



TruVision Navigator 9.0 User Manual

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Chapter 1

Introduction

TruVision® Navigator by Interlogix® represents the latest advancement in video management. The system delivers powerful software capabilities and allows users to manage their TruVision-based video surveillance systems. TruVision Navigator can be used as a standalone application or can be deployed as a client/server architecture, making it scalable for deployment in either small- or large-scale commercial environments.

Default credentials

The default credentials for TruVision Navigator are:

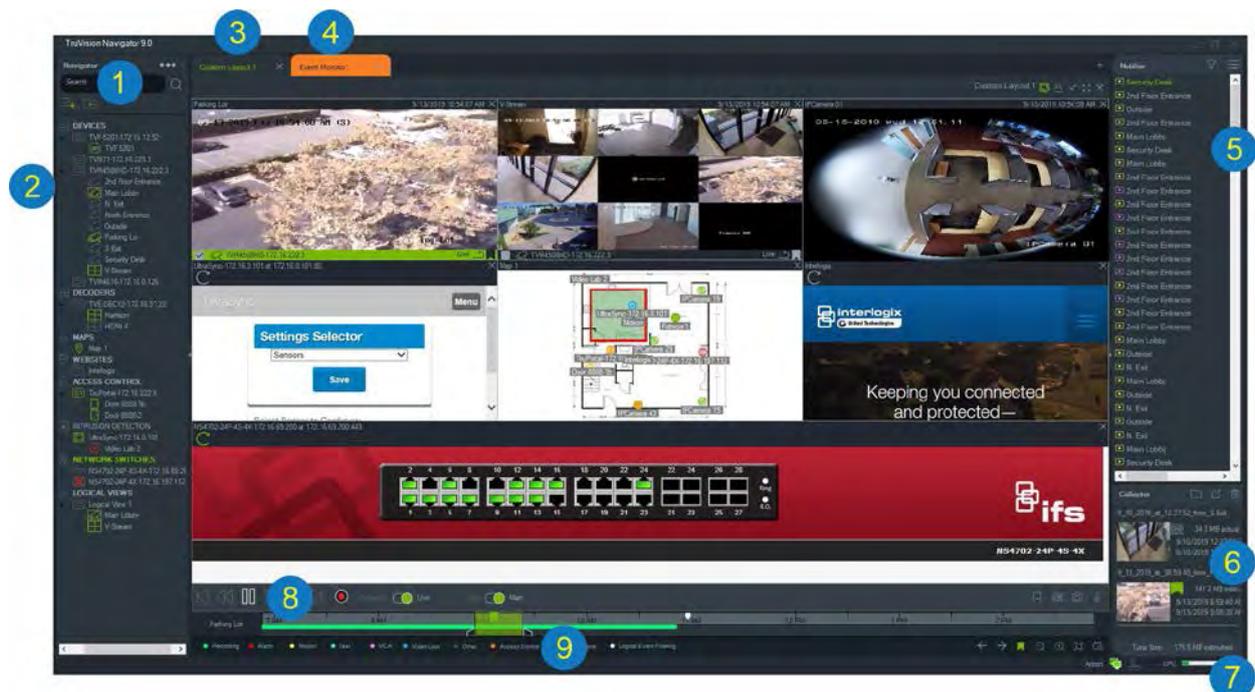
- **User Name** – admin
- **Password** – admin

See “Initial login” on page 19 for further information.

TruVision Navigator user interface

The Navigator user interface is comprised of main window panels and components as well as buttons that launch program functions and options. See Figure 1 on page 11.

Figure 1: Main window



- 1 **Navigator toolbar.** Contains the Navigator main menu drop-down list (includes **Settings**, **Device Manager**, **Bookmark Manager**, **Tasks**, **Recurring Tasks**, **Open Exported Video File**, **Help**, and **Logout**), the **Search** field, and the **Add Device** and **Add Folder** buttons
- 2 **Navigator panel.** Contains recorders, cameras, decoders, maps, websites, access control points, intrusion panels, network switches, and logical views that can be organized within folders.
- 3 **Viewer panel.** Multiple tabbed viewing panels (up to 10) can be added by clicking on the + button. Click the **Custom View** button to select and create different video tile layouts up to 10x10.
- 4 **Event Monitor.** A detachable viewing window to view live video from cameras linked to the notifier.
- 5 **Notifier panel.** View real time events coming from TruVision devices. Contains links to video event notifications as well as the **Details** button that launches the Event Center window. Also contains a **Filters** menu to filter event types shown in the Notifier.
- 6 **Collector panel.** Contains all relevant video segments, snapshots, and local recordings ready for export. Also contains the **Show files in folder**, **Export All**, and **Delete All** buttons.
- 7 **System indicators.** Contains the CPU usage meter as well as server and keypad connection status. Move the mouse pointer over the meter to see the percentage of CPU in current use.
- 8 **Playback controls.** Control playback and recording of video.
- 9 **Timeline.** Provides a graphical view of recorded video over a period of time. Contains **Live** and **Sub stream** toggle controls, **Zoom In/Out**, **Center TimeLine**, **Add Bookmark to Video**, **Jump to the previous bookmark**, **Jump to the next bookmark**, **Bookmarks show/hide on Timeline**, **Go To Date**, **Save Video**, **Snapshot**, **PTZ Controls**, and **Push to Talk** buttons. Color coded video tags are defined in the bottom left underneath the timeline. See Appendix B "Device details" on page 155 for details on what types of video tagging is available for applicable devices.

The Navigator and Notifier/Collector panels are resizable by dragging the vertical left or right splitter bars. Arrow icons on the side of the panels hide or unhide the panel to provide custom layout styles. Navigator remembers custom panel layouts on logout and restores them after the next login (see “Custom view” on page 116).

User interface languages

The following languages are supported in Navigator: Arabic, Chinese (Simplified and Traditional), Czech, Danish, Dutch, English, Finnish, French, German, Hungarian, Lithuanian, Italian, Polish, Portuguese (Brazilian and European), Russian, Slovak, Spanish, Swedish, and Turkish.

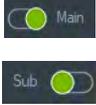
After launching the Navigator Setup.exe program, the InstallShield Wizard auto-detects the language setting on the computer and, if it is supported, translates the user interface to that language. If the language detected is not supported, the InstallShield Wizard defaults to English. The same auto-detection conditions occur when launching the Navigator client.

Buttons and indicators

The following table describes the function of each button and indicator in the top-level view of the Navigator application.

Note: Not all buttons and indicators listed are supported by all devices.

Button	Description
Navigator panel	
	Navigator menu drop-down list that contains the following:
	Settings. See “Settings” on page 22.
	Device Manager. See Chapter 4 “Device Manager” on page 53.
	Bookmark Manager. Edit and delete bookmarks, or play back bookmarked video. See “Bookmark manager” on page 49.
	Tasks. Monitor scheduled tasks such as video exports, database backups, and database restores. See “Tasks” on page 49.
	Recurring Tasks. Monitors video exports created according to a recurring schedule. See “Recurring tasks” on page 50.
	Open Exported Video File. Browse for and launch an exported video in the Viewer.
	Check for Updates... Click Restart Navigator to restart the application and apply updates if required.

Button	Description
	Help. Includes a Help file as well as version, copyright, and end user license agreement information. Custom Help or training links can be added to this menu for specific uses. See “Custom Help” on page 27.
	Logout. Log out of the Navigator program. Logging out permits another user to log in on the same machine.
	Add Device. Add recorders and cameras to the device panel. See “Adding devices” on page 68.
	Add Folder. Organize devices in the device panel by adding folders. See “Adding folders” on page 92.
Viewer panel	
	Custom/sequence view. Use custom views to define and save view templates for future use and set up camera sequencing. See “Custom view” on page 116.
	Lock Current Layout. Prevents changes to the current viewer panel setup.
	Select all. Select all tiles in the Viewer or Collector.
	Toggle. Toggle between normal view and maximized view.
	Close All. Close all tiles in the viewer.
	New Viewer. Add a tabbed viewing panel (10 maximum)
	Live and Playback stream toggle control.
	Main and Sub stream toggle control. See “Stream” on page 127.
	Add Bookmark. Add a bookmark with notes to the camera timeline for quick navigation to a marked incident. See “Bookmarks” on page 114.
	Save Video. Send a video segment of the time range selected and highlighted in green in the timeline to the Collector for export. See “Timeline” on page 112.
	Snapshot. See “Snapshot” on page 123.
	PTZ control. Launches the PTZ window. See “PTZ control” on page 120.
	Push to Talk. Speak through an attached microphone into a selected recorder or camera that has speakers installed.

Button	Description
	Move to previous/Move to next bookmark on the timeline.
	Show/Hide bookmarks on the timeline. These icons only appear when a single video tile is selected.
	Zoom In/Out on the timeline. Zoom out to the date level and zoom in to the minute level.
	Center the timeline to the location of the green timeline cursor.
	Go To Date of recorded video

Notifier panel

	Filters. Select color coded notification filters to see notifications in the Notifier based on specific criteria.
	Event Center. Launches the Event Center, which contains a list of notifications sent from Navigator devices.

Collector panel

	Show files in folder. Opens the folder where the files are located in Windows Explorer.
	Export. See “Export video and snapshots” on page 135.
	Delete All Collector Items. Delete all items in the Collector.

Admin

	Server Online. Indicates that the server is online in a client/server installation.
	Server Offline. Indicates that the server is offline. See Chapter 9 “Server offline mode” on page 136.
	Keypad status. Indicates that the keypad is connected to the client computer.
	Keypad Not Connected. Indicates that the keypad is not connected to the client computer.

Playback controls

The following table describes each playback control in the Navigator application.

Button	Description
	Frame Step Reverse. Go to previous frame.
	Rewind. Rewind video.
	Pause. Pause video.
	Play. Play back video. Clicking the Play button multiple times increases playback speed.
	Fast Forward. Fast forward video.
	Frame Step Forward. Go to next frame.
	Local Record. See “Local record” on page 113.

Chapter 2

Installation

Installation options

There are two installation options for TruVision Navigator. The core features and functions remain the same regardless of which of the two installation options are selected.

Standalone model – This installation option permits the client and database to reside on the same computer. No other clients on the network can connect to the database on this computer. This installation option is ideal for small, standalone systems.

Multi-client model (traditional client/server) – This installation option permits the client and server to reside on the same or separate computers. This installation option is ideal for larger systems with many geographically dispersed users, computers, and recording devices.

Administrator rights are required to install Navigator on a computer, but the application is available to any user that successfully logs in to a Windows® account on that computer.

Installation prerequisites

For each computer:

- Download the latest operating system service pack from the Microsoft Download Center.
- Check for Windows updates at <http://update.microsoft.com>.
- Download the latest video driver.
- For the minimum software and hardware requirements, see Appendix A “Minimum system requirements” on page 148.

Installation – standalone mode

To install a new standalone instance of TruVision Navigator:

1. Double-click the TruVision Navigator Setup.exe installer to begin the installation. Right-click on the Setup.exe file and select **Run as Administrator**.
2. If necessary, click **Yes** in the User Account Control window to make changes to the computer.
3. Ensure that the RSTP port used by all recorders is open so that live video can be viewed. The default RSTP port is 554.
4. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
5. The Welcome window appears. Select **Typical** or **Advanced** (to change the default installation location), and then click **Next**.
6. *Advanced installation only:* Accept the default installation folder or click ... to select a different location and then click the **Next** button.
7. The Confirm Selections window appears. Click **Install**.
8. The WinPcap Setup Wizard appears. Click **Next** to continue.
9. The WinPcap License Agreement window appears. Click **I Agree** to continue.
10. The Installation options window appears. The **Automatically start the WinPcap driver at boot time check box** is selected by default. Click **Install** to continue.
11. Click **Finish** to continue.
12. Click **Close** to complete the installation.

Installation – client/server mode

To install a new client/server instance of TruVision Navigator:

1. Double-click the TruVision Navigator Setup.exe installer to begin the installation. If prompted, right-click on the Setup.exe file and select **Run as Administrator**.
2. Click **Yes** to make changes to the computer.
3. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
4. The Welcome window displays. Select **Advanced** for a client/server installation, and then click **Next**.
5. The Installation Folder window appears. Click the **Next** button to accept the default installation folder or click ... to select a different location.
6. The Configuration window appears. Select **Client/Server Mode** and click **Next** to continue.

7. The Type of Database window appears. Select **Use internal database** (recommended option) and then click **Next**. If the organization requires use of Microsoft SQL Server and it is already installed, select **Use Microsoft SQL Server** and then click **Next**.

Note: Interlogix will not be responsible for SQL Server errors or issues.

8. The Confirm Selections window appears. Click **Install**.
9. The WinPcap Setup Wizard appears. Click **Next** to continue.
10. The WinPcap License Agreement window appears. Click **I Agree** to continue.
11. The Installation options window appears. The **Automatically start the WinPcap driver at boot time check box** is selected by default. Click **Install** to continue.
12. Click **Finish** to continue.
13. Click **Close** to complete the installation.

Note: Recorders connected to the network must be reachable over the network from the Navigator server computer. If there are firewalls between the server computer and the recorder network, make sure to open the following inbound ports into the recorder network:

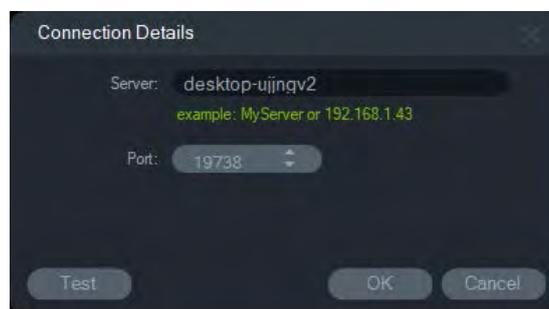
1. The HTTP ports used by all recorders on the network.
2. The Command ports used by all recorders on the network.

By default, recorders use 80 for HTTP and 8000 for Command traffic. If the server computers can't connect to the recorders, the following features will not work:

- Automatic Diagnostic Polling.
- Device Health Checking.

Connection details

Click **Connection Details** in the login screen in client/server mode to view and/or change the default server name and port number, and to test the server connection.



Initial login

To log into TruVision Navigator for the first time:

1. After successful installation, launch TruVision Navigator using one of the following methods:
 - Double-click the TruVision Navigator icon on the desktop.
 - Go to **Start > All Programs/Apps > TruVision Navigator**.
2. When TruVision Navigator launches, a login window appears. Log in as the default administrator by typing in the following default credentials:
 - **User Name** – admin
 - **Password** – admin

Note: The user name and password are masked by default. Click  to reveal the user name and password.



3. Click **Login**. After initial login, the Change Password window appears and prompts you to change the default password for security purposes.
4. Type the new password in the **Password** field.
5. Retype the password in the **Confirm Password** field.
6. Select a question from the **Challenge Question** drop-down list.
7. Type the answer to the challenge question in the **Challenge Answer** field.
8. Click **OK**.

If you forget the password set up during initial login, click the **Forgot?** button in the Login window to answer the challenge question, change the password, and re-enter the application without calling for assistance.

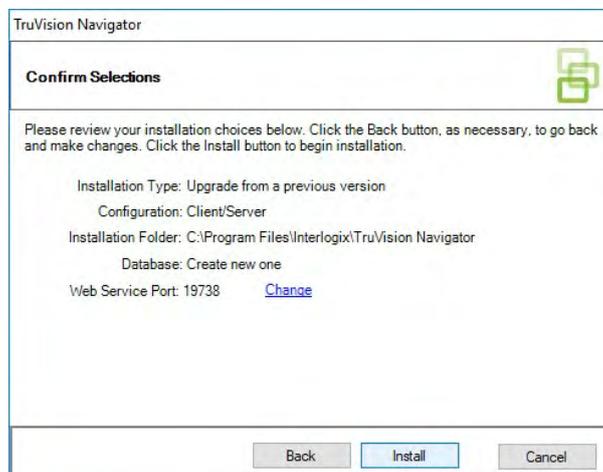
If the **Challenge Answer** cannot be obtained to recover the password, click the **Forgot?** button again and call the UTC technical support team with the “tech support key” automatically provided in the related field. The technical support team can recover the **Challenge Answer** with this information.

Upgrading an existing installation

1. Double-click the new TruVision Navigator Setup.exe installer to begin the installation. Right-click on the Setup.exe file and select **Run as Administrator**.
2. Click **Yes** to make changes to the computer.
3. The End User License Agreement window appears. Select the **I Accept these terms and conditions** check box and then click **Next** to continue.
4. The Welcome window appears. Select **Typical** (standalone installation) or **Advanced** (for a client/server installation or to change the default installation location), and then click **Next**.

Note: See the *TruVision Navigator 8.0 SP2 Software Upgrade for Client Computers Addendum* for instructions on upgrading a client computer in a client/server configuration.

5. *Advanced installation only:* The Installation Folder window appears. Click the **Next** button to accept the default installation folder or click ... to select a different location.
6. *Advanced installation only:* The Configuration window appears. Select the required configuration mode and then click **Next** to continue.
9. The Select Database window appears. Select the **Use existing database** option (recommended) and then click **Next**. If the organization requires use of Microsoft SQL Server and it is already installed, select **Use Microsoft SQL Server** and then click **Next**.
10. The Confirm Selections window appears. Click **Install**.

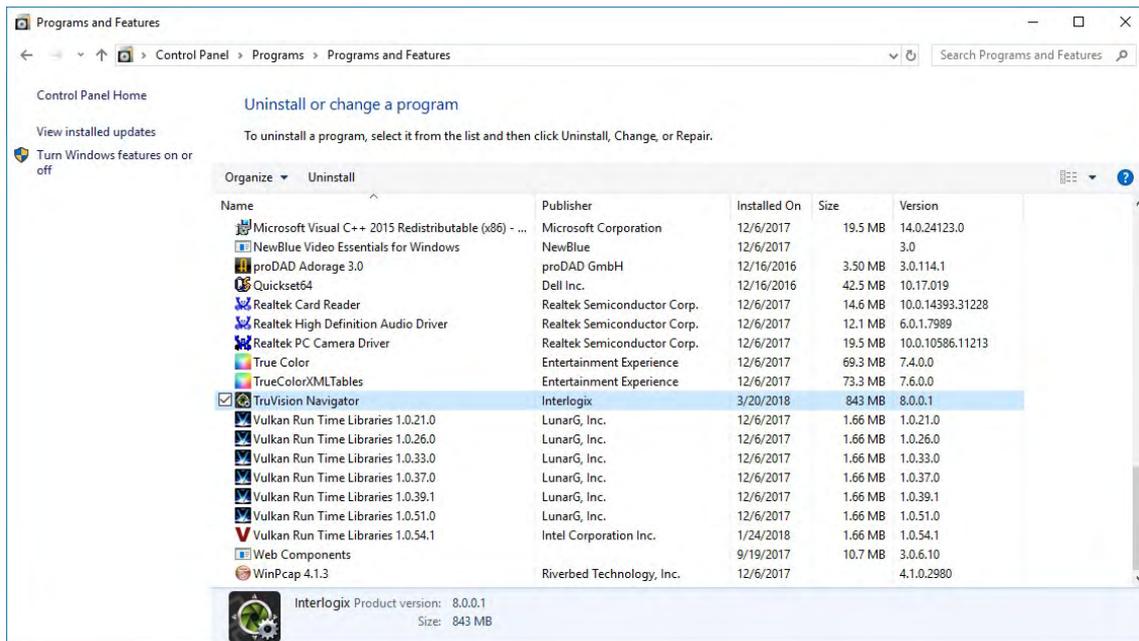


11. Click **Close** to complete the installation.

Uninstall

To uninstall Navigator:

1. Launch the Programs and Features application from the Windows Control Panel.
2. Navigate to TruVision Navigator and click **Uninstall**.



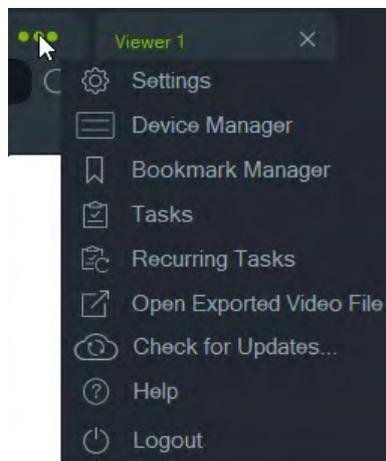
3. Click **Yes** to make changes to the computer.
4. The Uninstaller window appears. If required, select the **Also delete the TruVision Navigator database** check box before clicking **Uninstall**.
5. The Uninstalling Product window appears, followed by the Product Uninstalled window. Click **Close** and restart the computer.

Note: This process removes all TruVision Navigator files and logs from the computer. No registry edits are necessary to remove Navigator from the computer. The NTP service and WinPcap programs should also be uninstalled for complete removal of all files installed during Navigator installation.

Chapter 3

Navigator main menu

Click the button at the top of the Navigator panel to display the Navigator main menu drop-down list.



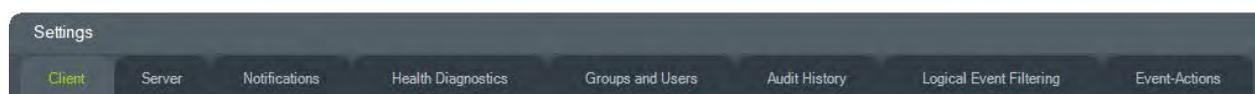
Settings

For both the standalone and multi-client installation models, the TruVision Navigator client and server can be configured for specific features using the Settings window.

To access the Settings window, click the Navigator menu button in the Navigator title bar and then select **Settings**.

Note: User and/or group permissions are required to see all tabs in the Settings window. See "Permission models" on page 36 for further information.

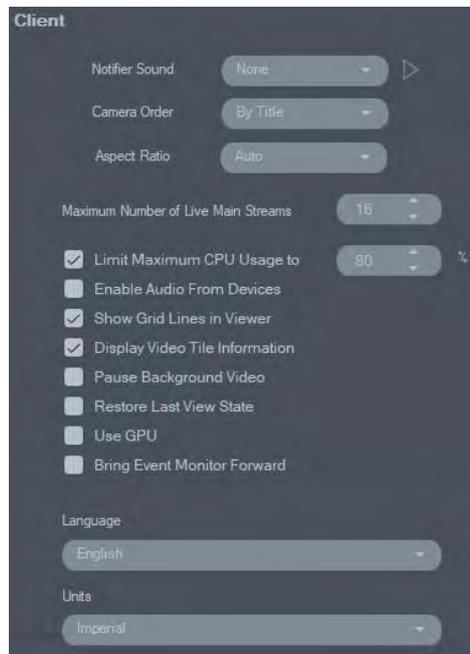
The following configuration tabs are available in the Settings window:



- **Client** – Includes a variety of settings that apply to each client station.
- **Server** – Includes the SMTP server settings, permission settings, instant replay duration custom help link settings, and server/client URL information.

- **Notifications** – Includes the port settings necessary to receive events from each device, email notification settings, and a filter of specific notification types.
- **Health Diagnostics** – Includes a filter of diagnostics to be received, as well as email settings to receive notifications of diagnostics information. Automatic diagnostic polling can also be scheduled from this menu.
- **Groups and Users** – Add new users and user logins, assign permissions, and create groups in this tab.
- **Audit History** – Set event filters and a time range for viewing user activity.
- **Logical Event Filtering** – Set customized, interdependent notifications from cameras and TruPortal access control systems.
- **Event-Actions** – Permits the user to cause an action on any device in the Navigator panel triggered from any number of devices reporting notifications.

Client

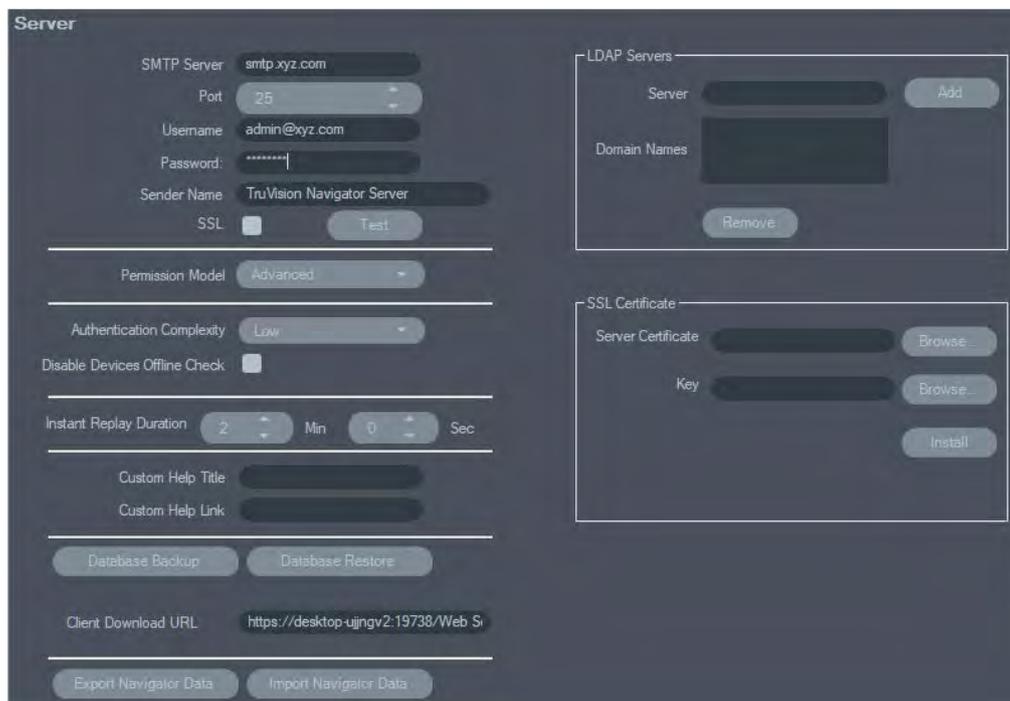


Client settings apply to each client station. These settings include:

- **Notifier Sound** – Enable the alert sound when new device notifications are received in the Notifier panel. Click the ▶ button next to the **Notifier Sound** drop-down list to preview the selected sound.
- **Camera Order** – Arrange cameras in the Navigator panel by title or number.
- **Aspect Ratio** – Enable the aspect ratio (4:3 or 16:9) for live and playback video in the Viewer.
- **Maximum Number of Live Main Streams** – Set the maximum number of live main streams. When set to 0 (zero), only substreams display.
- **Limit Maximum CPU Usage to** – Set the maximum CPU threshold to prevent the client machine CPU from reaching 100% during video rendering.

- **Enable Audio From Devices** – Turn on audio from applicable devices.
- **Show Grid Lines in Viewer** – Remove/show gridlines between video tiles in the Viewer.
- **Display Video Tile Information** – Remove/show camera title and time and date.
- **Pause Background Video** – Pause video not running in the current view in Navigator. This selection closes the video streams that are not currently being viewed. Use this setting if bandwidth usage is an issue. There will be a slight delay when switching to the background views.
Note: Background video remains active for 30 seconds before pausing.
- **Restore Last View State** – Cameras, views, and tile layouts are restored to their previous state after exiting and restarting Navigator.
- **Use GPU** – Use the computer’s video card to decode video.
- **Bring Event Monitor Forward** – Displays the Event Monitor tab in the Viewer panel in front of the current view whenever an event occurs. See “Assign to Event Monitor” on page 106 for details.
- **Language** – Select the preferred language for the user interface in this drop-down list.
- **Units** – Select Imperial or Metric units of measure.

Server



The **Server** tab includes the following server settings:

- **SMTP Setup (SMTP Server, Port, Username, Password, Sender Name, SSL, Test)**

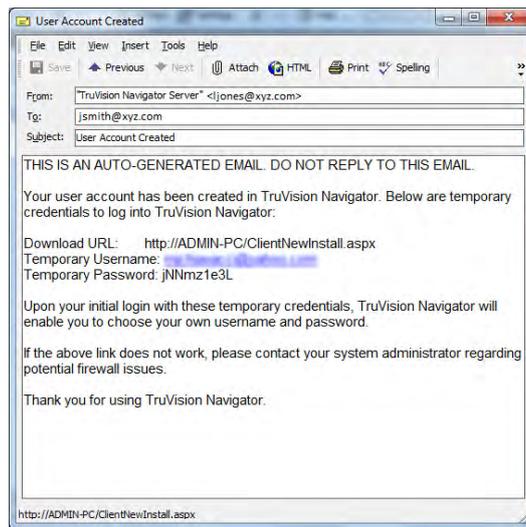
- **Permission Model** (see “Permission models” on page 36)
- **Authentication Complexity**
- **Disable Devices Offline Check** checks if recorders are offline. If selected, no notifications will be received.
- **Instant Replay Duration**
- **Custom Help Title and Custom Help Link**
- **Database Backup and Database Restore**
- **Server URL:** Multi-client installations (client/server) only
- **Client Download URL:** Multi-client installations (client/server) only
- **Export Navigator Data and Import Navigator Data**
- **LDAP Servers: Add and Remove LDAP servers**
- **SSL Certificate:** permits secure communication between a client and server (client/server installations only). **Browse** for a Certificate Authority (CA) **Server Certificate** and **Key** and **Install** the certificate.

SMTP setup

Simple Mail Transfer Protocol (SMTP) is a de facto standard for email transmissions across the Internet. The Navigator server can be configured to use an SMTP server to send automated email messages (with client download URL, username, and password) to users when they are created in TruVision Navigator and when their login credentials (username, password) need to be reset in the system by an administrator. If SMTP is not set up, this information must be delivered via an alternative method such as phone or personal email.

To set up SMTP:

1. Type the **SMTP Server** IP address, the **Port**, and any **Username** and **Password** credentials required by the SMTP server.
2. The default email sender name is “TruVision Navigator Server.” Change the sender name if necessary and select **SSL** if required by the server.
3. Test this setup by clicking **Test** and typing a destination email address for the test message. Check the application status bar for feedback on the test. Also check the email account to ensure there is a test message from the Navigator server confirming proper setup of the SMTP server.
4. An email similar to the one below is sent. If not received after several minutes, check the Junk Mail folder to see if the email was classified and stored there.



Authentication complexity

TruVision Navigator has three authentication complexity standards – Low, Medium, and High. The default authentication for a new installation is **Low**. To change the authentication complexity, select an option from the drop-down list and click **OK**.

All new users are required to meet the new authentication complexity standard. However, existing users of the application are not prompted to change their credentials to meet the new standard once it is changed. Therefore, the administrator must reset each of the existing user accounts for the standard to take effect. This reset only affects the password for that user, not the username. To avoid resets, we recommend setting the authentication complexity before any users are created in the system.

Table 1 on page 26 outlines the components of each of these standards.

Table 1: Authentication complexity

Authentication complexity	Maximum login failure attempts	Username complexity	Password complexity	Password reuse	Password expiration
Low	n/a	At least six characters	At least six characters	n/a	n/a
Medium	3	At least six characters	At least eight alphanumeric characters	n/a	n/a
High	3	At least 12 characters	At least eight characters with at least: One Upper-case letter One lower-case letter One numeric One special character (~, !, @, #, \$, %, ^, &, +, =)	Cannot use the last password	User must change password every 60 days

Instant replay duration

Navigator supports instant replay from the video tile. This feature rewinds video in a tile by a user-defined, pre-configured amount of time (30 seconds default, 99 minutes and 59 seconds maximum).

To set instant replay time, type the minutes and seconds or click the spin wheels to enter the required value in the **Instant Replay Duration** fields and click **OK**.

See Appendix B “Device details” on page 155 for limitations on instant replay for each device.

Custom Help

Custom Help access allows individual organizations to provide their own additional content to facilitate use of the software. This content is completely user-defined; Navigator simply provides a pathway for users to access it.

To add a custom Help link:

1. In the Server Settings screen, type the name of the Help title to share with users in the **Custom Help Title** field.
2. Type the link to the Help file in the **Custom Help Link** field.
3. Click **OK**.
4. Open the Help window by clicking the Navigator main menu button and selecting **Help**. The custom Help title appears in the Help screen.
5. Click on the link to access the content.

Database backup and restore (standalone installations only)

Navigator database backup should be backed up in a separate location by an administrator for safekeeping. If there is a problem with the computer where the TruVision Navigator database resides, the administrator can install that same version of TruVision Navigator and restore the database with the backup file. This brings the system back into operation quickly without manual re-entry of device, user, group, permission, or other system configuration data.

Note: Data backup and restore is not intended for use when upgrading to a newer version of Navigator. It will only work with the same version of Navigator used for the database backup.

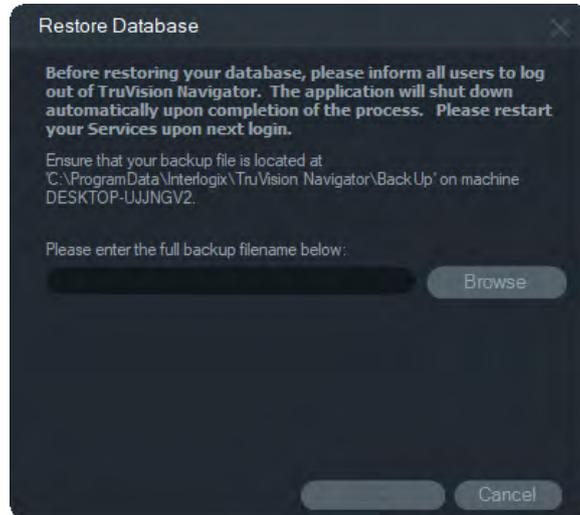
To back up the Navigator database:

1. Select the **Server** tab in the Settings window and then click the **Database Backup** button. The Backup Database window appears.
2. Type a database backup name (no file extension is necessary) and take note of the path where the database backup file will reside. The administrator should copy or move this file to a safe location.
3. Click **Schedule** to schedule the backup or click **Backup Now**. Upon initiation of the backup, refer to the Tasks window for status (see “Tasks” on page 49)

4. After successful completion, the database backup file resides at the designated location.

To restore the Navigator database:

1. Select the **Server** tab in the Settings window and then click the **Database Restore** button. The Restore Database window appears. Ensure that a copy of the backup database file has been placed in the directory listed.



2. Type the exact name of the file in the text field provided. If restoring the database to a SQL instance that requires SQL authentication credentials, enter them here. Otherwise, use the default setting.
3. Upon initiation of the restore, refer to the Tasks window for status. After Restore Task appears in the Task window, log out of the application. Log back in and the database is restored.

Multi-client (client/server) installations

Client download URL

The **Client Download URL** field only appears in client/server installations.

For multi-client installations (client/server), the client download URL is the network location of the Navigator client software package. Administrators can deliver this URL to new users so they can download the client software remotely from the Navigator server. If SMTP is in use, this is done automatically for the administrator during user setup.

For standalone installations (direct database connection), this field is disabled since no other networked Navigator clients can connect to this instance of the Navigator server.

User management and client software delivery

With multi-client (client/server) installations of Navigator, computers on the same network with the Navigator server have the ability to download the Navigator client.

Note the following:

- Remote distribution of client software is NOT available for the standalone (direct database connection) installation option.
- The person installing the client software must have administrator rights on the computer to perform the client installation.
- When a new user is added to the system, that user does not have any permissions assigned and therefore cannot log in to Navigator. User permissions must be assigned before the user can log in (see “User management” on page 34).
- After installation of the client software, all items that the user has permission to access appear in the Navigator panel.

Fully automated client software delivery

Navigator can be configured to use an SMTP server to send automated email messages (with client download URL, username, and password) to new users or when an existing user’s login credentials (username and password) need to be reset in the system by an administrator (see “SMTP setup” on page 25).

To distribute the client software remotely to a new user, first configure TruVision Navigator with an SMTP server, and then add the new user and grant permission to the new user (see “User management” on page 34).

Partially automated client software delivery

If SMTP capability is not used, there are alternate methods that can be used to deliver the client software.

To deliver client software remotely without access to SMTP, do the following:

1. Ensure that the **SMTP Server** field is empty in the Settings window **Server** tab.
2. Add the user (see “User management” on page 34).
3. The administrator delivers the user’s login credentials and client download URL to the user via phone or private email. Cut and paste the URL from the **Client Download URL** field in the **Server** tab in the Settings window. Remember to assign the user’s permissions or he/she will not be able to log in.
4. Copy or type the client download URL into a browser, or click on the link in an email.
5. *Skip this step if you have deployed an SSL certificate from a CA: Click **Go on to the webpage (not recommended)**. See the *TruVision Navigator 8.0 SP2 Software Upgrade for Client Computers Addendum* for details.*
6. Follow the instructions in the Client Software Download page to download the ClientOnlySetup.exe file.
7. Run the ClientOnlySetup.exe file (the ClientOnlySetup.exe file is preconfigured to point to the server that it was obtained from) and follow the installation prompts.
8. Launch Navigator and log in with the credentials provided via phone or email.
9. Enter the required information in the Change Password window (see “Initial login” on page 19 for further information).

To manually install the client software on computers, do the following:

1. Download the ClientOnlySetup.exe file from the Client Installation web page and place it on a thumb drive or other media.
2. Physically deliver the .exe file to the specific computer.
3. Run the ClientOnlySetup.exe file (the ClientOnlySetup.exe file is preconfigured to point to the server that it was obtained from) and follow the installation prompts.
4. Launch Navigator and log in with the user credentials.
5. Enter the required information in the Change Password window (see “Initial login” on page 19 for further information).

Import/export Navigator data

A Navigator address book stores the title, IP address, and credentials of recorders and cameras, as well as website pages, TruPortal panels, Interlogix intrusion panels, IFS network switches, and logical views in the Navigator panel. This data can be imported or exported into Navigator as needed to save and restore these settings.

- Click **Export Navigator Data** to save Navigator settings in the CSV file format.
- Click **Import Navigator Data** to import previously configured Navigator panel settings in the CSV file format.

LDAP servers

The Lightweight Directory Access Protocol (LDAP) is commonly used to provide a repository for storage of user names and passwords. Adding an LDAP server to Navigator provides a way to validate users that permits them to bypass the Navigator login window.

To add an LDAP server:

1. Type the LDAP server domain name in the Server box, and then click **Add** to test the server connection. This can be done for multiple domain names. The domain name must be reachable from the computer used to add the LDAP server.
2. Click on a domain name in the Domain Names box, and then click **Remove** to remove an LDAP server.
3. Click **OK** in the Settings tab when finished to add the LDAP server(s) to Navigator.

