StreamConnect for Hanwha Vision's Wisenet WAVE VMS

Version 2.0

Installation and User's Guide

613-003364 Rev. C

Contents

Overview

StreamConnect for Hanwha Vision's Wisenet WAVE VMS is a plugin to the Wisenet WAVE Video Management System (VMS) in networks where the surveillance cameras are connected to Allied Telesis Power over Ethernet (PoE) switches.

StreamConnect allows you to perform tasks such as rebooting the surveillance cameras and managing port power allocations using the Wisenet WAVE client without network administrator credentials.

The Wisenet WAVE VMS, developed by Hanwha Vision, is a system that manages surveillance cameras and recordings. Surveillance cameras are often connected to and powered by PoE switches, such as Allied Telesis PoE switches.

Guidelines for StreamConnect

Here are guidelines for network configurations for StreamConnect:

- StreamConnect supports multi-server configurations as well as single-server configurations.
- StreamConnect supports the Allied Telesis Layer 2 and Layer 3 PoE switches.
- StreamConnect supports the WAVE sync cloud environments.
- StreamConnect is not designed to be used with switches configured in the Virtual Chassis Stacking (VCS) mode.

Network Configurations for VMS

This section explains a standard network configuration for VMS and network configurations that Allied Telesis supports for StreamConnect.

Standard Network Configuration for VMS

Figure 1 shows a standard network configuration for a VMS installation. In this configuration, networks for surveillance cameras and client machines are separated. Cameras are physically exposed to potential intruders so that segregating the camera network provides security to the internal management networks. Separating networks also prevents video traffic caused by the cameras from consuming bandwidth on the client network.

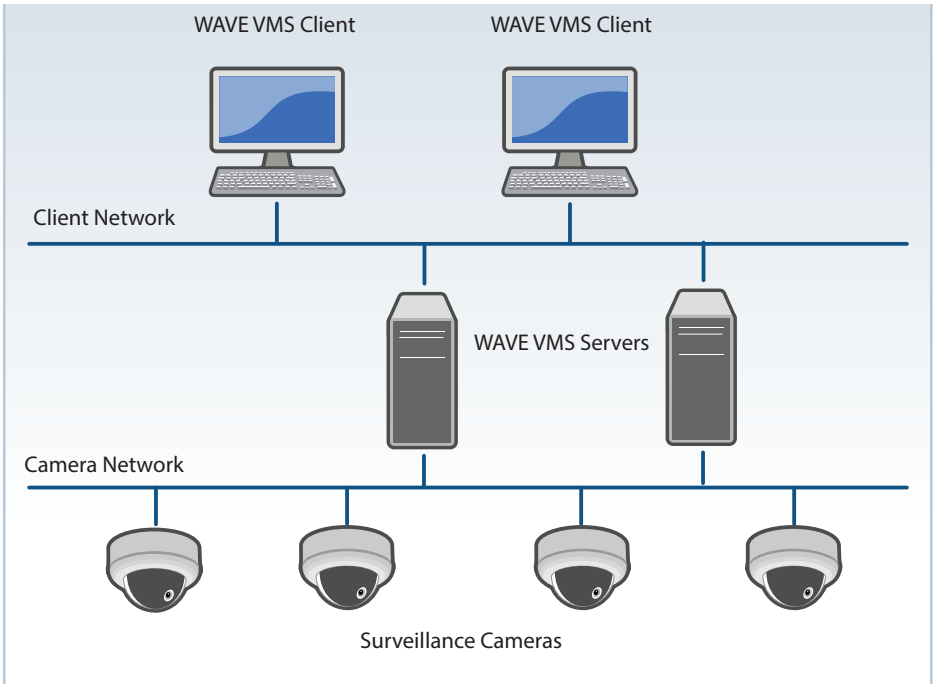

Figure 1. Standard Network Configuration for VMS

VMS Network Configurations with StreamConnect

The four types of network configurations with VMS that Allied Telesis supports for StreamConnect are introduced in this section. These network configurations also provide security to the internal management networks and prevents video traffic from consuming bandwidth on the client network. In addition, the AlliedWare Plus™ PoE switch simplifies cabling and maintenance for the cameras because a PoE switch delivers both data and power to connected devices through the Ethernet cables.

StreamConnect supports the following network configurations:

Single-Server VMS Configuration with the Allied Telesis Switch

A network configuration with a single Wisenet WAVE VMS server where the surveillance cameras are connected to an AlliedWare Plus™ PoE switch is shown in Figure 2.

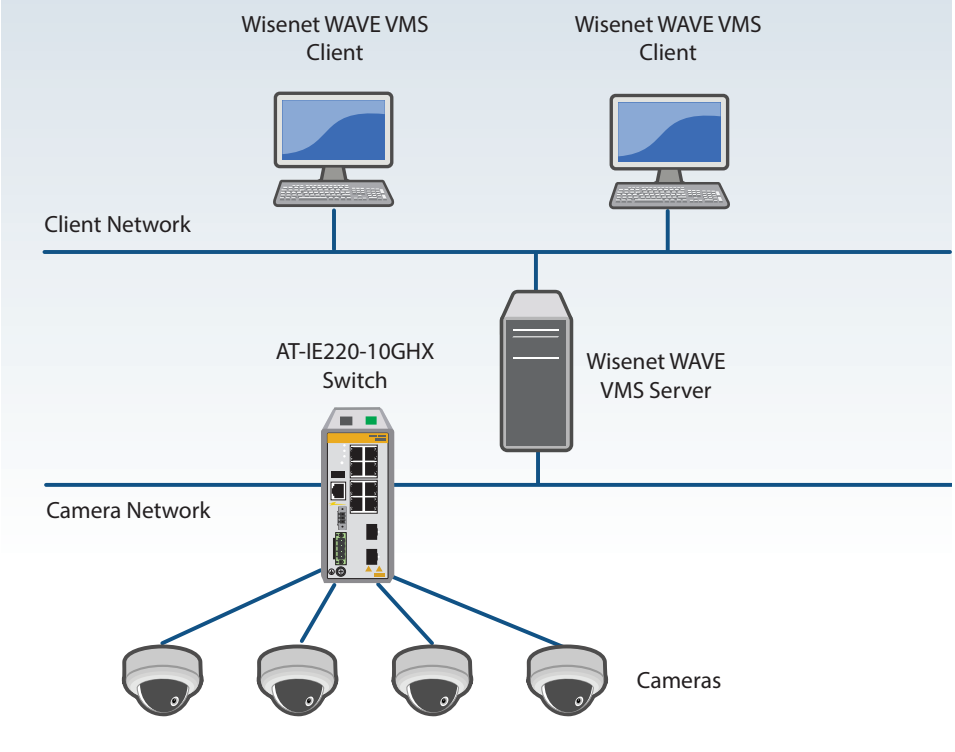

Figure 2. Single-Server VMS Configuration with Allied Telesis Switch

In the network configuration in Figure 2, the Wisenet WAVE client communicates with the AT-IE220-10GHX switch via the Wisenet WAVE VMS server.

Multiple-Server VMS Configuration with the Allied Telesis Switch

Figure 3 shows a network configuration with multiple Wisenet WAVE VMS servers where surveillance cameras are connected to an AlliedWare Plus™ PoE switch.

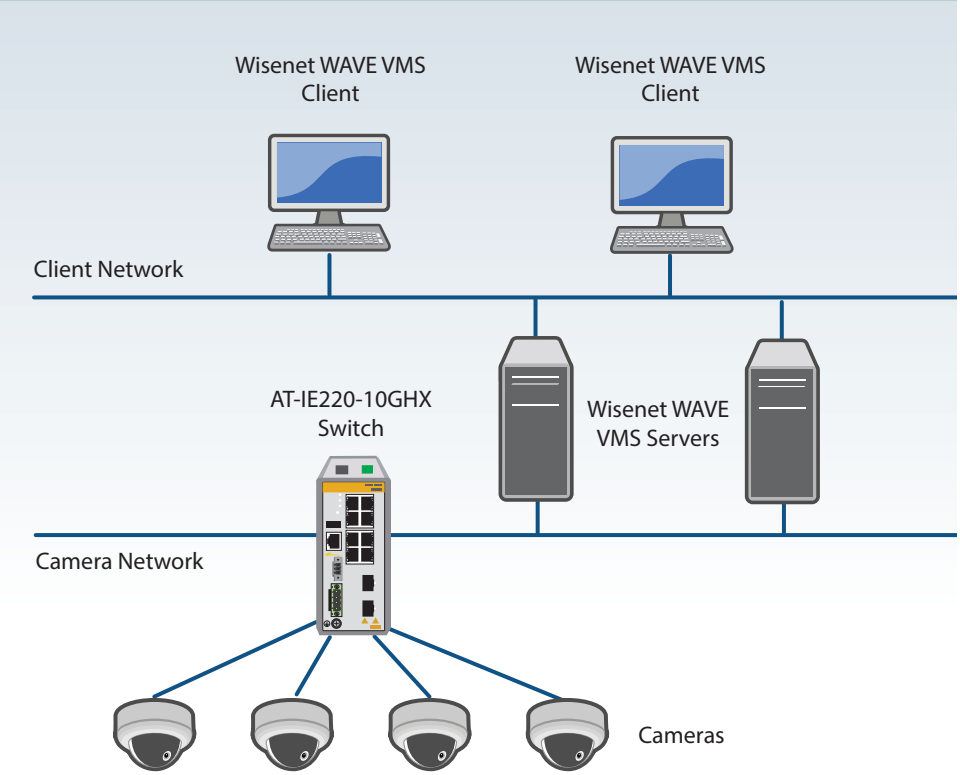

Figure 3. Multiple-Server VMS Configuration with Allied Telesis Switch

StreamConnect supports networks where multiple WAVE VMS servers are configured as well as a single server configuration.

VMS Configuration with Allied Telesis Layer 3 Switch

StreamConnect supports a VMS network configuration with the Allied Telesis Layer 3 switch. You can simplify a network configuration with a PoE layer 3 switch, such as the IE340-20GP switch. Figure 4 on page 7 shows that the IE340-20GP switch's routing capability provides security by separating the camera network and client network.

