

MAXPRO® Video Management System R450

Operator's Guide



Issue 6

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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.

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** - 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 R410 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:

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.

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.

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.

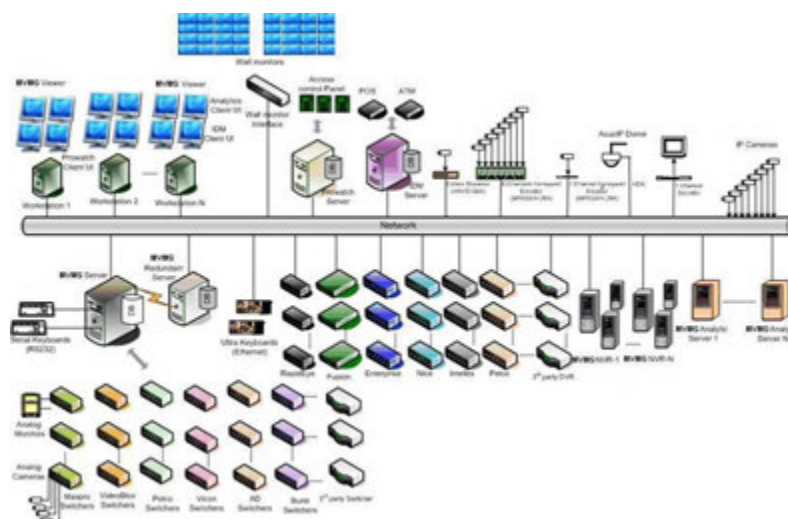
You need to run this utility before configuring the Redundancy feature in MAXPRO VMS and ensure that all the Primary NVR boxes are updated with proper unique IDs for the cameras.

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.

INTENDED AUDIENCE

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

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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.

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 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.

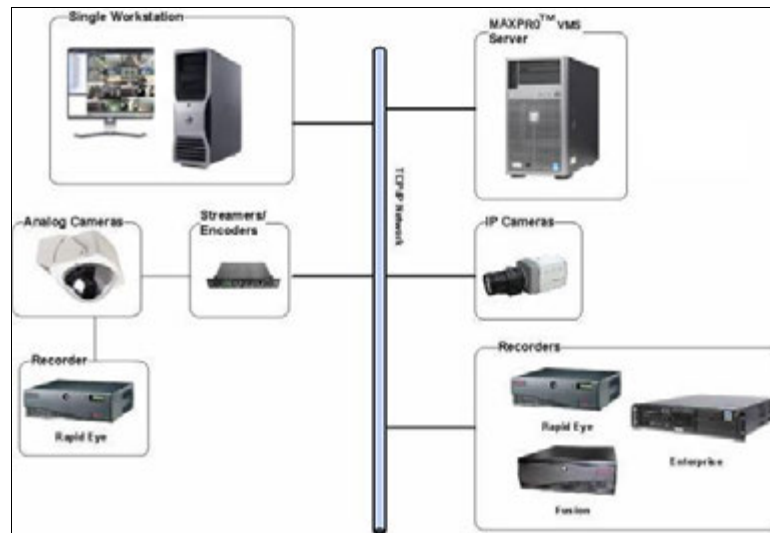
OTHER COMPONENTS

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, Embedded Recorders and Enterprise. More recorders will be compatible with MAXPRO VMS in the future versions.

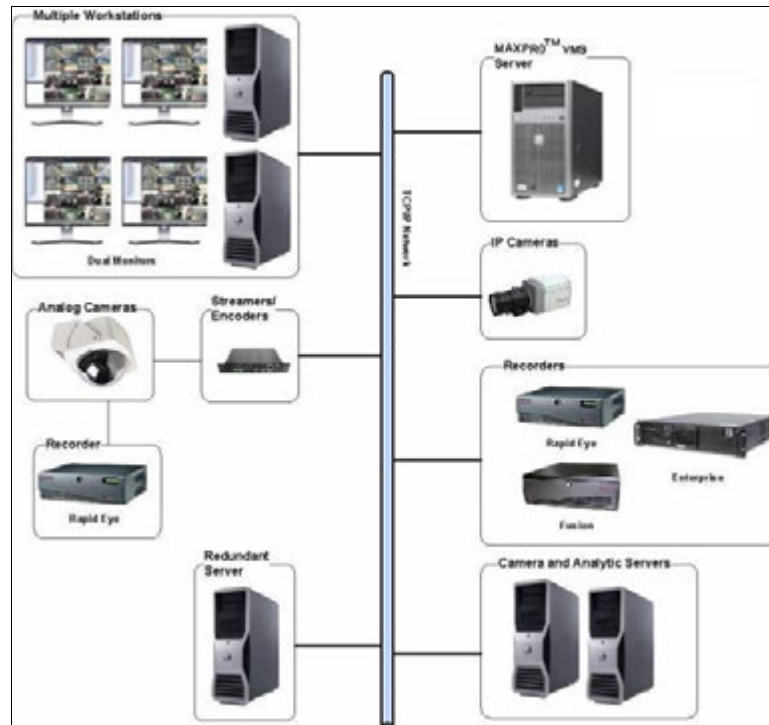
EXAMPLES OF MAXPRO VMS CONFIGURATION

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 diagram shows the multiple workstation architecture.



TYPOGRAPHICAL CONVENTIONS

This guide uses the conventions listed in the following table.

Font	What it represents	Example
Swiss721 BT	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.
Trebuchet MS	Heading	Installation
Swiss721 BT (Bold Italic)	Cross-reference to external source	Refer to the System Administrator Guide .
Swiss721 BT (Italic)	Cross-reference within the guide	See <i>Installation</i> .

SYSTEM REQUIREMENTS AND LICENSING

SYSTEM REQUIREMENTS

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

MAXPRO VMS Server (Standard Spec with Windows 2008 Server R2 64 bit, Windows 2012 up to 5 Clients)	
Processor	Dual Core Intel® Xeon® 3050 2.13 GHz
Recommended Operating System	Windows® Server 2008 R2 Standard (64 Bit Version) on 64 Bit Server Windows® Server 2012 Standard Edition
SQL Version	SQL Standard 2008
Recommended PC Type (Server or Workstation)	Server
Recommended System Memory (RAM)	8 GB
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD drive
Disk	<p>Two separate hard drives or two sets of RAID arrays</p> <p>Disk / RAID set 1 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for Windows operating system, MAXPRO™ VMS Server Software, and Microsoft SQL Server software</p> <p>Disk / RAID set 2 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for MAXPRO VMS database files and Microsoft SQL Server database files.</p> <p>Note: If fault tolerance is required RAID set 1 is RAID 1, 10 or 0+1 and RAID set 2 is RAID 10 or 0 + 1.</p>

MAXPRO VMS Server (Standard Spec with Windows 2008 Server R2 64 bit, Windows 2012 up to 5 Clients)	
Multiple Monitor Card - Display Adapter (Video Resolution)	Multiple Monitor Card - Display Adapter (Video Resolution) Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Network connection	1Gbit/sec or greater
Video resolution	1024x768 pixels; 24 bit color or higher

Note: The server computer must have a PCI Express (PCI-E) expansion card to connect the serial port card.

MAXPRO VMS Server (Performance Spec with Standard Spec and with Windows 2008 Server R2 64 bit, Windows 2012 up to 10 Clients)	
Processor	Quad Core Intel® Xeon® 5450 3.0 GHz
Recommended Operating System	Windows® Server 2008 R2 Standard Edition (64 Bit Version) on 64 Bit Server Windows® Server 2012 Standard Edition
SQL Version	SQL Standard 2008
Recommended PC Type (Server or Workstation)	Server
Recommended System Memory (RAM)	8 GB
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD drive
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, and Microsoft SQL Server software Disk / RAID set 2 utilizes 10K RPM SATA 150GB or 10K-15K RPM SCSI 146GB for MAXPRO VMS database files and Microsoft SQL Server database files

MAXPRO VMS Server (Performance Spec with Standard Spec and with Windows 2008 Server R2 64 bit, Windows 2012 up to 10 Clients)

Multiple Monitor Card - Display Adapter (Video Resolution)	Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Network connection	1Gbit/sec or greater
Video resolution	1024x768 pixels; 24 bit color or higher

Note: The server computer must have a PCI Express (PCI-E) expansion card to connect the serial port card.

MAXPRO VMS Workstation Computer (Standard Spec with 32-Bit only Windows 7 64 bit and 32 bit supports up to 2 monitors)

Processor	Intel® Core 2 Duo Processor E6750 2.66 GHz or Quad Core Intel® Xeon® E5405 2.0 GHz
Recommended Operating System	Windows® 7 Professional (64-Bit and 32-Bit) Microsoft Windows® 8.1 (32 and 64 Bit) on client side. Windows 8 (Professional Version).
SQL Version	SQL Standard 2008
Recommended PC Type (Server or Workstation)	Workstation
Recommended System Memory (RAM)	8 GB
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD-RW drive
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)	Display Adapter with Video resolution 1024x768 pixels; 32-bit color or higher
Network connection	1Gbit/sec or greater
Video resolution	1024x768 pixels; 24 bit color or higher

MAXPRO VMS Workstation Computer (Performance Spec with Windows 7 64 bit and 32 bit supports up to 4 monitors)	
Processor	Quad Core Intel® Xeon® Processor X5450 (3.00GHz, 2X6M L2, 1333)
Recommended Operating System	Windows® 7 Professional (64-Bit and 32-Bit) Microsoft Windows® 8.1 on client side. (Professional Version).
SQL Version	SQL Standard 2008
Recommended PC Type (Server or Workstation)	Workstation
Recommended System Memory (RAM)	8 GB
DVD Drive (RW (Read Write) is required if workstation is used for exporting recordings)	DVD-RW drive
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 256MB PCIe x16 NVIDIA Quadro NVS 285, Dual DVI or Dual VGA or DVI+VGA. This is for a four monitor setup with each monitor requiring 128 MB
Network connection	1Gbit/sec or greater
Video resolution	1024x768 pixels; 24 bit color or higher

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 THE LICENSE FOR MAXPRO VMS

The MAXPRO Video Management System (MAXPRO VMS) setup comes with a 60 day trial period and enables you to add up to 250 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.

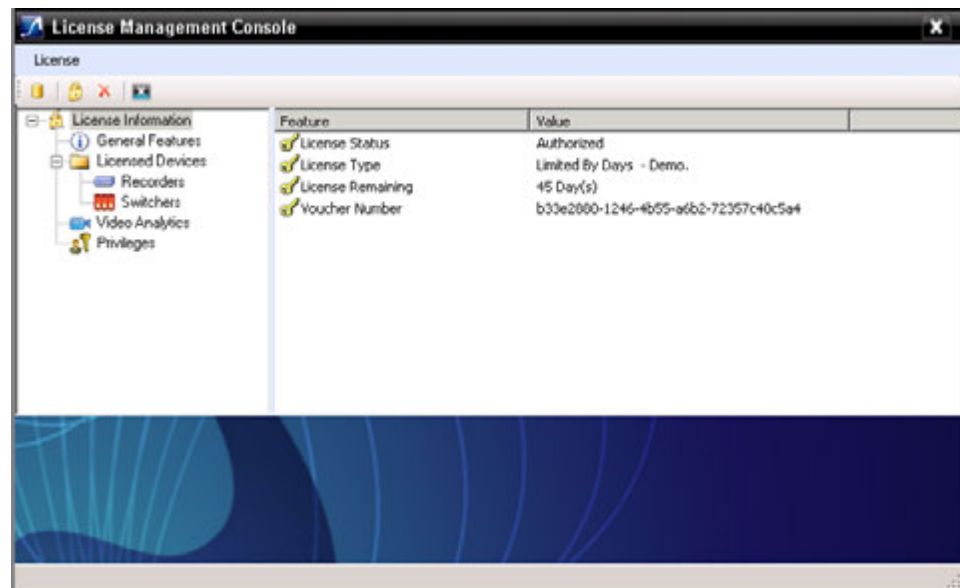



Figure 1-2 License Management Console

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.

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 Information	
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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LOG IN AND FAMILIARIZATION

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 R410 Technical Notes for further details

Note: 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.

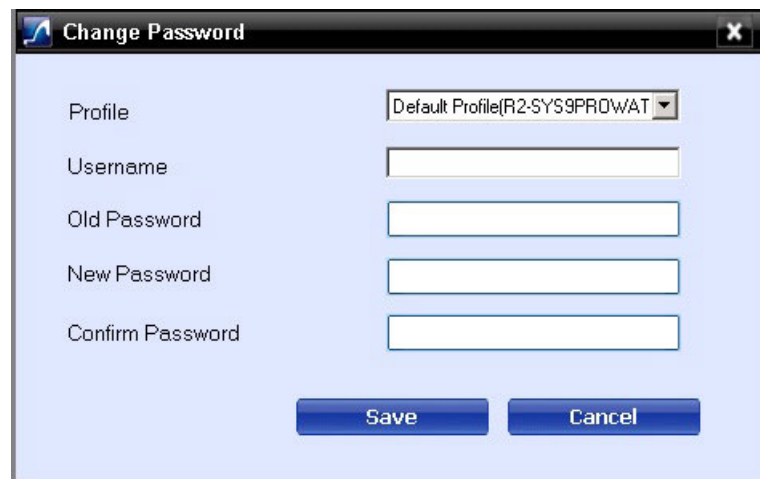
5. In the **Profiles** box, select the profile corresponding to the MAXPRO VMS server you want to connect to and press **ENTER** or click the  icon.

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 R410 Technical Notes for further details

To change the default password:

1. In the client workstation, double-click the  icon 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 light blue background and a black title bar. The title bar contains a small icon on the left and a close button (X) on the right. The dialog box contains the following fields and controls:


- Profile:** A drop-down menu showing 'Default Profile(R2-SYS9PROWAT)'.
- Username:** A text input field.
- Old Password:** A text input field.
- New Password:** A text input field.
- Confirm Password:** A text input field.
- Buttons:** Two buttons at the bottom, 'Save' and 'Cancel', both with blue backgrounds and white text.

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 R410 Technical Notes for further details.

6. Type the **New password**.
7. Type the new password once again to **Confirm Password**.
8. Click **Save**.

SAVING A SERVER ADDRESS IN A PROFILE

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

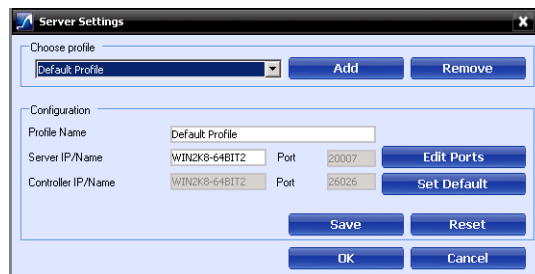


Figure 2-2 Server Settings

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.

1.

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 the  icon 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 the  icon 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 **Help**. 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.

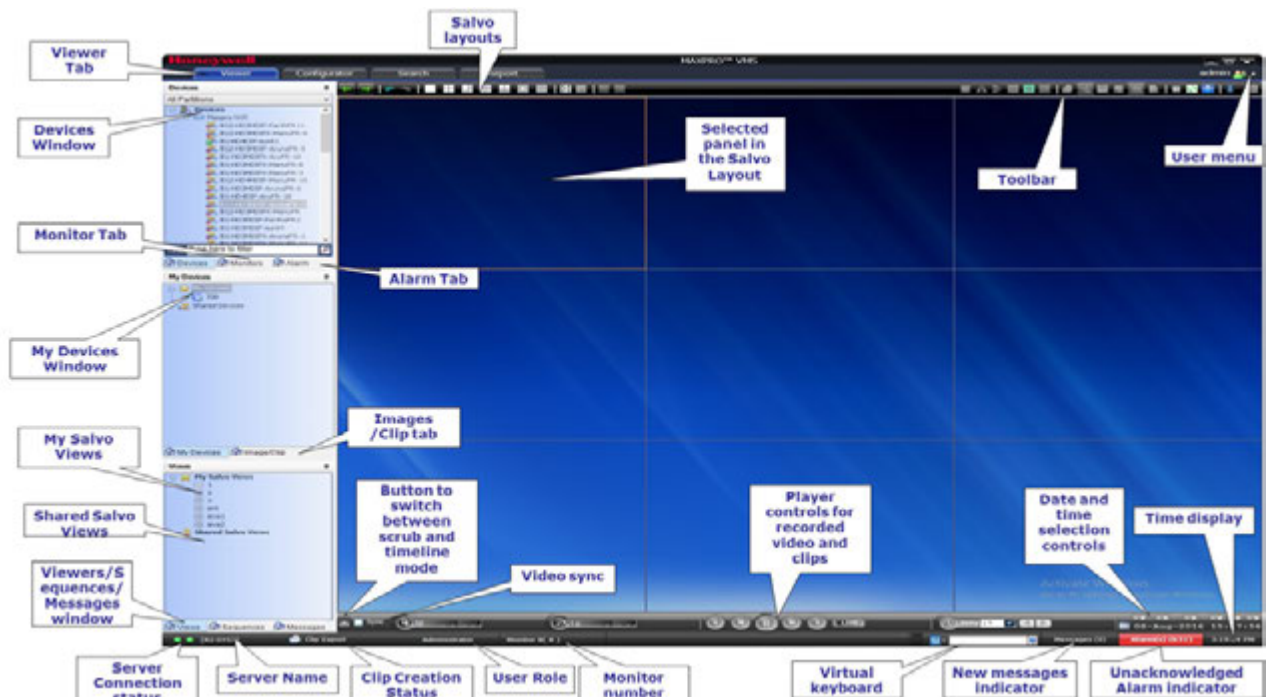




Figure 2-3 Viewer tab

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.

Component	Description
Monitors window	<p>Click to display a floating window that lists the monitors. You can view both analog and digital monitors from this window.</p> <p>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.</p> <p>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>
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.</p> <p>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.

Component	Description
My Devices Window	<p>A floating window that lists in a tree structure, the devices such as cameras, monitors, and sequences.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>The status of the devices also appear in the window.</p> <p>The devices are displayed only when the user who included the devices in My Devices window logs on.</p> <p>You can copy a device from MyDevices to Shared Devices and from Shared Devices to MyDevices using the drag and drop option.</p> <p>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>

Component	Description
My Devices window continued...	<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.
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.

Component	Description
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.
Salvo Layout	An arrangement of panels in which video is displayed.
Timeline window	<p>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 the  icon.</p>

CONFIGURATOR TAB

The following figure illustrates the **Configurator** tab.

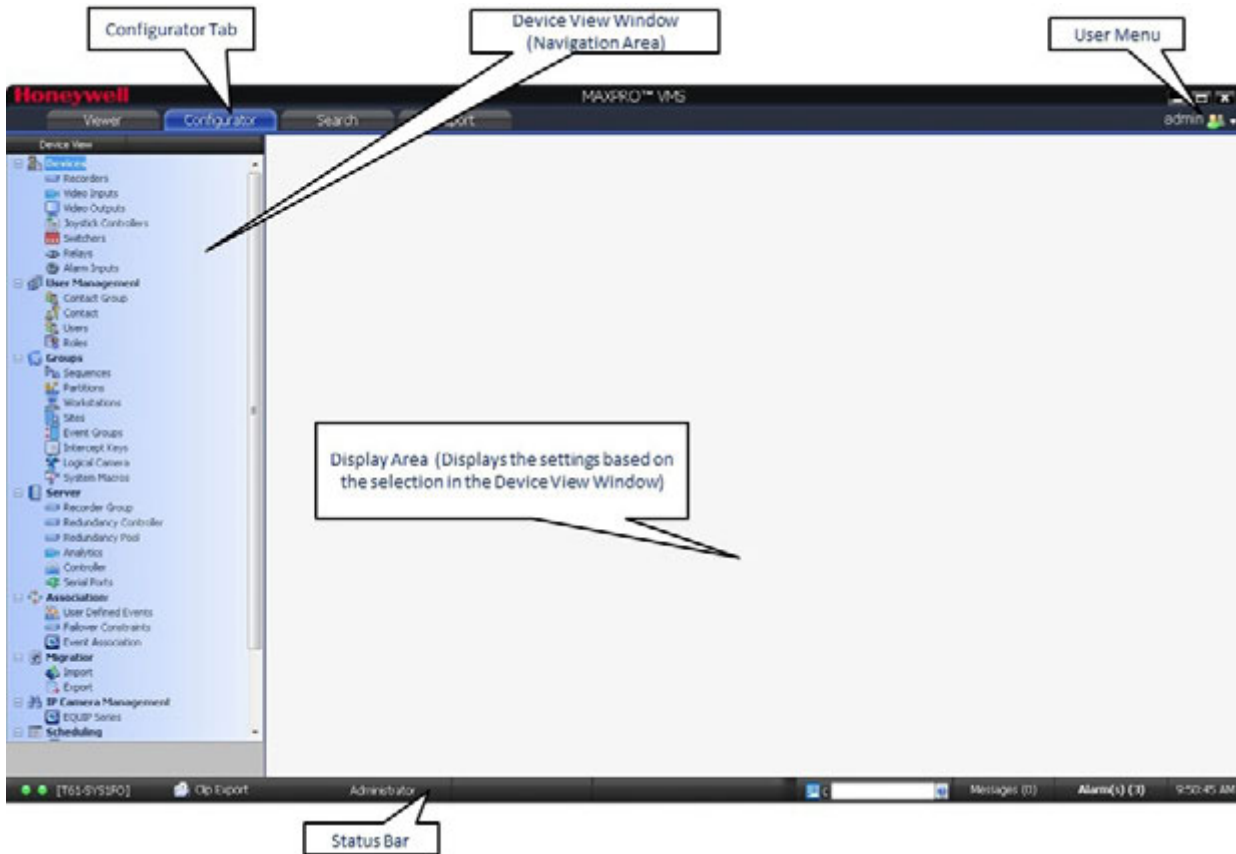


Figure 2-4 Configurator tab

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

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.