Notifications

The screenshot shows the 'Notifications' settings window. It features a list of notification events on the left, each with a checkbox and a dropdown menu for 'Email Address' and 'SMS Phone Number'. The events are: Alarm (checked), Video Loss, Motion (checked), Disk Full, Disk Failure, VCA, Camera Tampering (checked), Logical Event Filtering, Access Control, Device On/Off Line, Intrusion Panel (checked), and Video Export Failure. Below the list is a note: 'Note: Available notifications are device-dependent'. At the bottom, there are three settings: 'Preserve notifications for' set to 30 Days, 'Notification Port' set to 5001, and 'Email notification threshold' set to 0 Seconds with a note '(Supports Motion, Alarm and Video Loss)'.

The **Notifications** tab in the Settings window includes the following server settings:

- Select events for notification by email and text (US only) to send to specific Navigator users. See “Groups and users” on page 33.
- Length of notification preservation
- Notification port
- Email notification threshold – Sets the time between consecutive notifications and controls the frequency of notification emails for motion, video loss, and alarms.

Notifications and notifier

Devices can push notifications out to an IP address and port for proactive issue resolution. These notifications typically include alarm, video loss, motion, etc. See Appendix B “Device details” on page 155 for details on which notifications are supported by each device.

To receive notifications from devices in the Notifier panel, configurations are required at both the device and Navigator service level.

Device configuration – Each device must be set up to push its available notifications to the IP address and port of the Navigator server. See Appendix B “Device details” on page 155 for detailed instructions for each device.

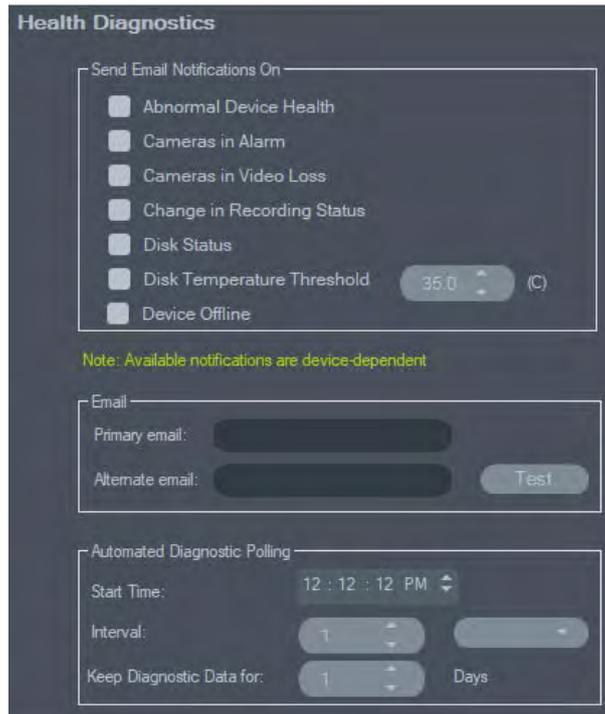
Navigator service configuration – The TruVision Navigator service or TruVision server settings must be configured to listen on that same port for those notifications.

Note: Routers and firewalls may have to be configured accordingly to allow for this traffic. Ensure that either the TCP listener port or the email listener port (SMTP) on the Settings window **Notifications** tab matches the port setup on the device itself.

Navigator provides the ability to limit the notification data in the database to keep the size down. Set the retention period in number days for this data in the **Preserve notifications for** field.

If any of these values are changed, restart the Navigator program (standalone installations) or restart the TruVision Navigator service (client/server installations) for the changes to take effect.

Health diagnostics



The **Health Diagnostics** tab in the Settings window provides the following server settings:

- Select health events for email notification
- Primary and alternate email addresses
- Automated diagnostic polling

Note: Changes made in the **Health Diagnostics** tab won't take effect until a restart of the Navigator program (standalone installations) or the TruVision Navigator server (client/server installations).

Email notifications

Select check boxes for any of the following notifications to receive them via email:

Abnormal Device Health – This notification indicates that either the hard drive is corrupt or the device cannot encode or record video (DVRs only).

Cameras in Alarm – Any cameras that are in an alarm state.

Cameras in Video Loss – Any camera that is not transmitting video.

Change in Recording Status – A recording has stopped or started.

Disk Status – Health status of the hard drive.

Disk Temperature Threshold – Temperature has exceeded the set threshold.

Device Offline – A device is offline during polling after having previously been online.

Email addresses

Enter valid email addresses in the **Primary email** and **Alternate email** fields. If SMTP has been set up in the system, click **Test** to send test emails.

Automated diagnostic polling

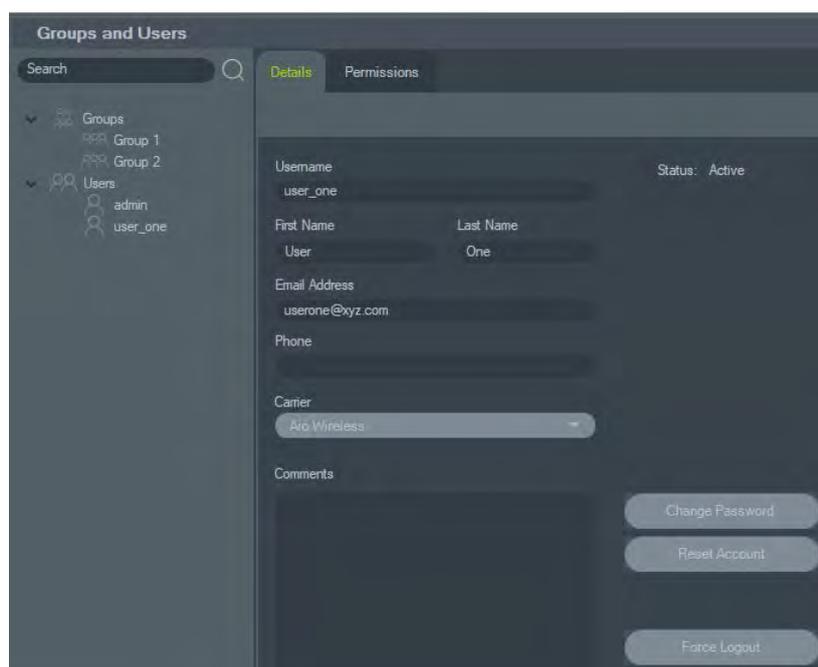
To run automated health diagnostic polling on an interval across all of the devices in the system, the diagnostic polling service must first be configured.

To configure the diagnostic polling service:

1. From the **Health Diagnostics** tab in the Settings window, type the Automated Diagnostic Polling **Start Time** and **Interval** (retention period).
2. Select **Days** or **Hours** for the length of time to keep the health diagnostic polling data in the database.
3. Restart Navigator to begin the automated polling. If any of these values are changed, restart the Navigator program (standalone installations) or restart the TruVision Navigator server (client/server installations) for the changes to take effect.

After manual snapshots or automated health diagnostic data have been captured, the data is stored in the Navigator database. The data is now searchable by users to aid in maintaining system up-time.

Groups and users



The **Group and Users** tab of the Settings window provides the following server settings:

- **Details**
- **Permissions**

User management

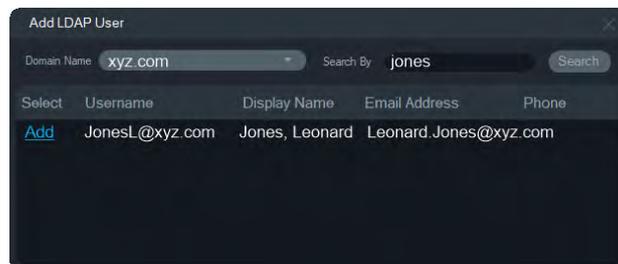
Note: Adding or assigning permissions to a user requires that the individual performing those functions has the “Manage user permissions” permission assigned to them in Navigator.

To add a regular user:

1. Click on the **Groups and Users** tab in the Settings window.
2. Right-click the Users node in the Navigator and select **Add User** or click the **Add User** button. The Add User window appears.
3. Type the required user information in each field. The **Username**, **Password**, and **Confirm Password** fields are disabled if SMTP is configured in the system.
4. Click **OK**. The new user is added under the Users node in the Navigator panel.
5. *To install Navigator on the new user’s client computer.* If SMTP is set up in the system, follow the instructions under “Fully automated client software delivery” on page 29. For systems without SMTP set up, follow the instructions under “Partially automated client software delivery” on page 29.

To add an LDAP user:

1. Click on the **Groups and Users** tab in the Settings window.
2. Right-click the Users node in the Navigator and select **Add User** or click the **Add User** button. The Add User window appears.
3. Click **Add LDAP User**.
4. The Add LDAP User window appears. Select a domain name from the **Domain Name** drop-down list (see “LDAP servers” on page 30 for details).
5. Type the user name in the **Search By** box and click Search. All matching data appears as shown below.



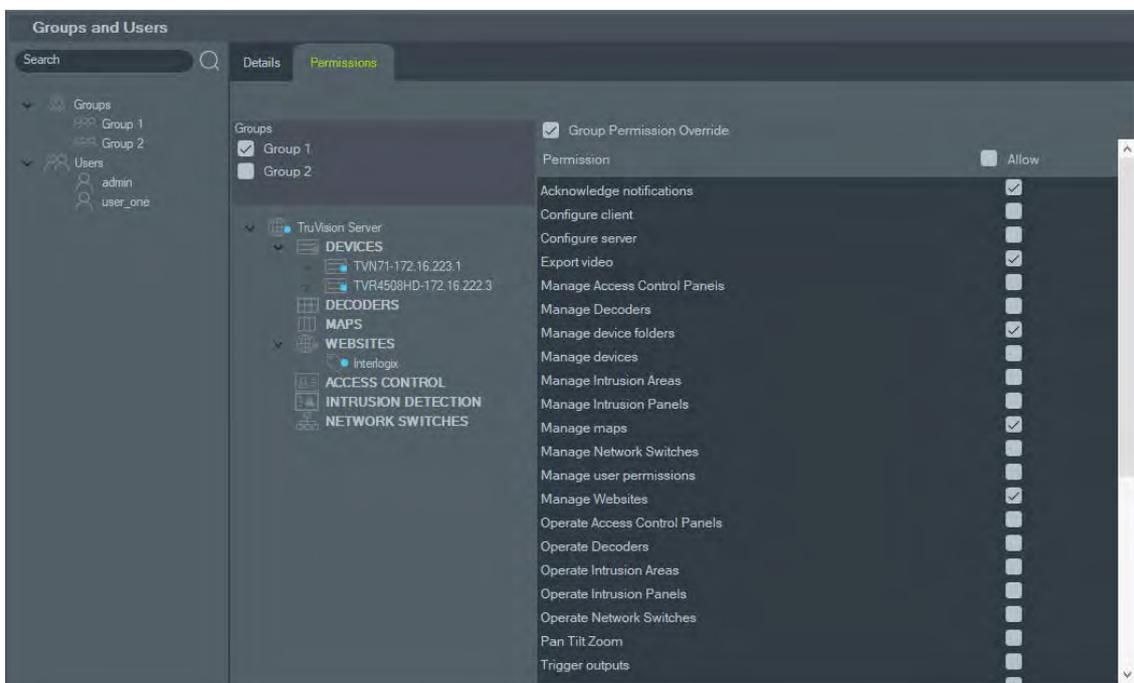
6. Click the Add link next to the user name to add an LDAP user. The Add User window reappears with the user information automatically populated.

7. Click OK to add the LDAP user. The user now appears in the Show all users list as an LDAP user.
8. If necessary, assign at least one permission to the LDAP user so that they can use Navigator (see “To assign permissions to a user” below).

Note: LDAP users are automatically logged in to Navigator when opening the application. An LDAP user must log out of Navigator to log in as a different user.

To assign permissions to a user:

1. Click on the user icon in the **Groups and Users** tab and click the **Permissions** tab.
2. Highlight the TruVision Server node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for this user in the **Permissions** tab. If the Permission Model is set to **Simple** (only users), only the Allow column appears. If the Permission Model is set to **Advanced** (both users and groups), both the Allow and Deny columns appear.



3. When finished, click **OK**.

Permission indicators

When assigning permissions, specify whether the permission is applied at the parent or child node. Granting permissions at a parent node cascades those permissions down to the child nodes. For example, granting permissions at the Navigator server level cascades down over all folders, devices, and cameras beneath it. These are indicated by a blue dot. Conversely, granting permissions at the child node does not change permissions at the parent node. In this case, the child node displays a blue dot and the parent displays a gray dot.

Table 2: Permission indicators

Permission Indicator	Description
Blue	A blue dot indicates express permissions granted on that node. These permissions are inherited by the children nodes underneath the parent node.
Gray	A gray dot indicates express permissions assigned to a child of the parent node, but not at the parent node itself. This serves as a quick visual cue for the administrator to find express permissions granted to a user on devices in the permission panel. If all of the gray dot nodes are expanded, the camera or device with one or more express permissions appears, indicated by a blue dot.

Permission models

TruVision Navigator has two permission models – Simple or Advanced. The default for a new installation is the Simple model.

Simple model – Administrators only have the ability to create, edit, and delete users and their corresponding permissions.

Advanced model – Administrators have the ability to create, edit, and delete both users and groups. Groups allow the scaling of user permissions across many users. For instance, many users can be placed into a single group, and that single group can be assigned permissions against the folders and devices in the system. Without groups, the administrator would have to grant permission to each user individually.

To change the permission model to advanced, go to the Settings window, select the **Server** tab, select **Advanced** in the **Permission Model** drop-down list, and click **OK**. Groups now appear as a node in the Navigator panel. The table below outlines the actual permissions that can be granted to users or groups within Navigator, the user interface impact of that permission, and the dependencies of specific permissions.

Table 3: Permission matrix

Permission	User Interface Impact	Dependent Permissions
Acknowledge notifications	Show/hide Acknowledge All button in Notifier dialog	
Configure client	Enable/disable Client tab in Settings	
Configure server	Enable/disable right-click options on TruVision Navigator Server node (i.e., Properties and Database Backup and Restore)	
Export video	Enable/disable Local record button in Controller	Watch live video Watch playback video
	Enable/disable Snapshot and Video buttons in the Controller	
	Show/hide Collector Panel	

Permission	User Interface Impact	Dependent Permissions
	Show/hide Tasks Panel (panel may also be visible due to other permissions)	
View access control panel notifications	Enable/disable notifications from TruPortal in the Notifier	
Manage access control panels	Enables/disables access control context menus	Operate access control panels
Manage decoders	Enables/disables configuration of scenes	Operate decoders
Manage device folders	Show/hide Add Folder button and context menus in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or parent/child permissions)	
	Show/hide Address Book Import context menu for Devices node	
Manage devices	Show/hide Add Device button and context menus (rename and delete) in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or parent/child permissions)	
	Show/hide Device (device may also be visible due to other permissions or parent/child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Show/hide Bulk Tasks (Firmware Upload and Configuration) context menus for Devices node	
	Enable/disable Device Properties (Connection, Details, Capabilities) dialog on device	
	Show/hide Camera Search and Configuration context menus	
	Show/hide Firmware Upload context menu for device	
	Show/hide Tasks Panel (panel may also be visible due to other permissions)	

Permission	User Interface Impact	Dependent Permissions
Manage intrusion areas	Show/hide intrusion area context menus	Operate intrusion areas
Manage intrusion panels	Show/hide intrusion detection context menus	Operate intrusion panels
Manage network switches	Show/hide network switches context menus	Operate network switches
Manage maps	Show/hide map context menus	View maps
Manage user permissions	Show/hide Users and/or Groups nodes in Navigator	
Manage website	Show/hide website context menu	View website
Operate access control panels	Show/hide door icon context menu	
Operate decoders	Enable/disable scene activation	
Operate intrusion areas	Show/hide arm/disarm selections in context menus	View intrusion panels
Operate intrusion panels	Show/hide intrusion panel context menu	View intrusion panels
Operate network switches	Show/hide network switch context menu	
Pan tilt zoom	Enables/disables PTZ control in camera tile	Watch live video
	Show/hide PTZ button in timeline (PTZ settings access)	
Trigger outputs	Show/hide Trigger Outputs selection in device context menu	
View device diagnostics	Show/hide Run Health Diagnostics in Device node and specific device context menus in Navigator	
	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
View disk analysis	Show/hide Disk Analysis context menu for device	Watch live video Watch playback video
	Show/hide camera row in Disk Analysis dialog	
View intrusion areas	Show/hide intrusion areas in maps	View intrusion panels

Permission	User Interface Impact	Dependent Permissions
	Show/hide intrusion areas in the Navigator panel	
View intrusion panel notifications	Show/hide intrusion panel notifications in Notifier dialog	View intrusion panels
View intrusion panels	Show/hide the intrusion detection node	
View maps	Show/hide the map node	
View notifications	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Enable/disable Notifier icon in application status bar	
	Show/hide Device Notification in Notifier dialog	
	Show/hide Camera Notification in Notifier dialog for permissioned device	
View websites	Shows/hides the website node	
Watch live video	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Allow/Disallow Open Video from Camera (all methods: double-click and drag-and-drop operation in Navigator)	
	Show/hide PTZ and in-tile mouse controls	
Watch live video main stream	Enable/disable Main/Sub switch in playback controls	Watch live video Watch playback video
Watch playback video	Show/hide Folder (folder may also be visible due to other permissions or child permissions)	Watch live video

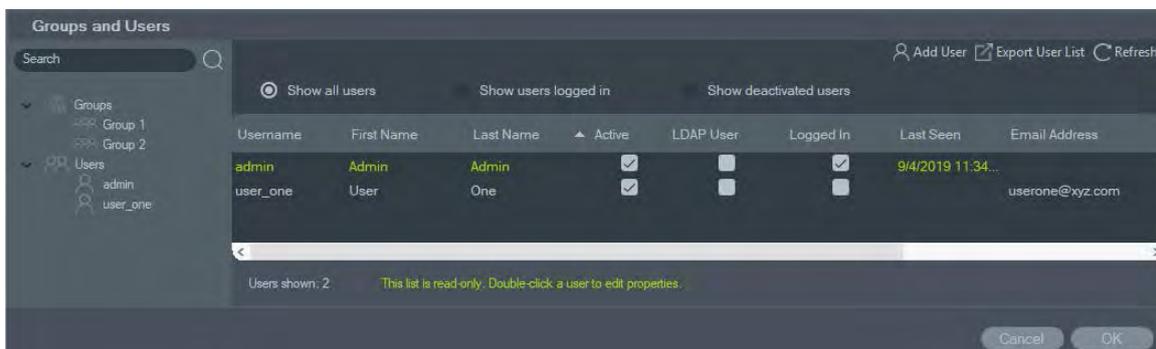
Permission	User Interface Impact	Dependent Permissions
	Show/hide Device (device may also be visible due to other permissions or child permissions)	
	Show/hide Camera (camera may also be visible due to other permissions)	
	Enable/disable Controller Playback controls including Go To, Playback, Live, double-click on timeline)	
	Enable/disable notifications in Notifier dialog	
Watch playback video main stream	Enable/disable Main/Sub switch in playback controls	Watch live video Watch playback video

Deactivate a user

Deactivation revokes all user rights to the system but does not delete users from the database.

To deactivate a user:

1. Right-click on the user under the Users node and select **Deactivate User**.
2. Click **Yes** when prompted with “Are you sure you want to deactivate this user?”
3. Deactivated users are removed from the Users node in the Navigator unless **Include Deactivated Users** is selected by right-clicking the Users node. The Inactive User icon is shaded gray while the Active User icon is shaded blue.
4. To view all active or deactivated database users in a list, click the Users node and select **Show all users**. The Users screen appears. All of the columns in this dialog are sortable. Double-click any user row to view that user’s details dialog.



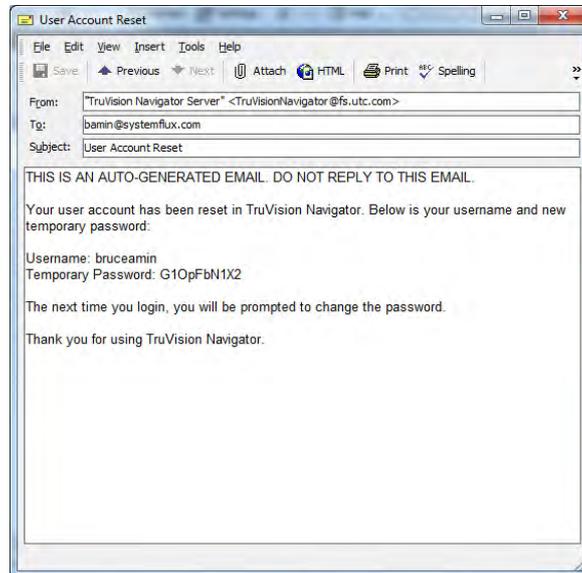
Restore a deactivated user

To restore a deactivated user in the system (three possible methods):

- Right-click the deactivated user under the Users node and select **Activate User**.
- Right-click the deactivated user under the Users node, select **Properties**, and click the **Reset Account** button on the **Details** tab.

- From the user list, double-click the user icon to launch the **Details** tab, and then click the **Reset Account** button.

If SMTP is in use, the user automatically receives an email with a temporary login password. The user is prompted to change this password upon initial login.



If SMTP is not in use, the administrator must provide the user with a new temporary password in the Change Password window. These temporary credentials must be delivered to the user via phone or email.

Reset a user after logout

If a user forgets his or her username or password and challenge question, that user can be locked out of the system. If a user has been locked out for login failures, they must answer the challenge question in the User Account Challenge window.

If a user cannot remember the challenge question, the administrator must reset the account. Follow the instructions under “Initial login” on page 19.

Force a user to log out

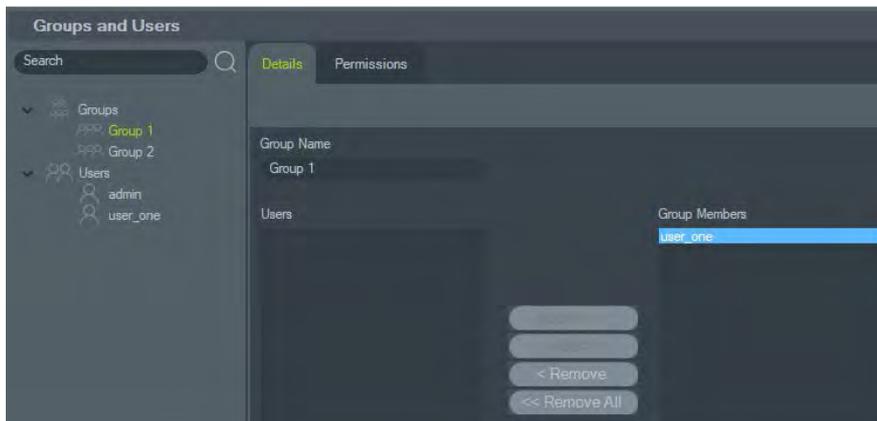
From the user list, double-click the user icon to launch the **Details** tab, and then click the **Force Logout** button. This logs the user out immediately. The user making the change must have the Manage Users Permissions permission granted to execute this function.

Group management

The advanced permission model permits group management in Navigator. Groups allow the scaling of user permissions across many users. For instance, users can be placed into a single group, and that single group can be assigned permissions against folders, devices, and other items in the system. Without groups, the administrator would have to grant permission to each user against those same devices.

To create a group:

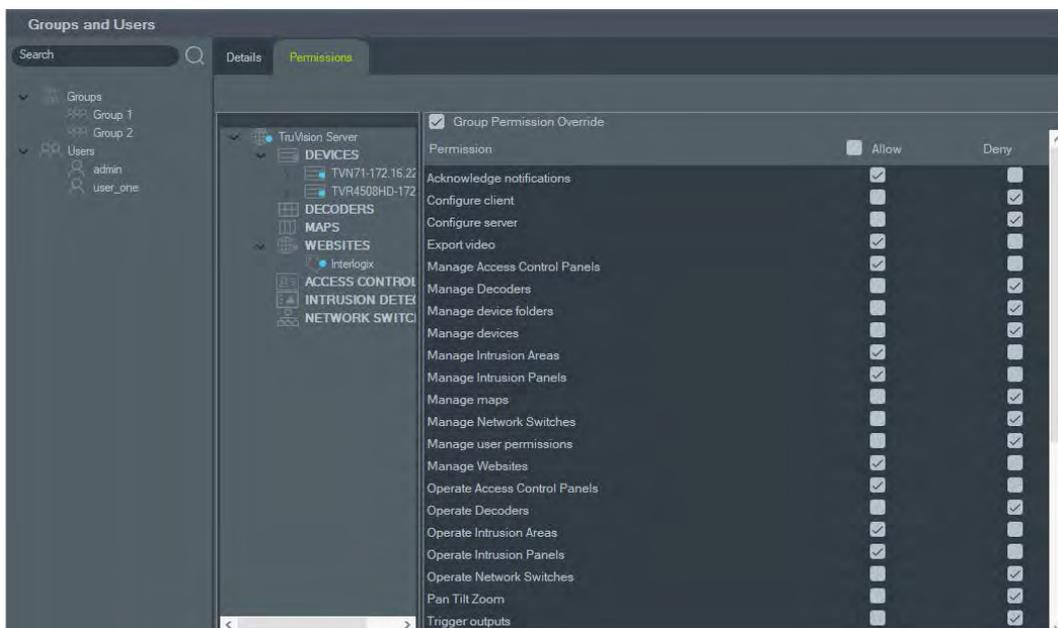
1. Click the **Server** tab in **Settings** and ensure that the **Permission Model** drop-down list is set to **Advanced**.
2. Click the **Add Group** button or right-click the **Groups** node in the **Groups and Users** tab and select **Add Group**.
3. Type a name for the group in the **Add Group** window and click **OK**.
4. Click on the group name and then click the **Details** tab to change the group name and add users to the group.



5. When finished, click **OK**.

To assign permissions to a group:

1. Click on the group icon in the **Groups and Users** tab and then click the **Permissions** tab.
2. Highlight the **TruVision Server** node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for the group in the **Permissions** tab. Group permissions affect all of the specific users that are members of the group.



3. When finished, click **OK**.

To add a user to a group:

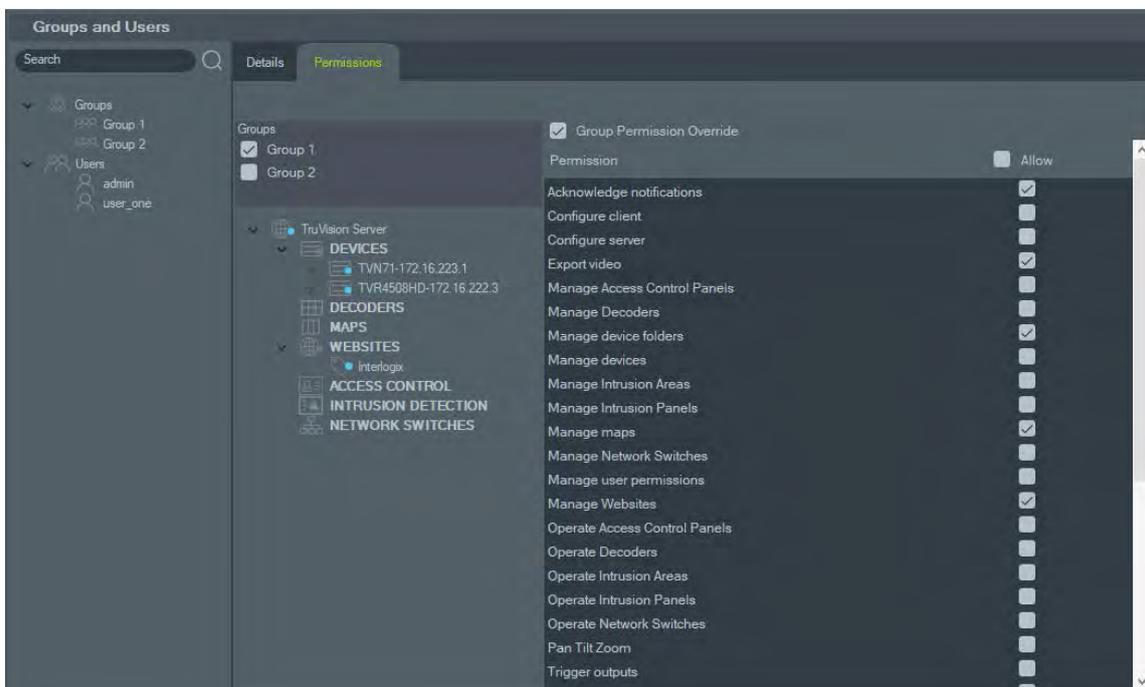
1. Click on the group icon in the **Groups and Users** tab and click the **Details** tab.
2. Select one or more users in the **Users** field and then click **Add All** or **Add** to add users to the **Group Members** field.
3. When finished, click **OK**.

Group permission override

Users with group permissions can have the permissions overridden by the administrator. In this way, the administrator can customize the permissions of a group member.

To override group permissions for a user:

1. Click on the user icon in the **Groups and Users** tab and click the **Permissions** tab.
2. If necessary, add the user to a group by selecting one or more group check boxes in the Groups panel.
3. Highlight the TruVision Server node or any sub nodes, folders, devices, or other items in the permissions panel and allow/deny permissions for this user in the **Permissions** tab.
4. Select the **Group Permission Override** check box and then click **OK**.



Search

Use Search to find any user or group in the Groups and Users panel.

To perform a Groups and Users search:

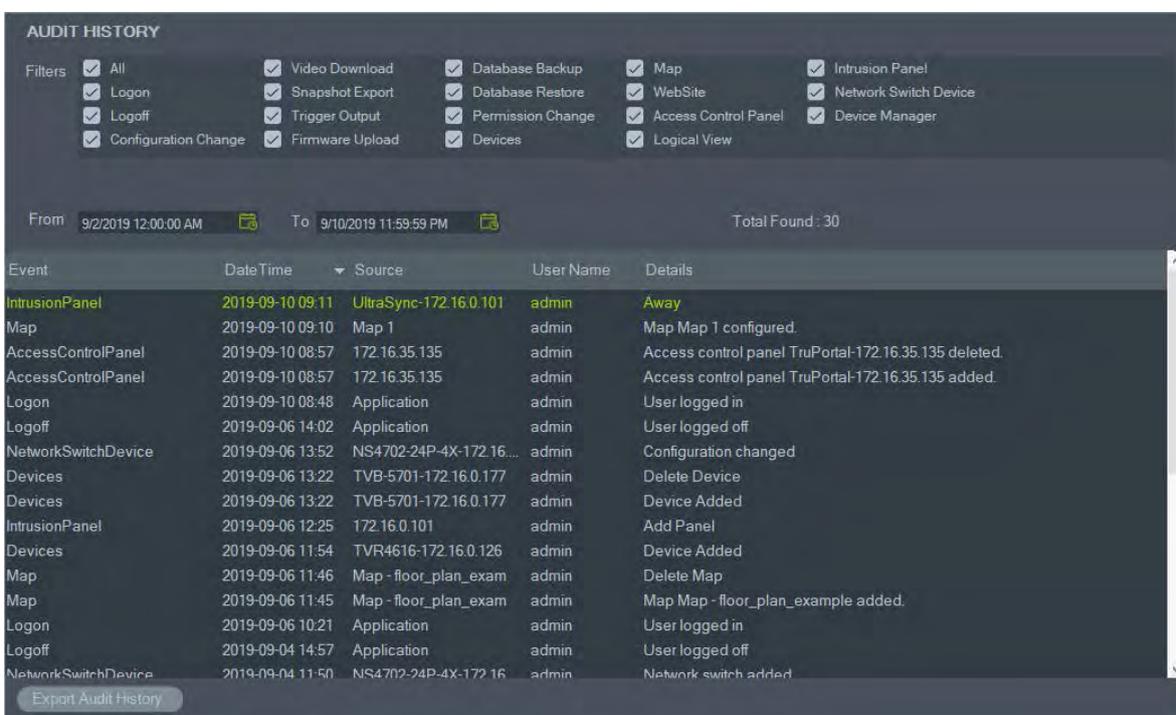
1. Type any alphanumeric string into the **Search** field at the top of the Navigator panel and press Enter. Focus goes instantly to the user or group that matches the string.
2. Press Enter again to move to the next object that matches the string until each item matching the search criteria has been found. Type a different alphanumeric string into the **Search** field to perform another search.

Group summary

After one or more groups have been created, click on the Groups node to view a list of all groups and their Active status. Click on a group name to rename a group.



Audit History



The **Audit History** tab logs all user activity which can be searched using **Filters** selections. Click **OK** when finished making selections.

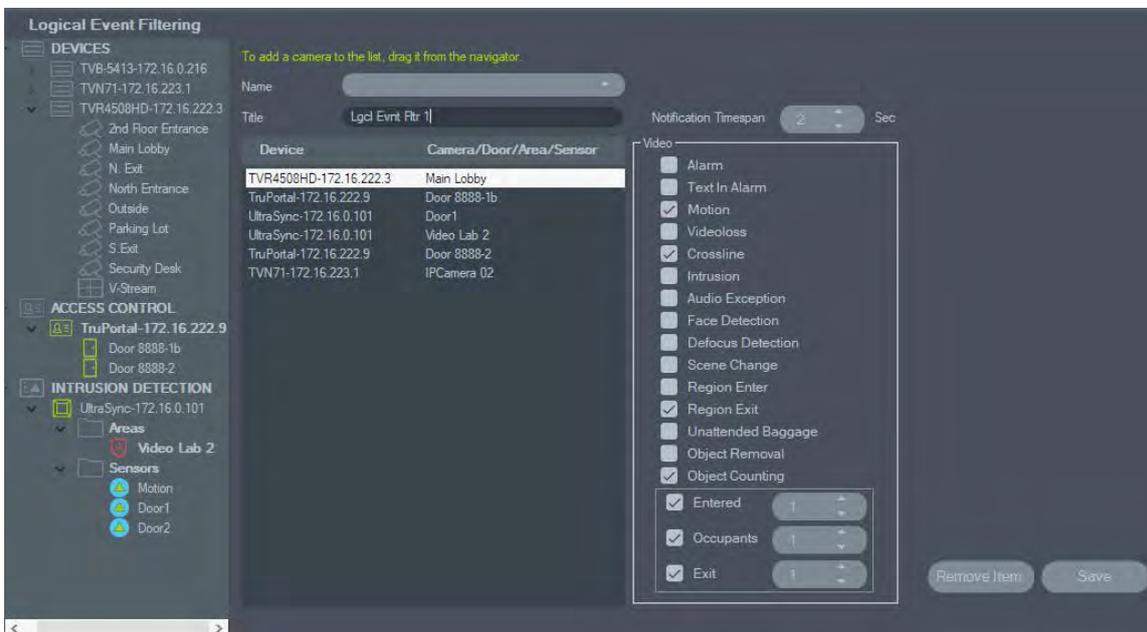
Click **Export Audit History** to save the list of configured events in the CSV file format.

Logical event filtering

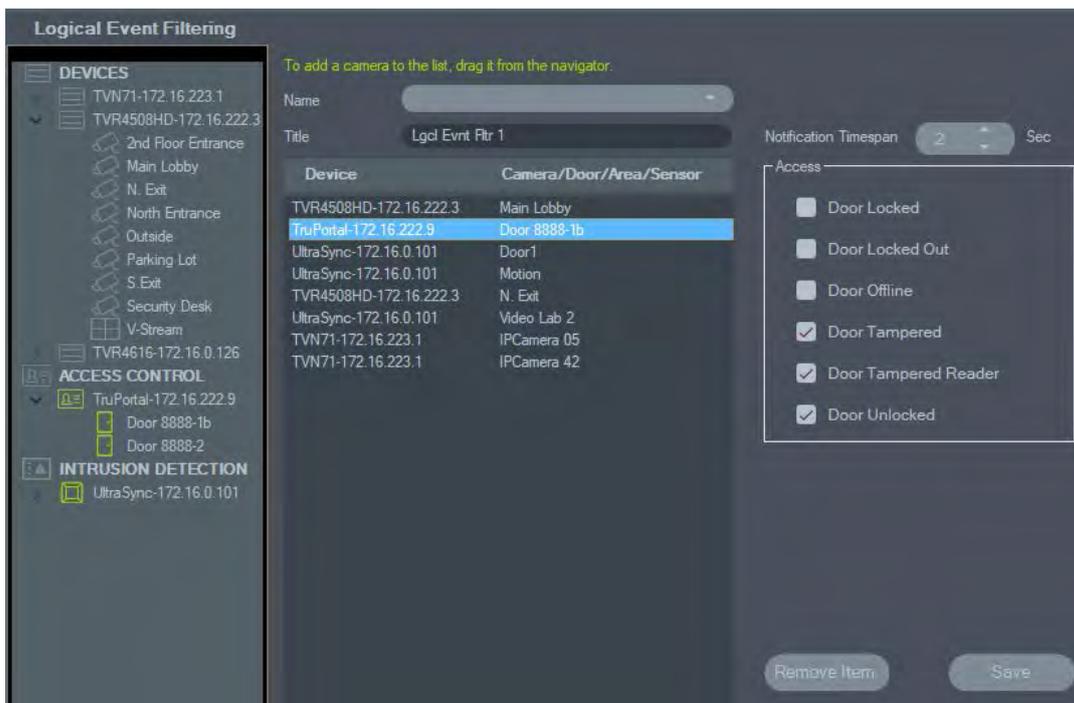
Logical event filtering provides a way to create customized, interdependent notifications from cameras connected to recorders as well as, optionally, doors connected to TruPortal access control systems.

