

VantageNext VMS Compatibility App Note



© 2020 ITERIS, INC.

All rights reserved. No parts of this work may be reproduced in any form or by any means - graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems - without the prior written permission of Iteris, Inc.

Products that are referred to in this document may be either trademarks and/or registered trademarks of the respective owners. The publisher and the author make no claim to these trademarks.

While every precaution has been taken in the preparation of this document, the publisher and the author assume no responsibility for errors or omissions, or for damages resulting from the use of information contained in this document or from the use of programs and source code that may accompany it. In no event shall the publisher and the author be liable for any loss of profit or any other commercial damage caused or alleged to have been caused directly or indirectly by this document.

The information contained in this document is subject to change without notice.

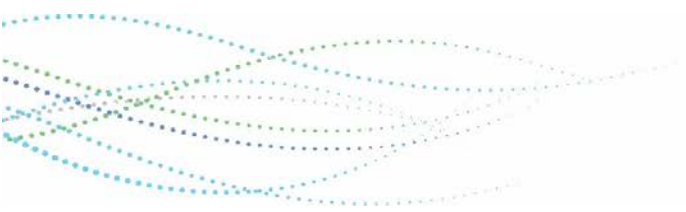
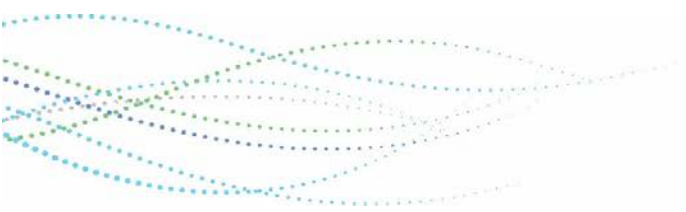


TABLE OF CONTENTS

1	Introduction	4
1.1	Minimum Requirements	4
1.2	VMS Systems	4
2	Generic RTSP	5
3	Genetec Security Center/Omnicast	6
3.1	VMS License Requirements.....	11
3.2	Releasing Unused Stream Licenses	11
4	Milestone XProtect	17
5	Digital Watchdog Spectrum	26
6	Panasonic Video Insight	32

TABLES

Table 1 – Generic RTSP String Format.....	5
Table 2 – Genetec Camera Identifier	8
Table 3 – Milestone Camera Identifier.....	23
Table 4 – Digital Watchdog Camera Identifier.....	31
Table 5 – Panasonic Camera Identifier	36



1 INTRODUCTION

Displaying streaming video from Vantage detection systems has always been beneficial to end-users to remotely monitor traffic conditions and to monitor system performance. VantageNext systems have employed methods to facilitate easy integration with popular Video Management Systems (VMS) using Real Time Streaming Protocol (RTSP) and Open Network Video Interface Forum (Onvif) standards over Ethernet connections.

This application note provides guidance on how to setup various VMS's for receiving and displaying video streams from VantageNext systems.

Note that the VantageNext system does not stream video on its own. The Onvif negotiation process provides the VMS with the URI for each stream. The URI's are what the VMS use to request streams from the VantageNext system. Therefore, it is the VMS that regulates the number of active streams via stream licenses.

1.1 Minimum Requirements

VantageNext firmware version 09.02.22SP4C (for Onvif capabilities).

1.2 VMS Systems

- A. Generic RTSP
- B. Genetec Security Center/Omnicast (Version 5.8)
- C. Milestone XProtect (Version 2020R1)
- D. Digital Watchdog Spectrum (Version 4.0)
- E. Panasonic Video Insight (Version 7.5.4.14)

2 GENERIC RTSP

The VantageNext system’s streaming video engine employs a RTSP server. Four independent streams for each VantageNext video input are available in addition to a fifth stream which serves a quad (2x2) image of all four VantageNext video inputs. In order to get the quad stream, the VantageNext CCU must be connected to two detection processors (DP’s). Each DP supports two video inputs and with two DP’s, four video inputs are supported. On a single DP VantageNext system, a quad stream is not available.

Individual streams can be sent to various video management systems or video streaming players such as VLC from VideoLan. To acquire a video stream, the video management system or video stream player must request the stream using the following RTSP format string.

Table 1 – Generic RTSP String Format

Video Source	RTSP String Format
Camera 1	rtsp://[IP Address]:554/1
Camera 2	rtsp://[IP Address]:554/2
Camera 3	rtsp://[IP Address]:554/3
Camera 4	rtsp://[IP Address]:554/4
Quad Image of Cameras 1 to 4	rtsp://[IP Address]:8554/1

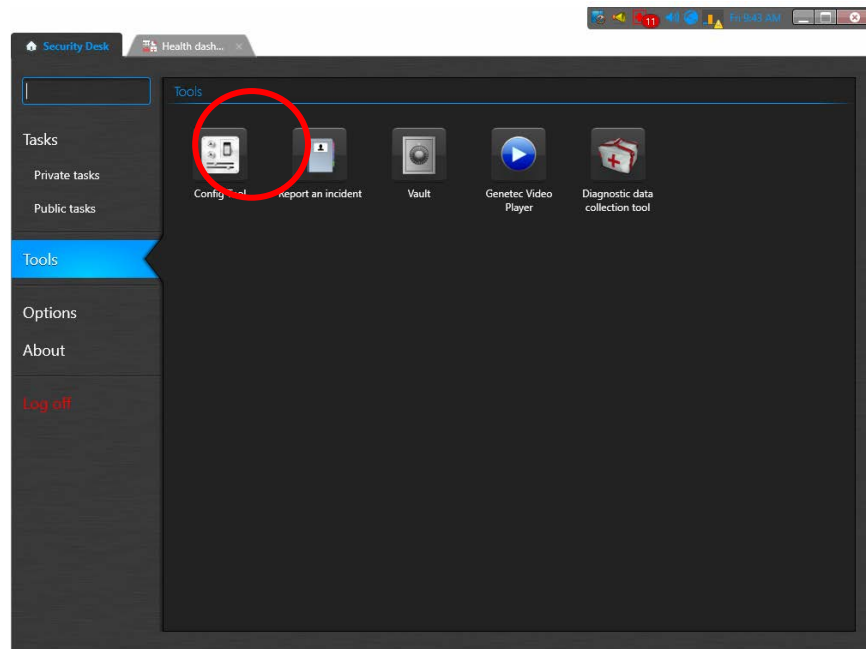
The IP Address is the address of the VantageNext system. Port 554 is the default control port number for RTSP and at times not required. However, any port other than the default (port 554) must be specifically specified. The quad stream uses port 8554 so it must be explicitly entered in the RTSP request.

Additionally, VantageNext systems stream video using RTP over RTSP (TCP) streaming transport. Many streaming video display systems automatically detect this type of streaming transport but if streaming video is not shown properly, the user may have to specifically select this type of streaming transport option within the streaming video display application.

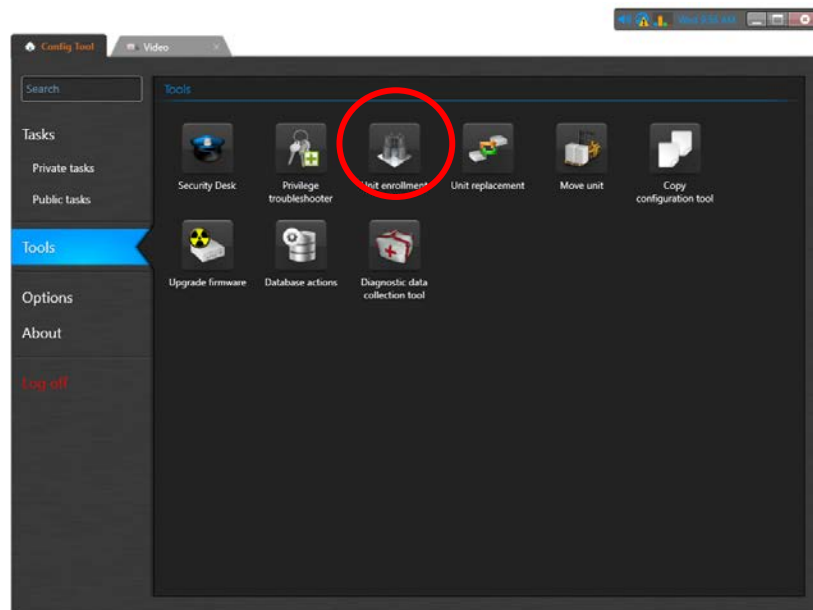
When video management systems or streaming video players support Onvif, the negotiation between VantageNext and the video player automatically configures the player. During Onvif negotiation process, VantageNext systems send the appropriate RTSP universal resource identifier (URI) or RTSP string without having the user enter the RTSP string manually.

3 GENETEC SECURITY CENTER/OMNICAST

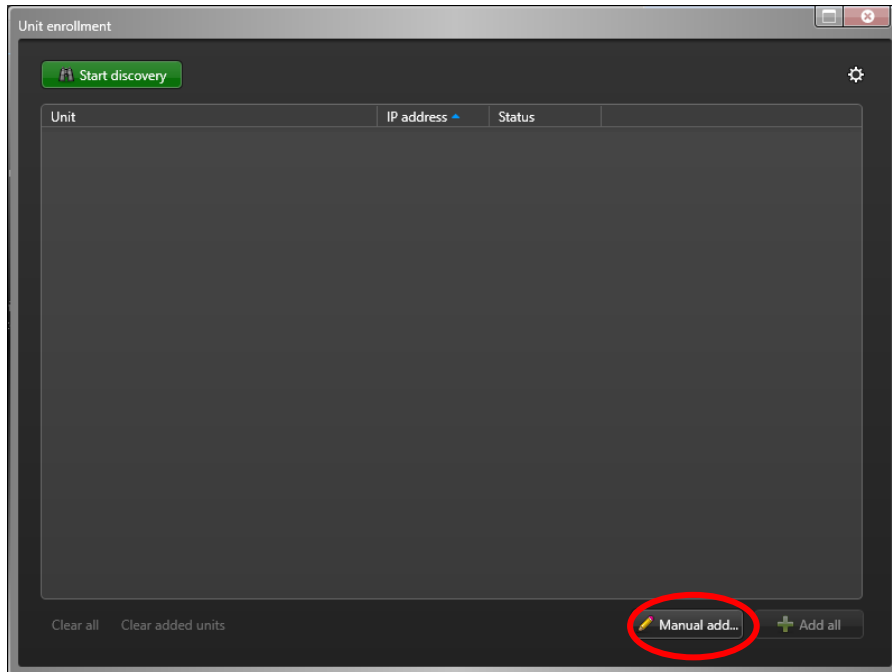
Once Genetec’s Security Desk is running, launch the “Configuration Tool” under the “Tools” tab. The Configuration Tool is used to add streaming video hardware to the system database.



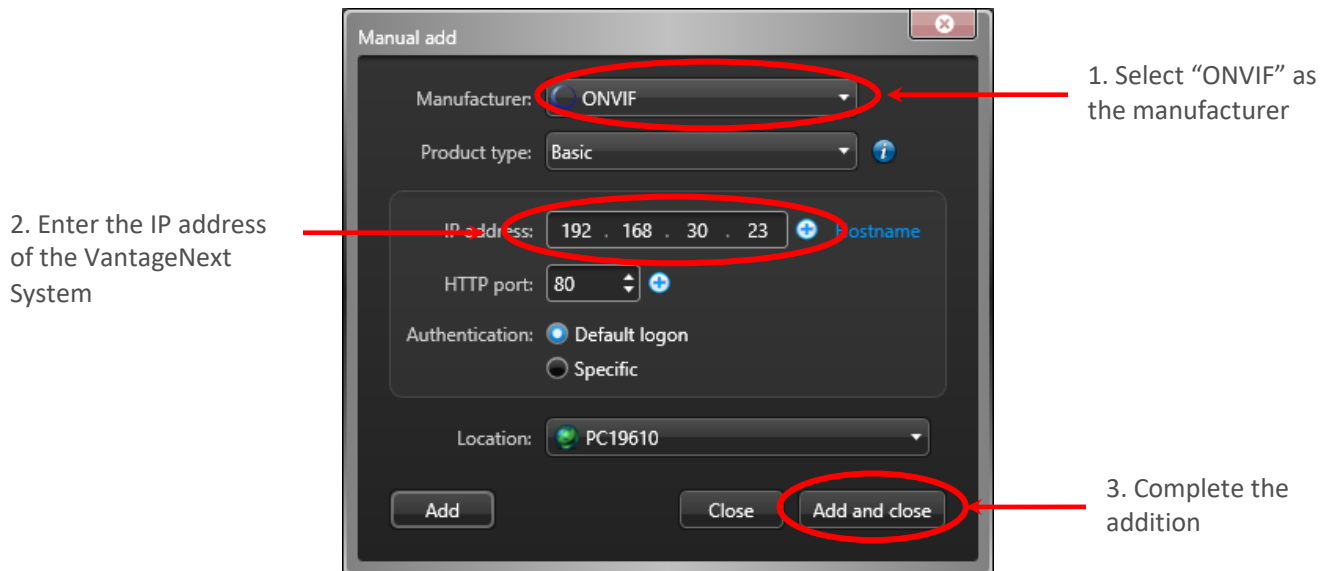
Once the Configuration Tool is launched, select the “Unit Enrollment” icon.



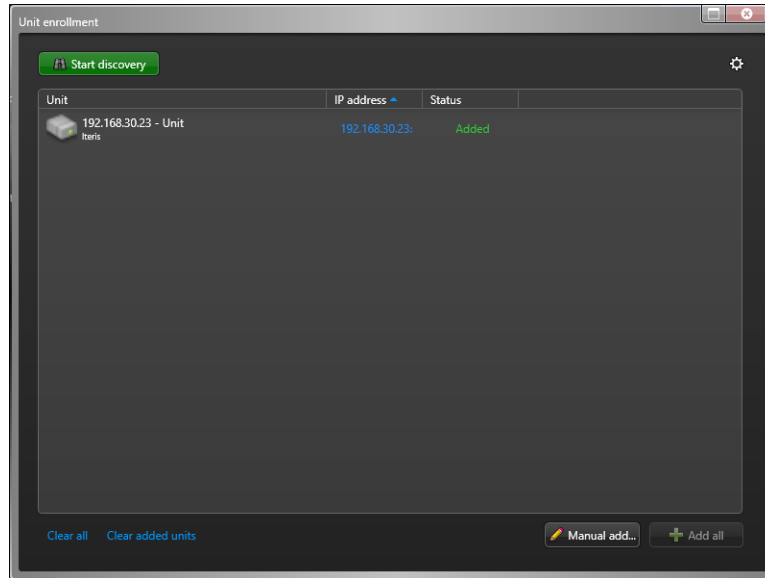
Once “Unit Enrollment” icon is selected, a new window will appear. Then select the “Manually add” button.



