewer during your current log on is stored and can be used when you log on next time.

Persistence for Cameras

Persistence for cameras allows you to store the camera details, salvo view details, and message details, so that you can use the same details during your next log on. For example, if you have set mirror image for all the cameras on a four-panel salvo layout and log off, the same would be displayed when you log on next time. The following camera digital parameters are persisted.

- Flip
- Text Overlay
- Mirror
- Brightness
- Hue
- Contrast
- Saturation
- Sharpness
- Blur
- Deinterlace
- Video Display Type

See "Video Control Options in Panel Toolbars" on page 4-147 for details on the above parameters.

Viewer Window Size and Position Persistence

You can preserve the size and position of the viewer window. The size and position details are stored based on the monitor ID and Workstation.

Log on Persistence

Log on persistence allows you to store the previous user credentials. For example, if you have logged on using windows authentication and log off from MAXPRO VMS, the same user credentials would be preserved when you launch MAXPRO VMS to log on.

Persistence for Sort Options

The sort options in Devices tree, My Devices tree, Monitors tree, Shared Devices tree, My Salvo View tree, Shared Salvo View tree, Sequence tree, Group By options in Device tree, and Partition selection in Devices tree is persistent based on the user. The devices that are listed using the Sort by Name and Group By options are preserved in the MAXPRO VMS Viewer.

Smart Motion Search

Smart motion search feature is supported for all the versions of MAXPRO® NVR recorders (NVR 3.1, NVR 3.5 and NVR 4.0) from MAXPRO® VMS. The Smart Motion Search feature allows you to search motion of an object in a recorded clip. This feature overcomes the traditional way of searching for an object in recorded clips. It enables you to filter the search in a recorded clip based on Year, Month, Day, Hours, Minutes and Seconds. You can view the recordings of before and after the existence of an object. You can perform the search on a recorded clip which is in the system drive. This feature is not applicable for exported clips.

You need to configure a region of the object in the recorded clip and then define the date and time range to search for the motion of the selected object.

Note: From a single workstation, only one smart motion search operation can be performed at any point of time.

Configuring the Search criteria

1. Select the required camera panel.
2. Click the Smart Motion Search icon on the toolbar as shown below.

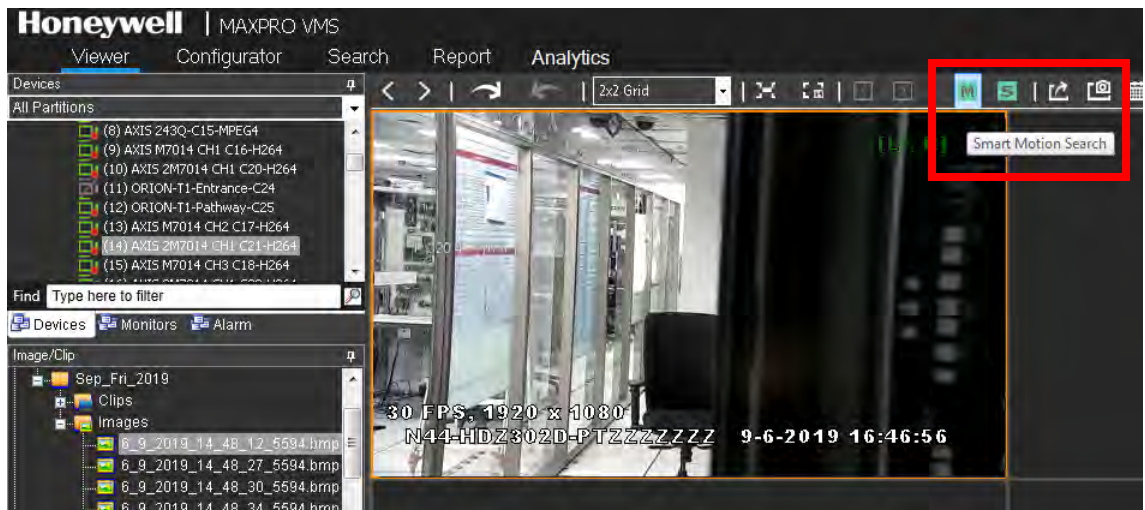


Figure 3-33 Smart Motion Search icon

Or

Right-click the camera on the salvo panel and then click Smart Motion Search as shown below.

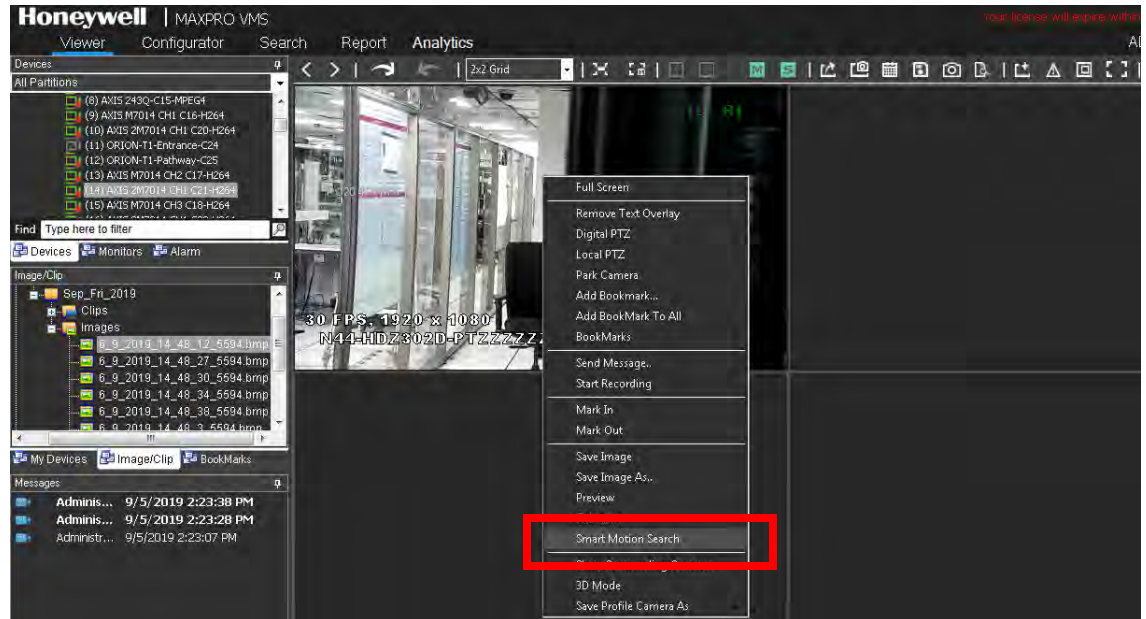


Figure 3-34 Right-clicking the camera in the salvo panel

The Smart Motion Search window is displayed as shown below.

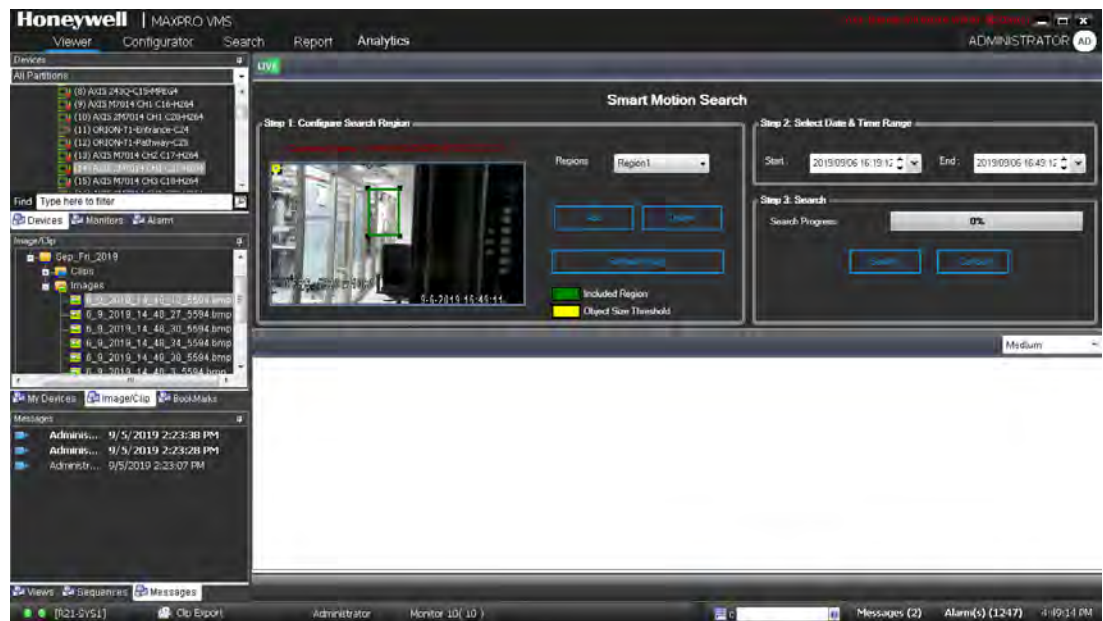


Figure 3-35 Smart Motion Search View

3. In the Step 1: Configure Search Region, click the Add button to create region(s) for search as shown below.

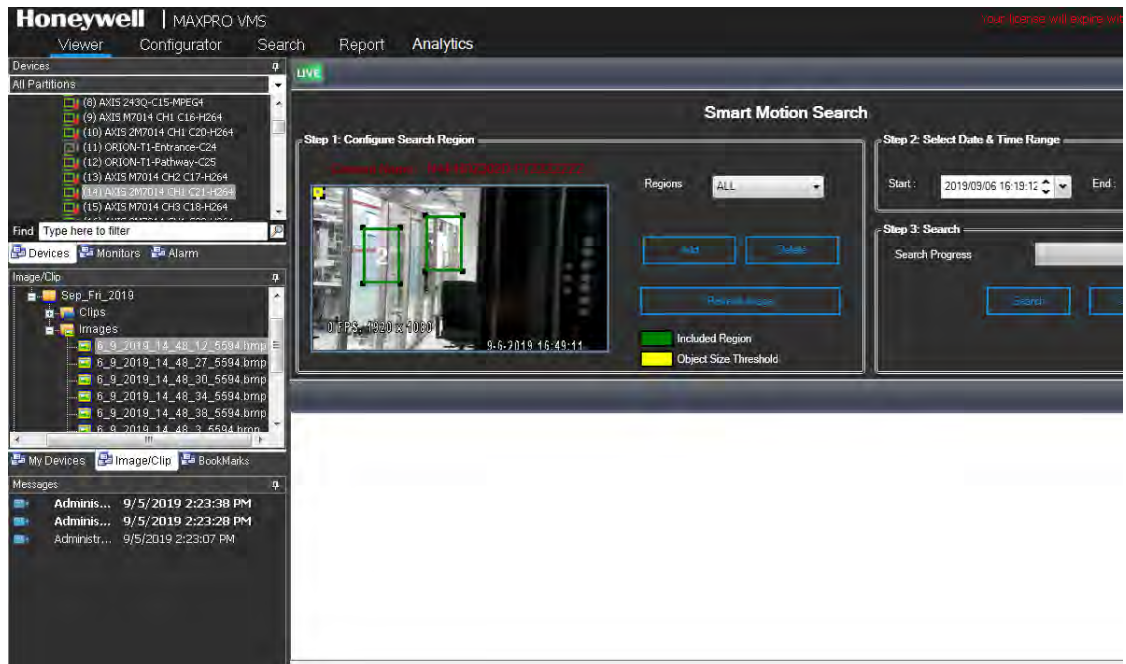


Figure 3-36 Regions Defined

4. Select the required region to display from the Region drop-down. Available options are All, None or (Region 1, 2, 3 and so on)
5. In the Step 2: Select Date & Time Range, define the start and end date/time from the calendar.
6. In the Step 3: Search, click Search. The progress bar displays the progress of the search. A list of recordings for the particular date and time is displayed in the lower pane as shown below.

Tip: While the search is in progress you can cancel and modify your search criteria. Such as add one more region, select a different date and time. You can also refresh the image for a better results.

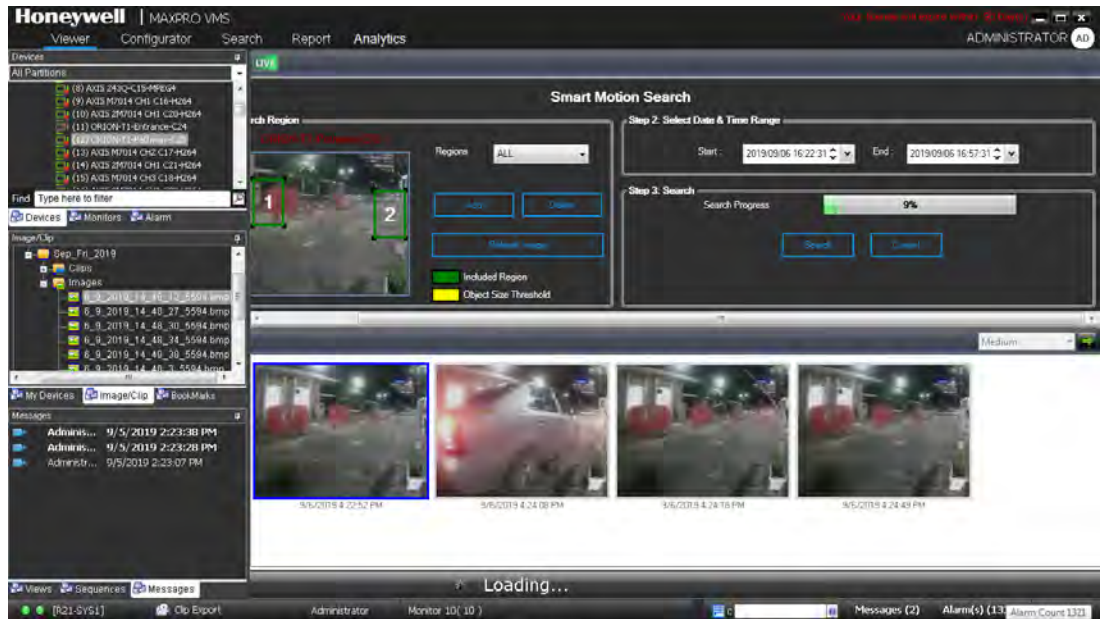


Figure 3-37 Recordings for the date and time

Note: By default, medium sized recordings are displayed.

- To view small or large snapshots (recording), select the appropriate option from the drop-down list as shown below.

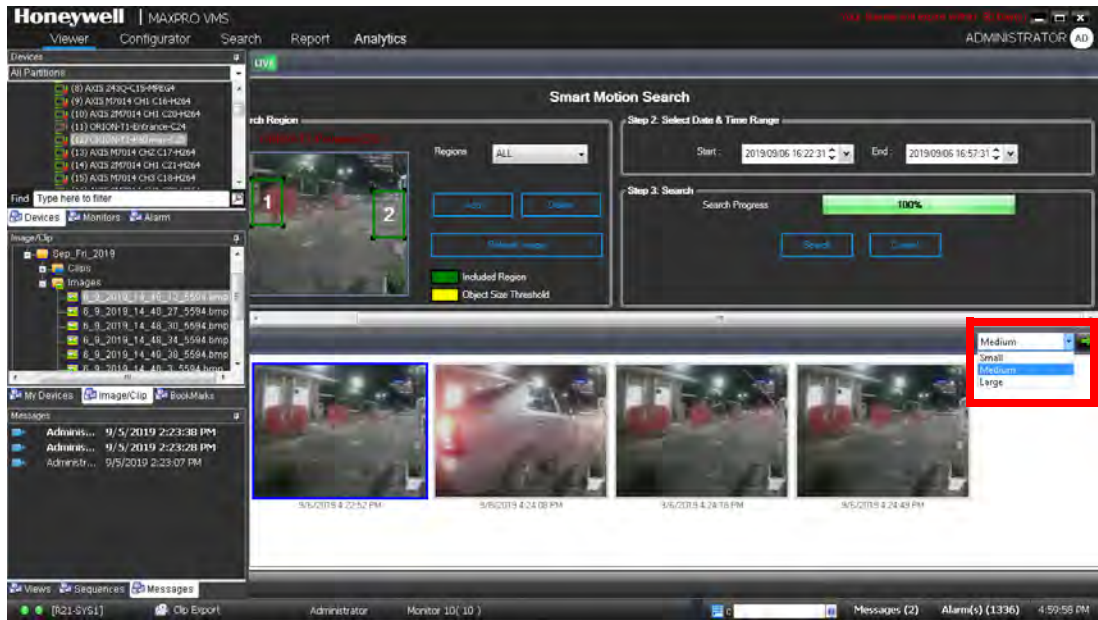


Figure 3-38 Selecting the Large/Small options for the Recordings

Navigation Tips

- At any point of time, click the Live view icon as shown below to go back to the Live video view.

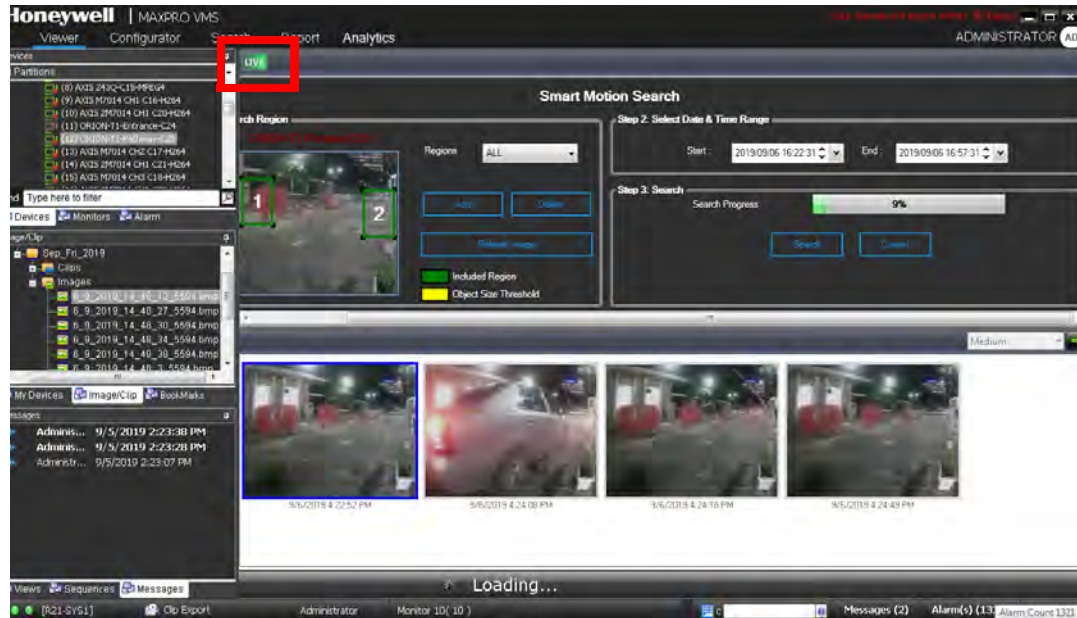










Figure 3-39 Returning to Live Video

Status of Devices

The following table lists the status of the devices as they appear in Devices and My Devices window.

Status	Description
	Suggests that the Recorder is available.
	Suggests that the Recorder is not available.
	Suggests that the fixed camera is not available.
	Suggests that the fixed camera is available
	Suggests that the fixed camera recording is enabled.

Status	Description
	Suggests that the PTZ camera is available.
	Suggests that the PTZ camera is disabled.
	Suggests that PTZ camera recording is enabled.

Virtual Keyboard

Virtual keyboard is feature that enables you to select monitors, salvo layouts, panels, and cameras using the keyboard. To perform an action such as panel or camera selection, you need to type a command in the virtual keyboard box. The virtual keyboard box is activated when you click Virtual Keyboard in the status bar or when you press F3.

You can enter the following commands in the virtual keyboard box.

Command	Description
M	<p>To select a monitor.</p> <p>To select a monitor, type “M” and the monitor call up number and press ENTER. For example, type “M1” and press ENTER. The monitor with the call up number 1 is selected.</p> <p>Each monitor is assigned a unique number called the callup number while adding the monitor.</p> <p>To view the monitor callup numbers in the Site window</p> <ol style="list-style-type: none"> 1. Right-click the Site or Devices branch. A context menu appears. 2. Select Show Device ID in the context menu. The monitor call up numbers appear next to the monitor name. <p>After, you select a monitor, the commands that you type in the virtual keyboard box are executed on the selected monitor. For example, after you select a monitor with callup number one, and type the command to select a salvo layout. The salvo layout is selected and displayed in the monitor with the callup number one.</p>
L	<p>To select a salvo layout.</p> <p>To select a salvo layout, type “L” and the position number of the salvo layout in the toolbar and press ENTER. For example, to select the second salvo layout from the left of the toolbar, type “L2” and press ENTER.</p>
W	<p>To launch a salvo view. To launch a salvo view, type “W” and the View ID and press ENTER. For example, if the View ID of a salvo view is 1, then type “W1” and press ENTER. The salvo view with View ID 1 is launched.</p>

Command	Description
V	To select a preset for the camera that is displaying video. To select a preset, type "V" and the camera preset number and press ENTER . For example, if you want preset 1 for the camera, then type "V1" and press ENTER .
P	To select a panel in the salvo layout. To select a panel in the salvo layout, type "P" and the panel position number in the layout and press ENTER . For example, type "P1" and press ENTER to select the first panel in the layout.
C	To select a camera from the Devices window. The video from the camera is displayed in the panel that is selected in the salvo layout. To select a camera, type "C" and the camera call up number (Device ID) and press ENTER . For example, type "C1" and press ENTER . The video from the camera with the call up number 1 is displayed in the selected panel. Each camera is assigned a unique number called the callup number while configuring the camera. See Configuring a Camera. To view the camera callup numbers in the Site window 1. Right-click the Site or Devices branch. A context menu appears. 2. Select Show Device ID in the context menu. The camera call up numbers appear next to the camera name.
O	To activate the surrounding cameras for a particular camera. To select a camera, type "O" and the camera number and press ENTER . For example, type "O1" and press ENTER . The surrounding cameras for the camera 1 is activated.

The current command that is being used is displayed on the left of the virtual keyboard. For example, if you select a camera using the virtual keyboard, then the letter C is displayed on the left of the virtual keyboard indicating that it is in the camera mode.

The following table lists the shortcuts to perform various tasks using the keyboard.

Shortcut keys	Description
Shift + Delete	To close all the panels in the Salvo view.
Shift + Up arrow	To zoom in
Shift + Down arrow	To zoom out.
CTRL + Delete	To close the Salvo view or the Message.
CTRL + M	To select all cameras.
CTRL + P	To perform analog PTZ.
CTRL + D	To perform digital PTZ.
CTRL + Right arrow, CTRL + Left arrow, Shift + Left arrow, and Shift + Right arrow keys	To perform panning operations.

Shortcut keys	Description
CTRL + Up arrow, CTRL + Down arrow keys	To perform tilt operations.
Space key	To reset PTZ.
Arrow keys	To increase and decrease the speed for reverse and forward playing of video.
Delete key	To close the selected panel in the salvo layout.
CTRL + SPACE or F6	To enter the playback mode
CTRL + ENTER	To enter the live mode.

Video Viewing Options

New EquiP Fisheye Camera (HFD6GR1) is capable of delivering Fisheye view of the surrounding and which can also be dewarped to different view types depending on the mounting position. To dewarp the video you need to configure the camera General > 360 Settings pane in MAXPRO NVR 4.1 Software application.

Right-click the panel displaying live video (for a New EquiP model camera) and then select Panorama settings. Select any mode to view live video in that mode.

The following table and figures display various views of New EquiP model camera based on the mounting position:

	Modes	FishEye View <i>(figure 40)</i>	Quad View <i>(figure 41)</i>	1 Panorama & 3 Quatro View <i>(figure 43)</i>	Panorama 2x 180 Views <i>(figure 42)</i>	1 Fish Eye & 3 Quatro View <i>(figure 44)</i>
Mounting Position	Wall Mounting	Supported	Supported	Supported	Not Supported	
	Ceiling Mounting	Supported	Supported	Not Supported	Supported	Supported
	Ground Mounting	Supported	Supported	Not Supported	Supported	Supported



Figure 3-40 EQUIP-Fish Eye View



Figure 3-41 EQUIP - Quad View



Figure 3-42 EQUIP - Panorama 2X180 View



Figure 3-43 Equip - 1 Panorama & 3 Quatro View




Figure 3-44 EQUIP - 1 Fish Eye 3 Quatro View

MAXPRO Status Monitor

MAXPRO Status Monitor application allows you to monitor the status of system and Recording Engine in a network. You can manually add or auto search the required NVRs and then connect to a single or multiple NVRs (System or Recording Engine) to monitor the status of various parameters.

How to access the application





- MAXPRO Status Monitor is part of NVR 4.0 package. It is installed along with the NVR

4.0 software only solution. Double-click  on your desktop.

Or

Click Start > All Programs > Honeywell > Maxpro NVR Tools and then click MAXPRO Status Monitor. By default the status monitor starts searching the NVRs in your network.