To create a customized notification in Logical Event Filtering:

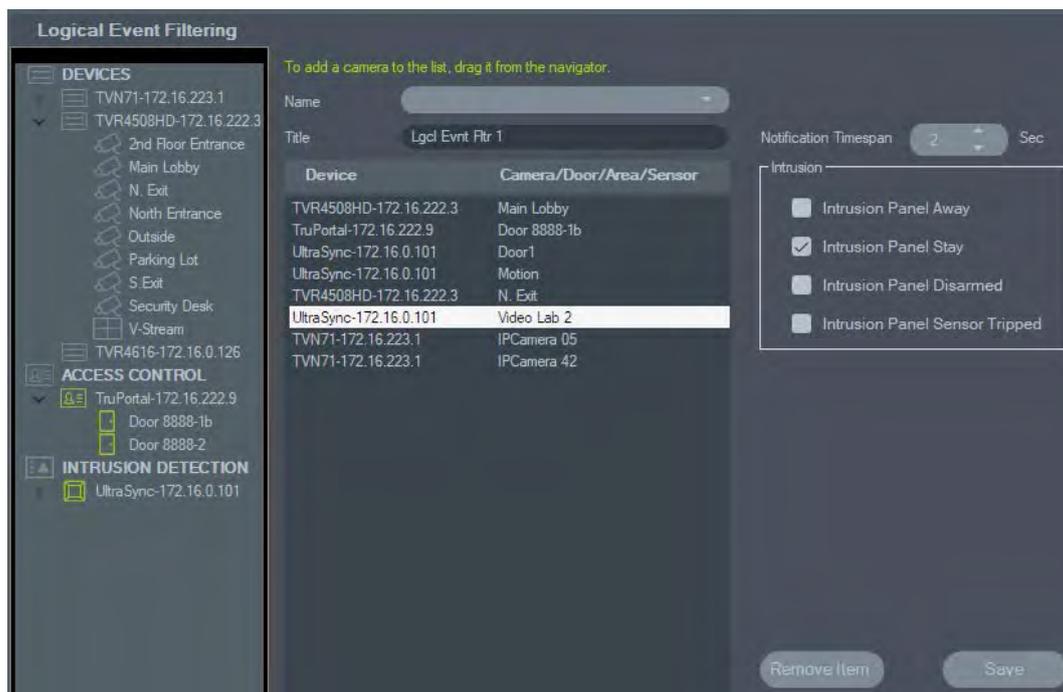
1. Click on the **Logical Event Filtering** tab in the Settings window.
2. Type in a title for the notification in the **Title** field.
3. Drag cameras from the Logical Event Filtering navigator panel into the device list.
4. Highlight each camera in the list and select the required Video notifications for each. Note that the number of people detected as **Entered**, **Occupants**, or **Exit** before sending a notification under Object Counting can be configured by typing a number into those fields or clicking the spin wheels. Also note that the VCA Alarms notification can be customized by selecting specific VCA alarm events.



5. *Optional:* To include doors in a Logical Event Filtering notification, highlight each door in the list and select the required Access notifications for each.



6. *Optional:* To include intrusion panels in a Logical Event Filtering notification, highlight each panel in the list and select the required Intrusion notifications for each.



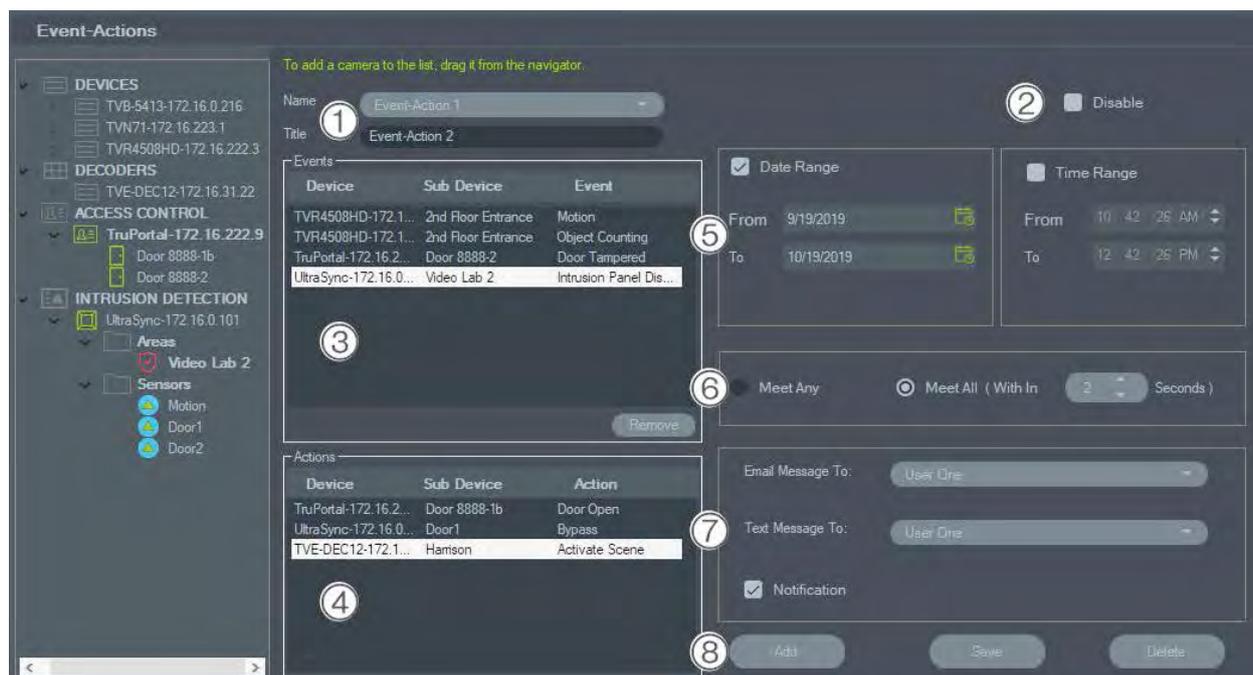
7. Type or click the spin wheels to enter a value in seconds in the **Notification Timespan** field. Logical Event Filtering generates a notification when all notifications configured in the list occur within the length of time specified in the **Notification Timespan** field.
8. If necessary, click on an item in the list and click **Remove Item** before saving the custom notification.

- When finished configuring the notification, click **Save** and configure another notification, or click **OK** to exit Logical Event Filtering.

Event-actions

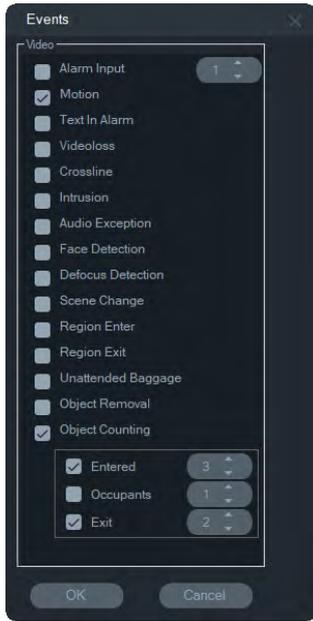
Event-action configuration permits the user to cause an action on any device in the Navigator panel triggered from any number of devices reporting notifications. For example, a motion event from a camera can trigger a door to momentary unlock on the access control panel. An event-action appears in the Notifier when it is triggered.

Figure 2: Event-actions tab

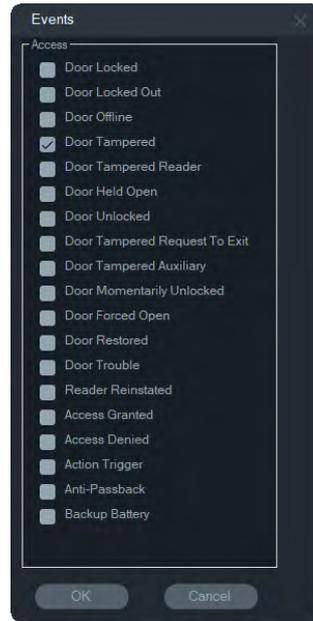


- Name and Title.** Previously configured event-actions appear in the **Name** drop-down menu. Type a title name for a new event-action in the **Title** box.
- Disable.** Disables the currently selected event-action in the **Name** drop-down menu.
- Events.** Drag a device from the event-action panel into the **Events** box. An Events window appears with a list of options (see below). Click **OK** when finished selecting event options.
- Actions.** Drag a device from the event-action panel into the **Actions** box. An Action window appears with a list of options (see below). Click **OK** when finished selecting actions options.
- Date and Time Range.** Specify a **Date Range** and **Time Range** for the event-action to send notifications. Notifications will be sent 24 x 7 if no date and time ranges are specified.
- Meet Any/Meet All.** Select **Meet Any** to trigger all event-action notifications. Select **Meet All** to trigger event-actions that occur within the duration specified in seconds.
- Email/Text notification.** Select a user from the **Email Message To:** and/or **Text Message To:** (US only) drop-down menus.
- Add/Save/Delete.** Click **Add** to add a new event-action, click **Save** to save a new event-action, and click **Delete** to delete an existing event-action.

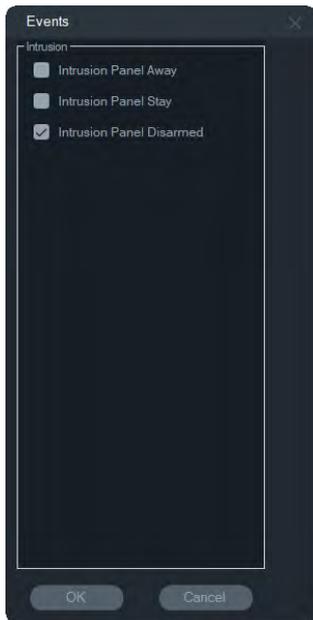
Video events



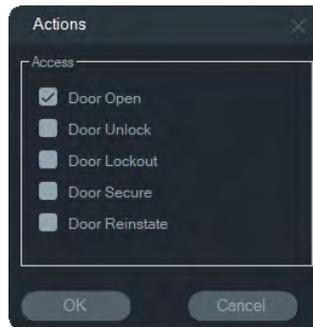
Access events



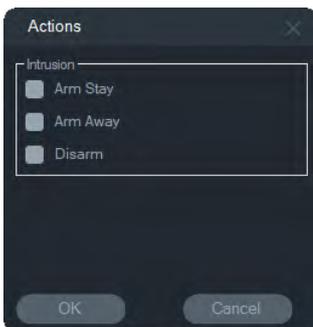
Intrusion events



Access actions



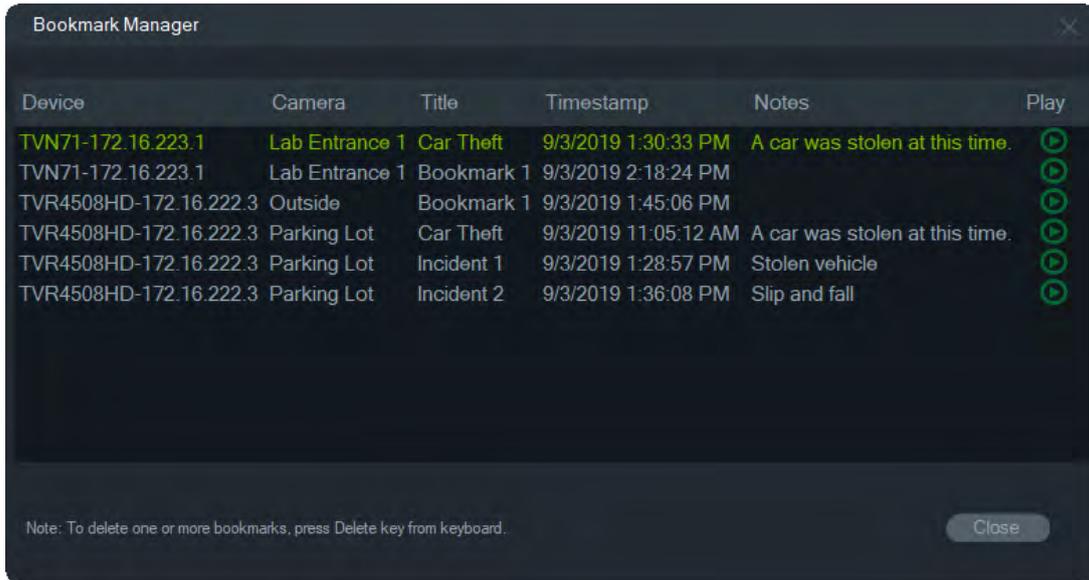
Intrusion actions



Bookmark manager

The Bookmark Manager window is a central location that contains all device-level bookmarks. When bookmarks are added, edited, or deleted on the timeline, the Bookmark Manager automatically updates. Deleting the device or camera associated with one or more bookmarks removes them from the Device list in the Bookmark Manager.

See “Adding bookmarks” on page 114 for details on adding bookmarks and “Export video” on page 113 for details on exporting bookmarked video.



Device	Camera	Title	Timestamp	Notes	Play
TVN71-172.16.223.1	Lab Entrance 1	Car Theft	9/3/2019 1:30:33 PM	A car was stolen at this time.	▶
TVN71-172.16.223.1	Lab Entrance 1	Bookmark 1	9/3/2019 2:18:24 PM		▶
TVR4508HD-172.16.222.3	Outside	Bookmark 1	9/3/2019 1:45:06 PM		▶
TVR4508HD-172.16.222.3	Parking Lot	Car Theft	9/3/2019 11:05:12 AM	A car was stolen at this time.	▶
TVR4508HD-172.16.222.3	Parking Lot	Incident 1	9/3/2019 1:28:57 PM	Stolen vehicle	▶
TVR4508HD-172.16.222.3	Parking Lot	Incident 2	9/3/2019 1:36:08 PM	Slip and fall	▶

Note: To delete one or more bookmarks, press Delete key from keyboard.

Close

The following operations are available in the Bookmark Manager:

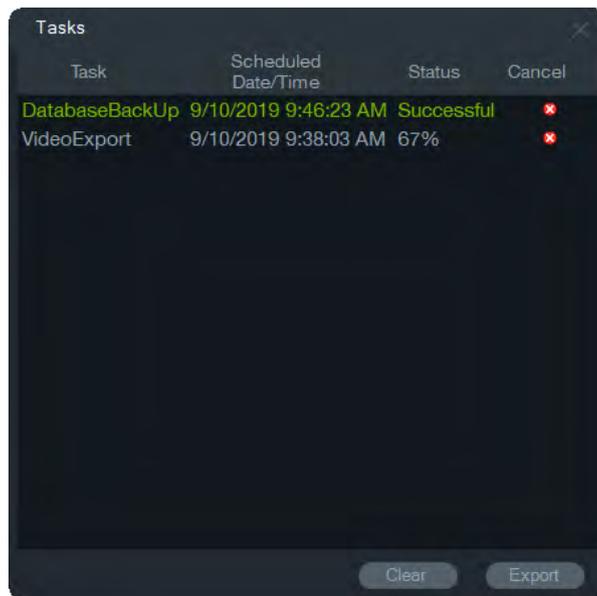
- **Edit** – Double-click on a bookmark to edit the title, time, and notes.
- **Delete** – Press the Delete key on the keyboard to delete the bookmark.
- **Play** – Click the bookmark’s play icon to play video associated with the bookmark in the timeline.

Note: Bookmarks are saved in the Navigator database, so they are available after Navigator is closed and restarted.

Tasks

The Tasks window is a central location that monitors tasks created and scheduled in the system. These tasks include both executed and scheduled/pending video exports, database backups, and database restores. Tasks provides a real-time status of the tasks in the queue, and the reason if a task was unsuccessful.

Click the Navigator main menu button and select **Tasks** to access the Tasks window.



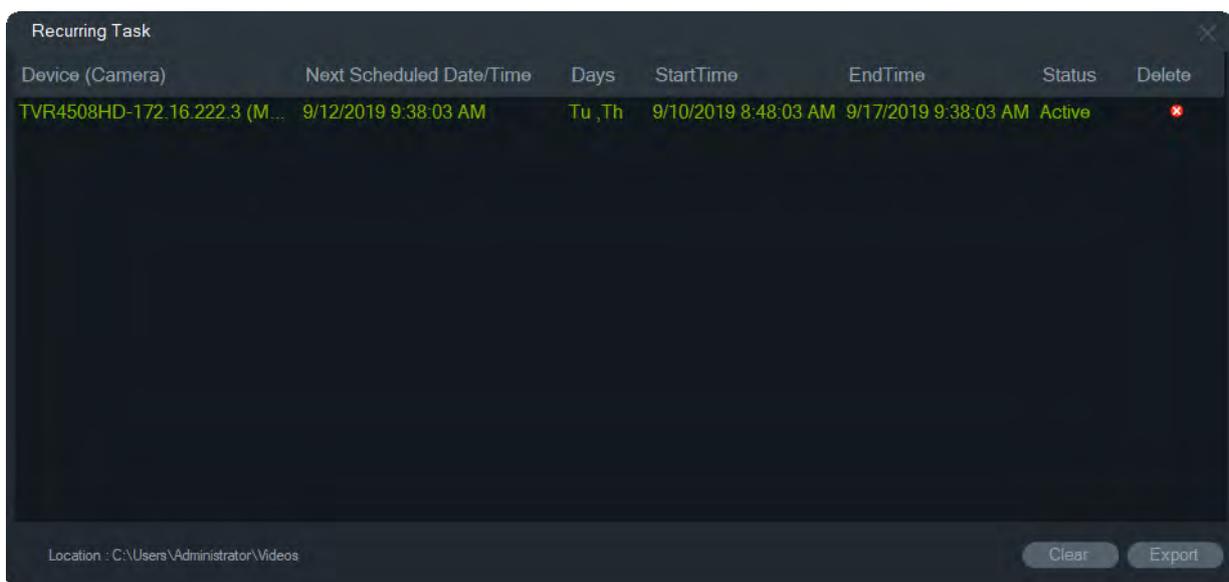
Click **Clear** to clear the list of tasks or **Export** to export the list of tasks in CSV file format.

Recurring tasks

The Recurring Tasks window is a central location that monitors video exports created according to a recurring schedule set in the Export Video window (see “Recurring schedule” on page 100).

These tasks include both completed and scheduled/active video exports. The window provides device (camera) descriptions, scheduled date and time (including days of the week and start and end times), and the real-time status of the tasks in the queue.

Click the Navigator main menu button and select **Recurring Tasks** to access the Recurring Tasks window.



Features of the Recurring Task window:

- Recurring tasks also appear in the Tasks window, where recurring task download success or failure is indicated.
- The download folder where the recurring task directory resides appears in the lower-left corner of the window.
- Click **Clear** to clear the list of tasks or **Export** to export the list of tasks in CSV file format.

Open exported video file

Click the Navigator main menu button and select **Open Exported Video File** to browse for and launch an exported video in the Viewer. See “Export video” on page 99 for details about video export.

Updates

Click the Navigator main menu button and select **Check for Updates...** Click **Restart Navigator** to restart the application and apply updates if required.

Note: Language packs do not install automatically and must be installed by the user by clicking **Restart Navigator**.

Help

Click the Navigator main menu button and select **Help** to access the **Help** dialog. The version number displays along with links to launch Help and view the End User License Agreement. Custom Help links also appear if they have been configured (see “Custom Help” on page 27).



Logout

To log out of Navigator:

1. Click the Navigator main menu button and select **Logout** to access the **Please Confirm** dialog.
2. Click **Yes** to log out of Navigator. Logging out permits another user to log in on the same machine.

Chapter 4

Device Manager

The TruVision Device Manager can discover Interlogix IP devices on a network such as IP cameras, DVRs, NVRs, encoders, decoders, IFS switches, TruPortal access panels, and intrusion panels.

This chapter explains how to use Device Manager to find and configure network-related settings of TruVision devices, use the New System Setup Wizard, and upgrade the firmware of individual devices or perform a bulk upgrade.

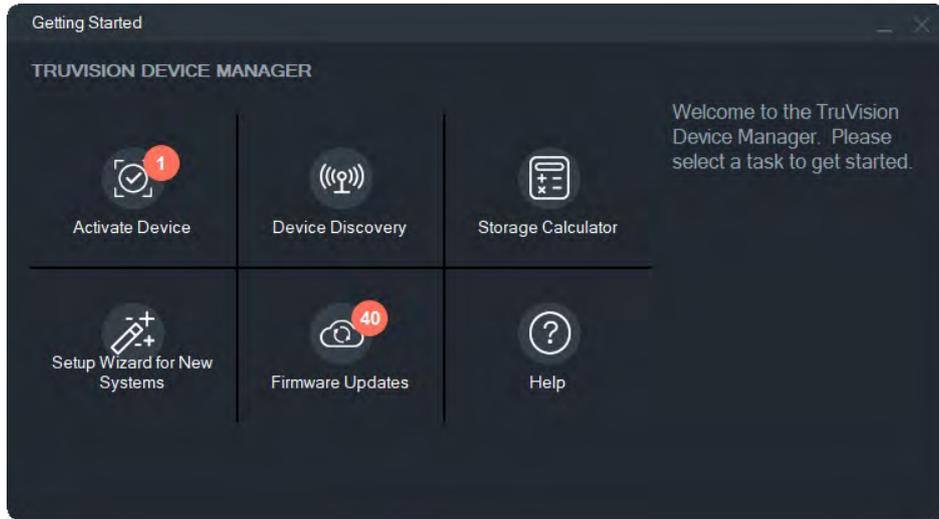
Device Manager capabilities

The following Device Manager features are compatible with the following Interlogix device types. Go to www.interlogix.com or www.firesecurityproducts.com for information about specific model compatibility.

Device Type	Device Discovery	Change IP Address	Change Password	Firmware Upgrade	Change Date & Time	Device Config Backup & Restore	Upload IP Camera Information	Reset Password
Recorders	YES	YES	YES	YES	YES	YES	YES	YES
Cameras	YES	YES	YES	YES	YES	YES	N/A	YES
Encoders/Decoders	YES	YES	YES	YES	YES	YES	N/A	YES
IFS	YES	YES	NO	NO	NO	NO	N/A	NO
TruPortal	YES	YES	NO	NO	YES	NO	N/A	NO
Intrusion panels	YES	NO	NO	NO	NO	NO	N/A	NO

Getting started

To access Device Manager, click the button at the top of the Navigator panel and select **Device Manager** from the Navigator main menu drop-down list. The Getting Started window appears.

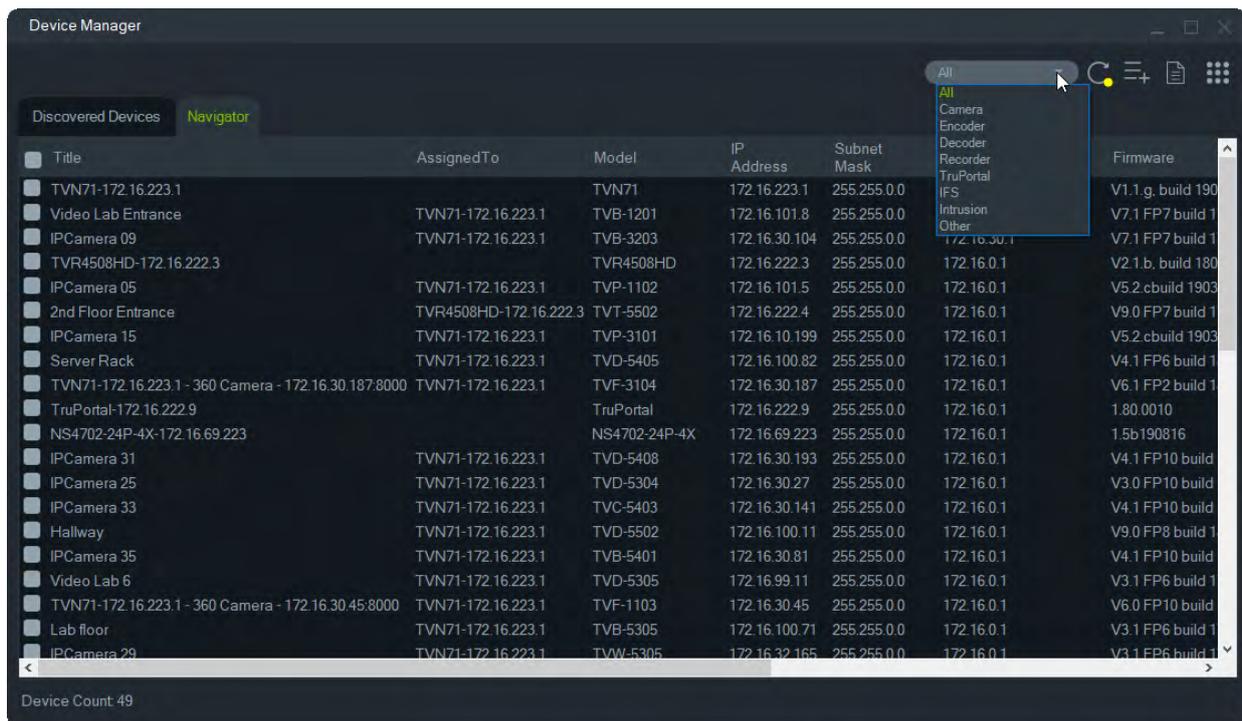


Note: The New System Setup Wizard is intended only for setting up devices that have not previously been connected to the network.

Click on a button in the Getting Started window to perform Device Manager tasks:

- **Activate Device** – Activate one or more inactive devices as shown in the button. See “Activate an inactive device” on page 59.
- **Device Discovery** – Launch the Device Manager main window and discover devices on the local network. See “Device discovery” on page 55.
- **Storage Calculator** – Create a storage capacity requirement report. See “Storage calculator” on page 60.
- **Help** – Open the Device Manager user manual.
- **Firmware Updates** – Upgrade the firmware of one or mores devices. See “Firmware upgrade” on page 59.
- **Setup Wizard for New Systems** – Set up new devices that have not previously been connected to the network. See “New system setup wizard” on page 56.

Device Manager window



The Device Manager window contains the **Discovered Devices** and **Navigator** tabs along with the following buttons:

Button icon	Name	Description
	Refresh	Refresh the list of discovered devices. See “Device discovery” below.
	Add Device	Add a device manually. See “Add device” on page 56.
	Export to CSV	Export the list of discovered devices to the CSV file format.
	Device Manager Tools	Tools for Device Manager configuration. See “Device Manager tools” on page 62.

Device discovery

Device Manager searches for online devices within the local network and displays network information for the devices. It automatically searches every 15 seconds for the online devices in the computer’s local network and then displays the information for the found devices.

IMPORTANT: A wired network connection is required for device discovery. A device cannot be discovered or activated via a Wi-Fi network connection.

Note: Unmanaged devices do not support the discovery feature.

Search for active devices online

After launching Device Manager, click the **Device Discovery** button in the Getting Started window. The Device Manager window appears.

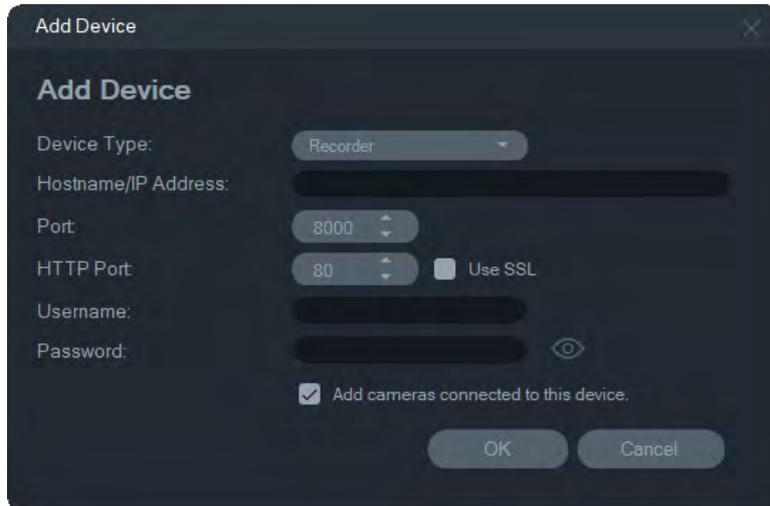
The device information that appears in the **Discovered Devices** tab (shows only the devices that have *not* been added to the Navigator panel) includes the device type, IP address, port number, gateway, firmware version, serial number, MAC address, etc. Discovery results can be filtered by clicking the **Navigator** tab (which shows only the devices that *have* been added to the Navigator panel), and/or by making a selection from the device filter drop-down list (**Camera, Recorder, TruPortal, etc.**)

Note:

- Click the **Refresh** button to perform a new search for online devices. When the **Refresh** button appears with a yellow dot, it indicates that new devices have been added in the background. Click  to add the newly found devices to the list.
- Click on a column heading button to sort the information.

Add device

If a TruVision IP device connected to the network does not appear in the Device Manager's list of discovered devices, it can be added by clicking the **Add Device** button.



Type in the appropriate device location information along with the device's user name and password. Select **Use SSL** if required by the server. Click **OK**.

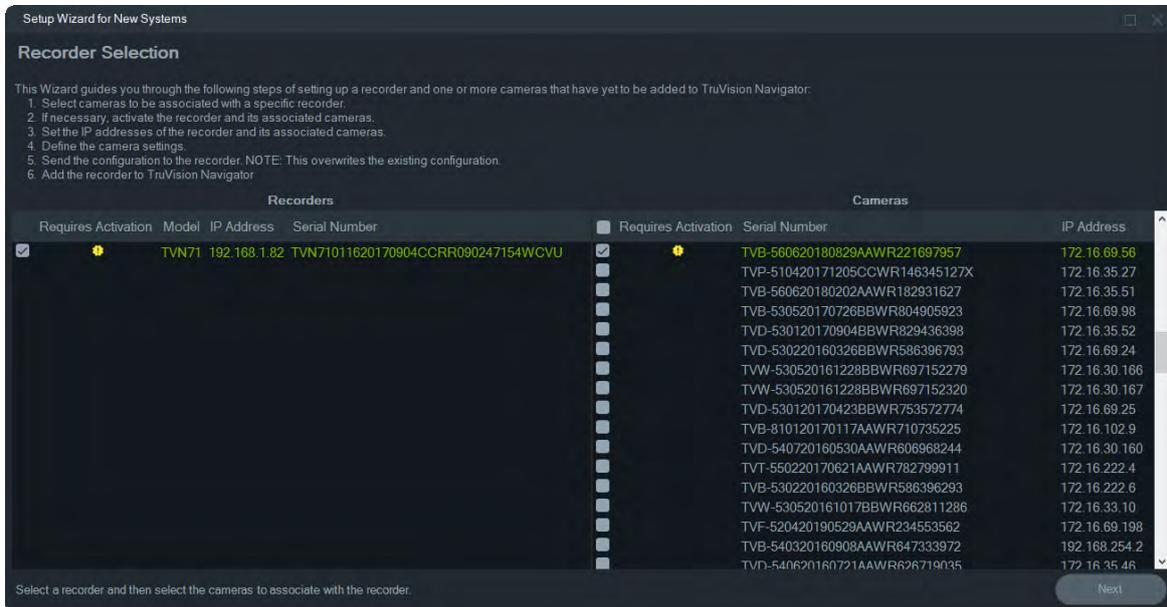
Select the **Add cameras connected to this device** check box to add cameras under a recorder in the Navigator panel. Type the user name and password for each camera, or select **Use this credential for all devices** in the Credentials Required window.

New system setup wizard

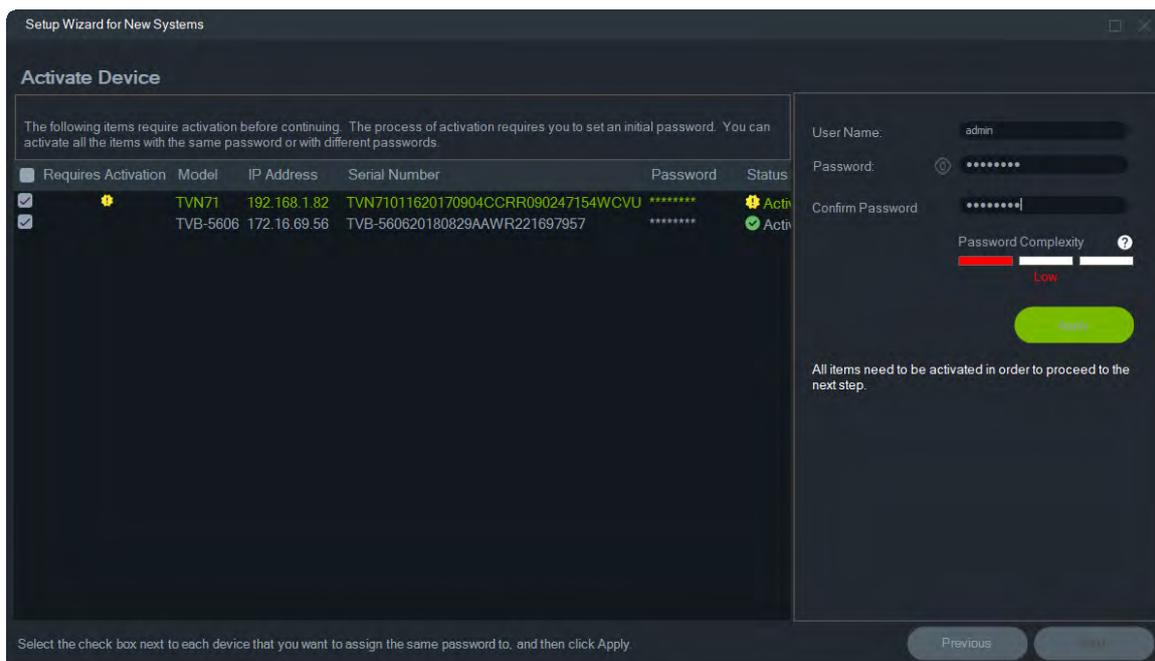
Use the New System Setup Wizard to set up new devices that have not previously been connected to the network.

To set up devices using the Wizard:

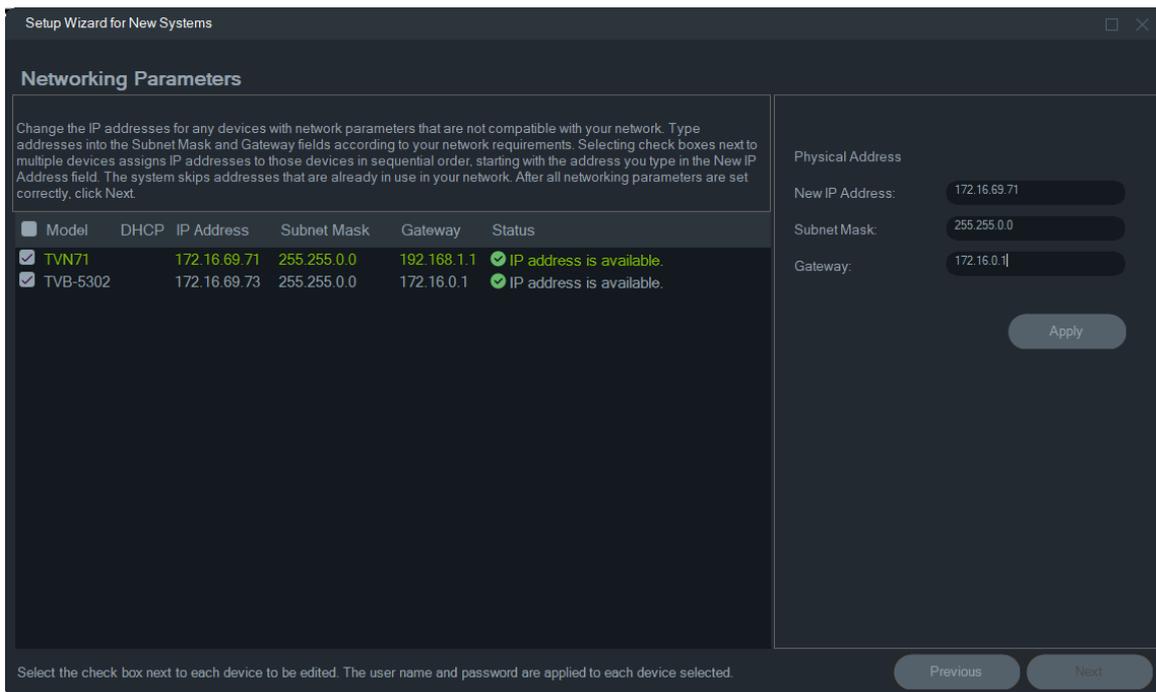
1. Click the **New System Setup Wizard** button in the Getting Started window.
2. Select a recorder and one or more cameras to set up in the Recorder Selection window.



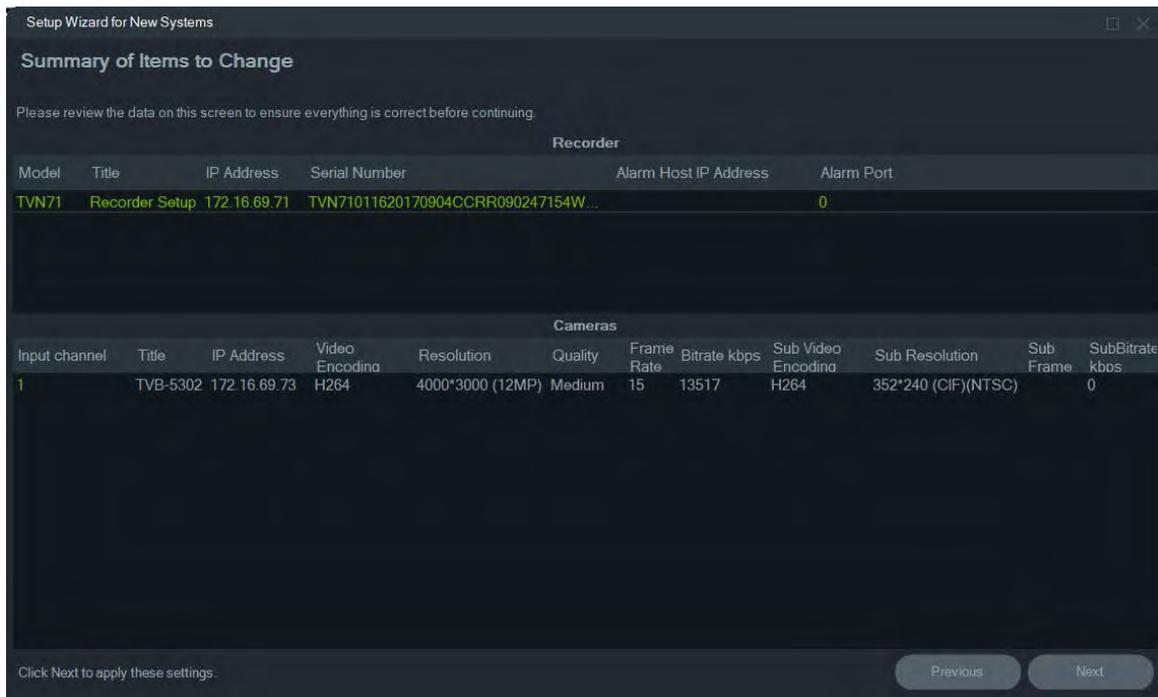
3. In the Activate Device window, select one or more devices to continue with setup. If multiple devices are selected, IP addresses are automatically assigned in sequence (in this case, all devices must have the same password). Select individual devices to assign specific IP addresses to each. Type in a new IP address, subnet, and gateway manually or click on an IP address to use default settings.
4. Type 'admin' as the user name and type in a new password for the device(s). Click **Apply** to determine if the IP addresses are available. Click **Next** when finished.