Once selected, a generic video configuration panel is displayed. Appropriate fields must be edited in order for the system to discover the desired VantageNext system.



Once a system is added, close the panel and the following window should show the added VantageNext system.

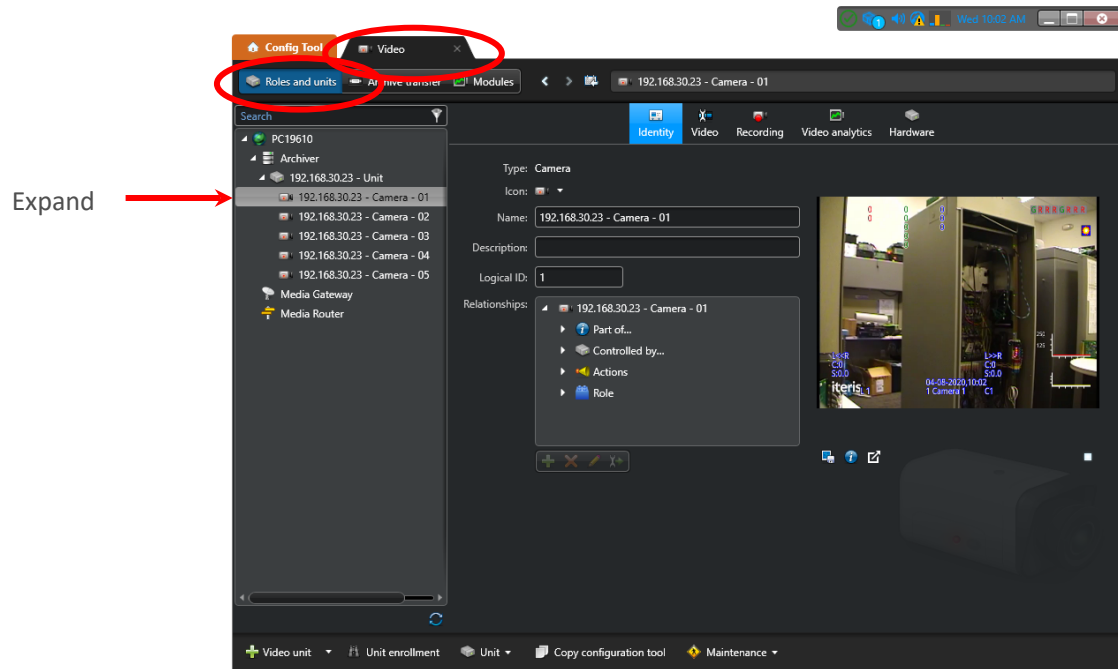


Once that the unit has been added, close the window by clicking on the “X” in the upper right corner of the window. Once this window closes, go back to the Configuration Tool and select the “Video” tab at the top. Also make sure “Roles and units” is selected in the secondary level of tabs at the top. Individual camera inputs can be seen once the list is expanded on the particular VantageNext unit.

Individual camera descriptions can be changed by selecting the desired camera. The default names are listed below. Camera 5’s name can be changed to “Quad” if desired.

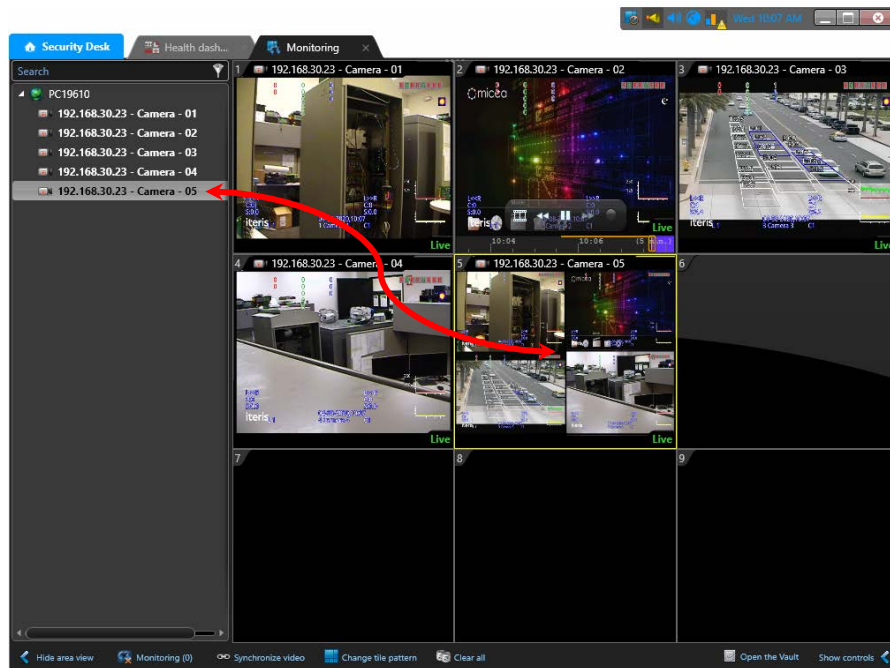
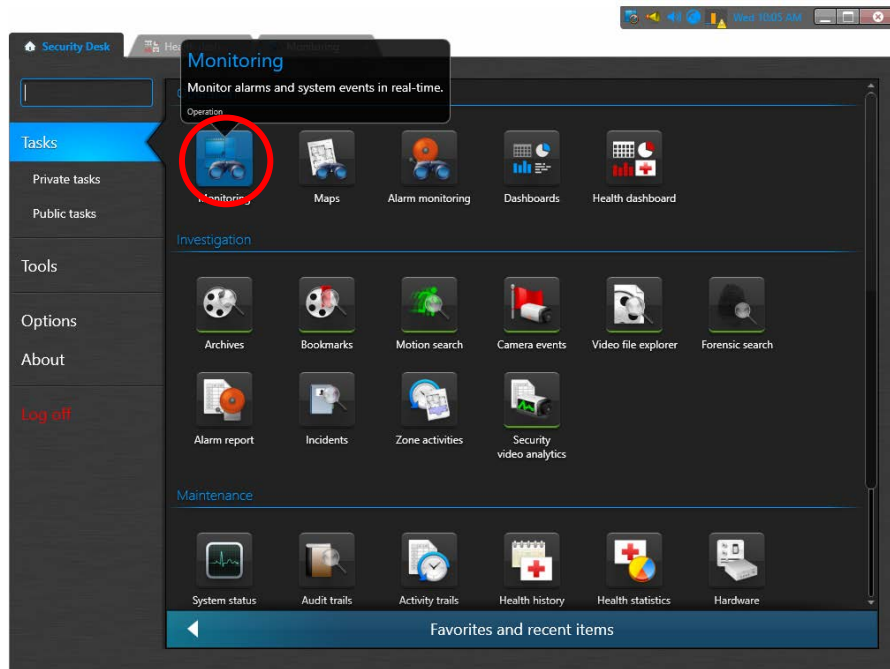
Table 2 – Genetec Camera Identifier

Default Camera Identifier	VantageNext Camera
Camera – 01	Camera 1
Camera – 02	Camera 2
Camera – 03	Camera 3
Camera – 04	Camera 4
Camera – 05	Quad Image of Cameras 1 to 4



Once all desired changes are made, close the window by clicking on the “X” in the upper right corner of the window.

Go back to the Security Desk window and select “Tasks” and then the “Monitoring” icon and select the desired video display format (e.g. 3x3 display). Each camera listed in the list on the left can then be dragged and dropped into the desired display location.

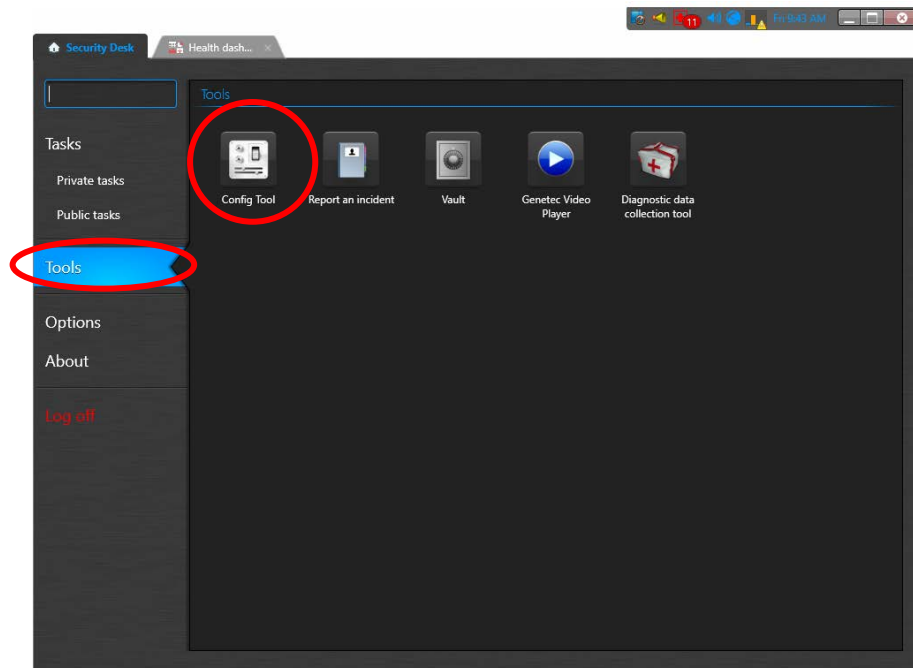


3.1 VMS License Requirements

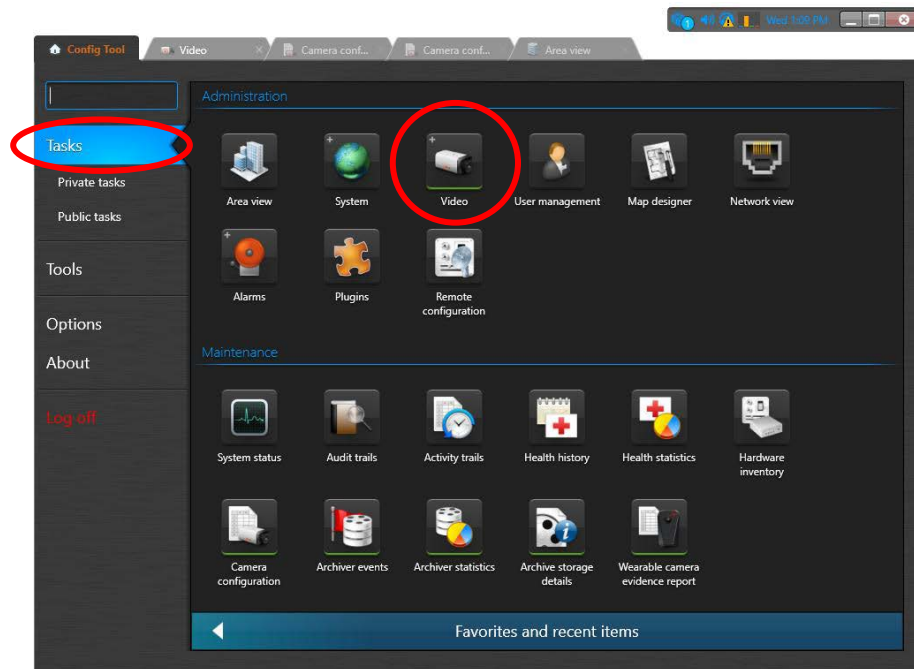
Video Management Systems are deployed with specific number of licenses based on the number of streams. Many VMSs have the capability to disable unused streams from a multi-stream device, thus decreasing the need of the number of licenses. Some VMSs allow the user to select which stream to add to their system during the hardware discovery processes but before adding the streams to the database. However, Genetec requires the user to add the streams first (using available licenses) and then allows the user to disable unused streams releasing licenses. This application note describes how to release unused stream licenses from Genetec Security Center/Omnicast (Version 5.8).

3.2 Releasing Unused Stream Licenses

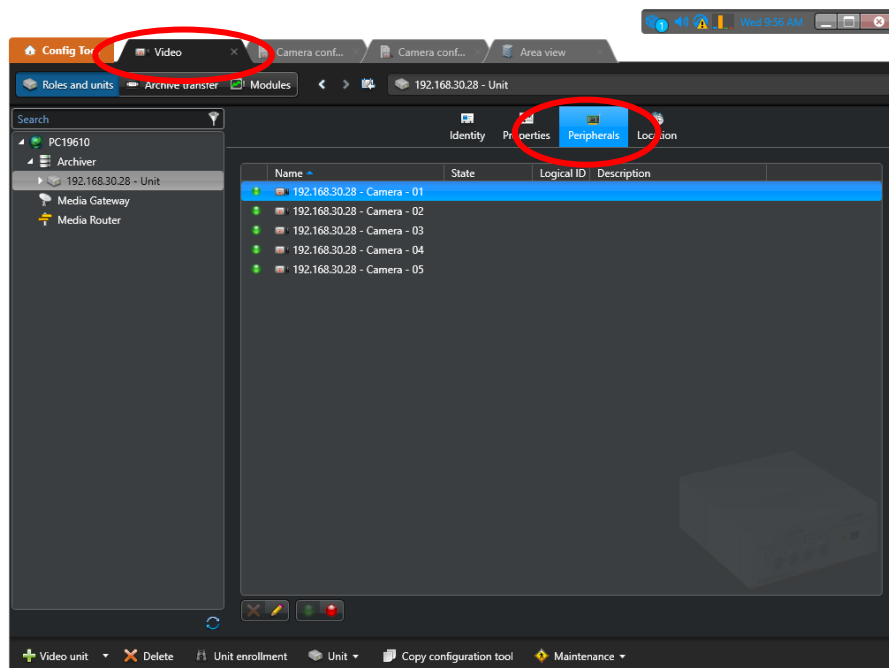
Once a fielded VantageNext system has been added to Genetec Omnicast, open the Configuration Tool under the Tools tab.