SEARCH TAB

The following figure illustrates the **Search** tab.

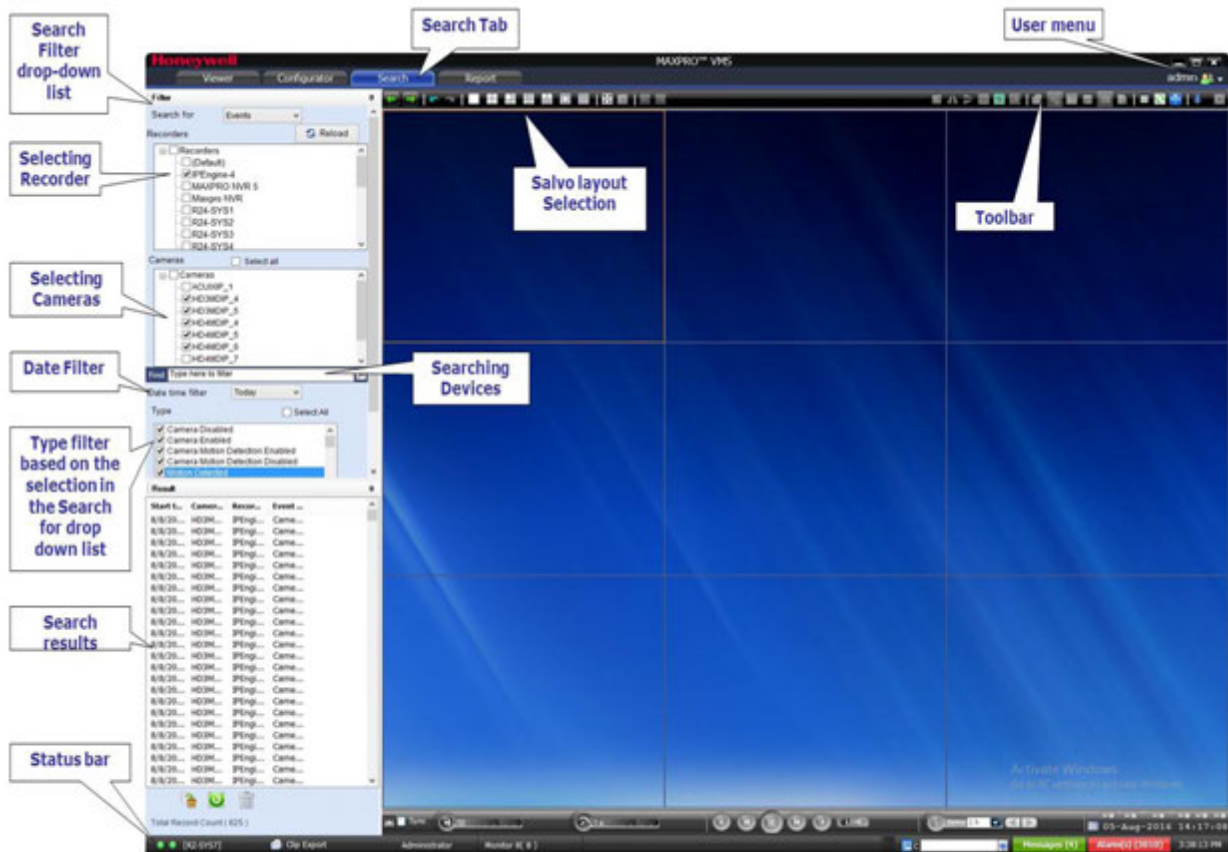


Figure 2-5 Search tab

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

REPORT TAB

The following figure illustrates the **Report** tab.

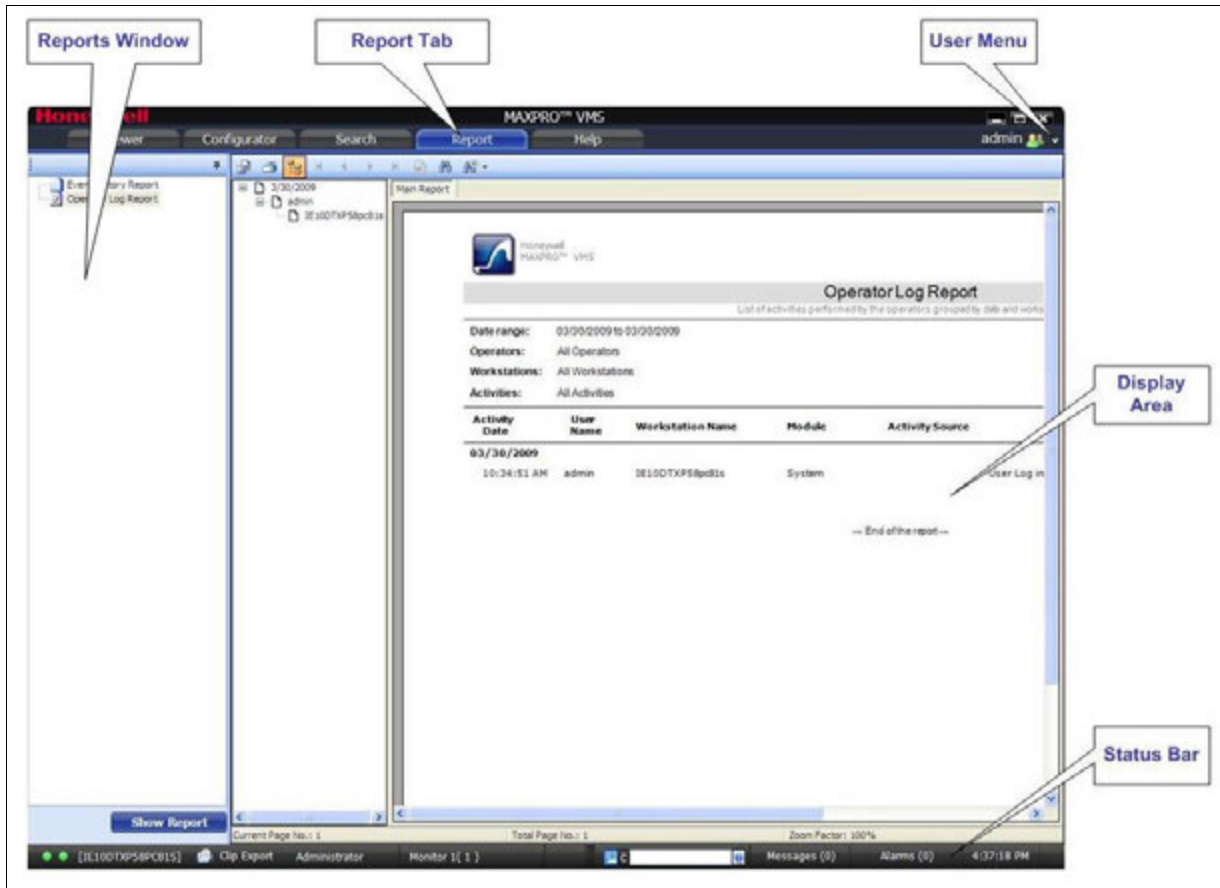


Figure 2-6 Report tab

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

HELP TAB

Select the Help tab to display the online help for working with MAXPRO VMS

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.

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

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.

To set the Web Configurator


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



Figure 2-7 MAXPROWebConfigurator

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 **Allow**:
 - Select the **Enable** check box to perform operations on a camera from Web Client. It is not recommended to use this feature in the current release.

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

4. 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.



-
5. Under **Protocol**:
- Click the appropriate **Protocol** options for secure communication. The available options are **HTTP** and **HTTPS**. By default HTTP protocol is selected.

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.

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.

6. Click the **Server Configuration** the following screen appears.



Figure 2-8 MAXPROWebConfigurator-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.


- **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 and then click **Update**.
 - **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 and then click **Update**.
-

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

7. Under Port Change:

- **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.

Click  to close the MaxproWebConfigurator.

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.

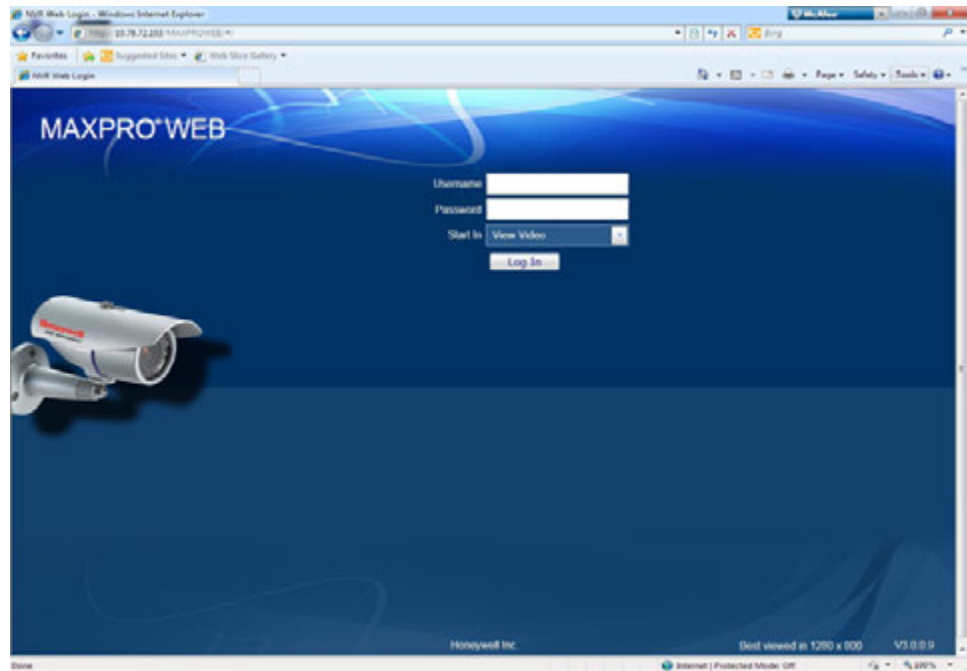


Figure 2-9 MAXPRO WEB Login page

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.

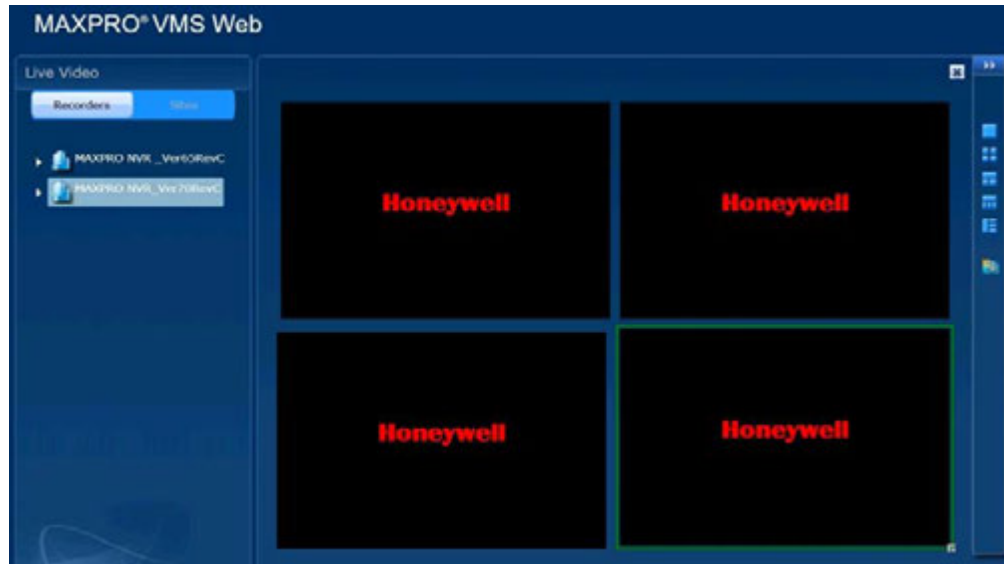


Figure 2-10 MAXPRO VMS Web Page -Initial View

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.

SIGNOUT

To signout from the MAXPRO VMS Web Client page

- Click **Signout** on the top right corner of the page.

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.

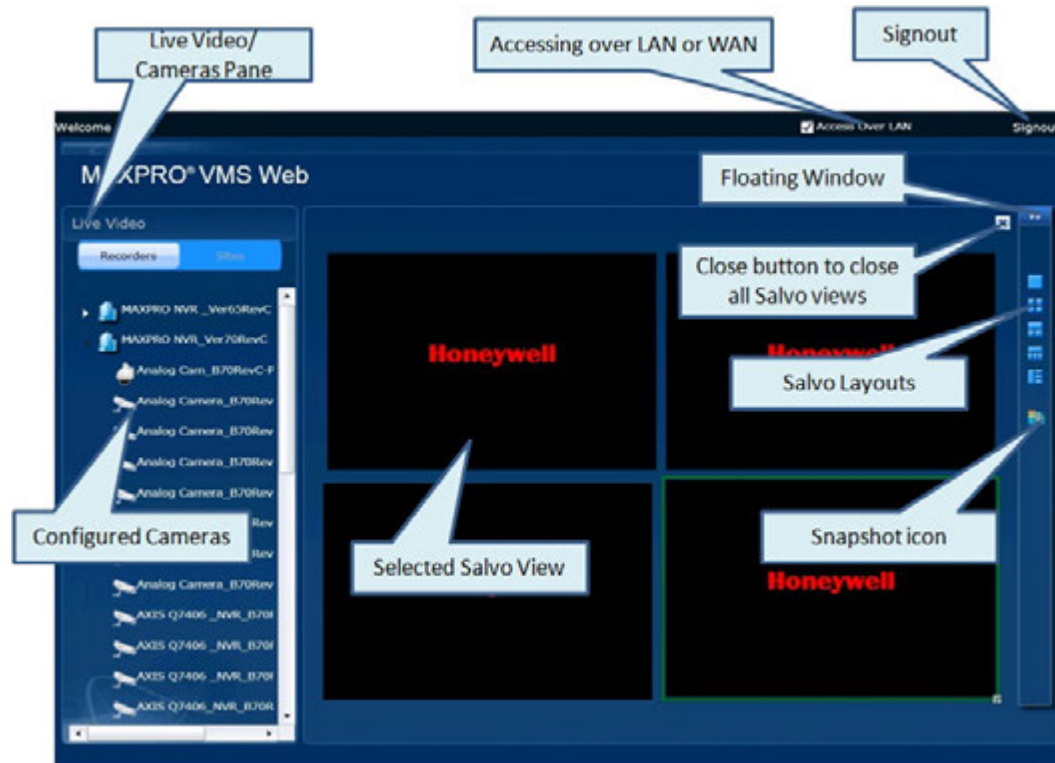


Figure 2-11 MAXPRO VMS Web Client Page-Familiarization



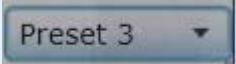




The following components are displayed on the screen.



Component	Description
Live Video or Camera Pane	Displays the list of cameras which are configured in MAXPRO VMS.
Configured Cameras	<p>List of configured cameras which are available to render video.</p> <p>To view the list of cameras in Live video pane, you should configure the cameras in MAXPRO VMS, refer to MAXPRO™ VMS R410 Commissioning and Installation Guide. The list of cameras listed is based on the user or operator permissions configured in the MAXPRO VMS.</p>
Accessing over LAN or WAN	<p>Select this check box if you want to access web client using LAN connection.</p> <p>Clear this check box if you want to access web client using WAN connection.</p> <p>Note By default this check box is selected when you login the web client page.</p>

Component	Description
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.
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

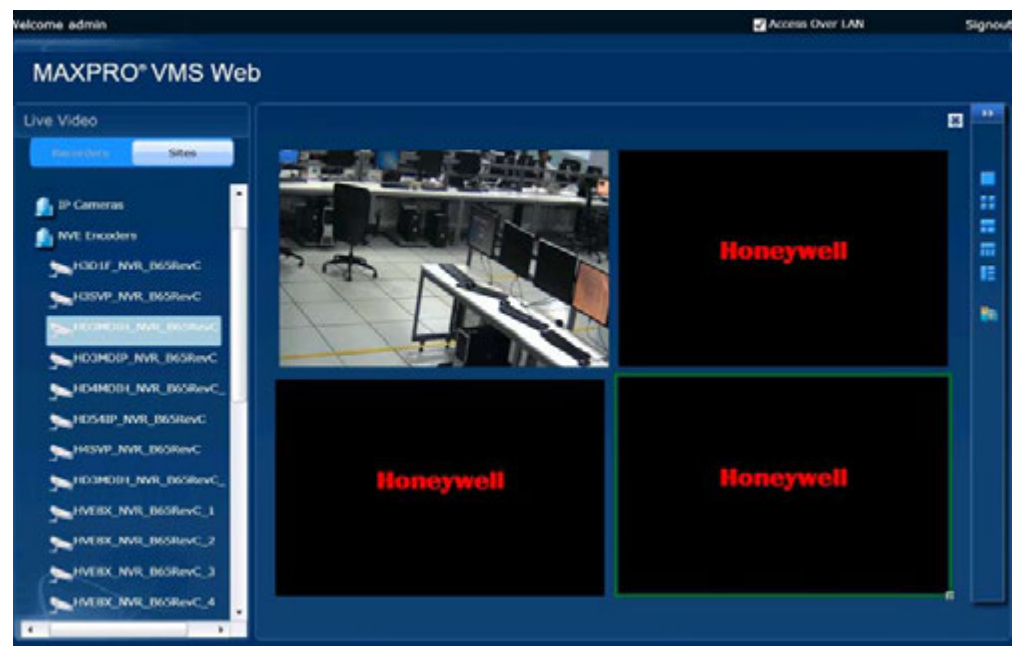
Icon	Click to...
	select the required salvo view to arrange the panels. See Resizing the Salvo section.
	close all the panels in a salvo layout.

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 R410 Commissioning and Installation 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.

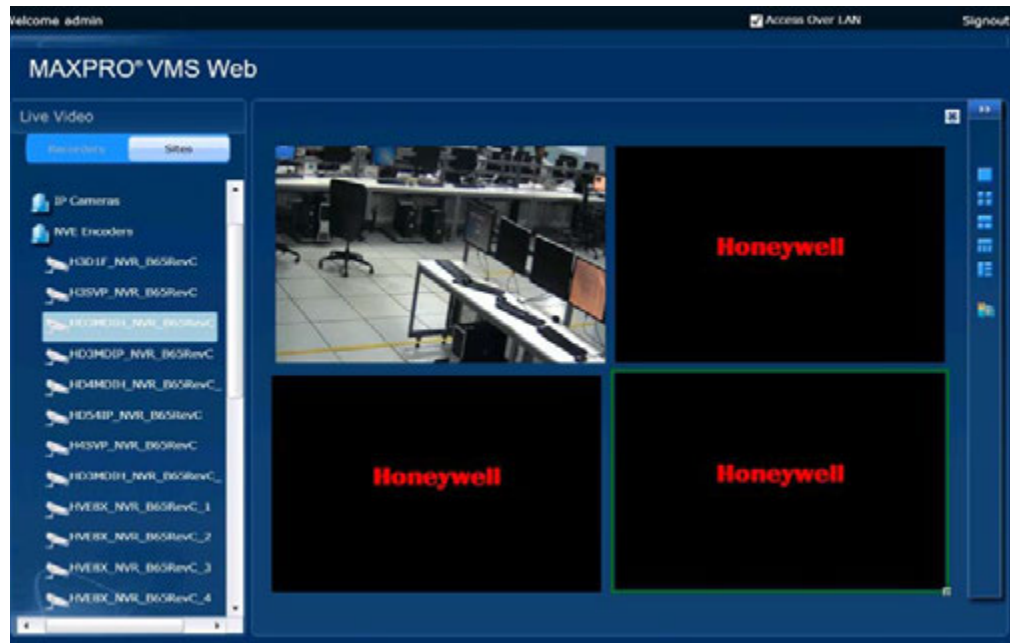


Figure 2-12 Web Client - Live Video

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 megapixel 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.