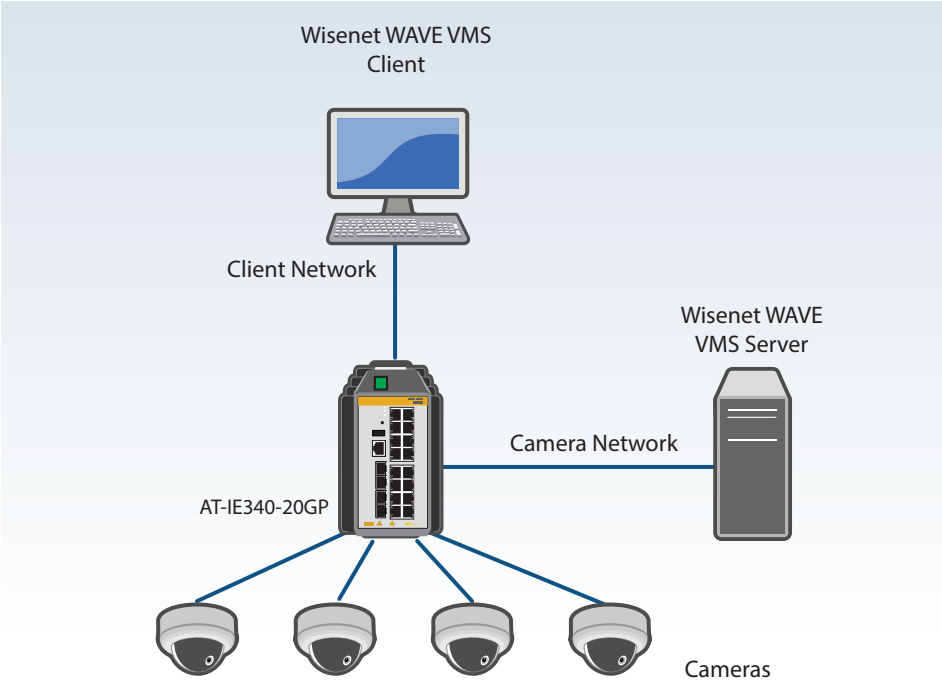

Figure 4. VMS Configuration with Allied Telesis Layer 3 Switch

VMS Configuration in the WAVE Sync Cloud Environment

StreamConnect supports a WAVE VMS system that is accessed using WAVE Sync. WAVE Sync is a cloud-based service that users can access their WAVE VMS systems remotely.

StreamConnect works with any of the supported VMS configurations that are accessed with WAVE Sync. Figure 5 on page 8 illustrates a VMS configuration with Allied Telesis Layer 3 switch using the WAVE Sync service.

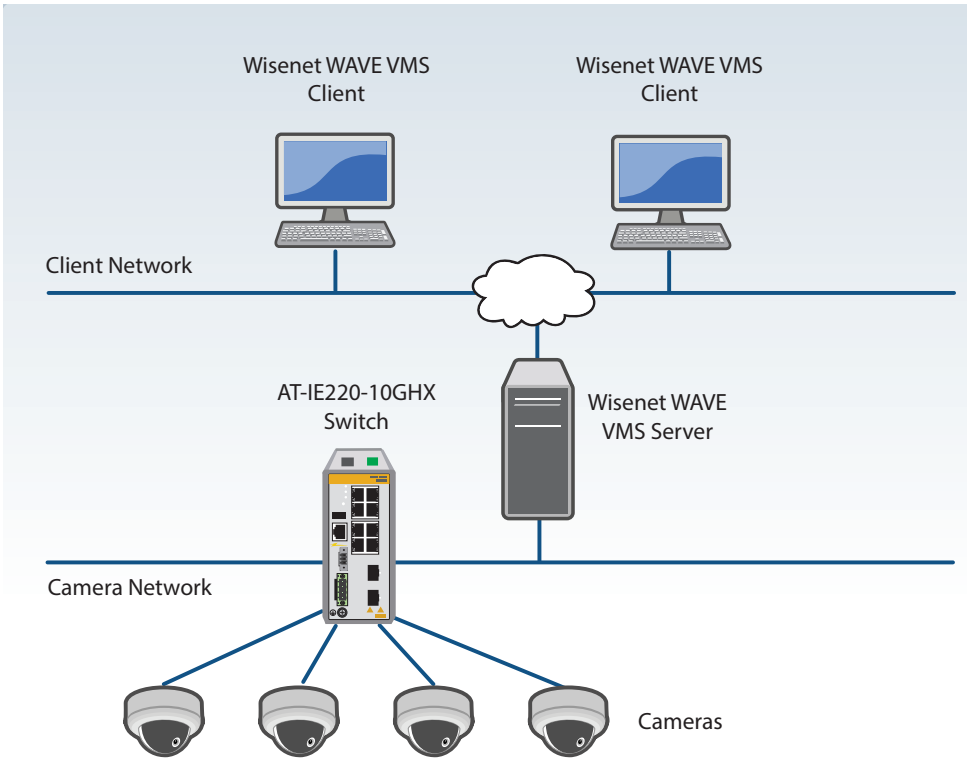

Figure 5. VMS Configuration in WAVE Sync Cloud Environment

Installing StreamConnect

StreamConnect supports both Linux and Windows based Wisenet WAVE VMS servers:

- For the Linux based server, go to "Installing StreamConnect on the Linux Based Server" on page 10
- For the Windows based server, go to "Installing StreamConnect on the Linux Based Server" on page 10

Hardware Requirement

StreamConnect is compatible with any AlliedWare Plus™ PoE-capable Layer 2 and Layer 3 switches. AlliedWare Plus™ is an operating system for Allied Telesis switch and router products.

Software Requirements

Here is a list of software requirements:

- AlliedWare Plus™ version 5.5.4 or later for Allied Telesis switches
- One of the following Operating Systems:
  - Ubuntu 20 Linux
  - Ubuntu 22 Linux
  - Windows 10, 64-bit
  - Windows 11
- One of the following Wisenet WAVE VMS server software versions:

Note
Before StreamConnect is installed, the Wisenet WAVE VMS software must already be installed.

  - 6.0.2.40414*
  - 6.0.1.40221
  - 5.1.4.38659*

  * In these versions, Allied Telesis Stream Connect cannot be launched from the camera settings with the  icon appearing on the left navigation pane. To manage a switch port for a camera, start from the  **Web Pages** entry on the left navigation pane as shown in "Resetting a Switch Port and Viewing the Power Usage of the Port" on page 22.

Installing StreamConnect on the Linux Based Server

To install StreamConnect onto the Linux based server:

1. Ensure that your system meets “Hardware Requirement” and “Software Requirements” on page 9.
2. Download the StreamConnect packages onto the Wisenet WAVE VMS server.
3. Start the Linux terminal on the server.
4. Enter the following command at the prompt:

   `> sudo dpkg -i file_name.deb`

   file_name: specify the name of the plug-in software package with the `.deb` file extension. For example:

   `hanwha-ati-integration_2.0-r01.deb`

   The prompt returns and the installation is completed successfully to the package script.

   Note
   The media server service restarts when the installation is completed.

5. Close the Linux terminal.

Installing StreamConnect on the Windows Based Server

To install StreamConnect onto the Windows based server:

1. Ensure that your system meets “Hardware Requirement” and “Software Requirements” on page 9.
2. Download the StreamConnect installer onto the Wisenet WAVE VMS server.
3. Close the Wisenet WAVE client and management client if they are running.
4. Start the Windows on the server.
5. Click the StreamConnect installer icon on the desktop.
6. When Microsoft Defender SmartScreen gives you a warning, click the **More info** link, then click **Run anyway** as shown in Figure 6.

   Note
   You might receive multiple warnings from Microsoft Defender.

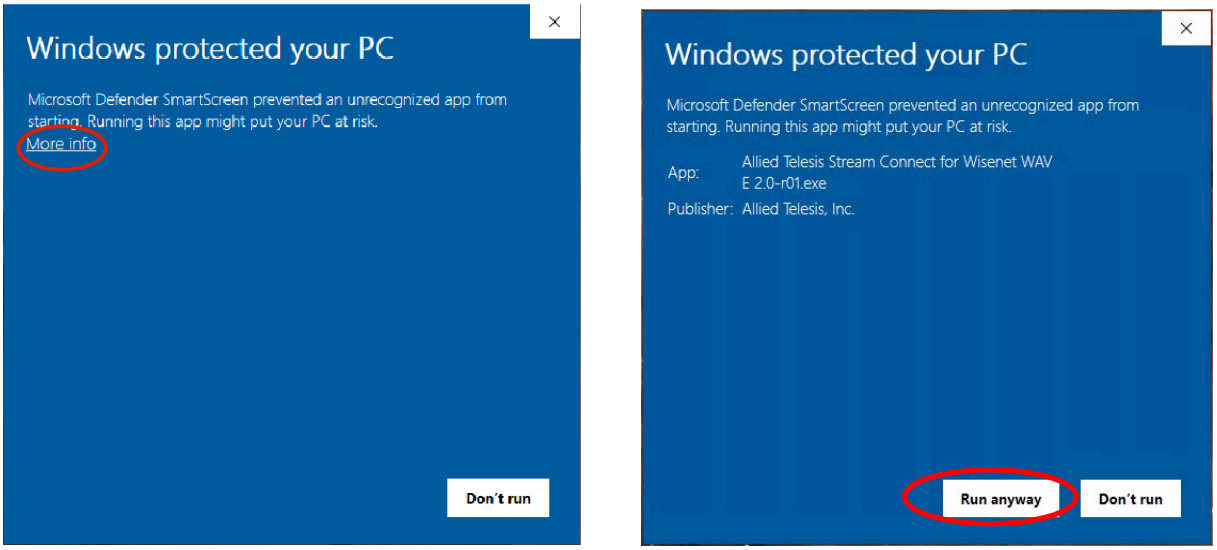

Figure 6. Defender SmartScreens

7. On the User Account Control dialog box, click **Yes** to allow the Installer to proceed. See Figure 7.

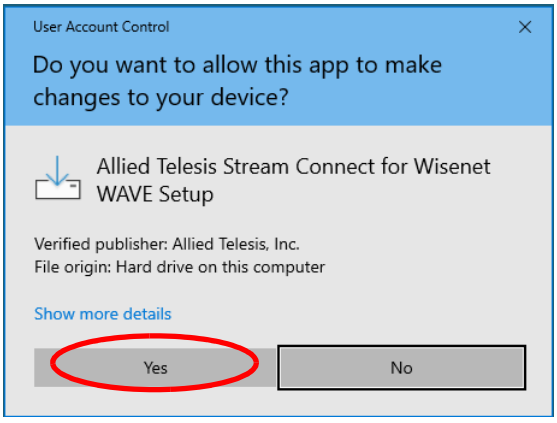

Figure 7. User Account Control Dialog Box

8. On the next Setup screen, click **Install**.

   Wait until the installation process is completed.

9. When the Setup screen notifies you that the installation is completed, click **Finish**.

> **Note**
> The media server service restarts when the installation is completed.

10. Go to "Configuring Allied Telesis Switch and Cameras with StreamConnect" on page 12.

Configuring Allied Telesis Switch and Cameras with StreamConnect

After installing StreamConnect into the Wisenet WAVE VMS server, or when having new surveillance cameras connected to the Allied Telesis switch in your camera network, perform the following tasks:

1. “Accessing Allied Telesis Stream Connect” on page 13
2. “Adding a New Allied Telesis Switch” on page 16

   If the Allied Telesis switch has already been added, select your switch and skip the switch configuration steps.