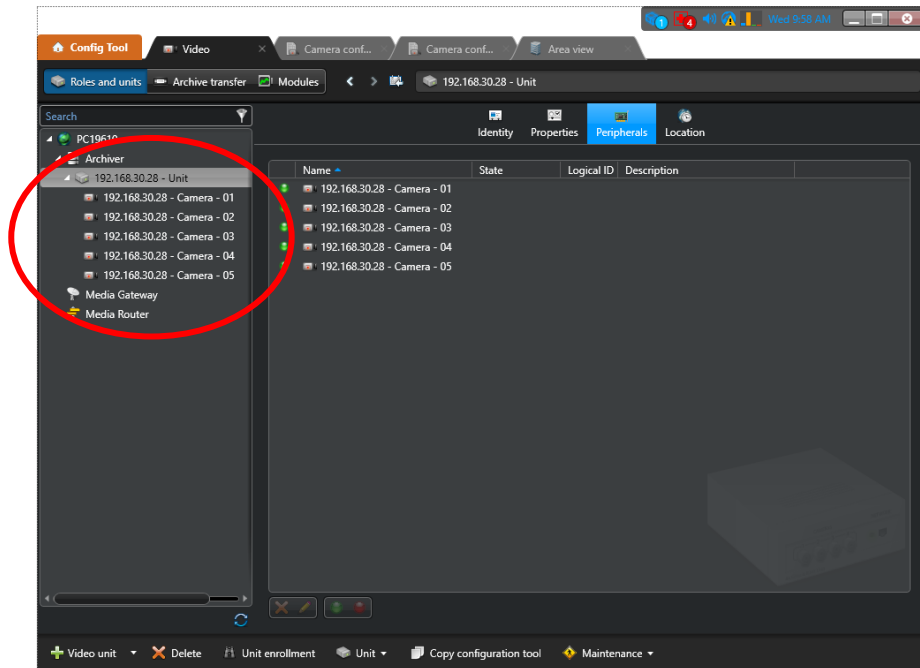
Once into the Configuration Tool, select the Video icon under the Tasks tab.



Once the Video tab is displayed, select the Peripherals button in the upper part of the window.

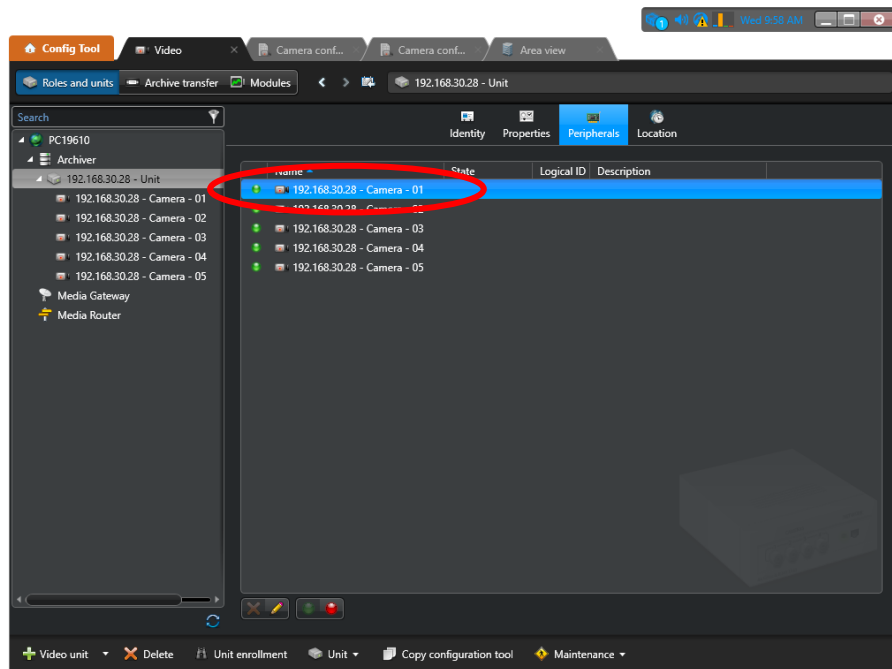


Expand the elements for the VantageNext platform under the Archiver element in the list tree on the left to display all available streaming channels. At this point, Genetec is using 5 streaming licenses.

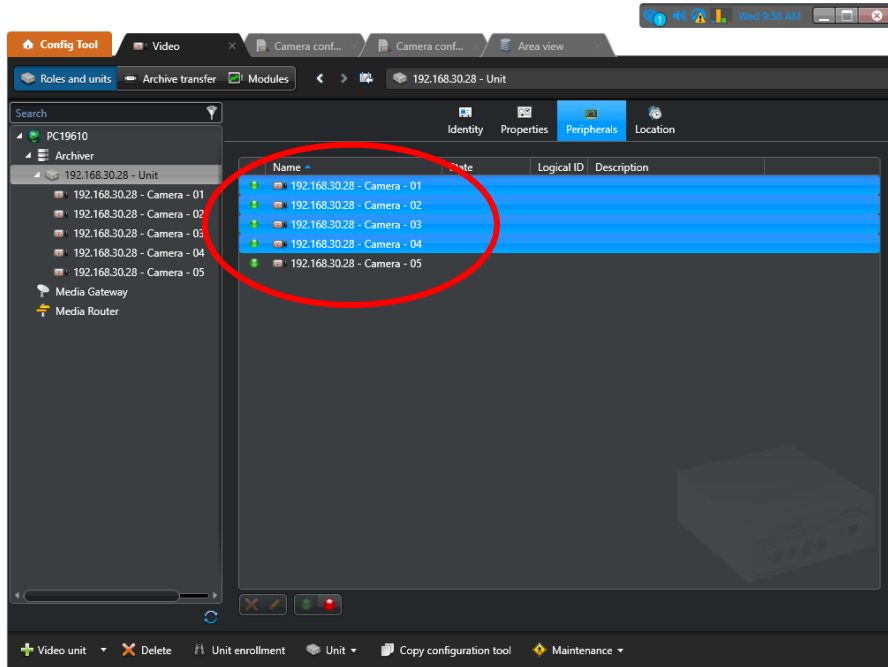


Select a single (or multiple as desired) video inputs. Once selected, the video input(s) will be highlighted.

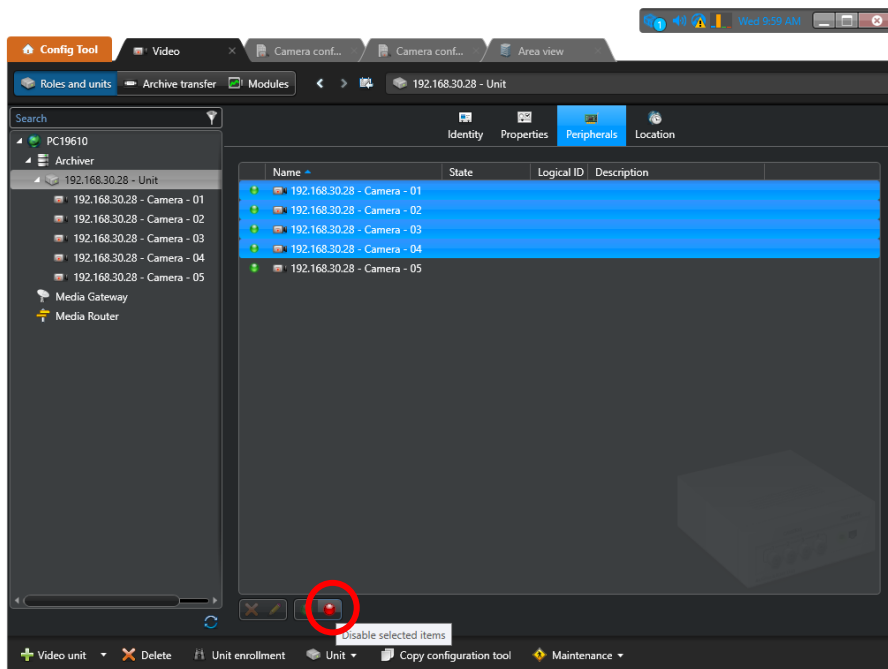
Single Video Input Selected



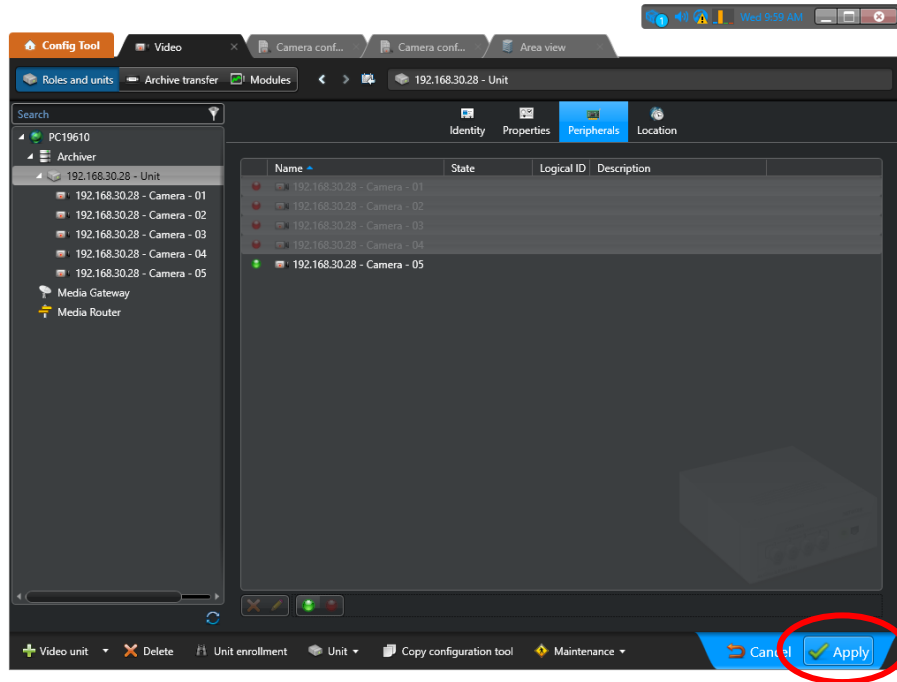
Multiple Video Inputs Selected



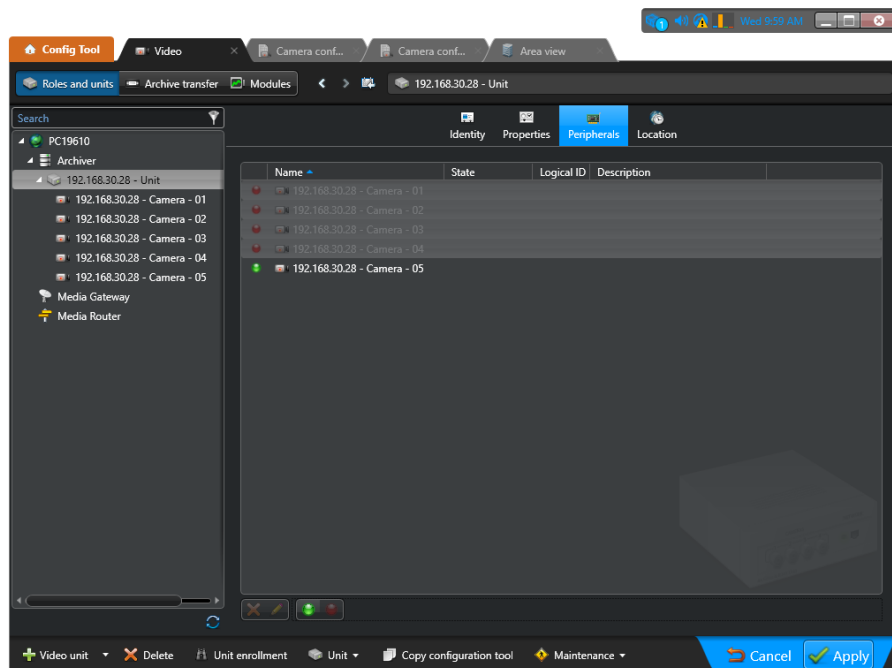
Once highlighted, click on the “red ball” at the bottom of the window to disable the selected video input stream.



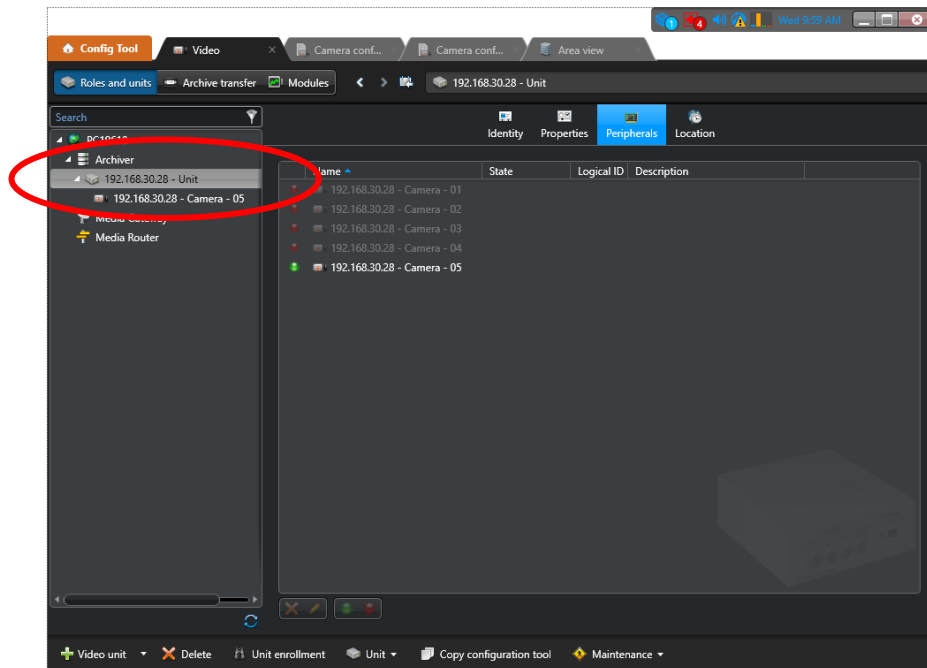
Then click on the Apply button on the bottom.



While the system is updating the database, the selected elements may change color.