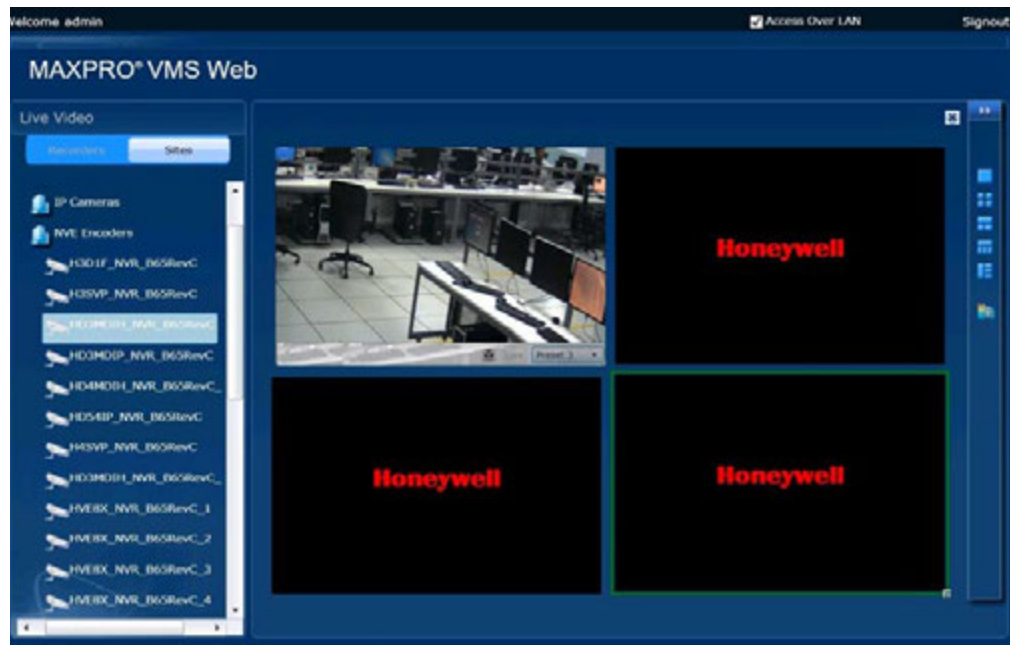





Figure 2-13 Web Client - Playback

3. Click the  icon.
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.

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 R410 Commissioning and Installation Guide](#).

To View Presets

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

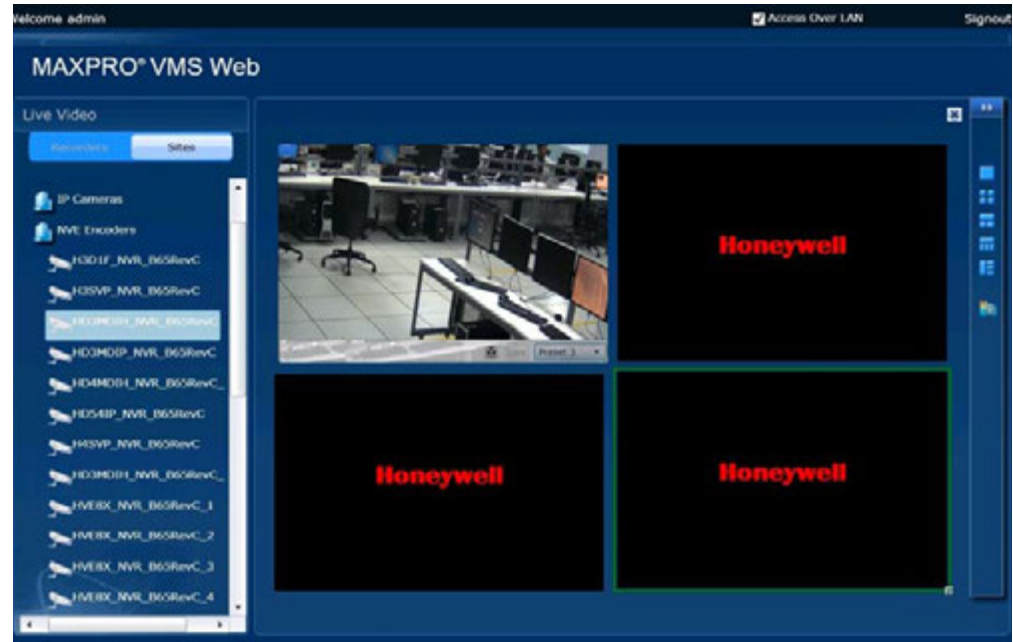
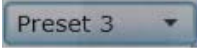


Figure 2-14 Web Client - Presets

2. Click  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 R410 Commissioning and Installation 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.

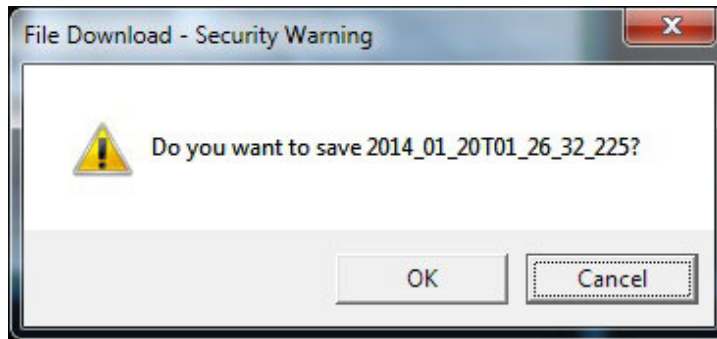



Figure 2-15 Confirmation dialog - All Salvo Views

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 the  icon. A confirmation message appears

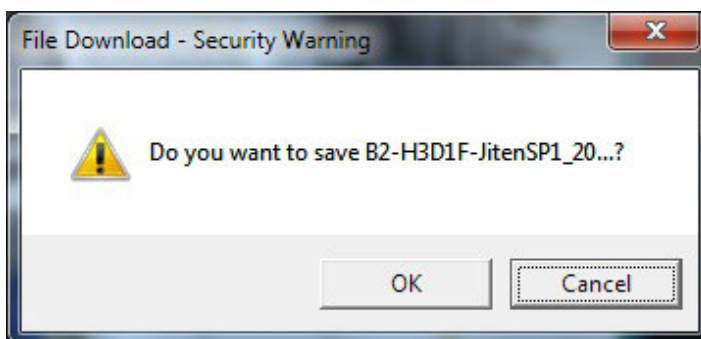


Figure 2-16 Confirmation dialog - Single Video Panel

3. Click **OK** to save the snapshot.

CREATING SELF SIGNED CERTIFICATE

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.

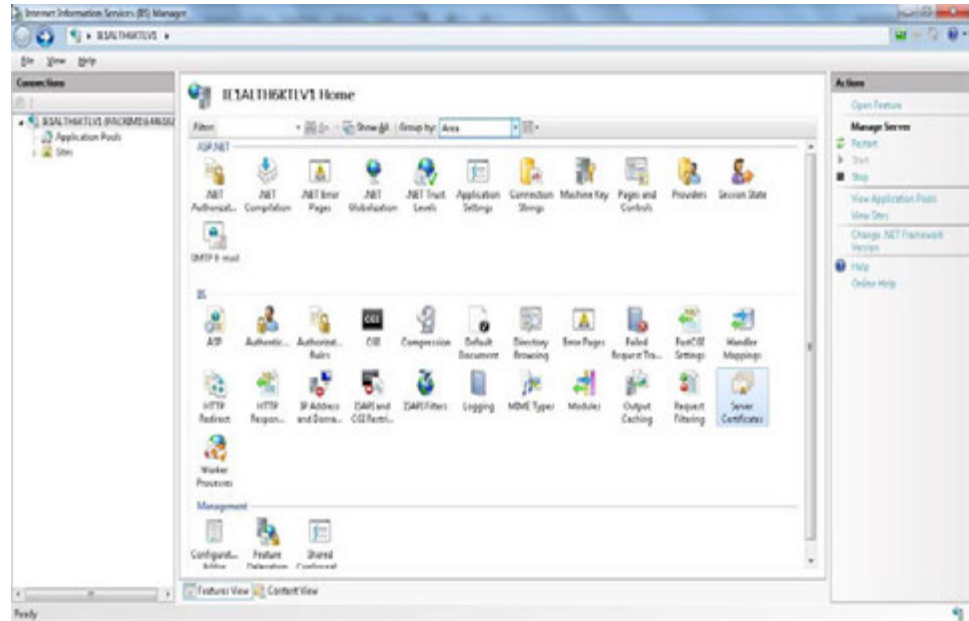


Figure 2-17 Server Certificate.

The **Server Certificate** window is displayed as shown below.

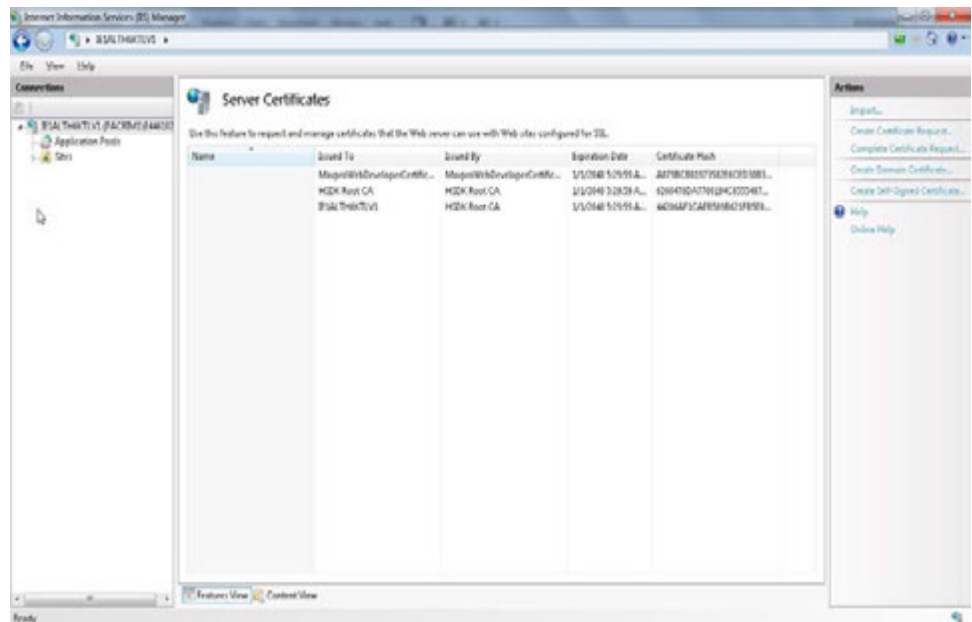


Figure 2-18 Server Certificate

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

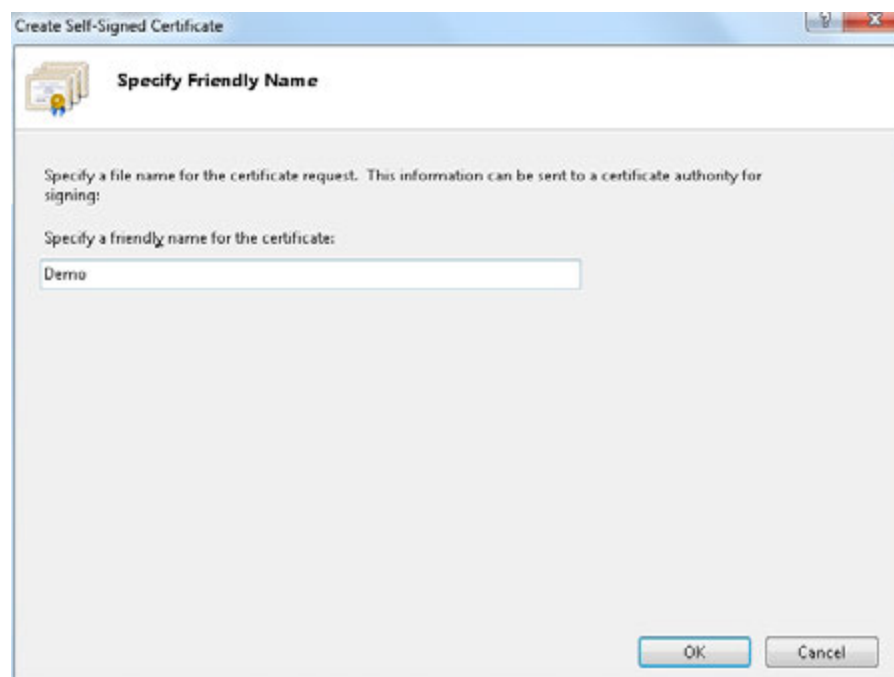


Figure 2-19 Specify Friendly Name

5. 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.

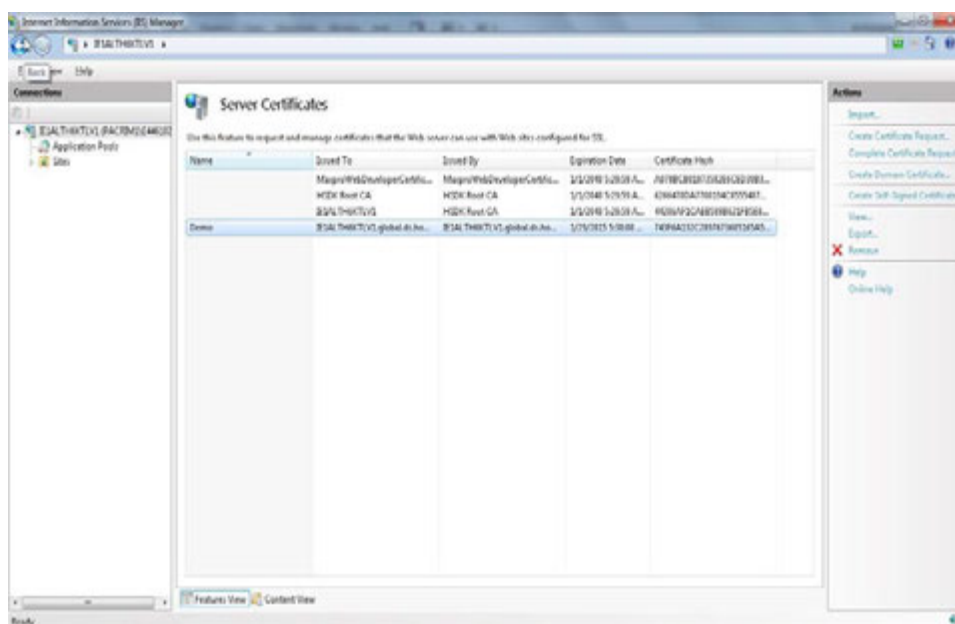


Figure 2-20 Generated Certificate

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.

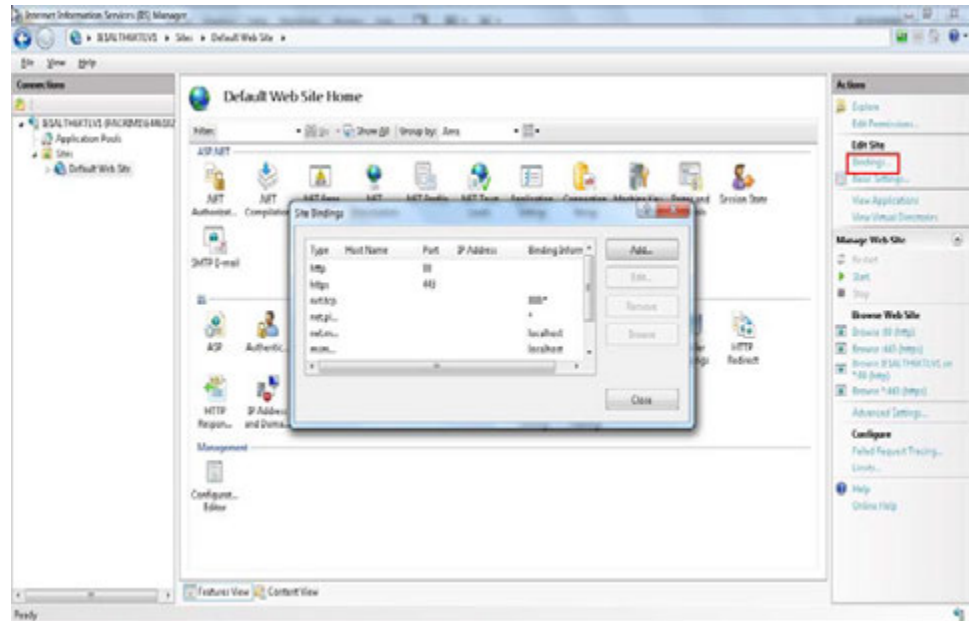


Figure 2-21 Site Bindings Dialog

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

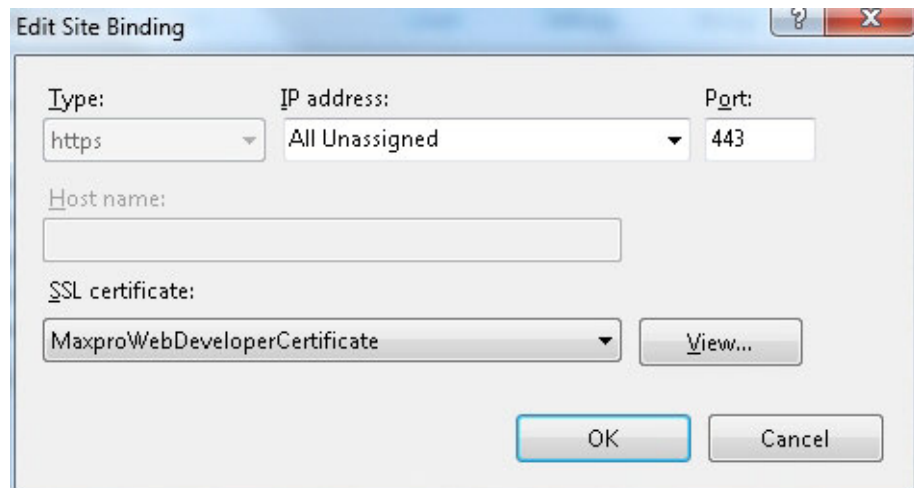


Figure 2-22 Edit Site Bindings

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.

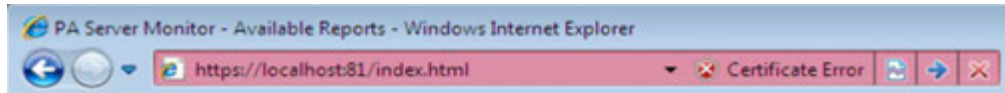


Figure 1-1 Certificate Error

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

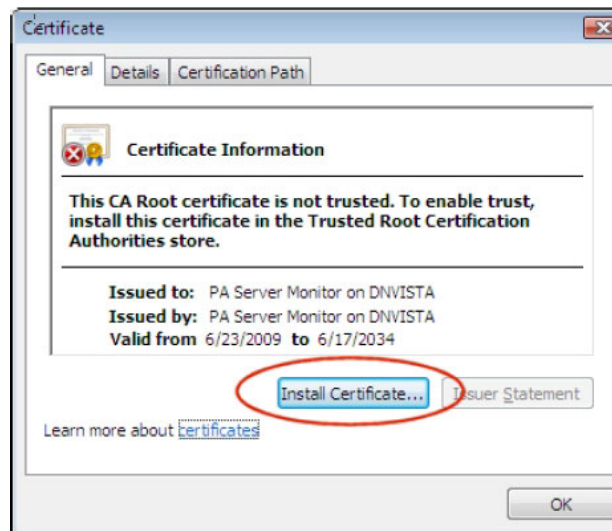


Figure 2-2 Untrusted Certificate

To install the certificate

1. Click **View Certificate** as shown in figure 2. 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.

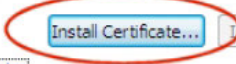


Figure 2-3 Certificate

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

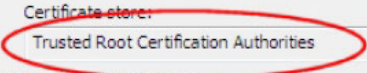


Figure 2-4 Certificate Import Wizard

- Click the **Browse** button and then select the **Trusted Certificate Authorities** option.
- Click **Next** until **Finish** button is displayed.
- 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. From MAXPRO VMS version R310 onwards 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.

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.

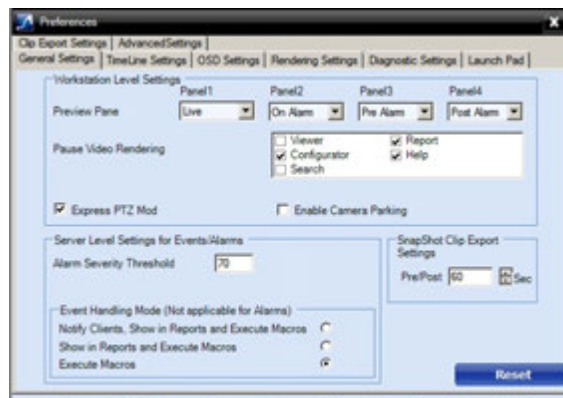


Figure 2-5 Preferences

2. Click the **Rendering Settings** tab.

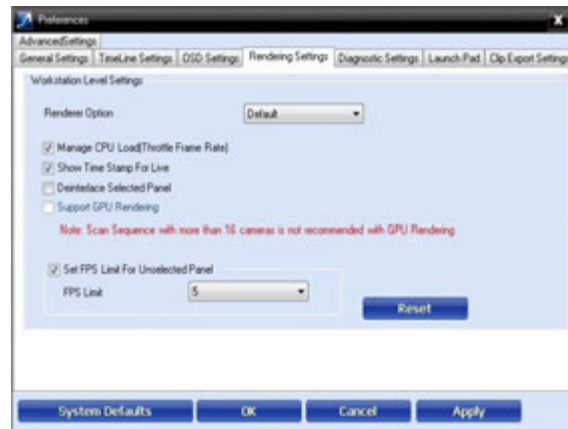


Figure 2-6 Rendering Settings

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 GPU Rendering** check box if you want to render using GPU.