Tool bar options


Icon/ Option	Description
	Remove: Removes the NVRs from the list.
	Interval: You can set time intervals under this option. It allows you to set the Refresh Intervals during which you want to monitor the status. The intervals vary from 1 second to 30 second. You can set the required time interval for the system to refresh the status.
	Views: This option enables you to switch between views. Available options are list view and table view. Select the required one to view the data accordingly.
	Refreshes the monitoring status and searches for the new NVRs in the network.

Monitoring the status of a System

To monitor the system status:

1. Launch the MAXPRO Status Monitor as explained in [How to access the application](#). By default the status monitor starts searching and displays the available NVRs in your network. The application is displayed as shown in [figure 45](#).

Note: By default the status monitor starts searching and displays the available NVRs in

your network. If you want to manually search, click  and then under Add

NVR, type the IP Address/Host name and then press Enter. See [Monitoring the status of a System Manually](#) on page 202.

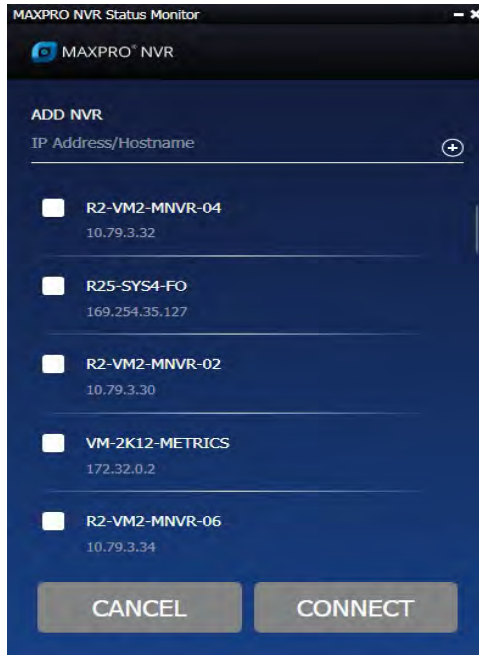


Figure 3-45 MAXPRO Status Monitor Home screen

2. Select the required Or multiple NVR check boxes and then click the Connect button. The status of system is displayed as shown below.

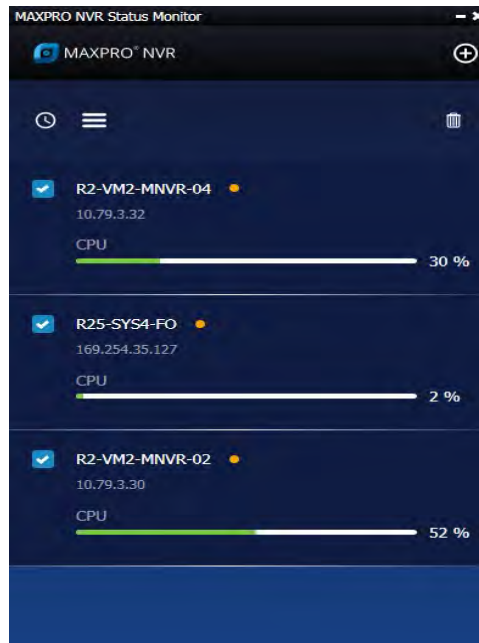



Figure 3-46 System status of NVR

Note: By default the System status is displayed.

To switch between views:

1. Click  on the tool bar. The status is displayed as shown below.

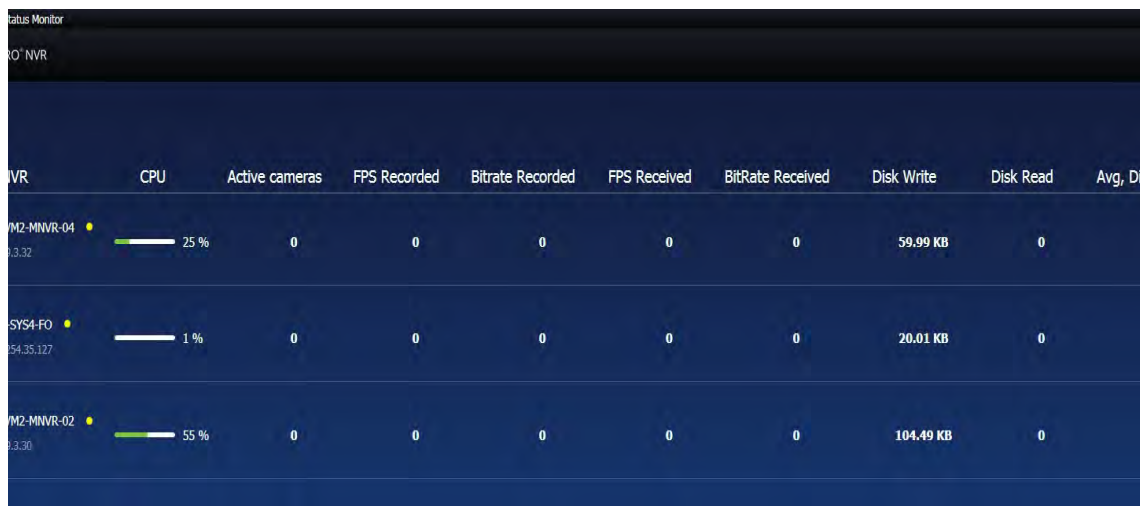


Figure 3-47 System Status

Monitoring the status of a System Manually

To monitor the status of a system manually:

1. Launch the MAXPRO Status Monitor as explained in [How to access the application](#) . By default the status monitor starts searching the NVRs in you network. as shown below.



Figure 3-48 MAXPRO Status Monitor Home screen

2. Under Add NVR, type the IP Address/Hostname that you want to monitor and then press Enter. The status of specific NVR is displayed in list view as shown below.




Figure 3-49 Status of NVRs

3. Select the required NVR check boxes and then click Connect to view the status.

How to set the Refresh Interval

Refresh intervals can be set while you are monitoring the status in List or Table view.

To set the refresh intervals:

1. On the tool bar, click . The Refresh Interval options are displayed based on your selected view.

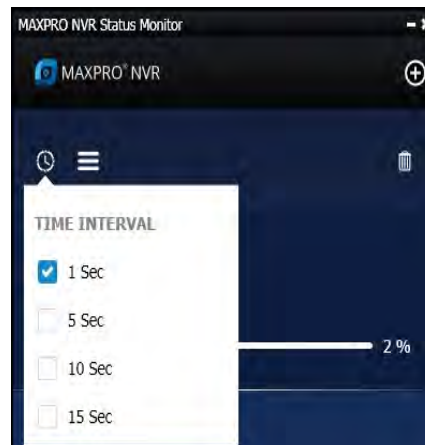


Figure 3-50 Refresh Intervals

2. Click on the required time interval on the scale of 1 to 15 seconds. The status is displayed accordingly.

Profile-G or Edge Recording Sync

Introduction

Profile-G or Edge Recording Sync feature allows you to sync the recordings from the camera SD card to MAXPRO NVR. Camera SD card contains recordings that are configured on demand. This feature enables the user to playback only those recordings which are saved in the SD card after they are synced to MAXPRO NVR. User can enable the Edge Sync option in Camera page and then configure the day/time for Edge Sync in the System window to get the recordings from the camera. Edge Sync feature is applicable only to the cameras with SD card. This feature is supported only for Mercury model cameras for now.

Below table details the camera models and firmware details for Profile G supported cameras.

Note: Only the below Profile G compliant camera models with Firmware supports the Edge Sync feature.

Profile-G compliant camera time should be in sync with NVR time.

Ensure you configure the NTP server to avoid Time Sync related issues.

Camera Models	Details	Firmware
H4W2GR1	Outdoor Dome 2MP 2.7-12mm	V1.000.HW00.6, build: 2017-10-16
H4W2GR2	Outdoor Dome 2MP 7-22mm	
H4W4GR1	Outdoor Dome 4MP 2.7-12mm	
H3W2GR1	Indoor Dome 2MP 2.7-12mm	
H3W2GR2	Indoor Dome 2MP 7- 22mm	
H3W4GR1	Indoor Dome 4MP 2.7-12mm	
HBW2GR1	Bullet 2MP 2.7- 12mm	
HBW2GR3	Bullet 2MP 4.7- 47mm	
HBW4GR1	Bullet 4MP 2.7- 12mm	
HCW2G	Box 2MP	
HCW4G	Box 4MP	
HCL2G	Box 2MP low light	V2.420.HW01.19, build: 2017-10-16
H4L2GR1	Outdoor Dome 2MP 2.7-12mm low light	
HBL2GR1	Bullet 2MP 2.7- 12mm low light	
HDZ302LIW	IR PTZ wiper, low light	Base Firmware Version: V1.000.0024.0, build: 2017-10-17 PAN/TILT Firmware Version: V1.000.000.20170914 Module Version: 01.06.0A

How to Configure Profile-G or Edge Sync Feature

To configure the Profile-G or Edge Sync feature, perform the following in the order mentioned.:

1. Upgrade the Camera Firmware.
 - Enable SD card recording with required settings
1. Upgrade MAXPRO NVR to the latest version
2. Configure the Edge Sync Settings
 - Enable the Edge Sync feature

Upgrade the Camera

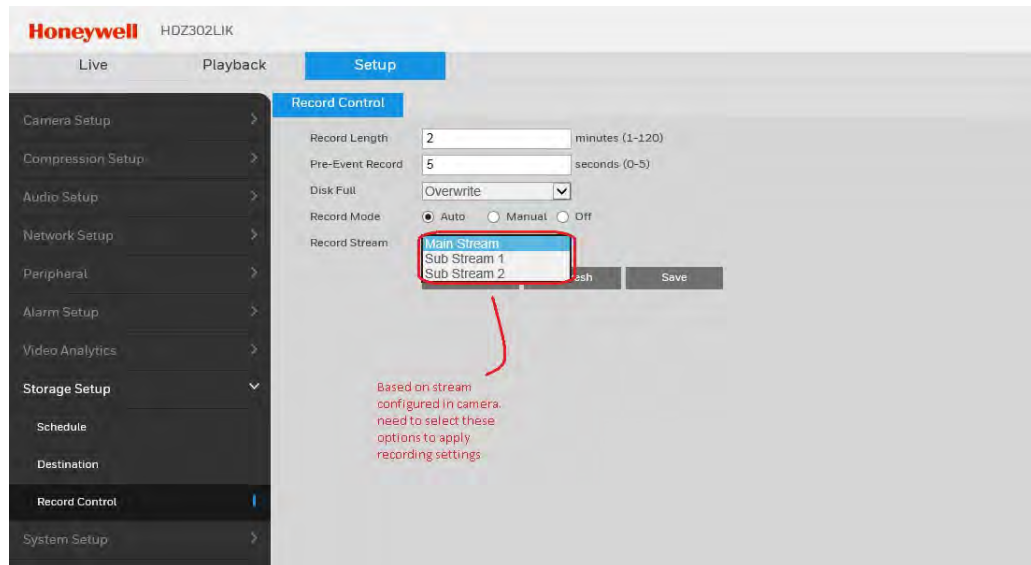
Before Upgrading

- If there are critical recordings available in SD card, please take back up using camera web page before upgrading the firmware.
- Upgrade to the Camera Firmware versions to latest versions as mentioned in the above table.
- It is recommended to use IPC utility to upgrade the Camera Firmware.

Note: *Ensure that there is no Camera power fluctuations during the upgrade procedure. This is to ensure smooth camera firmware upgrade.*

Post Upgrade (Camera Settings)

1. Before adding the Profile-G camera into NVR, delete all the existing recording available in SD card.
2. Configure the required SD card recording configuration in the camera Webpage



Note: Irrespective of the length/size of clips, maximum number of clips supported on SD card is 700 only.

If user want to use secondary channels resolution for SD card recording they have to set SD card recording settings as per the stream selected.

3. Ensure that the Camera Timezone is adjusted to match with the MAXPRONVR machines time zone.
4. Select the Synchronize with check box to sync the NTP time server with Camera time and MAXPRO NVR time.

Upgrade MAXPRO NVR

- Install the MAXPRO NVR 4.5 Build 162 on top of NVR 4.1 Build 123. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information on how to upgrade.

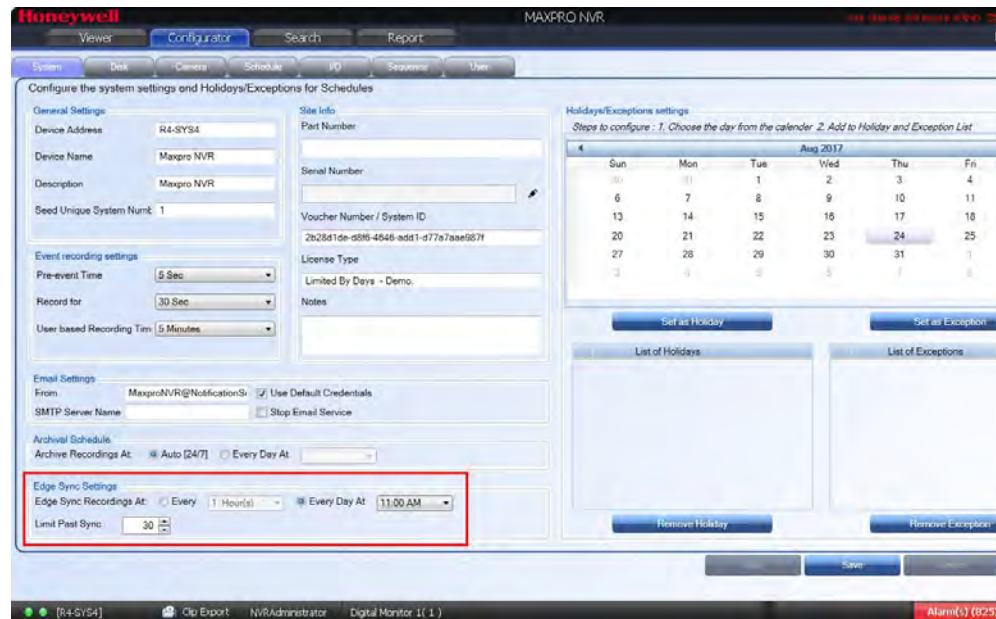
Configure the Edge Sync Settings

Edge Sync settings enables you to set the schedule for synchronizing the recordings from the camera SD card. This feature is supported for Profile-G compliant cameras where the recordings are stored at the camera level.

Note: Profile-G compliant camera time should be in sync with NVR time. Ensure you configure the NTP server to avoid Time Sync related issues.

To configure the Edge Sync Settings:

1. In MAXPRO NVR, navigate to Configurator > Systems tab. The Systems screen is displayed as shown below.



2. Under Edge Sync Settings:
 - Click Every option and then select the time in minutes or hours to edge sync the recordings.
Or
Click Every Day at option and then select the specific time in hours during which the edge sync should trigger.
 - Limit Past Sync: This option allows you to stop the synchronizing process at certain point of time. You can set time in minutes. The synchronizing process starts once it overshoots the limit time.

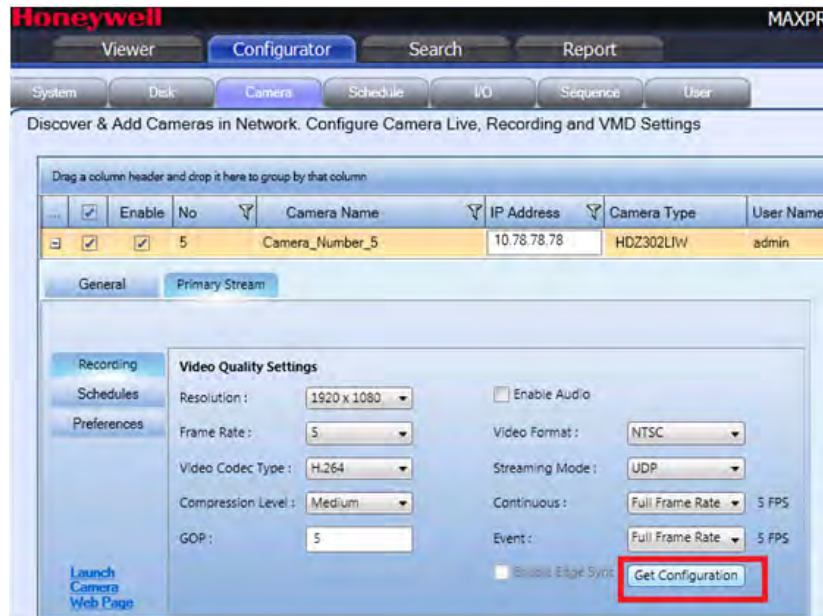
Note: The default Archival Schedule configured and recommended is Every Day at 12:00 AM. This is recommended versus the Auto [24/7] option for optimal performance and load on NVR.

Enable the Edge Sync

This option is supported for Profile-G compliant cameras and used for checking whether the camera is really Profile-G compliant. Click the Get Configuration button, if the camera is a Profile-G compliant camera then the Get Configuration button disappears and Enable Edge Sync check box is enabled.

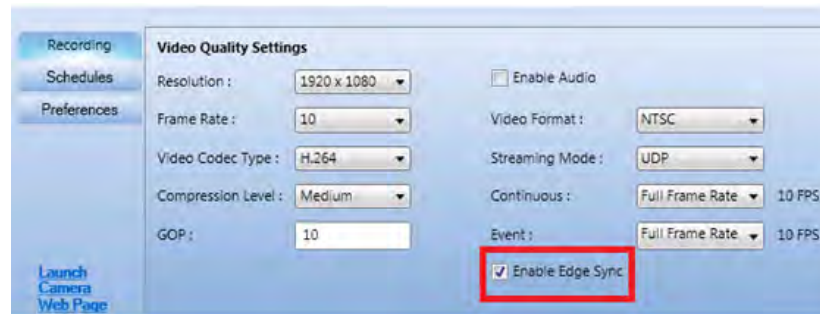
To enable the Edge sync option:

1. Navigate to Configurator > Camera tab. The Camera screen is displayed as shown below.

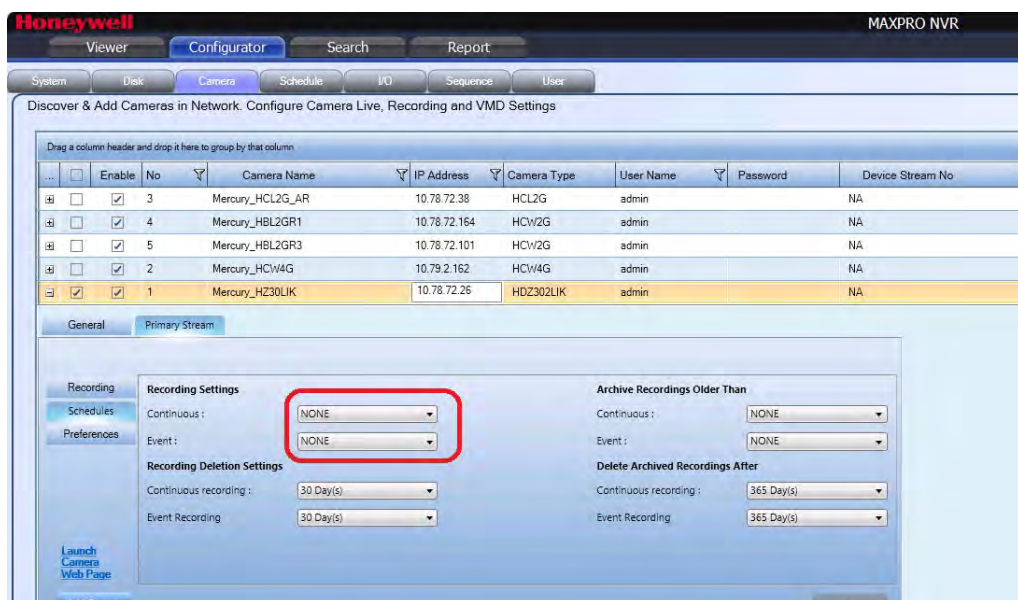


2. Click the Get Configuration button. If the camera is a Profile-G compliant camera then the Get Configuration button disappears and Enable Edge Sync check box is enabled as shown below. If the camera is not Profile-G compliant then NVR application displays Edge Sync not supported or enabled for this device message at the bottom of the screen.

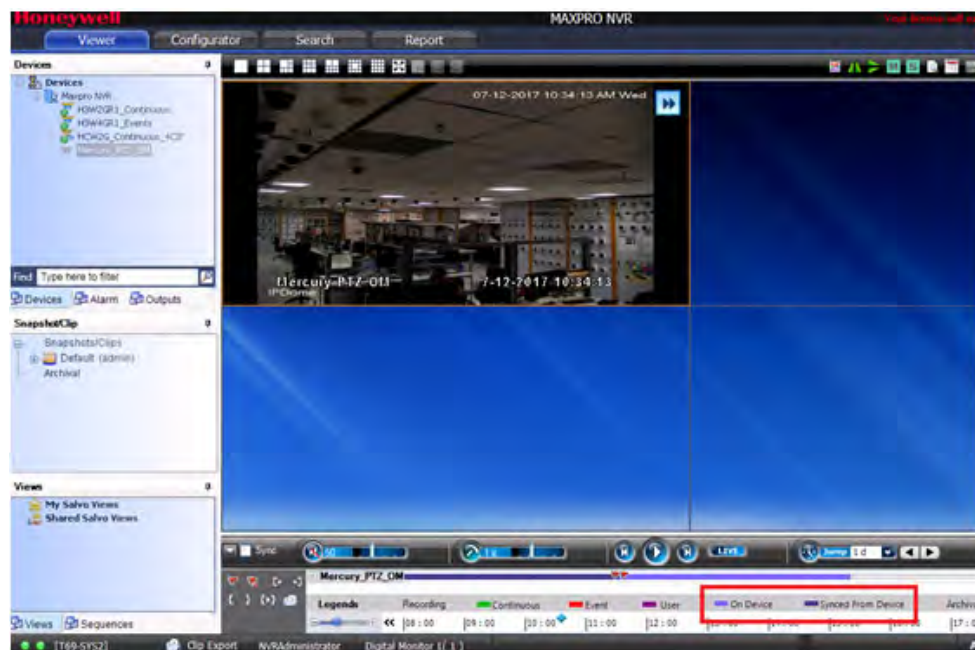
Note: For Profile-G compliant cameras the Streaming Mode is defaulted to UDP. If you want to switch from UDP to TCP mode then you need to update the .config file. After modifying the .config file for TCP mode you need to restart the Trinitybackfill service.



3. Select the Enable Edge Sync check box and then click Save.
4. Under Schedule tab > Recording Settings, select None from the drop-down list for both Continuous and Event based recording for the camera as shown below.



Once the Edge syncing is enabled you can see the recordings available in SD card and in MAXPRO NVR (after Edge syncing) as highlighted below:



Note: You can Playback only the Edge synced clips (synced clips from camera SD card to MAXPRO NVR) from the MAXPRO NVR clients.

How to Enable Low Bandwidth Streaming

To Enable Low bandwidth streaming from MAXPRO NVR cameras to MAXPRO VMS:

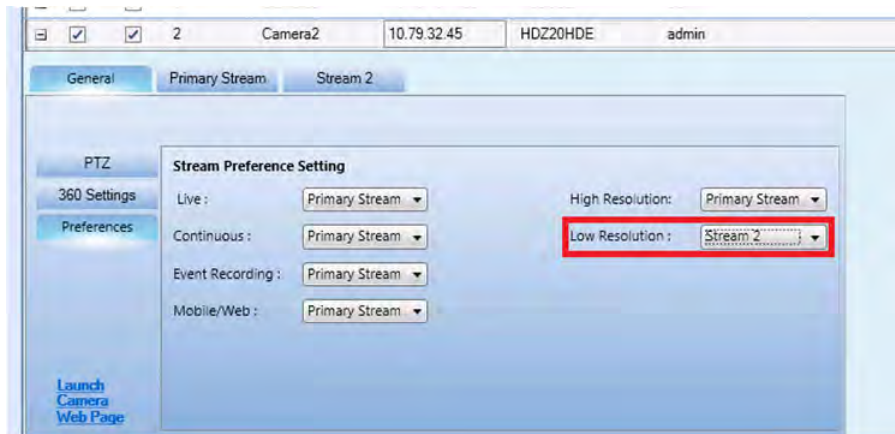
1. In MAXPRO NVR > Configurator> Camera > Primary Stream tab, click Add Stream to add a secondary stream for the camera as highlighted below. A new stream (Stream 2) is added.