5. The Credentials Required window appears. Select the check box next to each device, type the user name and password, and then click **Apply**. Click **Next** when finished.
6. The Networking Parameters window appears. Change the IP addresses for any devices with network parameters that are not compatible with your network by typing addresses into the Subnet Mask and Gateway fields according to your network requirements. Selecting check boxes next to multiple devices assigns IP addresses to those devices in sequential order, starting with the address you type in the **New IP Address** field. The system skips addresses that are already in use in your network. Click **Apply** after all networking parameters are set correctly.



7. Click **Yes** to confirm the IP address changes. When finished, click **Next** again and wait several seconds for the storage calculator window to appear.
8. Select resolution and frame rate. If necessary, change the camera name and add substream information. The bitrate number auto-calculates and can also be changed if required. See “Storage calculator” on page 60 for details. Click **Next**.
9. The Alarm Host Setup window appears. *Optional:* Select **Enable Alarm Host** to set the IP address of the client or server that will receive alarm notifications. The **Alarm Host IP** box is prepopulated with the IP address of the computer that the Wizard is running on. Type a different IP address in the **Alarm Host IP** box if required. If multiple NIC cards are present, the **Alarm Host IP** box has a drop down list containing the IP address of each NIC card. Click **Next**.
10. The Summary window appears, showing the device information along with the location of the recorder configuration file. Click **Next**.



11. Click **Yes** to send the new configuration to the recorder.

12. The completion dialog appears. Click **Complete** to finish setup.

Activate an inactive device

Newer TruVision devices appear as “Inactive” in the Device Manager window upon initial connection to the network.

IMPORTANT: A wired network connection is required to activate an inactive device. A device cannot be activated via a Wi-Fi network connection.

To activate an inactive device:

1. Click **Activate Device** in the Getting Started window. A list of inactive devices appears in the Device Activation/Change IP Address screen.
2. Follow the steps under “Change IP address” on page 62.

Note: The device is not activated until it is given a new password.

3. An activate device success message appears.

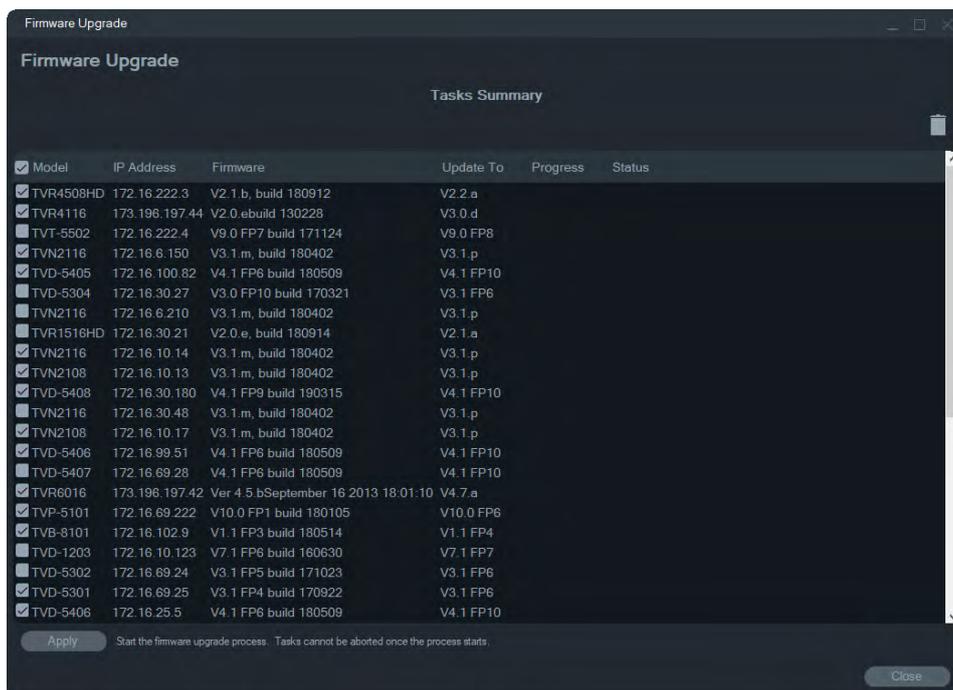
Firmware upgrade

Use the Firmware Upgrade window to upgrade the firmware of the selected device or devices.

Note: The local computer must be connected to the internet to connect with the firmware server.

To select devices for firmware upgrade:

1. Click the **Firmware Updates** button in the Getting Started window. The Updates Available dialog appears.
2. Select **Download All Firmware** to download all firmware files. If this check box is not selected, only firmware files that have not already downloaded will download to the local computer. Click **OK** in the Updates Available dialog to proceed.
3. The Firmware Download screen appears. Wait for the firmware files to download to the local computer.
4. The Firmware Upgrade screen appears. In the Model list, click a device to select it or hold the Ctrl or Shift key to select multiple devices.



5. Click **Apply**, and then click **Yes** to start the firmware upgrade process. The Credentials Required dialog box appears.
6. Type the **User Name** and **Password** for the device(s) (if necessary, select **Use this credential for all devices**), and then click **OK** to begin the firmware upgrade.
7. Firmware upgrade progress appears in the Firmware Upgrade window. When upgrading is complete, the updated version information of the device(s) appear in the device list.

Storage calculator

Storage calculator is a tool that permits the creation of a storage capacity requirement report for TruVision recorders that can be printed or exported to Microsoft Excel (XLS file format).

IMPORTANT: Storage requirement calculations provided by the calculator are only an estimation based on medium quality video settings. More storage capacity could be needed depending on the scene complexity of images captured by the cameras.

Note: Storage calculator only supports the TruVision recorders listed in the **Recorder** drop-down list in the TruVision Storage Calculator window.

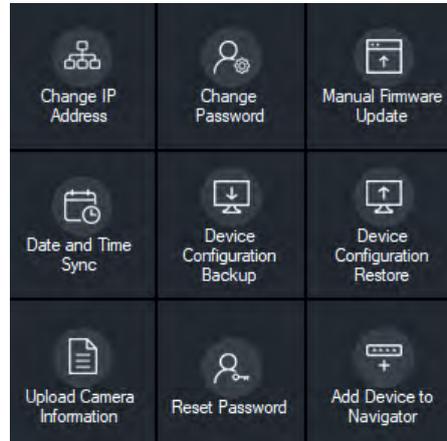


To generate a storage calculator report:

1. Click the **Storage Calculator** button in the Getting Started window.
3. Type a value into the **Project Name** field.
4. Select the recorder model from the **Recorder** drop-down list (2).
5. Select the number of camera channels in the **Channels** drop-down list (3).
6. Type camera names into the Camera Name (4) boxes as necessary and enter values for each camera in the Main Stream (5) and Substream (6) (if applicable) sections. Use the **Copy Channel 1 Settings** (7), **From Channel** (8), and **Range** (9) boxes to copy values between cameras.
7. The **Total Storage per Day** (10) and **Total Storage Capacity** (11) boxes populate with storage requirement calculations. When finished configuring the storage calculator project, click the **Print Report** or **Export to Excel** button (12) to generate a storage calculator report for future reference.

Device Manager tools

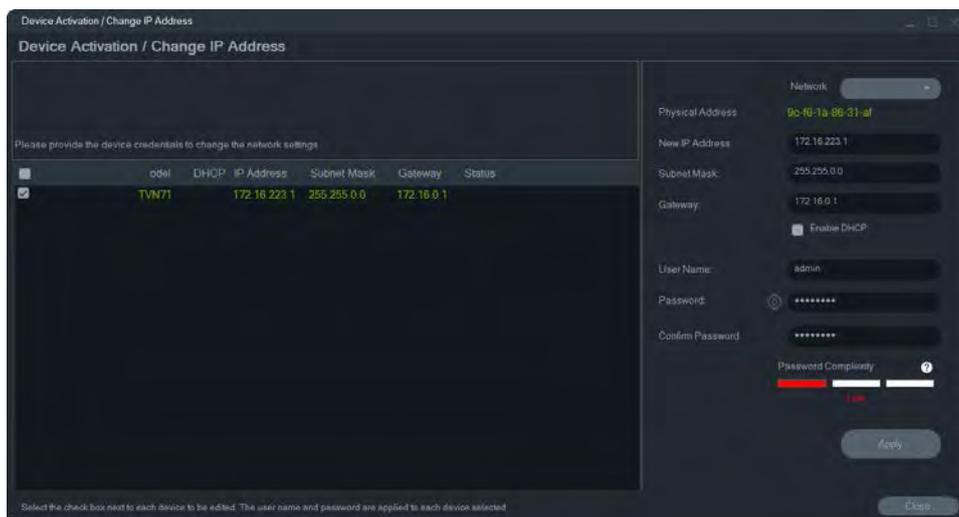
Click on the **Device Manager Tools** button in the Device Manager window to access the tools.



Change IP address

1. Click the **Change IP Address** tool button to bring up the Device Activation / Change IP Address window.
2. Select one or more devices to continue with setup. If multiple devices are selected, IP addresses are automatically assigned in sequence (in this case, all devices must have the same password). Select individual devices to assign specific IP addresses to each. If a device has one or more Network Interface Cards (NICs) to share the network load when using a number of HD cameras, an IP address can be assigned to each by selecting the corresponding number of the NIC from the **Network** drop-down list. Type in a new IP address, subnet, and gateway manually or click on an IP address to use default settings.

Note: Credentials must be entered before assigning an IP address to a NIC card.



3. Click **Test**
4. If the IP addresses were recognized as available, click **Apply**.

5. Click **Yes** to change the IP address for the selected devices.

Change password

1. Select one or more devices the main Device Manager window (if multiple devices are selected, all must have the same password), click **Device Manager Tools**, and then click the **Change Password** tool button.
2. Type the correct information in the **Old Password**, **New Password**, and **Confirm Password** fields. Select the **Include cameras connected to this recorder** check box to change the password(s) for connected cameras.
3. Click **Apply**.

Manual firmware update

Follow these instructions only if the firmware update file has already been downloaded to the local computer.

To perform a manual firmware update:

1. Select one or more devices for firmware update in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Manual Firmware Update** tool button. The Firmware Upgrade window appears.
3. Click **Browse** to locate the firmware file, and then type in the user name and password for the highlighted device in the Device List.
4. Click **Add** to add the highlighted device to the Tasks Summary list, or click **Add All** to add all the devices in the Device List to the Tasks Summary list.
5. Click **Apply**, and then click **Yes** to start the firmware upgrade process.
6. Firmware upgrade progress appears in the Firmware Upgrade window. When upgrading is complete, the updated version information of the device(s) appear in the device list.

Date and time sync

Use this tool to set the time and date across multiple devices.

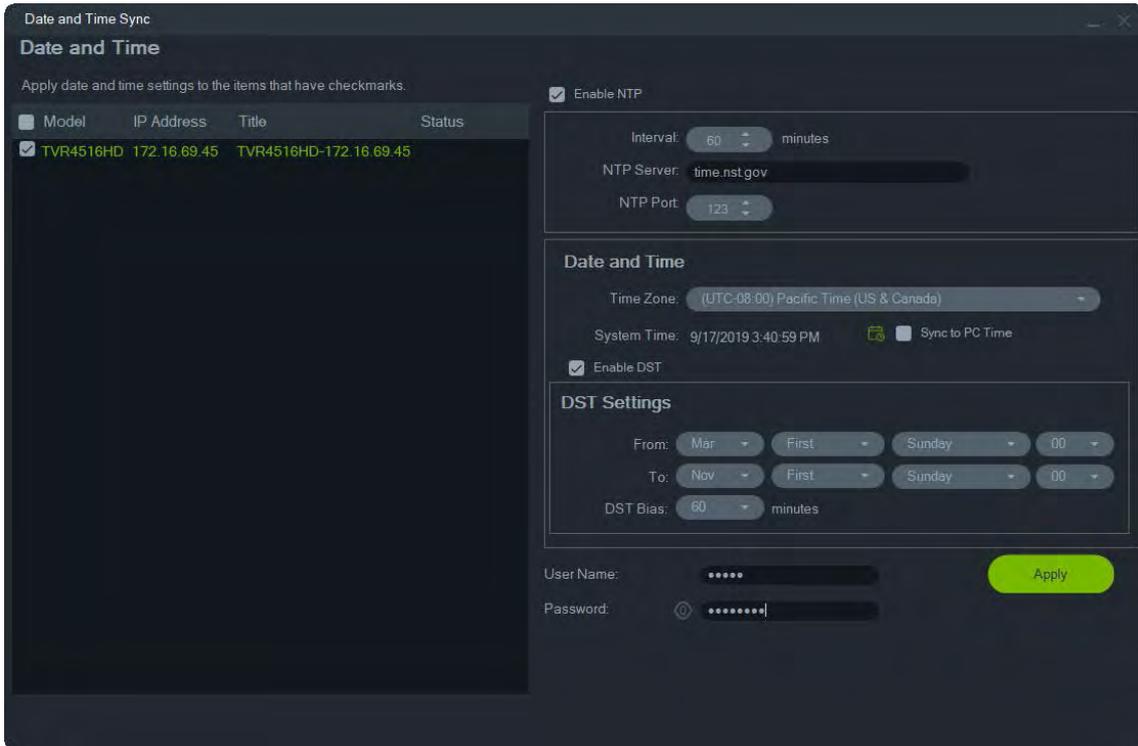
Network Time Protocol (NTP) is a protocol for synchronizing the clocks of network devices such as IP cameras and computers. Connecting network devices to a dedicated NTP time server ensures that they are all synchronized.

Note: For a list of IFS switches that support date and time sync, see the *TruVision Navigator Compatibility with IFS Switches Addendum*.

To perform date and time sync:

1. Select one or more devices for date and time sync in the main Device Manager window.

2. Click **Device Manager Tools**, and then click the **Date and Time Sync** tool button. The Date and Time Sync window appears.



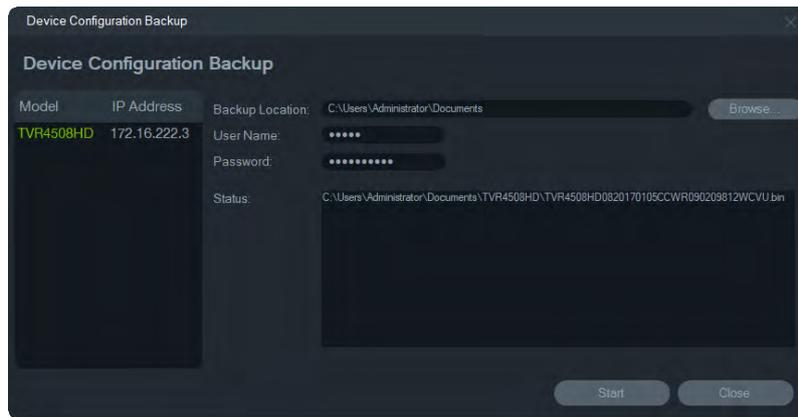
3. Select **Enable NTP** and then type in an address in the **NTP Server** field, a time interval in the **Interval** field, and an NTP Port number in the **NTP Port** field as necessary.
4. From the **Time Zone** drop-down list, select the time zone that corresponds to the device’s location.
Note: You can also select the **Sync to PC Time** check box to synchronize the time of the device with the time of the computer.
5. Type in the **User Name** and **Password** credentials for each device or for multiple devices, and then click **Apply** after the credentials are accepted for all the devices in the list.

Device configuration backup and restore

Use these tools to backup and restore device configurations.

To back up a device configuration:

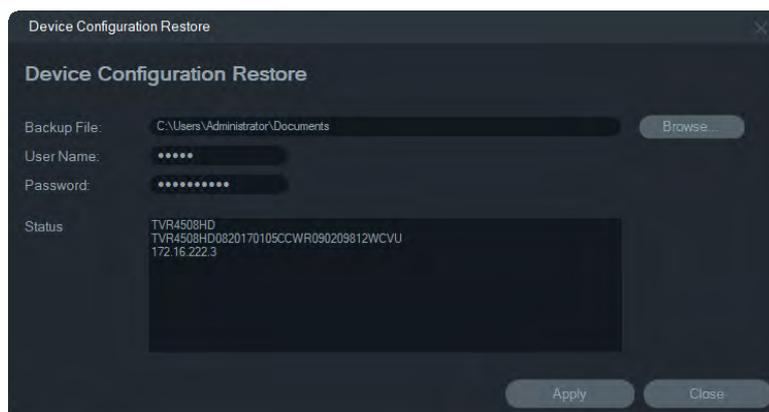
1. Select a device in the main Device Manager window, click **Device Manager Tools**, and then click the **Device Configuration Backup** tool button.
2. If required, click **Browse** to select a new backup location.
3. Enter the device user name and password and select **Start** to begin the backup process.



4. Click **Close** when backup is complete.

To restore a device configuration:

1. Select a device in the main Device Manager window, click **Device Manager Tools**, and then click the **Device Configuration Restore** tool button.
2. If required, click **Browse** to select the location of the backup file.
3. Enter the device user name and password and click **Apply**.



4. Click **Yes** to restore the device configuration.

Upload camera information

Use this tool to restore the device configuration for IP cameras only.

Note: Not all cameras support this feature.

The list of recorders that can upload camera information is as follows:

- TVN11
- TVN21
- TVN22
- TVN70
- TVN71
- TVR15HD (IP cameras only)

- TVR45HD (IP cameras only)
- TVR46 (IP cameras only)

To upload camera information:

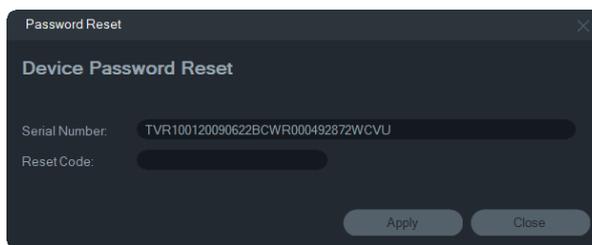
1. Select a supported recorder in the main Device Manager window, click **Device Manager Tools**, and then click the **Upload Camera Information** tool button.
2. Click **Browse** to select the location of the configuration file.
3. Type in the recorder user name and password and click **Apply**.
4. Click **Yes** to upload the camera information.

Reset password

If an admin (not a specific user) device password is lost, contact Technical Support to restore the password. There are two ways to restore the password. The method to be used depends on the device and its currently installed firmware.

To restore the default password (method 1):

1. Select the device for password reset in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Reset Password** tool button.
3. Copy the complete serial number from the **Device Serial No.** field in the Device information panel and paste it into an email to send to Technical Support. Also provide Technical Support with the date shown in Live View. For some devices (e.g., TVR60), the hour shown in Live View is also required. Technical Support will provide a security key by email.

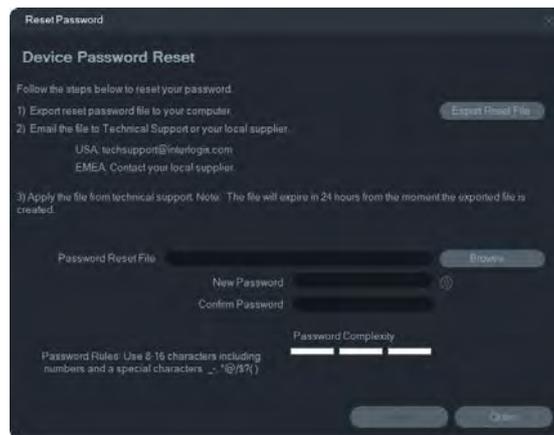


4. Enter the security key received from Technical Support in the **Security Code** field and click **OK** to restore the default password. The default password is **1234**.

Note: The security key provided is related to the date (or hour in the case of TVR60) the serial number was sent to Technical Support and expires the day it was created. We recommend resetting the device password immediately after receiving the reset code.

To set a new password using an XML file (method 2):

1. Select the device for password reset in the main Device Manager window.
2. Click **Device Manager Tools**, and then click the **Reset Password** tool button.
3. Click the **Reset Password** button.



4. Click **Export Reset File** in the Reset Password window to save the XML file, and then email the file to Technical Support. Technical Support will provide a new XML file.
5. Save the XML file received from Technical Support on the computer, click **Browse**, and select the new XML password file.
6. Type a new password and then confirm it in the **New Password** and **Confirm Password** fields. Click **Apply**.

Note: Do not restart the device after the password recovery XML file has been exported, otherwise the steps above must be repeated. The password recovery XML file expires after 48 hours.

Add device to Navigator

1. Select one or more devices in the main Device Manager window (if multiple devices are selected, all must have the same password), click **Device Manager Tools**, and then click the **Add Device to Navigator** tool button.
2. Type the correct information in the **User Name** and **Password** fields in the Credentials Required window.
3. Click **OK**. The device is added to the Navigator panel.

Chapter 5

Navigator panel

The Navigator panel is the central administration area of the application where recorders, cameras, maps, websites, access control systems, intrusion detection, network switches, and logical views are added, listed, and configured.

Items in the Navigator panel can be located quickly by typing a device name into the **Search** field at the top of the Navigator panel and pressing Enter.

Move the mouse pointer over a camera in the navigator panel to view the digital or analog channel number. Cameras that are ONVIF-compliant display their IP address.

Note: The Navigator panel is permission-based, so if a user does not have rights to perform certain actions, they will not see the options.

Adding devices

Add a single or multiple devices (such as recorders, cameras, and decoders) to the Navigator panel by choosing one of the following options:

- Add manually
- Add via discovery tool

Adding devices manually

1. Click the **Add Devices** button  in the Navigator panel and select **Add Manually**, or right-click the Devices icon and then select **Add Device > Add Manually** from the drop-down list. The Add Device window appears.

2. Select the appropriate model from the **Device Type** drop-down list.

Note: Select **TruVision Recorder** or **TruVision Camera** from the drop-down list for any TruVision device. Using one of these drivers enables the device's browser-based configuration page. Some functions do not work as designed if either of these generic device types are selected. We recommend selecting the specific device model if possible.

3. Type a name in the **Device Title** field. Values are alphanumeric.
4. Based on the device type, a selection from the **Streaming Type** drop-down list may be required. For some devices, there is only one option for the **Streaming Type** so it is selected by default. Streaming types are defined as follows:

- **TCP** – TCP is a reliable stream delivery service that guarantees delivery of a data stream sent from one host to another without duplication or losing data.
- **UDP** – The application connects to the device and asks the device to stream video back to the application on a UDP address and port. For this option, the firewall must be configured to allow the device to stream to the application on that specific port.
- **Multicast** – This type of streaming only requires one stream and one user connection to the recording device and can be connected to many clients. This saves connections and network bandwidth. Multicast is supported in live view only.

5. Type the device's IP address or the EzDDNS URL (e.g., <http://hostname.tvr-ddns.net>) in the **Device Address** field.

Note: A recorder can be added using a Domain Name System (DNS) name as well as a static IP address by typing the DNS name in the **Recorder Address** field.

6. The **Port** field is pre-populated with a default value based on the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.

Note: The port number must be added to the device address when using DynDns with a HTTP port other than port 80 (e.g., mydvr.dyndns.org:2222 if the HTTP port being used is 2222). When using No-IP instead of DynDNS, also add the HTTP port number.

7. Type the required values in the **Username** and **Password** fields.
8. Select the **Add Device Offline** check box to add the device to the Navigator if it is currently offline. Bring an offline device online by right-clicking on the device in the Navigator panel and selecting **Connect**.
9. Click **OK**.

Note: After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

Adding devices using the discovery tool

Navigator is equipped with an embedded device discovery tool that discovers devices such as recorders, cameras, and decoders in the network and permits the addition of one or more of those devices.

IMPORTANT: A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

1. Click the **Add Device** button in the Navigator or right-click the Devices icon, and then select **Add Device > Add via Discovery Tool** from the drop-down list.
2. The Device Discovery window displays and provides a list of available devices in the network. You can filter these results by selecting **All**, **Camera**, **Encoder**, **Decoder**, **Recorder**, **TruPortal**, **IFS**, **Intrusion**, or **Other** in the drop-down list.



Model	IP Address	Subnet Mask	Gateway	DHCP	Firmware	Physical Address	Serial Number
TVN2216	172.16.69.22	255.255.0.0	172.16.0.1		V2.3.c. build 190828	bc-ad-28-99-20-a5	TVN2216S1620160527CRR09017737
TVN2208	172.16.7.2	255.255.0.0	172.16.0.1		V2.3.b. build 190314	bc-ad-28-99-e3-b5	TVN22080620160528CRR09017794
TVE-DEC12	172.16.31.22	255.255.0.0	172.16.31.1		V1.0.g. build 190605	9c-66-1a-8b-7d-a5	TVE-DEC1216201901150CCRR2287168
TVR1508HD	172.16.2.151	255.255.0.0	172.16.0.1		V2.0.e. build 180914	bc-ad-28-9c-9e-55	TVR1508HD0820160919CCWR090190
TVN1116	172.16.6.110	255.255.0.0	172.16.0.1		V1.1.a. build 190507	9c-66-1a-87-af-b4	TVN1116S1620171214CCRR09026578
TVN1004	172.16.6.10	255.255.0.0	172.16.0.1		V2.1.g. build 190812	8c-e7-48-4f-d-17	TVN1004c80420140117AARR0900470
TVE-1620	172.16.12.16	255.255.0.0	172.16.0.1		V17.0.FP3. build 190713	9c-66-1a-8c-9b-7a	TVE-16201620190516CCWR23382951
TVE-620	172.16.12.8	255.255.0.0	172.16.0.1		V17.0.FP4. build 190809	9c-66-1a-8c-96-3f	TVE-6200320190521CCWR234132744
TVE-120	172.16.12.12	255.255.0.0	172.16.0.1		V17.0.FP3. build 190713	9c-66-1a-8c-83-40	TVE-1200120190515CCWR233885334
TVE-429	172.16.12.4	255.255.0.0	172.16.0.1		V17.0.FP3. build 190713	9c-66-1a-8c-82-50	TVE-4200420190516CCWR23354573
TVR4616	172.16.0.126	255.255.0.0	172.16.0.1	<input checked="" type="checkbox"/>	V1.0.d. build 190426	9c-66-1a-8b-67-ec	TVR46161620190103CCWR09031737
TVB-5413	172.16.35.29	255.255.0.0	172.16.0.1		V13.1.FP1. build 181207	9c-66-1a-8b-81-e9	TVB-541320190118CCWR088413444
TVB-5702	172.16.69.55	255.255.0.0	172.16.0.1		V11.0.FP11. build 190302	9c-66-1a-85-11-b4	TVB-570220170610AAWR776435748
TVB-5413	172.16.0.216	255.255.0.0	172.16.0.1	<input checked="" type="checkbox"/>	V13.1.FP5. build 190628	9c-66-1a-8a-f1-4a	TVB-541320181119CCWR069220182
TVF-5201	172.16.12.52	255.255.0.0	172.16.0.1		V16.1.FP1. build 190621	9c-66-1a-8c-9d-dd	TVF-520120190529AAWR234553572
TVD-1201	172.16.35.23	255.255.0.0	172.16.0.1		V7.1.FP7. build 170314	44-19-b6-6c-73-af	TVD-120120140828CCWR478047870
TVD-2205	172.16.35.59	255.255.0.0	172.16.0.1		V7.1.FP7. build 170314	e0-58-e-34-6-4b-f1	TVD-220520141202CCWR490789231
TVA-3101	172.16.69.76	255.255.0.0	172.16.0.1		V7.1.FP7. build 170314	c4-29-90-23-47-e5	TVA-310120150607CCWR517505895
TVB-5413	172.16.69.13	255.255.0.0	172.16.0.1		V13.1.FP5. build 190628	9c-66-1a-8a-02-00	TVB-541320181115CCWR069220184
TVD-1201	172.16.10.173	255.255.0.0	172.16.0.1		V7.1.FP5. build 180630	44-19-b6-63-1c-41	TVD-120120140828CCWR478047870

Note: For recorders, the first two characters after the alpha model number prefix indicates model number, and the last two characters indicate channel count. For example, a TVR4616 model number indicates a 16-channel TVR46 recorder.

3. To add devices to the Navigator, select one or multiple devices from the list using the mouse and Ctrl key, and then click **Add**. The device(s) appear under the Device node in the Navigator panel.
4. Type the **Username** and **Password** and then click **OK**.

5. After the recorder or TruVision camera appears online, expand the Device icon to view all devices added to the system. Upon successful connection, the Navigator populates the respective cameras under the device.

To remove a camera icon from the Navigator panel:

1. Right-click the recorder icon associated with the camera and select **Properties**.
2. Click on the camera to be removed and select the **Camera Not in Use** check box.
3. Click **Save**. Repeat these steps, deselect the **Camera Not in Use** check box, and then click **Save** to add the camera back to the Navigator panel.

To remove a recorder or decoder icon from the Navigator panel:

1. Right-click the device icon and select **Delete Device**.
2. Click **Yes**.

Configuring discovered devices

Discovered devices can be configured either in Navigator or through the device's internal configuration web page.

TruVision recorder browser configuration is currently available for the recorders listed below:

Table 4: Browser configuration compatibility

Recorder Model	Firmware version
TVN 10	2.0 and above
TVN 21	3.0 and above
TVN 22	1.0 and above
TVR12HD	All versions
TVR15HD	All versions
TVR44HD	All versions
TVR45HD	All versions
TVR46	All versions
TVN 11	All versions
TVN 70	All versions
TVN 71	All versions

To configure a device using the device's internal configuration web page:

1. Right-click a device in the Navigator panel and select **Configure Device** or **Configure Camera**.

Note: If configuring a device remotely, the device HTTP port must be forwarded through the router, along with the control and RTSP ports. Without HTTP port forwarding, the browser of the device cannot be viewed.

2. If necessary, click **OK** to update the plug-ins.

Note: The plug-in should already be installed if the device has been connected to and previously configured through the device's internal web browser

3. Follow the instructions in the Setup-UTC Web Components window. When complete, restart Navigator.

WARNING: Close all browser windows when instructed and close Navigator before continuing.

4. Right-click the TruVision device and select **Configure Device**. Navigator opens the device's internal configuration web page.

5. Configure the device with the required preferences. See the device's user manual for all configuration options.

Note: For cameras not connected to a recorder, enter the camera's login credentials to proceed.

6. When complete, click the **Close** button to save any configuration changes and return to Navigator.

Notes:

1. Some devices cannot be configured remotely using Navigator.
2. The trusted source for camera titles is the device itself. When adding a device for the first time, Navigator does not display the device's configuration information at the time of connection. The cameras in the Navigator panel may display generic camera titles (Camera 1, Camera 2, Camera 3, etc.). Camera names are updated after performing device configuration for the first time. Afterwards, any changes to camera titles through Navigator updates both the Navigator and the device.
3. For protocol configuration of analog PTZ cameras attached to an embedded NVR via an encoder, use encoder web administration rather than the embedded recorder configuration menu.

Adding a TruVision 360° camera

Navigator supports Interlogix 360° cameras. These cameras can be added to TruVision NVRs as a regular IP camera either manually or using the discovery tool.

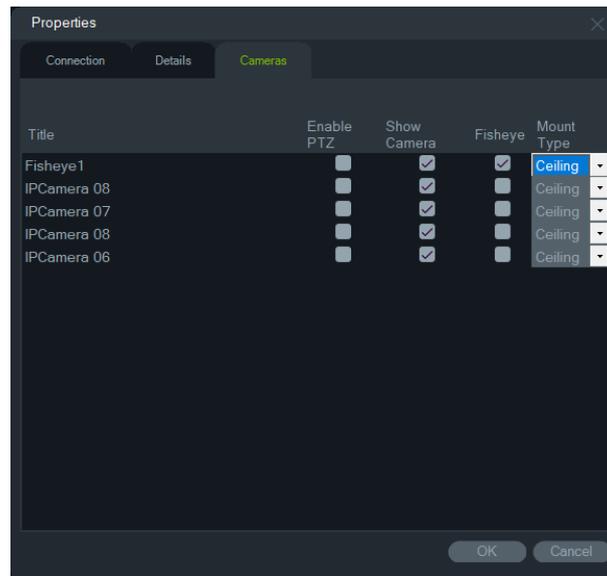
Each 360°camera provides five streams to the user.

- 1 x Raw 360° image (also contains a substream)
- 1 x Two 180° bands in one video stream
- 3 x 120° streams with digital PTZ capability

When a 360°camera is added to a device, the camera appears in the Navigator panel and has its own device node with up to five channels listed under it. By default, the 360°camera is added with only the 360° mode enabled.

To add the rest of the views:

1. Ensure that the Fisheye Mode in the camera configuration menu is set to Multi Channel Mode. See the camera's user manual for details.
2. Right-click on the camera's device node and select **Properties**.
3. In the **Properties** menu, click the **Cameras** tab and select the **Show Camera** check boxes for the views to display.
4. Click **OK**.



For information about dewarping 360° cameras, see “Dewarp views” on page 123.

Adding a V-Stream

V-Streams combine output from all camera channels in a recorder into a single stream. V-Streams only appear if they are configured in the recorder.

To view a V-Stream, click on a V-Stream icon in the Navigator panel and drag it to a video tile in the Viewer panel.

Adding maps

Maps or floor plans can be added as PNG, JPEG, GIF, or BMP files.

To add a map:

1. Right-click the Map icon in the Navigator panel and select **Add Map**.
2. The Open Map File window appears. Navigate to the image file for the map required and click **Open**. The map appears in the Navigator panel under Maps.
3. Double-click the map name or drag and drop to open it in a video tile. Clicking the camera icons placed on the map launches the selected camera's video. When the camera receives a notification, a color-coded box appears around the camera icon.

4. Click the left mouse button inside the video tile to move the map in any direction inside the tile.
5. Right-click on the map and select **Zoom to fit** to re-center the map and have it fill the video tile.

To rename or delete a map:

Right-click on the map name in the Navigator panel and select **Rename Map** or **Delete Map**.

Configuring maps

Camera, recorder, access control door, access control panel, intrusion panel, and intrusion sensor icons can be added to maps to represent their physical locations. Cameras can be connected to doors to enable the launching of video whenever a door is opened. Cameras can also be connected to intrusion areas and sensors and generate video that can be launched from the Notifier.

Selecting any element in a map while pressing the Alt key highlights other elements associated with the selection. Clicking on the map itself while pressing the Alt key highlights all elements on a map. Pressing Ctrl while rotating the mouse wheel permits zooming in to the cursor on a map.

Note: The recommended map image size should be between 800×600 and 1920×1080. Smaller images will cause markers to appear overly large. Conversely, larger images will make markers appear very small.

Map icon definitions:

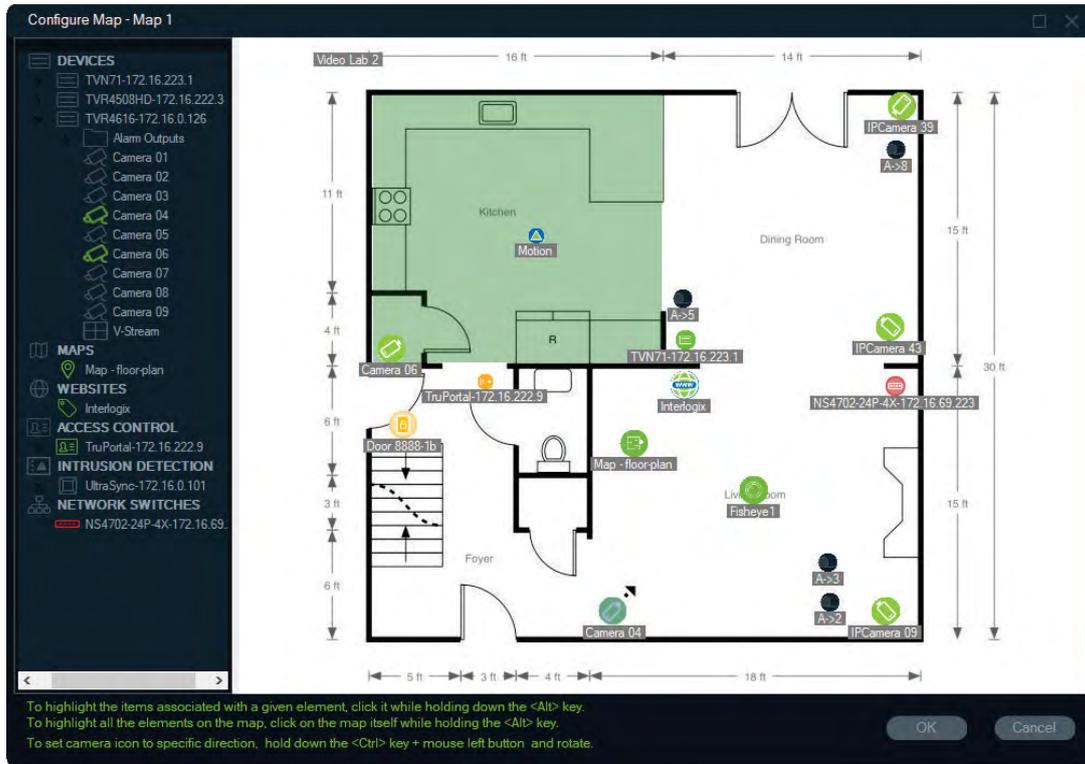
Icon	Description
Video icons (green)	
	IP camera
	PTZ dome camera
	360° camera
	Alarm output trigger on
	Alarm output trigger off
	Recorder

Icon	Description
Access control icons (gold)	
	TruPortal access control panel
	Access control panel door closed and locked
	Access control panel door closed and unlocked
	Access control panel door closed in lockout state
	Access control panel door open
Network switch icons (red)	
	IFS network switch
Intrusion icons (blue)	
	Interlogix control panel
	Intrusion sensor ready
	Intrusion sensor not ready
	Intrusion sensor alarm
	Intrusion sensor bypass
Other icons	
	Web site. Double-click to launch a web site from a map.
	Submap. Double-click to launch a secondary map.

Adding and positioning icons:

1. Right-click the map name in the Navigator panel and select **Configure Map**.

- Click and drag a camera, recorder, alarm output, access control panel (if a TruPortal system has been added to Navigator), access control point (door icon), a website, or another map from the Navigator panel to any point on the map.