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 check box beside **Set FPS Limit For Unselected Panel**.
9. In the **FPS Limit** box, select a frame rate. The default frame rate is 5 fps and is the recommended setting for unselected panels.
10. Click **Apply**.
11. 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.

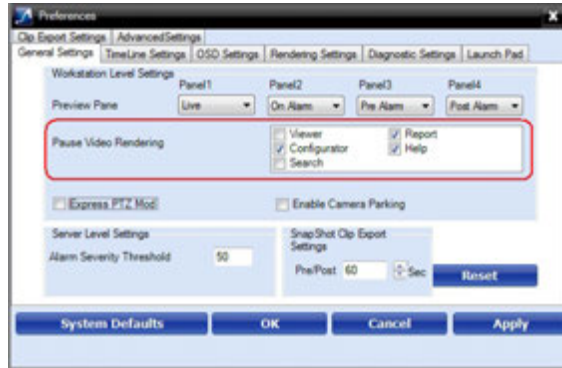


Figure 2-7 Pausing the Video Rendering

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.

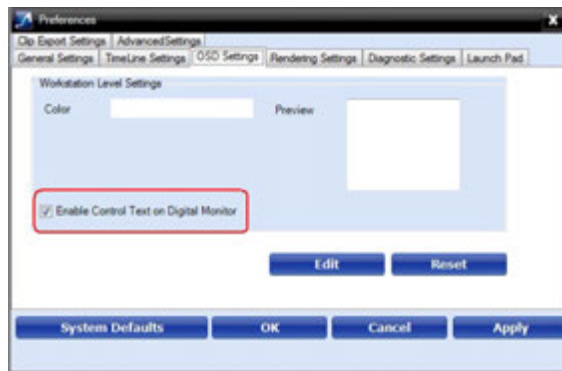


Figure 2-8 Enabling Control text on Digital Monitors

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

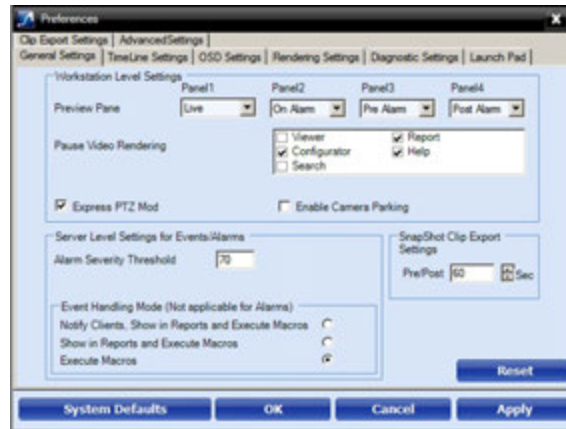


Figure 2-9 Enabling the Camera Parking Feature

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 88 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.

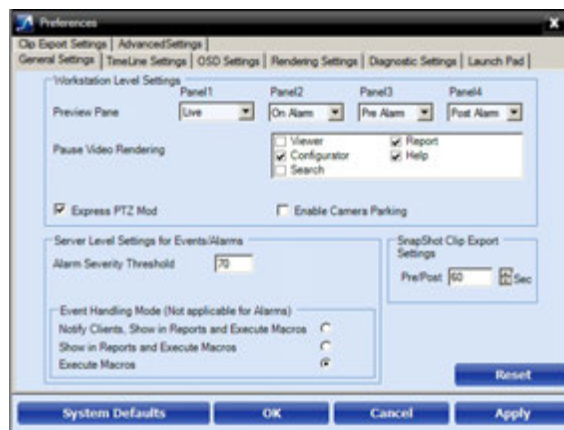


Figure 2-10 Enabling the Express Mode

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.
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.

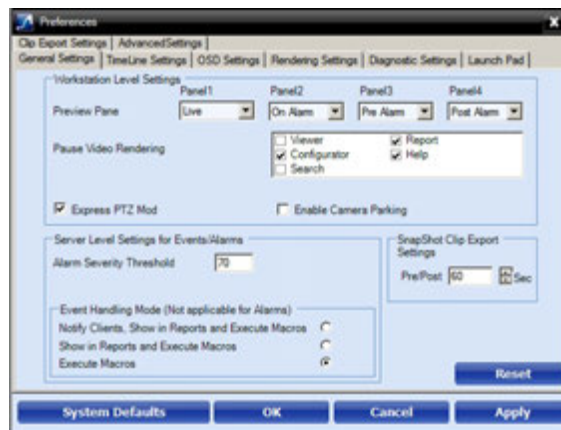


Figure 2-11 Event Handling Mode Settings

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.
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.

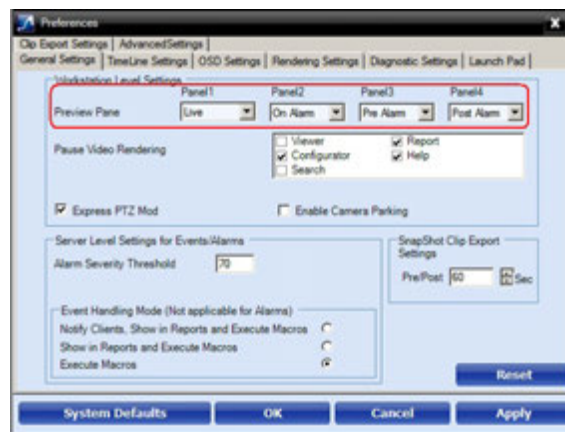


Figure 2-12 Settings for the Alarm Preview Pane

2. In the **Preview Pane** box, 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.

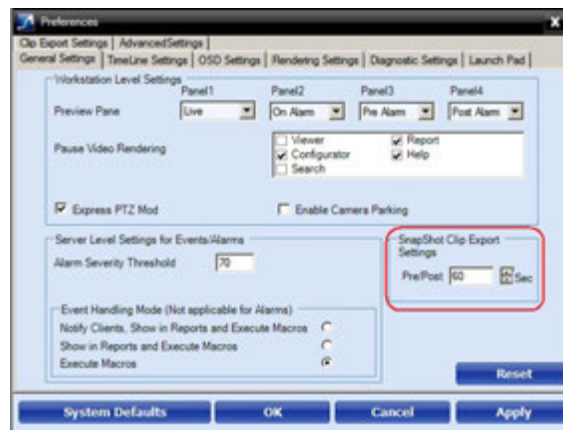


Figure 2-13 Snap Shot Clip Export Settings

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.

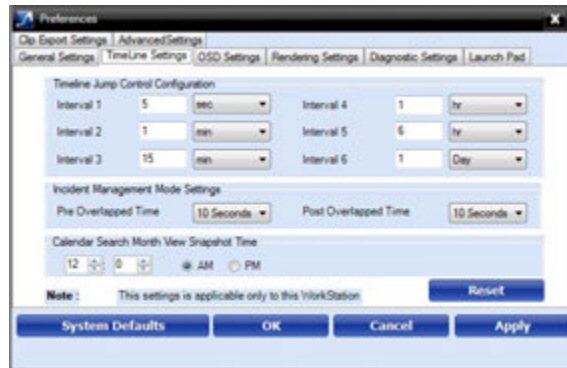


Figure 2-14 Timeline Settings

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.

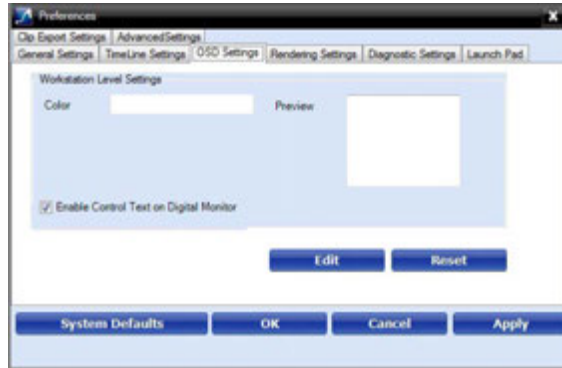


Figure 2-15 OSD Settings

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.

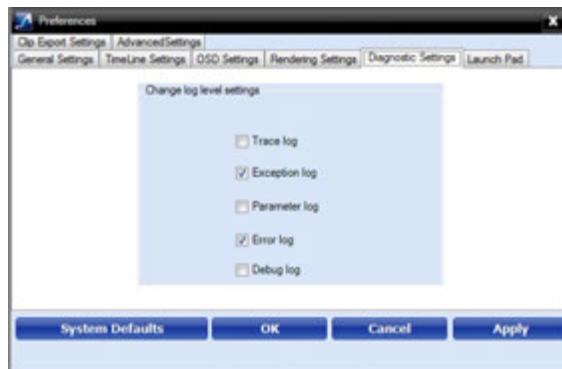


Figure 2-16 Diagnostic Settings

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.

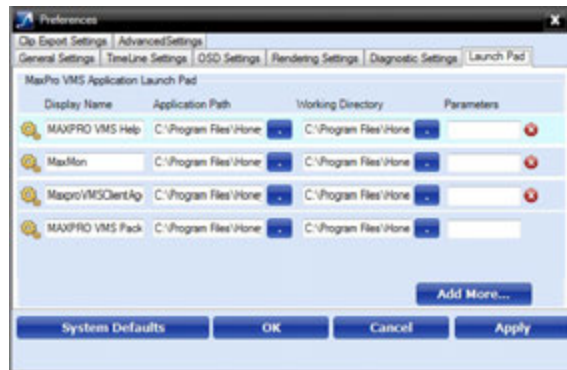



Figure 2-17 Launch Pad Settings

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.

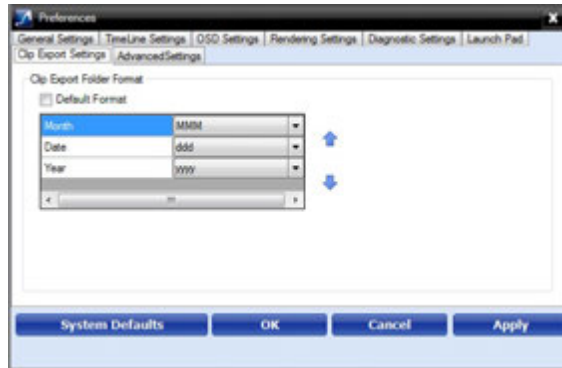



Figure 2-18 Clip Export Settings

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.

- **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:**
 - 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.

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.

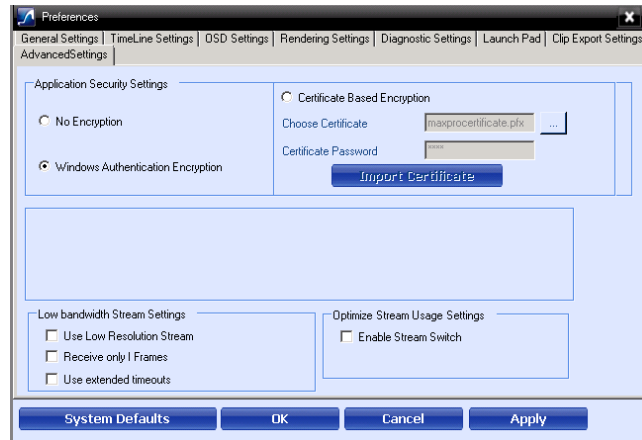


Figure 2-19 Advanced Settings Tab

3. Under **Application Security Settings**, select the **Default Encryption** or **Windows Authentication Encryption** option button as applicable.
Or
If you select the **Certificate Based Encryption** option button, then certificate is used to encrypt 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.

Note: 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)

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

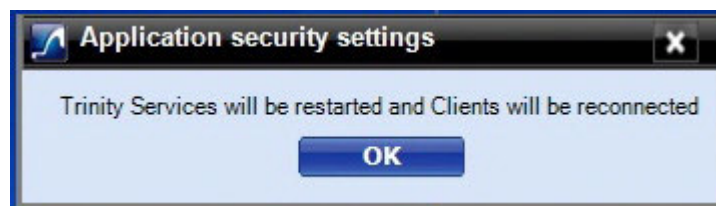


Figure 2-20 Application security settings

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**:

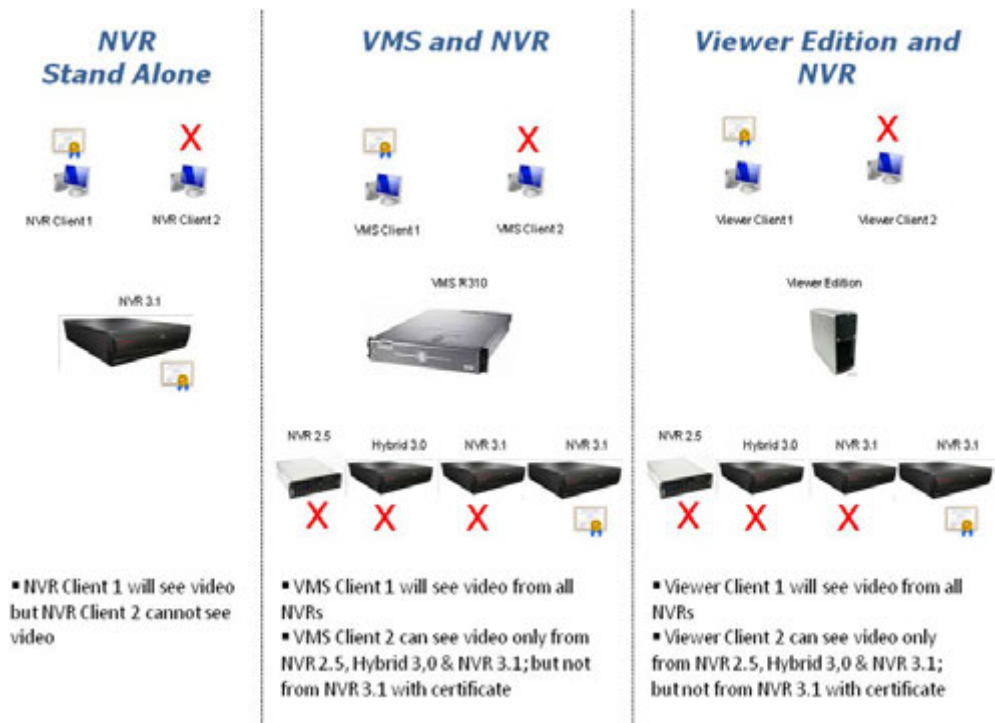
- **Use Low Resolution Stream**: Select this check box to render video the low resolution video in any format of salvo layout. User needs to configure the low resolution (for any Primary or secondary stream) in MAXPRO NVR camera page. Refer to [MAXPRO™ VMS R450 Installation and Configuration Guide](#) 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 2-21 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.

MONITORING A SITE

SALVO LAYOUTS AND PANELS

The salvo layout is an 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.

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.

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. See [Joystick Controllers](#).

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. See About 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 the  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 the  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 the  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**.



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 1](#).
- AspectRatio 16: View [figure 2](#).
- AspectRatio 4:3 View [figure 3](#).

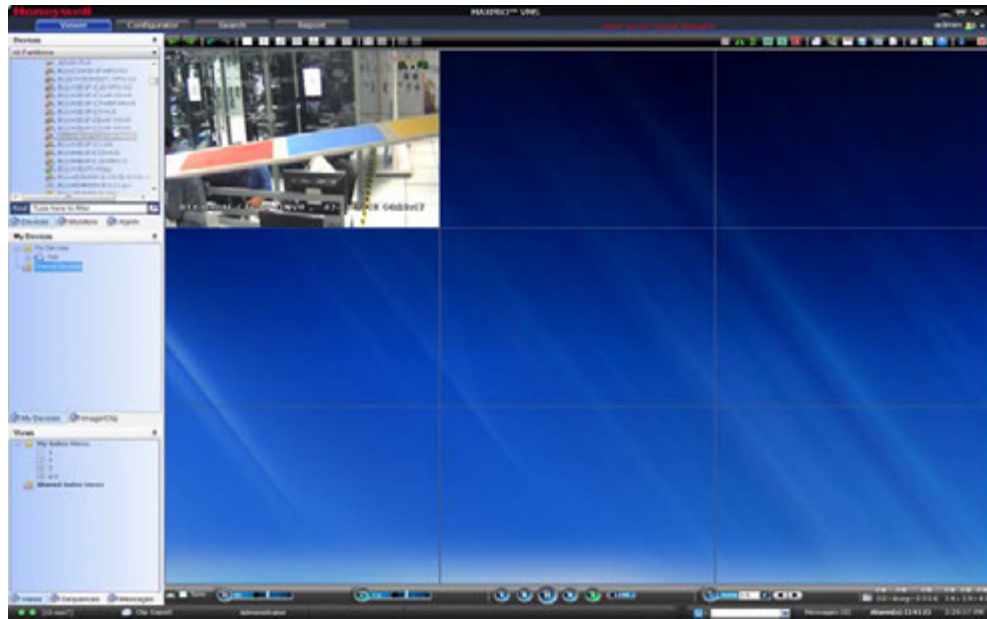


Figure 3-1 Default Stretch View

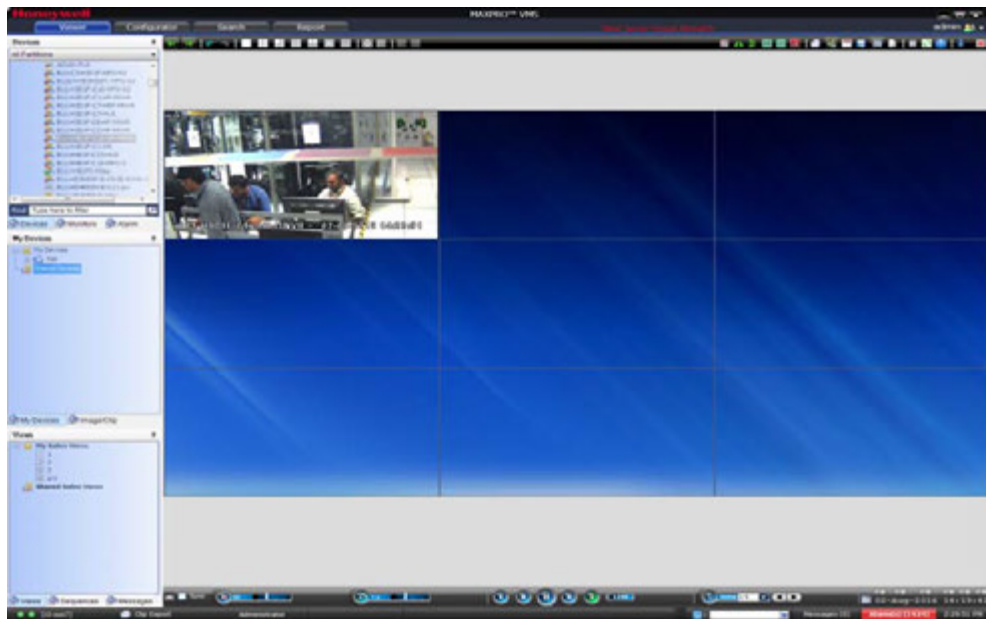


Figure 3-2 AspectRatio 16:9 view



Figure 3-3 AspectRatio 4:3 view

LIVE VIDEO

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

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.