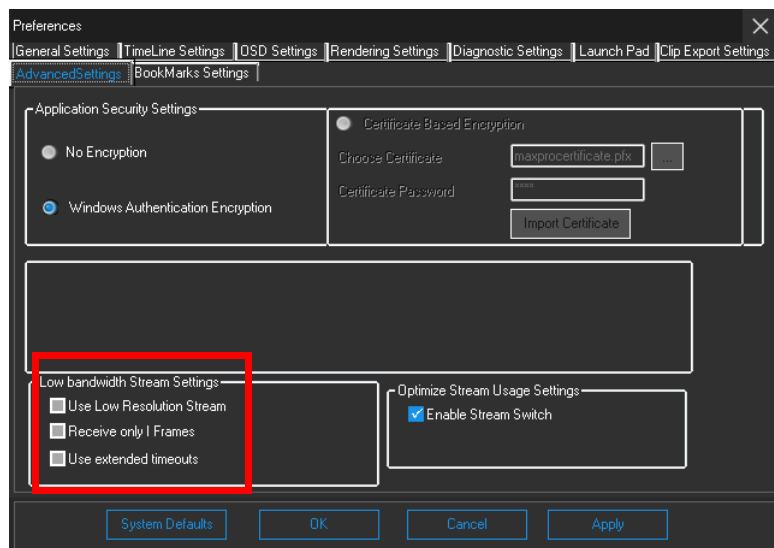
2. Under Stream2 > Recording > Video Quality Setting, select the low Resolution, FPS and GOP from the corresponding drop-down lists as highlighted below.



3. Under General tab > Preferences > Stream Preference Settings, select Stream 2 from the Low Resolution drop-down list to set the Low Resolution configuration to use Secondary stream as shown below.

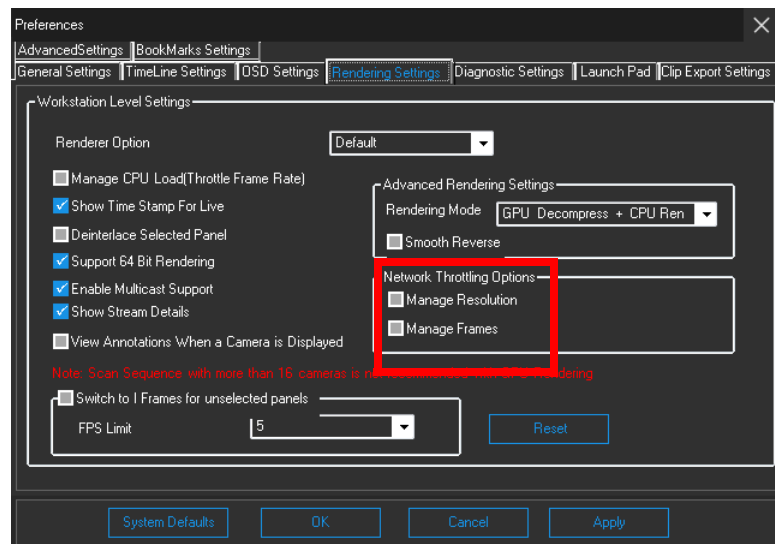


4. Once you are done with the configuration in NVR, discover the same MAXPRO NVR recorder in the MAXPRO VMS Server.
5. In MAXPRO VMS Client, click the Preferences Tab and navigate to the Advanced settings tab. This tab allows you can configure to use necessary setting applicable for this client as highlighted below.



6. Under Low bandwidth Stream Settings:
 - Select Low Resolution Stream check box - To enable and use only low resolution stream from MAXPRO NVR.
 - Select Receive only I Frames check box - It allows you to receive only I frames for the camera stream. (For example: If a Camera is configured with 5 FPS and 5 GOP and if you select this check box then this setting will pull only I frame for the camera stream. It excludes P frames for the camera stream. This setting can be used when the available bandwidth is too low for full frames rendering of Secondary streams.)

- Select the Use Extended Timeouts check box - This helps in increasing the default time outs for NVR connections, stream connections and snapshots retrieval.
7. Click the Preferences tab and navigate to Rendering settings tab. This tab allows you can configure to the Network Throttling options for low bandwidth site.
 8. Under Network Throttling Options: This feature automatically measures the latency in streams periodically and manages the stream with lower resolution and lower frame rate in low network bandwidth sites. This enables user to view smooth video without fluctuations.
 - Manage Resolution: Select this check box to manage the fluctuations in the resolutions.
 - Manage Frame: Select this check box to manage the frames per second in a video.



Note: These settings can be enabled and used in Winmag machines where VMS clients are installed. After using these setting low streams can be pulled from Winmag viewer as well.

Viewing Multicast Stream

User needs to perform the following configurations in the order as explained below to view the Multicast stream. Refer [MAXPRO® VMS Installation and Configuration Guide](#) for more information on how to configure Multicast:

1. Switch Configuration
2. Camera Configuration
3. MAXPRO® NVR Configuration

4. MAXPRO® VMS Configuration

After performing the above four steps, in VMS Viewer user can identify the Multicast streaming cameras as [M] on the top right corner as highlighted below.



Figure 3-51 Multicast Stream

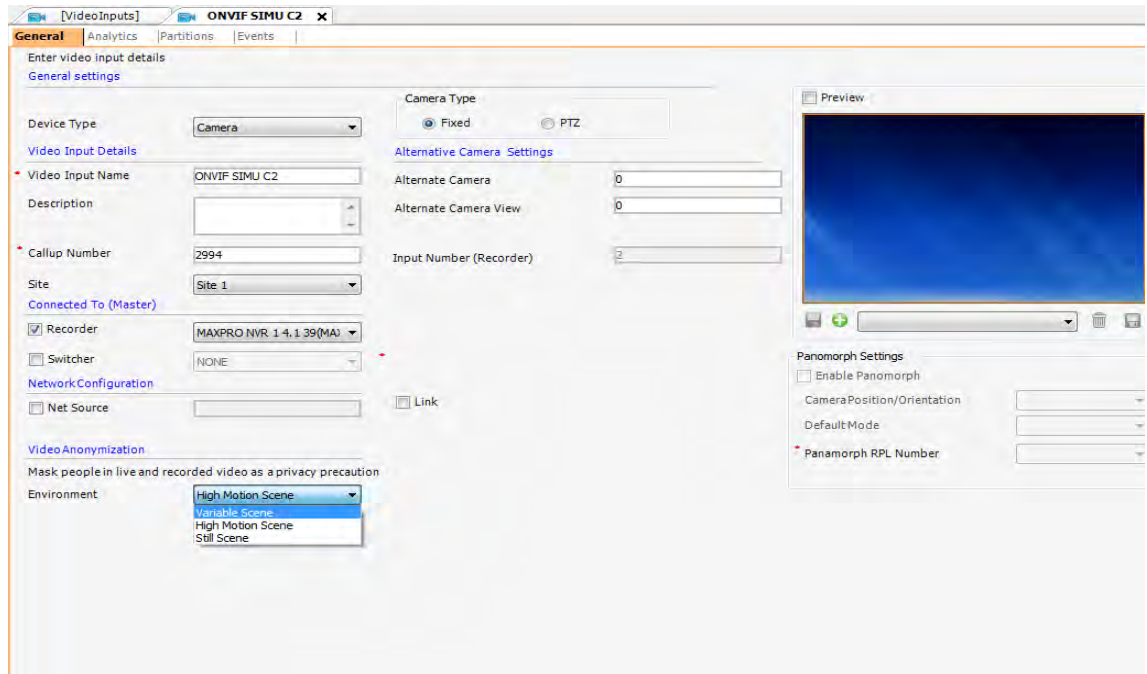
Video Anonymization

This feature allows you to configure or mask identifiable objects based on the scene environment. User need to select the required environment from the drop down list based on the camera mounting position. The following are the Environments supported in this T-Patch

- Variable Scene: If the scene contains both stationary and moving people or objects then select this option to anonymize the objects in the scene.
- High Motion Scene: To anonymize the objects in high motion in the scene.
- Still Scene: To anonymize the objects in a scene where the scene predominantly contains stationary people and objects.

How to Anonymize objects based on Environment

1. Click the Configurator tab.
2. Expand Devices in the navigation area, and then click Video Inputs. The Video Inputs screen appears in the display area, and displays the list of video inputs
3. Click Add. The Camera > General screen appears by default.

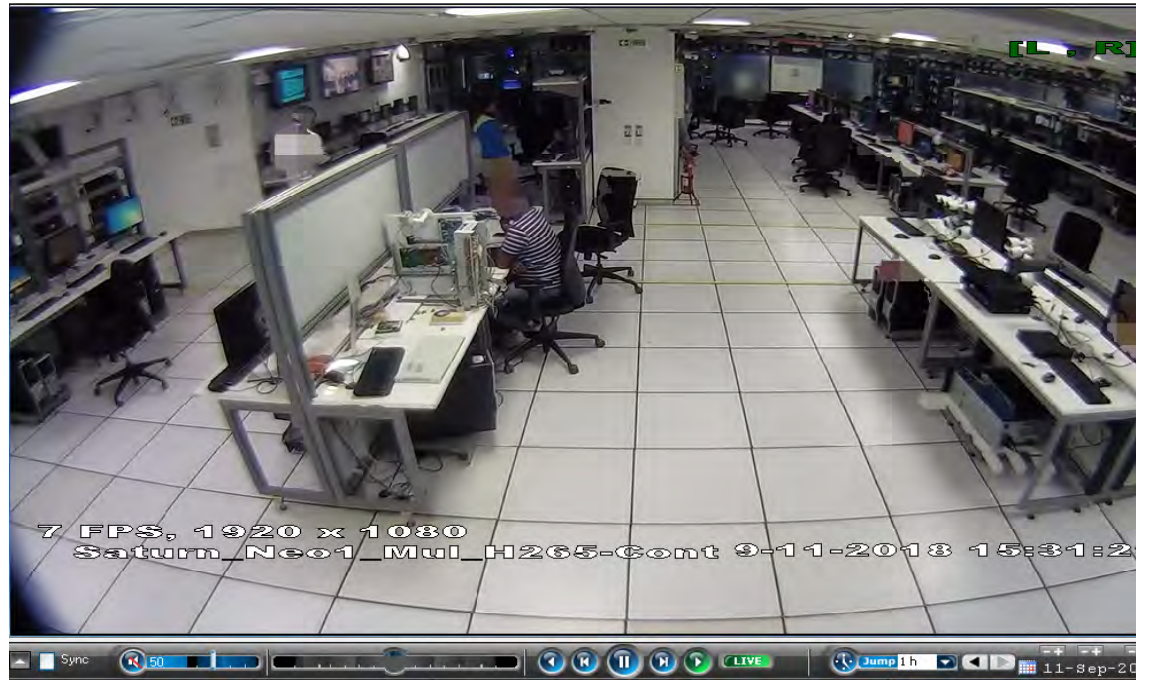


4. Under Video Anonymization, select the required option from the Environment drop-down list to mask people in live video scene. The available options are:

Settings	Description
Variable Scene	Select this option if the scene contains both stationary and moving people or objects.
High Motion Scene	Select if you want to anonymize the objects in high motion scene
Still Scene	Select to anonymize the objects in a scene where the scene predominantly contains stationary people and objects.

Following images display the type of video anonymization scenes based on the environment selection.

For Variable Scene



For High Motion Scene



For Still Scene



Annotations

Annotations for Intrusion Trace and Loiter Trace in Live and Playback video is supported in MAXPRO® VMS with MAXPRO® NVR recorder integration. This feature helps to trace and locate the moving subjects in live/recorded video and generates an alarm if intrusion or loitering is detected. This is applicable for Mask Detection and Social Distancing Violation detection also. See [Mask Compliance Detection](#) and [Social Distancing Violation Detection](#) for more information.

Equip-S series camera supports Annotation feature along with Intrusion trace and Loitering Trace alarms. These alarms are in-built with Equip-S series camera and are made available by installing required analytics licenses.

Annotation with Intrusion Trace alarm: This feature helps in detecting a subject, if it enters a predefined restricted area. The system will annotate and detects the object with Green rectangular box. If the object is detected in the restricted area then the annotated Green rectangular box turns to Red and an alarm is generated.

Annotation with Loitering Trace alarm: This feature helps in detecting an object if loitering beyond the specified duration of time in a predefined region. The subjects is bounded by the box along with the duration (time in seconds) for which it is identified in the region of interest. If the subject is loitering in the region beyond a predefined time then the annotation boxes turns to Red and an alarm is generated.

Refer to the [MAXPRO® VMS Installation and Configuration Guide](#) on How to enable this feature and use.

Note: Currently Annotation feature works with only with old GPU rendering modes.

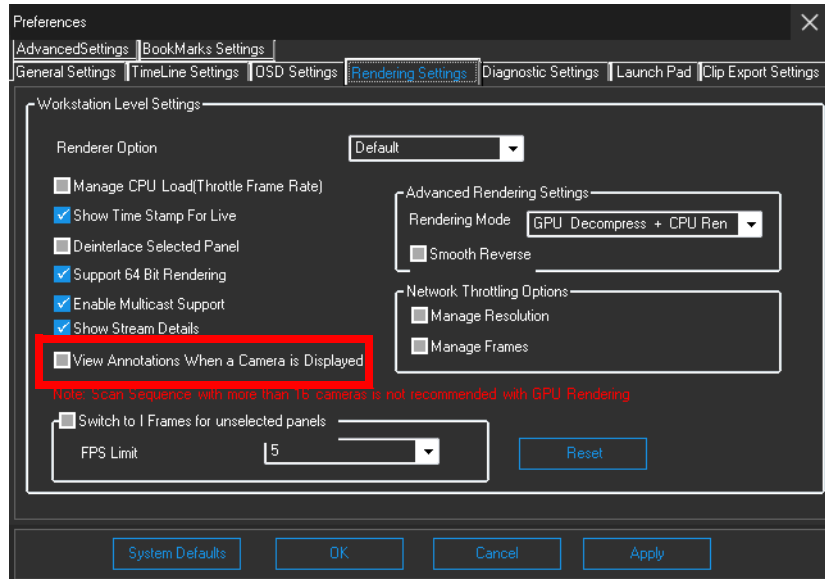
Annotation feature is supported with the following camera models and firmware version

S.No	Camera Model	Firmware	Loiter	Intrusion
1	H4D8GR1	2.420.HW00.9, Build Date: 2018-12-17	V1.20.60	V1.20.60
2	HCD8G			
3	HBD8GR1			
4	HFD6GR1	1.000.HW00.9, Build Date: 2018-12-17	V1.20.60	V1.20.60
5	HFD8GR1			
6	HDZ302DE	1.000.0043.3, Build Date: 2019-01-07	V1.20.60	V1.20.60
7	HDZ302D			
8	HDZ302DIN			

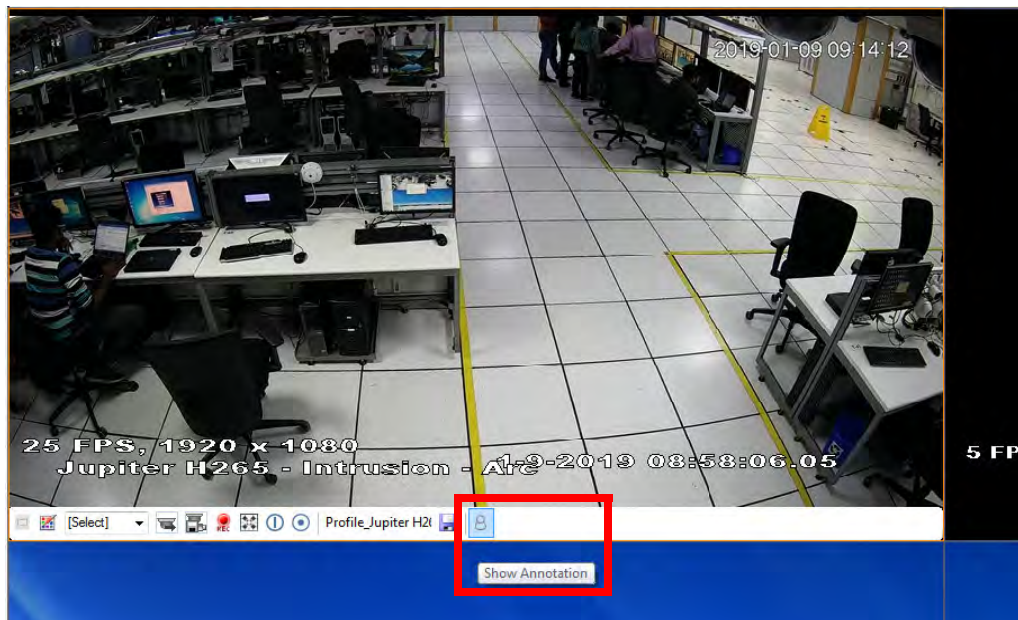
Enabling Annotations in VMS

In Preference

- In Preference > Rendering Setting tab, select the View Annotations when a camera is displayed check box to enable annotations for all the supported cameras (Equip-S Series)



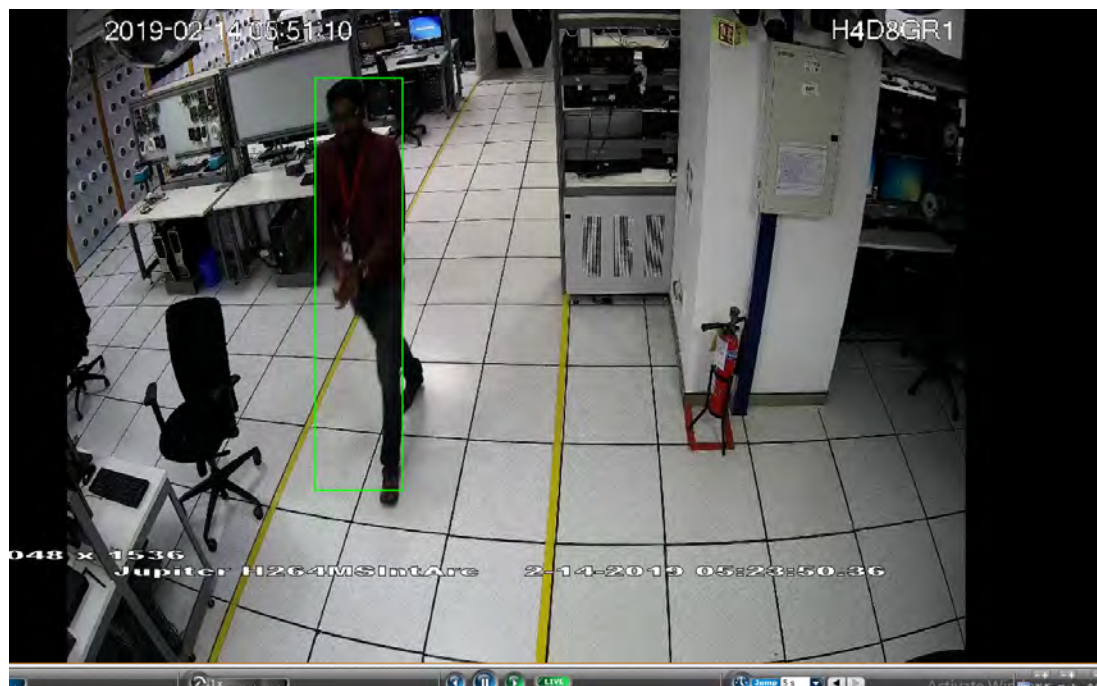
- In Video panel, hover the mouse in the bottom of the panel to view the options and then click on Show Annotations icon for that particular camera as highlighted below. You can also click the same icon to Hide annotations only for that camera.



Annotation with Intrusion Trace in VMS (Live/Playback)

After the Annotation feature is enabled for Intrusion trace, rectangular bounding boxes will be accompanied with any moving object in the scene. If any object is moving within the predefine area then the object is highlighted with Red rectangular box and an alarm is generated as shown below.

Annotation with Intrusion Trace (Live) with out alarm



Annotation with Intrusion Trace (Live) with alarm



Annotation with Intrusion Trace (Playback) without alarm



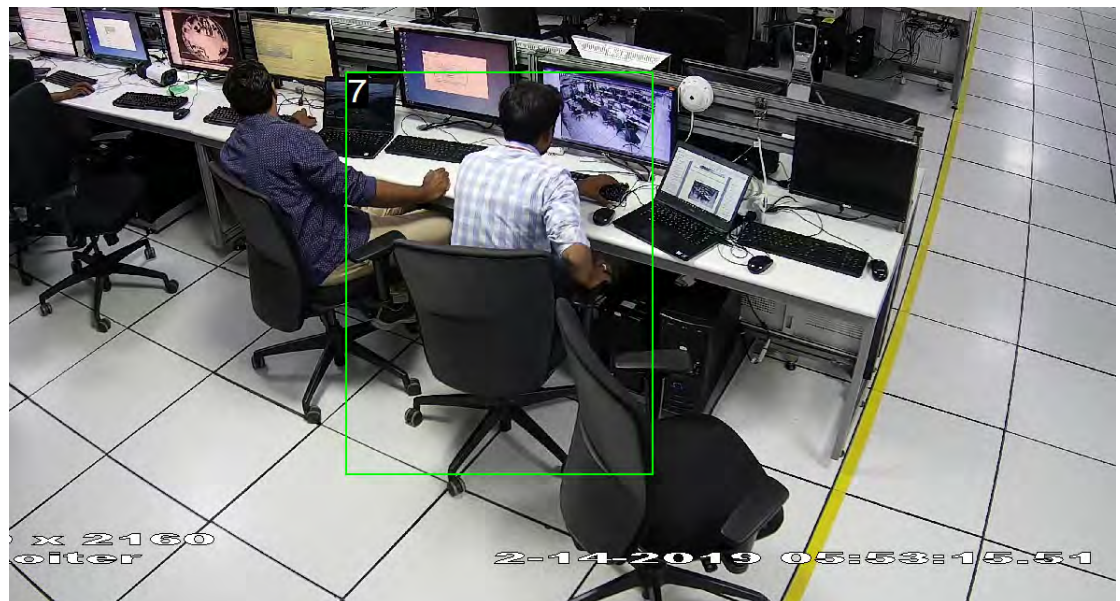
Annotation with Intrusion Trace (Playback) with alarm



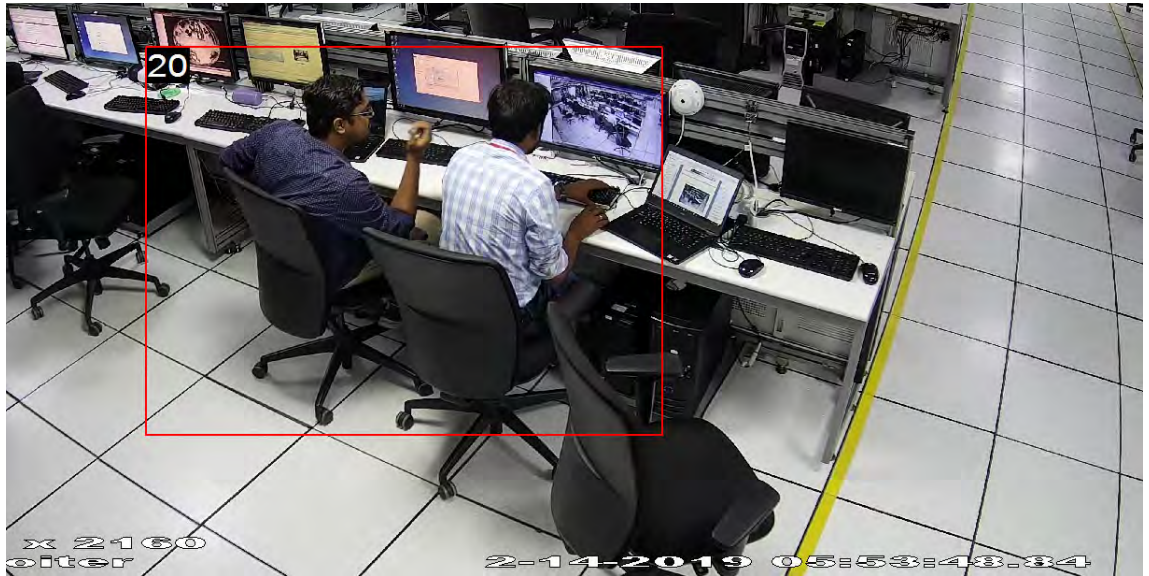
Annotation with Loitering Trace in VMS (Live)

If an object loiters within the predefined zone then a Green colored rectangular bounding box is displayed. If the same object loiters beyond the Maximum Loitering Time, then the object will be highlighted with a Red Rectangular box as shown below.

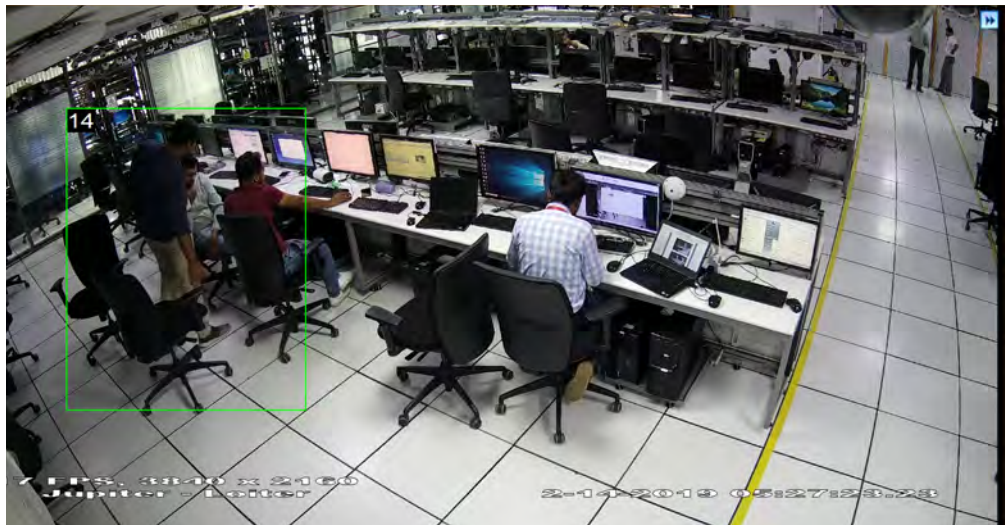
Object within the Maximum Loitering Time (Live)



Object beyond the Maximum Loitering Time (Live) with alarm



Loitering Trace in Playback with out alarm



Loitering Trace in Playback with alarm



ADPRO XO Recorder Integration Support

ADPRO XO Recorder integration is now supported in MAXPRO VMS R550 and above version. In MAXPRO VMS user can avail the features of XO recorder including the Annotation bounding boxes. User needs to update with new license to avail the features of XO recorder in VMS.