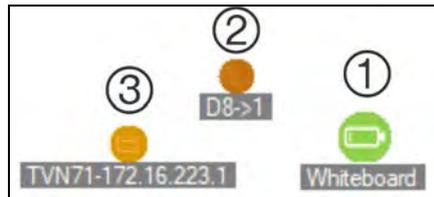
- Right-click on a camera and select **Orientation** to change the position of the camera to mimic its physical orientation.
- To manually rotate an IP camera icon, press Ctrl and click on the icon. The rotation of the camera icon follows the mouse, and the icon changes color during rotation. The cursor also changes to indicate the direction set for the camera.
- Click **OK** to save.
- To remove an icon, right-click on it and select **Delete**.

Viewing associated items on a map:

- Hold down the Alt key and click on a recorder icon (1). Orange highlighting appears around all cameras (3) and alarm outputs (2) associated with the recorder.



- Hold down the Alt key and click on a camera icon (1). Orange highlighting appears around all recorders (3) and alarm outputs (2) associated with the camera.

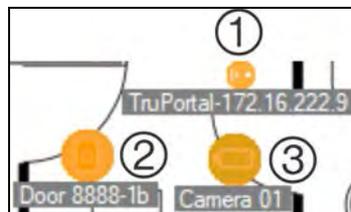


Connecting an access control point to cameras on a map:

1. In the Configure Map window, right-click on an access control point (door) and select **Link Cameras**.
2. Select all cameras on the map to link to the door (or select **Select All**), and then click **OK**.



3. To see which cameras and access control panels on the map are linked to a door, hold down the Alt key while clicking on the panel icon (1) and orange highlighting appears around the door (2) and connected camera (3) icons.



4. Whenever the door is opened, notifications from linked cameras appear in the Notifier panel (see Chapter 7 “Notifier panel” on page 131). Click the camera notification in the Notifier panel to launch video recorded when the door was opened in the Viewer panel (see Chapter 6 “Viewer panel” on page 109). If a linked camera has been assigned to the Event Monitor, video from the camera displays in the Event Monitor if the door’s reader is swiped or if the door is opened. Doors can be opened from maps in the Viewer Panel by double-clicking on a door icon.

Configuring or viewing recent activity—access control panel icon:

- Right-click on an access control panel icon and select **View Recent Activity** to view a list of recent events associated with the panel. Click the Microsoft Excel® icon to export the list of events to a spreadsheet.
- Right-click on an access control panel icon and select **Configure** to bring up the TruPortal login page. Refer to the *TruPortal Software User Guide* or TruPortal Help for configuration instructions.

Configuring a map for intrusion notifications:

See “Configuring a map for intrusion notifications” on page 85.

Launching maps and websites from a map in the Viewer Panel:

In a map in the Viewer Panel that has been configured to include one or more submaps and/or websites, double-click on a submap or website icon to launch it in a Viewer Panel tile.

Operating alarm outputs:

In a map in the Viewer Panel that has been configured to include one or more recorder or camera alarm outputs, double-click on an output icon to turn it on or off. A small green circle appears on the digital output icon when an output is triggered (on).

To delete a digital output from a map, right-click on the icon and select **Delete**.

To see which cameras on the map are linked to an output, hold down the Alt key while clicking on the output icon and orange boxes appear around the connected camera icons.

Show in map

The **Show in map** selection appears in the Navigator panel context menu for cameras, websites, access control panel doors, intrusion areas, and network switches. If a map containing any of these items is in a video tile in the viewer panel, selecting **Show in map** causes orange highlighting to appear around the item in the map.

Also, if a device in the Navigator panel is in a map, right-clicking on the device and selecting **Show in map** opens the map and highlights the device.

To remove the orange highlighting from the item, click anywhere inside in the video tile containing the map.

Adding websites

Websites can be added to the Navigator panel for viewing and navigating in the Viewer panel.

To add a website:

1. Right-click on the Websites node in the Navigator panel and select **Add Website**. The Add Website window appears.
2. Type a title for the website in the **Title** field, and then type or copy/paste the website's URL into the **URL** field.
3. Double-click on the website icon or drag it to a tile in the Viewer panel to view and navigate the website.

Navigate the website in the Viewer panel tile using the pointer, scroll bar, and the icons in the top menu (**Forward**, **Back**, and **Refresh**). To delete a website, right-click on the website icon in the Navigator panel and select **Delete Website**.

To configure a website in the Navigator:

1. Right-click on the website icon in the Navigator panel that requires configuration and select **Configure Website**. The Configure Website window appears.
2. Type a new title for the website in the **Title** field or type or copy/paste a new URL into the **URL** field.

Adding TruPortal access control systems

TruPortal™ is an IP appliance-based access control system that integrates with TruVision Navigator.

After installing the TruPortal SDK, add TruPortal systems to the Navigator panel by choosing one of the following options from Access Control:

- Add manually
- Add via discovery tool

Installing the TruPortal SDK

Note: The TruPortal SDK 1.1.54 or later plug-in must be installed before Navigator can communicate with the TruPortal panel.

To download and install the TruPortal SDK plug-in:

1. Go to www.interlogix.com/library.
2. Type “TruPortal SDK” into the **Search Download Library** field.
3. Download the TruPortal SDK plug-in Zip file and extract the contents to a folder on the local computer.
4. Launch Internet Explorer 9 or later and type the IP address of a TruPortal panel installed in the local network into the Address bar.
5. Log into the system as a user with *Plugins > Modification* permissions.
6. Select *System Administration > Plugins*.
7. Click the **Install** button.
8. Click the **Select File** button.
9. In the Open dialog box, navigate to the folder containing the plug-in package (the file has a .LFF extension), select the file, and then click **Install**.

Note: Plug-in installation may take up to 10 minutes. The panel restarts after successful installation. The plug-in automatically starts after the panel restarts.

Adding TruPortal systems manually

1. Follow the instructions under “Installing the TruPortal SDK” above.
2. Right-click the Access Control node, and then select **Add Panel > Add Manually** from the drop-down list. The Access Control Panel Properties window appears.
Note: There is only one option for the **Panel Type** so it is selected by default.
3. Type a name in the **Panel Title** field. Values are alphanumeric. The default panel title is My TruPortal.
4. Type the device’s IP address in the **Panel Address** field.
5. The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.
6. Type the required values in the **Username** and **Password** fields. These fields are only required if the device being added has been configured to require a username and password.
7. Select the **Enable SSL** check box if required by the server.
8. Click **OK**.

Note: After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

Adding TruPortal systems using the discovery tool

Navigator is equipped with an embedded device discovery tool that discovers devices such as recorders, cameras, and encoders in the network and permits the addition of one or more of those devices.

IMPORTANT: A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

1. Follow the instructions under “Installing the TruPortal SDK” on page 79.
2. Right-click the Access Control node, and then select **Add Panel > Add via Discovery Tool** from the drop-down list. The Discovered Access Control Panels window appears and provides a list of available control panels in the network.
3. To add control panels to the Navigator, select one or multiple panels from the list and click **Add**. The panel(s) appear under the Access Control node in the Navigator panel.

Note: The discovery tool attempts to add access control panels by using their default credentials. If the credentials of a panel are previously changed from default values, the panel still gets added to the Navigator panel, but it is shown as offline. In this case, updated credentials need to be applied manually by right-clicking on the panel and selecting **Properties** or **Configure**.

- Expand the Access Control node to view all panels added to the system. Upon successful connection, the Navigator populates the respective doors under each panel. To unlock a door, right-click on the door icon and select **Unlock**.

Access Control configuration requires that Adobe Flash be installed on the computer performing the configuration. See the *TruPortal Software User Guide* for instructions on configuring TruPortal.

Performing lock and unlock operations

Right-clicking on the Access Control node provides the following lock/unlock operations:

- **Global Lockout** – Lock out all doors of all panels.
- **Global Reinstate** – Reinstate all doors of all panels.

Right-clicking on an Access Control panel provides the following lock/unlock operations:

- **Reinstate All Doors** – Restores all doors to their normal state, unless a designated unlock input is active (see the *TruPortal Software User Guide* for details).
- **Lockout All Doors** – Locks all doors and ignores credentials, so that nobody can enter or exit. After issuing this command, reinstate all doors so that individual doors can be controlled directly.
- **Unlock All Doors** – Releases the locks on all doors, allowing free access and egress. After issuing this command, reinstate all doors so that individual doors can be controlled directly.

Right-clicking on a door icon provides the following lock/unlock operations:

- **Unlock** – Releases the lock on the door, allowing free access and egress until the door state is changed by either a reader schedule or a global (“all doors”) command.
- **Reinstate** – Restores the door to default behavior based on the schedule.
- **Lockout** – Locks the door and ignores credentials so that nobody can enter or exit.
- **Secure** – Locks the door.

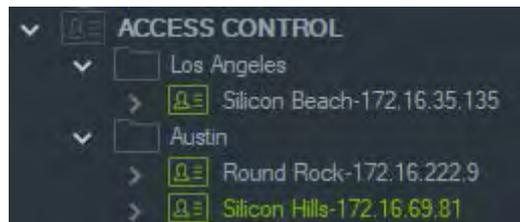
Recent activities

Select Recent Activities in the Access Control panel context menu to view a list of time stamped events associated with each door in the panel. Click the **Export List** button to export the list of recent activities in the CSV file format.

Person	DoorId	Door	State	Event	DateTime
0		Reader 8888-1-1	Offline	Reader in Card Only Mode	9/3/2019 2:39 PM
0		Reader 8888-1-1	Offline	Reader in Card Only Mode	9/3/2019 2:37 PM
0		Door 8888-2	Offline	Door Momentarily Unlocked	9/3/2019 1:44 PM
0		Reader 8888-2-1	Offline	Reader in Card Only Mode	9/3/2019 1:44 PM
0		Door 8888-2	Offline	Door Momentarily Unlocked	9/3/2019 1:40 PM
0		Door 8888-1b	Offline	Door Unlocked	8/26/2019 12:01 PM
0		Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:47 AM
0		Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:47 AM
0		Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:46 AM
0		Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
0		Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
0		Door 8888-2	Offline	Door Momentarily Unlocked	8/26/2019 11:40 AM
0		Door 8888-1b	Offline	Door Momentarily Unlocked	8/26/2019 11:31 AM

TruPortal multisite configuration

Under the Access Control node, a single user credential can be assigned to multiple TruPortal panels grouped into one site by using folders to separate sites. Using this logic, panels grouped under a folder belong to a single site or group of sites. See the example below:



Notes:

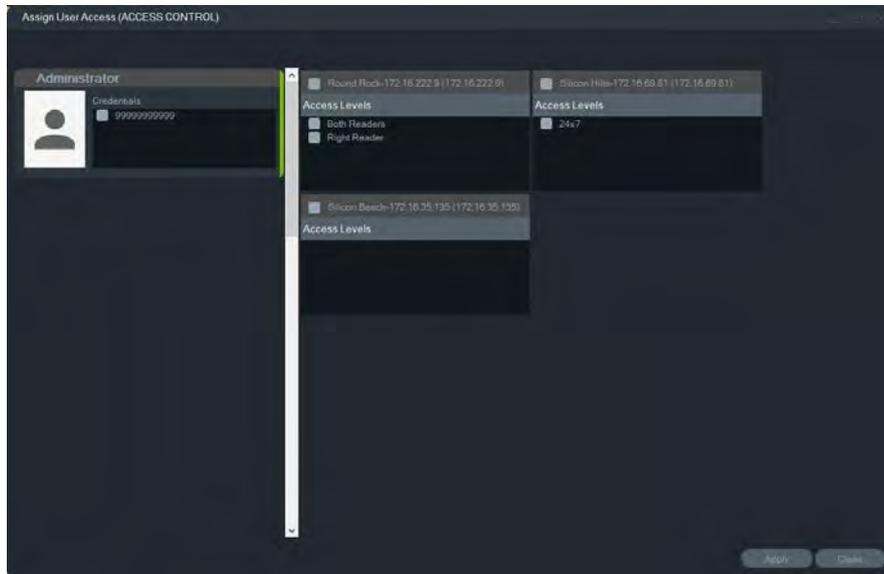
1. The panel or panels under each folder operate as a single system, and each system can accept a maximum of eight card formats simultaneously. Card format refers to the format of data containing credential ID information (standard 26-bit, for example) encoded in door/entrance access cards/badges.
2. The name of each card format must be unique within a system since the card format name is the identifier, not the format itself.
3. Card formats of the same name are considered the same card format in TruPortal.
4. We suggest renaming access control panels in Navigator with site-specific names (see example above) to make user access assignment easier.

To assign user access levels:

Note: Users must be added and configured with credentials in the TruPortal web UI before assigning access levels in Navigator. We suggest that user names be as unique as possible, using a middle name or initial when applicable. See the *TruPortal Software User Guide* for instructions on configuring TruPortal.

1. Right-click on an access control panel or folder and select **Assign User Access**.
2. The Assign User Access window appears. If necessary, find a user by typing their name into the Search box and click **Search**. Select the check box next to the user image. Only one user can be selected at a time.

3. Select the check box next to the credential number(s) associated with the user. Panels appear in the Assign User Access window, and those associated with the user display a green bar across the top (select **Show Assigned Permission** in the Filter drop-down list to show only these panels).



4. Select individual panels or click the **Select All Panels** button to assign access levels for the user. Click **Remove All Access Levels** to remove all access, or **Refresh** to update recently assigned access levels.
5. When finished, click **Apply**.

To assign an event notification:

Right-click on a panel door icon and select **Assign Event Notification**. When the user accesses the door, an access control notification pop-up window appears with the user's name, associated picture, and a notification description such as "Access Granted."

Adding intrusion detection

Supported Interlogix intrusion panels can be added to the Navigator panel. Intrusion areas and sensors can be monitored in the Navigator panel and/or the viewer panel.

Setup prerequisites for adding an intrusion panel to Navigator

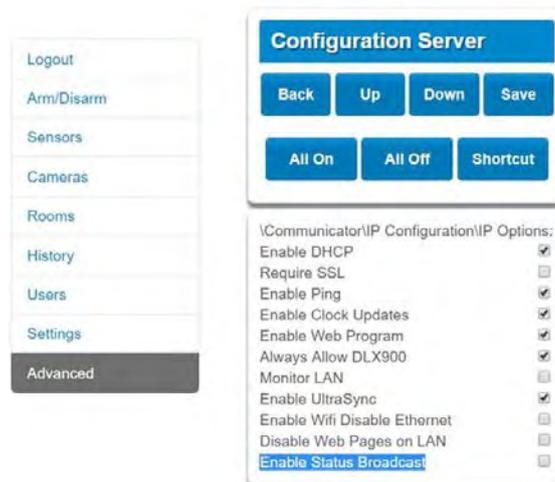
1. The Interlogix intrusion panel must run one of the following firmware versions for interoperability with Navigator:

UltraSync Self-Contained Hub	B0403001A58P002011-33 or later
UltraSync Modular Hub	B0403001A56P002005-01 or later
ZeroWire	B0403001A58P002010-31 or later

xGen

B0403001A56P002005-16 or later

- The discoverable Interlogix intrusion panel (see step 1 for information) must be fully set up and functioning with intrusion areas and sensors installed and/or defined prior to adding it to the Navigator panel. Go to www.interlogix.com or www.firesecurityproducts.com and download the appropriate reference manual and/or installation guide for details.
- The Interlogix intrusion panel web UI must have the **Enable Status Broadcast** setting enabled in order for it to communicate effectively with Navigator. See one of the reference manuals listed above for further details.



Adding intrusion panels manually

- Right-click the Intrusion Detection node, and then select **Add Panel > Add Manually** from the drop-down list. The Intrusion Panel Properties window appears.

Note: There is only one option for the **Panel Type** so it is selected by default.

- Type a name in the **Panel Title** field. Values are alphanumeric.
- Type the device's IP address in the **Panel Address** field.

Note: The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.

- Type the required values in the **Username** and **Password** fields. These fields are specific to intrusion detection and unique to each individual, and must be assigned by the intrusion panel administrator. The user name must begin with "TruNav-."
- Select the **Enable SSL** check box if required by the server.
- Click **OK**.

Note: After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

Adding intrusion panels using the discovery tool

IMPORTANT: A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

1. Right-click the Network Switches node, and then select **Add Panel > Add via Discovery Tool** from the drop-down list.
2. The Discovered Devices window displays and provides a list of available intrusion panels in the network.
3. To add intrusion panels to the Navigator panel, select one or multiple panels from the list and click **Add**.
4. Type the required values in the **Username** and **Password** fields. These fields are specific to intrusion detection and unique to each individual, and must be assigned by the intrusion panel administrator. The user name must begin with “TruNav-.”
5. Expand the Intrusion Detection node to view all panels added to the system. Upon successful connection, the Navigator populates the respective sensors under each switch.

Configuring a map for intrusion notifications

A map can be configured for intrusion notifications that will appear in the Notifier (see Chapter 7 “Notifier panel” on page 131) and the Navigator panel. Notifications from cameras linked to intrusion sensors or areas appear in the Notifier as video links.

To add an intrusion area to a map:

1. Right-click on a map in the Navigator panel and select **Configure Map**.
2. Expand the Areas folder under the intrusion panel name, and then drag and drop an intrusion area icon onto the map.
3. Resize and move the intrusion area as needed. The fill color of the intrusion area can be changed by right-clicking on the area and selecting **Color**.



To add an intrusion sensor to a map:

1. Right-click on a map in the Navigator panel and select **Configure Map**.
2. Expand the Sensors folder under the intrusion panel name, and then drag and drop an intrusion sensor icon onto the map. A green icon appears on the map.
3. Move the intrusion sensor on the map as needed. Sensors should be placed within a defined intrusion area.

To link a camera to an intrusion area or sensor:

1. In the Configure Map window, right-click on an intrusion area or sensor and select **Linked Cameras**.
2. Select the cameras to link to the intrusion area or sensor (or select **Select All**) and then click **OK**.
3. To see which cameras on the map are linked to an intrusion area or sensor, hold down the Alt key while clicking on the area or sensor icon and orange boxes appear around the connected camera icons.

To configure a sensor:

Right click on a sensor icon on a map in the Viewer panel and make the following selection:

- **Bypass** – Permits arming of the panel while ignoring this sensor.

To arm/disarm an intrusion area:

- Right-click on an intrusion area in either the Navigator panel or a map in the Viewer panel and select **Arm > Away** or **Arm > Stay** to arm the area.
- Right-click on an intrusion area in either the Navigator panel or a map in the Viewer panel and select **Disarm** to disarm the area.
- Right-click on the Intrusion Detection node and select **Global Arm > Away** or **Global Arm > Stay**, or **Global Disarm** to apply settings to multiple intrusion areas and/or panels.

Intrusion area status

Intrusion area icon definitions are as follows:

	Disarmed
	Armed in Stay mode. The area will be ignored by the intrusion panel.
	Armed in Away mode.

In addition to the icon changing in the Navigator panel, intrusion area status is also shown on maps in the Viewer panel. The border around the intrusion area changes according to the armed or disarmed state. For example, an intrusion area armed in the Away mode appears as follows:



Configuring the intrusion panel

1. Right-click on an intrusion panel and select **Configure Panel**. A video tile containing the intrusion panel interface appears in the Viewer panel.
2. Type in the required name and password and click **Sign In**. Go to www.interlogix.com or www.firesecurityproducts.com and download the appropriate reference manual and/or installation guide for details on using the intrusion panel web UI.

Adding network switches

Interlogix IFS® network switches can be added to the Navigator panel. Port status and statistics for each port on a network switch can be monitored in the navigator panel and/or the viewer panel.

Adding network switches manually

1. Right-click the Network Switches node, and then select **Add Device > Add Manually** from the drop-down list. The Network Switch Properties window appears.
Note: There is only one option for the **Panel Type** so it is selected by default.
2. Type a name in the **Panel Title** field. Values are alphanumeric.

3. Type the device's IP address in the **Panel Address** field.
4. The **Port** field is pre-populated with a default value based upon the type of device selected. If the port assigned to the device is different from the default value, type the correct port value in this field.
5. Type the required values in the **Username** and **Password** fields. These fields are only required if the device being added has been configured to require a username and password.
6. Select the **Enable SSL** check box if required by the server.
7. Click **OK**.

Note: After clicking **OK**, fields highlighted with a red exclamation point indicate rejected values. Move the mouse pointer over the exclamation points for tips on why the values were invalid. All fields must be valid to successfully add a device.

Adding network switches using the discovery tool

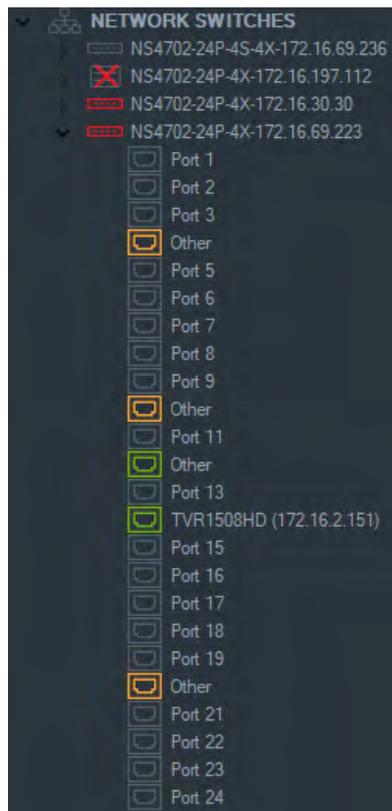
IMPORTANT: A wired network connection is required for device discovery. A device cannot be activated via a Wi-Fi network connection.

1. Right-click the Network Switches node in the Navigator panel, and then select **Add Device > Add via Discovery Tool** from the drop-down list, or click the **Add Devices** button  and then select **Add via Discovery Tool**.
2. The Discovered Devices window displays and provides a list of available network switches in the network.
3. To add network switches to the Navigator panel, select one or multiple switches from the list and click **Add**. The switch(es) appear under the Network Switches node in the Navigator panel.

Note: The discovery tool attempts to add network switches by using their default credentials. If the credentials of a switch are previously changed from default values, the switch still gets added to the Navigator panel, but it is shown as offline. In this case, updated credentials need to be applied manually by right-clicking on the panel and selecting **Configure Device**.

4. Expand the Network Switches node to view all switches added to the system. Upon successful connection, the Navigator populates the respective ports under each switch.

Port information and display



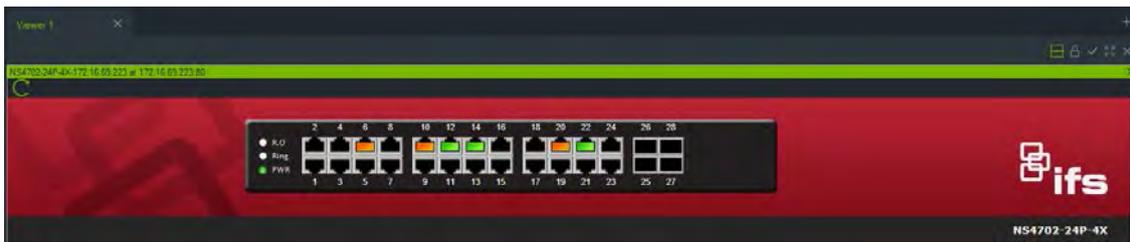
Note: An ONVIF-compliant camera or recorder connected to an ONVIF-compliant network switch port displays the model name and IP address in the Navigator panel. If an attached camera is in the Navigator panel, the camera name also appears here.

Network switch icon definitions are as follows:

	Switch port active with PoE.
	Switch port active.
	Switch port inactive.
	ONVIF-compliant network switch.

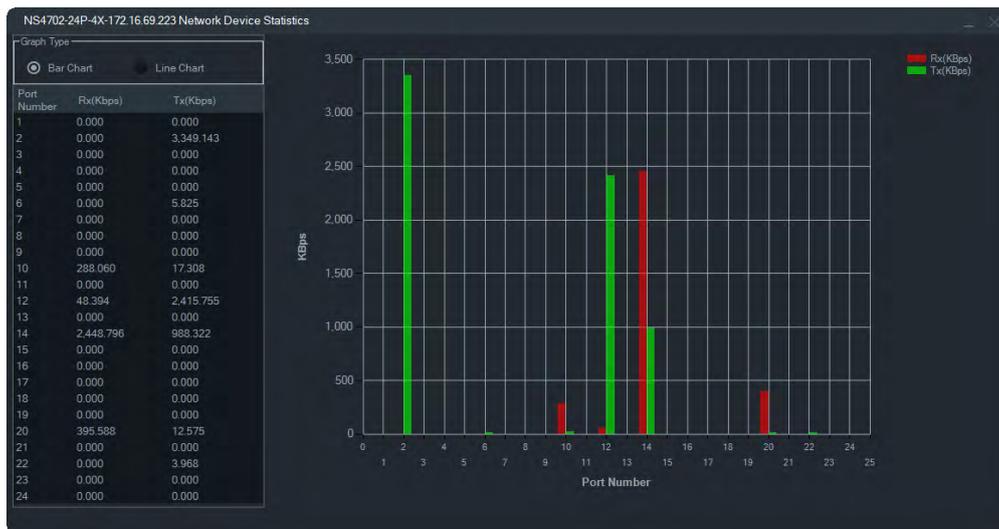
To view a network switch front panel in the Viewer panel:

1. Click the **Custom View** button in the Viewer panel and select a one-up or stacked horizontal view (see “Custom view” on page 116 for details).
2. Right-click on a network switch in the Navigator panel and select **Display Front Panel**.
3. Type the user name and password for the switch in the security window and click **OK**. The front panel of the switch appears in the Viewer panel.



To view network switch statistics:

1. Right-click on a network switch icon and select **Run Network Statistics**.
2. Select **Bar Chart** or **Line Chart** to view incoming and outgoing bandwidth per port.



To view port statistics:

Right-click on a port icon and select **Port Statistics**. A line chart appears that shows incoming and outgoing bandwidth for the port.

Configuring network switches

1. Right-click on a network switch icon in the Navigator panel and select **Configure Device**.
2. Type in the user name and password for the switch. The main web page appears. See the user manual for the specific IFS switch model for instructions on how to use the web UI to manage and configure the switch.



Note: If a switch is plugged into a switch via an RJ45 connector, it must be properly configured so that it appears in the Navigator panel. Go to **Port Identification > Configuration** in the switch's web UI and select **Switch** from the drop-down list next to the port number that the switch is connected to.

To power cycle a device connected to a PoE port:

Right-click on a port in the Navigator panel and select **PoE Reset**. The port color will turn green and then turn orange again after 30 seconds.

To reboot a network switch:

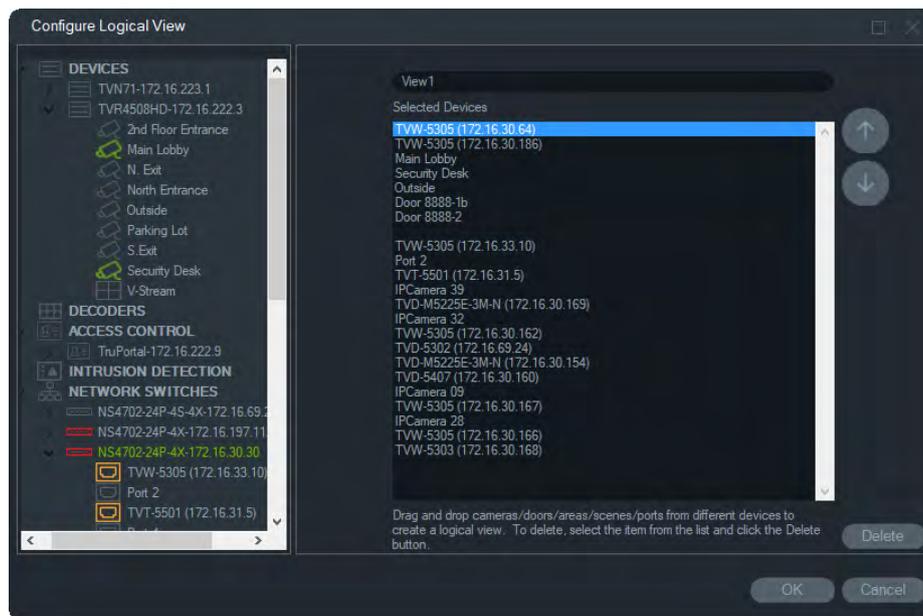
Right-click on a network switch icon and select **System Reboot** to power cycle the switch.

Adding logical views

Logical views provide the flexibility to display the physical devices in any configuration required.

To add a logical view:

1. Right-click on the Logical View node in the Navigator panel and select **Add Logical View**. The Configure Logical View window appears.
2. Type a title for the view in the **View Name** field, and then drag and drop devices from the Logical View panel into the **Selected Devices** box.



- Use the up and down arrow buttons to move devices within the list. When finished, click **OK** to create the new logical view. To delete a logical view, right-click on the logical view icon in the Navigator panel and select **Delete**.

Search

Use Search to find any recorder, camera, map, website, access control point, intrusion panel, network switch, or logical view in the Navigator panel.

To perform a Navigator panel search:

- Type any alphanumeric string into the **Search** field at the top of the Navigator panel and press Enter. Focus goes instantly to the object that matches the string.
- Press Enter again to move to the next object that matches the string, and so on, until each item matching the search criteria has been found. Type a different alphanumeric string into the **Search** field to perform another search.

Adding folders

Adding folders provides a way to organize Navigator panel items in a logical manner.

To organize the Navigator panel:

- Click on a top-level node (Devices, Maps, Websites, Access Control, Intrusion Detection, Network Switches, or Logical Views) and click the **Add Folder** button . This creates a new folder.
- Type a name for the new folder and press Enter.
- To add a sub-folder within the previously created folder, right-click the parent folder and select **Add Folder**.

- Click and drag items into folders or folders within folders. Cameras always stay attached to their respective devices.

Devices context menu

Right-click on the Devices node to bring up a context menu. Available selections are as follows:

Add device

See “Adding devices” on page 68.

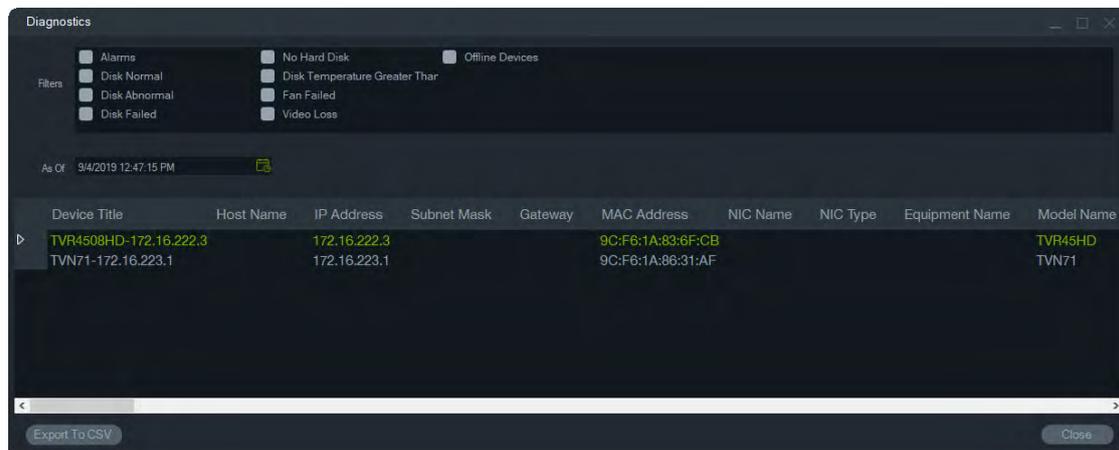
Add folder

See “Adding folders” on page 92.

Health diagnostics

Right-click on the Devices node and select **Health Diagnostics** to review health diagnostic data across all of the devices in the system. Move the scroll bar at the bottom of the window to the right to see all health diagnostic information.

Use the filters and date parameters to pinpoint the search. Export the contents of the dialog to the CSV file format for case management, work orders, or issue resolution documentation by clicking the **Export to CSV** button.



Note: For devices to appear in the Diagnostics window, health diagnostics must be run at the device level first. See “Automated diagnostic polling” on page 33 for information on setting automatic diagnostic polling for recorders or “Health diagnostics” on page 95 for manual, device-level generation of health diagnostics.

Open exported video file

Right-click on the Devices icon and select **Open Exported Video File** to browse for and launch an exported video in the Viewer.

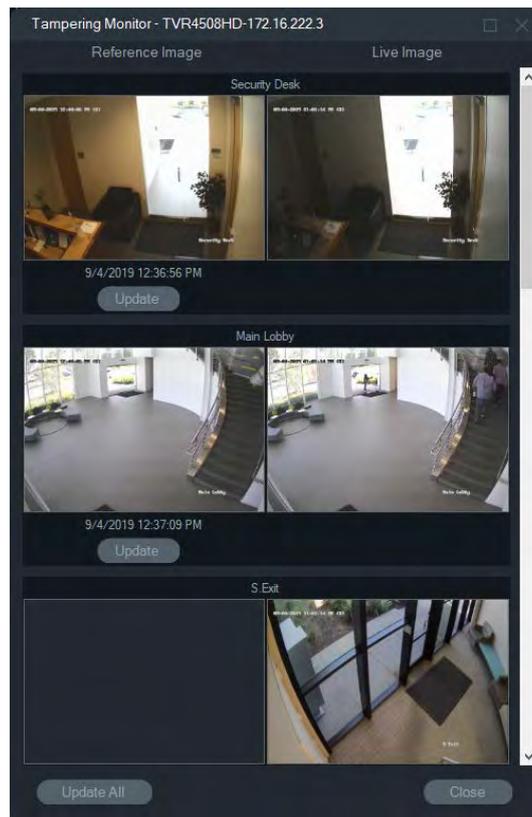
Recorder context menu

Right-click on a recorder's device icon to bring up a context menu. Available selections are as follows:

Tampering monitor

Navigator is equipped with a tampering monitor that compares the current image with a reference image taken during the installation. The tampering monitor keeps a record of each camera by taking a reference snapshot and storing it in the database.

To open the tampering monitor, right-click a recorder and select **Tampering Monitor**. The Tampering Monitor window appears.



Reference images are listed with the date and time they were taken in the Reference Image column. For the first time applications of this feature, the reference images are empty. In this case, click **Update All** to save the reference images. Tampering activity on each camera can be monitored by comparing reference images with live images located on the right side of the window.

Device report

Navigator permits export of health diagnostics information by generating a device report.

To generate the device report:

1. Right click a recorder icon in the Navigator panel.
2. Select **Device Report**. The device report displays in a new window.

Note: It may take up to a minute to complete the device report depending on the number of cameras recording to the device and the network connection.

3. Click **Export to PDF** to save the report as a PDF.

As a part of the report, tampering monitor images are also provided at the bottom of the report in the Camera Check section. For more information on the tampering monitor, see “Tampering monitor” on page 94.

Health diagnostics

To run a manual health diagnostic snapshot on a single recorder, right-click the device in the Navigator panel and select **Health Diagnostics**.

The Device Diagnostics window appears and displays the full set of health diagnostic data for that particular device. See Appendix B “Device details” on page 155 for more details on the different health diagnostics available for each device.



Network statistics

Right-click the device in the Navigator and select **Network Statistics** to launch the Network Statistics window. The outgoing and incoming network bandwidth limit and usage appear in a graphical format. The number of open video streams on the system at the device level also appears.



Select or deselect items under Outgoing Bandwidth and Incoming Bandwidth. Click **Close** to exit the Network Statistics window.

Note: Incoming bandwidth statistics do not appear when running network statistics on DVRs.

Disk analysis

Disk analysis provides a timeline view of video recorded to disk on all connected cameras. Color coded video tags are defined in the bottom of the Disk Analysis window.

Note: Areas in the timeline tagged as Other (gray) may or may not contain recorded video. The device may have been offline or not configured to record video during the period of time indicated.

To run disk analysis and play back video:

1. Right-click on the device icon in the Navigator panel and select **Disk Analysis**. The disk analysis window appears.
2. Select a time range of recorded video in the **Start Time** and **End Time** fields.
3. Select cameras for disk analysis in the Select Cameras section and click **Search**.
4. Select check boxes to the left of each camera name as necessary. Video from all cameras selected play back simultaneously in the Viewer during playback.
5. If necessary, click the **Zoom In** and **Zoom Out** buttons or click on the timeline and slide it to the left or right to locate a specific point in time.

6. Double-click anywhere on the disk analysis timeline to play video in the Viewer from that point in time.

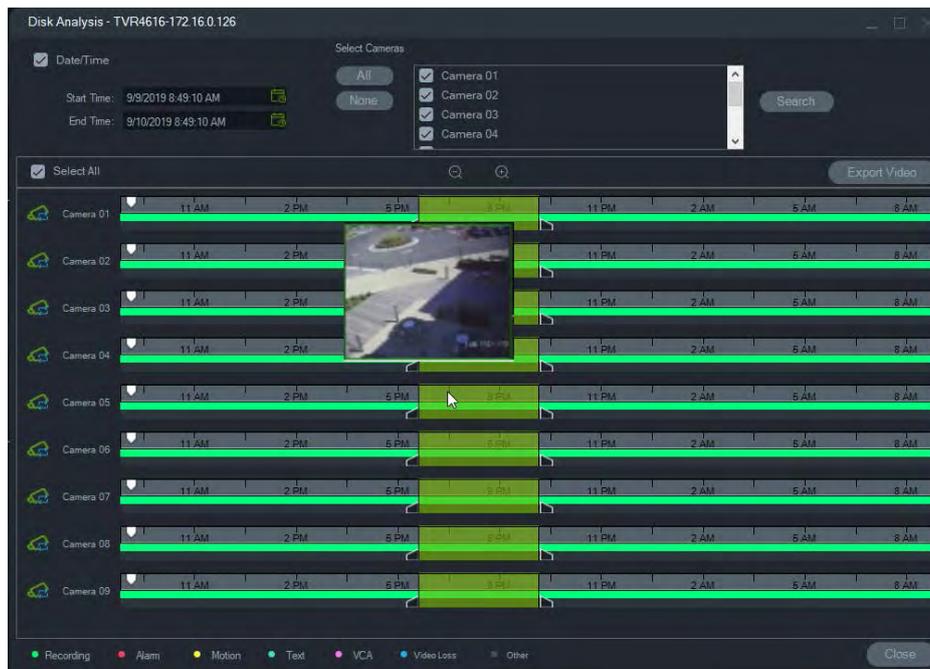
To export video from the Disk Analysis window:

1. If necessary, click the **Zoom In** and **Zoom Out** buttons or click on the timeline and slide it to the left or right to locate a specific point in time
2. Slide the beginning and ending timeline markers to highlight a segment of time in green on the timeline bar.
3. Right-click a disk analysis track and select **Export Video** from the menu or click the **Export Video** button.

