IO NODES

Secure Display Station Plug-in for Milestone® XProtect

User Manual

Document Version 1.4

IONODES Secure Display Station Plug-in for Milestone XProtect

User Manual

The following words and symbols mark special messages throughout this manual:

Warning:	Text set off in this manner indicates that failure to follow directions could result in damage to persons or equipment.
Note:	Text set off in this manner indicates special instructions which should be paid attention to.

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1 Introduction

The Secure Display Station Plug-in for Milestone® XProtect allows for seamless integration of Secure Display Station (SDS) appliances within the Milestone XProtect® VMS solution. It allows for user control of the views, layouts and cameras displayed on the SDS from within the XProtect® Smart Client application.

The diagram below shows the elements involved with this integration.
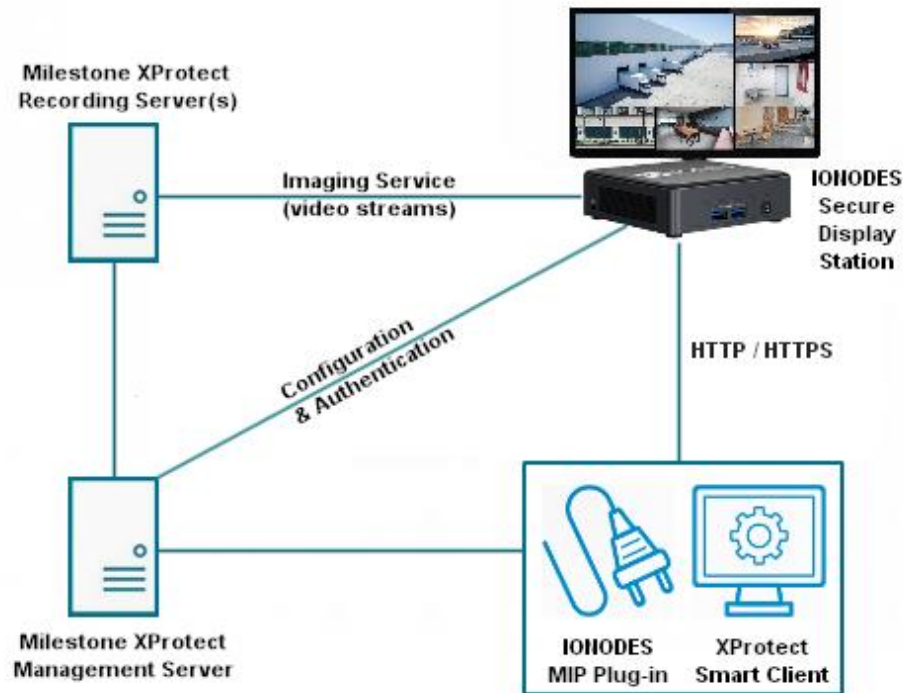
The plug-in adds a set of user interface elements within the XProtect® Management Client and Smart Client allowing users to configure and control various aspects of the integration. Video streams can be retrieved from Milestone XProtect® Server via two (2) interfaces:

- Built-in Milestone Imaging Server, or
- Milestone Open Network Bridge

Note: Only Imaging Server approach is described in this manual. It is recommended for all new installations. Integration using Milestone Open Network Bridge is a legacy feature that requires additional software installation and configuration. If required, please contact IONODES to obtain an earlier version of this manual describing Milestone Open Network Bridge installation and configuration.

2 Requirements

This integration requires Milestone XProtect® 2021 R2 or later, and the IONODES SDS Plug-in for Milestone XProtect. It is supported by the following editions of the Milestone XProtect® VMS: Express+, Professional+, Expert and Corporate.

Installation described in this document supports Imaging Server(s) installed on hosts other than Management Server host. It also supports selecting non-default live streams. These features require plugin version 1.0.2.3 and IONODES SDS firmware 6.8.4.5 or newer.

This integration supports Milestone Streaming Media encryption with plugin version 1.0.2.5 and IONODES SDS firmware 15.3.0.6 or newer.

Warning: Streaming from devices with Privacy Masking enabled is possible by configuring RecorderConfig.xml. However, the stream will display on the SDS without mask applied.