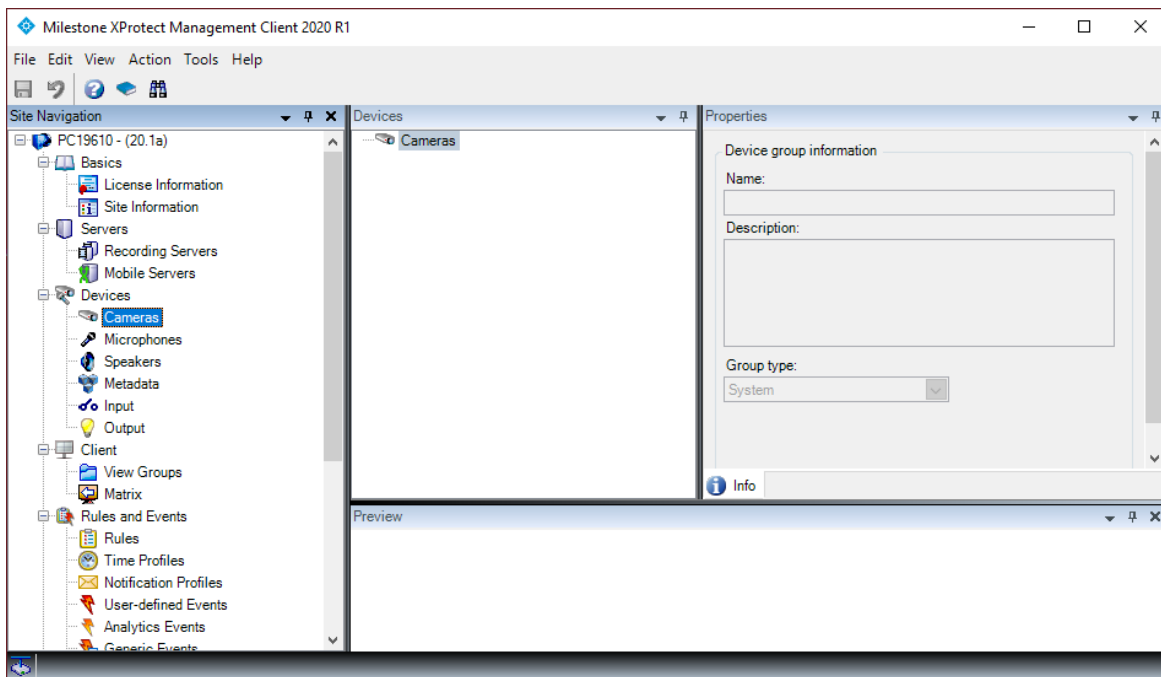
Once the database update is complete, the list tree on the left will show the remaining active video stream or streams. In this example, only one video stream remains, thus using only one stream license. So the initial use of 5 stream licenses is now reduced to one.



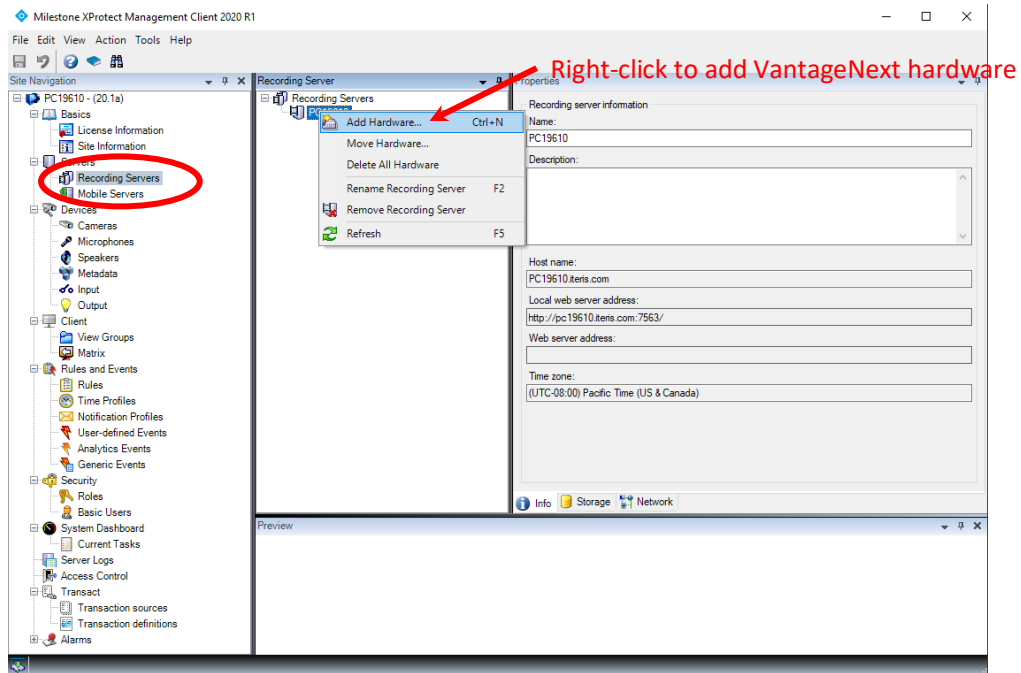
Once the process is complete, the Monitor screen will be updated to only show active streams and the user can now drag and drop the stream onto a display location.

4 MILESTONE XPROTECT

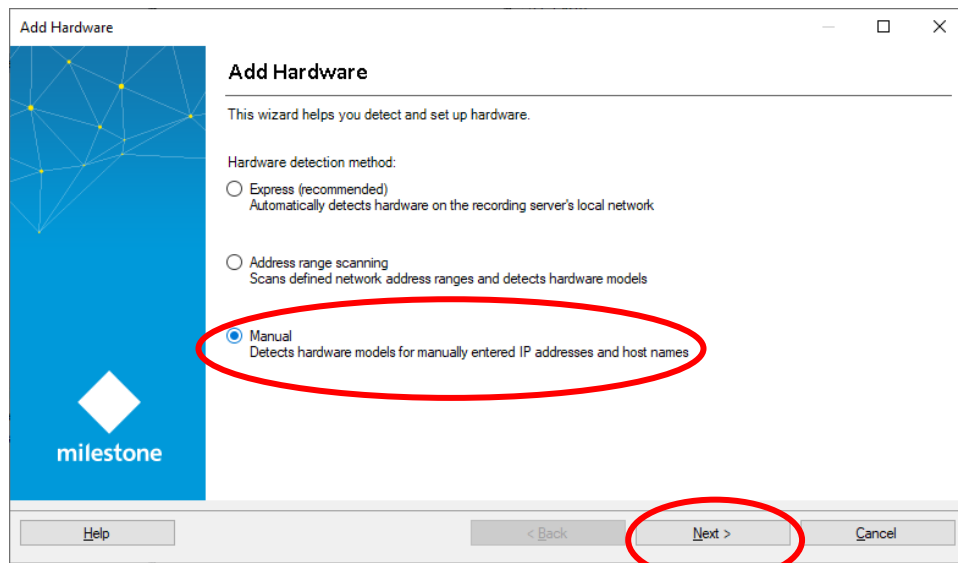
To add VantageNext video streams to Milestone XProtect, launch the “Milestone XProtect Management Client.”



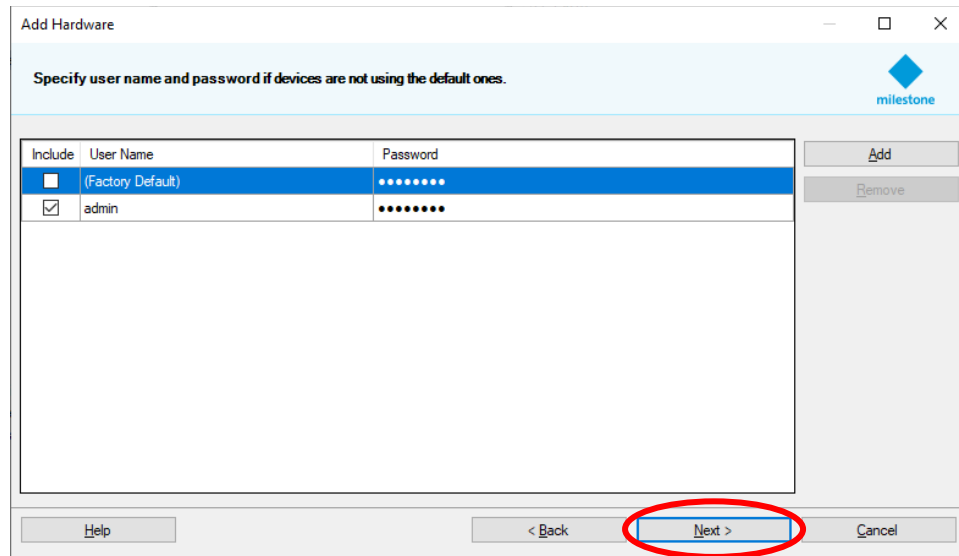
Select “Recording Servers” under “Servers” in the list tree in the left panel. Then right-click on the server you wish to add the VantageNext video streams and select “Add Hardware...”



In the “Add Hardware” window, select “Manual” and click on the “Next” button at the bottom of the window.

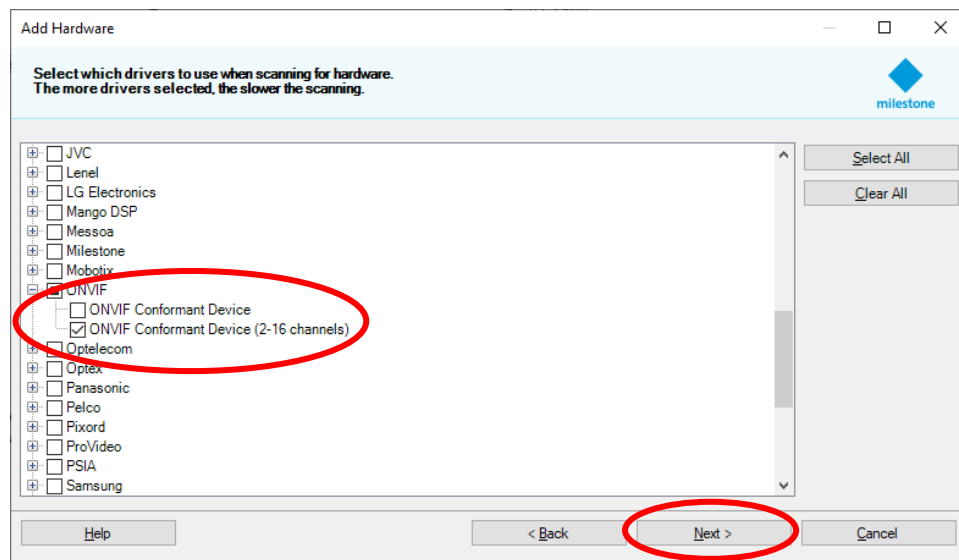


On the next window that pops up, use all the default values. VantageNext systems do not require a user name or password thus ignores any settings.



Click on the "Next" button at the bottom of the window to continue.

De-select any options and only select "ONVIF" with "ONVIF Conformant Device (2-16 channels)". Then click the "Next" button at the bottom of the window.



In the next configuration window, enter the IP address of the desired VantageNext system. Leave the "Port" as "80" and then click on the "Next" button to initialize the search of the device.

Enter information for hardware you want to add.
Optionally, select driver type to speed up detection.

Address	Port	Hardware model
192.168.30.25	80	(Auto-detect)

Buttons: Add, Remove, Help, < Back, Next >, Cancel

Once the VantageNext system is detected, the following window will be displayed.

Wait while your hardware is being detected.
Once detection has completed, select which hardware to add.

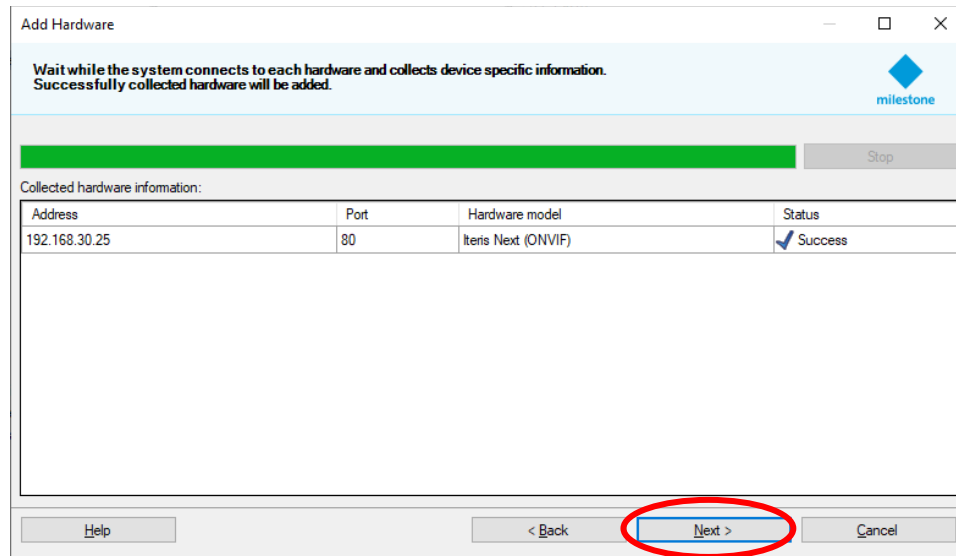
Detected hardware:

Address	Port	Hardware model	Status
<input checked="" type="checkbox"/> 192.168.30.25	80	Iteris Next (ONVIF)	✓ Success

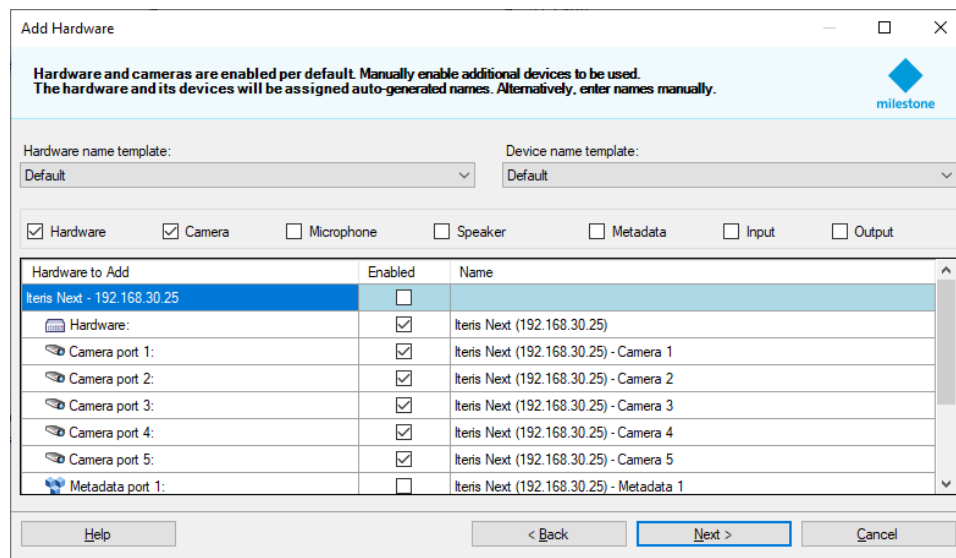
Show hardware running on other recording servers