To view video thumbnail images in the Disk Analysis window:

Hover the cursor over a point in a camera timeline with recorded video to see a thumbnail image of the video.

Note: Devices that support this thumbnail function are listed in the “Get Thumbnail” row in the device details tables (see Appendix B “Device details” on page 155).



Trigger outputs

Note: This feature is only supported for TruVision devices. Refer to Appendix B “Device details” on page 155 to see which devices have trigger outputs.

Some TruVision recorders have alarm output ports that can connect to external devices. Alarm outputs can be configured to be triggered by an event, such as camera motion detection.

There are two types of trigger outputs: (A-> – Analog) and (D-> – Digital). Alarm type (A->) are alarms from the trigger through the back of the recorder. Alarm (D->) are the

alarms triggered out of the IP camera. Only NVR/Hybrid devices have the (D->) type alarms.

To set trigger outputs:

1. Right-click a recorder and select **Trigger Outputs**. Alarm output numbers are replaced with alarm output names when configured in the device's configuration interface (see the device's user manual for details).
2. Toggle the trigger output switches to the on position (green) as necessary.



Note: TVR 60 and TVN 20 do not support (D->) types alarm. This is a hardware limitation.

Manage IP cameras (IP camera recorders only)

Right-clicking a recorder and selecting **Manage IP Cameras** launches the IP Camera Status page in the Configuration interface. See the recorder's user manual for details about IP camera configuration.

Search

Search multiple cameras for alarms, alarms plus events, motion, license plate (EMEA only), and point-of-sale text-related video in the Search window. Searchable cameras must be configured for the search criteria specified.

Select check boxes in the Search by and Select Cameras areas to customize a search, and then click **Search** when finished. If a camera is set to record a substream in Navigator, search criteria can only be located by clicking **Search Substream**.

Note: If performing a text/license search, a case-sensitive value must be typed into the **Text/License** field if the **Text/License** check box is selected. After performing a search at the recorder level using a text/license value, subsequent searches do not permit a **Date/Time**-only search. Close the Search window and launch another search to perform a **Date/Time**-only search at the recorder level.



To search for video tagged with text:

1. Ensure that the device being searched for is working in conjunction with a legacy ProBridge 3 text converter or via the NPCII, a third party converter. See “POS mode” on page 127 for further details.
2. Click the **Text** check box, type the text string in the **Text** field, and click **Search**.

Select or deselect the text overlay feature in the camera or recorder configuration settings to overlay the text on the video or place it beside the video (see the device’s user manual for details). This check box is dynamic and, if selected or deselected during playback, the text switches from overlay to side-by-side and vice-versa (the switch takes a few seconds).

Different devices support varying levels of search capabilities. See Appendix B “Device details” on page 155 for further details on what types of video data are available for each device.

Export video

Export video from one or more cameras either immediately, at a specified time in the future, or on a recurring basis in the Export Video window.

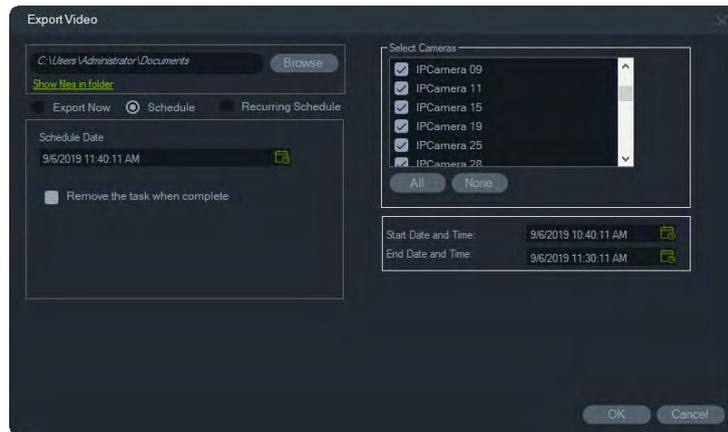
Export Now/Schedule

To export video from the recorder on a one-time basis:

1. Right-click on a recorder icon in the Navigator panel and select **Export Video**.
2. Accept the default location or click **Browse** and specify a destination location for the export.

Note: Ensure that the destination location for the export has enough disk space capacity to store the exported video. We recommend that this location be different than the location specified for recurring schedule video downloads.

3. Select one or more cameras for video export in the **Select Cameras** list.
4. To start the export process immediately, select **Export Now**. The export task is automatically added to Tasks. Move the mouse pointer over the status column in the **Tasks** window to see detailed progress of the export.
5. To schedule the export process, select **Schedule** and specify a date/time to start the export process. An export task is automatically added to Tasks. To remove the record of the scheduled export from Tasks, select the **Remove this task when complete** check box.



6. Click **OK**.
7. When export tasks are complete, the exported video can be found at the location specified along with the TruVision Navigator Player program. See Chapter 10 “TruVision Navigator Player” on page 140.

Recurring schedule

We recommend creating a separate folder for recurring task video exports, which are downloaded and stored in their own directory. The full download folder structure is as follows:

```
C:\[VideoDownloadFolder]\AutoArchive\[DeviceTitle]\Cameras\[CameraNames]
```

When scheduling a recurring task, an alert appears showing the estimated available storage space in the target location. Available space for video export is calculated each day before video download. If there is insufficient space in the target location, a warning alert is sent to the administrator via email if **Video Export Failure** is selected in the **Settings > Notifications** window.

To export video from the recorder on a recurring basis:

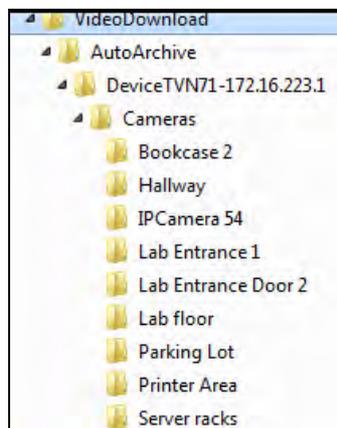
1. Right-click on a recorder icon in the Navigator panel and select **Export Video**.
2. Click **Browse** and specify a destination folder for the export.

Note: Ensure that the destination folder for the export has enough disk space capacity to store the exported video. We recommend that this folder be used exclusively for recurring video downloads.

- To schedule the export process, select **Recurring Schedule** and select **Everyday** or individual days of the week for the recurring video export.
- Specify a daily time range for the video export (**24 Hour** or **Custom Time**). Specify the start and end times for each day if selecting **Custom Time**.
- To remove the record of the scheduled export from Recurring Tasks and Tasks, select the **Remove this task when complete** check box.
- Select one or more cameras for video export in the **Select Cameras** list.
- Select the range of recurring dates from the **Recurring Start Date** and **Recurring End Date** drop-down lists.



- Click **OK**. An export task is automatically added to Recurring Tasks and Tasks.
- When export tasks are complete, the exported video can be found in the directory under the download folder in the camera name folders.



Configure device

Right-clicking a recorder icon in the Navigator panel and selecting **Configure Device** launches the recorder's configuration interface. See the recorder's user manual for details on recorder configuration.

Upgrade firmware

Devices that support the upgrade firmware function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 155).

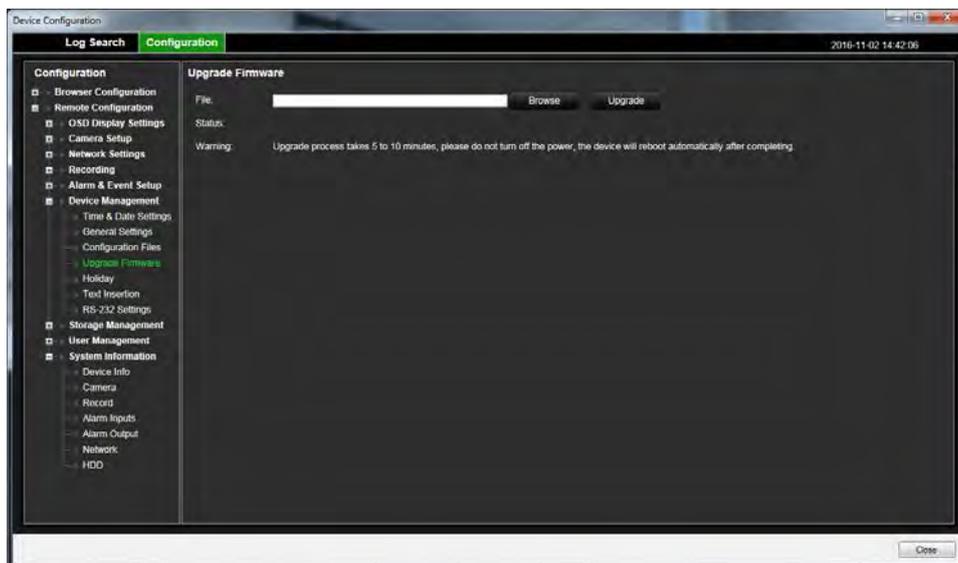
Follow the instructions below to upgrade firmware on TruVision recorders with the newer recorder configuration.

To upgrade firmware to device(s):

1. Right-click a recorder icon in the Navigator panel and select **Configure Device**.
2. Select **Upgrade Firmware** under Device Management.
3. Click **Browse** to find the applicable firmware file.

Note: Since TruVision Navigator does not do a file format check on the firmware file, ensure it is in the proper file format for that device type. In addition, the firmware file must reside on the local computer. It cannot be accessed across network paths.

4. Click the **Upgrade** button.



Download/upload configuration

Devices that support the download/upload function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 155).

Use the **Download Configuration** and **Upload Configuration** selections to transfer recorder configurations between individual devices.

- Right-click on the recorder and select **Download Configuration** to save the recorder’s configuration in CFG file format.
- Right-click on the recorder and select **Upload Configuration** to upload a different recorder configuration to the selected recorder in CFG file format.

Reboot device

1. Right-click a recorder icon in the Navigator panel and select **Reboot** to reboot it.
2. Click **Yes** to confirm reboot of the device. The recorder icon changes to  in the Navigator panel to indicate that it is offline.
3. After the device reboots, right-click on its icon in the Navigator panel and select **Connect** to reconnect it.

Restore factory defaults

Devices that support the restore factory defaults function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 155).

1. Right-click a recorder icon and select **Restore Factory Defaults** to have the device default to factory settings (the same settings on the device when it was shipped).
2. Click **Yes** to confirm reboot of the device. The recorder icon changes to  in the Navigator panel to indicate that it is offline.
3. After the device reboots, right-click on its icon in the Navigator panel and select **Connect** to reconnect it.

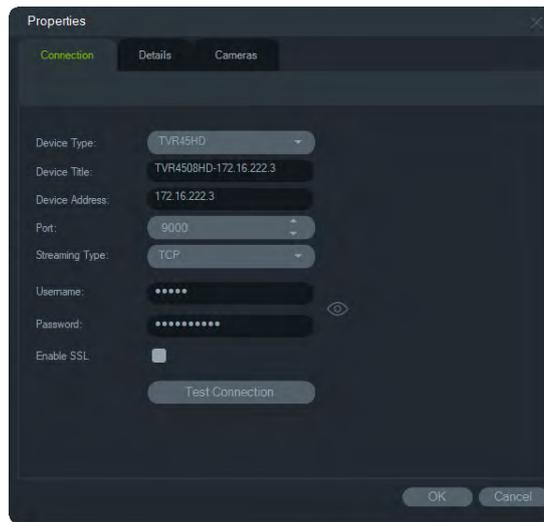
Delete/rename device

- Right-click on the recorder icon and select **Delete Device** to remove the recorder from the Navigator panel.
- Right-click on the recorder icon and select **Rename Device** to change the name of the recorder in the Navigator panel.

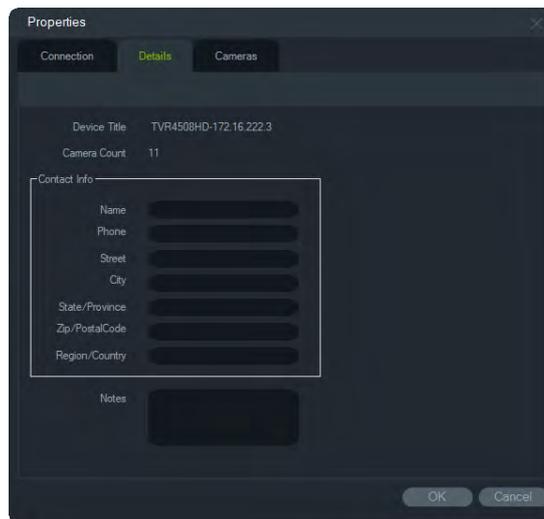
Properties

Right-click on the recorder icon in the Navigator panel and select **Properties** to display the Properties window.

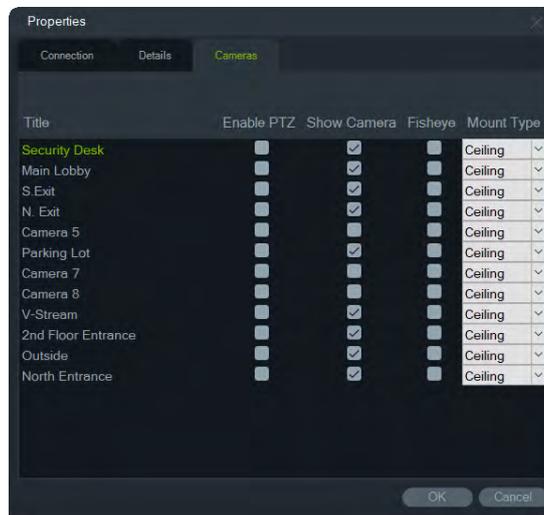
- The **Connection** tab shows all of the information previously entered when adding the device. Make changes as appropriate and click **OK** to save changes.



- The **Details** tab provides an area to type in contact information and notes to help facilitate management of the system. If the device was imported from an address book that contained information in this window, data appears in these fields. Type in data as appropriate and click **OK** to save changes.



- Use the **Cameras** tab to hide or show cameras, enable or disable PTZ and fisheye controls, and set the mount type. When finished, click **OK** to save changes.



Camera context menu

Search

This function is the same as searching from a recorder, but only the camera selected can be searched (smart search excepted). See “Search” on page 98.

Selecting the **Smart Search** box includes a search for motion detection and dynamic analysis, both of which must be enabled in the TruVision recorder or camera configuration page. Certain recorders require the drawing of an area to be used for smart search in the grid that appears on the Motion Detection page. See the user manual for the specific recorder for further information.

Thumbnail search

The thumbnail search window displays video thumbnails from a camera over the range of time specified. The range selected can be exported directly to the Collector. It can be played by highlighting the video tile and clicking on the play button, which opens the video in the main viewer.

Note: Devices that support the thumbnail search function are listed in the “Thumbnail Search” row in the device details tables (see Appendix B “Device details” on page 155).

To perform a thumbnail search:

1. Select a thumbnail layout view. Options include **9**, **16** (default), **25**, **36**, **49**, and **64**.
2. Select a start time and end time for the thumbnail search (default is 24 hours before the current time).
3. Click **Search**. The thumbnail search window video tiles populate with video thumbnails. Adjusting the search time by double-clicking a thumbnail (except the first one), double-clicking in the timeline, or sliding the beginning and ending timeline markers resets the thumbnails to the new time range specified.

To play thumbnail search video:

1. Click on a thumbnail and then click the  button, or right-click on a thumbnail and select **Play** to play video beginning at the time specified in the thumbnail.
2. Click the  button or right-click in the timeline to export video recorded between the **Start Time** and **End Time** to the Collector. Double-click on the thumbnail of this video in the Collector to play it back in the viewer panel.

Export video

This function is the same as exporting video from a recorder, but video can only be exported from the camera selected. See “Export video” on page 99.

Configure camera

Right-click on an analog camera and select **Configure Camera** to access the camera configuration menu. See the camera's user manual for further information on camera configuration.

Note: Devices that support the configure camera function are listed in the “Supported Devices” row in the device details tables (see Appendix B “Device details” on page 155).

Preset sequences

A PTZ camera's presets can be built into a sequence based on a specific order and dwell time. These sequences can be created, managed, and tested by right-clicking on the PTZ camera in the Navigator panel and selecting **Preset Sequences > Manage Sequences**.

To create a preset PTZ sequence:

1. Click the **+** button to add a sequence.
2. Type a name for the sequence or leave the default name as-is.
3. Click on a preset number in the Presets list and then click the right arrow button to add the preset to the Preset Order list.
4. Repeat step 3 as necessary and use the up and down arrows to change the order of presets in the Preset Order list.



To test a preset sequence:

1. Create a preset sequence following the steps above.
2. Click **Test**. The sequence deploys in a video tile in the Viewer.
3. Click **Stop** to finish the test.

To stop or start a preset sequence:

Right-click the PTZ camera icon in the Navigator panel and select **Preset Sequences**, and then the name of the sequence to be stopped or started.

Assign to Event Monitor

The **Event Monitor** tab in the Viewer panel plays video of events and alarms configured on individual cameras as soon as they occur. As a possible action for an

event, set up "Notify Alarm Host." The alarm host is set up under Alarm Settings. This function is not supported by all cameras. See the camera's user manual for instructions on camera configuration.

For further details about the Event Monitor, see "Event Monitor" on page 112.

To assign a camera to the Event Monitor:

1. Right-click on a camera and select **Assign to Event Monitor**. An orange border surrounds the camera icon in the Navigator panel.
2. Right-click on a camera assigned to the Event Monitor and click the check mark next to **Assign to Event Monitor** to remove the camera from the Event Monitor.

Decoder context menu

Decoders convert compressed IP video streams from recorders to analog video outputs such as HDMI, VGA, and BNC. Use the decoder context menu to add a scene to the decoder. **Configure Device**, **Reboot Device**, **Delete Device**, **Rename Device**, and **Properties** have the same functionality as in the recorder context menu.

Add scene

A scene is a custom view preset that outputs to one or more monitors. Each decoder added to the Navigator panel has a default "scene01" already created. Other scenes previously configured in the decoder also appear.

To add a scene:

1. Right-click on the decoder device icon and select **Add Scene**.
2. Type a name for the scene in the **Title** box.
3. Configure the scene as described in the next section.

Scene context menu

Use the scene context menu to activate, configure, preview, rename, refresh, and delete scenes. Scenes must be activated before they can be configured or previewed. Only one scene can be activated at a time.

Note: Other users with the operate decoders permission can activate a scene and deactivate your activated scene while you are working in Navigator.

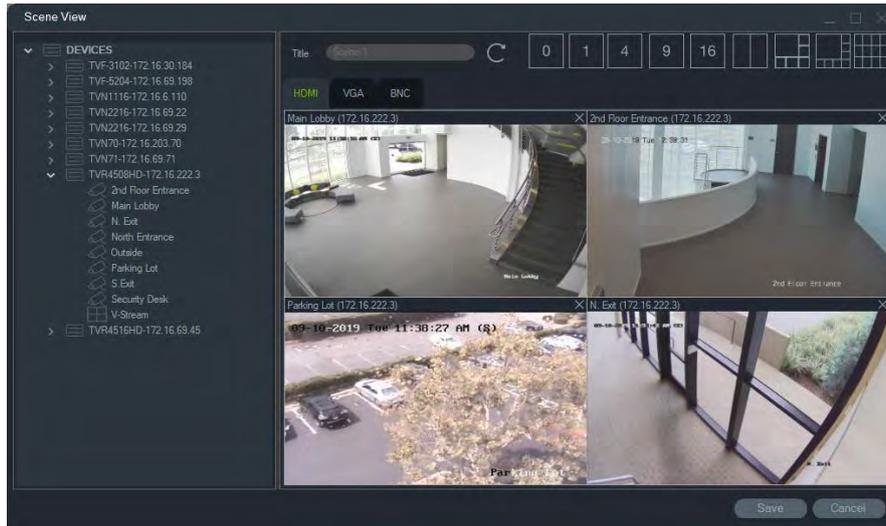
To configure a scene:

1. Ensure that the scene is activated. If necessary, right-click on the scene icon and select **Activate Scene**.
2. Right-click on the activated scene and select **Configure Scene**.

3. Click the **HDMI**, **VGA**, or **BNC** tab to configure a scene for the required monitor output.
4. Click on a custom view (see “Custom view” on page 116 for details about custom views).

Note: The **0** button selects a display of zero video tiles. If the maximum of 16 video tiles are displayed in one tab, the number of tiles in the other tabs must be set to zero.

5. Drag cameras from the Scene View panel into the custom view.



6. Click **Save**.

To preview a scene:

1. Ensure that the scene is activated. If necessary, right-click on the scene icon and select **Activate Scene**.
2. Right-click on the activated scene and select **Preview Scene**.
3. Click the **HDMI**, **VGA**, or **BNC** tab to preview a scene for the required monitor output.

Chapter 6

Viewer panel

The Viewer panel displays both live and recorded video that can be launched from the Navigator panel, Notifier, or Collector. Maps and websites can also be loaded into the Viewer panel. With Custom Views, the Viewer panel can display one of 18 different tile layouts.

Populating video tiles

To add an item to a single tile:

- Double-click a camera, map, or website in the Navigator panel to add it to the next open video tile.
- Drag a camera, map, or website from the Navigator panel to an open video tile.
- Double-click an applicable event in the Notifier or a Collector panel video or snapshot to add it to the next open video tile.
- Drag an applicable event in the Notifier or a Collector panel video or snapshot to an open video tile.

To add items to multiple tiles:

- Drag a recorder or logical view from the Navigator panel to an open video tile.
- Hold down Shift while clicking the right mouse button or hold down Ctrl while clicking the right mouse button to select multiple cameras, maps, or websites in the Navigator panel and drag them to an open video tile.

When adding multiple items, tiles automatically increase in number and the layout adjusts based on how many items are being added, unless the layout has been locked with the **Lock Current Layout** button.

Double-clicking in any single tile enlarges it to full screen. Double-clicking the full screen tile restores the previous tile layout.

Note: To ensure that a web page displays correctly in full screen mode, double-click on the green bar at the top of the web page's video tile.

Organize/swap items in the Viewer by dragging a video tile's status bar to another video tile.

Tabbed viewer panels

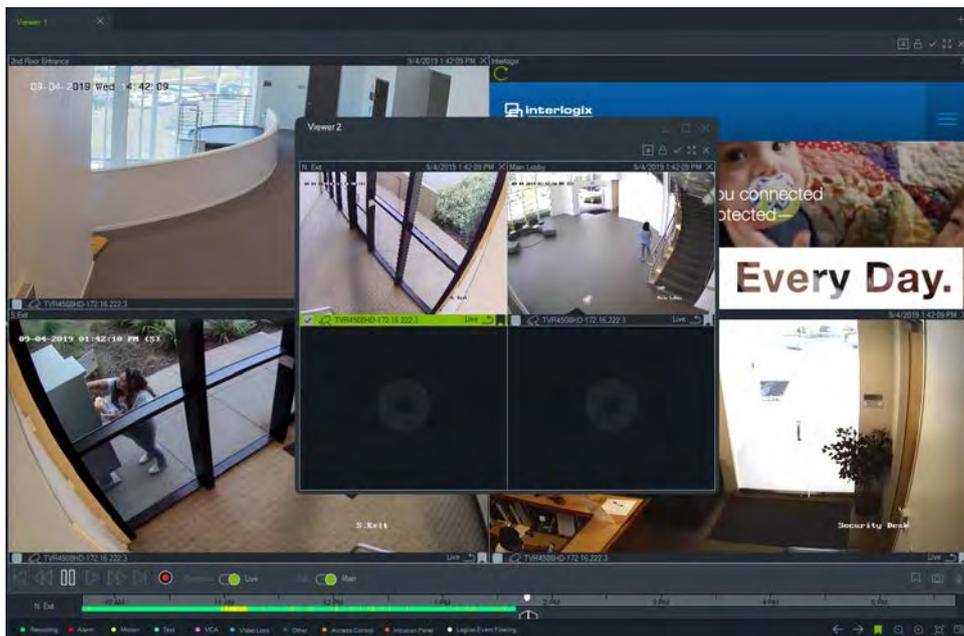
Multiple tabbed viewer panels can be added to the Viewer (up to 10). These additional viewer panels can also be detached and become free floating windows.

Videos in tabs not in the background can be paused to improve system performance. See "Client" on page 23.

Note: A maximum of 75 substream video tiles with H.264 compression can be added to tabbed viewer panels. Running too many videos in tabbed viewer panels may degrade system performance.

To add a tabbed viewer panel:

1. Click the **New Viewer** button to add a new layout panel. A new viewing panel is added as a tab in the Viewer panel title bar.
2. Populate the new viewing panel as described above. Drag a viewer tab out of the Viewer title bar to turn the viewing panel into a free-floating window accessible in the Windows taskbar. Drag the free-floating panel back into the title bar to access it again as a tab.



3. Right-click on a viewing panel tab to access the tab's context menu (**Delete Tab** or **Rename Tab**).

Viewer tab button functions

	Custom/sequence view. Use custom views to define and save multi-site view templates for future use.
	Lock Current Layout. Prevents changes to the current viewer panel setup.
	Select all. Select all tiles in the viewer.
	Toggle. Toggle between normal view and maximized view.
	Close All. Close all tiles in the viewer.
	New Viewer. Add a tabbed viewing panel (10 maximum).

Video tile properties

Status bars at the top and bottom of camera video tiles provide the following information:

Top bar

- Camera name
- Date and time of currently streaming video (live or playback)
- Sync status (see “Sync to this video” on page 122)
- **Close this video tile button**

Bottom bar

- Tile selection check box (selecting the check box in multiple tiles permits the simultaneous use of timeline controls for all tiles selected)
- Camera type icon
- Recorder name
- Video stream status (Live, Playback, Recording, Closed, Live Paused, and Playback Paused)

Bar color

- Green – Indicates that the tile is selected
- Gray – Indicates that the tile is not selected
- Yellow – Indicates that the tile is playing back a local file.

Event Monitor

The **Event Monitor** tab in the Viewer panel plays video of events and alarms configured on recorders and individual cameras as soon as they occur. See the camera's user manual for instructions on camera configuration.

Event Monitor features include the following:

- The **Event Monitor** tab turns orange as soon as video begins playing in the monitor.
- If multiple events assigned to the Event Monitor occur simultaneously, additional video tiles are added automatically.
- The latest Event Monitor video is indicated by a red border around the video tile.
- After the maximum number of cameras (100) appear in the Event Monitor, the oldest video is replaced with the newest video.
- A maximum of 100 video tiles can be displayed in the Event Monitor.

Note: The Event Monitor cannot play back an event that has already happened. To view the last event, drag the video from the Event Monitor into a video tile in the Viewer.

Event Monitor tab button functions

The Event Monitor buttons have the same functions as the Viewer tab buttons. See “Viewer tab button functions” on page 111.

Timeline

When a specific video tile is selected (indicated by a green outline around the video tile), the timeline functions affect that video tile. See “Buttons and indicators” on page 12 and “Playback controls” on page 14 for details on the function of each button and the toggle switches in the timeline area. Timeline buttons only appear when they are available to be chosen. For example, the Archive button will not appear until at least one camera is currently in Playback mode.



To find a specific point in time in the timeline:

Search for video at specific points in time using any of the following methods:

- Click the **Zoom In** and **Zoom Out** buttons to locate a date and time in the timeline.
- Click on the gray timeline bar and slide it to the left or right to find a specific point in time.
- Click the **Go To Date** button to specify a date and time in the timeline.

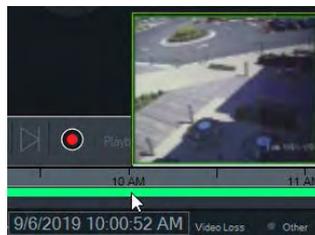
To play back video in the timeline:

- Double-click anywhere on the timeline to automatically play back the selected video at that specific date and time.
- Click and drag the current live/playback cursor, which appears as a green seek triangle icon on the gray timeline bar, to play video from anywhere along the timeline.

To view video thumbnail images in the timeline:

Hover the cursor over a point in the timeline with recorded video to see a thumbnail image of the video.

Note: Devices that support this thumbnail function are listed in the “Get Thumbnail” row in the device details tables (see Appendix B “Device details” on page 155).



Export video

Note: The **Export video** permission is required to export video from the timeline.

To export video from the timeline to the Collector:

1. Slide the beginning and ending timeline markers to highlight a segment of time in green on the timeline bar.
2. Click the **Save Video** button. A green progress bar appears under the exported video that turns blue after exporting is complete.

Local record

Use the **Local Record** button to record live video to the client computer.

Note: Be sure to turn off local recording before it takes up too much storage space on the client computer’s hard drive.

To create a local record video file, do the following:

1. Select a camera video tile in the Viewer.
2. Click the **Local Record** button (to the right of the playback controls) or right-click in the tile and select **Start Local Recording** to begin recording. A thumbnail appears with a start time along with a red dot in the Collector.
3. The red **Local Record** button blinks when any camera is recording locally.
4. Click the red **Local Record** button again to stop the recording. An end time for the thumbnail automatically appears in the Collector.

5. Follow export operations as necessary to save the local recording. See “Export video and snapshots” on page 135.

Bookmarks

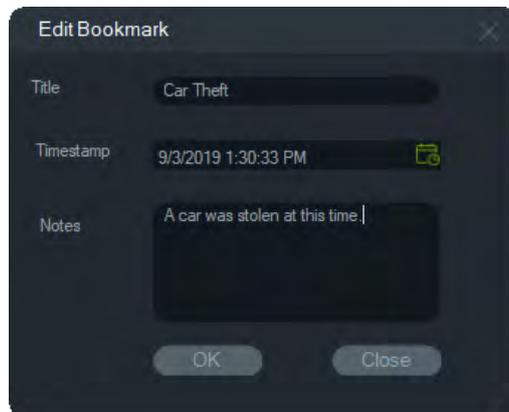
Adding bookmarks

Add a bookmark to the timeline for quick navigation to an incident.

Note: Bookmarks are stored in application memory, so all bookmark data is erased when Navigator is closed.

To add a bookmark, do the following:

1. Select a single video tile.
2. Right-click on the timeline and select **Add Bookmark** or click the Bookmark icon  in the timeline controls (clicking the icon places the bookmark at the same location as the play cursor). The Edit Bookmark window appears.



3. Type a title for the bookmark (16 characters maximum) in the **Title** field.
4. If necessary, the time stamp can be modified and text can be added into the **Notes** field (256 characters maximum).
5. Click **OK**. The bookmark icon appears in the timeline at the specified time stamp.

Working with bookmarks

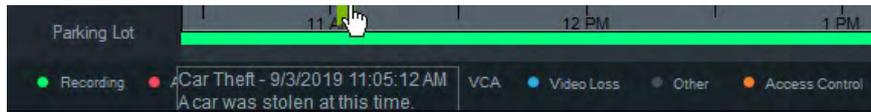
Right-click on a bookmark in the timeline to access the bookmark context menu.

- **Edit** – Opens the Edit Bookmark window.
- **Delete** – Deletes the bookmark.
- **Play** – Opens a new tile and starts playing the video from the bookmark time stamp position.

Viewing bookmarks

- Click the bookmark show/hide buttons  to hide or display bookmarks.

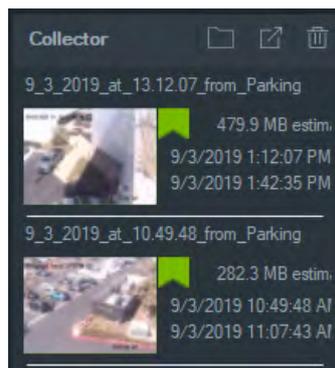
- Hover the cursor over a bookmark icon to display bookmark information, The bookmark title and time stamp appear in the first line and the notes appear in the second line.



- Only bookmarks for the selected video tile are visible on the timeline bar — no bookmarks display if multiple tiles are selected.
- It is not possible to create more than one bookmark with the same time stamp on the same camera.
- It is not possible to edit a specific bookmark when the timeline is in Zoom In mode and there are multiple bookmarks around the same time stamp.

Bookmarks in exported video

Exported video retains bookmarks if the time stamp of the bookmarks fall within the time range of the video. Bookmarks are retained in videos in the Collector after exiting Navigator. Videos in the Collector that contain bookmarks appear as follows:

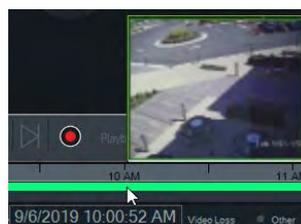


Double-clicking on a Collector video with bookmarks opens a video tile. The bookmarks appear in the video playback timeline. Hover the cursor over a bookmark icon to display bookmark information during playback of exported video.

Note: Bookmarks cannot be edited or deleted during Collector video playback.

Thumbnails

Select a video tile, and then and hover the cursor over a recording in the timeline to show thumbnails of the recording at the specified point in time. Thumbnails can also be seen on the timelines in the Disk Analysis window (see “Disk analysis” on page 96).



Note: This feature will only work with recorders that support this feature.

Adding timelines

Multiple timelines can be added for up to four cameras, with the currently selected video tile timeline also appearing for a total of five visible timelines. Add a timeline for a camera by right-clicking on the camera's video tile and selecting **Add Timeline**.



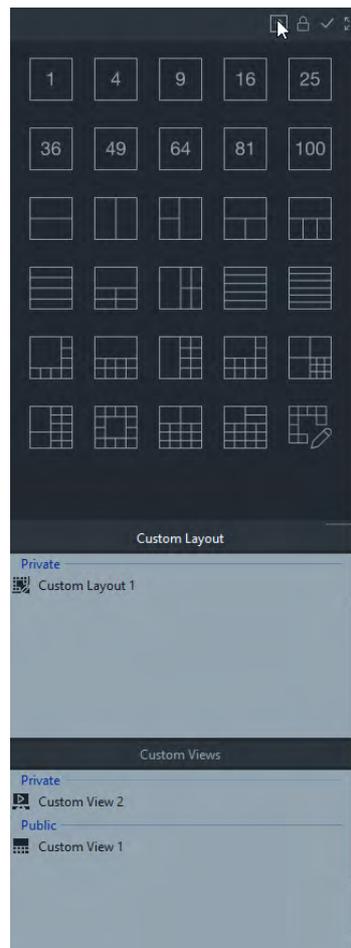
- Up to four timelines can be added for the same camera loaded into four different video tiles.
- The  icon to the left of the timeline indicates that the camera is synced.
- Delete a timeline by clicking the  icon to the right of the timeline.

Custom view

Use custom views to define and save multi-site view templates for future use. Custom views are available by clicking the **Custom View** button in the Viewer header bar .

Several different tile layouts can be chosen when arranging the video sources. Standard tile layouts include 1×1, 2×2, 3×3, etc., up to 10×10. Other different custom tile layouts are also available for additional flexibility. Click the **Custom View** button to change the 3×3 default layout.

Note: A maximum of 20-30 custom views can be created. The maximum number depends on the complexity of the custom views (factors such as tile layout, number of videos in the tiles, and names of the custom views).



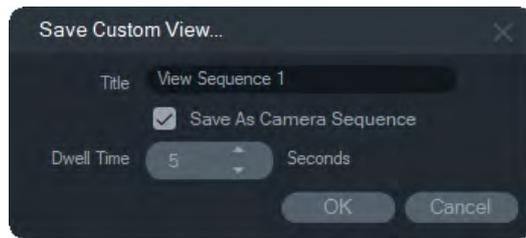
To define a custom view:

1. Load all the cameras to be included in the custom view into the Viewer.
2. Click the **Custom View** button in the Viewer panel header bar.
3. Select **Save custom view/sequence**.
4. Type a title in the **Title** field.
5. Click **OK**.
6. Close all videos.
7. Select the Custom View title in the Viewer panel header bar drop-down list.

To define a custom view as a camera sequence:

1. Load all the cameras to be included in the custom view into the Viewer.

Note: Maps and websites are ignored in camera sequences.
2. Click the **Custom View** button in the Viewer panel header bar.
3. Select **Save custom view/sequence**.
4. Type a title in the **Title** field.
5. Create a single-screen sequence of each tile from left to right by selecting the **Save as camera sequence** check box.



6. If necessary, type a new value for dwell time in the **Dwell Time** field.
7. Click **OK**.
8. Close all videos.
9. Select the Custom View title in the Viewer panel header bar drop-down list. A custom view camera sequence is indicated by the  icon. A single video tile displays each camera in sequence in the custom sequence.

To edit a custom view:

1. Right-click on a custom view in the Custom View/Custom Layout window and select **Edit**.
2. Type a new title in the **New Title** box and click **OK**. Make changes to the custom view such as adding or removing an object from a tile, moving an object from one tile to another, or editing the layouts of custom views if their layouts are also custom.
3. Click **Save** when finished.

To make a custom view public (client/server installations only):

Right-click on a custom view in the Custom View/Custom Layout window and select **Make Public** to make the custom view available across the network.

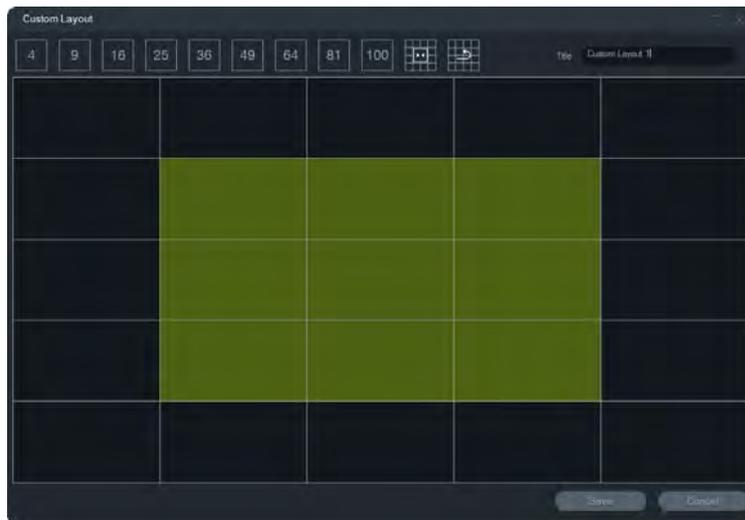
Note: Public custom views cannot be made private, and only the user who created the custom view can delete it.

Custom layout

In addition to the standard tile layouts provided, you can also create custom tile layouts.

To create a custom layout:

1. Click the **Custom View** button in the Viewer header bar, and then click the  icon. The Custom Layout window appears.
2. The Custom Layout window displays a 5x5 layout by default. This can be changed by selecting 1x1, 2x2, 3x3, etc., up to 10x10.
3. Type a title for the layout in the **Title** box and select cells to merge by clicking and dragging inside the grid.