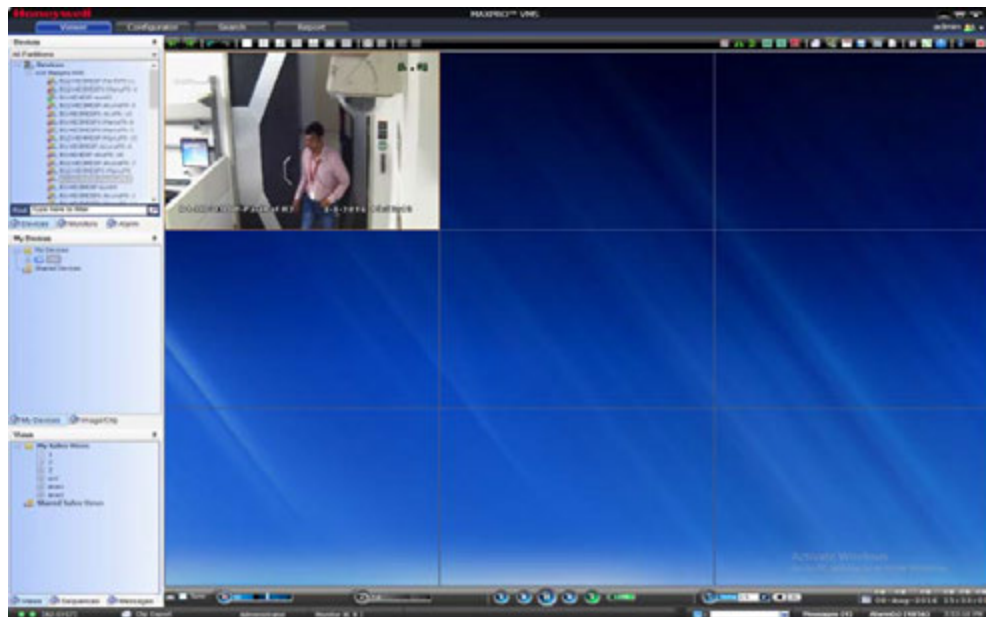


Figure 3-4 A panel displaying live video

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. 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.
Park Camera	enable the camera parking feature. See Camera Parking for more information.
Digital PTZ	enable digital PTZ. See Panning Tilting and Zooming for information on digital PTZ.

Command	Click to...
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.
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.
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.
Show Surrounding Cameras	to view video from the associated cameras. See Surrounding Cameras for more information.

Command	Click to...
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.
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.
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.
Show Surrounding Cameras	to view video from the associated cameras. See Surrounding Cameras for more information.

Command	Click to...
Reset 3D	This option is displayed when you enable 3D Mode. Click this option to reset the 3D view. See How to Reset 3D Mode view on page 92 section for more information. Note: Rest 3D option resets the 3D view only at the first level.
Save Profile Camera As	Save the camera view as a profile and this profile camera will be displayed under the Devices tree. Note: Profile camera created in MAXPRO® NVR cannot be discovered in MAXPRO® VMS and in VMS in VMS scenario.

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.

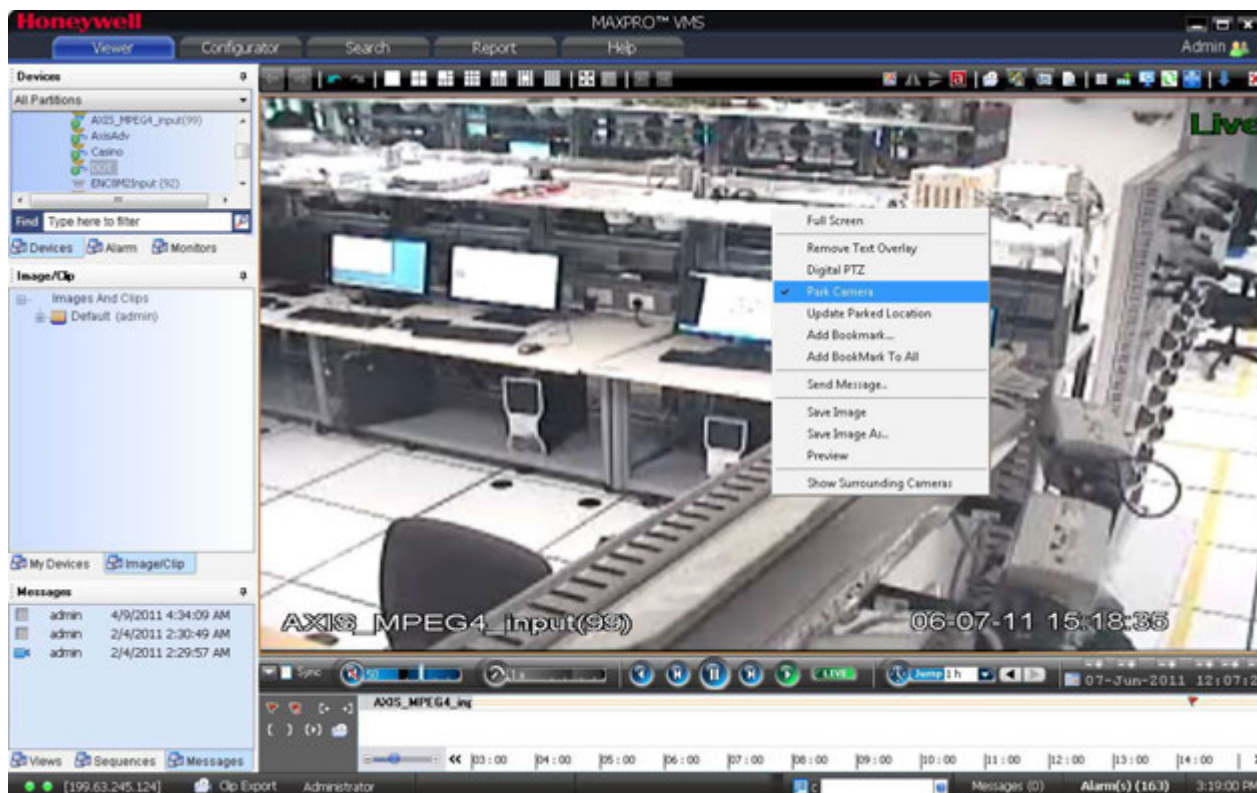


Figure 3-5 Camera Parking

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.

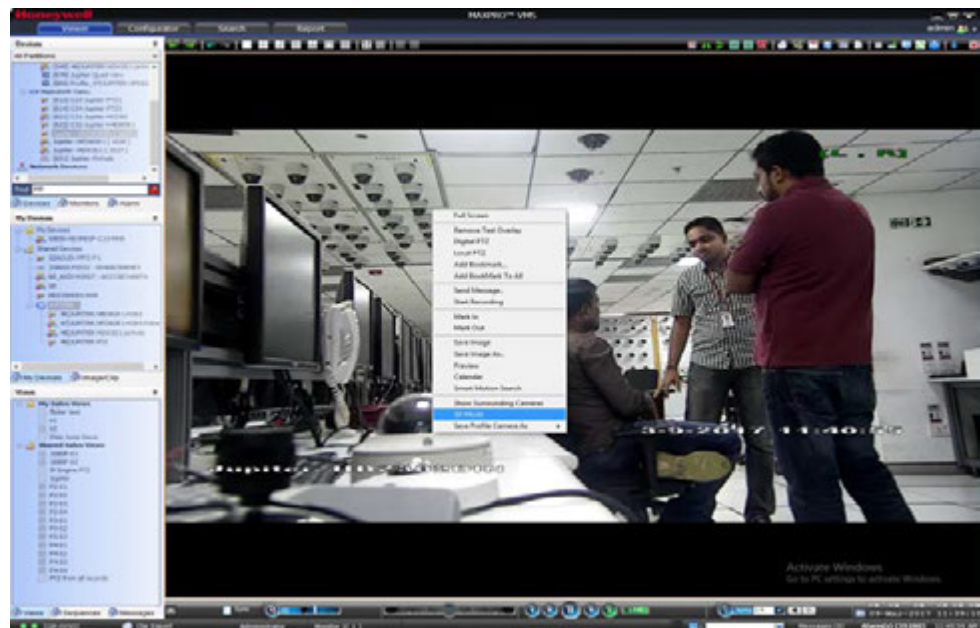


Figure 3-6 3D Mode option

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.

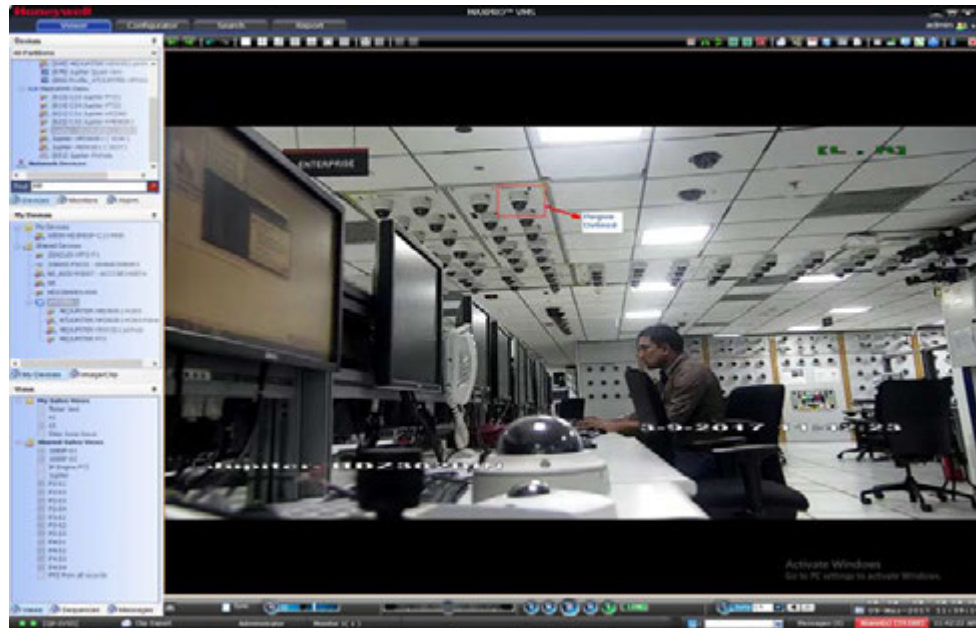


Figure 3-7 3D Rectangle Region

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.

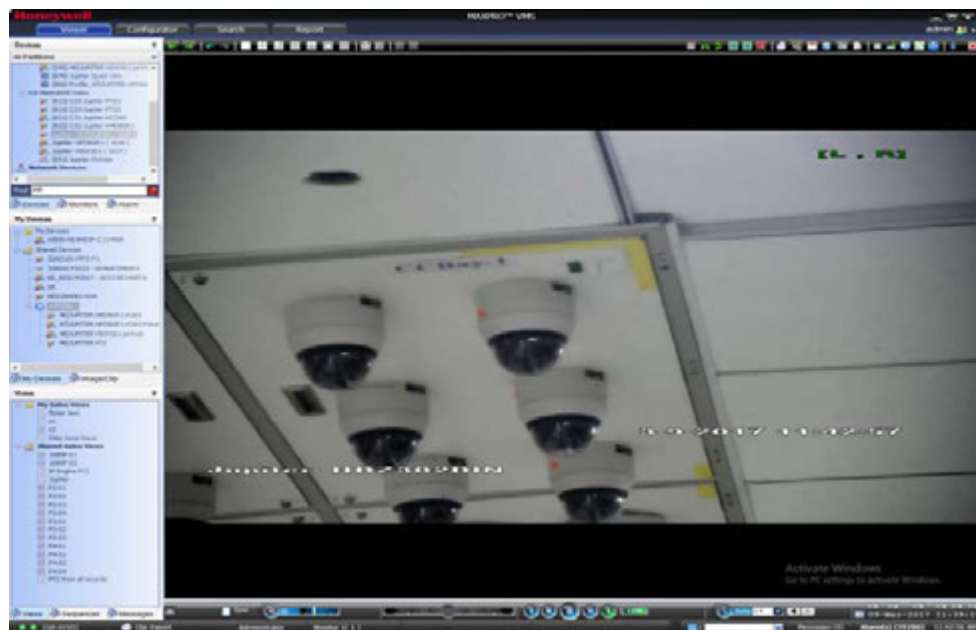


Figure 3-8 Region Positioned

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.

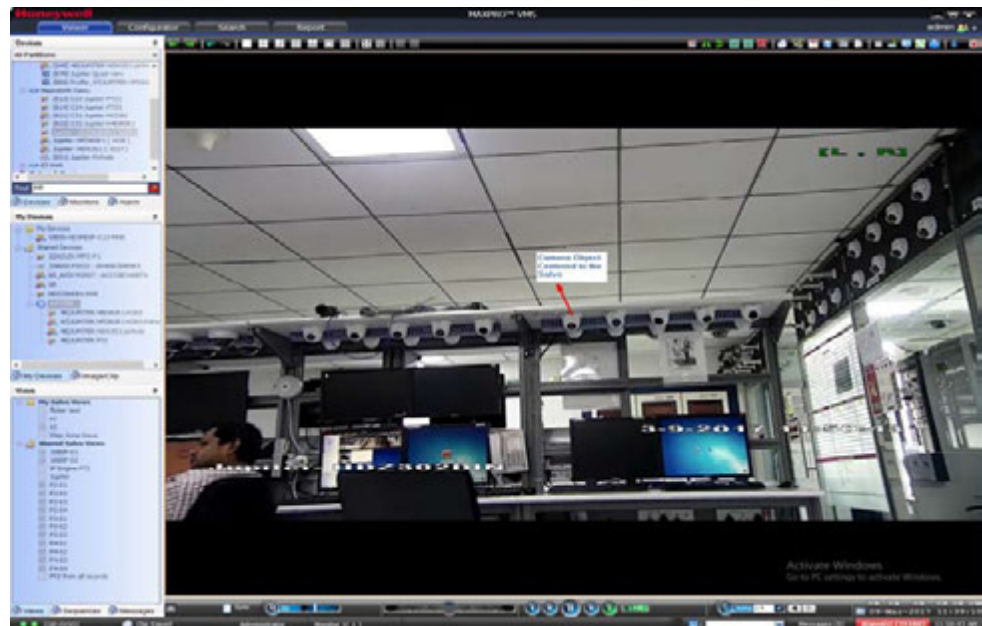


Figure 3-10 Camera Object is Centered

HOW TO RESET 3D MODE VIEW

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

To reset 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.

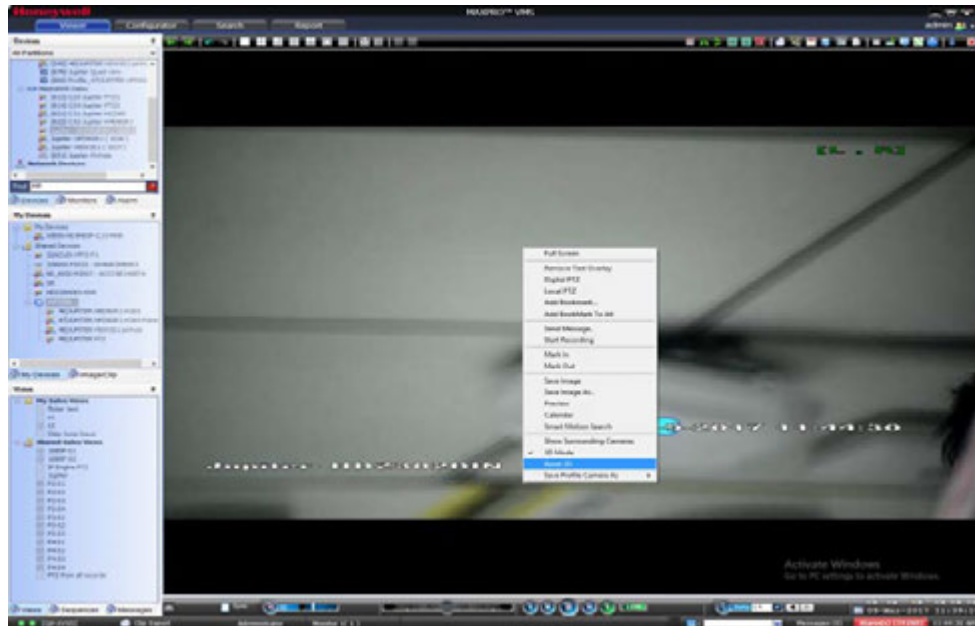


Figure 3-11 Context Menu Options

2. Click **Reset 3D** option.

Note: Reset 3D 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 rectangular region.

PLAYING A SEQUENCE

A sequence is a set of live video streamed one after the other from cameras for a specified time interval. See [Sequences](#) on page 50 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.

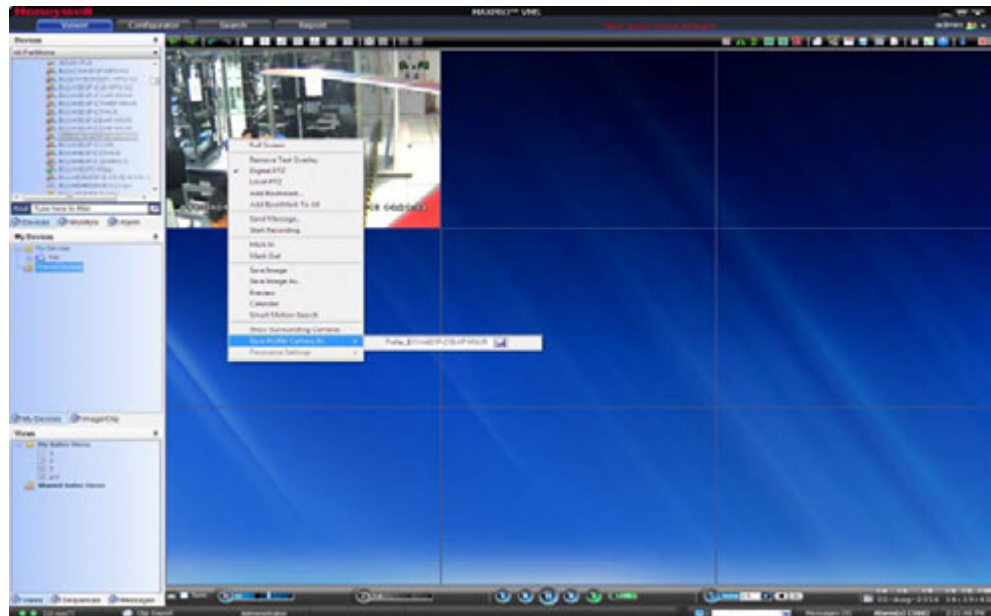



Figure 3-12 Profile Camera View

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.

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. Refer MAXPRO VMS Installation and Configuration Guide for more information on configuring the Redundant recorders.

Note: In MAXPRO VMS, the settings for video recording cannot be configured for the cameras connected to the Rapid Eye, Fusion, Intellex, Embedded Recorder and Enterprise 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.

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




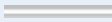


buttons corresponding to day, month, year,

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.

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

- View frames in the recorded video


Click the  icon to view the forward frames or click the  icon to view the reverse frames.

- Play video that is paused

Click the  icon or the  icon to forward play video.

To reverse play the video, click the  icon.

- Change the playing speed

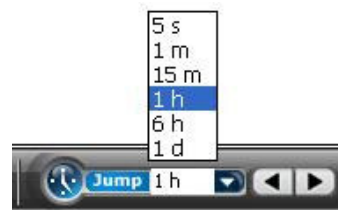
Hover the mouse over the  while video is playing and move the slider to change the playing speed.

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 the  icon to view the recorded video from the selected time interval.

- Sync video

Sync video allows you to synchronize the display of video from multiple cameras. In the Salvo layout, select the cameras, select the **Sync** 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 synched.

- Volume control


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


Click the  icon 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.

Command	Click to...
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.
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.
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.

Command	Click to...
Alternate Camera	to view the video from the alternate camera. The video displayed from the alternate camera would sync with 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 the  icon. 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 the  icon. 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 the  icon 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 the  icon. 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 the  icon or press the **DELETE** key.

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.







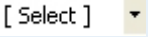









Figure 3-13 Toolbar on the right of the panel displaying live video








Figure 3-14 Toolbar on the bottom of the salvo panel displaying live video

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
	<p>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.</p> <p>Alternatively, you can click this icon in the toolbar.</p> <p>Note: Select the Apply color changes check box to save the settings. Clicking the Reset button sets the color correction settings to default values.</p>
	<p>displays a drop down box of presets. You can select a preset for the camera.</p> <p>Note: 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>

Icon	Click to...
	<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>Note: 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>Note: 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>Note: 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>
	pan left.
	pan right.
	tilt up.

Icon	Click to...
	tilt down.
	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.

- 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.

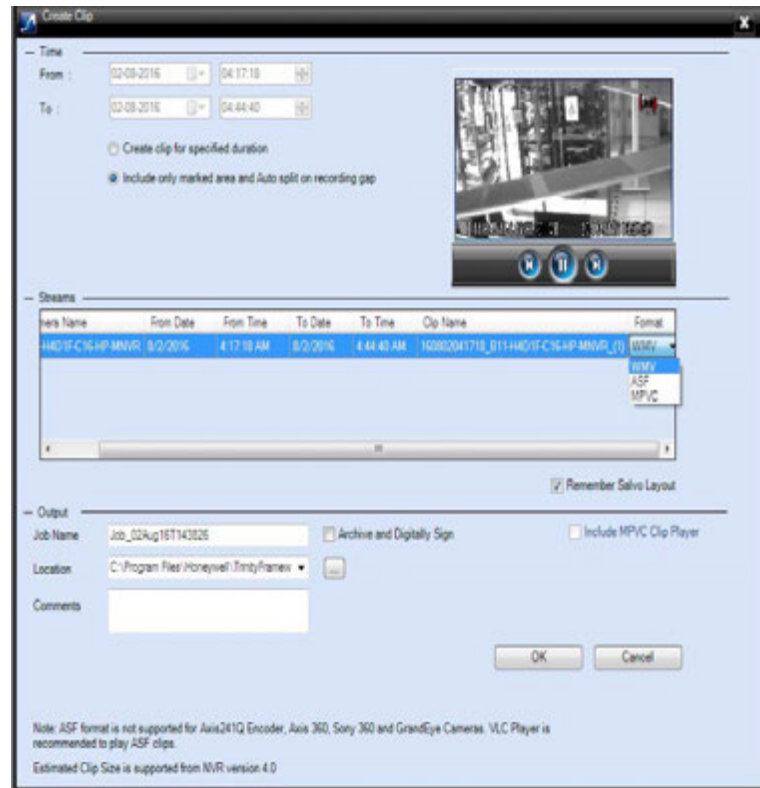


Figure 3-15 Creating a Clip


- 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.