Buttons: Stop, Help, < Back, Next >, Cancel

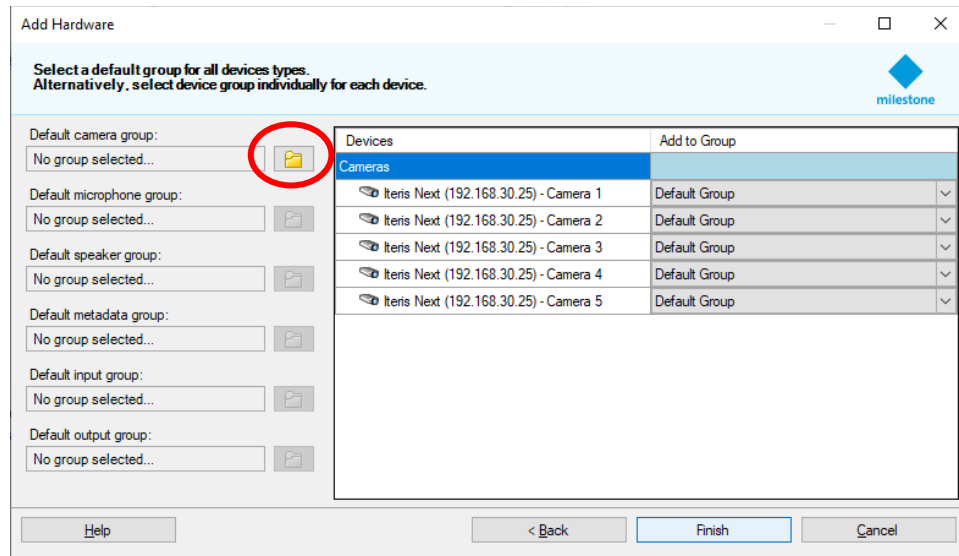
Make certain the check box is selected and click on “Next” to add the system to the Milestone database. Once added, a confirmation window will be displayed.



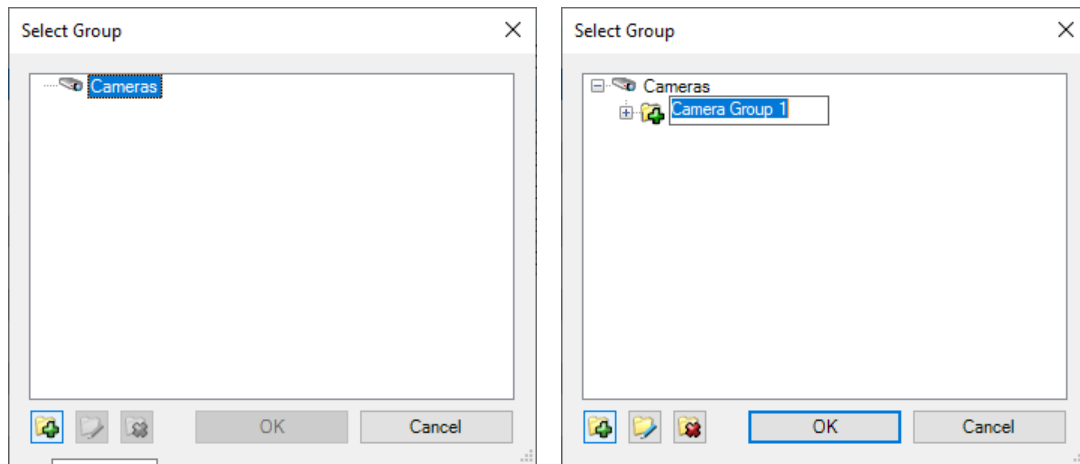
Once confirmed, click on the “Next” button. A window that lists all available video channels of the VantageNext system will then be shown. Verify that the “Hardware” and all related “Camera ports” are selected and that “Metadata ports” are de-selected.



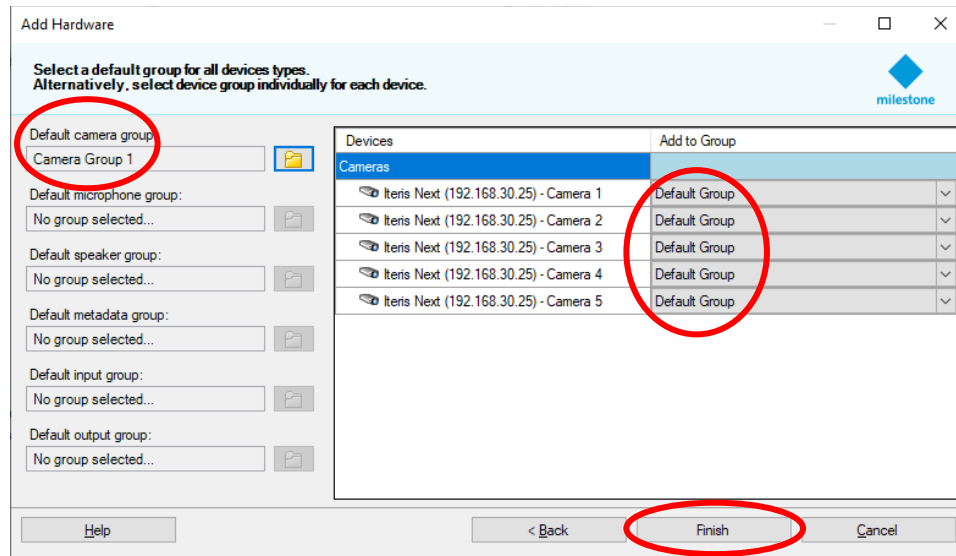
Click “Next” to continue to assign the video streams to a camera group.



If a “Default camera group” is not assigned, then you must assign the “Default camera group” or create one by clicking on the folder icon.



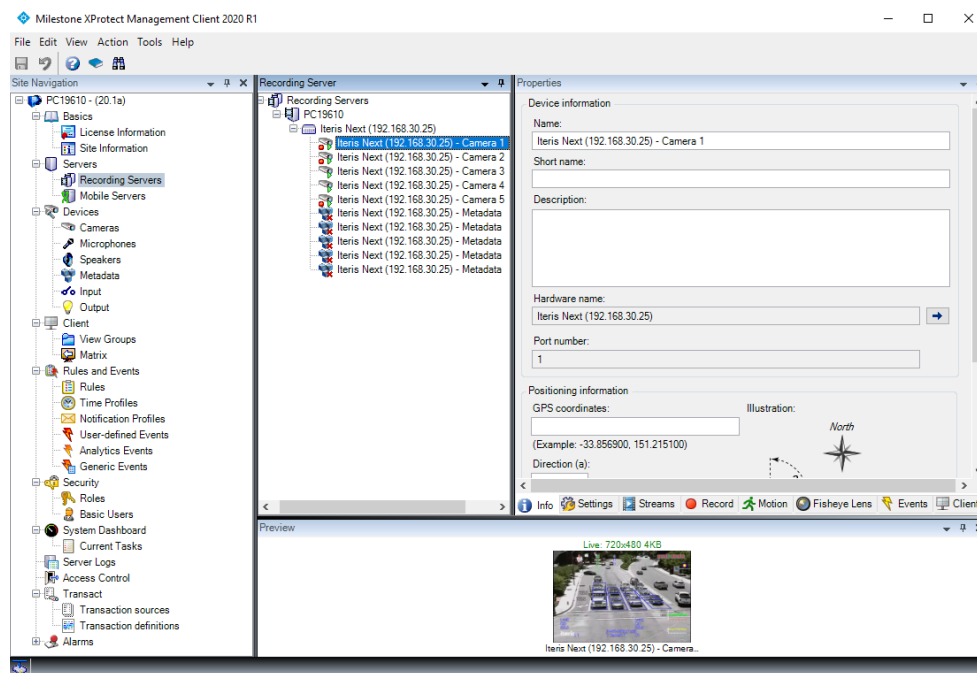
Confirm that the VantageNext system has been assigned to a Camera Group. Then click “Finish” to finalize the addition of the VantageNext system.



Once “Finish” is selected, the primary XProtect Management Client window will be populated with the added VantageNext system. At this point, each entry can be highlighted and the individual camera “Name” can be modified if desired. The following table shows the default camera assignments and names. Camera 5 may be changed to “Quad” if desired.

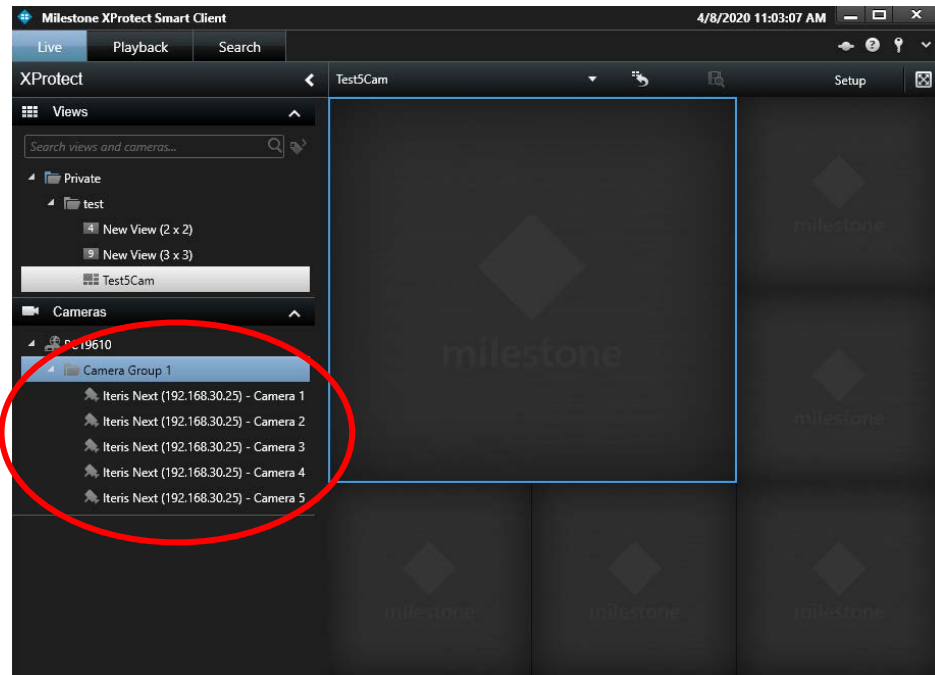
Table 3 – Milestone Camera Identifier

Default Camera Identifier	VantageNext Camera
Camera 1	Camera 1
Camera 2	Camera 2
Camera 3	Camera 3
Camera 4	Camera 4
Camera 5	Quad Image of Cameras 1 to 4

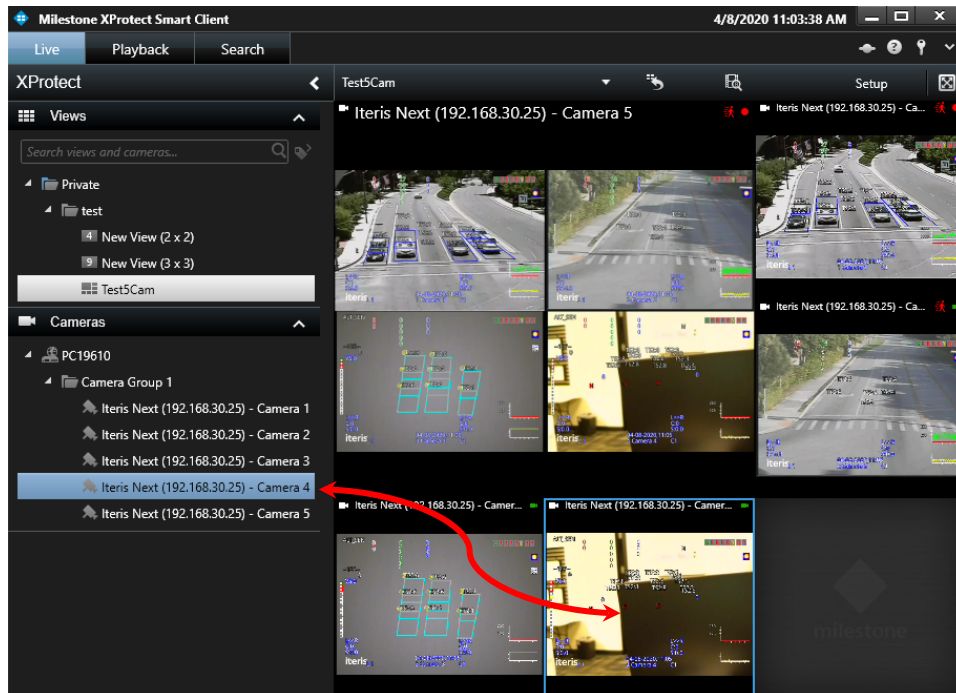


Once all changes are made, click on the “X” in the upper right corner of the window. This closes the Management Client.

To view the video streams, launch “Milestone XProtect Smart Client”. Once launched, the newly added streaming video source will be listed under the previously assigned “Camera Group.”