Note: A merge can only be performed on tiles that form a single square or rectangle.

4. Click  to complete the merge. Note that two previously merged cells can also be merged.
5. Click on a merged cell and then click  to unmerge the cell.
6. Click **Save** to save the custom layout.

To edit a custom layout:

1. Ensure that the custom layout to be edited is closed in the Viewer Panel, and then right-click on a custom layout in the Custom View/Custom Layout window and select **Edit**.
2. Make the required changes to the custom layout and click **Save**.

To make a custom layout public (client/server installations only):

Right-click on a custom layout in the Custom View/Custom Layout window and select **Make Public** to make the custom layout available across the network.

Note: Public custom layouts cannot be made private, and only the user who created the custom view can delete it.

Digital zoom

Navigator can perform digital zoom in/out functions in the live and recorded view. To zoom in, select a tile and scroll up with the mouse wheel. Scroll down to zoom out. When in digital zoom mode, click and hold the left mouse button to navigate in the zoomed image.

Note: Press Ctrl before scrolling the mouse wheel to enable digital zoom on a PTZ camera.

PTZ controls

To use PTZ controls, the camera must be identified to the recording device as a PTZ camera.

To activate a camera for PTZ:

1. Right-click the recorder icon in the Navigator panel and select **Properties**.
2. Click the **Cameras** tab and select the **PTZ Enabled** check box next to the PTZ camera.
3. Click **OK**. The camera's icon in the Navigator panel changes from a fixed camera icon to a PTZ camera icon.

To control a PTZ camera using the PTZ controls:

1. Drag a PTZ camera from the Navigator panel into the Viewer and select it.
2. Click the PTZ icon  on the Controller toolbar above the timeline to open the PTZ window.



- **PTZ button** – Click and hold the arrows on the PTZ button to move the camera in different directions.
- **Zoom** – Click the - and + buttons to zoom in and out inside the PTZ camera video tile.
- **Focus, Autofocus** – Click the - and + buttons to manually focus the camera, or click the  button to autofocus.
- **Iris** – Click the - and + buttons to adjust the size of the camera iris. The amount of light allowed into the camera increases as the iris opening gets larger.
- **Speed** – Set the speed to the appropriate level for the network and operations.

Note: PTZ control responsiveness varies depending on the frame rate, resolution, and quality of the video stream. D1/ 30FPS/Quality 9 provides the most responsive PTZ control over the network. Weigh PTZ control responsiveness against storage requirements to find the best fit. The PTZ speed setting can also be balanced with the stream configuration to find the best fit.

Preset positions

- Go to a camera preset by clicking the **Preset Positions** tab, choosing a preset number from the drop-down list, and then clicking **Go To**.
- Create a new camera preset by using PTZ controls to find the required camera view, clicking the **Preset Positions** tab, typing a name into the **Preset Name** field (if required), and then clicking **Set**.
- Name or rename a preset by selecting the preset number from the drop-down list and typing a new name into the **Preset Name** field.

Tours

A tour is a series of checkpoints assigned in a specific sequence with times assigned to reach each point.

- Go to a tour preset by clicking the **Tours** tab, choosing a preset number from the drop-down list, and then clicking **Go To**.
- Record a tour preset by clicking **Record** and performing a series of PTZ control actions. When finished, click **Stop**.

Note: The tours function is not available for all PTZ cameras. See Appendix B “Device details” on page 155 for applicable functionality.

To control a PTZ camera using mouse commands within the video tile:

1. Drag the PTZ camera from the Navigator panel into the Viewer and select it.
2. Place the cursor in the center of the Viewing tile.
3. Left-click and hold the mouse, then drag in any direction. Note that the further from center the cursor is positioned, the faster the camera moves.
4. *Optical zoom:* Scroll up with the mouse wheel to zoom in and scroll down with the mouse wheel to zoom out.
5. *Digital zoom:* Press and hold Ctrl and scroll up with the mouse wheel to zoom in and scroll down with the mouse wheel to zoom out. Press and hold Ctrl and zoom out as far as possible to deactivate digital zoom.

Note: An Interlogix camera with a motorized lens can also be controlled as a PTZ camera with the PTZ controls for iris and focus adjustments.

Camera tile context menu

Right-click on a video tile containing a camera to bring up a context menu. Available selections are as follows:

Search

This function is the same as searching from a recorder, but only the camera selected can be searched. See “Search” on page 98.

Instant replay

Right-click on a video tile containing a camera and select **Instant Replay** or click on the **Instant Replay** button on the video tile to go from Live to Playback by a user-defined and pre-configured period of time (30 seconds is the default setting) for quick viewing of an incident. See “Instant replay duration” on page 27 for instant replay setup instructions.

To start instant replay in a video tile, do one of the following:

- Click the **Instant replay** button in the lower left corner of the video tile.
- Right-click on the video tile and select **Instant Replay**.
- Set the Live/Playback toggle switch in the timeline to **Playback**.

To stop instant replay in a video tile, do one of the following:

- Right-click on the video tile and select **Live**.
- Set the Live/Playback toggle switch in the timeline to **Live**.

Sync to this video

This selection appears in the context menu for cameras in playback mode that are connected to a recorder. Selecting **Sync to this video** plays back all videos in the Viewer (up to a maximum of nine) at the same current playback time/date of the camera being synced to. An “S” icon in the top status bar of the video tile indicates synced videos.

If a synced camera is set to record events instead of a continuous live stream, gaps in recording are indicated by a display of the last frame recorded before the gap occurs. The video resumes when it reaches the time that the next event was recorded.

Note: Certain cameras/conditions cannot be synced for playback:

- Local file playback and recording
- VStream
- Cameras connected as devices (e.g., using an SD card rather than a recorder)
- No permission for camera playback

Live

Select **Live** in the context menu to return to the live stream.

Start local recording

See “Local record” on page 113.

Snapshot

Taking a snapshot of a selected video tile containing a camera sends a still image file to the Collector for export.

To take and deploy a snapshot:

1. Click the **Snapshot** button above the timeline or right-click a video tile containing a camera and select **Snapshot**.
2. Right-click on the snapshot in the Collector panel to **Print Preview**, **Print**, **Email**, **Rename**, or **Export** the snapshot image. See “Export video and snapshots” on page 135.

Dewarp views

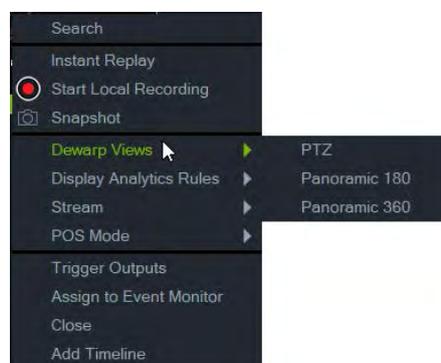
Dewarping provides an alternate view other than the fisheye image normally associated with 360° cameras. This feature only requires one fisheye view (live or playback) from the device. The Navigator dewarps multiple views from a single dewarped view.

To enable dewarping:

1. Right click on the camera recorder and select **Properties**.
2. Select the **Fisheye** check box.
3. The **Mount Type** drop-down list is set to **Ceiling** by default. If required, select **Wall** or **Desktop**.

To access dewarped views:

1. Right click on the camera video tile and select **Dewarp Views**.
2. Select a view from the context menu. A new video tile opens with the dewarped view type indicated in the video tile header bar.



PTZ

A maximum of 31 PTZ views can be dewarped from a single 360° camera.

Click the left mouse button inside the PTZ video tile and drag it in any direction to change the view. A red square inside the camera tile indicates the position of the dewarped view as the four-headed arrow cursor is moved inside the PTZ video tile.



Panoramic 180

This selection displays two 180° views inside a single video tile. Only one Panoramic 180 view can be dewarped from a single 360° camera, and then all other dewarp views become unavailable.

Panoramic 360

This selection displays a 360° view inside a single video tile. Only one Panoramic 360 view can be dewarped from a single 360° camera, and then up to 30 additional PTZ dewarp views become available.

Heat map

Note: The heat map function is only supported by TruVision 360° cameras. The 360° camera must be added by itself to the Navigator panel (so that it has its own device node) and must have a memory card installed to obtain heat map data.

A heat map is a color-coded graphical representation of the movement of objects or people through a scene. The colors correspond to the amount of traffic, and the amount of time spent stationary in the configured scene.

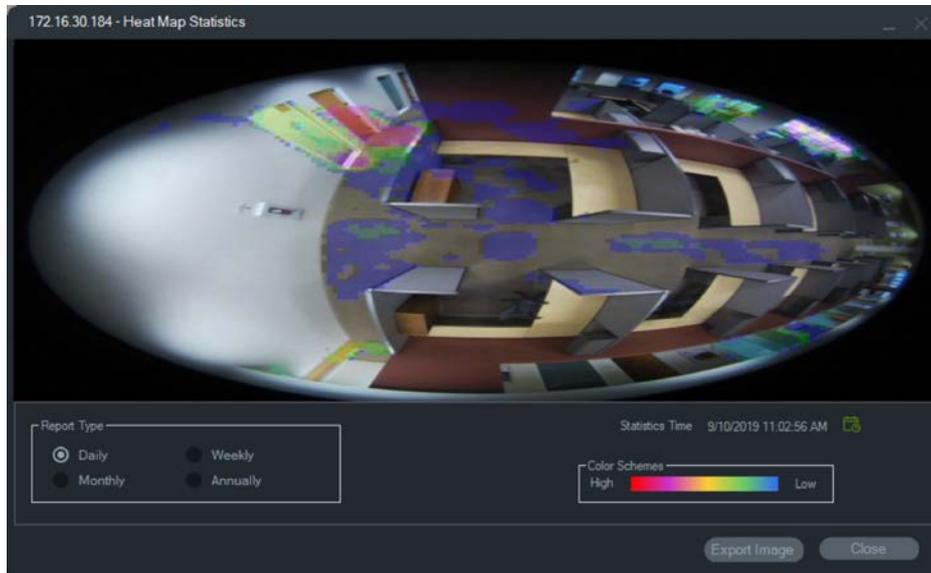
To set up the heat map:

1. In the Navigator panel, right-click on the device icon associated with a 360° camera and select **Configure Device**.
2. Type the user name and password and click **Login**.
3. Click the **Configuration** tab and then click **Heat Map**.
4. Select **Enable Heat Map**. For detailed instructions on heat mapping configuration, follow the instructions in the heat map section of the *TruVision 360° Camera Configuration Manual*.

To view heat map statistics:

1. After following the instructions above to set up a heat map, right-click on the video tile of a 360° camera and select **Heat Map**. The heat map statistics window appears.

2. Select a Report Type (Daily, Weekly, Monthly, or Annually), and then select a date from the **Statistics Time** drop-down list.
3. With **Image Heat Map** selected under Statistical Results, click **Export Image** to save a heat map image.

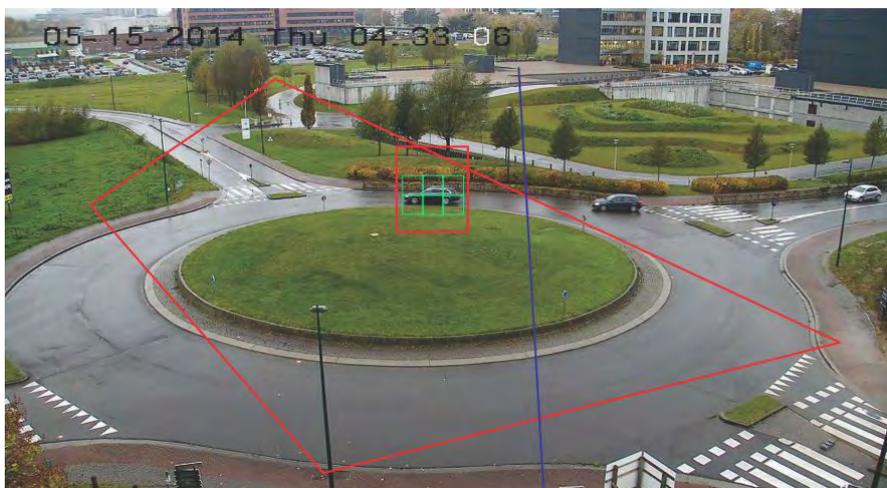


4. With **Time Heat Map** selected under Statistical Results, click **Export to CSV** to save heat map statistics in Excel format.

Display analytics rules

Note: Display analytics rules (**Motion**, **VCA**, and **Thermal OSD**) only work with cameras that support this feature. Devices that support display analytics rules are indicated in the “Stream Overlay” row in the device details tables by the “VCA Rules” entry in Appendix B “Device details” on page 155.

Enabling analytics rules for motion and VCA provides dynamic display indicators in the video tile for each selection. Motion and VCA indicators, as well as the on-screen drawing that defines a region of interest, differ depending on the model of recorder.



Motion

To enable motion analytics for newer IP cameras:

1. Right click on the camera's recorder and select **Manage IP Cameras**.
2. Under Camera Setup, click Motion Detection.
3. Select the camera to display motion from the **Camera** drop-down list.
4. Select the **Enable Motion Detection** and **Enable Dynamic Analysis** for Motion check boxes.
5. If necessary, draw a new area setting in the **Area Settings** tab and select **Notify Alarm Host** in the **Actions** tab so that motion notifications display in the Notifier panel. Close the configuration window.
6. Right-click the camera's video tile and select **Display Analytics Rules > Motion** to enable or disable motion analytics. Motion analytics may appear as green rectangles in the video tile when they occur.

VCA

To enable VCA analytics for newer IP cameras:

1. Right click on the camera's recorder and select Manage IP Cameras.
2. Under Camera Setup, click VCA.
3. Select the camera to display VCA analytics from the **Camera** drop-down list.
4. Select the **Enable VCA Alarm** check box.
5. If necessary, select **Notify Alarm Host** in the **Actions** tab to so that VCA notifications display in the Notifier panel. Close the configuration window.
6. Right-click the camera's video tile and select **Display Analytics Rules > VCA** to enable or disable VCA analytics. VCA analytics may appear as red rectangles in the video tile when they occur.

Thermal OSD (thermal cameras only)

Note: The thermal camera must be added by itself to the Navigator panel (so that it has its own device node).

Right-click a thermal camera's video tile and select **Display Analytics Rules > Thermal OSD** to enable or disable on-screen temperature display.



Stream

Change the **Stream** setting by clicking the **Main/Sub** toggle switch above the timeline or by right-clicking on a video tile and selecting **Stream > Sub** or **Stream > Main**.

The **Main** setting provides the highest possible resolution while the **Sub** setting activates a substream that provides lower resolution video that does not consume as much bandwidth.

POS mode

This function enables point of sale (POS) data display (from a device such as a cash register or ATM) in a video tile. The device providing the POS information must work in conjunction with a the legacy ProBridge 3 text converter or via the NPCII, a third party converter of SHL Systems (www.shlsystems.de).

The converter acts as a bridge between the recording device and the Point-of-Sale (POS) device (a cash register or ATM, for example). It feeds the POS text data into the recording device where it is tagged to the applicable video.

The NPCII is compatible with the following recorders:

- TVN21 (via RS-232)
- TVN22 (via RS-232 and IP)
- TVR45HD (only for analog cameras; via RS-232 and IP)

To activate POS mode:

To display POS data on top of the camera view, right-click on the POS-configured camera's video tile and select **POS Mode > In Band**.

To display POS data on the side of the camera view, right-click on the POS-configured camera's video tile and select **POS Mode > Out of Band**.

Trigger outputs

This function is the same as the recorder context menu in the Navigator panel. See "Trigger outputs" on page 97.

Assign to Event Monitor

This function is the same as the camera context menu in the Navigator panel. See "Assign to Event Monitor" on page 106.

Show real time LPR

This function applies to TruVision Automatic Number Plate Recognition (ANPR) cameras that feature embedded Optical Character Recognition (OCR) to identify vehicle license plate information in real time.

Note: TruVision ANPR cameras are only available in EMEA and can only read license plates from certain countries (US not included) depending on the firmware version. See Table 5 below for details.

Table 5: Supported license plate regions

Firmware V13.x FPx (default loaded FW)	Slovakia, Italy, Spain, France, Germany, Poland, Belgium, France, Czech Republic, Netherlands, Denmark, Luxembourg, Greece, Albania, Bosnia and Herzegovina, Ireland, Malta, Sweden, Switzerland, Portugal, Macedonia, Croatia, Finland, United Kingdom, Romania, Serbia, Bulgaria, Norway, Israel, Hungary, Austria, Vatican City State, Cyprus, Iceland, Slovenia, Turkey, Montenegro
Firmware V14.x FPx	South Africa
Firmware V15.x FPx	Azerbaijan, Belarus, Kazakhstan, Lithuania, Georgia, Estonia, Latvia, Armenia, Russian Federation, Ukraine, Moldova, Belarus, Turkmenistan, Uzbekistan

Note: Make sure to load the proper firmware for the region where the camera is installed.

To activate license plate result (LPR) notifications in Navigator:

1. Set up license detection in the TruVision ANPR camera web UI. See the *TruVision ANPR IP Camera Configuration Manual* for details.
2. Drag a TruVision ANPR camera from the Navigator panel to a video tile in the Viewer panel.
3. Right-click on the tile and select **Show real time LPR > Show text**. LPR notification information appears on the right side of the video tile.



4. To see LPR notifications in the Notifier panel, select the License Plate Recognition Notifier filter. See “Filters” on page 132 for details.
5. When searching for license plate information in Navigator, a full or partial license plate can be used as a search term. The search is case-sensitive. See “Search” on page 98 for details.

Object counting

Note: The object counting camera must be added by itself to the Navigator panel (so that it has its own device node) and must have a memory card installed to obtain object counting data.

This function can be used with cameras that support object counting. Available selections are as follows:

Statistics

Right-click on an object counting camera tile and select **Object Counting > Statistics**.

View object counting statistics by Report Type (select from **Daily**, **Weekly**, **Monthly**, or **Annually**), Graph Type (select **Bar Chart** or **Line Chart**), and **Statistics Time**.

Click **Export to CSV** to export statistics data to an external file.



Reset

Right-click on an object counting camera tile and select **Object Counting > Reset**. This action resets the Enter and Exit numbers in the object counting on-screen counter to zero.

Display counter

Right-click on object counting camera tile and select **Object Counting > Display Counter** to display the object counting on-screen counter (Enter and Leave numbers).

Close

Closes the camera tile.

Add timeline

Map tile context menu

Right-click on a map tile to bring up a context menu. Available selections are as follows:

Zoom to fit

Focuses to the map image, eliminating any white space around the map in the Viewer tile.

Close

Closes the map tile.

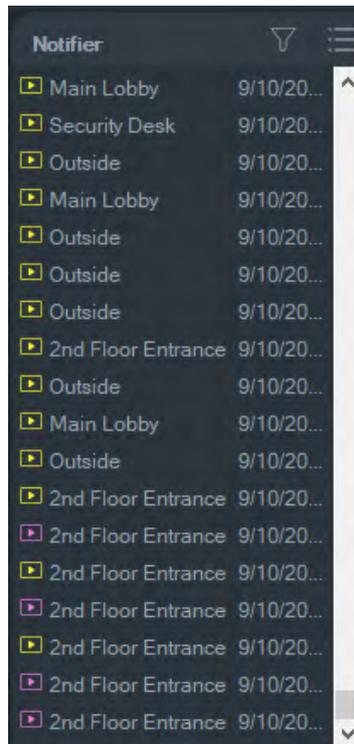
Website tile context menu

Right-click a website tile in the Viewer to access Internet Explorer options. See Internet Explorer Help for further information on these options.

Chapter 7

Notifier panel

The Notifier panel is the central repository for notifications in Navigator. Devices send these notifications over the network via TCP to the IP address of the TruVision Navigator server. The firewall must be configured on the server to accept these network notifications. Refer to the recorder's or camera's user manual for information on configuring notifications so that they appear in the Notifier panel.



View video for live notifications as they are received by double-clicking on the camera name link in the Notifier panel. This launches the video in the Viewer.

Note: Video is indicated by a video icon (with an arrow) next to the notification. If the video icon is not next to the notification, no video for the event is available.

Live notifications can be set to make an audible sound. See “Client” on page 23 for more information on this feature. After 1000 notifications occur in the Notifier panel, the oldest notifications are purged in the system.

Filters

The Filters feature allows customization of the Notifier panel so that it shows only certain types of notifications.

To set filters in the Notifier panel:

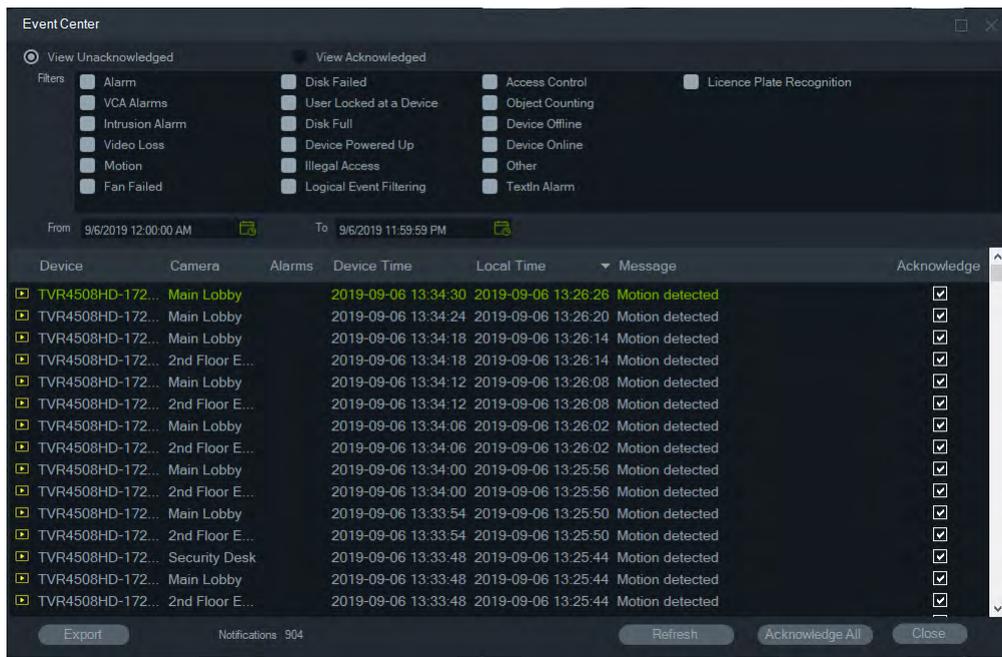
1. Click the **Filters** button in the Notifier panel.
2. Select one or more notification types to show only those types of notifications in the Notifier panel. The **Filters** button turns red when a filter is set.



3. To show the selected events occurring only during a set time period, select **Date Time**, set the date and time range, and then click **OK**.
4. Click **Close**. To remove filters, click the **Filters** button and select **All** or click on the individual notification types to remove the check marks.

Event center

The Event Center window provides a record of all events, both acknowledged and unacknowledged, over a specified time range.



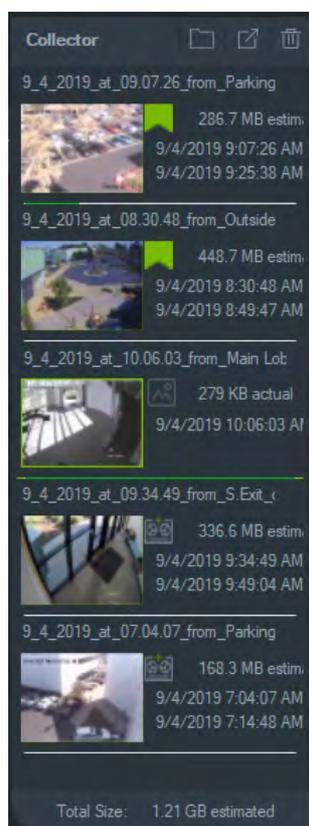
To find, view, and acknowledge events in the Event Center:

1. Click the **Event Center** button in the Notifier panel to launch the Event Center.
2. Select **View Unacknowledged** or **View Acknowledged**.
3. Set filters to see only certain event types by selecting the check box next to each event type.
4. Set a date range using the **From** and **To** drop-down lists.
5. Click the top of each column in the list of events to sort events by Device, Camera, Alarms, Device Time, Local Time, or Message.
6. Click on the camera link in an event to view it in the Viewer panel.
7. Click **Acknowledge All** to acknowledge all unacknowledged events. After a live notification is acknowledged, it is considered a stored or historic notification that can be searched.
8. Click **Export** to export a list of the events displayed in the Event Center in CSV file format.

Chapter 8

Collector panel

The Collector panel contains video and snapshots from the timeline (see “Timeline” on page 112), the camera context menu in the Navigator panel (see “Export video” on page 105), and the camera tile context menu in the Viewer panel (see “Local record” on page 113).



To view a video clip in the Collector, double-click on the video’s thumbnail to launch it in the Viewer. Double-click on a snapshot to play video from the camera that provided the snapshot at the point in time the snapshot was taken.

To delete items from the Collector, right-click on an individual item’s thumbnail and select **Delete** or click the **Delete All** button at the top of the Collector panel.

Export video and snapshots

Export all collected video and snapshots in the Collector panel to a specific location either on demand or via a schedule.

To export video or snapshots from the Collector:

1. Click the **Export All** button at the top of the Collector panel to export all videos and snapshots, or right-click on an item in the Collector panel and select **Export** to export it individually.
2. Click **Browse** and specify a destination location for export. Click the Show files in folder link to view the current contents of the folder (you can also click the **Show files in folder** button in the Collector toolbar to view folder contents).

Note: Make sure there is enough disk space at the destination location for the export. Use the file size estimate in the Collector as a guideline.

3. To start the export process immediately, click the **Export Now** button. The export task is automatically added to Tasks (see “Tasks” on page 49). A progress bar appears below each video thumbnail to indicate export progress. Exports in progress appear as green and turn to blue after export is complete.
4. To schedule the export process, click the **Schedule** button and specify a date/time to start the export process. An export task is automatically added to Tasks.

Note: The Local Scheduling Service must be running to execute these export tasks. Refer to the Services window for status and actions on all services.
5. When export tasks are complete, exported video and snapshots can be found at the location specified along with the TruVision Navigator Player program. See Chapter 10 “TruVision Navigator Player” on page 140.

Collector context menu

Right-click on a snapshot to make any of the following selections from the context menu:

- **Print Preview**
- **Print**
- **Email**
- **Rename** (also available in the Collector video context menu)
- **Export** (also available in the Collector video context menu)

Chapter 9

Server offline mode

The Navigator client can still operate in a client/server configuration when the server is offline. However, some configuration options are not available in server offline mode.

A dialog appears when starting Navigator with the server offline. It states: “While you’re offline, you’ll be able to access video normally. Changes to the system configuration will be disallowed.”

Server offline mode is indicated by the  icon next to Admin in the Navigator screen. The Notifier is empty and notifications do not appear when in server offline mode.

Note: The Navigator client can take up to five minutes to recognize the Navigator server after the TruVision Navigator service is started.

Available options, server online and server offline mode:

Function	Online	Offline Mode
Navigator main menu	Settings Tasks Storage Calculator Help Logout	Settings Storage Calculator Help Logout
Settings window	Client tab Server tab Notifications tab Health Diagnostics tab Groups and Users tab Audit History tab Logical Event Filtering tab	Client tab
Add Folder menu	Enabled	Disabled
Add Devices menu	Enabled	Disabled

Function	Online	Offline Mode
Devices menu	Add Device Add Folder Run Health Diagnostics Import Address Book Export Address Book Open Exported Video File Tasks Device Management	Open Exported Video File
Device folder menu	Add Device Add Folder Delete Folder Rename Folder	Disabled
Device offline menu	Connect Delete Device Rename Device Properties	Connect Properties
Device online menu	Run Tampering Monitor Run Device Report Run Health Diagnostics Run Network Statistics Run Disk Analysis Trigger Outputs Manage IP Cameras Search Export Video Configure Device Reboot Device Delete Device Rename Device Properties	Run Health Diagnostics Run Disk Analysis Trigger Outputs Search Export Video Reboot Device Properties
Export Video window	Export Now Schedule	Export Now
Properties window	Enabled	Device or camera detail are visible but cannot be changed.
Camera menu (camera icon)	Search Export Video Assign to Event Monitor	Search Export Video

Function	Online	Offline Mode
Camera menu (device icon)	Run Tampering Monitor Run Device Report Run Health Diagnostics Trigger Outputs Search Configure Device Reboot Device Delete Device Rename Device Properties	Run Health Diagnostics Trigger Outputs Search Reboot Device Properties
Multi selection menu, devices	Delete Devices	Disabled
Multi selection menu, folders (devices, maps, websites, access control)	Delete Folders	Disabled
Maps main menu	Add Map Add Folder	Disabled
Maps folder menu	Add Map Add Folder Delete Folder Rename Folder	Disabled
Map menu	Configure Map Rename Map Delete Map	Disabled
Multi selection menu, maps	Delete Maps	Disabled
Websites main menu	Add Website Add Folder	Disabled
Website menu	Configure Website Delete Website	Disabled
Website folder menu	Add Website Add Folder Delete Folder Rename Folder	Disabled
Multi selection menu, websites	Delete Websites	Disabled
Access Control main menu	Add Panel Add Folder Global Lockout Global Reinstate	Global Lockout Global Reinstate

Function	Online	Offline Mode
Access Control panel menu	Configure Panel Recent Activities Delete Panel Rename Panel Reinstate All Doors Lockout All Doors Unlock All Doors Properties	Reinstate All Doors Lockout All Doors Unlock All Doors Properties
Access Control panel menu	Enabled	Enabled
Multi selection menu, access control panels	Delete Panels	Disabled
Intrusion Detection main menu	Add Panel Add Folder Global Arm Global Disarm	Disabled
Intrusion Detection panel menu	Configure Panel Delete Panel Rename Panel Arm All Disarm All Properties	Disabled
Network Switches main menu	Add Device Add Folder	Disabled
Network Switch menu	Configure Device Delete Device Rename Device Display Front Panel Run Network Statistics System Reboot Refresh Properties	Run Network Statistics System Reboot Refresh
Logical Views main menu	Add Logical View Add Folder	Disabled
Logical View folder menu	Add Folder Add Logical View Rename Folder Delete Folder	Disabled
Logical View menu	Edit Delete	Disabled

Chapter 10

TruVision Navigator Player

The TruVision Navigator Player is a standalone player that can be used to replay any video clip exported using TruVision Navigator (proprietary file formats include .wvf, .mpc, .asf, .mp4, and .drv). This player should be copied to media along with video clips for authorities. It launches from the media itself and does not require installation to a computer.

To play video with the TruVision Navigator Player:

1. After exporting video clip(s) from the Collector to the user-defined location, launch the TruVision Navigator player by double-clicking the TruVision Navigator Player icon in the file folder where the video clips are located.

IMPORTANT: The player.bin file must be in the same directory as the TruVision Navigator Player.exe file for the TruVision Navigator Player to work.

2. The player automatically sweeps the directory and loads the associated video clips in the Video File Selector panel from that directory. Double-click on a camera icon in the Video File Selector panel to populate the next video tile. The default view is 9-up with a maximum of 16-up. Other custom views are available.



The features of the TruVision Navigator Player are as follows:

Toolbar, viewer, and panels

- **Open** – Browse for a specific video clip in another directory and load it into the Video File Selector panel.
- **Preserve Aspect Ratio** – Click **View > Preserve Aspect Ratio** to see the video in its original aspect ratio (not resized to fit the video tile).
- **Dewarp View** – Click **View > Dewarp View** to access dewarped views. See “Dewarp views” on page 123 for details.
- **Custom View** – A total of 12 different video tile viewing configurations are available. Default view is 9-up.
- **Maximize Screen** – Launches a full screen view.
- **Audio** – Listen to audio (if present) for only the selected video tile by right-clicking on the tile and selecting **Enable Audio**. If all video tiles are selected, no audio will play.
- **Video File Selector Panel** – Contains a detailed list of video clips available for playback. Double-click on a camera icon in this panel to populate the next video tile.
- **Select All** – Select this check box to select all video tiles. After all video tiles are selected, playback controls affect all video tiles and not just a single one. However, each clip begins at its own start time and ends at its own end time. This holds true for the snapshot capability as well.
- **Bookmarks Panel** – Double-click on a bookmark in the Bookmarks panel to jump to the bookmark during a selected video’s playback. Right-click on a bookmark in the Bookmarks panel to view bookmark details.
- **Time/Date Stamp** – Each video has a time/date stamp on it for evidentiary purposes.
- Double-click any video tile to go to full screen or use the maximize button in the tool bar.
- Double-click any video tile to return to the normal state.
- When in full screen mode, right-click to hide/show the playback controls. Only the video tiles display.

Timeline functions

- **Timeline** – Jump ahead or back in time for a single selected video tile. Click the **Zoom In Timeline**, **Zoom Out Timeline**, **Center the Play Cursor**, **Scroll Left**, **Scroll Right**, and **Go To** buttons to manage timeline playback.
- **Playback Controls** – FFWD, RWD, Play, Pause, Frame Reverse, Frame Advance, and Loop.
- **Sync All** – Click this icon to start all video clips at the same time.

Note: As the video clips are played, there may be time gaps due to the different video settings on each clip source (e.g., different frame per second (fps) settings). This function ensures that the initiation of playback for all tiles happens at the same time to keep the time gaps between the clips at a minimum.

- **Snapshot** – Take a snapshot of the highlighted video tile(s) by clicking the **Export Snapshot** button. Select the cameras to take snapshots from, and then click **Snapshot**.
- **Local File Information** – View details about the selected video clip including the device type and address, camera name, start and end times, and file location.

Chapter 11

Using a compatible keypad

Compatible keypads provide an alternate method of navigating the TruVision Navigator user interface. A high level of usability and control can be achieved by connecting keypads and using them with the Navigator client.

Compatible keypads are:

- Interlogix TVK-400USB
- Interlogix TVK-600 (Device Manager support only)

Connecting the keypad

The keypad must be connected to the client machine's USB port *before* launching the Navigator client. The keypad driver is installed automatically the first time the keypad is connected.

A successful connection of the keypad is indicated by the keypad icon appearing in the bottom right of the Navigator screen.

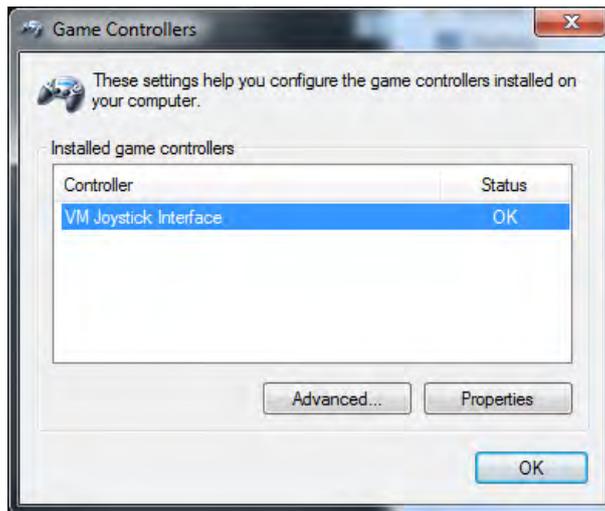
Calibrating the keypad

We recommend calibrating the keypad to avoid erratic PTZ movements.

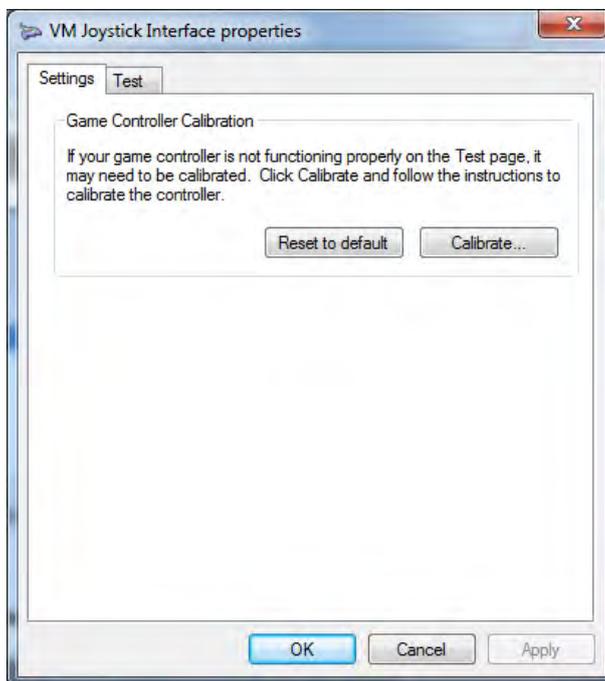
To calibrate the keypad:

Follow the instructions above for connecting the keypad.

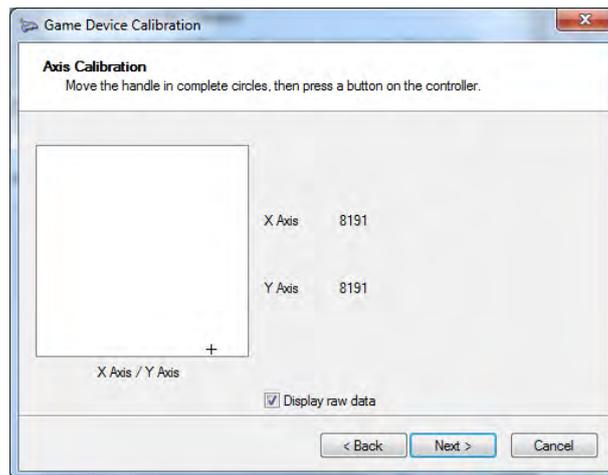
1. Go to **Control Panel > Devices and Printers**.
2. Right-click on the VM Desktop icon and select **Game controller settings**.
3. The Game Controllers window appears. Click **Properties**.