3. “Associating Cameras to Allied Telesis Switch Ports” on page 18

If you need to access the Allied Telesis switch for the basic switch settings, such as the switch’s management IP address and administrative user credentials or for upgrading AlliedWare Plus™ firmware to version 5.5.4 or later, visit the Allied Telesis website at:

- Getting Started with the AlliedWare Plus Command Line Interface
- AlliedWare Plus Feature Overview and Configuration Guides

Guidelines for Configuring the Switch and Cameras

Here are guidelines for configuring StreamConnect:

- When logging into Allied Telesis Stream Connect in the Wisenet WAVE VMS server, use the administrative account. Without administrative privilege, you can manage surveillance cameras, but not Allied Telesis switches.
- Allied Telesis recommends using Power over Ethernet (PoE) ports on the switch for surveillance cameras and non-PoE ports as uplink ports. If a PoE port is used as a uplink port, the system might mistakenly detect a camera elsewhere in the network as if it is connected to the PoE port.
- Wisenet WAVE VMS supports merging servers into a single view; however, Allied Telesis switches and cameras must still be managed under the specific server to which they are attached.
- Two links are available to access Allied Telesis Stream Connect from the left navigation pane:
  - **ATI Stream Connect** link under a Wisenet WAVE VMS server as shown in Figure 9 on page 13
  - **ATI Stream Connect** link under **Web Pages** as shown in Figure 10 on page 14

  For more information about **ATI Stream Connect** links, see Step 4 in “Accessing Allied Telesis Stream Connect” on page 13.

Accessing Allied Telesis Stream Connect

After installing StreamConnect into your Wisenet WAVE VMS server, start a Wisenet WAVE VMS client and access **ATI Stream Connect**.

To access Allied Telesis Stream Connect:

1. Ensure that the cameras and Allied Telesis switches are cabled and powered on.
2. Start the Wisenet WAVE VMS client and log in.

   The Wisenet WAVE user interface (UI) appears as shown in Figure 8.

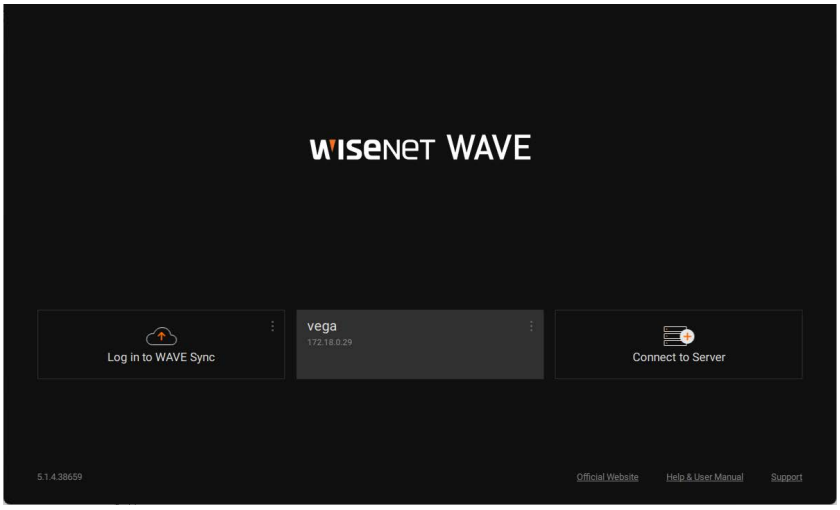

Figure 8. The Wisenet WAVE Title Page

3. Click the server that the Wisenet WAVE VMS is running on.

   The Wisenet WAVE VMS UI starts. See Figure 9.

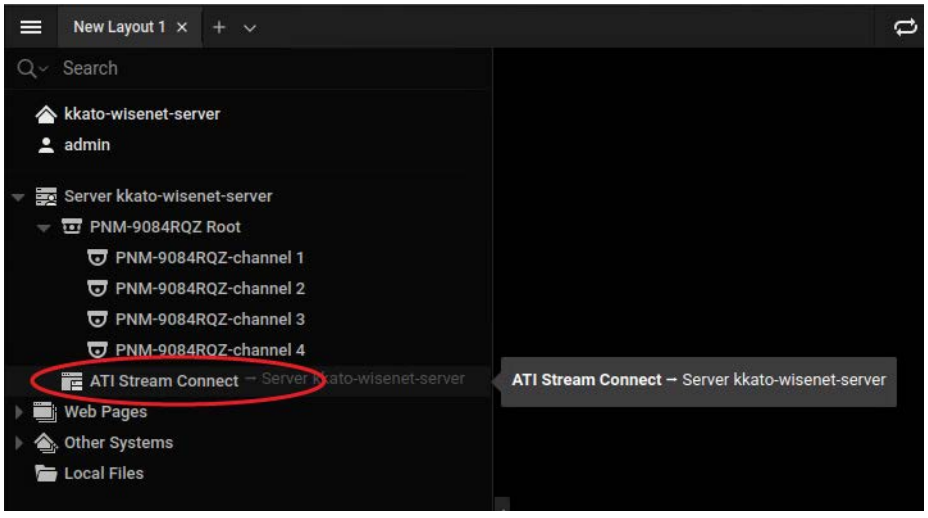

Figure 9. Wisenet WAVE VMS UI

4. Select an **ATI Stream Connect** with either of the following options:

> **Note**
> If more than one Wisenet WAVE server is listed, select **ATI Stream Connect** for the server that controls the surveillance cameras that you want to manage with StreamConnect.

- **ATI Stream Connect** under a Wisenet WAVE server on the navigation pane. See Figure 9.

  If the **ATI Stream Connect** link is not present under a server, select the other option: **ATI Stream Connect** under **Web Pages**. If you want to display **ATI Stream Connect** under a server, go to “Troubleshooting” on page 31.

- **ATI Stream Connect** under **Web Pages** on the navigation pane. Double-click **Web Pages** to expand it. One or more **ATI Stream Connect** links are listed under **Web Pages**. See Figure 10 on page 14 as an example.

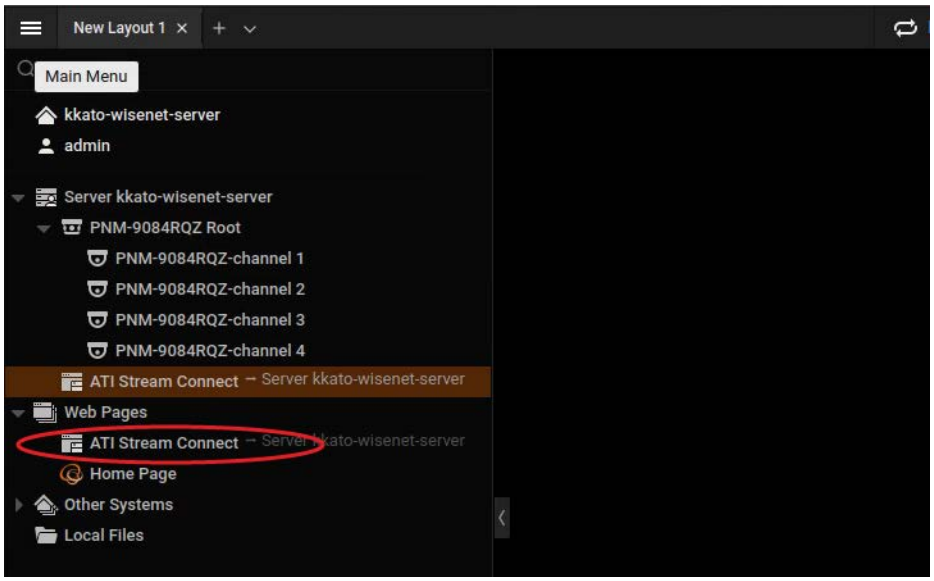

Figure 10. Wisenet WAVE VMS UI - Web Pages Expanded

5. Click the selected **ATI Stream Connect.**

   If you have accessed **Allied Telesis Stream Connect** once before, you are not required to log in and the Allied Telesis Stream Connect window in Figure 12 appears. Go to Step 7 on page 16.

   When you access **Allied Telesis Stream Connect** for the first time or you were logged out, the following window appears. See Figure 11 on page 15.

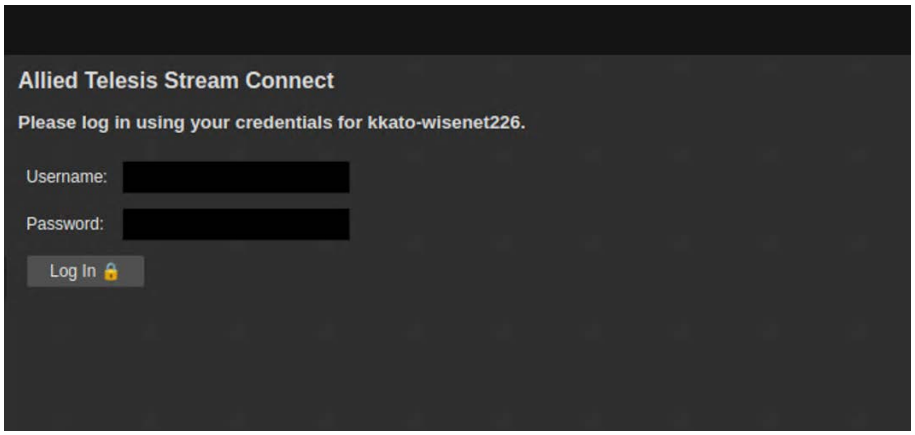

Figure 11. Allied Telesis Stream Connect Login Window

The window can be resized by dragging an edge or expanded by using the arrows icon in the upper right corner.

6. Log in with your username and password for the Wisenet WAVE VMS server.

Note
Log in using an administration account for the Wisenet WAVE VMS server to manage the Allied Telesis switch. If you log in with an account that does not include administrative privilege, you can only manage surveillance cameras.

The next page appears. See Figure 12.

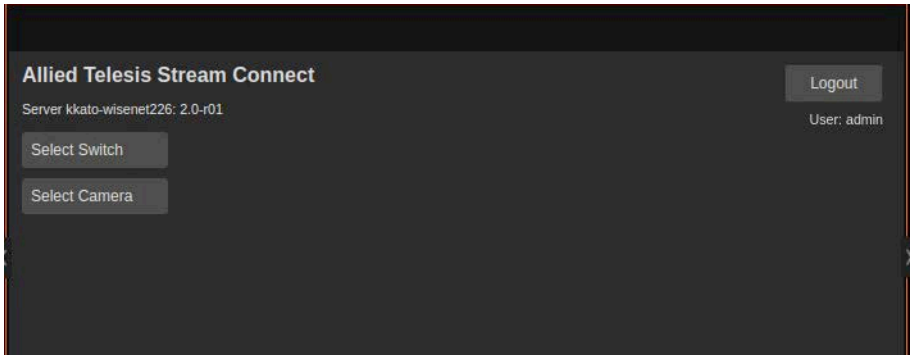

Figure 12. Allied Telesis Stream Connect - Switch and Camera Selections

Adding a New Allied Telesis Switch

To add an Allied Telesis switch to the Wisenet WAVE VMS and configure the switch:

7. Click **Select Switch** > **Add New**. See Figure 13.

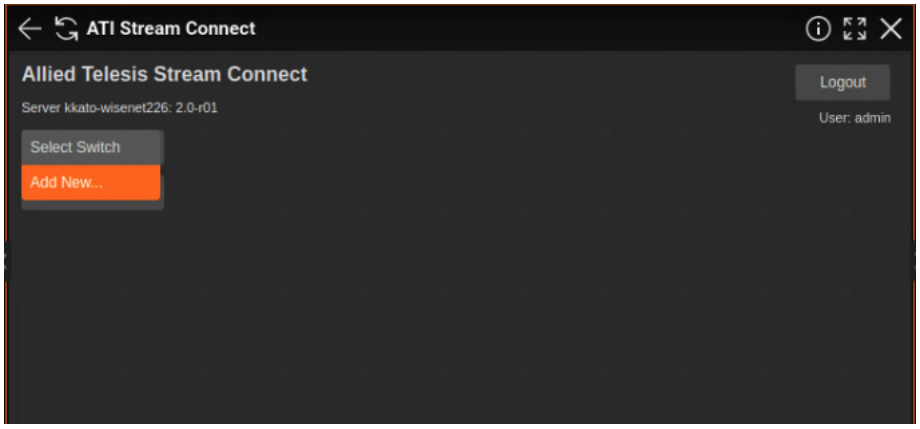

Figure 13. Allied Telesis Stream Connect - Add a New Switch

The New Switch Entry window appears.