Note: It is recommended to change the default username and password after the first login.

The following are the qualified XO Recorder models and the Firmware versions supported with MAXPRO VMS R550.

#	XO Recorder Model (Version)	Firmware Version
1	ADPRO IFT	IFT
		IFTE
2	Fast Trace 2	XO 04.02.0010
3	ADPRO IFT Gateway	XO 04.02.0012

Following are the features supported with ADPRO XO Recorder integration.:

#	Features Supported
1	Add/delete/modify AdproXO recorder in VMS
2	Discover Cameras, Relays and Sensors
3	Live Video

#	Features Supported
4	Multi Stream
5	Snapshot save, digital correction, Mirror and Flip.
6	PTZ operations
7	Playback Operations Note: Reverse playback operation is not supported. Playback operation may start a few seconds behind the selected time because of GOP settings.
8	Camera Status/Alarms
9	Events Search
10	Anonymization
11	HVA

Snapshots with Annotations

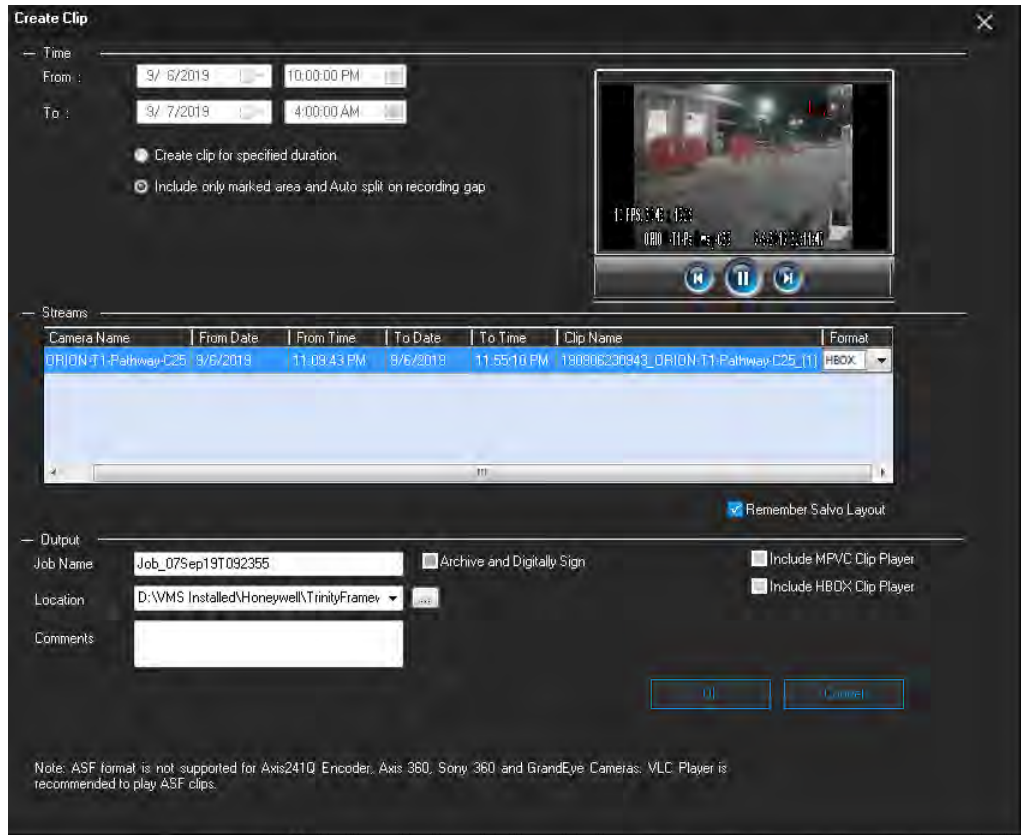
Capturing snapshots with Annotation bounding box in Live and Recorded video is supported. User can find the captured snapshots under Snapshots/Clips pane.

Export HBOX clip player with clips

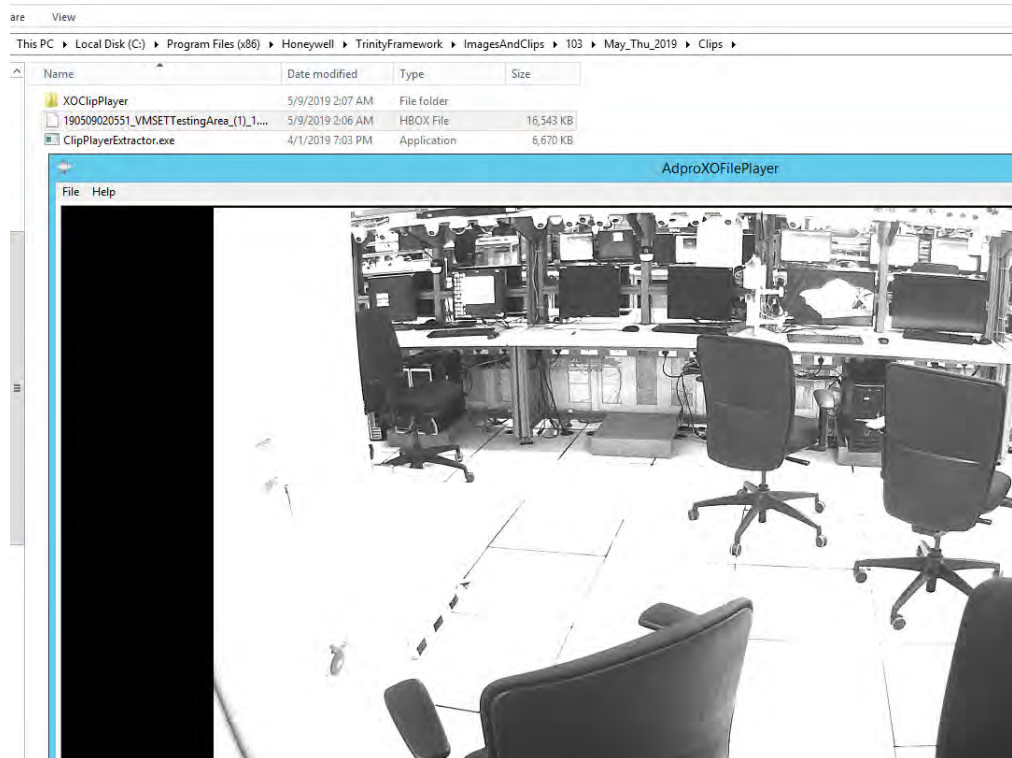
MAXPRO VMS integration with ADPRO XO recorder allows user to export clip (HBOX format) along with the HBOX clip player. A clip player extractor.exe file is exported to the defined path and user can execute the exe to view the video. This helps the user to play the clip in any machine without depending on supported clip format player.

How to export a clip in HBOX format

1. Perform the step 1 through step 10 as explained in [Creating Clips](#) section in create clip dialog box is as shown below.



2. In the Format drop-down list under Streams, select the HBOX format.
3. Select the Include HBOX Clip Player check box to play the recordings of HBOX format files. This player is to playback only HBOX format clips.
4. Click OK to create the clip. The clip creation status is indicated in the status bar. The clip is saved with an automatically generated name including ClipPlayerExtractor.exe file as shown below.



5. Double-click the ClipPlayerExtractor.exe file. The XOClipPlayer is extracted and the video clip starts playing.

Playback associated videos for Input Alarms

This feature enables user to playback the associated video with input alarm. User can view the video for an input alarm from all the associated cameras. User can associate one camera to one input alarm or multiple cameras and view the video feed. The configuration for associating cameras should be done in the XO recorder. This feature is support only from ADPRO XO recorder integration with VMS.

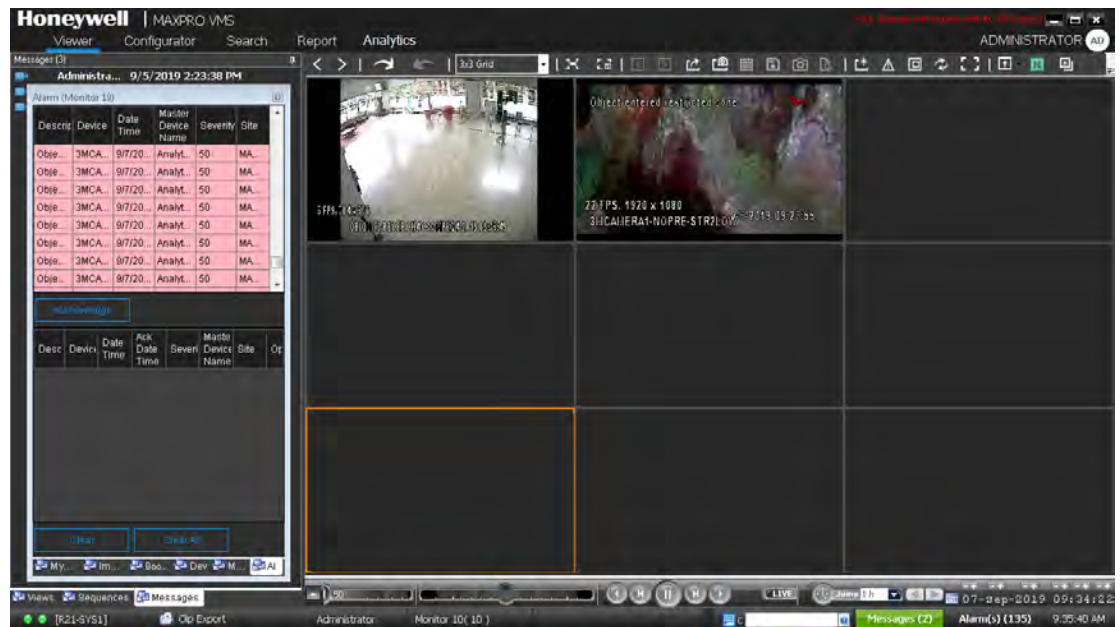
How to view Input alarm video feed in VMS

Pre-requisite:

- Ensure that the required number of cameras are associated with the input alarms in XO recorder.
1. In Viewer > Alarms pane, locate the required XO recorder input alarms.
 2. Right click on the inputs alarm and then click Show Video.
- Or
- Drag and drop the required input alarm on the salvo pane as shown below.

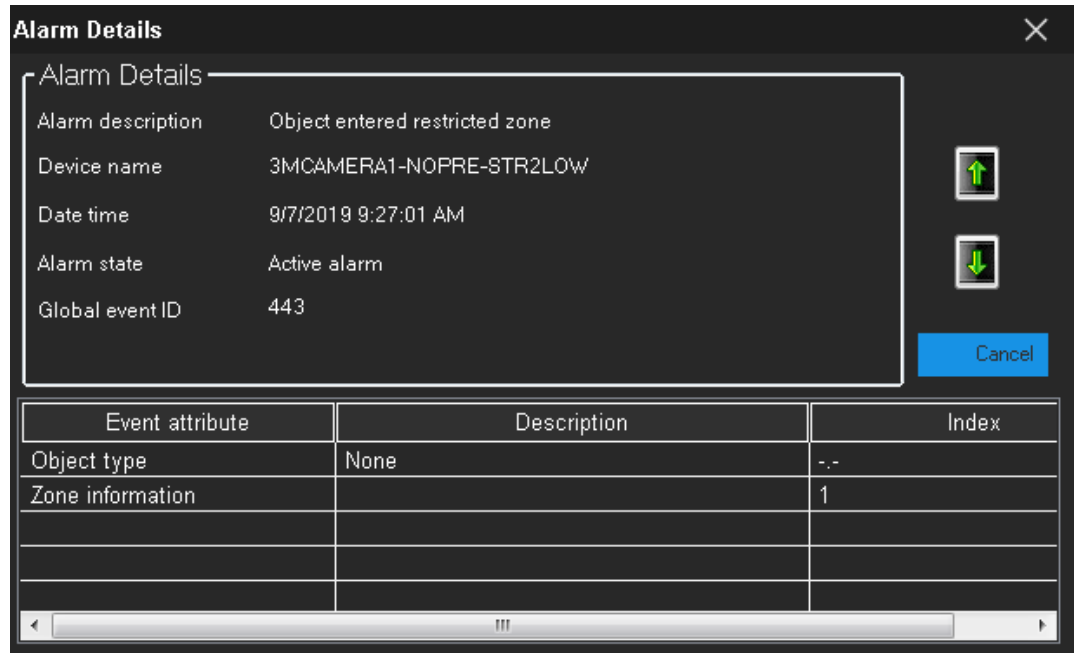


The video feed from the associated camera is displayed as shown below.



To view the details of the input alarm and the camera associated.

- Right click on the required inputs alarm and then click Show Details. The Alarm details dialog box appears as shown below.



Smooth Reverse Playback

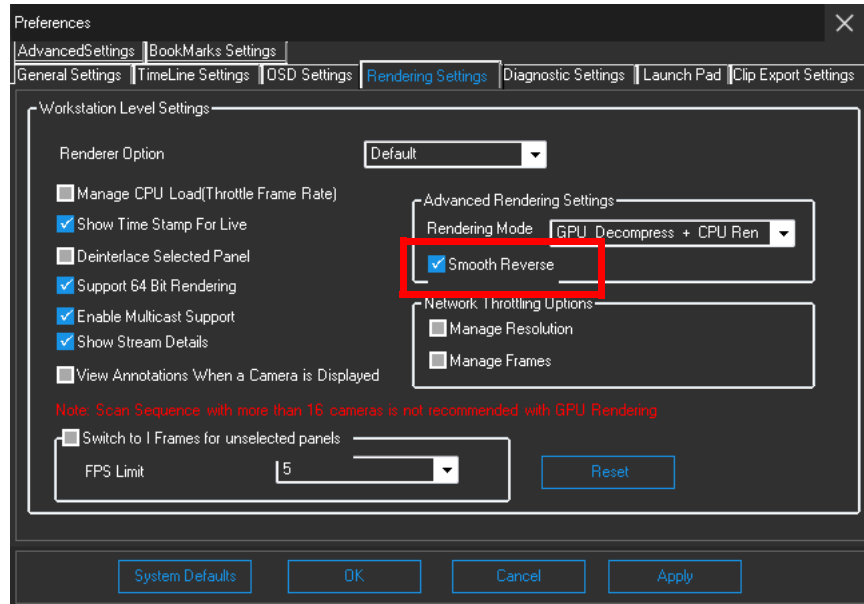
This is an enhancement to the existing reverse playback feature in MAXPRO VMS. Smooth reverse playback allows user to view the reverse playback operation without any jerk in the playback video. Depending on the FPS and GOP setting in NVR camera properties, smooth playback video is displayed. It is recommended to set the GOP value in the range of 5 to 10 to experience smooth reverse. This helps to view the best in class playback video during site monitoring and investigation without dropping video frames. This enhancement is supported only with MAXPRO NVR recorder. Refer to the [MAXPRO® VMS Installation and Configuration Guide](#) on how to enable and use this feature. User can perform the following reverse playback functions smoothly.

Note: For smooth reverse playback, it is recommended to use lower GOPs (i.e less than FPS. For Example: 30FPS/5GOP, 30/10,10/10 and so on)

- Smooth playback in reverse direction for speeds upto 2x
- Key frame reverse playback at 4x, 8x and 16x speed
- Reverse playback on slow speed (1/8x to 1/2x)
- Reverse playback for multiple cameras
- Reverse playback for multiple cameras in Sync mode (Sync playback)
- Step reverse for cameras (frame-by-frame)

How to enable Smooth Reverse

1. In the Preference dialog box, click the Rendering Settings tab as shown below.
2. Under Advanced Rendering Settings:
 - Select the Smooth Reverse check box to enable.



License Plate Recognition (LPR)

Enhancements has been made in LPR feature to support events with cropped images, categorization and details pane. LPR scans can be monitored through a dedicated window in MAXPRO thick client. This new windows also supports filtering and searching events based on camera and category (White/Black listed/unknown).In addition you can also view the specific event video from the LPR feed.

Note: *Cropped image is displayed in report if NVR and camera is in latest version of MAXPRO version. In addition, the camera firmware should also be in latest version dated 17-06-2019. In older version of NVR or camera the report is displayed without cropped images.*

Following are the enhancements in LPR tab:

- New dedicated tab for LPR event monitoring
- Search LPR events
- Filter LPR events
- Viewing, acknowledging and clearing blacklisted and white listed alarms in VMS Alarm viewer
- Viewing video from Alarm window
- Live LPR view

- Details pane
 - Cropped Image of the license plate
 - Camera Name
 - Event Date and Time
 - Geographical location details
 - Category details such as White Listed.Black Listed and Unknown with varying color
 - Confidence Level: The maximum percentage value that a number plate is matching with the specific category
 - Recorder Name
 - Site Name

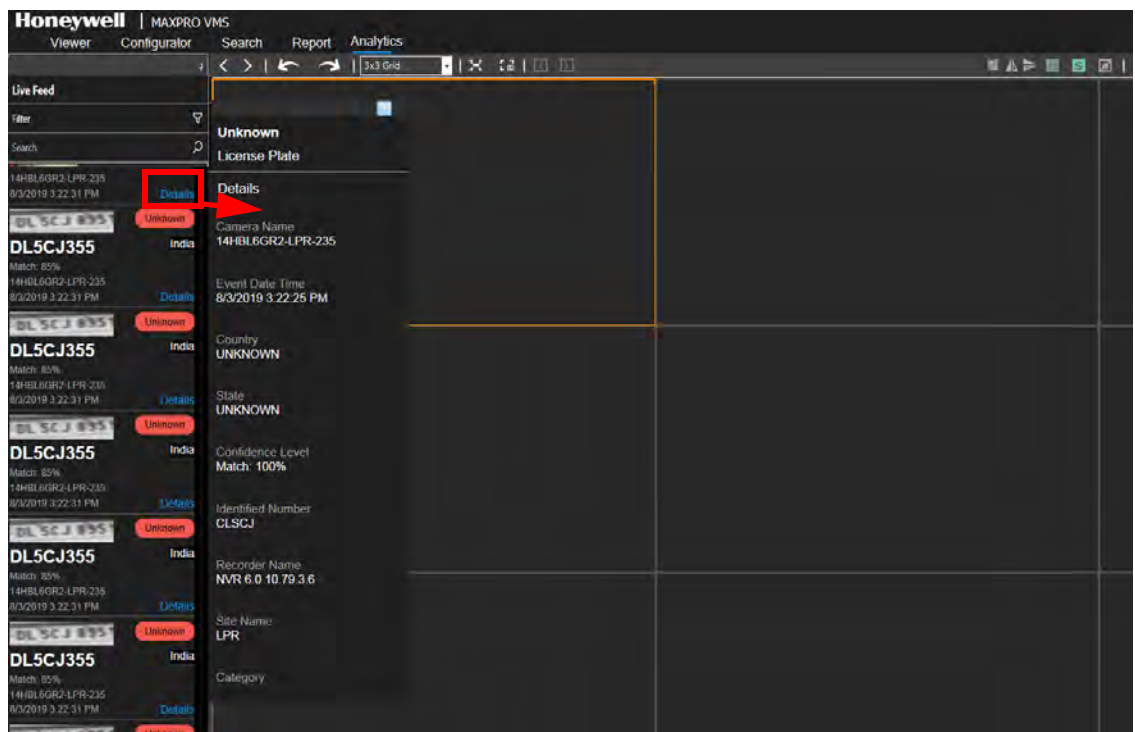
Note: Arabic number plates are also supported in English OS with Arabic locale.

Reference

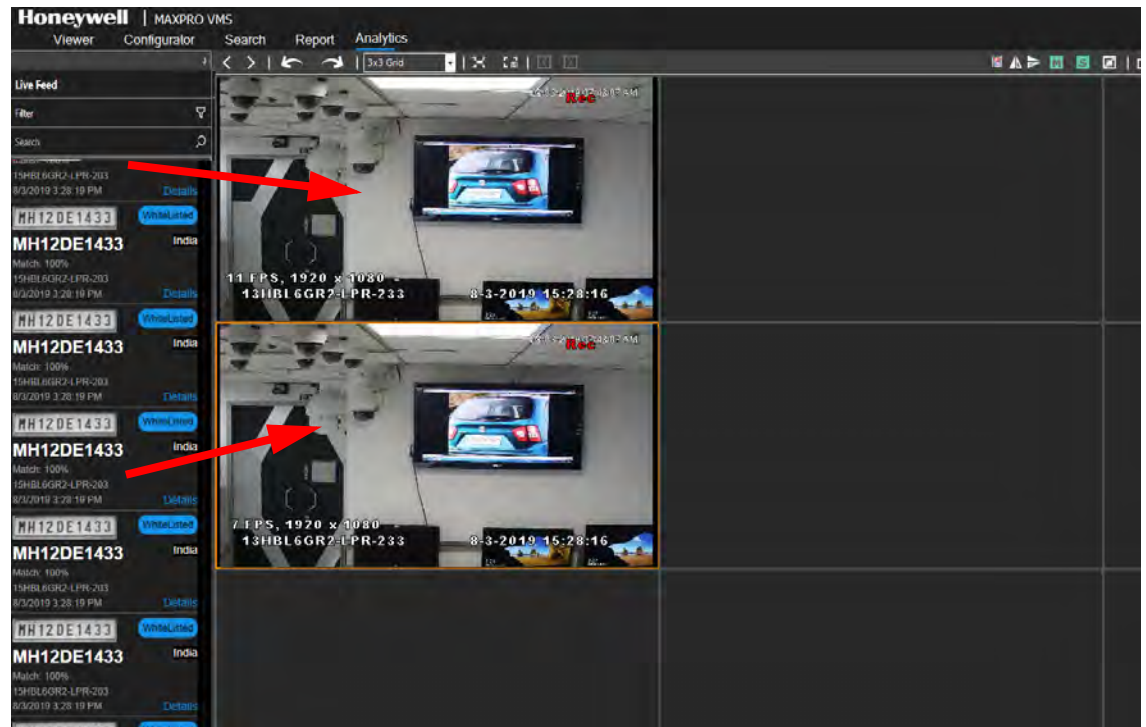
To configure and use the LPR feature in MAXPRO VMS and NVR, refer to the 800-24023-A_MAXPRO_LPR_User Guide.

How to View LPR events Details and Video

1. From the LPR feed pane, select the required event.
2. Click Details link, a License details pane is displayed as shown below




3. You can do any one of the following to view video specific to event
- Drag and drop the event from LPR feed pane to salvo view as shown below

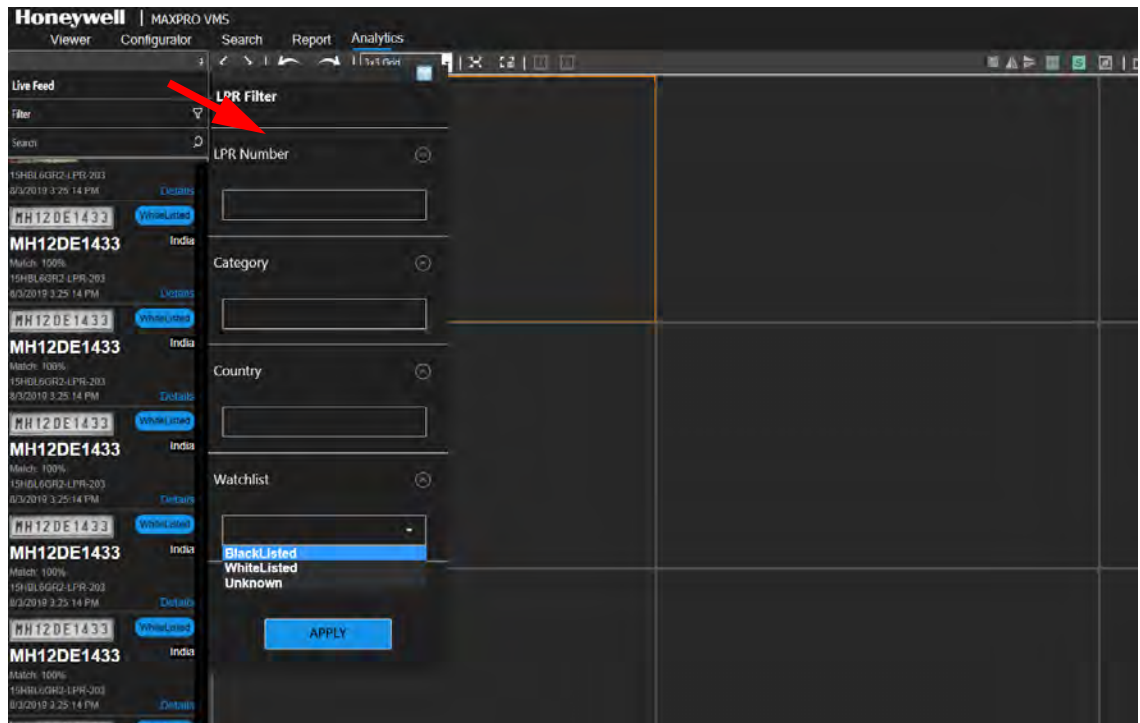


Or

- In Alarms window, select a panel and double click on the required event to play.