4. Click the **Settings** tab, and then click **Calibrate**.

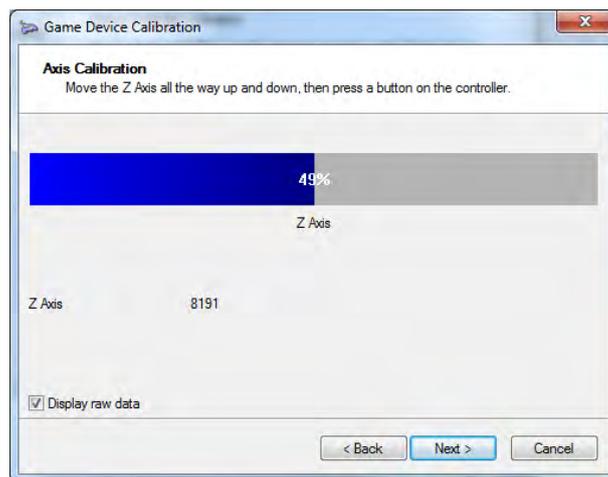


5. The Device Calibration Wizard appears. Click **Next**.
6. The Find Center Point window appears. Leave the joystick handle centered, press a button on the keypad, and then click **Next**.
7. The Axis Calibration window appears. Move the joystick handle in complete circles, press a button on the keypad, and then click **Next**.

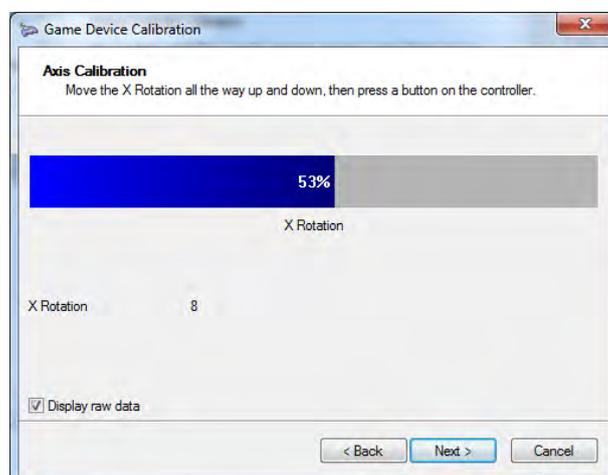


Note: Select **Display Raw Data** to see a numerical value for the current position of the joystick.

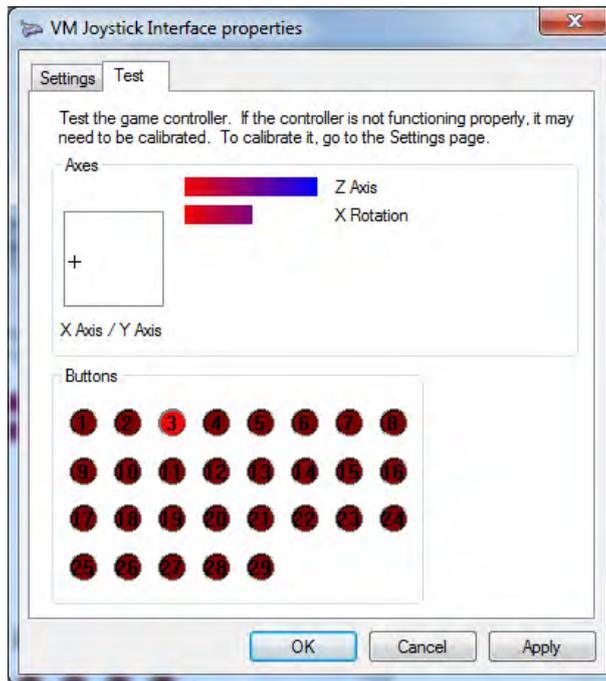
8. The Verify Center Point window appears. Leave the joystick handle centered, press a button on the keypad, and then click **Next**.
9. The Z Axis Calibration window appears. Twist the PTZ knob on top of the joystick handle, press a button on the keypad, and then click **Next**.



10. The X Axis Calibration window appears. Move the joystick handle all the way up and down, press a button on the keypad, and then click **Next**.



11. Click **Finish** to save the calibration settings.
12. Click the **Test** tab in the VM Joystick Interface properties window.



13. Test the joystick by moving it and observing onscreen behavior. The Axes indicators should indicate a value of 50% after moving the joystick or PTZ knob as far as possible one way or the other.
14. Press buttons on the keypad to test their functionality. Pressing a button should illuminate one of the circled numbers in the Buttons section.
15. Click **Apply**, and then click **OK** when finished.

Keypad functions

Figure 3: TVK400USB keypad



- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Enter. Enters PTZ camera presets. 2. Sub/Main stream switching. 3. Number keys for selecting presets. 4. Snapshot 5. Go to playback. 6. Switch to live. 7. Scroll. Scrolls between video tiles in multi-up view and scrolls the timeline in one-up view. 8. Wheel. Rotate right to fast forward and rotate left to rewind. 9. Fast forward 10. Pause/resume 11. Rewind | <ol style="list-style-type: none"> 12. Joystick. PTZ: Rotate knob to zoom in/out, joystick moves the camera. Non PTZ: Rotate knob to zoom in/out, joystick pans inside the zoom in view. 13. Zoom. Live: Zooms the camera in/out. Playback: Zooms in/out on the timeline. 14. Iris open/close 15. Focus near/far 16. Set preset. Press this button, a preset number, and Enter to enter a new PTZ preset. 17. Toggle between one-up and multi-up views. 18. Local record |
|---|---|

Appendix A

Minimum system requirements

Software requirements

The following operating systems and other software components are prerequisites for client and server installation:

Note: 32-bit operating systems are not compatible with TruVision Navigator 8.0+.

Table 6: Client software requirements

Component	Version	Notes
Operating System	Microsoft Windows 7 SP1 64-bit	
	Microsoft Windows 8.1 64-bit	WinPCAP needs to be installed separately and ran in compatibility mode for operation on Windows 8 systems
	Microsoft Windows 10 64-bit	
	Microsoft Windows Server 2012 R2 64-bit	
	Microsoft Windows Server 2016	
Other	Microsoft .NET Framework 4.6	Packaged with the installation

Table 7: Server software requirements

Component	Version	Notes
Operating System	Microsoft Windows 7 64-bit	
	Microsoft Windows 8 64-bit	WinPCAP needs to be installed separately and ran in compatibility mode for operation on Windows 8 systems. SQL drivers need to be installed for Windows 8 before Navigator installation.
	Microsoft Windows 10 64-bit	

Component	Version	Notes
	Microsoft Windows Server 2012 R2 64-bit	
	Microsoft Windows Server 2016	
Database	Microsoft SQL Server Express	Go to www.microsoft.com for details on version compatibility with the operating systems listed above.
Other	Microsoft .NET Framework 4.6	Packaged with the installation
Other	Microsoft Visual C++ 2010 x64 Redistributable 10.0.40219	Packaged with the installation
Other	WinPCAP 4.1.3	Packaged with the installation

Server/client hardware guidelines

The following specifications are only meant to serve as a guideline as Navigator system performance varies according to the robustness of the machine.

Table 8: Server hardware specifications

Component	Recommended	Notes
CPU	3rd Gen Intel® Core i5-3470 Processor (6 MB, 3.2 GHz)	CPU power is directly related to the performance of the application when running and rendering video. The better the CPU, the more responsive the application will be.
Memory	16 GB RAM	RAM is related to the number of different applications that can run simultaneously as well as the number of different operations that TruVision Navigator can perform at once. The higher the RAM, the better the performance of the application.
Hard Drive	500 GB – 7200 RPM, SATA 3.0 Gb/s, 16 MB Cache	Optional - TruVision Navigator requires approximately 800 MB of storage to install. To store exported video from the devices on the local machine, an increase storage size may be required.
Graphics Card	Nvidia® GeForce GTX 1060	Video Card capability is directly related to the video rendering performance within TruVision Navigator. The better the video card, the better the video rendering performance.
Resolution	1920 x 1080	

Component	Recommended	Notes
Network	Integrated PCIE 10/100/1000	The network interface card can be a performance bottle neck depending upon the throughput of the card. If the card's throughput is less than the amount of data streaming to the machine, performance issues may occur.

Supported recording devices

Table 9 shows the supported recording devices and related firmware versions.

Table 9: Supported recording devices

UTC Devices	Supported Firmware
TruVision NVR10 (TVN 10/10S/10C/10CS)	2.0b
TruVision NVR21 (TVN 21)	3.1.k
TruVision TVN22	2.1.b
TruVision TVR12HD	1.2.j
TruVision TVR15HD	1.0
TruVision TVR44HD	1.2.j
TruVision TVR45HD	1.0
TruVision TVR46	1.0
TruVision NVR71 (TVN 71)	1.0e
TruVision NVR70 (TVN 70)	1.2.j
TruVision NVR11 (TVN 11)	1.0c
TruVision NVR20 (TVN 20)*	3.2a
TruVision NVR50 (TVN 50)*	2.2i
TruVision DVR10 (TVR 10)*	2.7
TruVision DVR11/11C (TVR 11/11C)*	3.1b
TruVision DVR12/12C (TVR12/12C)*	1.2.d
TruVision DVR40 (TVR 40)*	3.2.d
TruVision DVR41 (TVR 41)*	3.0c
TruVision DVR42 (TVR42)*	1.2d
TruVision DVR60 (TVR 60)*	4.7a
Interlogix DVSR-xU*	2.31s

* These models are in End of Life status and not actively supported.

Discoverable devices

IMPORTANT: A wired network connection is required for device discovery. Do not use a Wi-Fi network connection to discover devices.

Note: Unmanaged devices do not support the discovery feature.

Intrusion panels

Table 10 below shows the discoverable intrusion panels and related firmware versions.

Table 10: Discoverable intrusion panels

UTC Devices	Supported Firmware
UltraSync Self-Contained Hub	B0403001A58P002011-33 or later
UltraSync Modular Hub	B0403001A56P002005-01 or later
ZeroWire	B0403001A58P002010-31 or later
xGen	B0403001A56P002005-16 or later

Transmission products

Table 11 below shows the discoverable transmission products and related firmware versions.

Table 11: Discoverable transmission products

UTC/GE Devices	Supported Firmware
ES2402-16P-2C	1.5b150623
ES2402-24P-2C	1.5b170503
ES2402-8P-2C	1.5b150623
GE-DSSG-244-POE	1.5b131203
NS3500-28T-4S	1.5v140718
NS3500-24T-4C	1.5b180308
NS3502-8P-2S	1.5b131120
NS3503-16P-4C	1.5b160906
NS3550-24T/4S	1.0b120719
NS3550-2T-8S	1.5b131120
NS3552-8P-2S	1.5b160215
NS3552-8P-2S-V2	1.5b180920
NS3553-4P-1T-2S	1.5b180130
NS3601-24P/4S	1.5b121207
NS3702-24P-4S	1.5b140618
NS3702-24P-4S-V2	1.5b180706

UTC/GE Devices	Supported Firmware
NS4702-24P-4S-4X	1.5180129
NS4702-24P-4X	1.5b180129
NS4750-24S-4T-4X	1.5b140710
NS4802-24P-4S-2X	1.5b150713
POC2502-16CXP-2T-2S	1.5b160906
POC2502-8CXP-2T-2S	1.5b150717

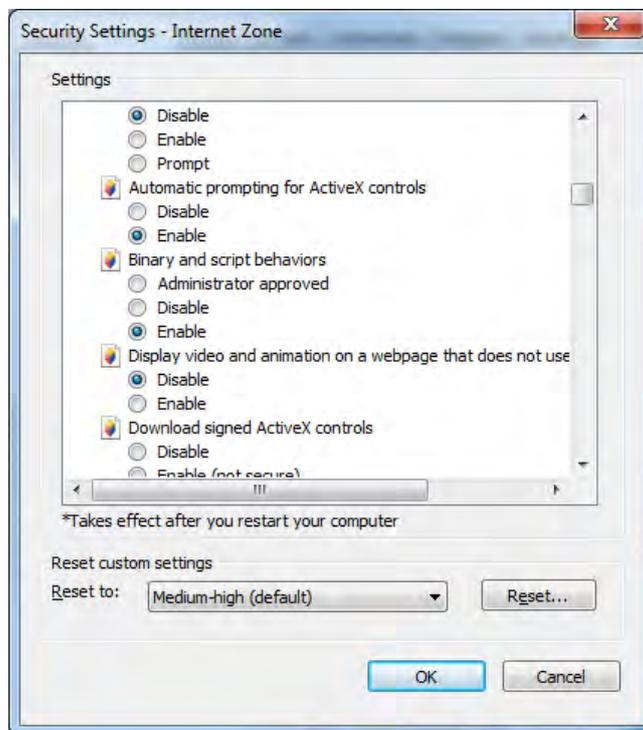
Note: See the *TruVision Navigator Compatibility with IFS Switches Addendum* for further information about supported features.

Internet Explorer plug-in requirements

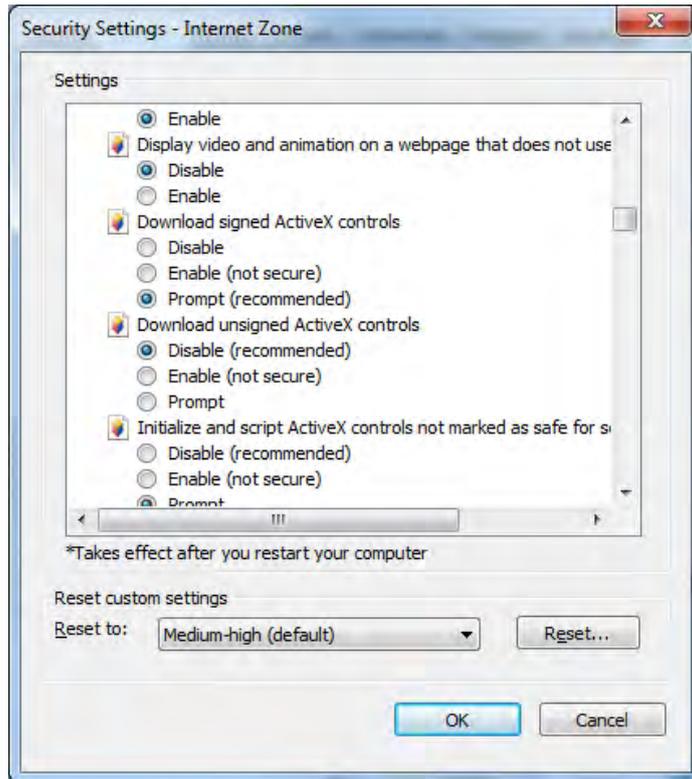
The following ActiveX control settings are prerequisites for Navigator installation.

To enable the settings:

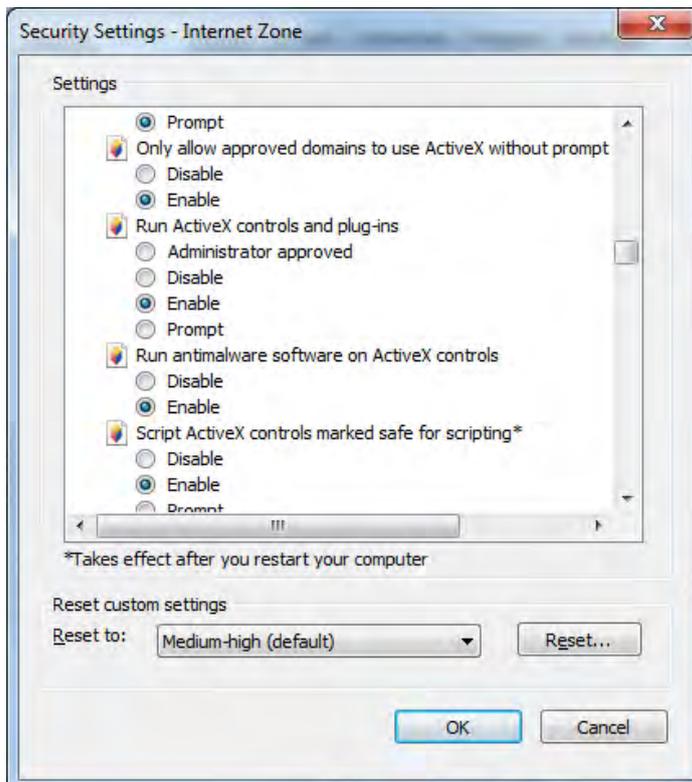
1. Open Internet Explorer.
2. Click the **Tools** menu, and then click **Internet Options**.
3. On the **Security** tab, click the **Custom level** button.
4. Scroll down and select the **Enable** radio button under **Automatic prompting of ActiveX controls**.



5. Select the **Prompt (recommended)** radio button under **Download signed ActiveX controls**.



6. Select the **Enable** radio button under **Run ActiveX controls and plug-ins**.



Windows 8 installation requirements

Navigator can be installed on Windows 8 platforms with the prerequisites below met before installation. Microsoft Windows 8 OS needs to fully support Microsoft SQL database drivers before the TruVision Navigator installation starts. Therefore, these prerequisites are required to make a system ready for TruVision Navigator installation.

Follow these instructions before installing Navigator in a client/server configuration on Windows 8 platforms:

Windows 8 without SQL installed:

- Must install all the important updates from Microsoft.
- Manually install WinPcap 4.1.2 before or after installing Navigator.
- Navigator installs SQL 2008 express if it does not detect SQL installed in the machine.

Windows 8 with SQL2008 Express R2 SP1 or SP2 installed:

- Must install all the important updates from Microsoft.
- Manually install WinPcap 4.1.2 before or after installing Navigator.
- Navigator allows the user to use existing SQL 2008 Express.

To make the WinPcap program compatible with Windows 8:

1. Right-click on the WinPcap.exe file and select **Properties**.
2. Click the **Compatibility** tab.
3. Select the **Run this program in compatibility mode for:** check box, select **Windows 7** from the drop-down list, and then click **Apply**.
4. Right-click on WinPcap.exe and select **Run as Administrator**.

Appendix B

Device details

Summary

This appendix contains important compatible device information.

TruVision Camera

Feature	Support	Notes
Supported Device(s)	TVB, TVC, TVD, TVE, TVF, TVW, TVP, UVP, RS (Interlogix Open Standard Cameras)	
H.265 Support	Depends on model (S4 or later)	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 80 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP Address	192.168.1.70	
Network Discovery	Supported	
Compression	H.264, H.265	
Connection Types	TCP UDP	
Streaming Limits	Depends on the actual device capabilities	
Stream Overlay	VCA Rules, Motion Rules, Camera Name, Date and Time	
High / Low Bandwidth	No	

Feature	Support	Notes
Dual Streaming	Yes	Depends on the actual device capabilities.
Stream Nomenclature	The Main stream is referred to as: TruVision Navigator = Main stream The Substream is referred to as: TruVision Navigator = Substream	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.
Digital Zoom	Live and Playback*	*For models that support SD cards.
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes*	*For models that support SD cards.
Disk Analysis	No	
Time Line Disk Analysis	Yes	
Video Export	Yes*	*For models that support SD cards.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes*	*For TVP and UVP models
Focus, Iris, Zoom	Yes*	*For TVP and UVP models
Presets	Yes*	*For TVP and UVP models
Tours	Yes*	*For TVP and UVP models
Camera Search	Alarm Event Motion VCA	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	No	
Health Diagnostics	Yes	
Firmware Upload	Yes	Via browser page.

Feature	Support	Notes
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.
Bulk Configuration	No	
Remote Reboot	Yes	
Device log support	Yes	Via browser page.
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	No	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	No	
Backup & Restore System Config	Yes	
Dual NIC	No	
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	No	

TruVision TVN71 / TVN70 / TVN21 / TVN22 / TVR12HD / TVR44HD / TVR45HD / TVR46 / TVR15HD

Feature	Support	Notes
Supported Firmware Versions	1.2 (TVN71) 1.2.j (TVN70) 1.0c (TVN11) 3.1.m (TVN21) 2.4 (TVN22) 1.2.g (TVR44HD/TVR12HD) 2.2 (TVR45HD) 1.0 (TVR46) 2.1 (TVR15HD)	
H.265 Support	Yes (TVN71 / TVN22 / TVR45HD (for IP cameras only)) Yes (TVR46) No (TVN70 / TVR44HD / TVR15HD / TVR12HD / TVN21)	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 80 (editable) Notifications = 5001 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264/H.265	
Connection Types	TCP UDP	
Streaming Limits	256 Live streams and 128 Playback streams (TVN71) 128 Live or Playback streams	
Stream Overlay	VCA Rules, Motion Rules, Camera Name, Date and Time	
POS Text	TVN21 (via RS-232) TVN22 (via RS-232 and IP) TVR45HD (only for analog cameras; via RS-232 and IP)	

Feature	Support	Notes
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	The Main stream is referred to as: TruVision Navigator = Main stream The Substream is referred to as: TruVision Navigator = Substream	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds directly depend on the actual device capabilities. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to live view.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, Server tab. As a result, this time should be set to an increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded VCA Text (except TVR45HD / TVR15HD)	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device. Video Loss is only supported for Analog Channels for TVR44HD / TVR12HD / TVR45HD / TVR15HD.
Time Line Disk Analysis	Yes	
Video Export	Yes	
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Yes	Dependent on camera and device.

Feature	Support	Notes
Camera Search	Alarm Event Motion Text VCA	
Smart Search	Yes	
Point-of-Sale Text	Yes	
Motion	Yes	
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss (TVR44HD / TVR12HD / TVR45HD / TVR46 / TVR15HD) Motion VCA Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. For each notification type on the Notification tab, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>

Feature	Support	Notes
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	Via browser page.
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.
Bulk Configuration	No	
Remote Reboot	Yes	
IP Camera Support	Yes (TruVision) Onvif	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	Yes (TVR46, TVN71, TVN22, TVR15HD, TVR45HD)	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	Yes	Newer NVRs
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	

Feature	Support	Notes
Backup & Restore System Config	Yes	
Dual NIC	Yes	Depends on model
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	Yes (TVR46, TVN71, TVN22, TVR15HD, TVR45HD)	

TruVision TVN 11

Feature	Support	Notes
Supported Firmware Versions	1.0e	
H.265 Support	Yes	
Default Ports	Video = 554 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) RTSP = 554 (editable)	
Default Username / Password	N/A	Activation required
Default IP address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264, H.265	
Connection Types	TCP UDP	
Streaming Limits	128 Live streams or Playback streams	
Stream Overlay	VCA Rules Motion Rules Camera Name Date and Time	
High / Low Bandwidth	No	

Feature	Support	Notes
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Sub stream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Sub stream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds not supported. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to live view.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	
Disk Analysis	Alarm Motion Recorded VCA Text	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	

Feature	Support	Notes
Presets	Yes	
Tours	Yes	Dependent on camera and device.
Camera Search	Alarm Event Motion Text VCA	
Smart Search	Yes	
Point-of-Sale Text	No	
Motion	Yes	
Audio	Yes	
Bi-directional Audio	Yes	
Notifications	Alarm Motion VCA Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. For each notification type on the Notification tab, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>

Feature	Support	Notes
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	Via browser page.
Bulk Firmware Upload	No	
Device Configuration	Yes	Via browser page.
Bulk Configuration	No	
Remote Reboot	Yes	
IP Camera Support	Yes (TruVision) Onvif	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	Yes	
Sync Playback	Yes	
Get Thumbnail	Yes	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	Yes	
HTTPS	Yes	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	

Feature	Support	Notes
Backup & Restore System Config	Yes	
Dual NIC	Yes	
DDNS	Yes	
Mobile App	Yes (TVRMobile)	
RTSP Live	Yes	
RTSP Playback	Yes	
Thumbnail Search	Yes	

TruVision TVN10/20/50 (NVR)

Feature	Support	Notes
Supported Firmware Versions	2.1n (TVN 10, 10S, 10CS) 3.2a (TVN 20) 2.2i (TVN 50)	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234 or no default Activation required (TVN10)	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	TVN 10: 64 Live or Playback streams including those used by the web page. TVN 20: 48 Live or Playback streams simultaneously with a maximum of six streams per channel. TVN 50: 128 Live or Playback streams including those used by the web page.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.

Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (2x,4x,8x,16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x 4x)	Frame Reverse and Rewind Speeds are not supported in TVN10 and TVN20 . Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will automatically switch to Live view.
Digital Zoom	Live & Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, Server tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged (TVN 10/TVN 20 only)	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	Yes (TVN50 only)	
Point-of-Sale Text	Yes (TVN50 only)	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration, and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To setup the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To setup the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	Yes	
Device Log Support	Yes	

Feature	Support	Notes
Trigger Outputs	Yes (TVN10 / TVN50 only)	
Fisheye Dewarp	Yes (TVN10 / TVN50 only)	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	Yes (TVN10 only)	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

TruVision TVR10 (DVR)

Feature	Support	Notes
Supported Firmware Versions	2.7	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at the time of installation.
Default IP address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.

Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Main stream TruVision Navigator = Main stream The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream	Event Stream is not supported on the device.
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x 16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame reverse and rewind speeds are not supported. Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, Server tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.

Feature	Support	Notes
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris Control	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There is one audio input per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration, and enabling the audio option for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio plays.
Bi-directional Audio	No	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. For each notification type on the Notifications tab, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p>

Feature	Support	Notes
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device log support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Sync Playback	No	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Network Storage	Yes	

Feature	Support	Notes
Backup & Restore System Config	Yes	
Dual NIC	No	
DDNS	No	
Mobile App	Yes	
RTSP Live	No	
RTSP Playback	No	
Thumbnail Search	No	

TruVision TVR11 / TVR12 (DVR)

Feature	Support	Notes
Firmware Versions	3.1.b (TVR11/11C) 1.2.d (TVR12/12C)	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	64 Live or Playback streams including those used by the web page.	
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	

Feature	Support	Notes
Dual Streaming	Main streams and substreams are available on live view mode only.	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x, 4x) - Eight videos simultaneously	<p>Video jumps back four seconds after resuming playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or live video), the video automatically switches to live view.</p>
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	
Instant Replay	Yes	<p>There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration on the TruVision Navigator Server Properties tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.</p>

Feature	Support	Notes
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	Yes	
POS Text	Yes	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are four audio inputs per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration, and enabling the audio option for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio plays.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. On the Notifications tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	

Feature	Support	Notes
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	Yes	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	
Thumbnail Search	No	

TruVision TVR40 (DVR)

Feature	Support	Notes
Supported Firmware Versions	3.2.d	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	Administrator / 3477	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	

Feature	Support	Notes
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Schedule Web Browser = Main stream TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = Event Web Browser = Event TruVision Navigator = Event</p> <p>The Time Lapse stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Time Lapse</p>	<p>The Substream, Event, and Time Lapse streams are derivative configurations of the Main stream. Typically, the Main stream is recorded on a schedule, the Event stream is recorded on Event, the Time Lapse stream is recorded continuously, and the Substream can be viewed Live.</p>
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x 16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	<p>Frame Reverse and Rewind Speeds are not supported.</p> <p>Video jumps back four seconds after resume playback from Fast Forward and Frame Advance.</p> <p>When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.</p>
Digital Zoom	Live and playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. After the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration on the TruVision Navigator Settings window, Server tab. As a result, this time should be set to an increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	No	
Point-of-Sale Text	Yes	Overlay on video only. To display POS data on top of the camera view, right-click on the POS-configured camera's video tile and select POS Mode > In Band .
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.

Feature	Support	Notes
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration, and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	

Feature	Support	Notes
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

TruVision TVR41 / TVR42 (DVR)

Feature	Support	Notes
Supported Firmware Versions	3.0c (TVR 41) 1.2d (TVR42)	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.

Feature	Support	Notes
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	64 Live or Playback streams simultaneously including those used by the web alarm.	
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x, 4x, 8x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x) Rewind (1x, 2x, 4x) -8 simultaneously	Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile remains paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.
Digital Zoom	Live & Playback	
Snapshot	Yes	

Feature	Support	Notes
Local Record	Yes	
Instant Replay	Yes	
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 15-45 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion Text	
Smart Search	Yes	Browser only
Point-of-Sale Text	Yes	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are four audio inputs per device. That input can be mapped to any camera on the device simply by enabling audio on that camera. Access the setting by going to the device configuration, and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart the Notification Processor service for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	

Feature	Support	Notes
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

TruVision TVR60 (Hybrid DVR)

Feature	Support	Notes
Supported Firmware Versions	4.7a	
Support H.265	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	admin / 1234	We recommend changing this default password at time of installation.
Default IP Address	192.168.1.82	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	

Feature	Support	Notes
Streaming Limits	48 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = Alarm Web Browser = Alarm TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = N/A Web Browser = Event TruVision Navigator = Event</p> <p>The Schedule stream is referred to as: On-Screen-Display = Schedule Web Browser = Schedule TruVision Navigator = Schedule</p>	
Playback Controls	Play Pause Frame Advance Fast Forward (1x, 2x,4x, 8x,16x) Slow motion (1.0x, 0.5x, 0.25x, 0.125x, 0.0625x)	Frame Reverse, Rewind, and Playback Speeds are not supported. Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will remain paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.
Digital Zoom	Live & Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those two features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, Server tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded Untagged	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45 to 90 seconds depending on the amount of recorded data on the device.
Timeline Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera).
Camera Search	Alarm Event Motion	
Smart Search	No	
Point-of-Sale Text	No	
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration, and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.

Feature	Support	Notes
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To setup the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notification tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To setup the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. On the Notification tab, for each notification type, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	Yes	
Device Log Support	Yes	

Feature	Support	Notes
Trigger Outputs	Yes	
Fisheye Dewarp	N/A	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	Yes	
Sync Time (NTP)	Yes	

DVSRxU

Feature	Support	Notes
Supported Firmware Versions	2.31s	
H.265 Support	No	
Default Ports	Video = 8000 (editable) Command and Control = 8000 (editable) Configuration = 8000 (editable) Notifications = 5001 (editable) Firmware Upload = 8000 (editable)	
Default Username / Password	Administrator / 3477	We recommend changing this default password at time of installation.
Default IP address	192.168.1.10	
Network Discovery	Supported	
Compression	H.264	
Connection Types	TCP UDP	
Streaming Limits	24 Live or Playback streams simultaneously with a maximum of six streams per channel.	If users try to open more streams than a recorder supports, they will get a black video tile containing an error message.

Feature	Support	Notes
Stream Overlay	Camera Name Date and Time	
High / Low Bandwidth	No	
Dual Streaming	Yes	
Stream Nomenclature	<p>The Main stream is referred to as: On-Screen-Display = Schedule Web Browser = Main stream TruVision Navigator = Main stream</p> <p>The Substream is referred to as: On-Screen-Display = N/A Web Browser = Substream TruVision Navigator = Substream</p> <p>The Event stream is referred to as: On-Screen-Display = Event Web Browser = Event TruVision Navigator = Event</p> <p>The Time Lapse stream is referred to as: On-Screen-Display = Time Lapse Web Browser = Time Lapse TruVision Navigator = Time Lapse</p>	<p>The Substream, Event, and Time Lapse streams are derivative configurations of the Main stream. Typically, the Main stream is recorded on a schedule, the Event stream is recorded on Event, the Time Lapse stream is recorded continuously, and the Substream can be viewed Live.</p>
Playback Controls	Play Pause Frame Advance Fast Forward (2x, 4x)	<p>Frame reverse, rewind, and playback speeds are not supported.</p> <p>Video jumps back four seconds after resume playback from Fast Forward and Frame Advance. When fast forwarding video and it catches up to present time (or Live video), the video in the viewing tile will remain paused until the user clicks the Live button in the Controller. No other playback controls will work until the Live button is selected.</p>
Digital Zoom	Live and Playback	
Snapshot	Yes	
Local Record	Yes	Pause during local record is not supported.

Feature	Support	Notes
Instant Replay	Yes	There is a two to five minute video buffer in the device. While video is in the buffer, it cannot be viewed. Once the buffer fills, the video is written to the hard drive and is available for playback. This affects Instant Replay and the Playback button in TruVision Navigator. Those features get their time increment from the user-defined Instant Replay configuration in the TruVision Navigator Settings window, Server tab. As a result, set this time increment to greater than five minutes. If a search is executed for video still in the buffer, Live video appears.
Disk Analysis	Alarm Motion Recorded	Video Loss is not supported in disk analysis. Disk analysis takes approximately 45-90 seconds depending on the amount of recorded data on the device.
Time Line Disk Analysis	Yes	
Video Export	Yes	There will be approximately four seconds of additional video exported prior to the specified start time.
TruVision Navigator Player	Yes	.mp4 proprietary file format.
PTZ Control	Yes	
Focus, Iris, Zoom	Yes	PTZ protocol GE RS-485 does not support Focus and Iris commands in this release.
Presets	Yes	
Tours	Go To Record	Only one tour is supported (which is hard coded to Tour 1 on the PTZ camera)
Camera Search	Alarm Event Motion Text	
Smart Search	No	
Point-of-Sale Text	Yes	Overlay on video only. To display POS data on top of the camera view, right-click on the POS-configured camera's video tile and select POS Mode > In Band .
Motion	Yes	Get the configuration for this device via TruVision Navigator and set the active zones on a per camera basis via the Motion Configuration option associated with each camera.

Feature	Support	Notes
Audio	Yes	There are 16 audio inputs per device (one per channel). Enabling audio on the device is a per channel setting. Access the settings by going to the device configuration and enabling the audio option on the Recording tab for each camera. If enabled, as soon as any camera from the device is added in the TruVision Navigator Viewer and selected, the audio will play.
Bi-directional Audio	Yes	
Notifications	Alarm Video Loss Motion Disk Full Disk Failure	<p>To set up the device to send TCP notifications for cameras, right-click on the device in the Navigator and select Configure Device. On the Camera tab's Event Section, select the events and set the schedules as appropriate. On the Camera tab's Rules Section, for each event type, ensure that "notify me" is selected. Repeat for each event type. On the Notifications tab, the Notify IP Address should be the IP address of where the TruVision Navigator Server services are located (Notification Writer and Notification Processor). The Notify Port is defaulted to 5001 and is editable. Ensure this port matches the one listed in the TruVision Navigator Settings window, Notifications tab.</p> <p>To set up the device to send TCP notifications for the device itself (e.g., Disk Full and Disk Failure), right-click on the device in the Navigator and select Configure Device. For each notification type on the Notification tab, ensure that "notify me" is selected. Repeat for each notification type and click Save. Ensure the notification port on the device matches that of TruVision Navigator Server as described above.</p> <p>Restart both the Notification Writer and Notification Processor for TruVision Navigator to process the notifications.</p> <p>Email notification is not supported at the device-level.</p>
Health Diagnostics	IP Address MAC Address Model Name Serial Number Firmware Version Device Date/Time Total Device Health HDD Status HDD Capacity Cameras in Video Loss Cameras in Alarm Current Client Connections Record Status	

Feature	Support	Notes
Firmware Upload	Yes	
Bulk Firmware Upload	Yes	
Device Configuration	Yes	
Bulk Configuration	Yes	
Remote Reboot	Yes	
IP Camera Support	N/A	
Device Log Support	Yes	
Trigger Outputs	Yes	
Fisheye Dewarp	No	
Get Thumbnail	No	
Change IP	Yes	
Activate	No	
Reset Password	Yes	
Change Password	Yes	
Excel Configuration Push	No	
HTTPS	No	
Reset Factory Default	No	

Capabilities (Properties dialog)

Right-click on a first-generation recorder in the Navigator panel and select **Properties** to display the Properties window.

The **Capabilities** tab contains a read-only list that indicates which video, camera, and device controls as well which connection types are supported.

Glossary

Term	Definition
360° camera	360°cameras produce an ultra-wide field of view image.
Access control	Physical restriction to access or entry. Requiring a security badge to open a door is an example of access control.
Address book	A file containing the title, IP address, and credentials of recorders and cameras in the Navigator panel. This data can be imported or exported into Navigator as needed to save and restore these settings.
Bookmark	Denotes a date and time on the timeline that can be returned to quickly. Bookmarks contain editable information for describing an event. See also “timeline” and “bookmark manager.”
Bookmark manager	The Bookmark Manager window is a central location that contains all device-level bookmarks. See also “bookmark.”
Dewarping	Fisheye cameras produce an ultra-wide field of view image which looks round and distorted. To make the image usable, the image needs to be flattened out (dewarped).
Digital output	Alarm output icons for recorders and cameras that appear in the Configure Map window, can be dragged onto maps, and triggered on or off.
DVR	Digital Video Recorder. A type of security footage recorder connected to analog or coaxial cameras.
Dwell time	A user-selectable amount of time that a PTZ camera remains at a preset before the camera moves to the next preset position.
Intrusion area	Icons that appear under the intrusion detection node in the Navigator panel that indicate if an intrusion area defined in an intrusion panel is disarmed, armed in stay mode, or armed in away mode.
Intrusion sensor	Intrusion sensors indicate the opened/closed state of a door or window. For motion sensors, they appear as “opened” when motion is being sensed.
IP camera	A digital video camera that connects directly to the network with its own IP address and has the ability to transmit images using a standard communications protocols such as TCP/IP.
Logical event filtering	Logical event filtering provides a way to create customized, interdependent notifications from cameras connected to recorders as well as doors connected to TruPortal access control systems.

LPR	License plate recognition. A camera function that permits automatic reading of license plates of passing vehicles.
Main stream	The video or audio stream that has priority. See also "substream".
NTP	Network Time Protocol. This synchronizes the time and date of a device with an NTP server.
NVR	Network Video Recorder. A type of security footage recorder connected to IP cameras.
Object counting	Refers to the number of people or objects detected passing either direction across a virtual line drawn by the user in the camera configuration UI.
POS	"Point-of-sale" as in a POS terminal. Examples: electronic cash register or an ATM.
Preset	A preconfigured action for a dome camera that will run automatically after a defined dwell time.
ProBridge	The ProBridge is a text translation device that captures an ATM's transaction data and translates it to a format that can be interpreted by a DVR.
PTZ	Pan/Tilt/Zoom. A feature on cameras that can pan, tilt, and zoom via computer control. PTZ allows for a larger viewing area for a camera by allowing it to rotate in different directions.
Server offline mode	Mode of operation in which the Navigator client can still operate in a client/server configuration when the server is offline. Some configuration options are not available in server offline mode.
Sequence	A series of camera streams that are programmed to switch, rotating one after another, in an individual video tile.
SMTP	Simple Mail Transfer Protocol. A standard for e-mail transmission across the network.
Substream	A secondary video stream that is set at a lower quality setting to reduce the amount of bandwidth needed. See also "main stream".
Timeline	A graphical view of video over an interval of time that allows users to navigate through recorded videos.
Trigger alarm output	A method used to notify when an alarm or event has occurred. An external alarm output is triggered when an event occurs.
Tour	A series of checkpoints assigned in a specific sequence with times assigned to reach each point.
VCA	Video Content Analytics. The intelligent analysis of video to detect events of interest.
V-Stream	When available bandwidth is limited, V-stream encoding allows you to remotely view several channels in real time over the web browser.

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