3   Installation and Configuration

3.1   Installing the plug-in

1. Shutdown all Milestone XProtect® client applications, such as the Smart Client, Management Client, and any other client application.
2. Stop all Milestone XProtect® server components and services.
3. Run the IONODES SDS Plug-in for Milestone XProtect installer on the Milestone XProtect® Management server, and on any computer where the XProtect® Smart Client and/or Management Client will be used to configure SDS integration.
4. Milestone requires plug-ins to be installed in a specific folder relative to its own installation location (C:\Program Files\Milestone\MIPPlugins by default). If your installation location is different, adjust the plug-in installation path accordingly.
5. Restart all Milestone XProtect® server components and services.

## 3.2   Configuring Imaging Server
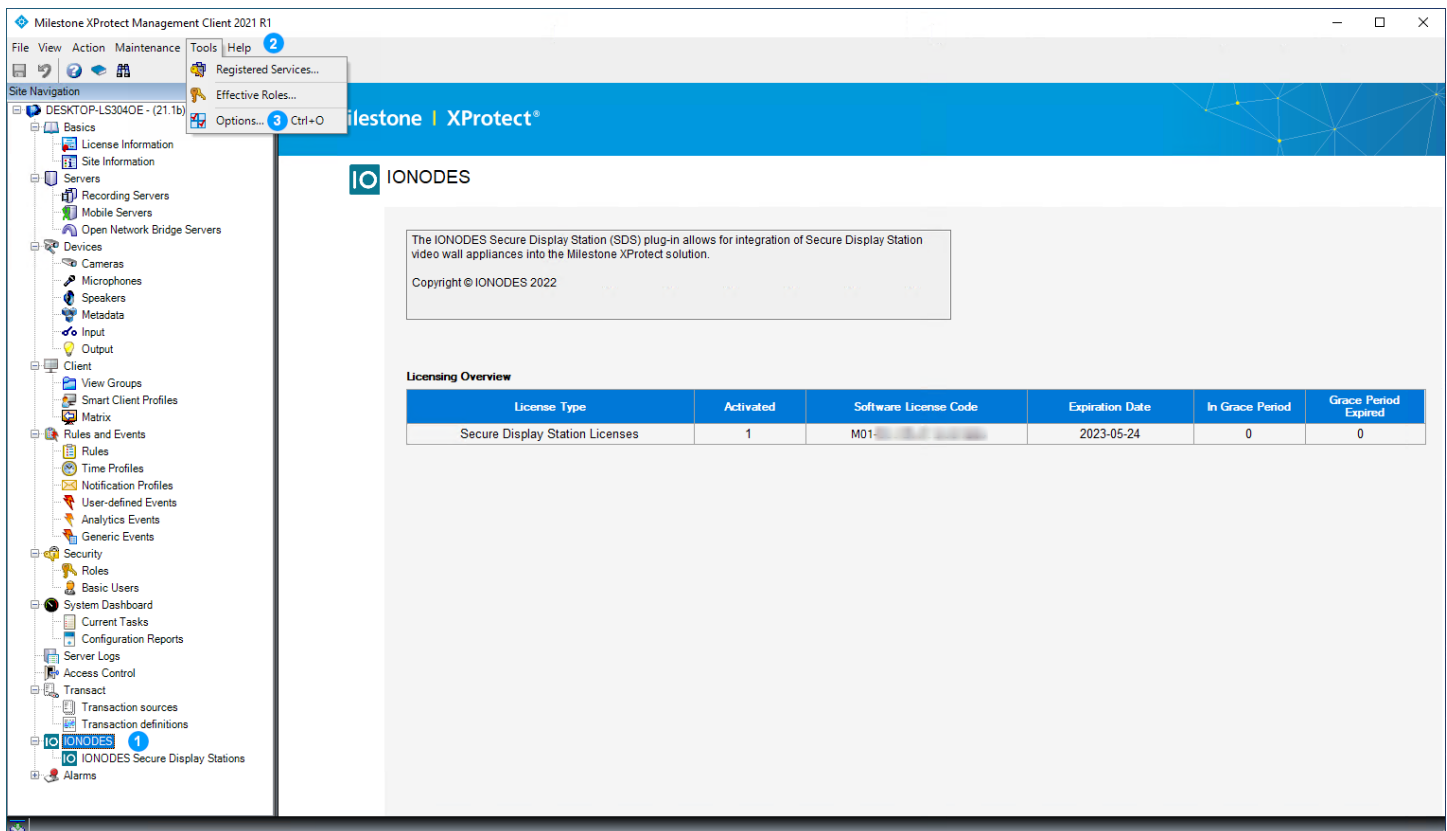
1. Once the plug-in is installed, open the XProtect® Management Client. The new **IONODES** menu item will be available from the **Site Navigation** pane.
2. From the **Tools** toolbar menu.
3. Select **Options...**
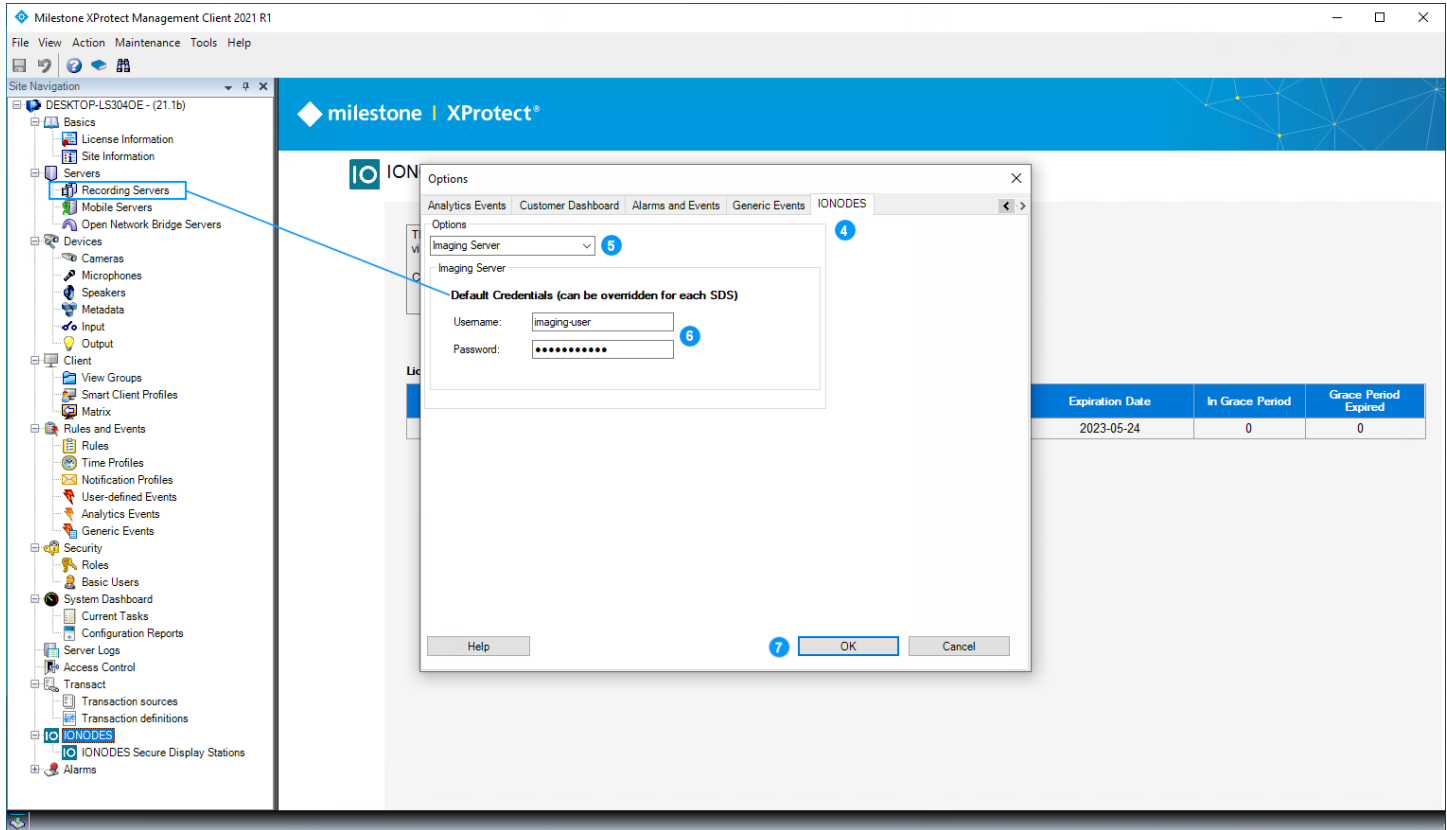
4. In the **Options** window, select the **IONODES** tab.
5. Select **Imaging Server** from the drop-down menu.
6. Set the **Default Credentials** of a **Basic User** whose **Role** allows **XProtect Smart Client** logon and **Cameras View Live**.
7. Click **OK**.