How to Filter LPR Alarms

1. In LPR tab click , the LPR Filter dialog box appears as shown below.



2. In LPR Filter pane:
 - Type the LPR Number.
 - Type the Category (White/Black listed/Unknown).
 - Type the Country details of plate
 - Select the required option from Watch list drop-down
3. Click Apply to view the specific events in LPR Feed pane.

How to Search LPR Alarms

1. In LPR tab click , the LPR Search dialog box appears as shown below.



The screenshot shows the LPR Search dialog box with the following fields and options:

- Camera Name**: Text input field
- LPR Number**: Text input field
- Category**: Text input field
- Country**: Text input field
- Owner**: Text input field
- Type**: Dropdown menu
- Subtype**: Dropdown menu
- Scan Time**: Dropdown menu with 'Today' selected
- Start DateTime**: Date field with '8/3/2019' and a calendar icon
- End DateTime**: Date field with '8/3/2019' and a calendar icon

2. In LPR Search dialog box:
 - Type the Camera Name, LPR Number, Category, Country, Owner details in the box provided.
 - Select the Type and Sub Type (Blacklisted or Whitelisted/Unknown) from the drop down list.
 - From the Scan Time drop down list, select one of the following search conditions.
 - Today: events of today.
 - Yesterday events of yesterday.
 - Last 7 Days events generated in the last seven days.
 - Last 30 Days events generated in the last 30 days.
3. Click Search to view the list of events based on search criteria

LPR - Viewing Persona Based Events

In R600 release LPR camera and events can be configured and viewed by a specific user based on the privileges granted. Earlier all the LPR alarms are displayed to logged in user irrespective of user privileges. In R600 user need to configure parti-

tions and associate the required cameras to the partitions. These partitions can be assigned to specific user. The user will only be able to monitor the associated camera and the events accordingly.

Secure video communication with Series 30 Cameras

Refer to the 800-25609-A_Honeywell 30 Series IP Cameras Network Security Guide for complete details.

MPEG2 Encoder Support with MAXPRO NVR and VMS

R600 supports legacy MPEG2 Encoders with Live and playback, Alarms and VMS in VMS functionalities. The following encoders are supported.

- ENC8M2
- VE8M2

Supported Firmware Version: 1.2.261

Supported Features are:

- Live
- Playback
- Export

Mask Compliance Detection

Mask Compliance Detection feature detects the people who are with and without Masks in a given scene. This feature detects in a real time scenario and generates an event for People with/without mask. It helps in monitoring the people those who are violating the compliance of not wearing a mask in public places. This feature requires dedicated license to configure and use.

Recommended Operating Conditions For Mask Detection

Mask Detection algorithm is developed to detect people who are with and without Masks in live video.

This section provides recommended specifications that can provide good or better mask detection accuracies.

Recommended Operating Conditions

Parameter	Specification
Camera height from the ground	8 – 10 feet

Camera field of view and orientation/tilt	Mounting should be suitable to obtain frontal face images. H-FOV should not more than 60 degrees. Ceiling mounted or overhead mounted cameras which have near vertical view of faces looking down is not recommended for the application. Bright light in the background or sunlight which results in poor image quality of face in not recommended. Wide angle camera with long field of view is not recommended.
Image quality	Full HD 2M pixel camera video streams with high bitrate (5 to 8 Mbps for 30fps) with no blur and good focus. For 3MP cameras the recommended bit rate 10 to 15 Mbps. Good quality video encoding should be used (H.264/H.265)
Illumination	100-150 lux (uniform illumination on both sides of face)
Face pose for MD	Frontal pose can have +/-45 deg variation
Detection Distances	Maximum distance from camera 15 feet along the ground. Highly preferred that people enter into the field of view from distances not more than 15 feet and there is no clutter or moving objects (prefer a static background such a wall so that false detections are avoided)

Configuration parameters:

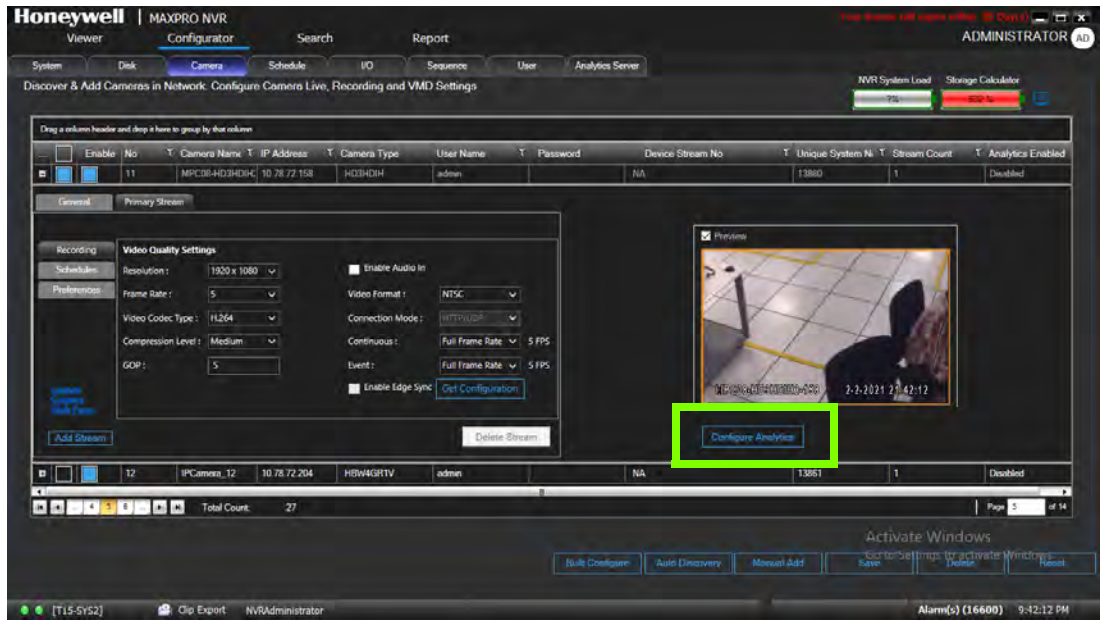
Parameter	Specification
Minimum Size of the face with Mask	50 x 50 Pixels
Minimum Confidence level recommended	40%

Note: To avoid false alarm please follow the operating condition and keep confidence level more the 80%.

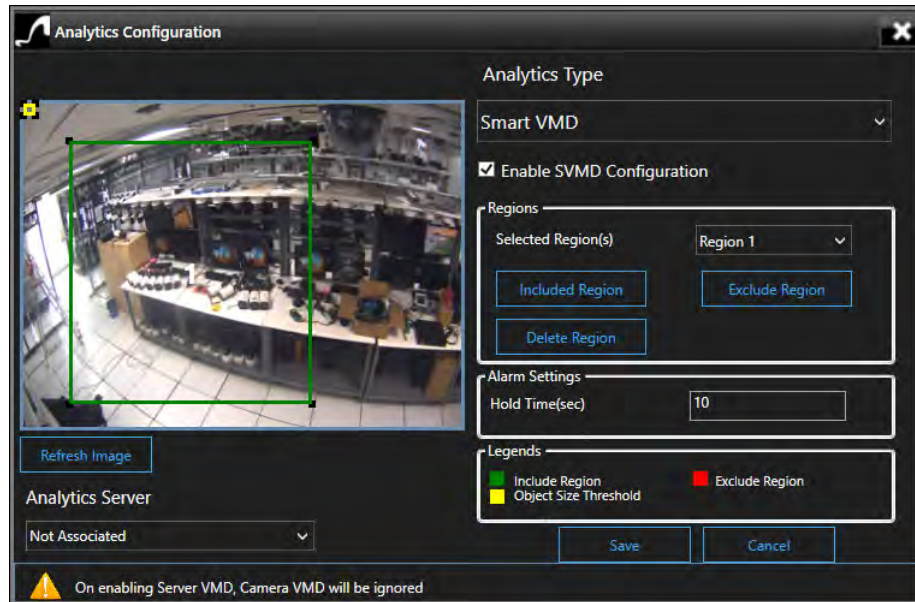
Note: For VM machines it is recommended to use Xeon E5-v3, E5-v4, Bronze, Silver, Gold VM machines.

How to configure Mask Detection in NVR

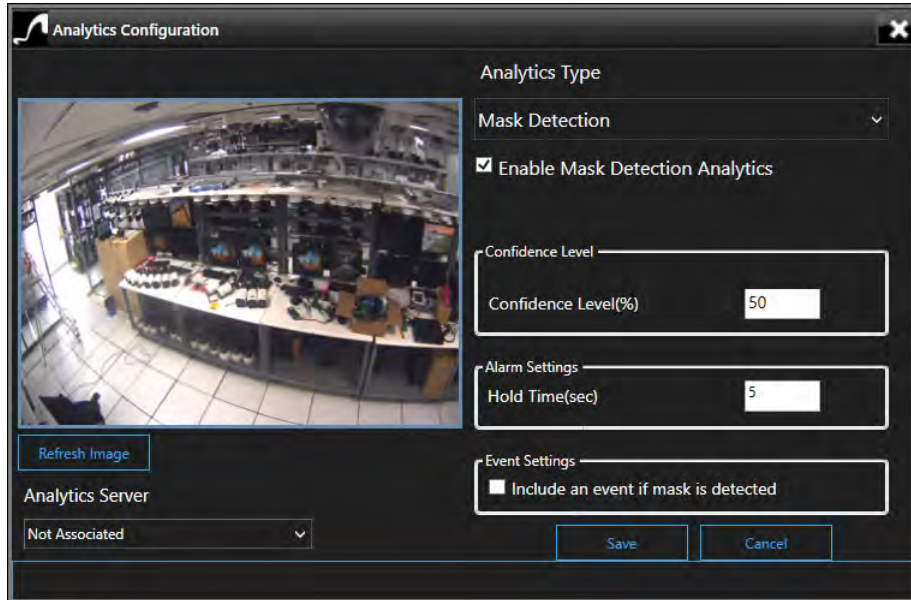
1. Navigate to the Camera tab > camera properties and then click the Configure Analytics button as highlighted below.



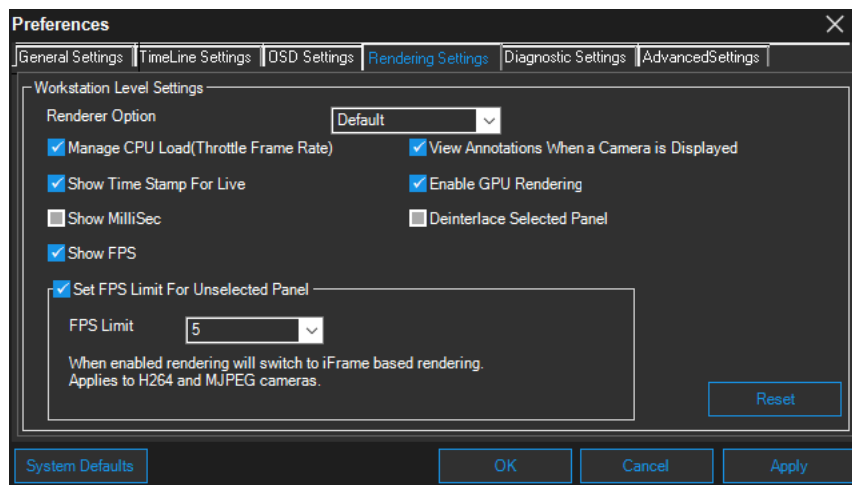
The Analytics Configuration dialog box is displayed as shown below:



2. From the Analytics Type drop-down list, select Mask Detection.



3. Select the Enable Mask Detection Analytics check box as shown below.
4. Type the Confidence Level in the box provided.
5. Type the Alarm Setting > Hold Time (Sec).
6. Under Event Settings, select the Include an event if mask is detected check and then click Save. By default this is not selected. User can select this check box if event is required only with mask.
7. Navigate to NVR Preferences > Rendering Setting tab and select the View Annotations When a Camera is displayed check box as shown below.



A sample configured Mask detection feature is shown below.



Recommended field of view examples:

Following series of images represents the sample FOV with different resolution and FPS combinations.

Figure 1:



Figure 2: With 1920x1080



Examples of Not Recommended Operating Conditions

Below series of figures explains the non recommending conditions for Mask detection.

Condition 1: Bright background with face is recognized as rear due to insufficient light on face. (Also people at distances won't be detected due to smaller size and this can be perceived as failures).



Condition 2: Generally poor lighting on face and one of the faces recognized as rear due to insufficient lighting.

Condition 3: Nearly overhead view causing missed detection

Social Distancing Violation Detection

Social Distancing Violation detection feature detects distance between two people and raises an alarm if the social distance norm is violated. This feature helps to ensure social distancing is followed in your premises. This feature requires dedicated license to configure and use.

Recommended Operating Conditions For Distancing Violation detection

This section provides specifications of the conditions that can provide a good or better social distancing solution with respect to camera placement and operating conditions requirements.

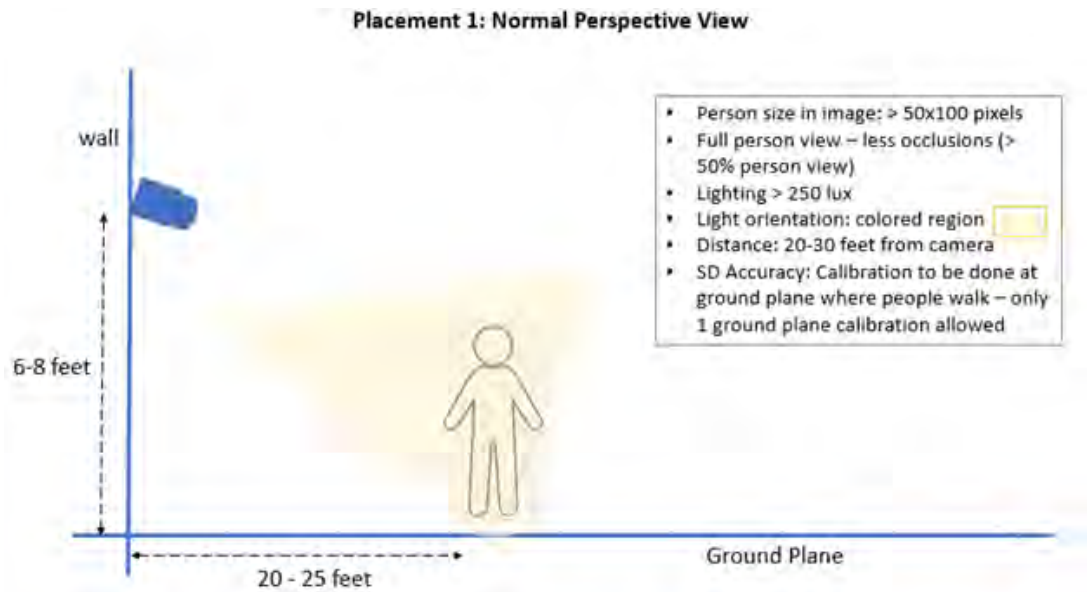
Required operating conditions can be divided in two sections as explained:

- Conditions for person detection
- Conditions for calibration selection of ground plane.

Person Detection Conditions

Below figures explain different preferred camera placements and conditions for person detection. It is to be noted that the numbers given in the figures are approximate and can vary:

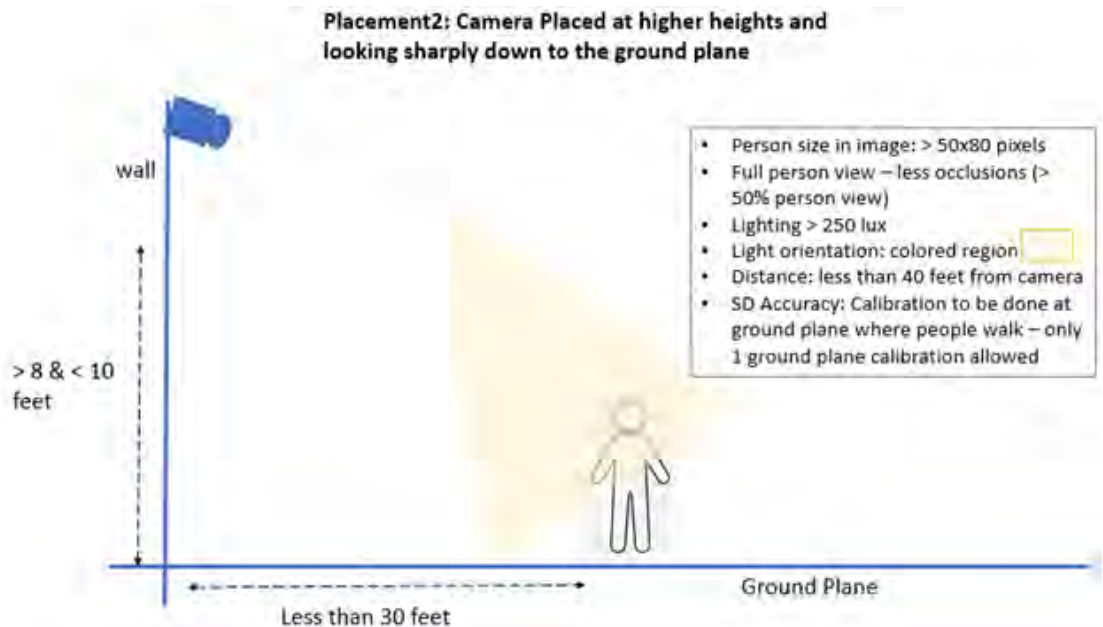
Placement 1: Normal Perspective View



This placement explains that the person recognition can be good till around 30 feet, when the camera placement is < 8 feet (given that average height of person is between 5-6 feet), and when the person is at approximately 20-30 feet from the camera. Also, lighting should be > 250 lux and the light should be falling on the person with no back lighting for better accuracies.

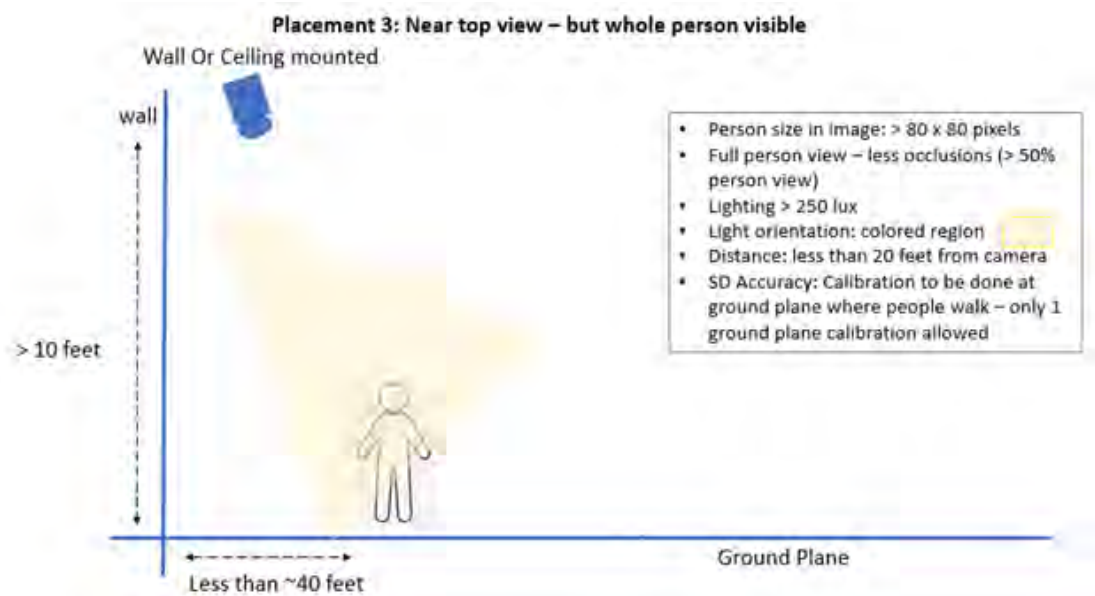
Placement 2: Camera at a higher height or ceiling height

This placement explains the configuration wherein the camera is placed at a much higher height than the person.



If the camera height is as shown in the above figure, the FR accuracies can be reduced with distance. But at lesser distances from camera (<10-12 feet), FR can be accurate enough. Again, adequate amount of light falling on the face for good features is an important requirement.

Placement 3: Camera at higher height from the ground



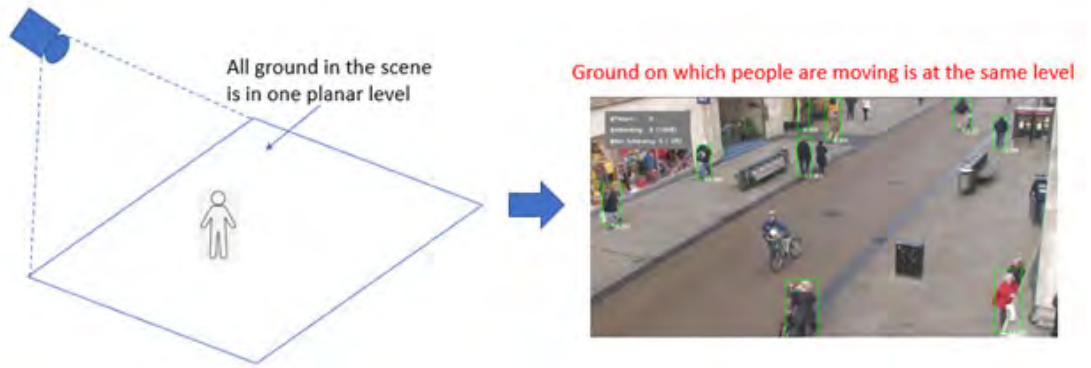
In this placement the camera height is nearly overhead, the person detection model is not tested when there is just head and shoulders view in the video stream. It is recommended that silhouette of the person is seen.

Calibration Conditions

Calibration is the most important step for distance measurement between two people. The primary requirement of this step is that the ground plane on which distances between people are measured and the ground plane that is calibrated should be the same. Details of this statement in form of figures are given in this section.

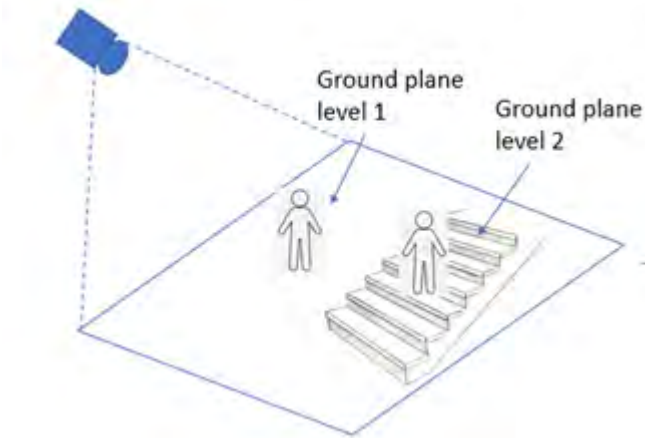
Condition 1: Camera Perspective View with one ground plane

This condition details the meaning of ground plane being at the same level. The level of the ground where people are moving and the measurement for social distancing should be one planar level. This is the most important requirement for accuracies of calibration. The configuration is done on Ground Plane Level 1 and Social distancing output will be done on this plane only. Stairs are not counted for the solution.



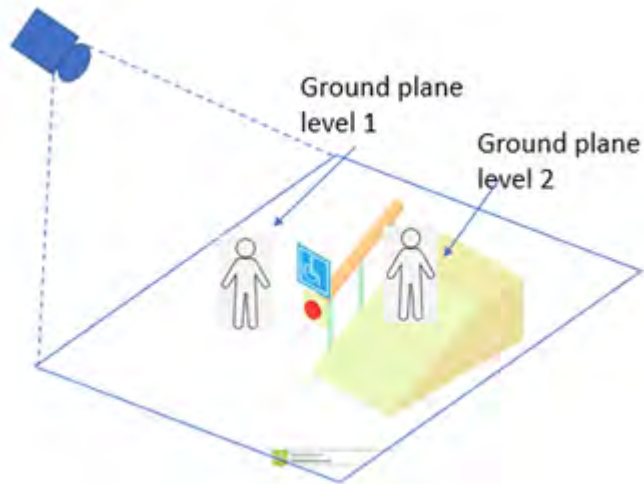
Condition 2: Multiple ground planes

This condition gives the sketch wherein there are people moving on the pathway (one ground plane level) and a staircase too. The staircase is of different ground plane level when compared to the pathway ground nearby. Hence the current solution calibration can be done on the pathway and NOT on the stairs. Our solution will not address output for people on the stairs



Condition 3: Multiple Ground Planes with slope as the second plane

This condition explains a sketch wherein the stairs in Condition 2 is replaced by a slope. Even in this situation, our solution will not give correct results on the slope. The calibration needs to be done on Ground Plane 1 and results also will be for ground plane 1.