- 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
Rapid Eye, Fusion	WMV
Enterprise	MPG, SDC
Intellex	AVI
Pelco	AVI
Digital Sentry	MPG, AVI
Milestone	AVI
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.

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 the 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. Note: 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**.

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.



Figure 3-16 Dragging and dropping of cameras 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 3-17 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.

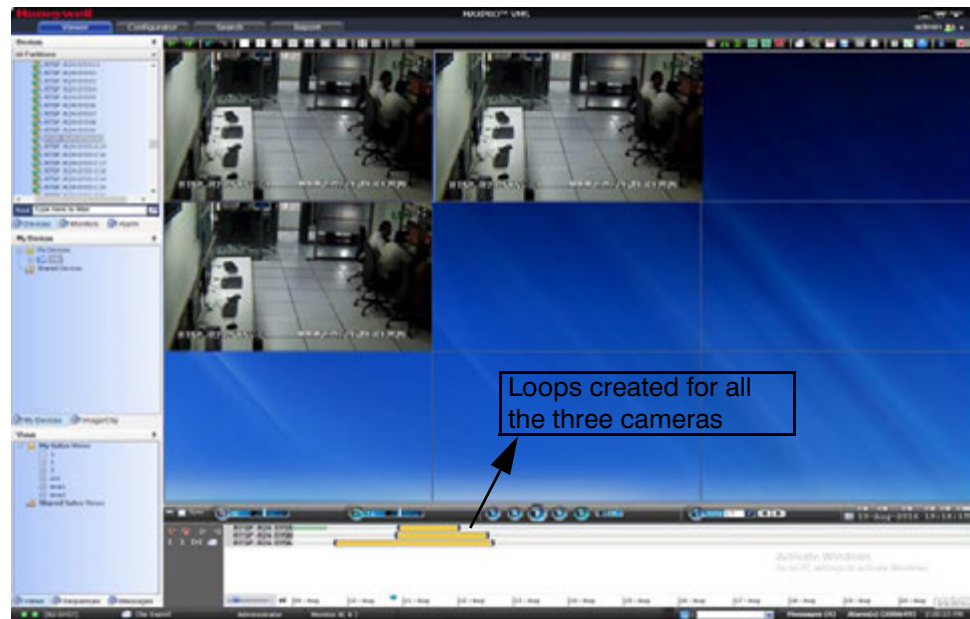



Figure 3-18 Creation of Loops

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.

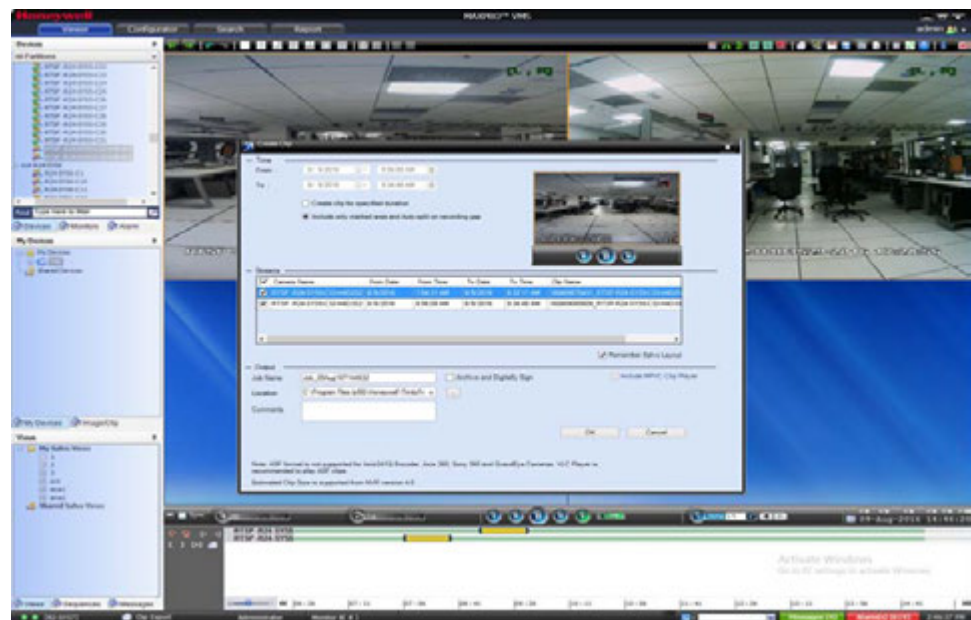


Figure 3-19 Create Clip dialog box

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
Rapid Eye, Fusion, MAXPRO NVR and HRDP	WMV
Enterprise	MPG, SDC

Recorder	Format Supported
Intellex	AVI
Pelco	AVI
Embedded Recorder	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.

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.

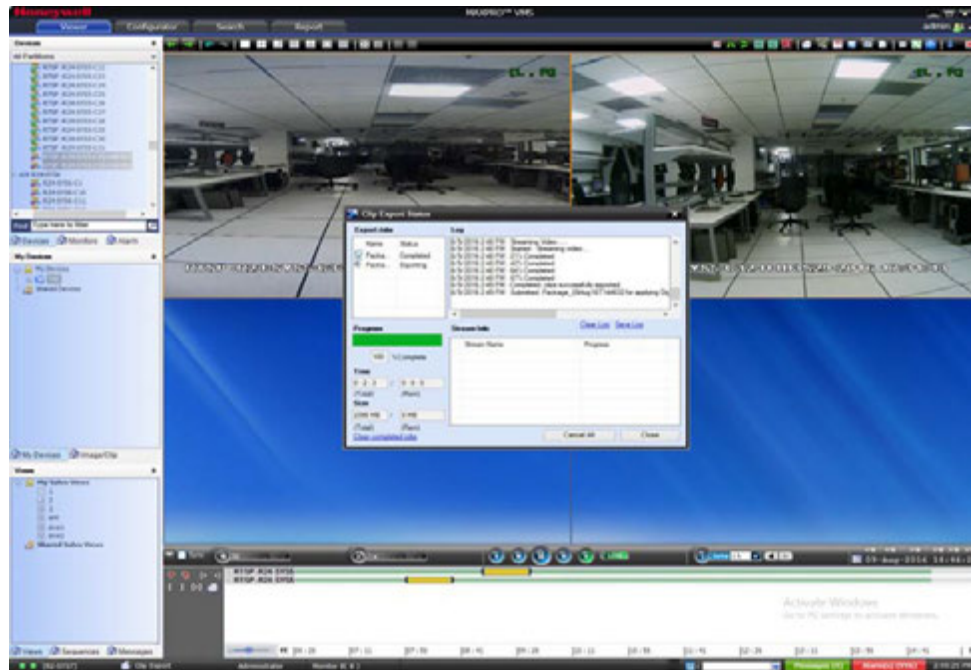


Figure 3-20 Clip Creation Successful

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.

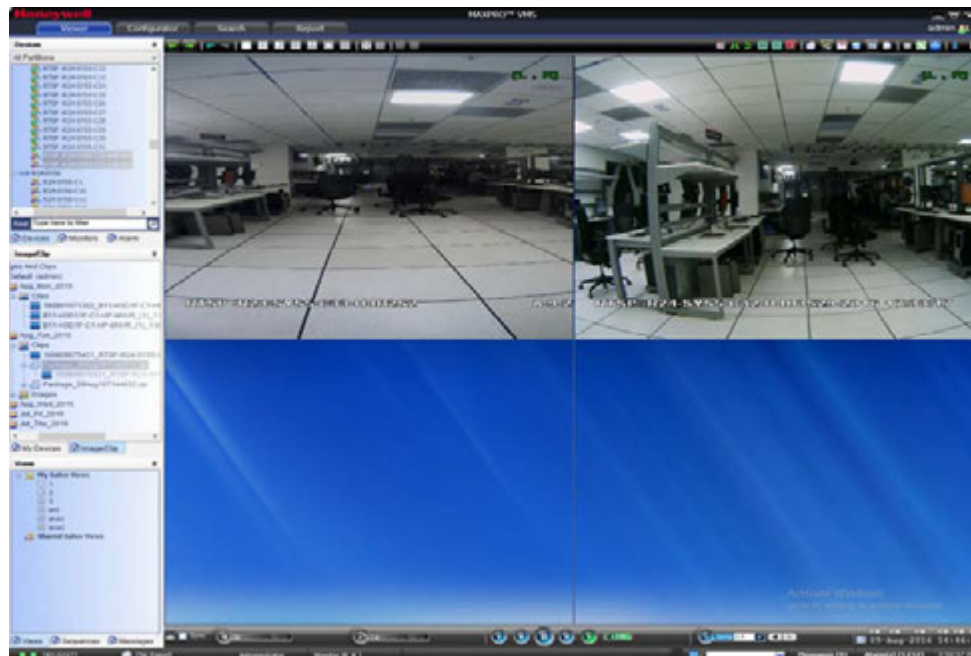



Figure 3-21 Dragging and dropping of packages

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 the  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 117 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 68.

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.

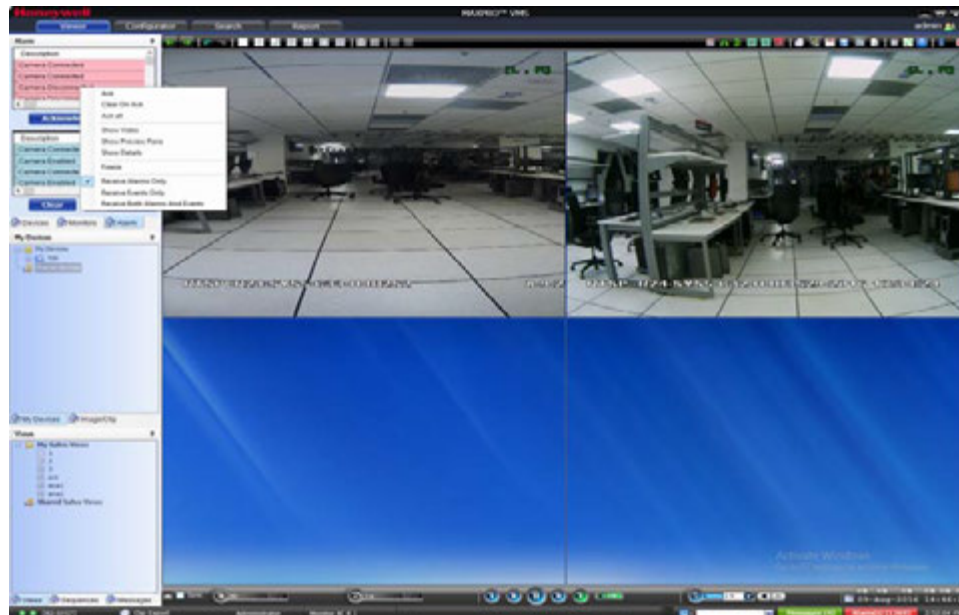
3. Click **Acknowledge**. The acknowledged alarm appears in the second table in the **Alarm** window.

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. Note: 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.

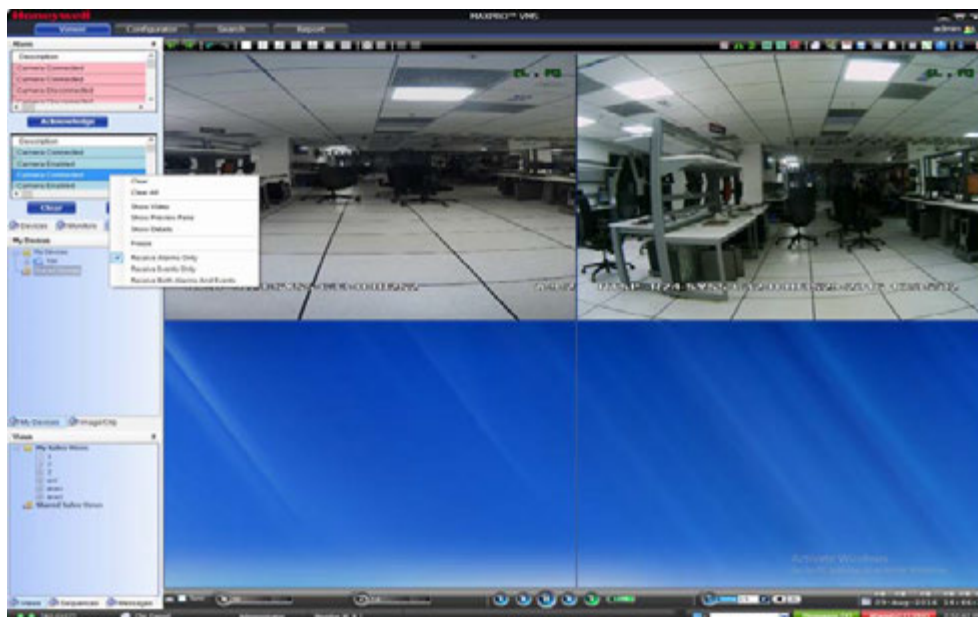
3. Click **Clear**. The alarm is removed from the list of acknowledged alarms.
If you have selected multiple alarms, all the alarms are cleared.

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. Note: 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.

OPERATOR MESSAGING

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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.
	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 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.

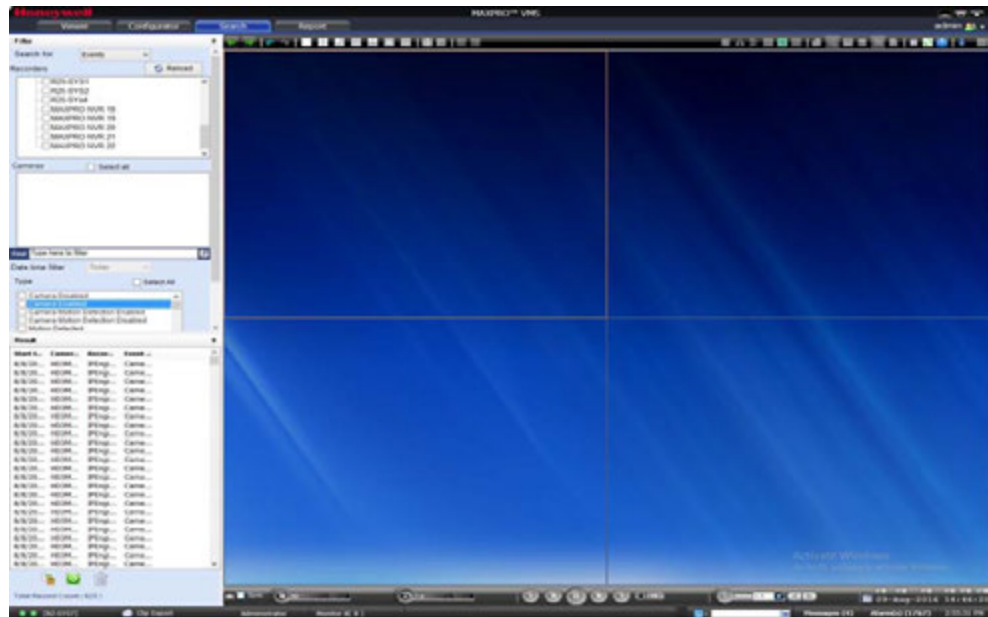


Figure 3-22 Search

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.

Condition	To search for...
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. 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.

PLAYING VIDEO AFTER SEARCHING

- Drag and drop the search result from the **Results** window on the salvo layout. The panel starts displaying the recorded video.

Note: To select more than one search result, press the **CTRL** key.

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 R450 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 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.

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 3-23 List of monitors and initial state of salvo in monitor1



Figure 3-24 Monitor 2 playing video 1 and video 2

You can control monitor 2 from monitor 1 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 2 to monitor 1.



Figure 3-25 Dragging of monitor 2 to monitor 1



Figure 3-26 Monitor 2 displayed in Monitor 1

5. Perform an operation such as pausing the video from monitor 1.



Figure 3-27 Pausing video in Monitor 1

This action also pauses the video in monitor 2.

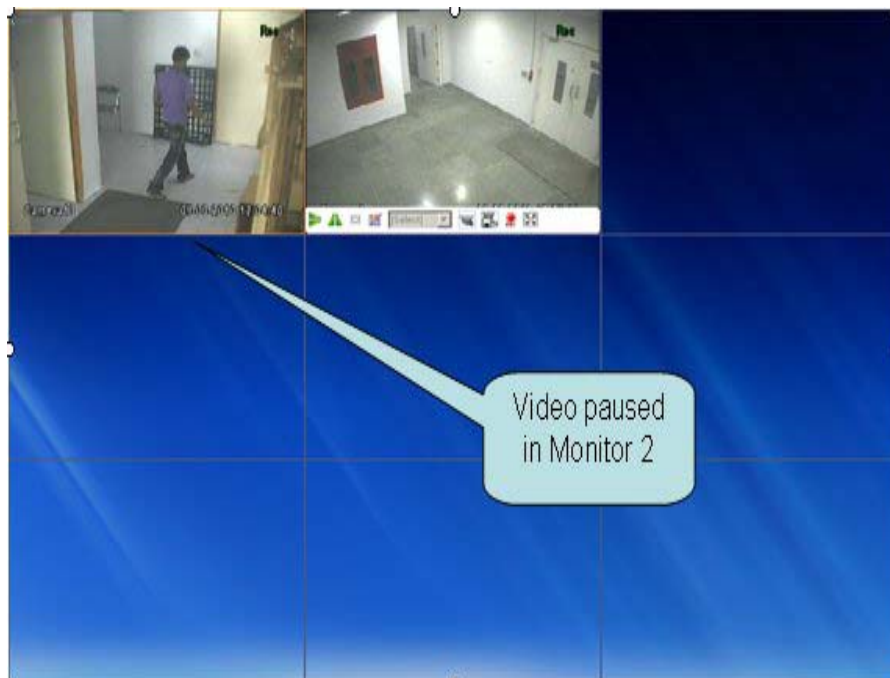


Figure 3-28 Pausing of video in monitor 2

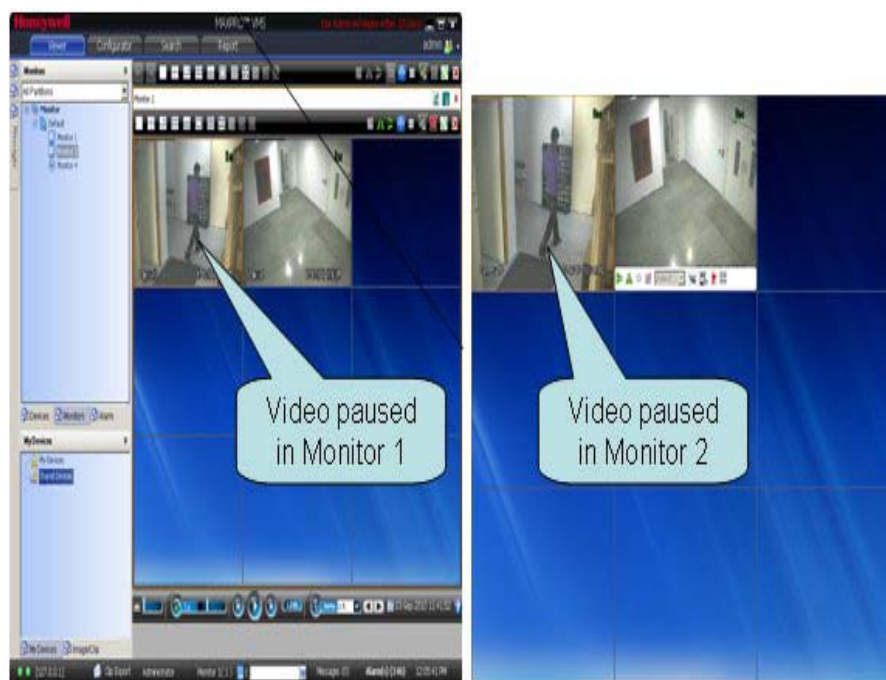


Figure 3-29 Side by side view of monitor 1 and monitor 2

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.