> **Note**
> When you add on a new surveillance camera to the Allied Telesis switch that has been configured in the Wisenet WAVE VMS and you want to associate the new camera to the Allied Telesis switch port, click **Select Switch** and select the switch name from the drop-down list. Go to Step 11.

8. Assign a unique name to the switch. See Figure 14.

> **Note**
> The switch that you are adding must have surveillance cameras connected to, and the cameras are managed by the Wisenet WAVE VMS server.

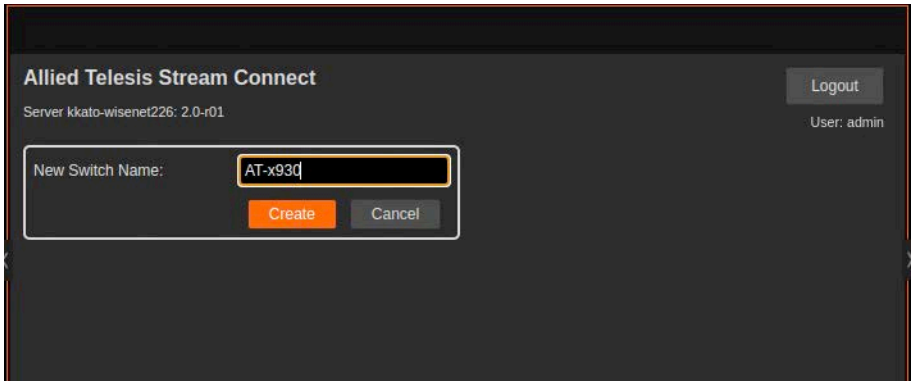

Figure 14. Allied Telesis Stream Connect - Name a New Switch

9. Click **Create**.

   The next Allied Telesis Stream Connect page appears. See Figure 15.

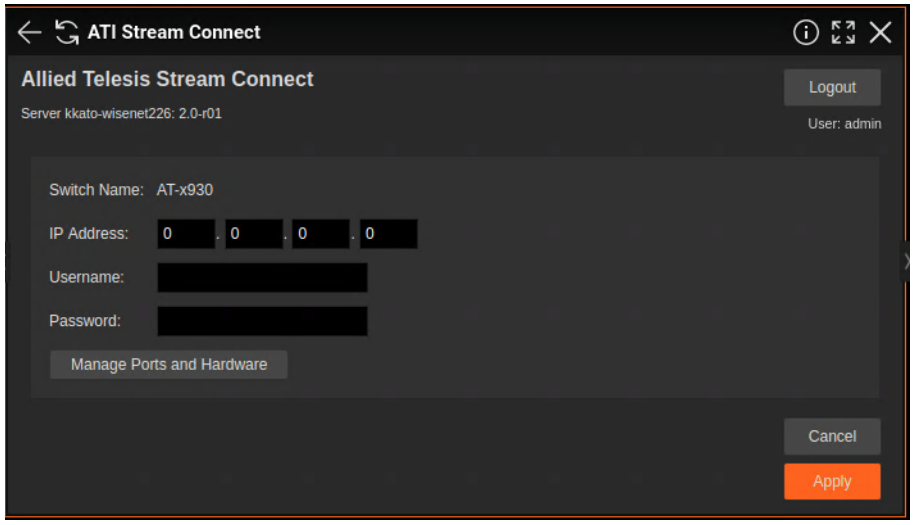

Figure 15. Allied Telesis Stream Connect - Switch Configuration

10. Enter the IP address of the switch, username and password for the Allied Telesis switch. See Figure 16.

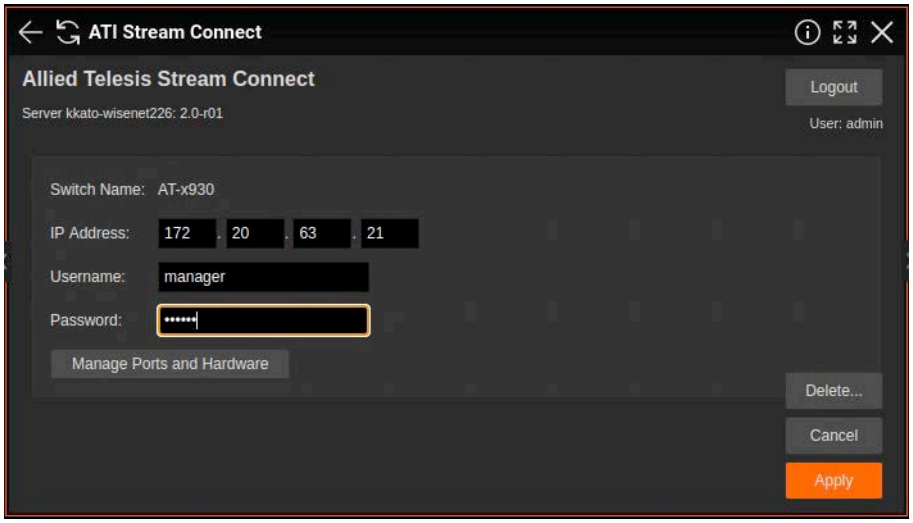

Figure 16. Setting the Switch IP Address and Login Credential

Associating Cameras to Allied Telesis Switch Ports

To associate the surveillance cameras to Allied Telesis switch ports, continue to the following steps:

11. On the same page as shown in Figure 16, click **Manage Ports and Hardware**.

    If the link to the switch is up, the status and information of the switch and switch ports are displayed on the same page. See Figure 17.

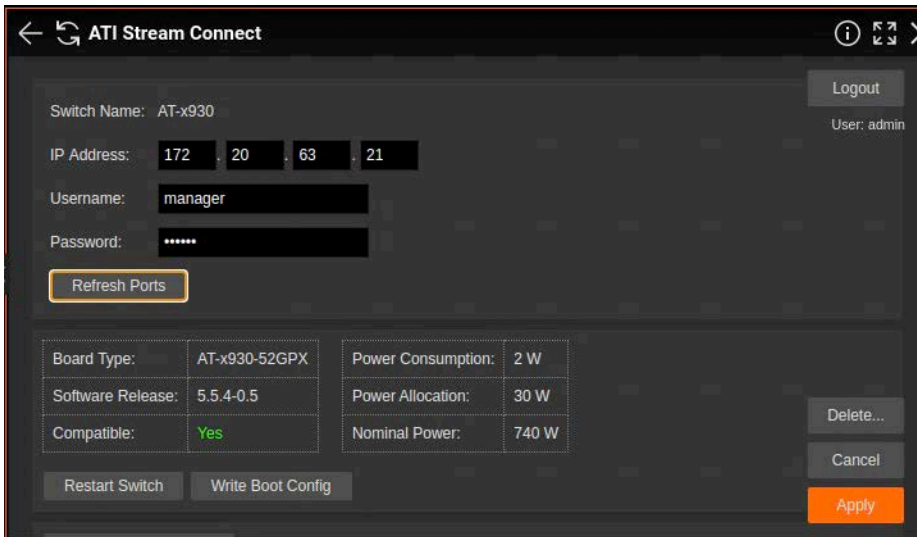

Figure 17. Displaying Switch Information

12. Scroll down to display the switch port information. See Figure 18.

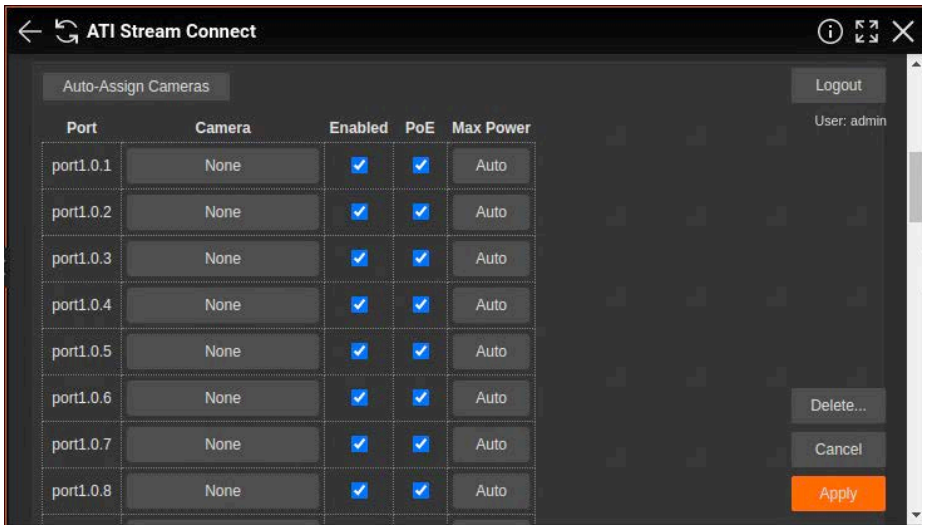

Figure 18. Displaying switch Port Information

Note
You can enlarge the window size to display port information as well as switch information.

13. To assign the cameras on the Wisenet WAVE VMS to the ports of the Allied Telesis switch:

    - To assign cameras automatically: click **Auto-Assign Cameras**.

      Auto-Assign Camera should detect the cameras that are up and running and associate them to the ports of the Allied Telesis switch. If cameras are not automatically assigned, you can assign them manually.

    - To assign a camera manually:

      a. click **None** in the **Camera** column and the row of the port that you want to assign the camera to.

      b. Select the name of the camera.

      If the camera is detected on the selected switch port, the camera name is shown in the drop-down list. See Figure 19.