Alarm Generation for Social Distancing

Below are the general operating conditions during which the social distancing alarms are triggered.

- SD Violation Alarm: This is the first instance where violations are found in camera view. This alarm will be raised after 5 seconds of continuous violations only.
- Hold time: This alarm is raised when violations have been stable for 'hold time' seconds. This can be configured from the NVR camera settings page.

Note: *The above alarms are NOT different types of alarms but are configured as 'Social Distance Violation' alarm.*

Recommended Specifications

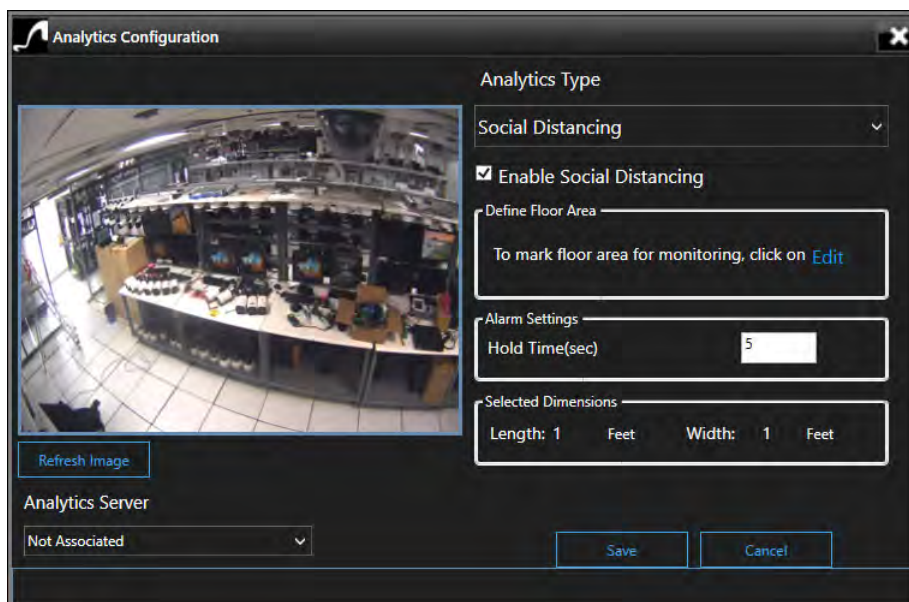
Below table summarizes the different discussions in above sections. These conditions are important for deployment to get better recognition accuracies.

Parameters	Specifications
Camera Height from the ground	7 feet to 12 feet
Illumination	> 250 lux
Sample Person Image	Preferably full image to be seen
Minimum Person size	50x80 pixels
Person Pose and Orientation	Person standing or sitting with occlusions < 40%. Person should not be lying on the floor
Calibration Ground Plane	Solution works with the ground plane that is configured. Configuration allowed for only one ground plane
Far end of distance of camera view	less than 40 feet
Hardware	Windows 10, 64 bit, 6th to 10th Generation Processor with Intel HD graphics
Minimum resolution of video stream for reasonable accuracies	720p

How to configure Social Distancing in NVR

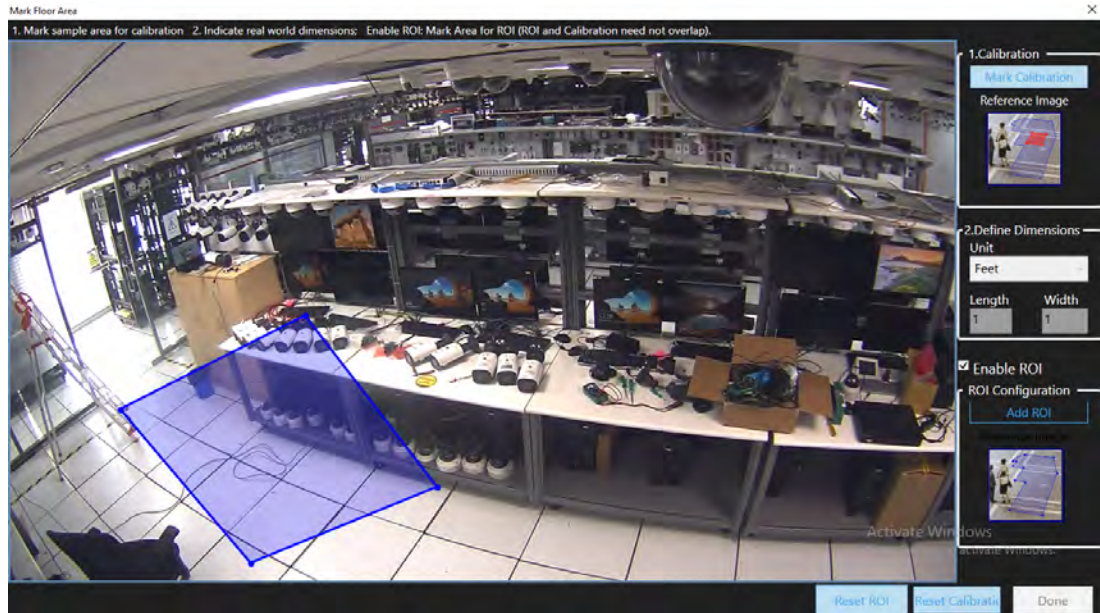
Note: For VM machines it is recommended to use XEON E5-v3, E5-v4, Bronze, Silver, Gold VM machines for better results.

1. Navigate to the Camera tab > camera properties and then click the Configure Analytics button.
2. From the Analytics Type drop-down list, select Social Distancing as shown below.



3. Select the Enable Social Distancing check box.

4. Under Define Floor Area, click Edit link to define Floor area. The Mark Floor Area screen is displayed.

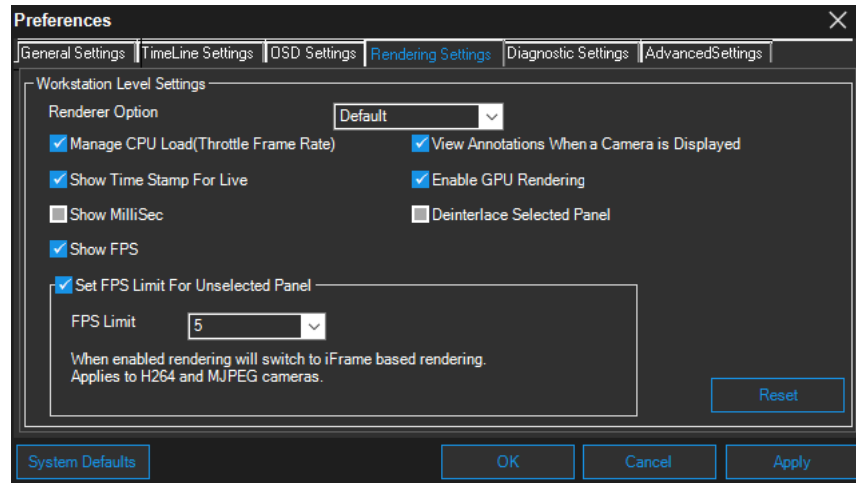


5. Select the Unit from the drop -down list.
6. Under Calibration, mark the points on the screen to define the Width and Length as per your requirement. For example: Click four points on the screen to mark an area using Mouse. The selected area will be highlighted in Red borders as shown in the Reference Image.

Note: When you select the 4 points on the floor area, the distance between first two points (Point 1 and 2) should be always considered as Width. The other two points will be Length.

Distance measurements on ground plane to be measured accurately to get better results.

7. Similarly mark other areas based on the requirement and then click Done. The selected Dimensions are displayed in Analytics Configuration dialog box.
8. For creating Non-Complaint Social Distancing Regions in region of interest (ROI), see [How to create Multiple ROI's in a camera View](#) section for more information.
9. Under Alarm Settings, set the Hold Time for alarms in seconds. This is the duration for which the alarms is displayed.
10. From the Analytics Server drop-down, select the required analytics server you have configured to fetch the alarms
11. Click Save.
12. Navigate to NVR Preferences > Rendering Setting tab and select the View Annotations When a Camera is displayed check box as shown below.



13. Click Apply and OK to complete configuration

Support for Remote Analytics Server

MAXPRO R630 released support for Remote analytics Server configuration for Mask and Social Distancing on i8700 Machines. This configuration is required if the existing systems are not capable to take up the load of Analytics and to avoid overshoot of CPU memory. Refer to the MAXPRO NVR R630 Installation and Configuration Guide on how to configure.

People Counting VMS Dashboard Utility

VMS Occupancy Dashboard Utility allows you to track the number of people entered or exited from a specific buildings or premises or pathway. This utility helps to manage the space in commercial buildings to take appropriate actions based on the number of people entered or exited. The Occupancy Dashboard displays the Occupancy Summary and Trend based on the cameras configured and duration. This utility needs to be used along with MAXPRO VMS and HVA.

The actions are:

- Monitoring/Managing parking area/building
- Space management in big stadiums/shopping mall

VMS Occupancy Dashboard Utility contains two parameters as explained below:

- Configuration
 - Configure Data Source: Allows you to setup database to connect the Trinity database. User can login through Windows authentication or install the SQL server standalone to connect.
 - Group Devices: Allows you to manage camera groups such as associate/disassociate cameras, create new camera group.
- Overview

- **Occupancy Dashboard:** Displays the occupancy summary and trend with real time data in graphical format based on duration.

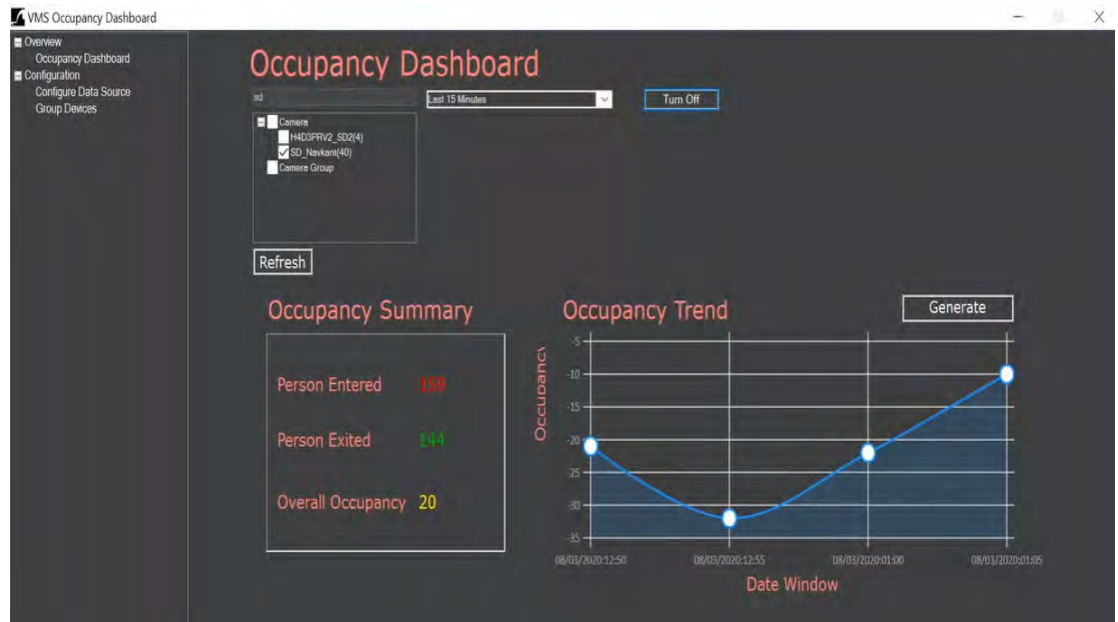
Configurations

The VMS Occupancy Dashboard Utility configuration includes the following:

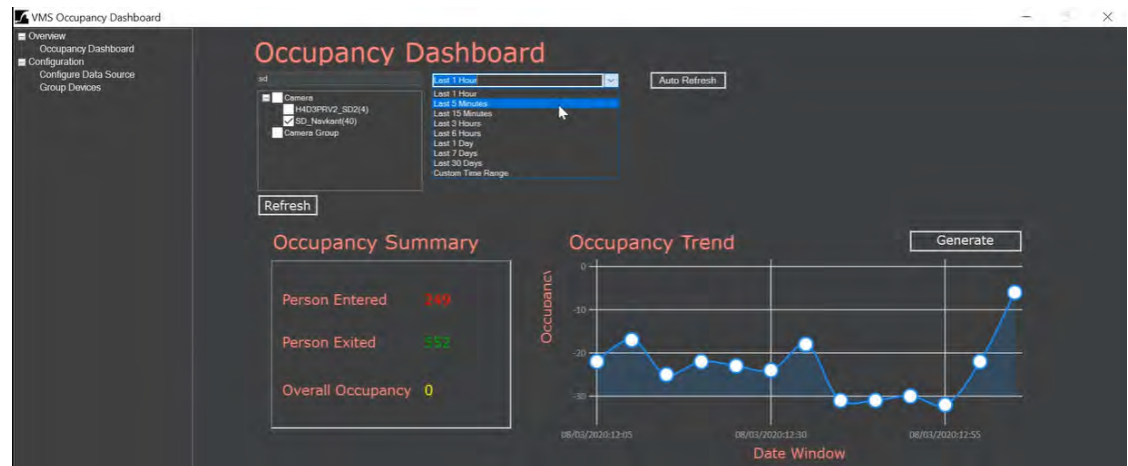
1. **Configuring the HVA in VMS.** Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure.
2. **Configure the Data Source.** Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure.
3. **Configure or Group the Devices.** Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure.
4. **Viewing the Occupancy Dashboard**

Viewing the Occupancy Dashboard

1. **Ensure you have configured the following before viewing the occupancy dashboard.** Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure the following:
 - **Configure the HVA in VMS**
 - **Step 3: Setting the Video Analytics (ActivEye) Configuration Tool**
 - **Configure the Data Source**
 - **Configure or Group the Devices**
2. Under Overview, click Occupancy Dashboard node. The Occupancy Dashboard is displayed on the right pane. All the camera and groups configured are displayed.
3. Select the required camera under a group or select the camera group. The Occupancy Trend and Occupancy Summary is displayed as shown below.



- Select the required duration (In Minutes, Hours, Days and Custom Date) from the drop-down list. The Occupancy Trend graph and the Summary is displayed accordingly as shown below.



Tips:

- Click Refresh to refresh the camera list.
- Click Auto Refresh to refresh the camera and duration accordingly.

VMS in VMS support for Mask and Social Distancing Detection

MAXPRO VMS R630 release supports Mask and Social Distancing Violation Detection support for VMS in VMS scenario with Bounding boxes. User can view bounding boxes in both Master and Child VMS recorders. This enhancement allows user to track the Mask and Social Distancing alarms and events in a wide range of recorders

For Master VMS both Alarm and events along with attributes are supported. For Child VMS attributes are not supported.

User need to enable View Annotations in Preference dialog box after configuring VMS in VMS. A typical example of how VMS in VMS scenario looks with Bounding boxes is shown below.

Faster Drag and Drop for MAXPRO NVR cameras in MAXPRO VMS client

The time taken for the video to render in VMS client after drag and drop on to the video panel has been considerably improved. This feature requires a configuration to be enabled.

To enable this feature user need to configure the values in config files based on 32/64 bit rendering modes. Refer to the MAXPRO VMS R630 Installation and Configuration Guide on how to configure

Non-Complaint Social Distancing Regions

This feature helps user to create multiple zones in a single Region of interest (ROI) and track the social distance violation alarms based on each regions in VMS.

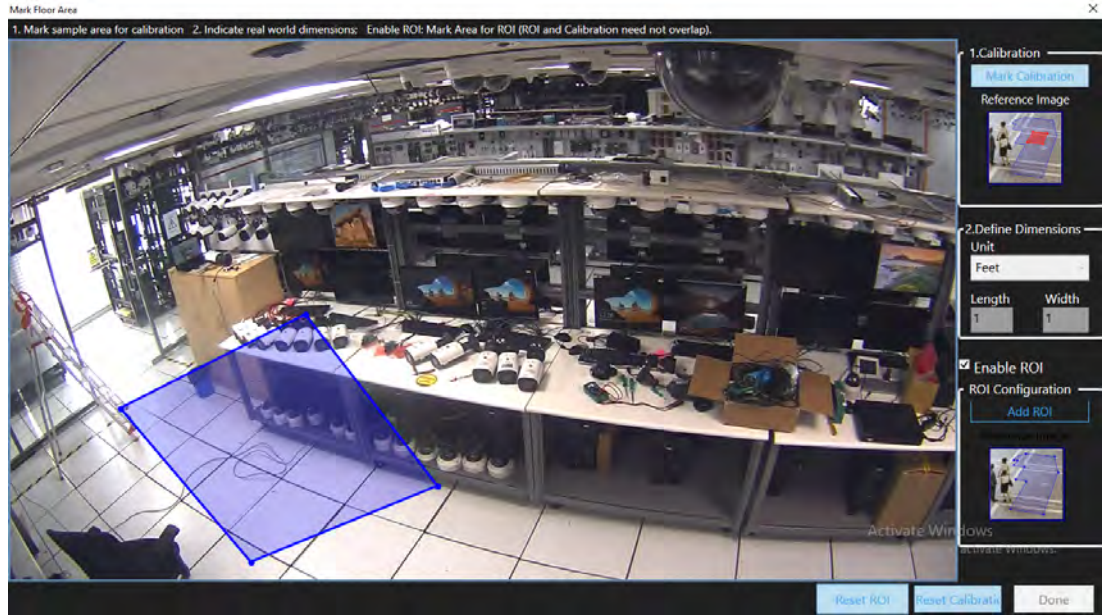
This feature helps user to identify the areas in which the sub regions/areas of camera views where the most number of Non-complaint social Distancing violations are happening.

In order to generate this alarm, user need to create at least one region. The system monitors the Social distancing violations and then monitors in to each region how many social distancing violations are occurred. The algorithm calculates the most violated regions and raises an alarm. This alarm is displayed in percentage of violation for a given time. This alarm is generated periodically every 5 hours (Configurable). A maximum of 6 ROI's can be created.

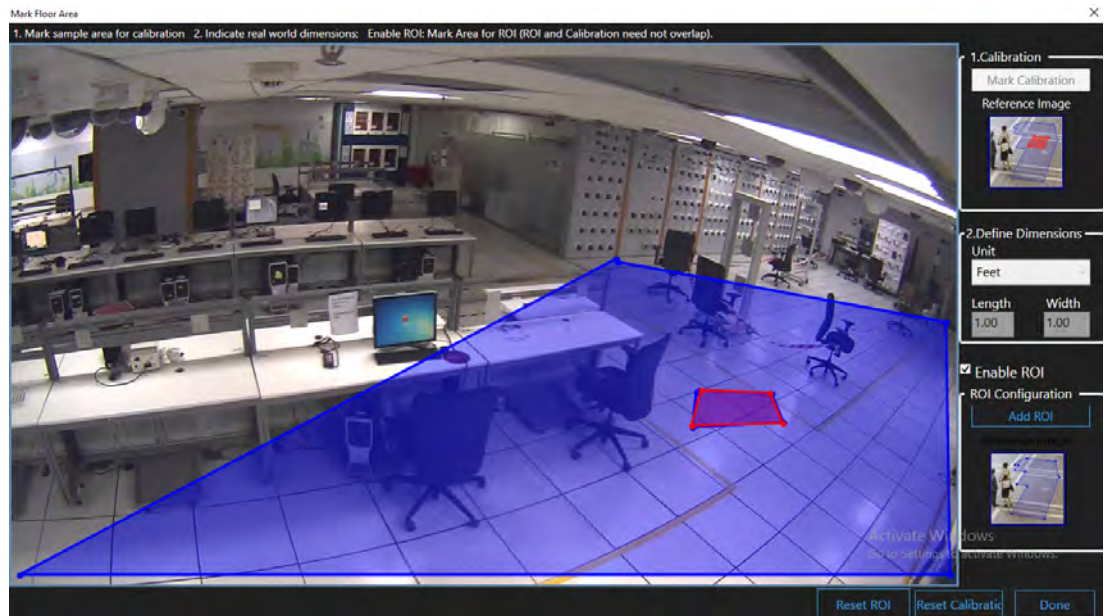
Note: *User has to configure the Social Distancing first in order to configure this alarm.*

How to create Multiple ROI's in a camera View

1. Select the Social Distancing check box.
2. Under Define Floor Area, click Edit link to define Floor area. The Mark Floor Area screen is displayed.



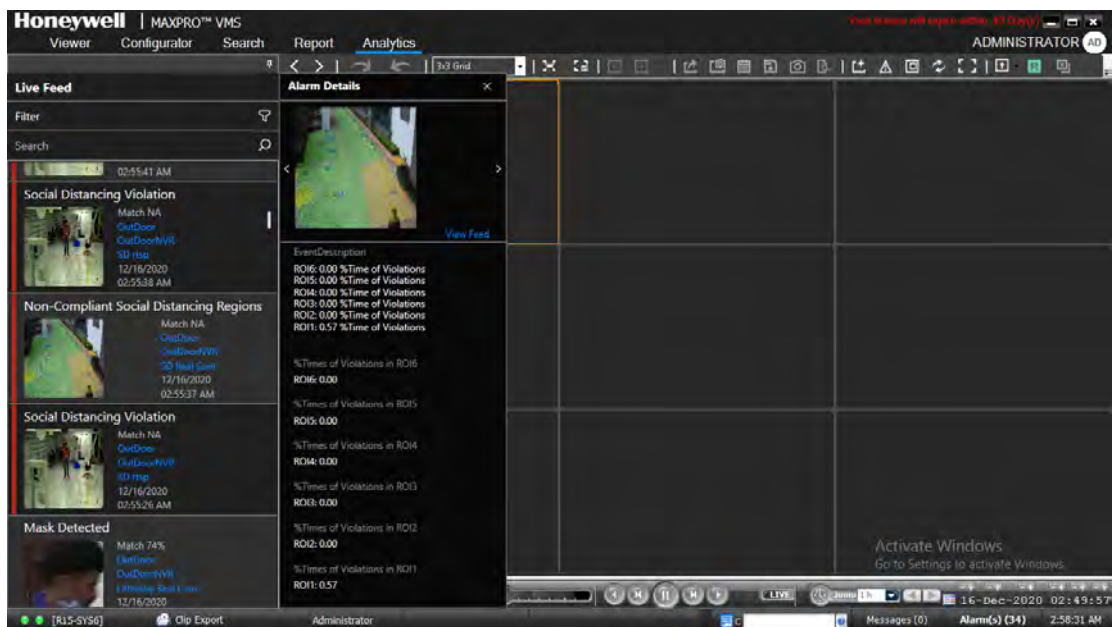
3. Select Enable ROI check box.
4. Click Add ROI and then mark the points on the screen to define the Width and Length as per your requirement. For example: Click four points on the screen to mark an area using Mouse. The selected area will be highlighted in Blue borders as shown in the Reference Image.



5. If any point of time to clear the ROI's then click the Reset ROI button.
6. Click Done to complete.

Viewing Non Compliant Social Distancing Region alarms in VMS

In Analytics tab you can view the Non Compliant Social Distancing Regions alarms as shown below.



Configuring Social Distancing ROI Duration and Show

User can configure the Registry entries to increase the duration of alarms generation for a specific time and highlight the same using color indication.

Following are the two parameters that are allowed to configure:

- **sdGraphicROIDuration** : The Non-complaint Social Distancing Regions alarm is generated for every 5 hours (By Default). The Value of this key is in Minutes (By Default 300 Mins (5 hours))
- **sdGraphicROIShow**: This key is used for displaying when alarm occurs then in live view user can see the regions in specific color coding based on number of violations occurred. For example
 - the highest violated region more than 80% is RED
 - 20 to 80 percent region violated is YELLOW
 - the succeeding less value (Less than 0) is displayed in GREEN

Perform the below steps to modify the values:

1. Navigate to Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Honeywell\TrinityFramework\RenderingServer
2. Locate sdGraphicROIDuration and then change the value (By Default 300 Mins (5 hours)).
3. Locate the sdGraphicROIShow and then change the color code value.

A sample images of configured social distancing feature is shown below.





Analytic Alarms In NVR

The below screen displays the list of alarms that are generated in NVR for Mask Detection, Social Distancing violation and Non-Compliant Social Distancing Regions features.