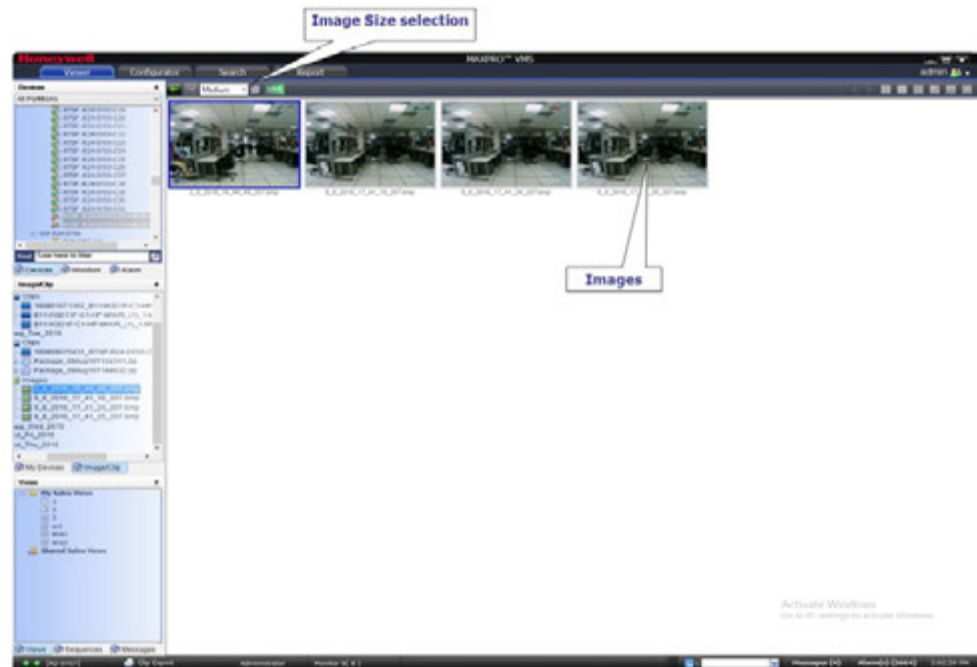




Figure 3-30 Image view

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  from the salvo layout.

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 105 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 3-31 Clicking the Smart Motion Search icon

Or

Right-click the camera on the salvo panel and then click **Smart Motion Search** as shown below.

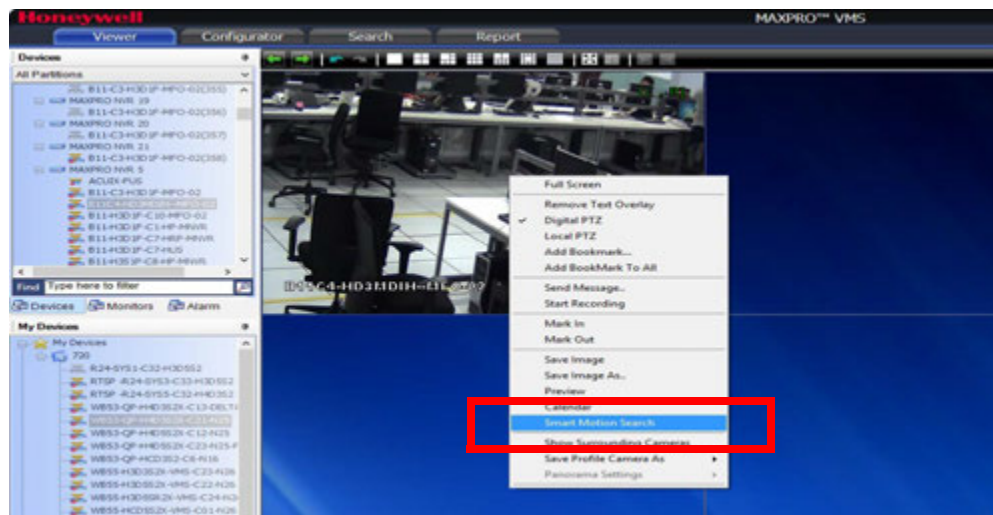


Figure 3-32 Right-clicking the camera in the salvo panel

The **Smart Motion Search** window is displayed as shown below.

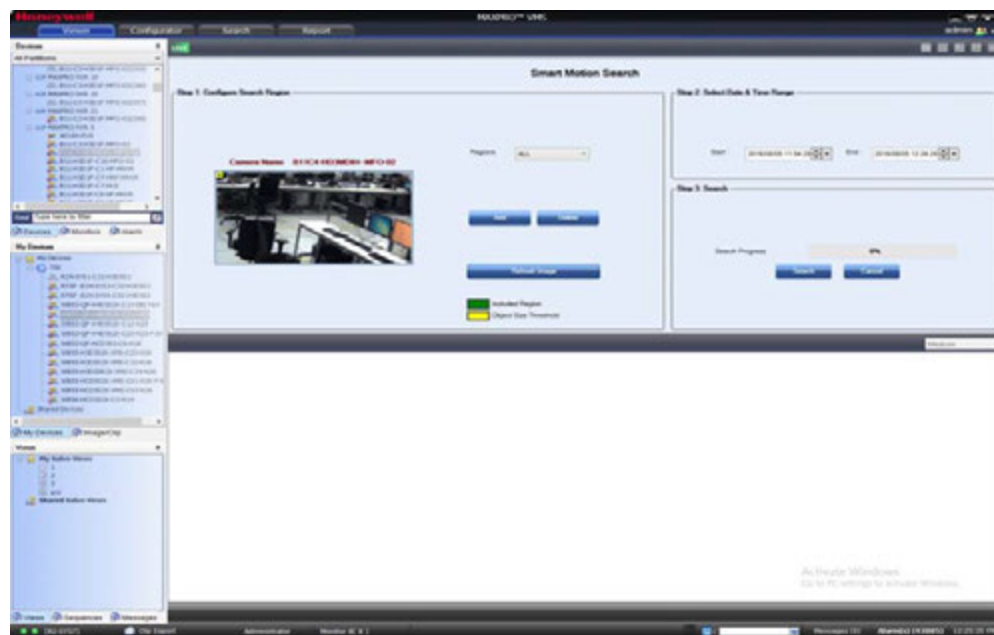


Figure 3-33 Smart Motion Search View

3. In the **Step 1: Configure Search Region**, click the **Add** button to create region(s) for search as shown below.

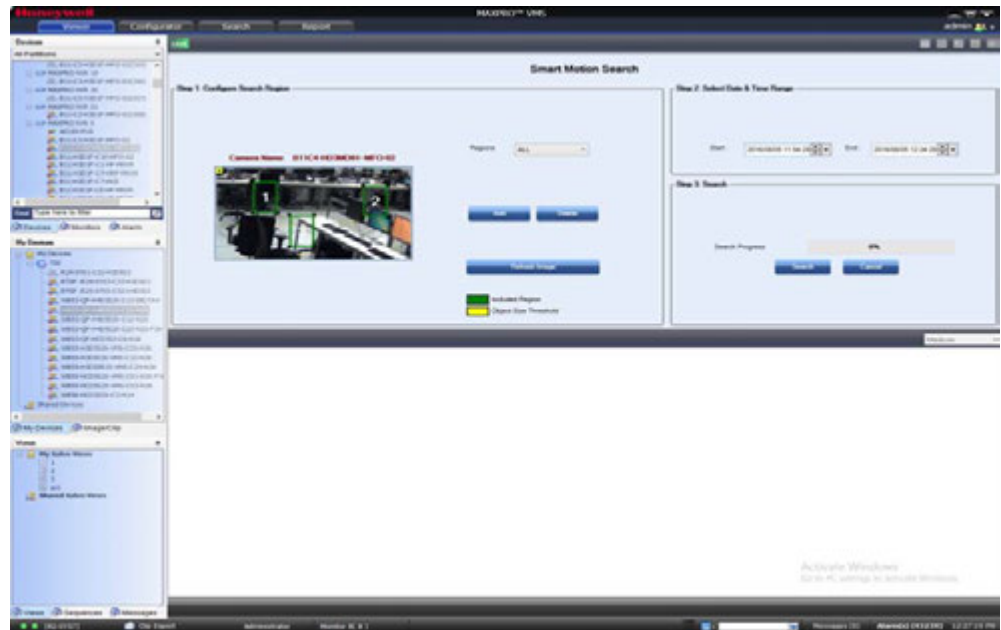


Figure 3-34 Regions Defined

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.

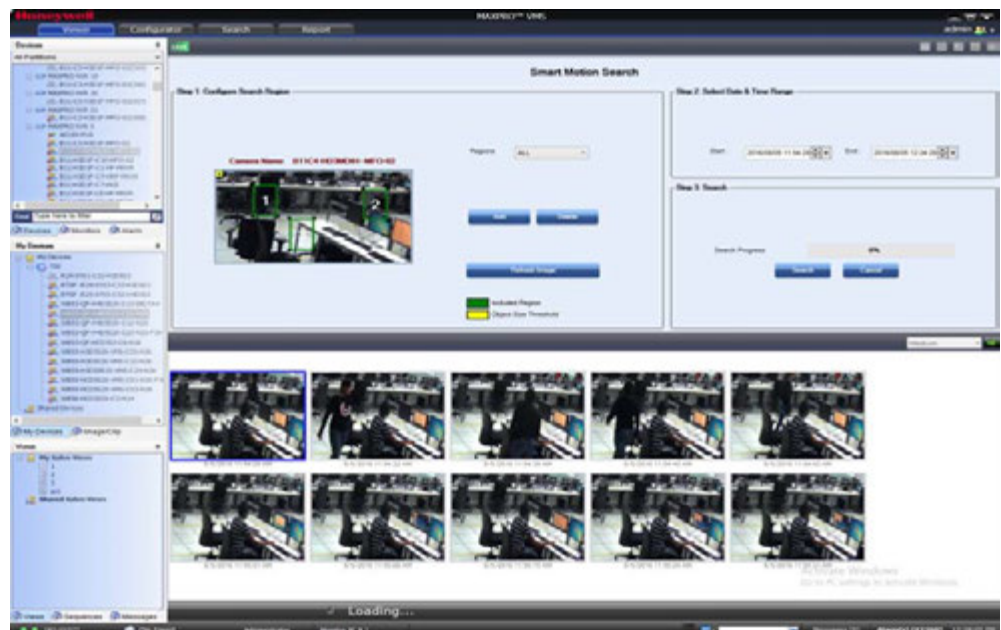


Figure 3-35 Recordings for the date and time

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.

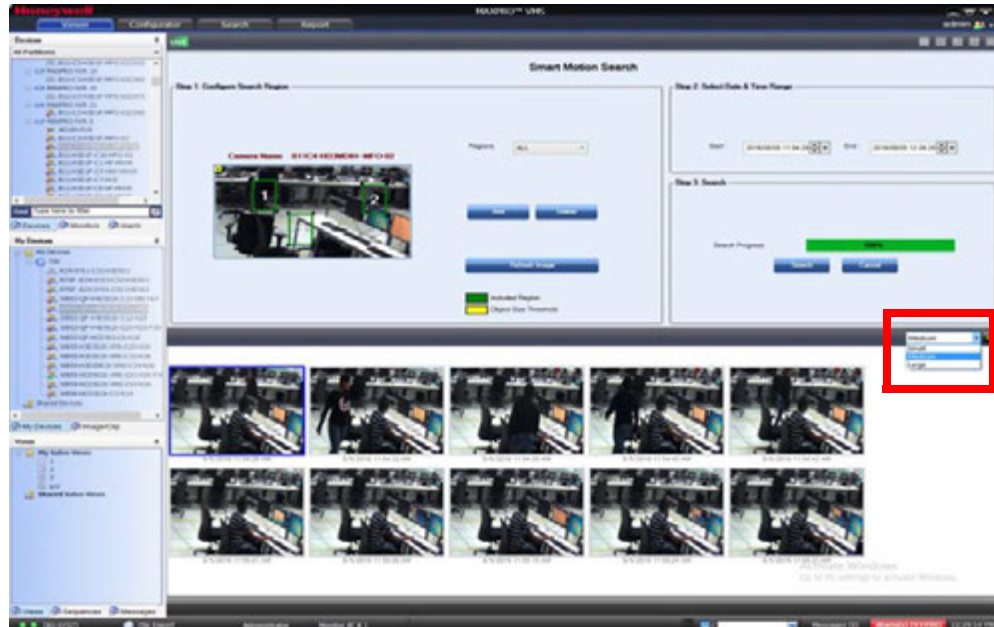


Figure 3-36 Selecting the Large/Small options for the Recordings

Navigation Tips

- At any point of time, click the Live view icon as shown below to go back to the Live video view.

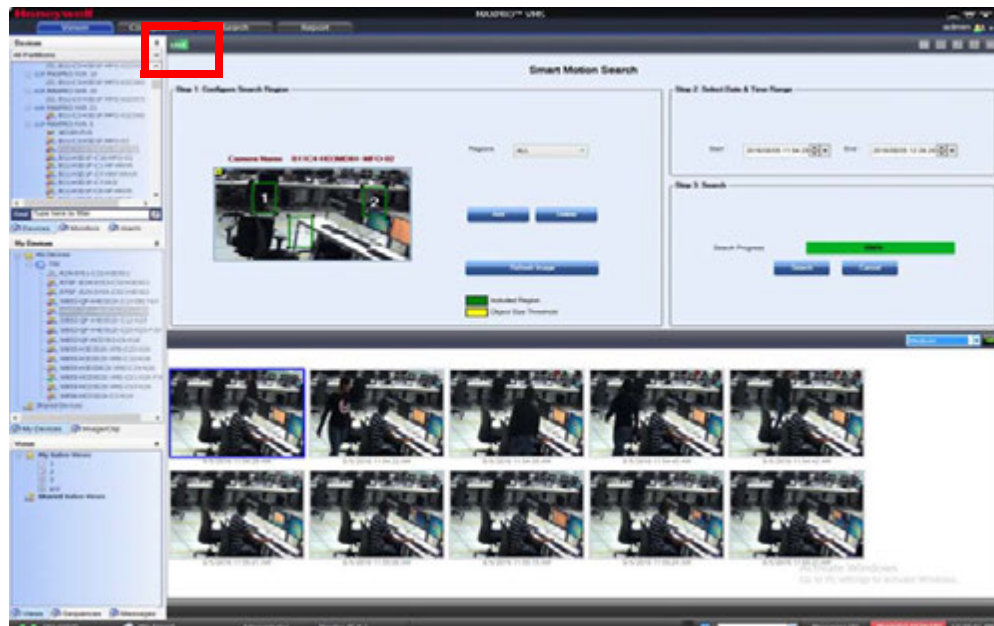


Figure 3-37 Returning to Live Video

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 DVR is available.
	Suggests that the DVR is not available.
	Suggests that the fixed camera is configured.
	Suggests that the fixed camera is disabled.
	Suggests that the fixed camera is enabled.
	Suggests that the fixed camera is not available.
	Suggests that the fixed camera recording is enabled.
	Suggests that the PTZ camera is available.
	Suggests that the PTZ camera is configured.
	Suggests that the PTZ camera is disabled.
	Suggests that the PTZ camera is not available.
	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>Note: 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>Note: 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	<p>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.</p> <p>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.</p> <p>Note: Each camera is assigned a unique number called the callup number while configuring the camera. See Configuring a Camera.</p> <p>To view the camera 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 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.

Shortcut keys	Description
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.
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 OF DEWARPED NEW EQUIP CAMERA

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 (figure 38)	Quad View (figure 39)	1 Panorama & 3 Quatro View (figure 41)	Panorama 2x 180 Views (figure 40)	1 Fish Eye & 3 Quatro View (figure 42)
Mounting Position	Wall Mounting	Supported	Supported	Supported	Not Supported	Not Supported
	Ceiling Mounting	Supported	Supported	Not Supported	Supported	Supported
	Ground Mounting	Supported	Supported	Not Supported	Supported	Supported



Figure 3-38 EQUIP-Fish Eye View



Figure 3-39 EQUIP - Quad View



Figure 3-40 EQUIP - Panorama 2X180 View



Figure 3-41 Equip - 1 Panorama & 3 Quatro View




Figure 3-42 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 43](#).


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 158.



Figure 3-43 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.

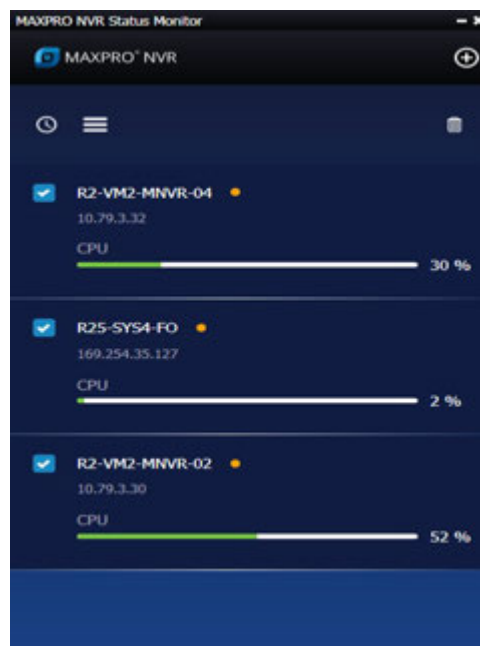



Figure 3-44 System status of NVR

Note: By default the System status is displayed.

To switch between views:

1. Click  icon on the tool bar. The status is displayed as shown below.



NVR	CPU	Active cameras	FPS Recorded	Bitrate Recorded	FPS Received	BitRate Received	Disk Write	Disk Read	Avg. Disk Queue
<input checked="" type="checkbox"/> R2-VM2-MNVR-04 10.79.3.32	25 %	0	0	0	0	0	59.99 KB	0	0
<input checked="" type="checkbox"/> R25-SYS4-FO 169.254.35.127	1 %	0	0	0	0	0	20.01 KB	0	0
<input checked="" type="checkbox"/> R2-VM2-MNVR-02 10.79.3.30	55 %	0	0	0	0	0	104.49 KB	0	0

Figure 3-45 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.

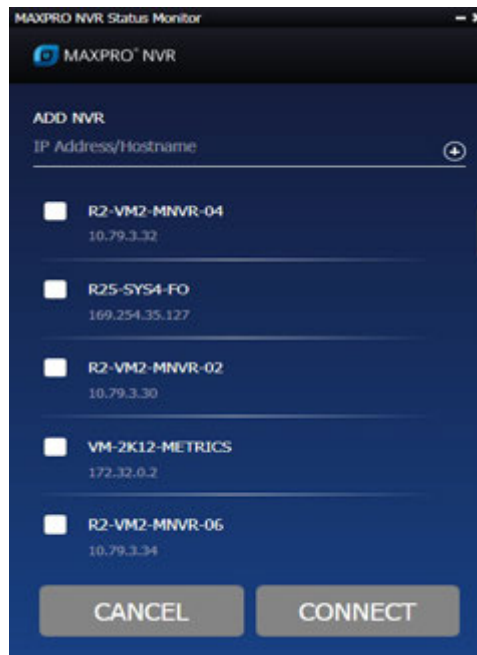


Figure 3-46 MAXPRO Status Monitor Home screen

- 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 3-47 Status of NVRs

- 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:

- On the tool bar, click  icon. The **Refresh Interval** options are displayed based on your selected view.

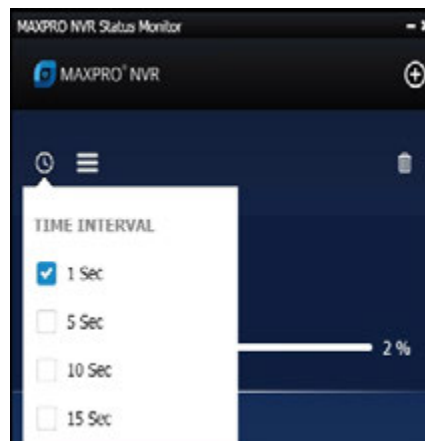


Figure 3-48 Refresh Intervals

- Click on the required time interval on the scale of 1 to 15 seconds. The status is displayed accordingly.