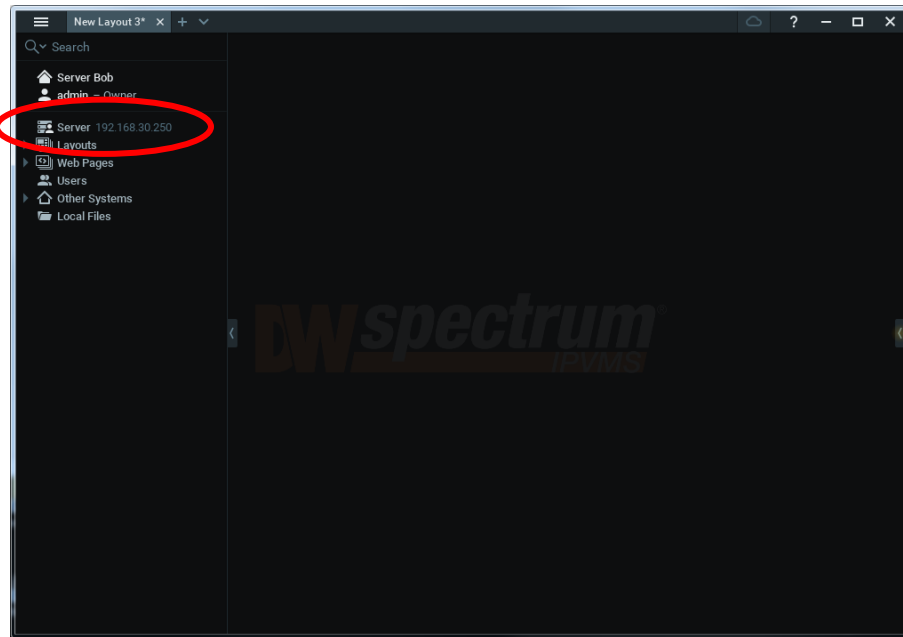


To display the video stream, drag and drop the listed stream into one of the display windows.

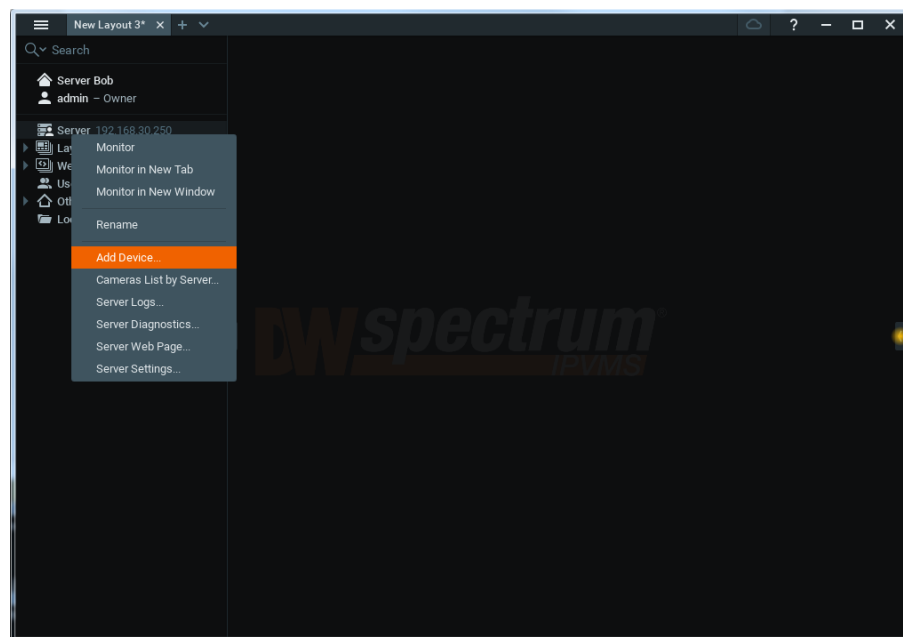


5 DIGITAL WATCHDOG SPECTRUM

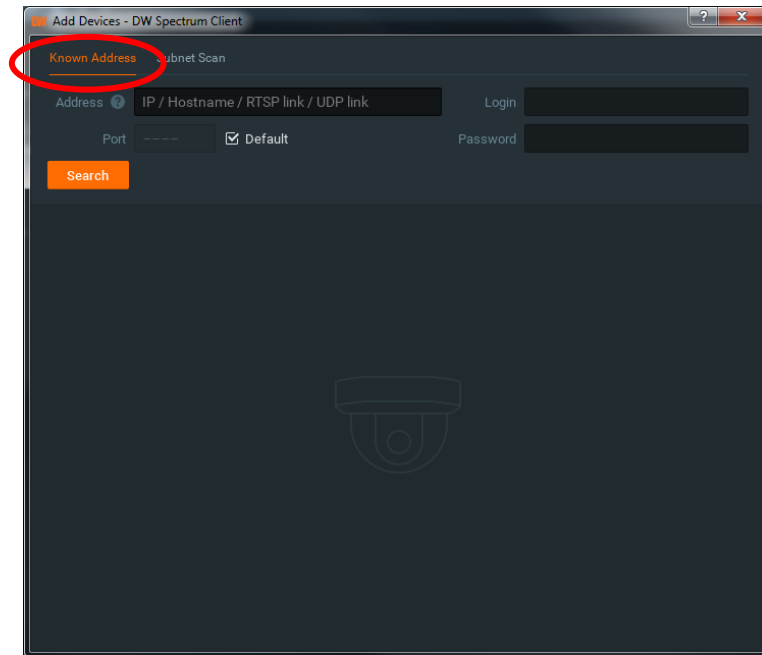
Launch Digital Watchdog Spectrum VMS and confirm that a server connection has been established.



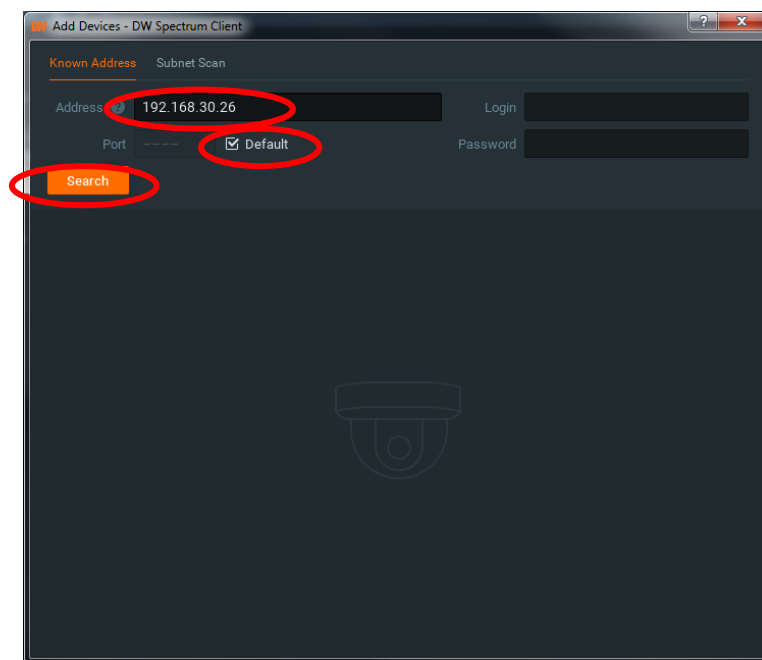
Right-click on the established server and select "Add Device...".



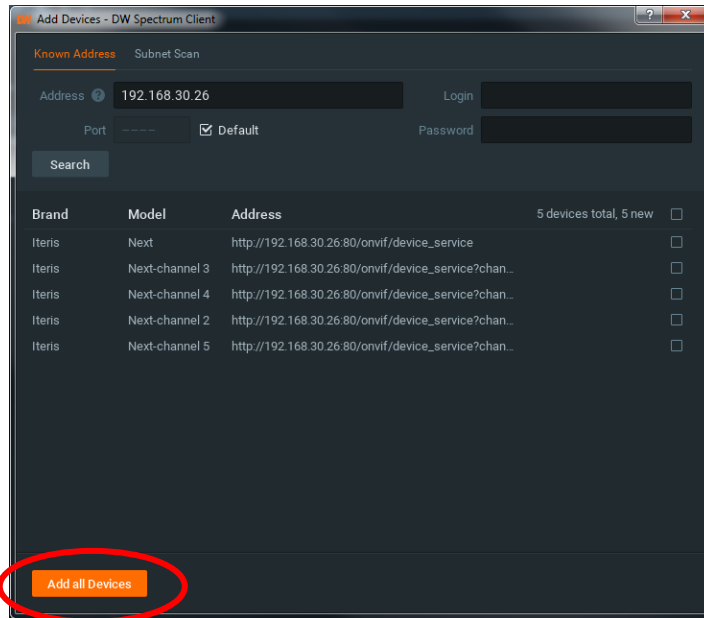
Once the “Add Device” window is shown, make sure the “Known Address” option is selected.



Enter the IP address of the desired VantageNext system and leave everything else blank. Make sure that the “Default” check box is checked. Then click the “Search” button.

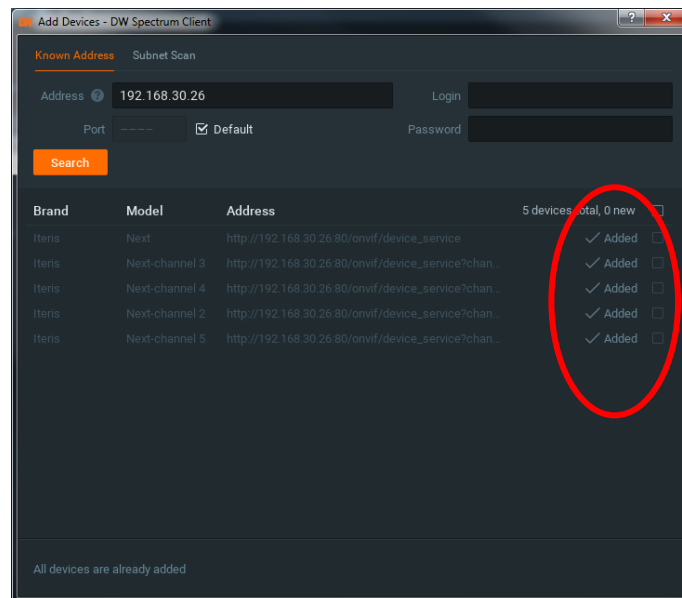


Once the search is complete, the list of available streams from the selected VantageNext system is shown.

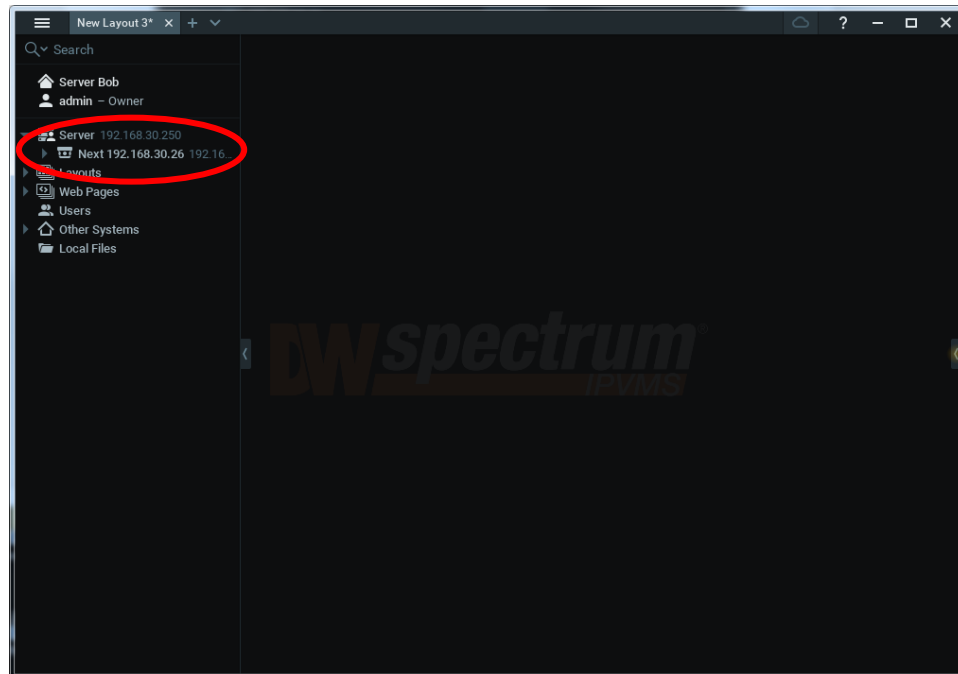


Not all stream identifiers will have a channel number associated with the input (i.e. Camera 1) and may not be listed in numerical or alphabetical order. Click “Add all Devices” to add the streaming capabilities to the database.

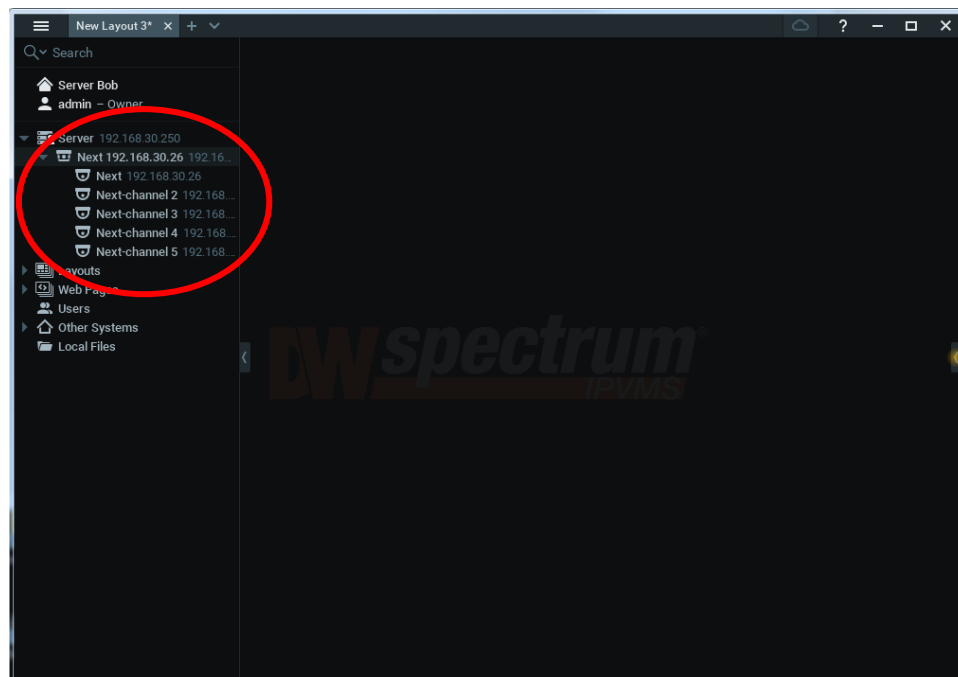
Once added to the database, the window will be updated to indicate that they were added. Then close the window by clicking on the “X” in the upper right corner.