Description	Event details	Device	IO Status	Date Time
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Non-Compliant Social Distancing Regions	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8

Acknowledge

Description	Event details	Device	IO Status	Date Time
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8
Person detected without mask	--	Camera52	NONE	12/16/2020 8
Social Distancing Violation	--	SD	NONE	12/16/2020 8

Analytics Alarm Details and Attributes

- Right-click on the required alarm and then select Alarm Details option to view the details and attribute of an alarm.
 - For Social Distancing Violation alarm

Alarm Details ✕

Alarm description: Social Distancing Violation

Device name: SD

Date time: 12/16/2020 9:16:10 AM

Alarm state: Active alarm

Global event ID: 3283

Event attribute	Description	Index
# People Not Adhering	7	--
# People Adhering	0	--
People Count	7	--

- For Mask Detection

Alarm Details ✕


Alarm description Person detected without mask


Device name Camera52

Date time 12/16/2020 9:16:31 AM

Alarm state Active alarm

Global event ID 3100





Cancel

Event attribute	Description	Index
Confidence Score	86.62	--

- For Non- Compliant Social Distancing Regions

Alarm Details ✕


Alarm description Non-Compliant Social Distancing Regions


Device name SD

Date time 12/16/2020 8:47:50 AM

Alarm state Active alarm

Global event ID 3281





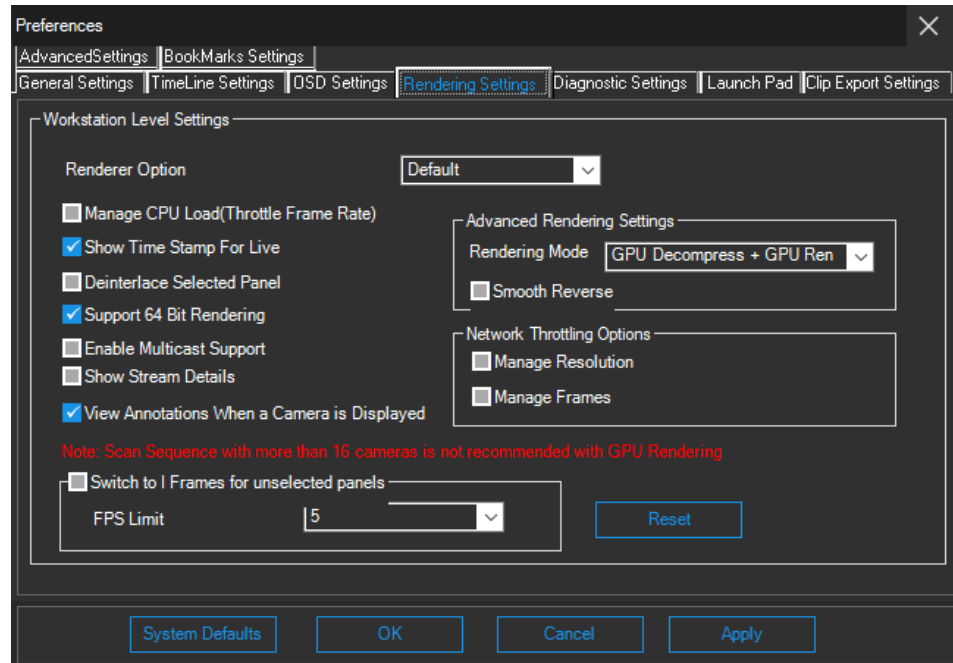
Cancel

Event attribute	Description	Index
%Time of Violations	ROI1: 97.75	--

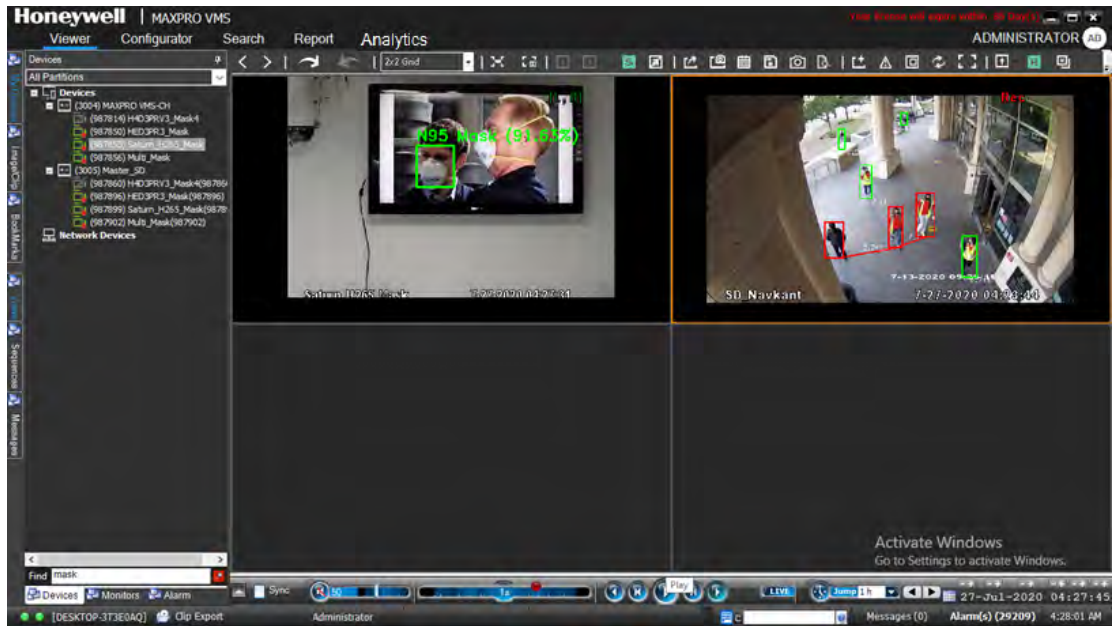
Mask Detection and Social Distancing in VMS

To view the same camera Mask and Social Distancing detections in MAXPRO VMS.

- Navigate to NVR Preferences > Rendering Setting tab and select the View Annotations When a Camera is Displayed check box as shown below.



- Once the above check box is enabled the Mask and Social Distancing features can be monitored in VMS as shown below.



Analytics Tab

In VMS R670 release LPR tab is changed to Analytics tab to display LPR, Facial Recognition and Social Distancing Violation alarms in one place. You can view real time alarms fetched from the Analytics camera and take specific actions on the alarms.

Improvements to Analytics Tab

As part of core improvement in Analytics tab, user can now view the Social Distancing Non-complaint social Distancing Regions alarms which is configured based on different region of interest (ROI).

You can configure multiple ROIs in a given scene and monitor the individual Non-complaint social Distancing Regions based on interest.

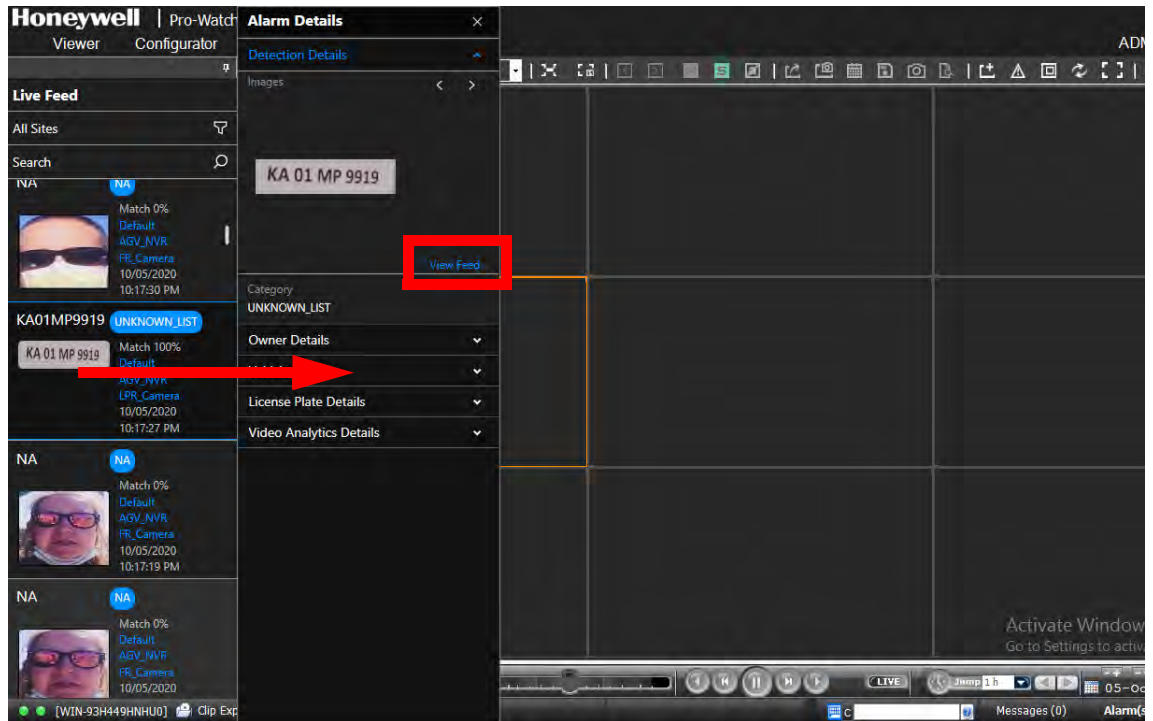
In addition user can also view AllgoVision Recorder alarms that includes NonFacial and LPR alarms. User can view these additional alarms based on the configurations performed in NVR and VMS

You can perform the below in Analytics tab for Social Distancing Violation, Non-complaint social Distancing Regions ROI, Mask Compliance Detection and LPR alarms:

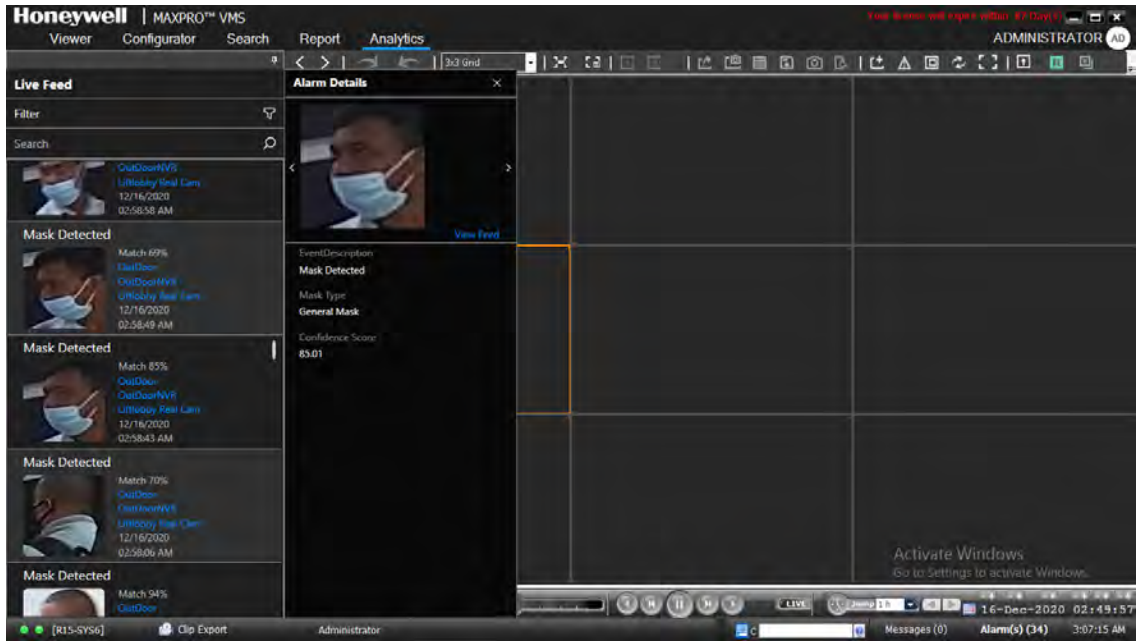
- Viewing Alarm Details and Video
- Filtering Alarms
- Searching Alarms


How to View Alarm Details and Video feed

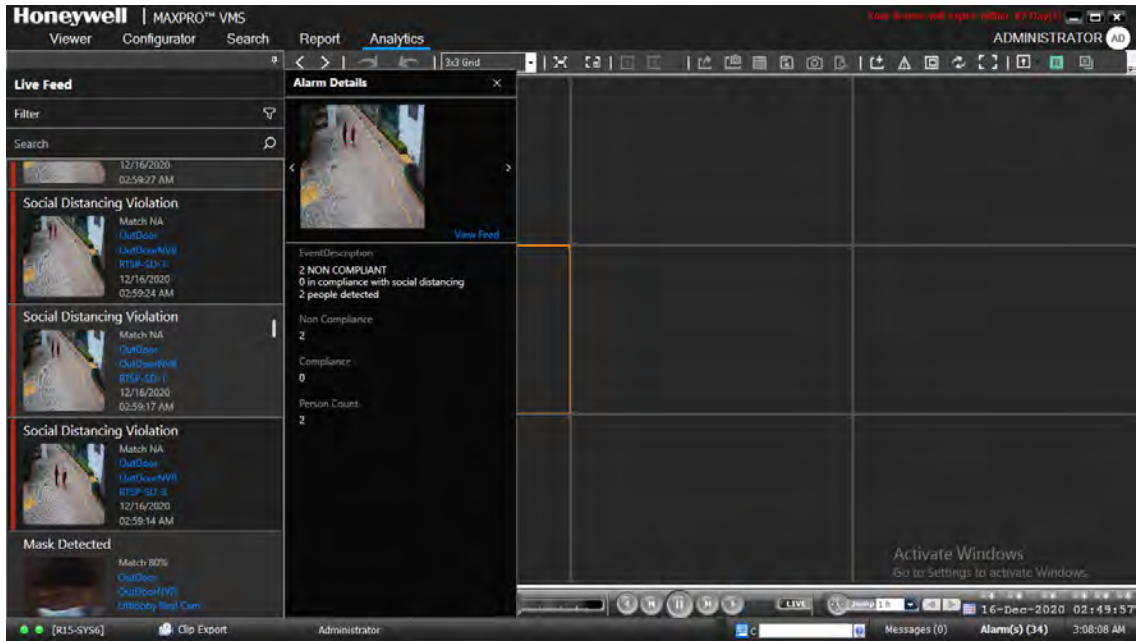
1. In the Live Feed pane, click on the any alarm, the alarm details pane is displayed as shown below




2. Click the View Feed link in Alarm Details pane to view the video feed.
3. Similarly, click on the required FR alarm. The FR alarm details are displayed as shown below.

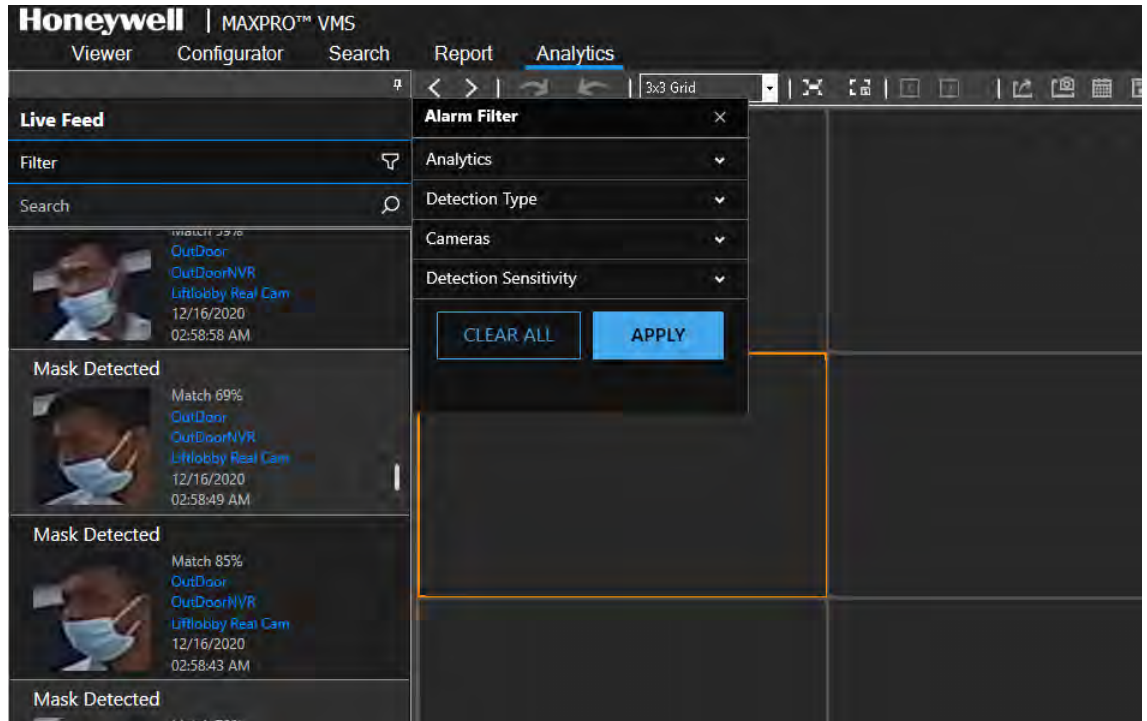


4. Click  to view the details of both LPR and FR alarm as shown below.



How to Filter Alarms

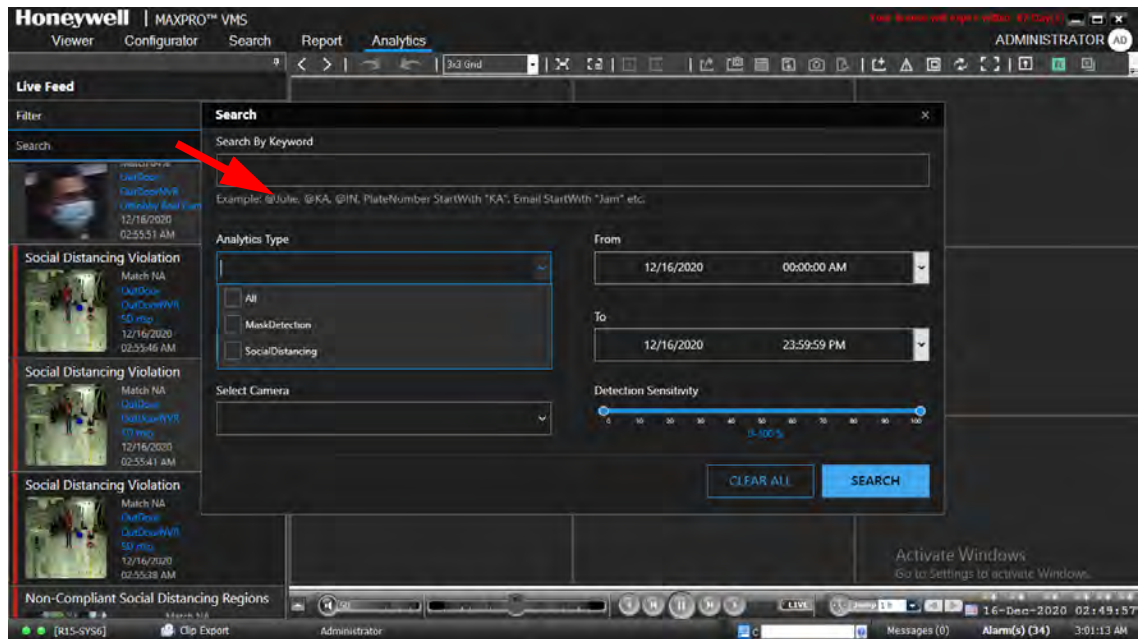
1. In Analytics tab click , the Filter pane is displayed as shown below.



2. To Filter alarms:
 - From Analytics list, select the required analytics option.
 - From the Detection Type list select the Category. (White/Black listed/Unknown).
 - From the Camera list select the required camera for which the alarms should be filtered.
 - From the Detection Sensitivity indication bar, move the slider to set the sensitivity on the scale of 0 to 100 in percentage.
3. Click Apply. A message Filter applied successfully is displayed and the specific alarms in Live Feed pane is displayed.

How to Search Alarms

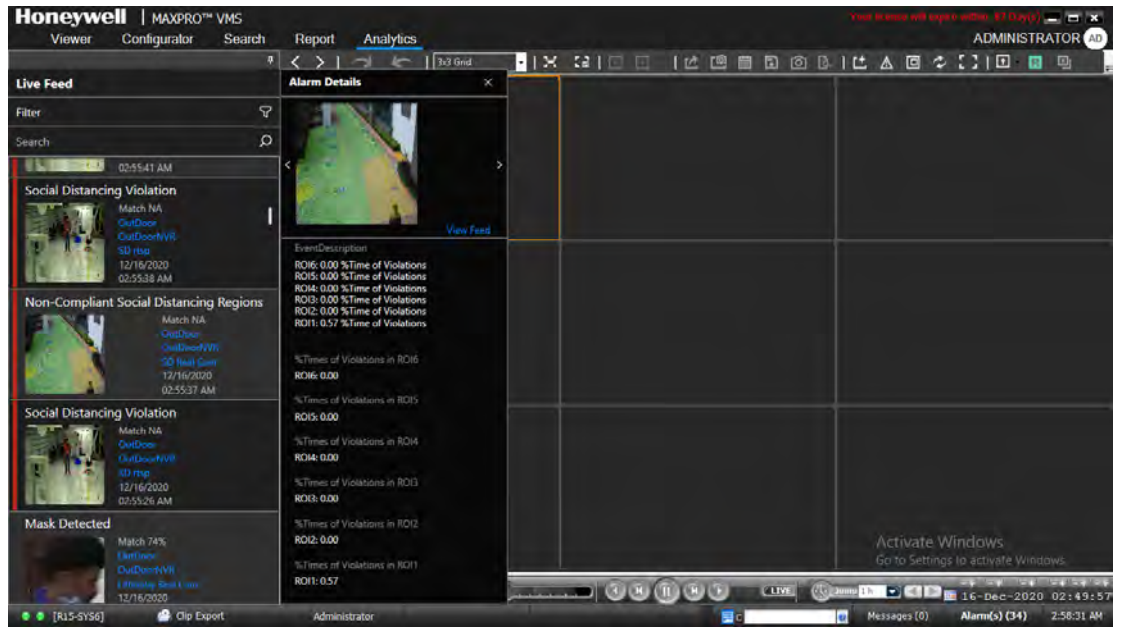
1. In Analytics tab click , the LPR Search dialog box appears as shown below.



2. In Search dialog box:
 - Search By Keyword: Type the keyword to search the alarms
 - From Analytics Type drop down list, select the required check box.
 - From the Detection Type list select the Category. White/Black listed/Unknown).
 - From the Camera list select the required camera for which the alarms should be filtered.
 - From the date and Time drop down lists, set the From and To date/time.
 - From the Detection Sensitivity indication bar, move the slider to set the sensitivity on the scale of 0 to 100 in percentage.
3. Click Search to view the list of events based on search criteria.

Viewing Non-Compliant Social Distancing Regions Alarm

In Analytics tab you can view the Non Compliant Social Distancing Regions alarms based on ROIs as shown below.



Overview

You can generate the following reports in the Reports tab:

Event History Report

The event history report can be generated for cameras, monitors, recorders, and switchers. The event history report lists the events related to a device during a time period. For example, for a camera, you can generate the event history report to know the occurrence of events like enabling of camera motion detection, starting of background recording, and others. You can select the device and list of events that you want to view while generating the report.

Operator Log Report

The operator log report can be generated to view the activities performed by users. The operator log report lists the activities performed by users during a time period. For example, creating clips, adding bookmarks, sending messages and other actions performed by a user. You can select the users and the list of activities you want to view while generating the report.

Failover Report

Allows you to generate the Failover report to view the list of Failovers occurred or performed in the system.

Enterprise Reports

Allows you to generate the Enterprise report for Site Status Overview and Ringbuffer overview connected to the system.

Configuration report

The Configuration report can be generated to view the configurations done by users on each recorders.

Recorder Health Reports

The Recorder health report can be generated to view health of all recorders in a system.

Analytics Report

Allows you to generate License Plate Report, Mask, Social Distancing, FR and Non-Compliant Social Distancing Regions report . You can configure the search criteria based Date and time range to generate the report.

Generating the Event History Report

To generate the event history report

1. Click the Report tab.
2. In the Reports window, select the Event History Report.
3. Click Show Report. The Event History Report dialog box appears.