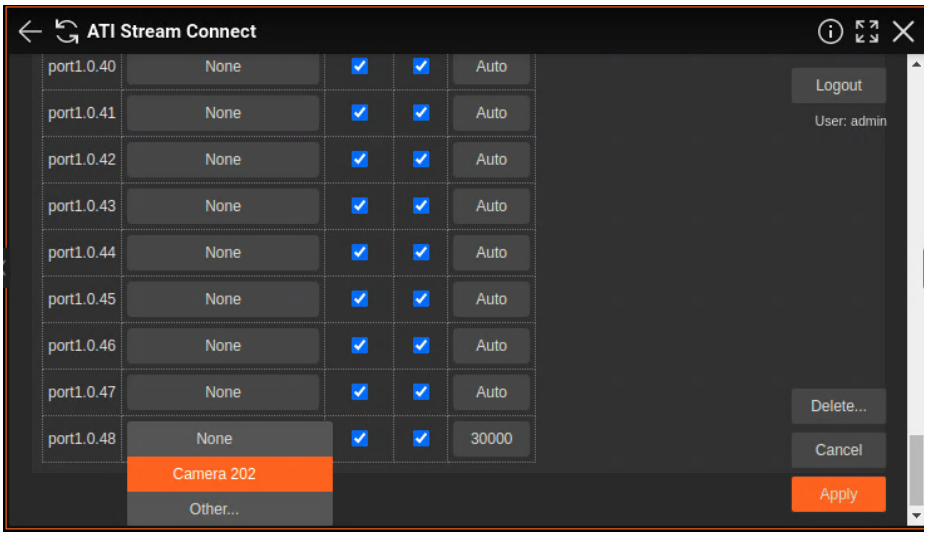

Figure 19. Manually Assigning a Camera to a Port

c. Select **Other** if no camera name is shown in the drop-down list. See Figure 20 on page 20.

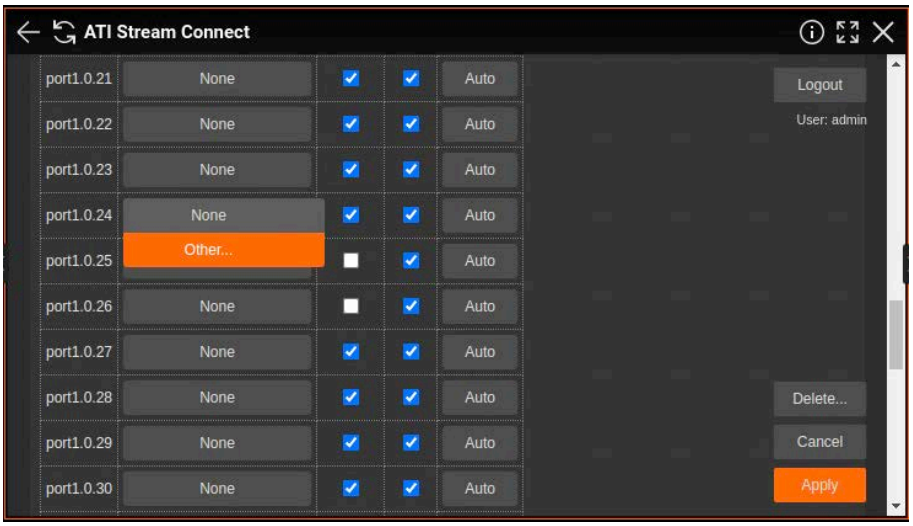

Figure 20. Manually Assigning a Camera to a Port - Other

The cameras that have been detected are listed in the drop-down list. See Figure 21.

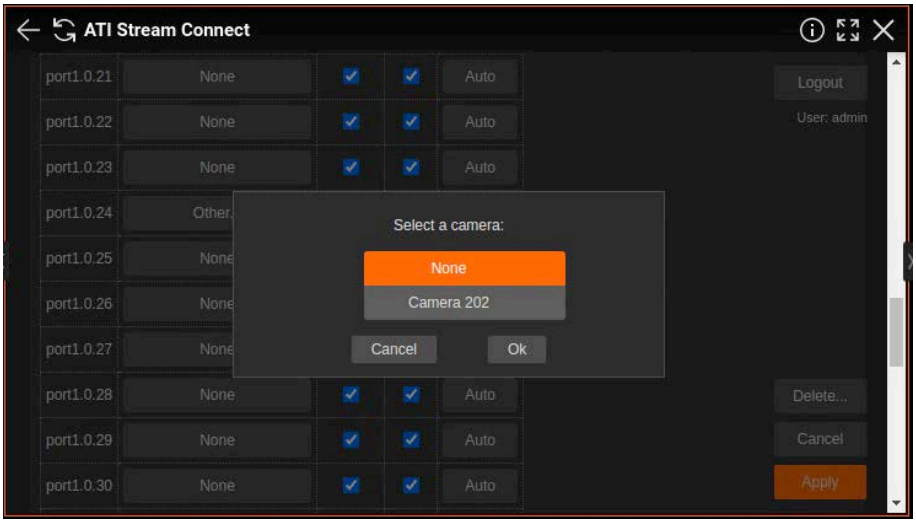

Figure 21. Manually Assigning a Camera to a Port - Camera Options

d. Select the name of the camera that you want to assign to the switch port.

   The camera is assigned to the switch port. If you have other cameras to be assigned to switch ports, go to Step a to repeat the process.

14. After assigning the cameras to switch ports is completed, click **Apply**.

The “Switch update processed.” message appears.

15. Click **OK**.

    The switch ports where the cameras are associated are ready to be managed with the Wisenet WAVE client.

    Note
    During the process of associating the cameras to Allied Telesis switch ports, you can also change the settings of the switch ports. For more information, see "Enabling or Disabling Switch Ports, Managing Power Allocations, or Reassigning Cameras" on page 27.

Managing the Allied Telesis Switch Ports Connected to Cameras

After the process of associating cameras to switch ports through **Allied Telesis Stream Connect** is completed, you can:

- Cycle power and/or data communication on the ports on the Allied Telesis switch to reset the surveillance cameras.
- View the current power usage on the switch ports.

  Go to “Resetting a Switch Port and Viewing the Power Usage of the Port” on page 22.

In the process of associating cameras to switch ports through **Allied Telesis Stream Connect** or after the process is completed, you can:

- Enable or disable switch ports.
- Manage the power allocations of switch ports.
- Re-assign cameras to switch ports.

  Go to “Enabling or Disabling Switch Ports, Managing Power Allocations, or Reassigning Cameras” on page 27.

Resetting a Switch Port and Viewing the Power Usage of the Port

To disable and re-enable a switch port to reset the connected camera, or view the current power usage of the switch port:

1. Ensure that the cameras and Allied Telesis switch are cabled and powered on.
2. Start the Wisenet WAVE VMS client and log in.

   The Wisenet WAVE user interface (UI) appears as shown in Figure 8 on page 13.
3. Click the server that the Wisenet WAVE VMS is running.

   The Wisenet WAVE VMS UI starts. See Figure 9 on page 13.
4. Ensure that StreamConnect is installed and the cameras are associated with the Allied Telesis switch through **Allied Telesis Stream Connect**.

   For more information, see “Installing StreamConnect” on page 9 and “Configuring Allied Telesis Switch and Cameras with StreamConnect” on page 12.
5. On the left navigation pane, double-click **ATI Stream Connect** for the camera that you want to manage.

The ATI Stream Connect - Switch and Camera Selections page appears. See Figure 12 on page 15.

6. Click **Select Camera** and choose a camera on the drop-down list. See Figure 22.

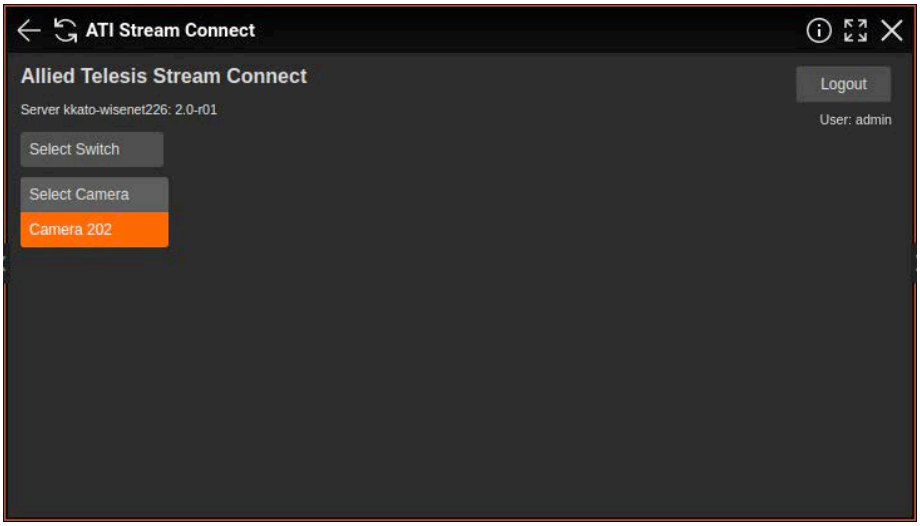

Figure 22. ATI Stream Connect > Select Camera

The Allied Telesis Switch Port Control page appears. See Figure 23.

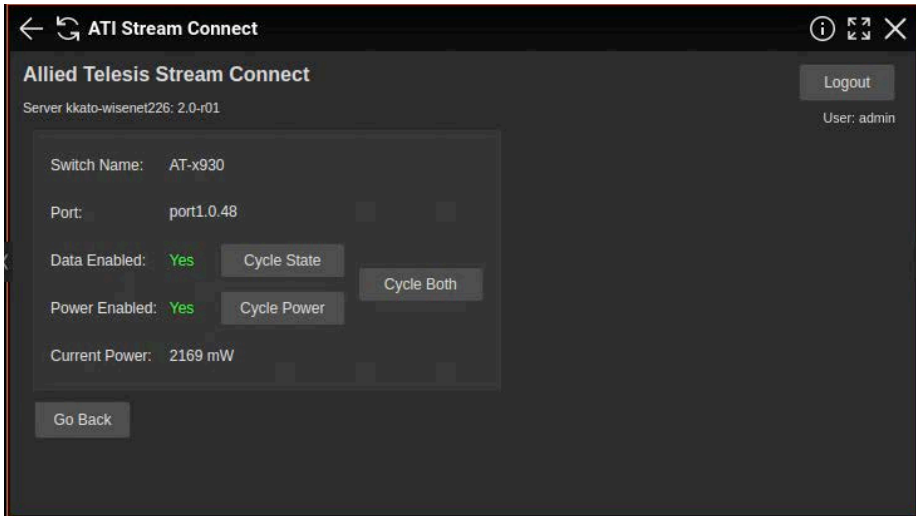

Figure 23. ATI Stream Connect > Select Camera > Port Control

7. Click one of the following buttons as needed:
   - **Cycle State**: Disables the data communication on the port, waits for 30 seconds, and re-enables the port.
   - **Cycle Power**: Disables PoE on the port, waits for 30 seconds, and re-enables PoE on the port.
   - **Cycle Both**. Executes both **Cycle State** and **Cycle Power**.
8. After clicking one of the buttons, click **OK** in the confirmation message window.

> **Note**
> When selecting **Cycle Power** or **Cycle Both**, you receive a warning message of "the camera may be temporarily disabled." Confirm the warning and click **OK** to proceed.

9. Wait until the process is completed.

Alternative Route to Reset a Switch Port and View the Power Usage of the Port

Here is another route to the **Allied Telesis Switch Port Control** page as shown in Figure 23 on page 23 to reset a switch port and view the power usage of the port.