INTRODUCTION TO PROFILE-G OR EDGE RECORDING SYNC

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	Firmware1: 1.000.HW00.3.T, build : 2017-07-14
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	Firmware2: 2.420.HW00.3.T, build : 2017-07-14
HCL2G	Box 2MP low light	
H4L2GR1	Outdoor Dome 2MP 2.7-12mm low light	
HBL2GR1	Bullet 2MP 2.7-12mm low light	

Camera Models	Details	Firmware
HDZ302LIW	IR PTZ wiper, low light	Firmware3: 1.000.0016.0.T.3.3019.9A.NR, build : 2017-07-19
HDZ302LIK	IR PTZ IK10, low light	

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
2. Upgrade MAXPRO NVR to the latest version
3. Configure the Edge Sync Settings
 - Enable the Edge Sync feature

UPGRADE THE CAMERA

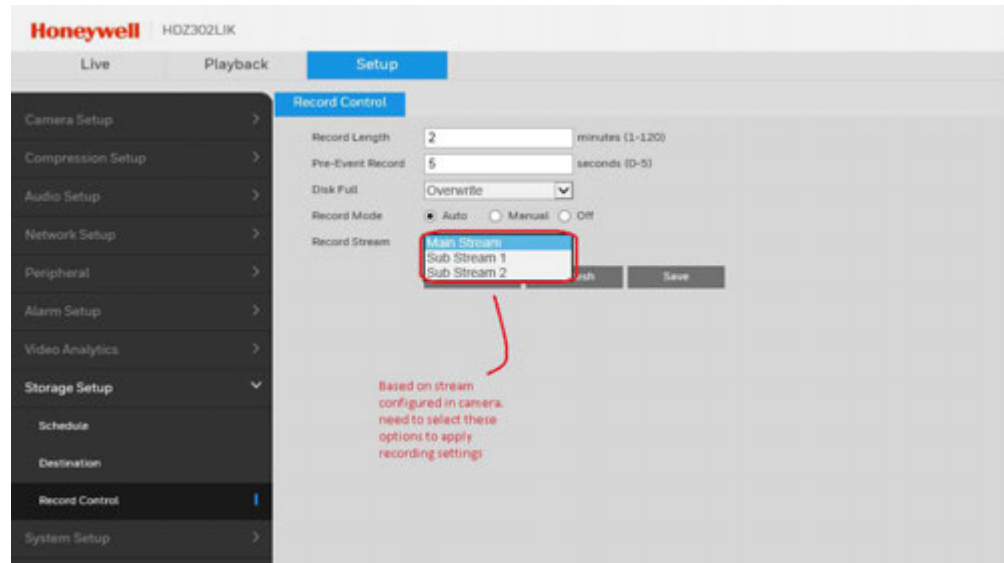
BEFORE UPGRADING

- 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 NVR 4.5 Installation and Configuration Guide for more information on how to upgrade.

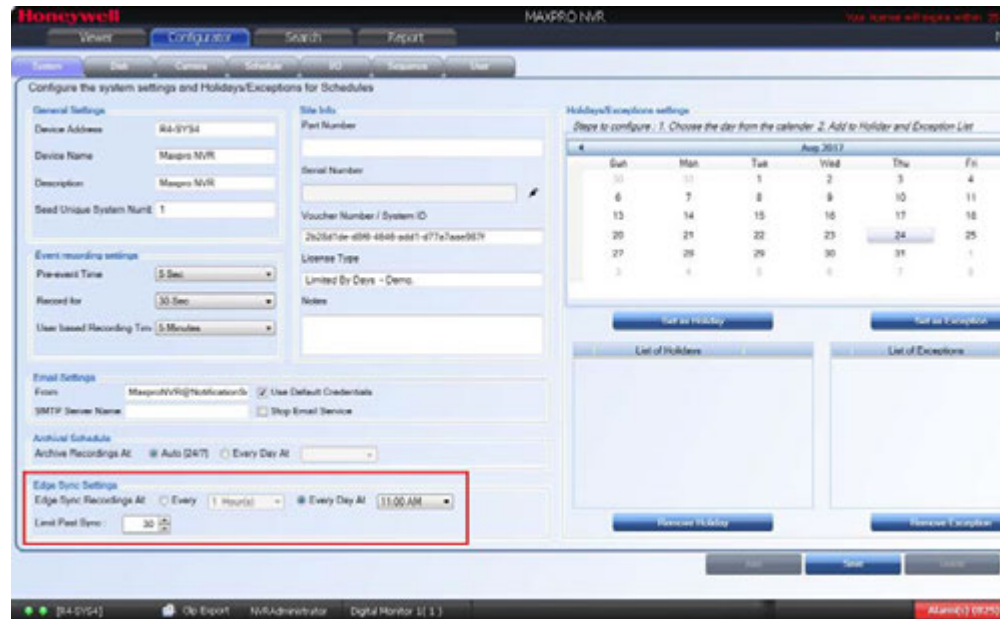
CONFIGURE THE EDGE SYNC SETTINGS

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.

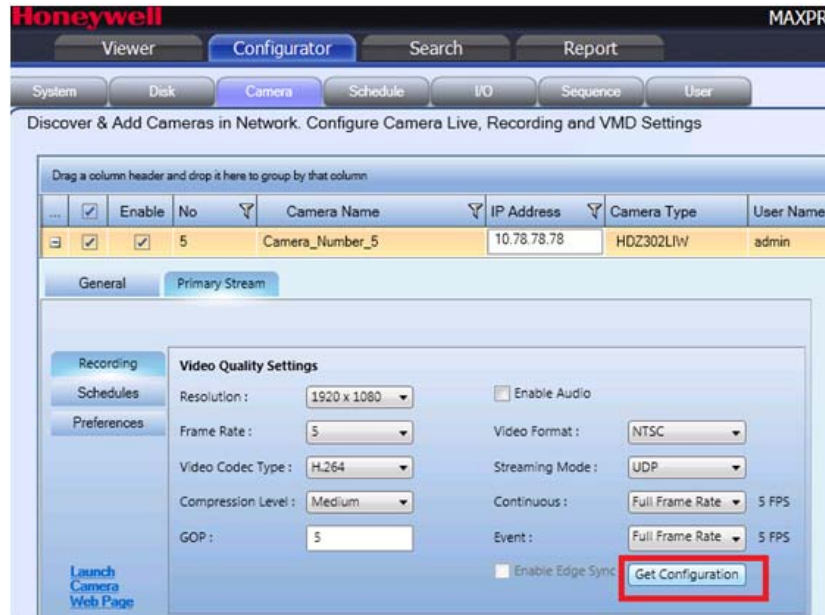
Note: The default Archival Schedule configured and recommended is Every Day at 12:00 AM. This is recommended versus the Auto [24/7] option for optimal performance and load on NVR.

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.

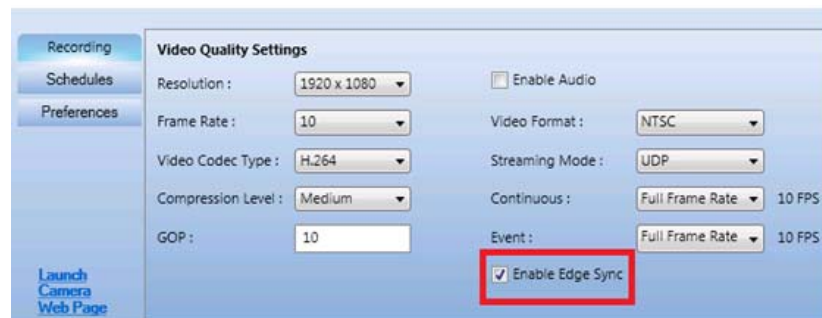
To enable the Edge sync option:

- Navigate to **Configurator > Camera** tab. The **Camera** screen is displayed as shown below.

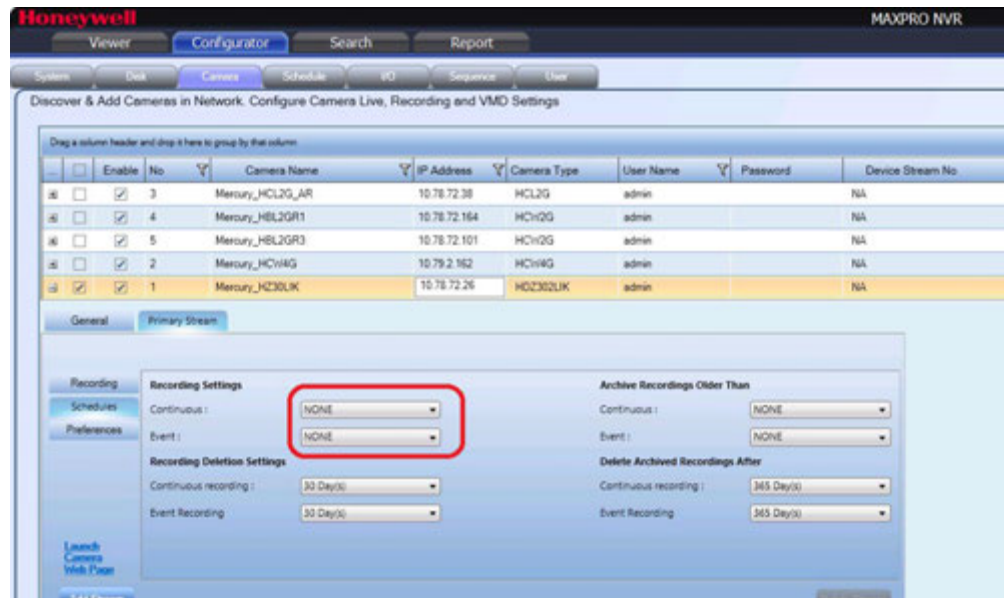


2. Click the **Get Configuration** button. If the camera is a Profile-G compliant camera then the **Get Configuration** button disappears and **Enable Edge Sync** check box is enabled as shown below. If the camera is not Profile-G compliant then NVR application displays **Edge Sync not supported or enabled for this device** message at the bottom of the screen.

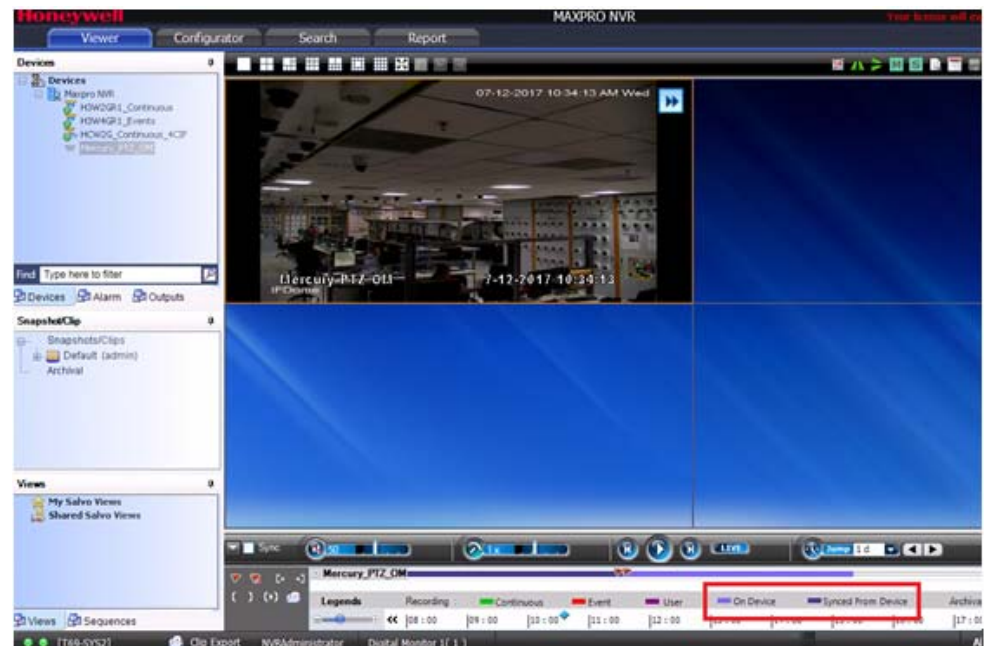
Note: For Profile-G compliant cameras the **Streaming Mode** is defaulted to UDP. If you want to switch from UDP to TCP mode then you need to update the .config file. After modifying the .config file for TCP mode you need to restart the Trinitybackfill service.



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.



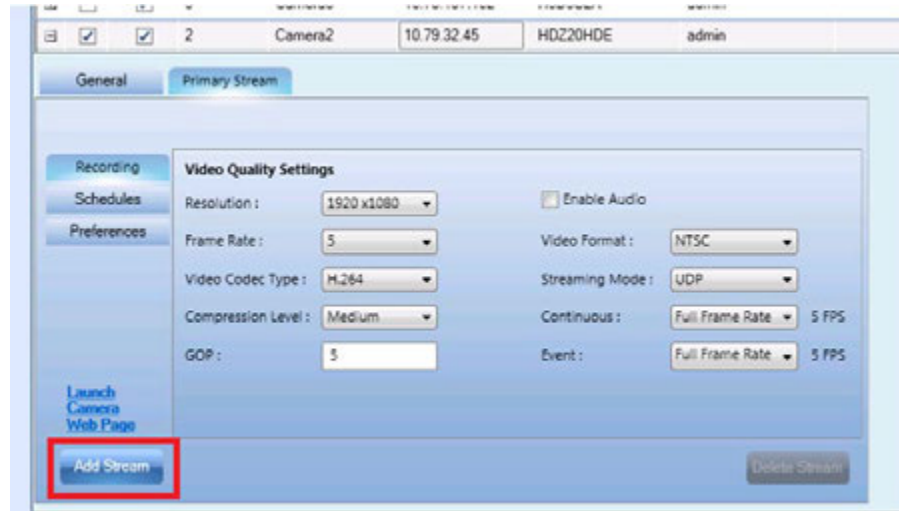
Once the Edge syncing is enabled you can see the recordings available in SD card and in MAXPRO NVR (after Edge syncing) as highlighted below:



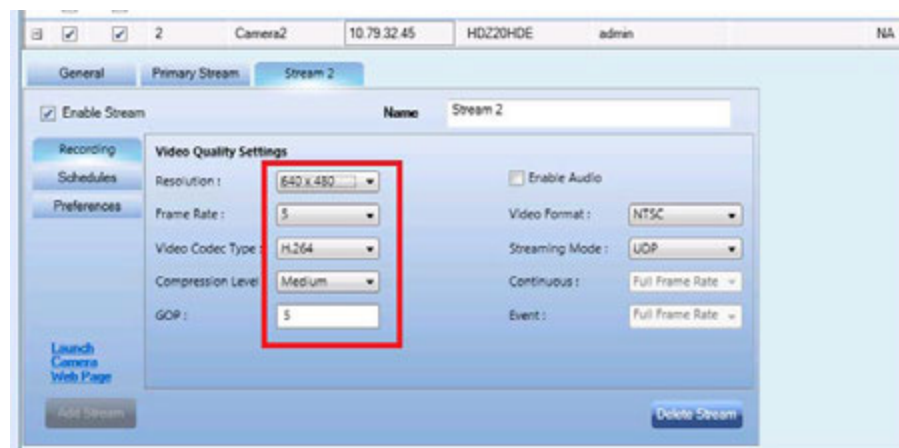
Note: You can Playback only the Edge synced clips (synced clips from camera SD card to MAXPRO NVR) from the MAXPRO NVR clients.

HOW TO ENABLE LOW BANDWIDTH STREAMING FROM MAXPRO NVR CAMERAS TO MAXPRO VMS

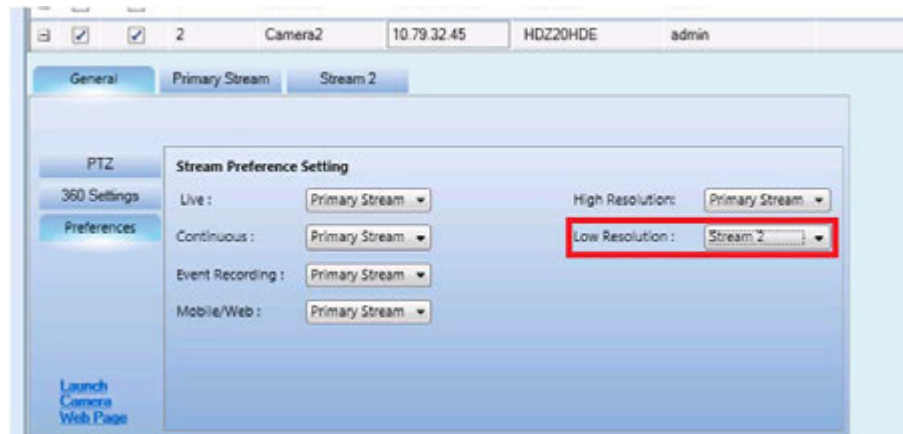
1. In MAXPRO NVR > **Configurator** > **Camera** > **Primary Stream** tab, click **Add Stream** to add a secondary stream for the camera as highlighted below. A new stream (Stream 2) is added.



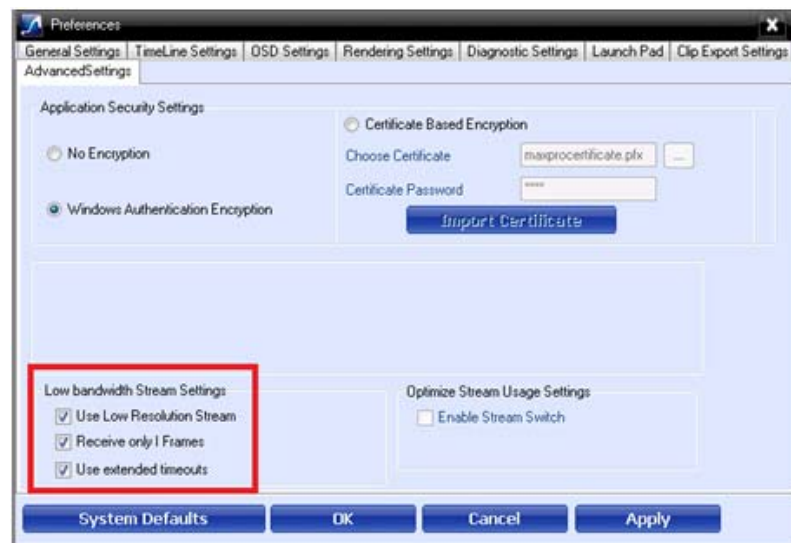
2. Under **Stream2** > **Recording** > **Video Quality Setting**, select the low **Resolution**, **FPS** and **GOP** from the corresponding drop-down lists as highlighted below.



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 **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.

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.

GENERATING REPORTS

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OVERVIEW

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You can generate two types of reports, namely Event History Report and Operator Log Report.

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.

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



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	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.



5. From the **Site** drop-down list, select the required site.

6. 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.
7. 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 .
8. 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.
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.
	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.

MACRO COMMANDS

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; MotionEvent; 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.

Camera Command LibraryID	Camera Command Library Description	Parameter Description	Example	Remarks
221	Stop Alarm Recording		[C1 ^ 221] Stops event recording on camera 1.	
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 MAXPRO™ 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 = ^ 1 6;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.
102	Unload the Device	Param1- Panel ID	[M1 = ^ 1 02;2] Unloads camera on panel 2 in monitor 1	Close camera on panel.

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
103	Run the scan Sequences	Param1- Salvo ID Param2- Panel ID Param3- Sequence Number	[M1 = ^ 1 03;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 = ^ 1 04;2] Selects panel 2 on monitor 1.	Choose the panel on the monitor.
105	Select a salvo	Param1- Salvo Number	[M1 = ^ 1 05;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= ^108;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= ^109;1] Selects previous panel on the keyboard for the current monitor.	-
110	Full screen	Full Screen On and Full Screen Off	[M@M= ^110;1] Go to full screen on the current monitor. [M@M= ^110;0] Exit full screen on the current monitor.	Set the salvo to full screen.
111	Toggle full screen	Toggle between full screen	[M@M= ^111] 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= ^115;0] Plays video from the camera on the selected panel on the current monitor.	-
116	Pause	Param1-Number	[M@M= ^116;0] Pauses video from the camera on the selected panel on the current monitor.	-
117	Stop	Param1-Number	[M@M= ^117;0] Stops video from the camera on the selected panel on the current monitor.	-

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
118	PlayBack	Param1- Salvo ID Param2- Panel ID Param3- Camera Number Param4- yy:mm:dd:h h:mm:ss Param5- yy:mm:dd:h h:mm:ss	[M@M= ^118;0;0 ;4;10:02: 02:04:45: 56] Displays video from camera 4 on the selected panel on current monitor.	
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.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
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.
129	JumpAbsolute	Param1 - Panel Number Param2 - yy:mm:dd:h h:mm:ss If it is a clip, Param1 - Panel number Param2 - Param3 - Position (1 to 100)	[M@M= ^ 129;0; &1;1] Where [&1= =2011:0 6:08:00:4 0:00]	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
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.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
138	Enlarge the Panel	Param 1 - Panel Number	[M@M= ^ 138;8] Enlarges panel 8 on the current monitor.	
139	Show Salvo View	Param1 - Salvo View ID	[M5= ^ 1 39;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= ^ 1 41;2;\\imagestore\m2images\\] Saves panel 2 image in \\imagestore\ path.	

Monitor Command LibraryID	Monitor Command Library Description	Parameter Description	Example	Instructions
144	Enables Sync Playback	Param 1 - Not Applicable Param 2 - yy:mm:dd:h h:mm:ss	[M@M= ^144;1;2 010:01:2 5:16:25:3 0] Enables sync playback at 4 hours 25 minutes and 30 seconds on January 25 2010 on the current monitor.	
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 MAXPRO™ 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.
26	Macro string exceeds 255 characters.
27	Conditional statement missing closed brackets.
28	Invalid real time clock time or date definition.

Macro Number	Error
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.

Numeric System Constants	Description
@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.
@X	Current Salvo Number on Digital Monitor, if current monitor is analog it returns 0 Return values: Salvo Number.
@Z	speed value (0 — 6).

UTILITIES AND TOOLS

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 has 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_DateTime.bak (where WorkstationName is the name of the workstation and DateTime 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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