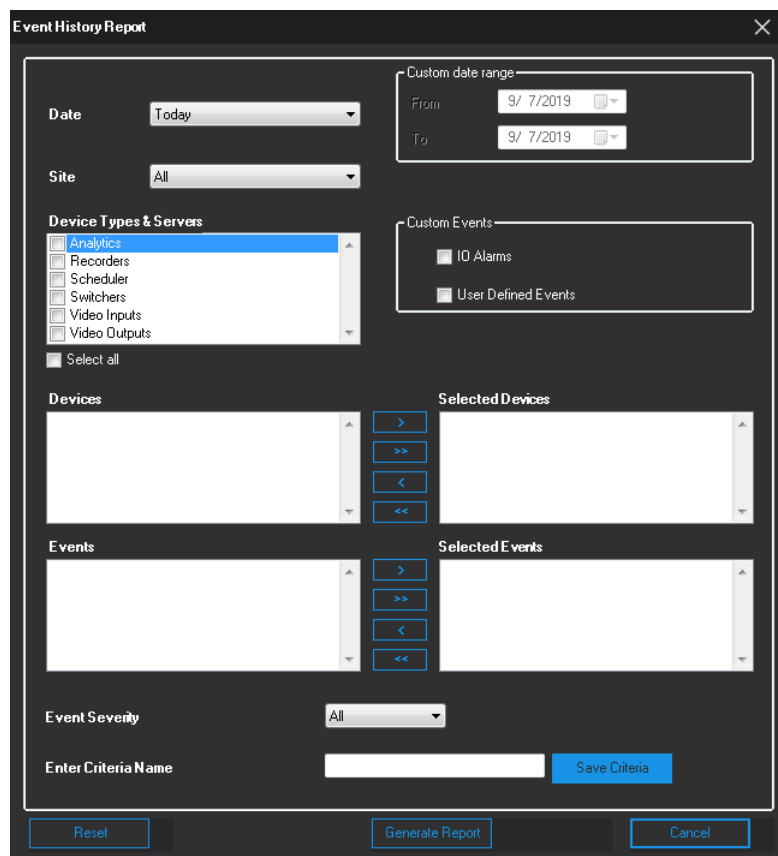




Figure 4-1 Event History Report

- In the Date box, select the date for which you want to view the list of events. The following table lists the options in the Date box



Option	Description
Today	event history report for today's events.
Yesterday	event history report for yesterday's events.
Last 7 days	event history report for seven day's events.
Custom Date Range	event history report between a start date and end date. The From and To boxes under Custom Date Range are enabled when you select this option. You can select the start date in the From box and the end date in the To box.

- From the Site drop-down list, select the required site.
- In the Device Types box, select the check box next to the type of device for which you want to generate the event history report. You can select more than one type of device. You can select the Select All check box to select all the device types. Based on the selection in the Device Type box, the list of devices appear in the Devices box. For example, if you have selected Video Inputs in the Device Types box, all the camera names appear in the Devices box.
- In the Devices box, select the device for which you want to generate the event history report. The selected devices appear in the Selected Devices box.

- To select a device

Select the check box next to the device name and click . You can select more than one device. To select all the devices in the Devices box, click  ..


- To remove a device

Select the check box next to the device name and click . You can select more than one device. To remove all the devices in the Selected Devices box, click  .


- In the Events box, select the events that you want to include in the event history report. The selected events appear in the Selected Events box.

- To select a device

Select the check box next to the event name and click . You can

select more than one event. To select all the events in the Events box, click .

- To select a device

Select the check box next to the event name and click . You can select more than one event. To select all the events in the Selected Events

box, click .

9. Click Generate Report. The event history report is generated and appears in the display area.

Generating the operator log report

To generate the operator log report

1. Click the Report tab.
2. In the Reports window, select the Event History Report.
3. Click Show Report. The Event History Report dialog box appears.

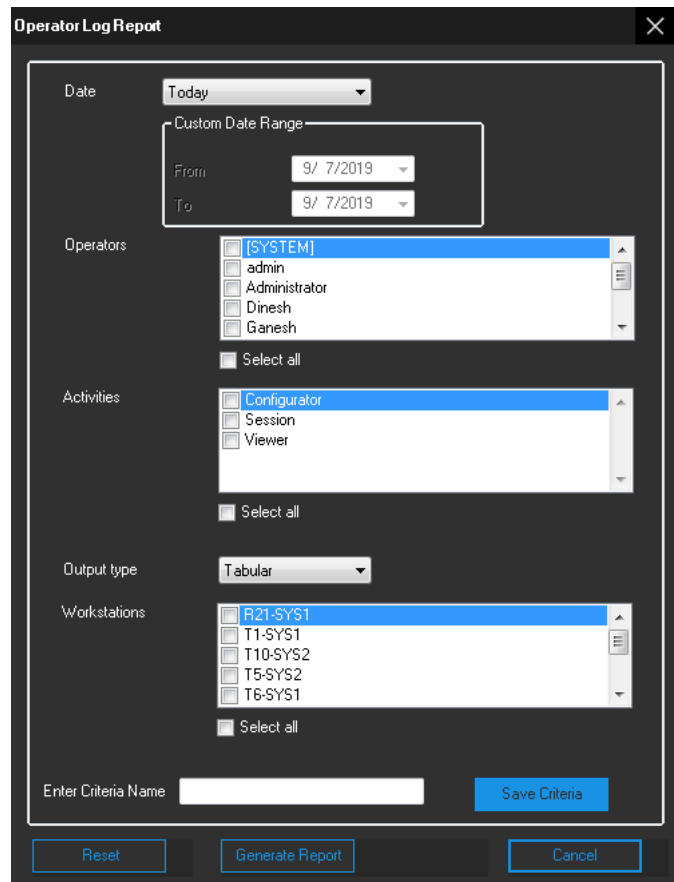


Figure 4-2 Operator Log Report

4. In the Date box, select the date for which you want to view the list of events. The following table lists the options in the Date box.





Option	Description
Today	operator log report for today's events.
Yesterday	operator log report for yesterday's events.
Last 7 days	operator log report for seven day's events.








Option	Description
Custom Date Range	operator log report between a start date and end date. The From and To boxes under Custom Date Range are enabled when you select this option. You can select the start date in the From box and the end date in the To box.

5. In the Operators box, select the check box next to the operators for which you want to generate the operator log report. You can select the Select All check box to select all the operators.
6. In the Workstations box, select the check box next to the client workstations used by the operators selected in the previous step. Only the activities done in the selected workstations are listed in the operator log report. You can select the Select All check box to select all the workstations.
7. In the Activities box, select the check box next to the activities which you want to view in the operator log report. You can select the Select All check box to select all the activities.
8. In the Output Type box, select the type of operator log report you want to generate. You can select Tabular to view the operator log report in a table or Graphical to view the operator log report in a graph.
9. Click Generate Report. The operator log report is generated and appears in the display area.

Viewing, printing, and saving the report

You can use the following options in the toolbar on top of the report.

Icon	Click to...
	save the report. By default, the report is saved in Crystal Reports (.rpt) format. You can also save the report in Adobe Acrobat PDF (.pdf), Microsoft Excel (.xls), Microsoft Excel Data Only (.xls), Microsoft Word (.doc), and Rich Text (.rtf) formats.
	print the report.
	toggle the display of report names on the left of the display area.
	view the first page.

Icon	Click to...
	view the previous page.
	view the next page.
	view the last page.
	go to a page number.
	search for text in the report.
	to enlarge (zoom in) and reduce (zoom out) the report view.
	to close the current view.

Generating Analytics report

The Analytics report can be generated to view the list of analytics Events generated during a specific time period.

To generate the Analytics report

1. Click the Report tab.
2. In the Reports pane, select the Analytics Report check box.
3. Click Show Report. The Analytics Report dialog box appears.

4. In Report dialog box:

- Search By Keyword: Type the keyword to search the alarms
- From Analytics Type drop down list, select the required check box.
- From the Detection Type list select the Category. White/Black listed/ Loitering).
- From the Select Camera list select the required camera.
- From the date and Time drop down lists, set the From and To date/time.
- From the Detection Sensitivity indication bar, move the slider to set the sensitivity on the scale of 0 to 100 in percentage.

5. Click Generate Report to the report.

Viewer Configurator Search Report Analytics ADMINISTRATOR AD

Report 7

Ever
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Main Report




Honeywell Pro-Watch VMS

User ID: ADMINISTRATOR
 Work Station: NM74
 Report Date: 2/8/2021

Analytics Report

Analytics Event Results

Date Range: 02/07/2021 22:50:19 To 02/08/2021 22:50:19
 Count: 1000
 Search Criteria
 Analytic Type(s): ALL

Image	Title	Event Type	Camera Name	Site Name	Recorded Time	Upload Time	Confidence
	No Mask Detected Attributes EventDescription Confidence Score	MaskDetection	HD2302LW	Latent me	Outdoor NVR	2/8/2021 10:50:16 PM	96%
	LOITERING Attributes EventDescription	LoiteringDetection	Algo cam-1	Latent me	Outdoor NVR	2/8/2021 10:50:15 PM	100%
	No Mask Detected Attributes EventDescription	MaskDetection	HD2302LW	Latent me	Outdoor NVR	2/8/2021 10:50:14 PM	96%

[10.76.2.217] Clip Export Administrator Messages (0) Alarm(s) (241) 10:58:39 PM

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Macro commands for cameras

A camera command is a macro configured to trigger actions on the camera in MAXPRO VMS.

Command Format

C<Camera ID> =^ <Command ID> ; <Parameter 1>; <Parameter 2>; <Parameter 3>

Camera Commands

The following table lists the camera commands in MAXPRO VMS.

Camera Command LibraryID	Camera Command Library Description	Parameter Description	Example	Remarks
201	Start User Defined Recording		[C1^201] Starts user defined recording on camera 1.	Starts recording on the particular camera.
202	Stop User Defined Recording		[C1^202] Stops user defined recording on camera 1.	Stops recording on the particular camera.
203	Enable Source		[C3^203] Enables camera 3.	
204	Disable Source		[C3^204] Disables camera 3.	

Camera Command LibraryID	Camera Command Library Description	Parameter Description	Example	Remarks
205	Enable Events		[C3^205] Enables events on camera 3.	
206	Disable Events		[C3^206] Disables events on camera 3.	
207	Enable VMD		[C3^207] Enables VMD on camera 3.	
208	Disable VMD		[C3^208] Disables VMD on camera 3.	
209	Call Preset	Param1 - Preset number	[C5^209;2] Calls preset 2 of camera 5.	
220	Start Alarm Recording	Param1 - Event Source ID Param2 - Event Source Description Param 3 - Alarm Level Param 4 - Event Severity Param 5 - Recording Duration Param 6 - Pre- Recording Duration	[C1^220;100;Motion Event;70;60;20;10] Records for the duration of 20 seconds with 10 seconds pre-recording duration on camera 1 when event 100 occurs.	Starts the event based recording when an alarm is triggered. For example, motion detection.
221	Stop Alarm Recording		[C1^221] Stops event recording on camera 1.	

Camera Command LibraryID	Camera Command Library Description	Parameter Description	Example	Remarks
222	Start Continuous Recording		[C8^222] Starts continuous recording on camera 8.	
223	Stop Continuous Recording		[C8^223] Stops continuous recording on camera 8.	
142	Add Bookmark		[C5^142] Adds bookmark for camera 5 at the current recording position.	
225	Set home position		[C5^225] Sets camera 5 to its home position.	

Macro commands for monitors

A monitor command is a macro configured to trigger actions on a MAX-PRO™ VMS monitor.

Command Format

M<Monitor ID> =^ <Command ID> ; <Parameter 1>; <Parameter 2>; <Parameter 3>

For example,

Set Monitor 1 (Viewer configured as Monitor1) to full screen.

M1=^110; 1

Monitor ID = 1 (Monitor configured with ID 1 in MAXPRO™ VMS digital Monitor configuration).

Command ID = 110 (Full screen command).

Parameter 1 = 1 (1 – Full screen on, 0 – Full screen off).

M1=^ 111

Monitor ID = 1 (Monitor configured with ID 1 in MAXPRO™ VMS digital Monitor configuration).

Command ID = 111 (Toggle full screen command).

Monitor commands

The following table lists the monitor commands in MAXPRO VMS.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
16	Load the Device	Param1-Salvo ID Param2-Panel ID Param3-Camera Number	[M1=^16;2;1;20] Monitor 1 switches to 2x2 salvo (SalvoID is 2) and loads camera 20 on panel1.	Select the camera onto panel on the viewer.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
102	Unload the Device	Param1-Panel ID	[M1=^102; 2] Unloads camera on panel 2 in monitor 1	Close camera on panel.
103	Run the scan Sequences	Param1-Salvo ID Param2-Panel ID Param3-Sequence Number	[M1=^103; 2;1;4] Switches monitor 1 to 2x2 salvo and loads sequence 4 on panel 1.	Load the scan sequence.
104	Select a panel	Param1-Panel Number	[M1=^104; 2] Selects panel 2 on monitor 1.	Choose the panel on the monitor.
105	Select a salvo	Param1-Salvo Number	[M1=^105; 2] Selects second salvo (2x2).	Set a specific salvo arrangement on monitor.
106	Select next salvo	-	[M@M=^106] Selects next salvo on the keyboard for the current monitor.	Choose the next salvo arrangement.
107	Select previous salvo	-	[M@M=^107] Selects previous salvo on the keyboard for the current monitor.	-

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
108	Select next panel	-	[M@M= ¹ 08;1] Selects next panel on the keyboard for the current monitor.	Choose the next panel in the current salvo.
109	Select previous panel	-	[M@M= ¹ 09;1] Selects previous panel on the keyboard for the current monitor.	-
110	Full screen	Full Screen On and Full Screen Off	[M@M= ¹ 10;1] Go to full screen on the current monitor. [M@M= ¹ 10;0] Exit full screen on the current monitor.	Set the salvo to full screen.
111	Toggle full screen	Toggle between full screen	[M@M= ¹ 11] Toggles between full screen and normal mode on the current monitor.	Toggles between full screen.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
115	Play	Param1-Number	[M@M=^1 15;0] Plays video from the camera on the selected panel on the current monitor.	-
116	Pause	Param1-Number	[M@M=^1 16;0] Pauses video from the camera on the selected panel on the current monitor.	-
117	Stop	Param1-Number	[M@M=^1 17;0] Stops video from the camera on the selected panel on the current monitor.	-
118	PlayBack	Param1-Salvo ID Param2-Panel ID Param3-Camera Number Param4-yy:mm:dd:hh:mm:ss Param5-yy:mm:dd:hh:mm:ss	[M@M=^1 18;0;0;4;1 0:02:02:0 4:45:56] Displays video from camera 4 on the selected panel on current monitor.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
121	SmoothReversePlayBack	Param1 - Panel Number Param2 - Numerator Param3 - Denominator	[M2=^121;1;8;1] Smooth reverses the video on panel 1 with 8X speed	For example, speed 32, Param2 is 32 and Param3 is 1.
124	FrameReverse	Param1 - Panel Number Param2 - Speed (int values)	[M@M=^124;0;1] Rewinds one frame of the selected video.	
125	FrameForward	Param1 - Panel Number Param2 - Speed (int values)	[M@M=^125;0;1] Forwards one frame of the selected video.	
126	Forward	Param1 - Panel number Param2 - Numerator Param3 - Denominator	[M@M=^126;0;2;1] Forwards video with 2x speed.	For example, for speed 1/32, Param2 is 1 and Param3 is 32
127	Rewind	Param1 - Panel number Param2 - Numerator Param3 - Denominator	[M@M=^127;0;1;2] Rewinds video with 1/2x speed	For example, for speed 1/32, Param2 is 1 and Param3 is 32
128	Toggle Text	Param1 - Panel number	[M@M=^128;5] Toggles text on panel 5	Toggle text displayed inside the video panel.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
129	JumpAbsolute	Param1 - Panel Number Param2 - yy:mm:dd:hh:mm:ss If it is a clip, Param1 - Panel number Param2 - Param3 - Position (1 to 100)	[M@M=^129;0;&1;1] Where [&1= =2011:06:08:00:40:00]	
130	JumpRelative	Param1 - Panel Number Param2 - dd:hh:mm:ss Param3 - Direction	[M@M=^130;00:00:15:00] Jumps the video 15 minutes from the current time in which it is being played.	Param3 - 1 (forward) Param3 - 2 (backward)
131	Digital	Param1 - Panel ID Param2 - Type Param3 - Speed	[M@M=^131;0;1;5] Zoom out on selected camera happens with speed 5	Param2: 0 - Zoom In Param1 - Zoom Out Param3 - Pan Left Param4 - Pan Right Param5 - Tilt Up Param6 - Tilt Down Param7 - Reset_ Param8 - Halt
133	Surrounding Camera	Param1 - Camera Number	[M@M=^133;@C] Shows surrounding cameras of the selected camera on the current monitor.	Show surrounding camera of the camera number.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
134	Alarm Preview	Param 1 - Alarm Reference ID	[M@M=^134;150] Shows alarm preview for alarm 150 on the current monitor.	
135	Play the Scan Sequence	Param 1 - Scan Sequence Number	[M@M=^135;1] Plays scan sequence 1 on the current monitor.	1. To play the paused scan sequence. This macro will not load the sequence 2. This macro can be used without 1st parameter [M@M=^135].
136	Pause the Scan Sequence	Param 1 - Scan Sequence Number	[M@M=^136;1] Pauses scan sequence 1 on current the monitor.	
137	Stop the Scan Sequence	Param 1 - Scan Sequence Number	[M@M=^137;1] Stops scan sequence 1 on the current monitor.	
138	Enlarge the Panel	Param 1 - Panel Number	[M@M=^138;8] Enlarges panel 8 on the current monitor.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
139	Show Salvo View	Param1 - Salvo View ID	[M5=^139;6] Shows salvo view 6 on the monitor 5.	Select the user configured salvo view. (Right-click Show Device ID in the Viewer Device tree to see salvo view ID).
140	Capture Salvo View Image		[M10=^140;0] Captures salvo view image on the monitor 10 and saves it in the default path.	The image is stored in the default path if the shared folder path is not mentioned.
141	Save Image	Param 1 - Panel Number Param 2 - Shared Folder Path	[M2=^141;2;\imagestore\m2images\ Saves panel 2 image in \imagestore\ path.	
144	Enables Sync Playback	Param 1 - Not Applicable Param 2 - yy:mm:dd:hh:mm:ss	[M@M=^144;1;2010:01:25:16:25:30] Enables sync playback at 4 hours 25 minutes and 30 seconds on January 25 2010 on the current monitor.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
145	Disables Sync Playback	-	[M@M=^145;1] Disables sync playback on monitor 1.	
150	Alternate Camera	Param 1 - Camera Number	[M@M=^150;@C] Displays video from current camera's alternate camera.	

Macro commands for devices

A device command is a macro configured to trigger actions on the devices in MAX-PRO™ VMS.

Command Format

D<MasterDevice ID> =^ <Command ID> ; <Parameter 1>; <Parameter 2>;

Device commands

The following table lists the devices commands in MAXPRO™ VMS.

Device Command LibraryID	Device Command Library Description	Parameter Description	Instructions
254	Command Template	Param1 -Command Template ID Param2 -Station ID	To execute the command template of Enterprise recorder.

Macro error definition

Macro errors are displayed as a warning message on the currently selected monitor for a period of two seconds following the error condition that occurred. It is recorded in a text file called ERRORLOG.MAX (on the system disk) together with a macro trail to help identify the cause of the macro error.

The following table lists the macro error numbers.

Macro Number	Error
1	Format error in extended command.
2	Format error in conditional command.
3	Unknown command in expression evaluation.
4	Unknown command in update expression 5 Numeric.
5	Numeric variable range error.
6	Scan sequence range error.
7	External alarm range error.
8	Auxiliary control output range error.
9	Invalid numeric evaluation error.
10	Macro timer range error.
11	Macro timer command error.
12	Macro timer period error.
13	System macro range error.
14	Unknown video output channel.
15	Unknown video input source.
16	Invalid external alarm control logic.
17	Invalid auxiliary output control logic.
18	Invalid camera disable logic.
19	Invalid speed.
20	Unknown system constant error.
21	Unknown text message command error.
22	Invalid operator sign used with commands.
23	Invalid keyboard identification number.
24	Invalid alarm stack entry that is not an alarm macro.
25	Invalid alarm display group (1 to 50) only.

Macro Number	Error
26	Macro string exceeds 255 characters.
27	Conditional statement missing closed brackets.
28	Invalid real time clock time or date definition.
29	Invalid video source command.
30	String variable command format error.
31	String variable range error.
32	Unknown evaluate command for string.
33	Too many nested do-while loops.
34	Format error in do-while loop.
35	Maximum loop cycles has been exceeded.
36	Keyboard priority range error.
37	Invalid keyboard identity for macro numeric input command.
38	Invalid destination for keyboard macro numeric input command.
39	Too many digits requested for keyboard macro numeric input.
40	Invalid scan clear command.
41	No dynamic macro timer available.
42	User flag range error (0 to 8 only).
43	Keyboard operator range error (0 to 100 only).
44	User defined character range error, in direct comm port writes.
45	Undefined comm port number, in direct comm. port writes.
46	Internal change network source.
47	Internal change network source node command format error.
48	Scan sequence entry number is out-of-range that is greater than (99).
49	Error in command format received from a subrack/keyboard.
50	Parity error in received data from a subrack/ keyboard.
51	Range error in Blank Channel command (valid 0 - 3 only).
52	Unknown Special WORD command. for example, <WARM-BOOT> etc.
53	Other errors detected during Cold/Warm Boot. Check ERRORLOG.

Numeric system constants

Numeric System Constants	Description
@B	Current Camera is or Not Return values: 0 -Fixed Camera 1- Camera.
@C	Current video source selection, type/logical reference (0–999999999).
@D	Last used dynamic timer number (99 down to 0).
@E	Last macro error number (0=none, to 53).
@F	Alarm display group number, (0 to 50) .
@H	current logical alarm device number.
@I	Current selected panel on Digital Monitor, if current monitor is analog it returns 0.
@I.X	Current Camera on Panel X Return values: Camera that is playing on Panel X. Usage: [*E=I.2] displays camera number on panel 2. If panel doesn't have a camera then displays 0.
@K	Current keyboard id number, (1 to 1001), (1001=alarm macro keyboard id).
@L	Current Camera Signal type. Return values: none=0, analog = 1, digital = 2, hybrid = 3.
@M	Current monitor selection, READ-ONLY, (0=no monitor selected).
@N	Current camera's net-source network node number (0 –99).
@O	Current keyboard operator number, (1 to 99), (0=logged off).
@P	Current operator priority level, (0 to 64); (can not be changed from 0).
@Q	Current monitor menu status, TRUE=menu-display-active.
@R	Current camera's net-source type and logical reference (0.9999)
@S	Scan status for the current monitor, TRUE=scanning.
@U	Contains the number of the alarmed device. In case of camera and recorder it is the callup number. In case of I/O (Max/Vb or TDI) it's the Global ID.
@V	Macro event type, video-fail, site fail, VCR alarm, keyintercept, etc; Refer to the table in MAXPRO VMS Online Help for interpretation of @V.
@W	Contains the type of the alarmed device. Camera is 1, Recorder is 4 as per enum TDA_DEVICE_TYPE. I have added another device type to distinguish between Max/Vb IO and TDI IO. A new device type called ANALOG_INPUT = 22 has been added.

Numeric System Constants	Description
@X	Current Salvo Number on Digital Monitor, if current monitor is analog it returns 0 Return values: Salvo Number.
@Z	speed value (0 – 6).

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Verifying the Digital Certificate for Clips

A clip saved with digital signature can be verified using the MAXPRO VMS Digital Certificate Verification Utility.

The MAXPRO VMS Digital Certificate Verification Utility is installed by default along with all MAXPRO VMS Client. This utility can be installed on a computer that does not have MAXPRO VMS. A separate installation setup package for this purpose is provided in the tools folder of MAXPRO VMS DVD (\Tools\HVMS Digital Certificate Verification Utility\HVMS Digital Certificate Verification Utility.exe). You can install this utility and verify the digital certificate for clips on any computer.


To verify the digital certificate

1. Choose Start>Program>Honeywell>MAXPRO™ VMS Package Verification Utility. The MAXPRO™ VMS Digital Certificate Verification Utility dialog box appears.
2. From the File menu, click Open Package or click Open Media File.
3. Browse to the folder, select the package or the media file for which you want to verify the digital certificate, and then click Open. The default path would be C:\Program Files\Honeywell\TrinityFramework\ImagesAndClips.
4. The Authentic package: MAXPRO™ VMS digital certificate found message appears if the clip is saved with digital signature and if the digital certificate is valid.

MAXPRO VMS Agent


MAXPRO VMS client Agent helps you to export log, launch monitors, and back up database (only on server). The MAXPRO Client Agent runs automatically during Windows startup. Exporting log includes exporting MAXPRO VMS log files, DVM log files, Windows System and Applications Event log, and General Workstation Configuration Info log.

To launch monitors

1. Right-click  in the notification area, and then choose Launch >Monitor N (Where N represents the monitor number). If you want to launch all the monitors, then click All. Monitors have to be configured using the options available in the Configurator tab.


Note: *If a monitor(Monitor 1) is already launched and if you again launch the same monitor again from the Client agent, a new instance of the monitor is not launched; instead the focus is shifted to the same monitor, which is already running.*

To export log

1. Right-click  in the notification area, and then choose Diagnostics >Export Log. A zip file named MaxproVMS_Log_Workstation_X (where X is the name of the computer) is exported to C:\Program Files\Honeywell\TrinityFramework.

Note: *The disk drive might vary depending on the installation of MAXPRO VMS.*

To backup database

1. Right-click  in the notification area, and then choose Diagnostics >Backup Database. The database file named TrinityDatabase_WorkstationName_Date-Time.bak (where WorkstationName is the name of the workstation and Date-Time is the date and time when the file is exported) is exported to C:\Program Files\Microsoft SQL Server\MSSQL.2\MSSQL\Backup.

Note: *The disk drive might vary depending on the installation of MAXPRO VMS.*

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