> **Note**
> This alternative route works in the Wisenet WAVE VMS software version 6.0.1.40221 only. For versions 6.0.2.40414 and 5.1.4.38659, follow the instructions shown in "Resetting a Switch Port and Viewing the Power Usage of the Port" on page 22.

1. Start the Wisenet WAVE VMS client and log in.
2. Click the server that the Wisenet WAVE VMS is running.
3. On the left navigation pane, right-click a camera and select **Camera Settings** on the drop-down list. See Figure 24 on page 25.

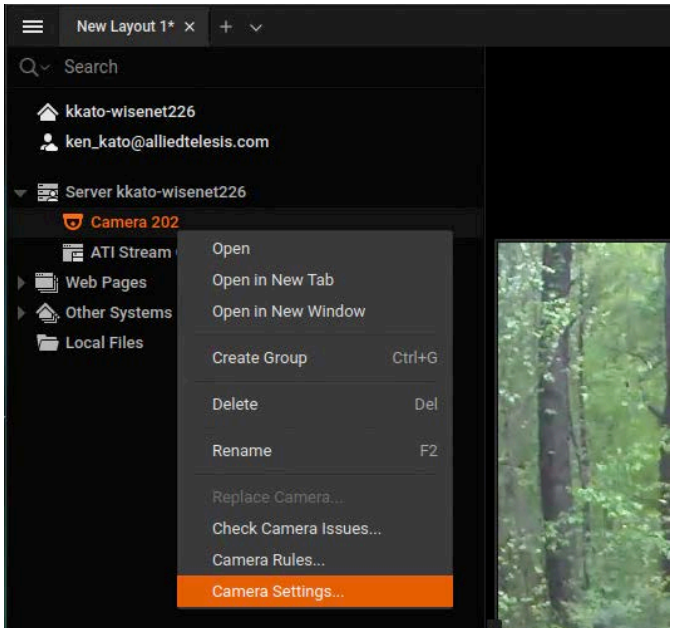

Figure 24. Camera > Camera Settings

The Camera Settings page appears.

4. Click **Plugins** on the menu bar. See Figure 25.

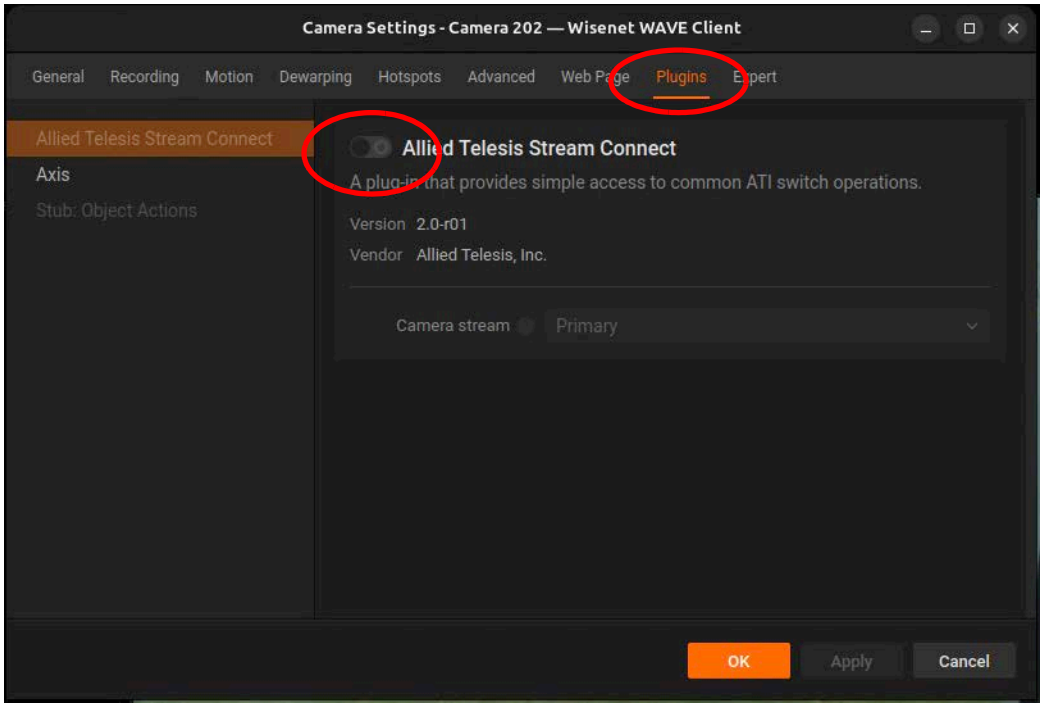

Figure 25. Camera > Camera Settings > Plugins

5. On the left navigation pane, select **Allied Telesis Stream Connect**.

6. Enable **Allied Telesis Stream Connect** by turning on the toggle button.

7. Click **Apply**.

   The **Allied Telesis Stream Connect** is enabled and the page is updated. See Figure 26 on page 26.

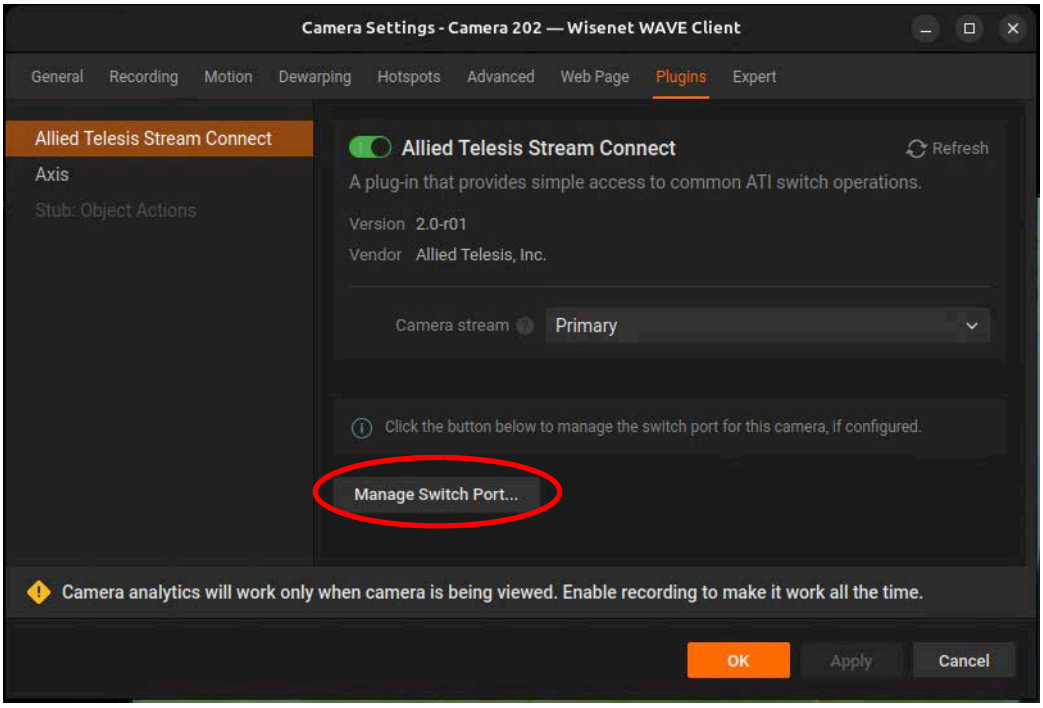

Figure 26. Camera > Camera Settings > Plugins > Toggle Button On > Apply

8. Click **Manage Switch Port**.

> **Note**
> You can click **Manage Switch Port** when StreamConnect is installed and cameras are associated to Allied Telesis switch ports.

The **Allied Telesis Switch Port Control** page appears. See Figure 27 on page 27.

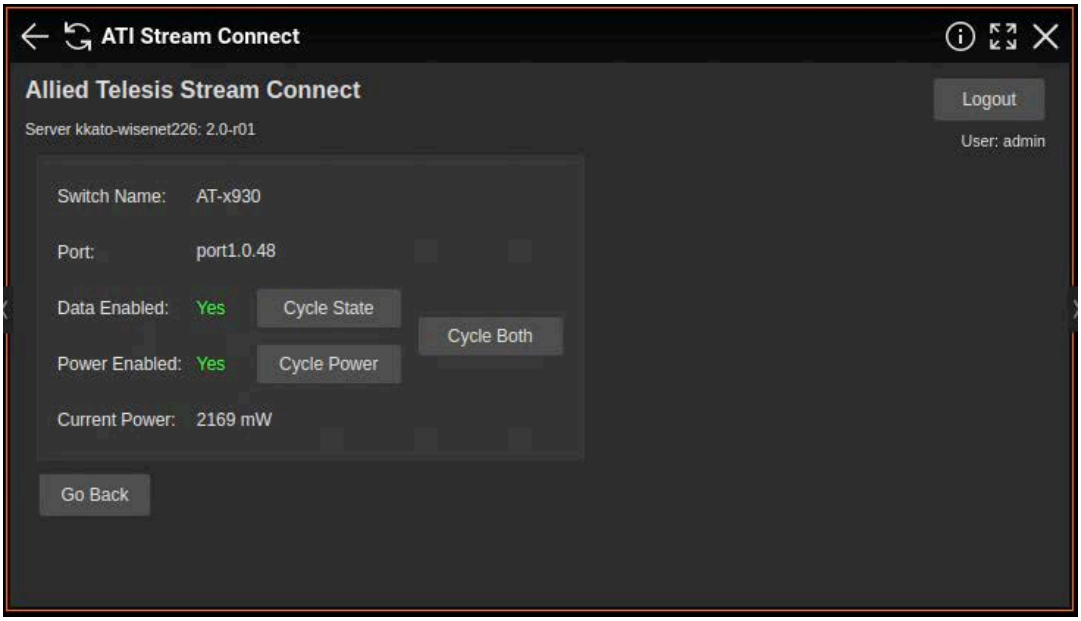

Figure 27. Camera > Camera Settings > Plugins > Toggle Button On > Manage Switch Port

9. To reset the switch port, go to Step 7 in "Resetting a Switch Port and Viewing the Power Usage of the Port" on page 22.

Enabling or Disabling Switch Ports, Managing Power Allocations, or Reassigning Cameras

To enable or disable the switch port, or manage power allocations of the switch ports:

1. Ensure that the cameras and Allied Telesis switch are cabled and powered on.
2. Start the Wisenet WAVE VMS client and log in.

   The Wisenet WAVE user interface (UI) appears as shown in Figure 8 on page 13.
3. Click the server that the Wisenet WAVE VMS is running.

   The Wisenet WAVE VMS UI starts. See Figure 9 on page 13.
4. Ensure that StreamConnect is installed and the cameras are associated with the Allied Telesis switch through **Allied Telesis Stream Connect**.

   For more information, see "Installing StreamConnect" on page 9 and "Configuring Allied Telesis Switch and Cameras with StreamConnect" on page 12.
5. On the left navigation pane, double-click the **ATI Stream Connect** for the camera that you want to manage.