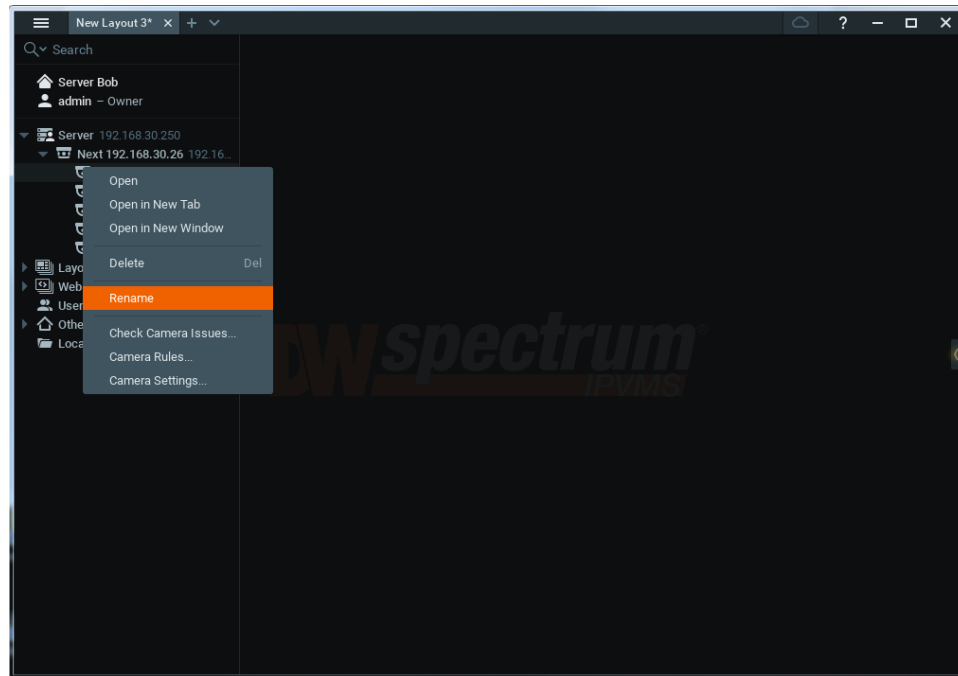
Once the window closes, the primary window should be updated with the newly added VantageNext system.



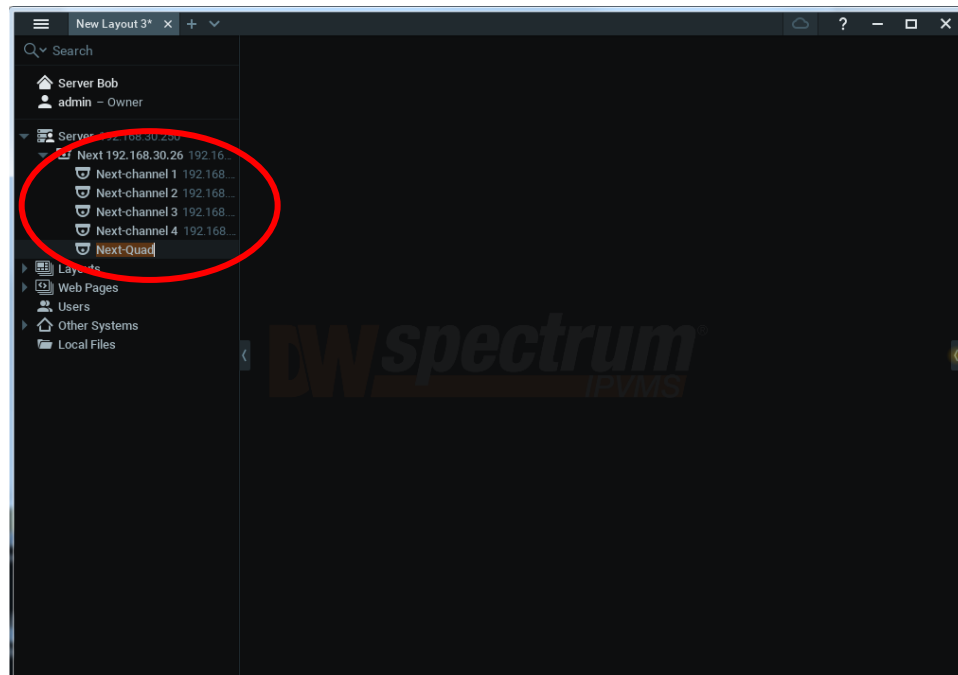
Click on the down arrow next to the system that was just added to expand the list to show available streams.



Right click on an individual stream if you wish to rename the stream input.



Renaming streams to a more descriptive text can be helpful.

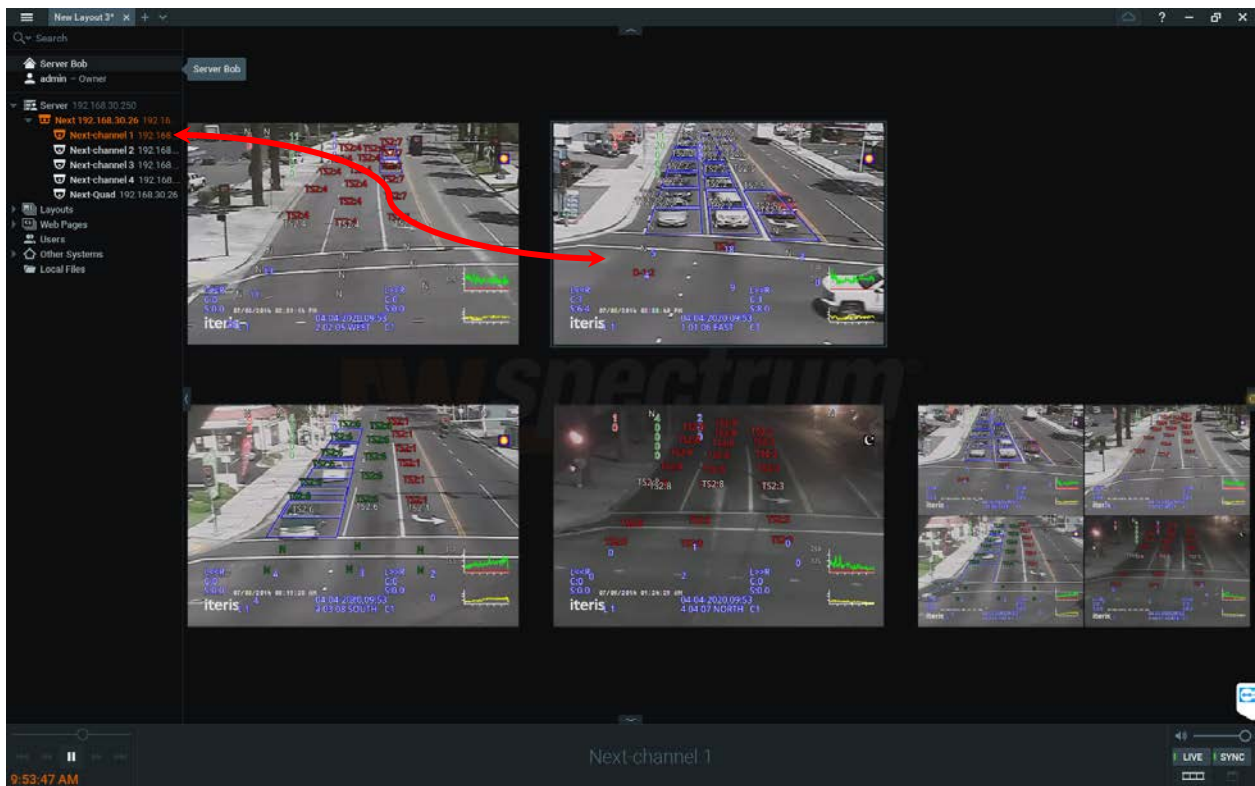


The following table shows the correlation between the default camera identifier and VantageNext camera.

Table 4 – Digital Watchdog Camera Identifier

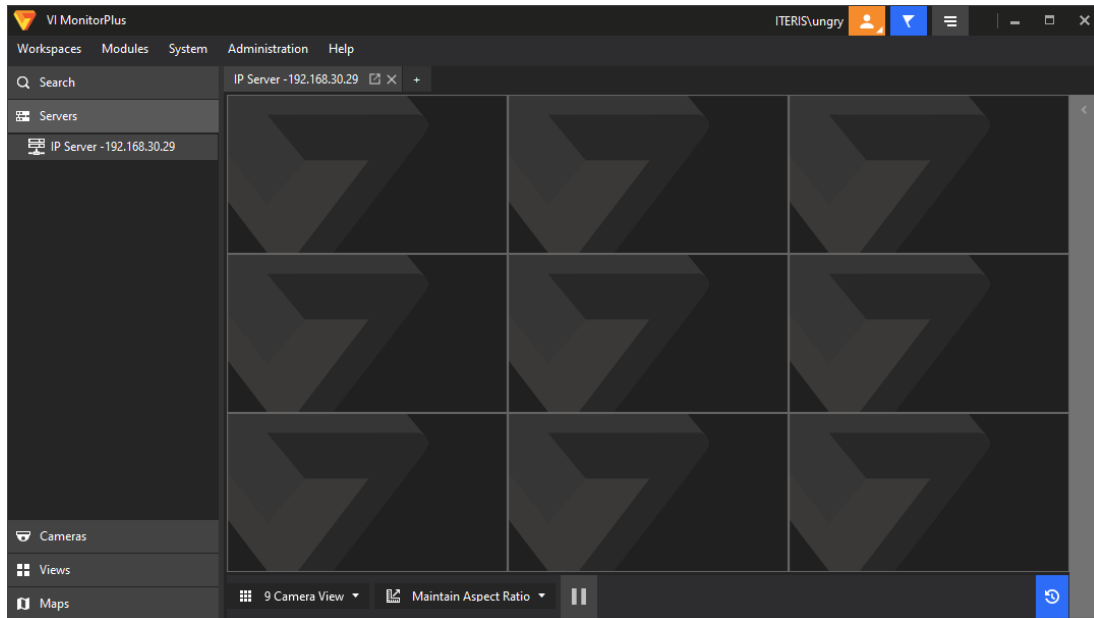
Default Camera Identifier	VantageNext Camera
Next-channel 2	Camera 2
Next-channel 3	Camera 3
Next-channel 4	Camera 4
Next-channel 5	Quad Image of Cameras 1 to 4
Next-channel 2	Camera 2

Now the user can drag and drop the desired stream onto to display area.

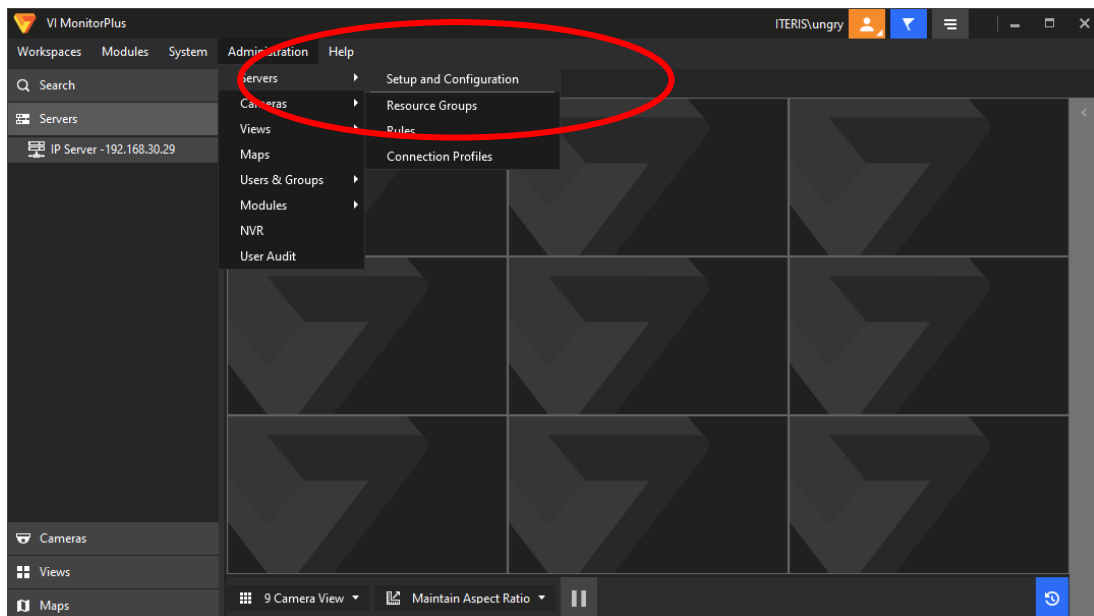


6 PANASONIC VIDEO INSIGHT

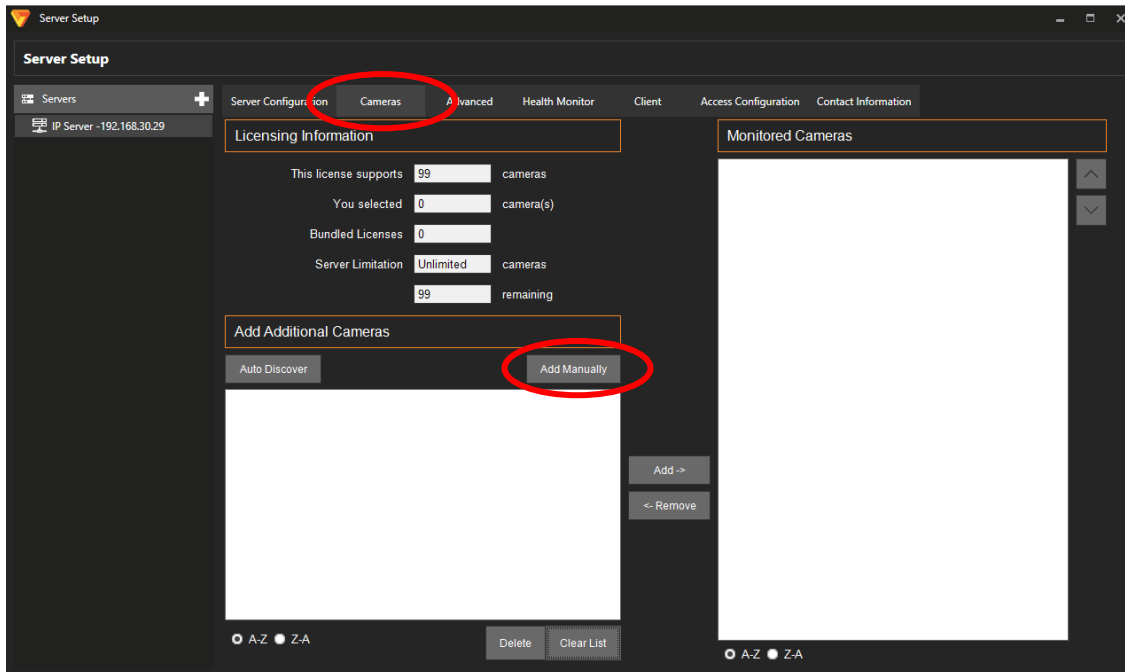
Launch the Panasonic Video Insight application (VI MonitorPlus).