The ATI Stream Connect main menu appears. See Figure 12 on page 15.

6. Click **Select Switch** and choose a switch on the drop-down list. See Figure 28.

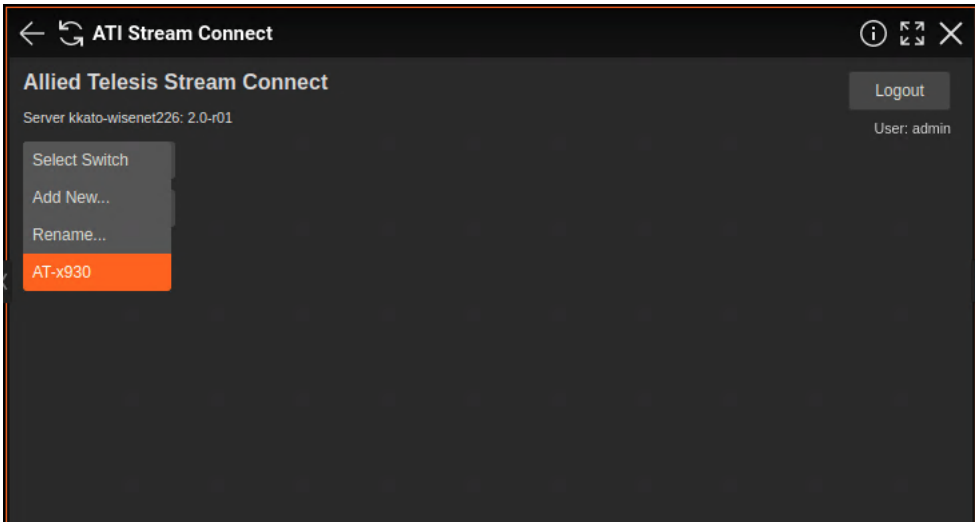

Figure 28. ATI Stream Connect > Select Switch

The Allied Telesis Switch Port Control page appears. See Figure 29.

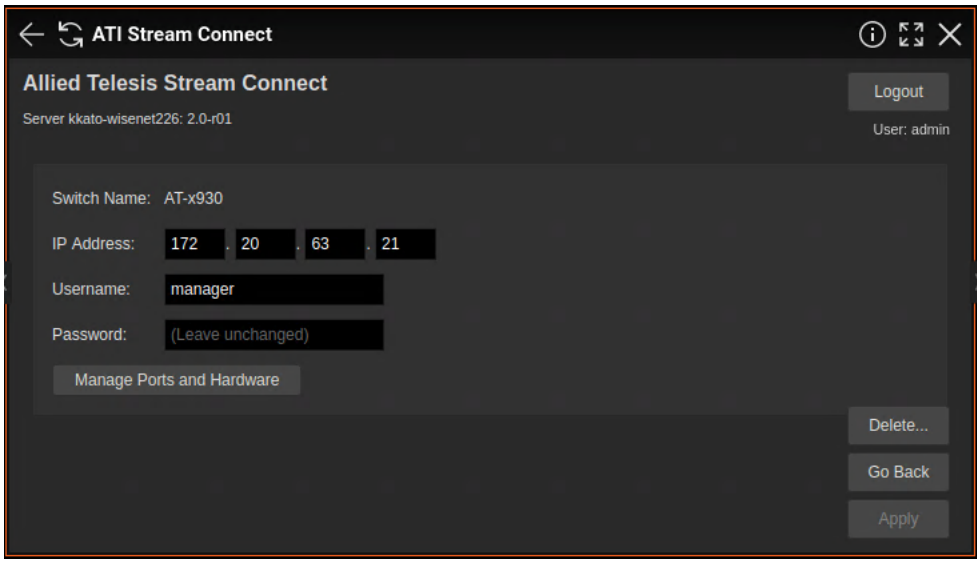

Figure 29. ATI Stream Connect > Select Switch > Switch Port Control

7. Click **Manage Ports and Hardware**.

   The status and information of the switch and switch ports are displayed on the same page. See Figure 30 on page 29.

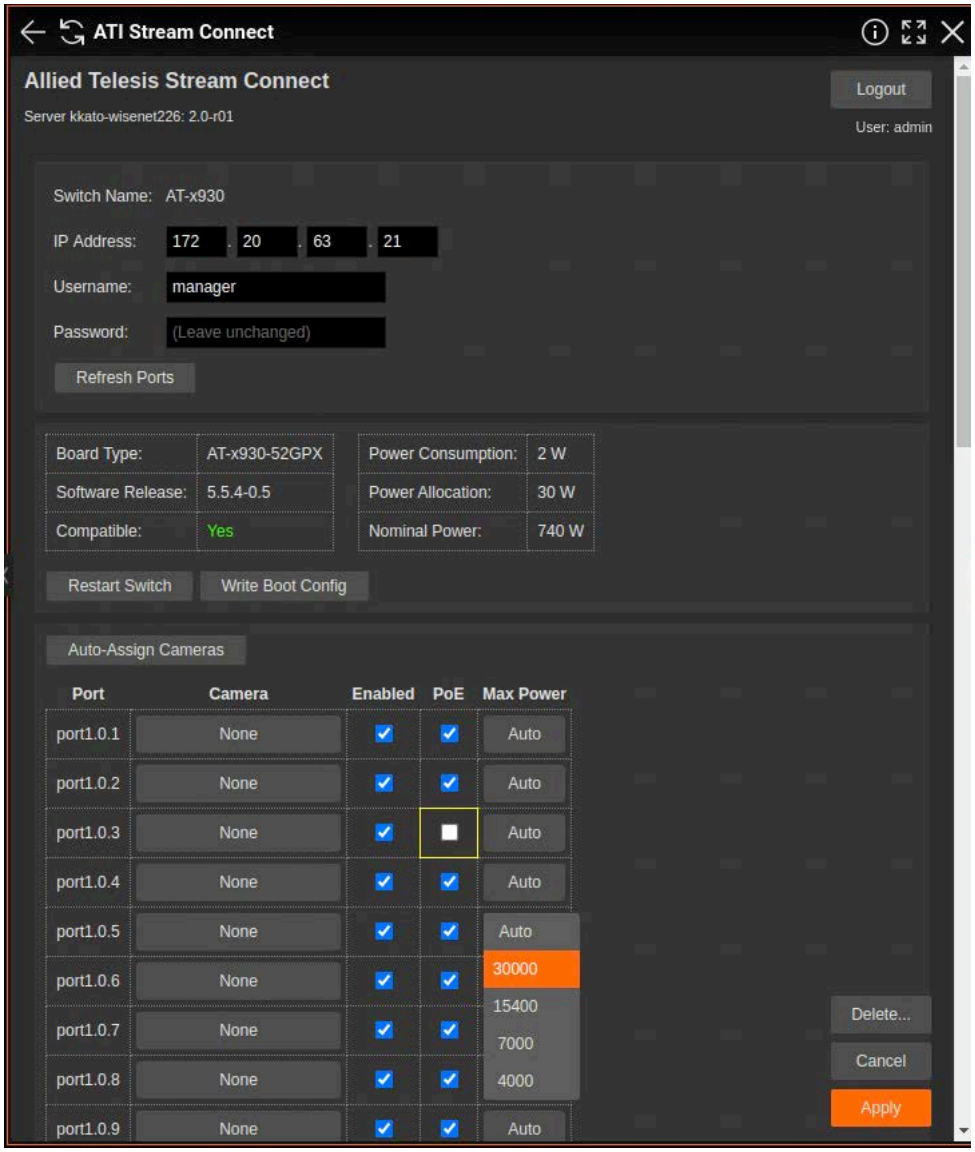

Figure 30. ATI Stream Connect > Select Switch > Manage Ports and Hardware

8. To manage the switch ports:

   - To enable or disable the data communication on a port: click the check mark on the **Enabled** column and the row of the switch port that you want to manage.
   - To enable or disable PoE on a port: click the check mark on the **PoE** column and the row of the switch port that you want to manage.
   - To change the maximum power assigned to a port:

     a. Click the area on the **Max Power** column and the row of the switch port that you want to manage.

     b. Select an option on the drop-down list. See Figure 30 on page 29.

   - To reassign the cameras to switch ports, see “Associating Cameras to Allied Telesis Switch Ports” on page 18.

9. Click **Apply**.

   The changes are saved.

Troubleshooting

Problem 1

An **ATI Stream Connect** link is not displayed under a server on the left navigation pane.

The Show Proxied Resources option may be disabled on the server. To enable Show Proxied Resources:

1. Ensure that the cameras and Allied Telesis switches are cabled and powered on.
2. Start the Wisenet WAVE VMS client and log in.
3. Click the server that the Wisenet WAVE VMS is running on.

   The Wisenet WAVE VMS UI starts. See Figure 9 on page 13.
4. Right-click the VMS server that you want to display its **ATI Stream Connect** link.

   The Popup menu appears. See Figure 31 as an example.

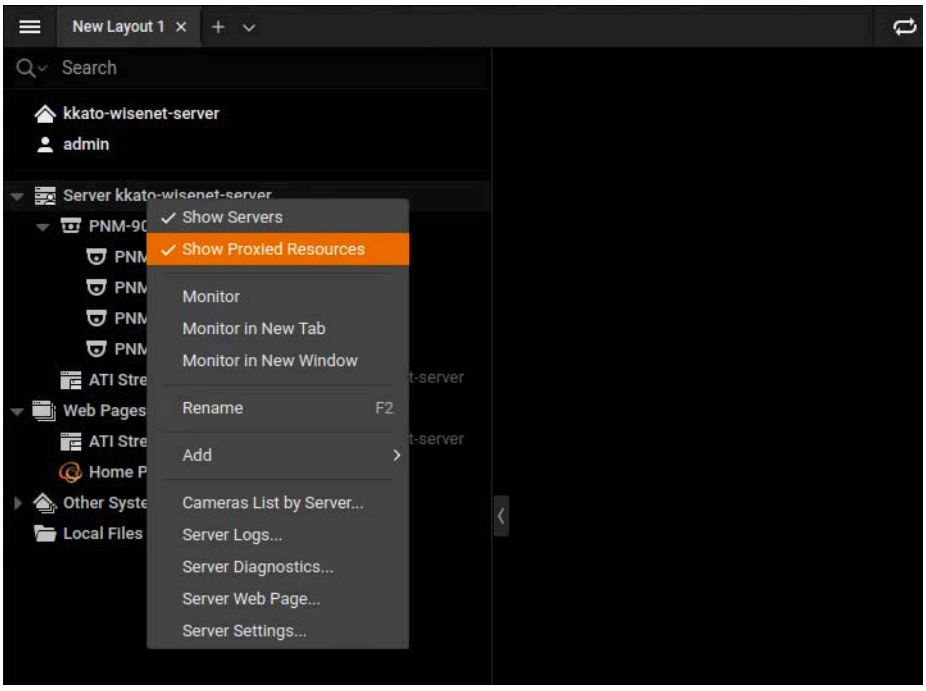

Figure 31. Wisenet WAVE VMS UI - Popup Menu for a Server

5. Select Show Proxied Resources.

   The Show Proxied Resources is enabled.