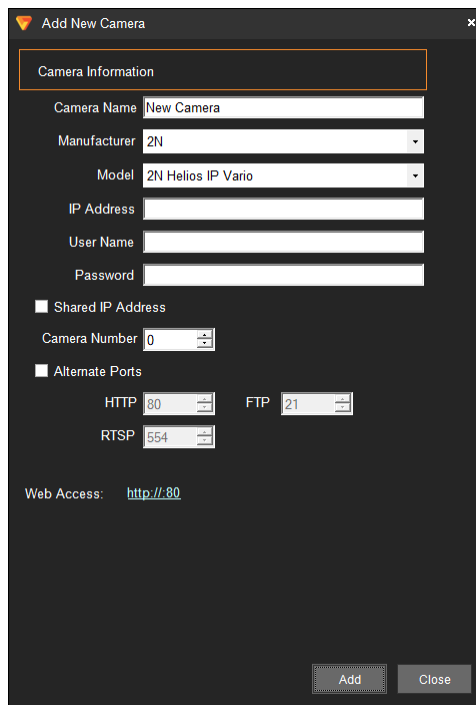
To add a VantageNext system to Video Insight, select the “Setup and Configuration” item under the “Administration” main tab and “Servers” subtab.



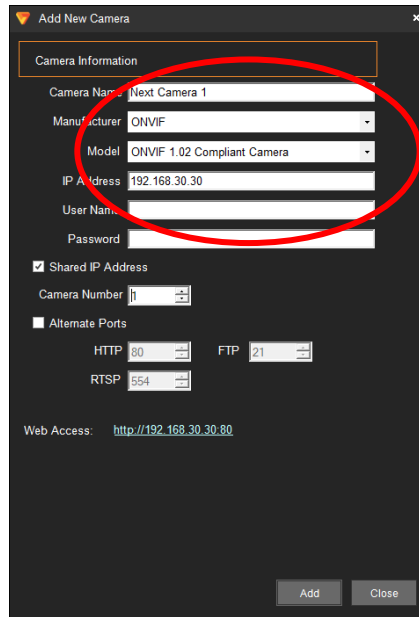
When the “Server Setup” window appears, select the “Cameras” tab. Then select the “Add Manually” button.



A generic camera configuration window will then pop up.

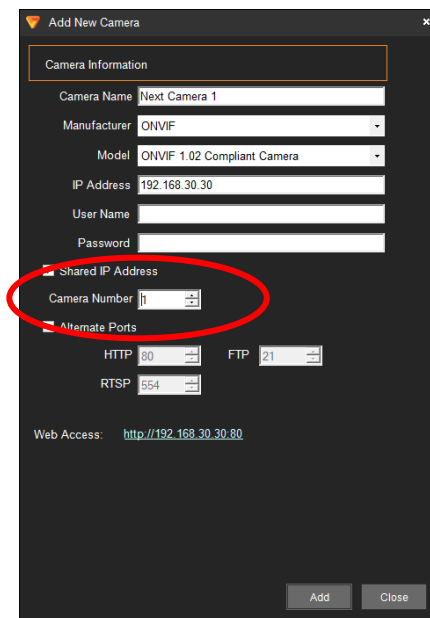


Change the “Camera Name” to the first stream from the VantageNext System. The “Manufacturer” should be “ONVIF” with the “Model” being “ONVIF 1.02 Compliant Camera.” Additionally, enter the IP address of the desired VantageNext system.



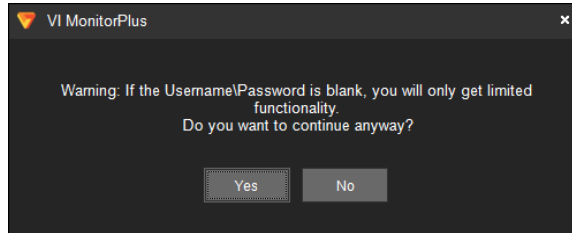
The screenshot shows the 'Add New Camera' dialog box. The 'Camera Information' section is highlighted with a red circle. The fields within this section are: Camera Name (Next Camera 1), Manufacturer (ONVIF), Model (ONVIF 1.02 Compliant Camera), IP Address (192.168.30.30), User Name, and Password. Below this section, the 'Shared IP Address' checkbox is checked, and the 'Camera Number' is set to 1. The 'Alternate Ports' section is unchecked, with HTTP (80), FTP (21), and RTSP (554) ports listed. The Web Access URL is <http://192.168.30.30:80>. 'Add' and 'Close' buttons are at the bottom right.

Video Insight configures multi-video devices as “Shared IP” devices. Thus, the “Shared IP Address” must be selected as well as selecting the appropriate video input (camera number). Leave the “Alternate Ports” element unchecked. Then click the “Add” button to add the video stream to the system database.

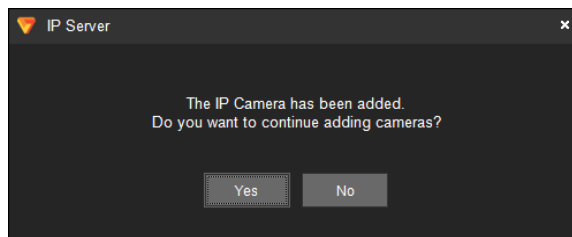


The screenshot shows the 'Add New Camera' dialog box. The 'Shared IP Address' checkbox and the 'Camera Number' field (set to 1) are highlighted with a red circle. The 'Camera Information' section is also visible, with Camera Name (Next Camera 1), Manufacturer (ONVIF), Model (ONVIF 1.02 Compliant Camera), IP Address (192.168.30.30), User Name, and Password. The 'Alternate Ports' section is unchecked, with HTTP (80), FTP (21), and RTSP (554) ports listed. The Web Access URL is <http://192.168.30.30:80>. 'Add' and 'Close' buttons are at the bottom right.

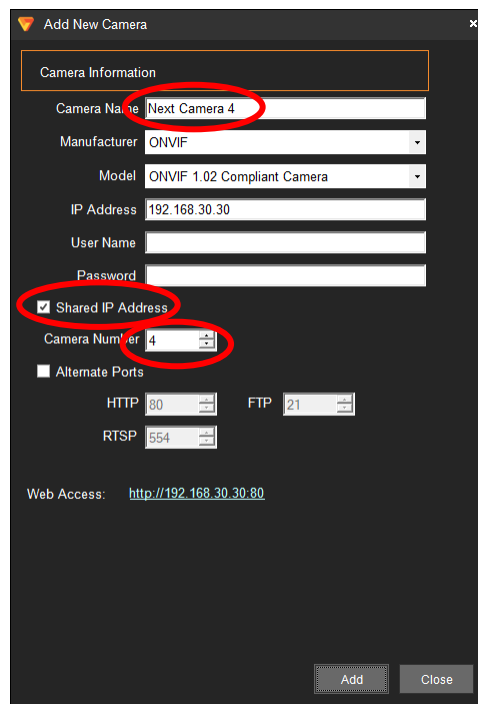
A warning should appear to indicate the user name and password is blank. This is fine for the VantageNext system. Click on the “Yes” button to continue.



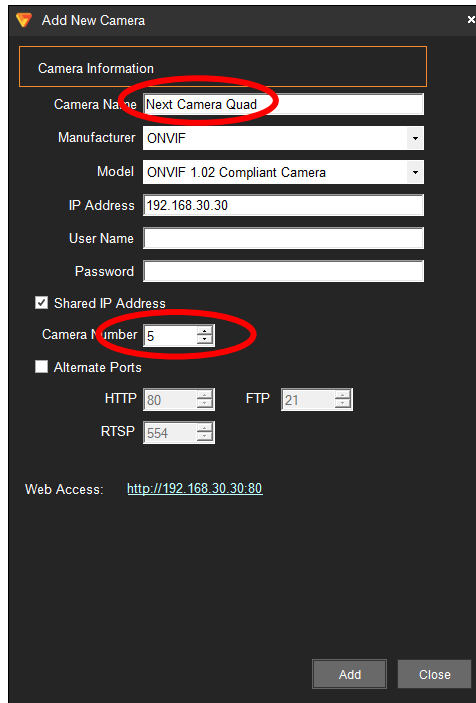
Another window will then be displayed to inquire if additional streams need to be added. Select “Yes” to add more video streams.



Continue to add desired streams and make sure the appropriate camera name is applied, the “Shared IP Address” is checked, and appropriate camera number is used.



Finally, for camera 5, the camera name should be changed to indicate a quad stream using camera number 5.

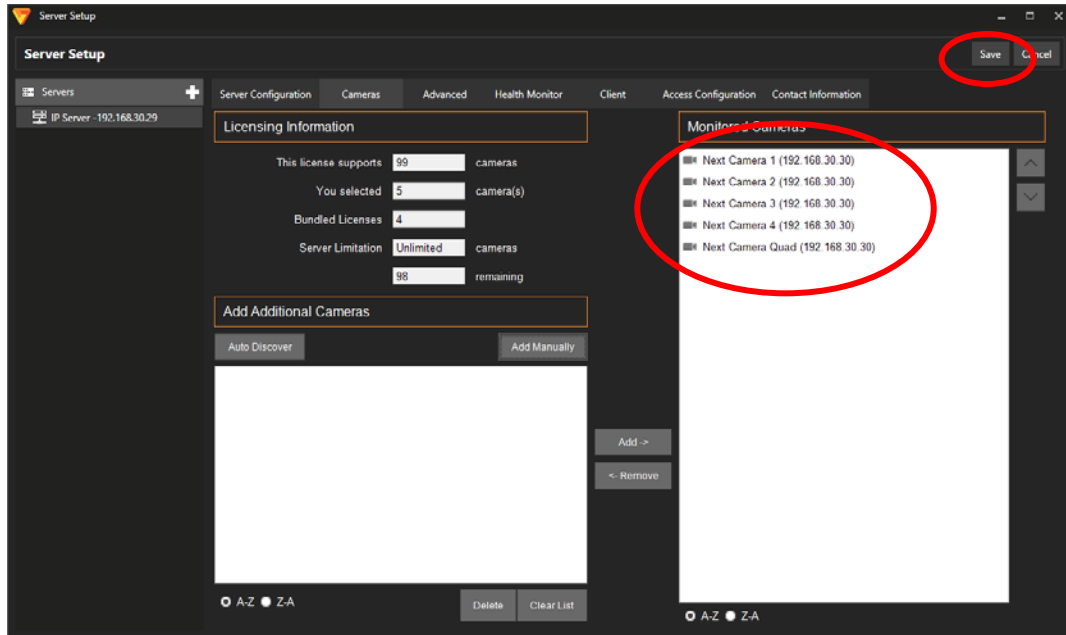


The following table can be used as a guide to correlate camera number to VantageNext streams.

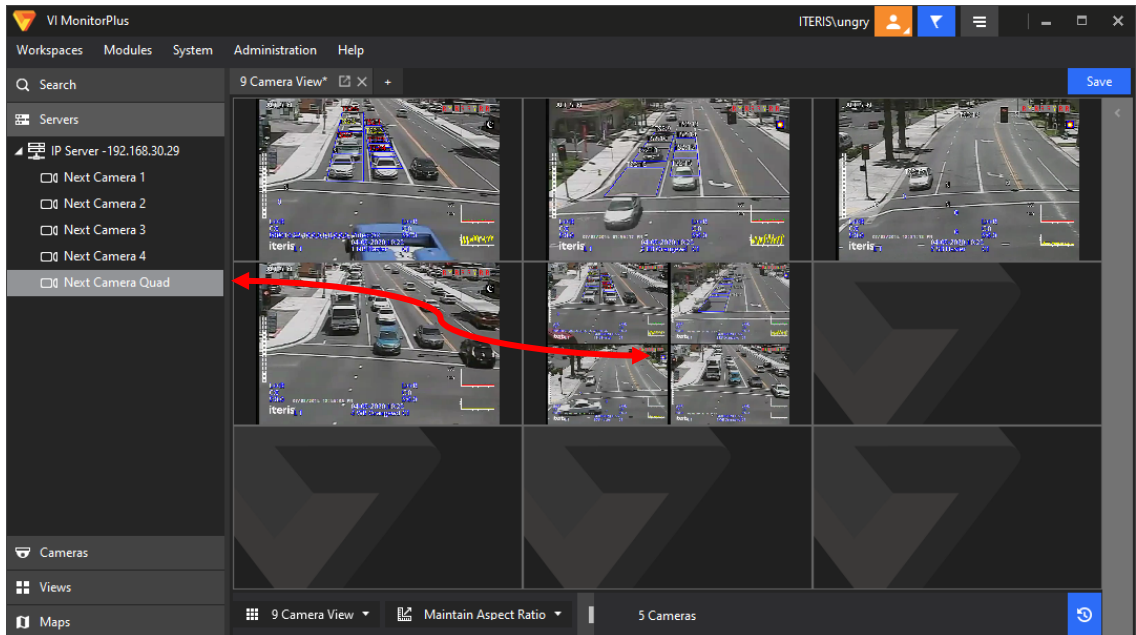
Table 5 – Panasonic Camera Identifier

Camera Identifier	VantageNext Camera
1	Camera 1
2	Camera 2
3	Camera 3
4	Camera 4
5	Quad Image of Cameras 1 to 4

Once all desired streams are added to the system database, the streams are shown in the “Monitored Cameras” list box on the right side of the “Server Setup” window. Once the list of streams is verified, click the “Save” button in the upper right portion of the window.



In the primary display window of Video Insight, the newly added streams will be listed under the VantageNext server. Individual streams can then be dragged and dropped onto the video display window. Note that unlike other video management systems, the list of streams is not listed under the VantageNext system's IP address or identifier. Therefore, appropriate naming conventions may have to be used to distinguish "camera 1" from one VantageNext system to another.





iteris[®]

1700 Carnegie Avenue, Suite 100
Santa Ana, CA 92705

iteris.com

© 2020 Iteris, Inc. All rights reserved.