6. If an **ATI Stream Connect** link is still not listed under the server, take measures in “Problem 2” on the next section.

Problem 2

An **ATI Stream Connect** link on the left navigation pane is accidentally changed or deleted.

Take the steps shown in “Automatically Recovering Links to ATI Stream Connect” on this page.

If the **ATI Stream Connect** link is still not recovered, go to “Manually Recovering Links to Allied Telesis Stream Connect” on page 34.

Automatically Recovering Links to ATI Stream Connect

To correct the links automatically:

1. Ensure that the cameras and Allied Telesis switch are cabled and powered on.
2. Start the Wisenet WAVE VMS client and log in.

   The Wisenet WAVE UI appears as shown in Figure 8 on page 13.
3. Click the server that the Wisenet WAVE VMS is running.

   The Wisenet WAVE VMS UI starts. See Figure 9 on page 13.
4. Ensure that StreamConnect is installed and the cameras are associated with the Allied Telesis switch through **Allied Telesis Stream Connect**.

   For more information, see “Installing StreamConnect” on page 9 and “Configuring Allied Telesis Switch and Cameras with StreamConnect” on page 12.
5. Right-click the server and select System Administration on the drop-down list. See Figure 32 on page 33.

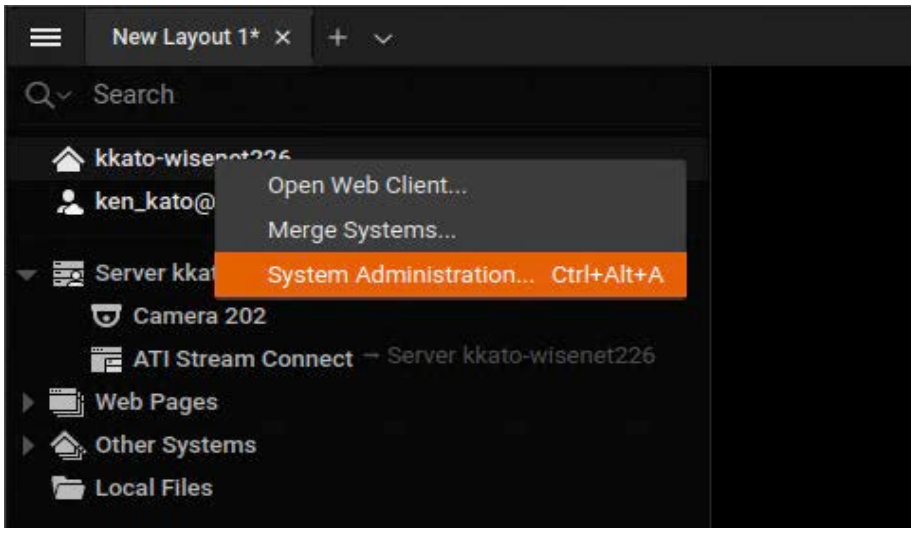

Figure 32. Server > System Administration

The System Administration window appears.

6. Click **Plugins** on the menu bar. See Figure 33

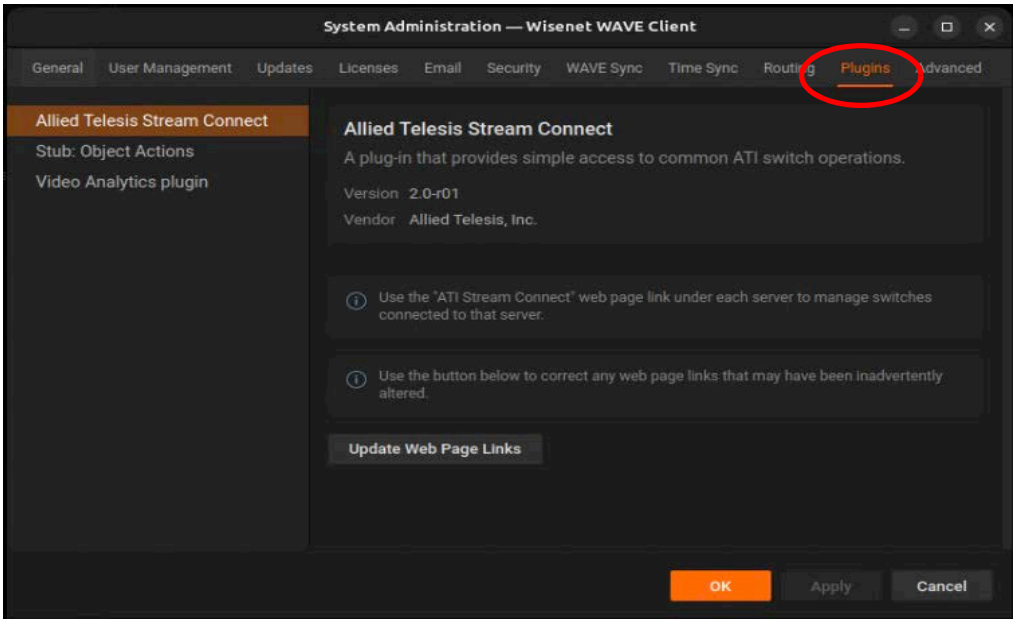

Figure 33. Server > System Administration > Plugins

7. Click **Update Web Page Links**.

   The links should be automatically recovered.

8. If the links are not still recovered, go to "Manually Recovering Links to Allied Telesis Stream Connect" on page 34.

Manually Recovering Links to Allied Telesis Stream Connect

To correct the links manually:

1. Ensure that the cameras and Allied Telesis switch are cabled and powered on.

2. Start the Wisenet WAVE VMS client and log in.

   The Wisenet WAVE UI appears as shown in Figure 8 on page 13.

3. Click the server that the Wisenet WAVE VMS is running on.

   The Wisenet WAVE VMS UI starts. See Figure 9 on page 13.

4. Ensure that StreamConnect is installed and the cameras are associated with the Allied Telesis switch through **Allied Telesis Stream Connect**.

   For more information, see “Installing StreamConnect” on page 9 and “Configuring Allied Telesis Switch and Cameras with StreamConnect” on page 12.

5. Right-click **ATI Stream Connect** and select **Web Page Settings** on the drop-down list. See Figure 34.

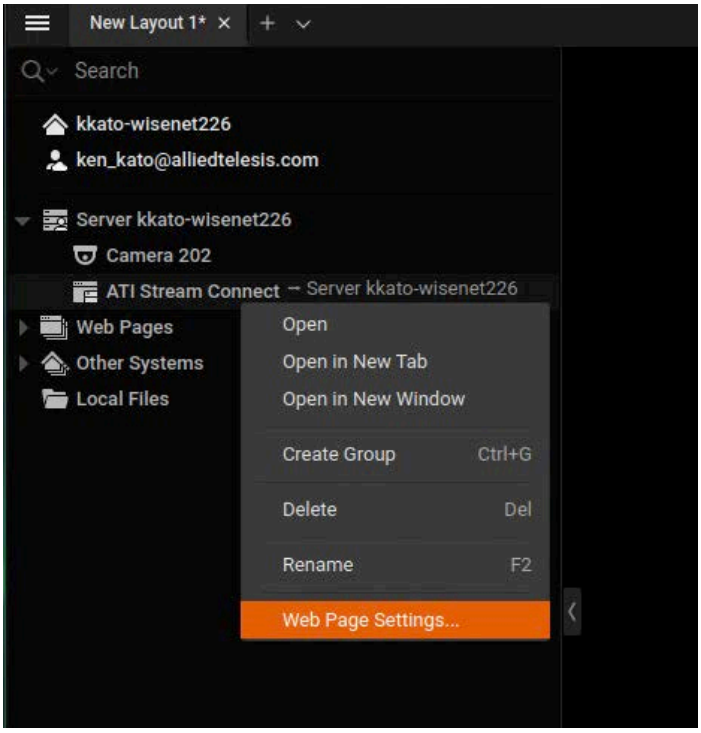

Figure 34. ATI Stream Connect > Web Page Settings

The System Administration window appears. See Figure 35.

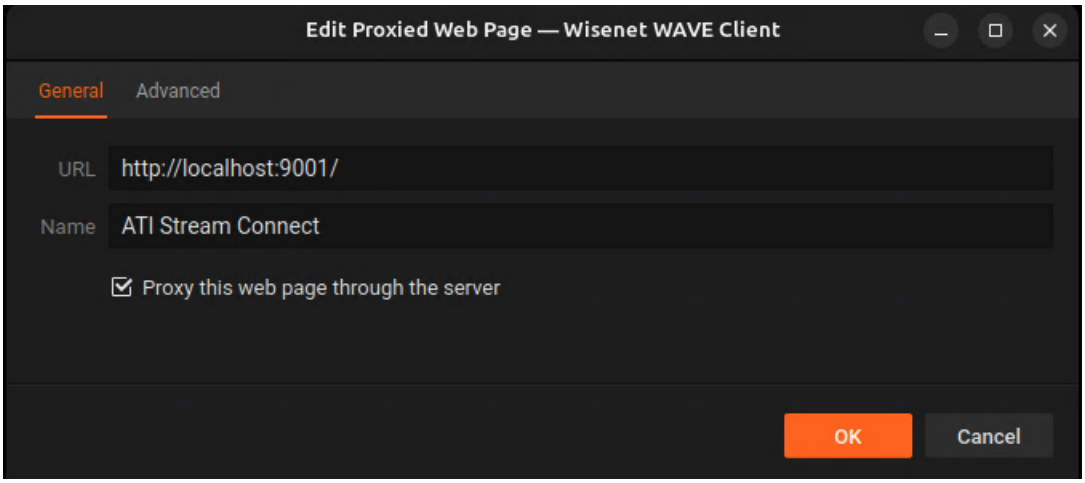

Figure 35. Edit Proxied Web Page Window

6. Ensure that the following fields are correct:
   - **URL** must contain the following exact text:

     `http://localhost:9001`
   - **Name** must contain the following exact text:

     ATI Stream Connect
   - **Proxy this webpage through the server** must be checked.
7. Click **OK**.

   The links should be recovered.

Problem 3

Clicking an **ATI Stream Connect** link on the left navigation pane does not open the **Allied Telesisis Stream Connect** page.

Take the steps shown in "Automatically Recovering Links to ATI Stream Connect" on page 32.

If clicking the **ATI Stream Connect** link does not open the Allied Telesis **Stream Connect** page even after the automatic recovering process was completed, go to "Manually Recovering Links to Allied Telesis Stream Connect" on page 34.

If both "Automatically Recovering Links to ATI Stream Connect" on page 32 and "Manually Recovering Links to Allied Telesis Stream Connect" on page 34 failed, restart the media server services.

Problem 4

The **ATI Stream Connect** link has been manually edited by accident.

Take the steps shown in “Automatically Recovering Links to ATI Stream Connect” on page 32.

If the link is not corrected even after the automatic recovering process was completed, go to “Manually Recovering Links to Allied Telesis Stream Connect” on page 34.