# 4 Adding a Secure Display Station to Milestone XProtect®

Once the IONODES SDS Plug-in is installed and configured, follow these steps to add a new Secure Display Station (SDS) device to your Milestone system.
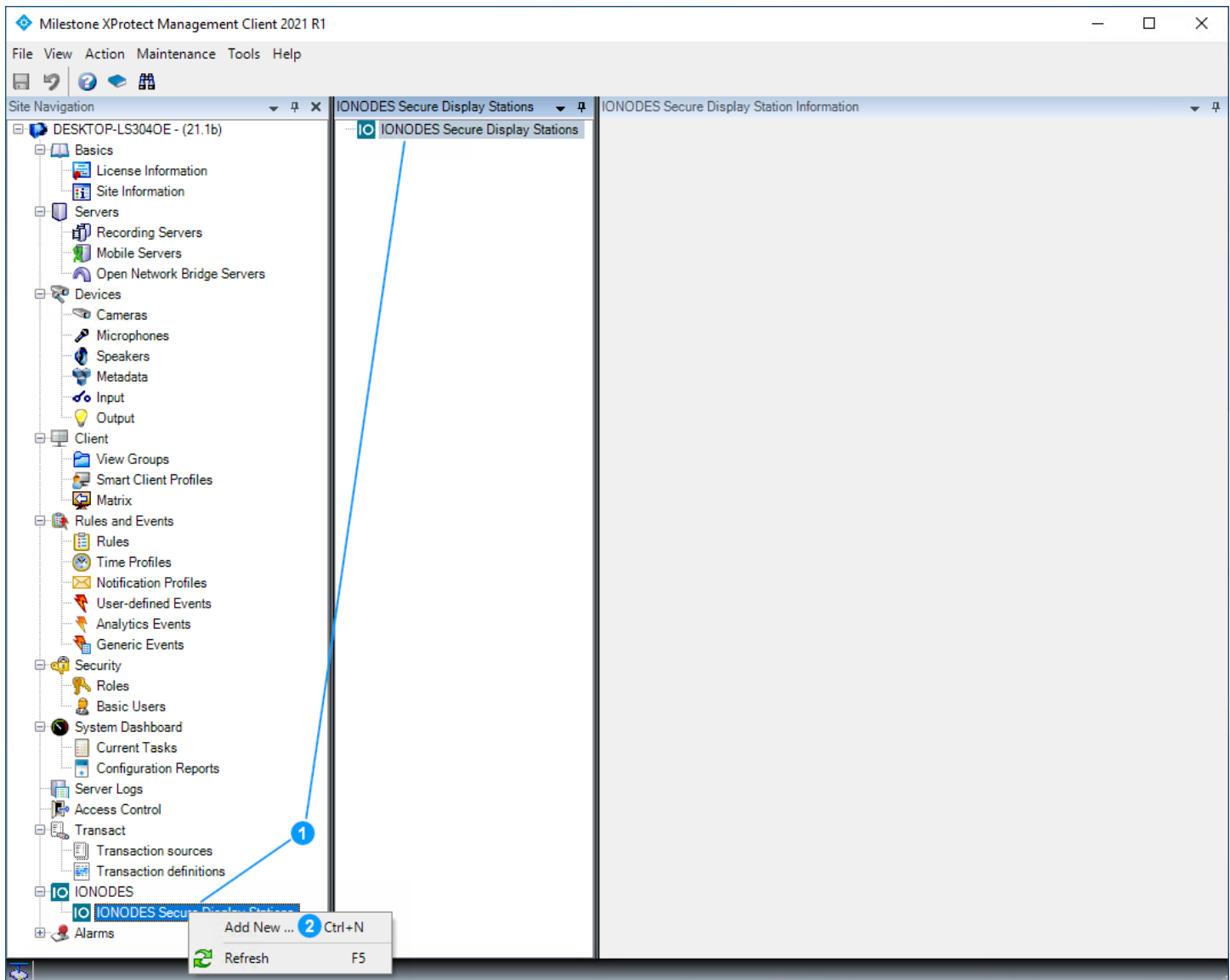
1. From the XProtect® Management Client Site Navigation pane, expand the **IONODES** item and right-click on **IONODES Secure Display Station** from either the left or center pane.
2. Click **Add New...**
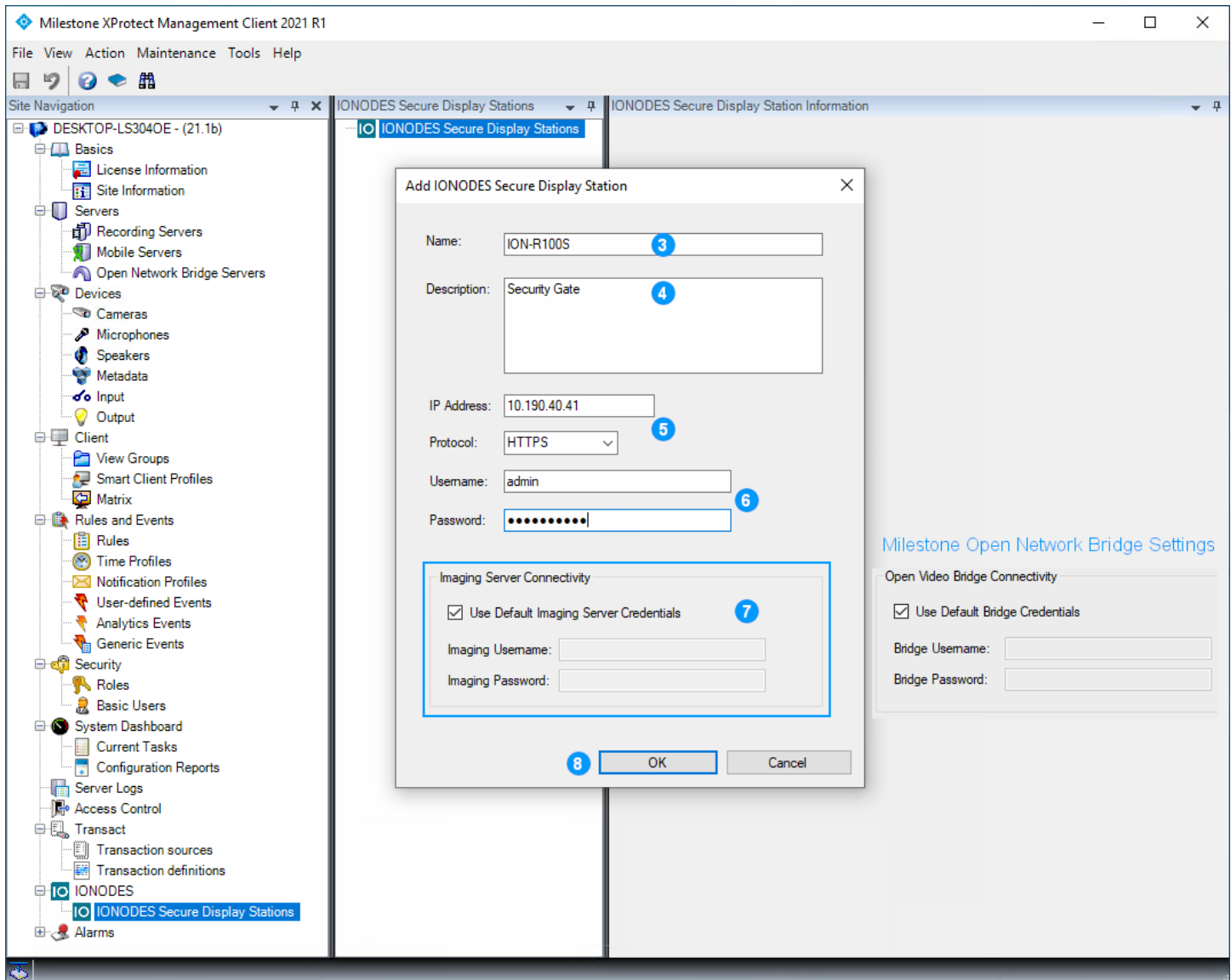
3. In the **Add IONODES Secure Display Station** window, enter the name under which the SDS will appear in XProtect® Smart Client.
4. Enter an optional description.
5. Enter the SDS **IP Address** and select **HTTP** or **HTTPS** protocol for communication between the IONODES MIP Plug-in and the SDS (HTTPS recommended).
6. Enter the SDS login credentials.
7. In the **Imaging Server Connectivity**, check **Use Default Imaging Server Credentials** to use default settings previously configured in the IONODES SDS Milestone Plug-in options. Alternatively, distinct Imaging Server settings can be configured per SDS.
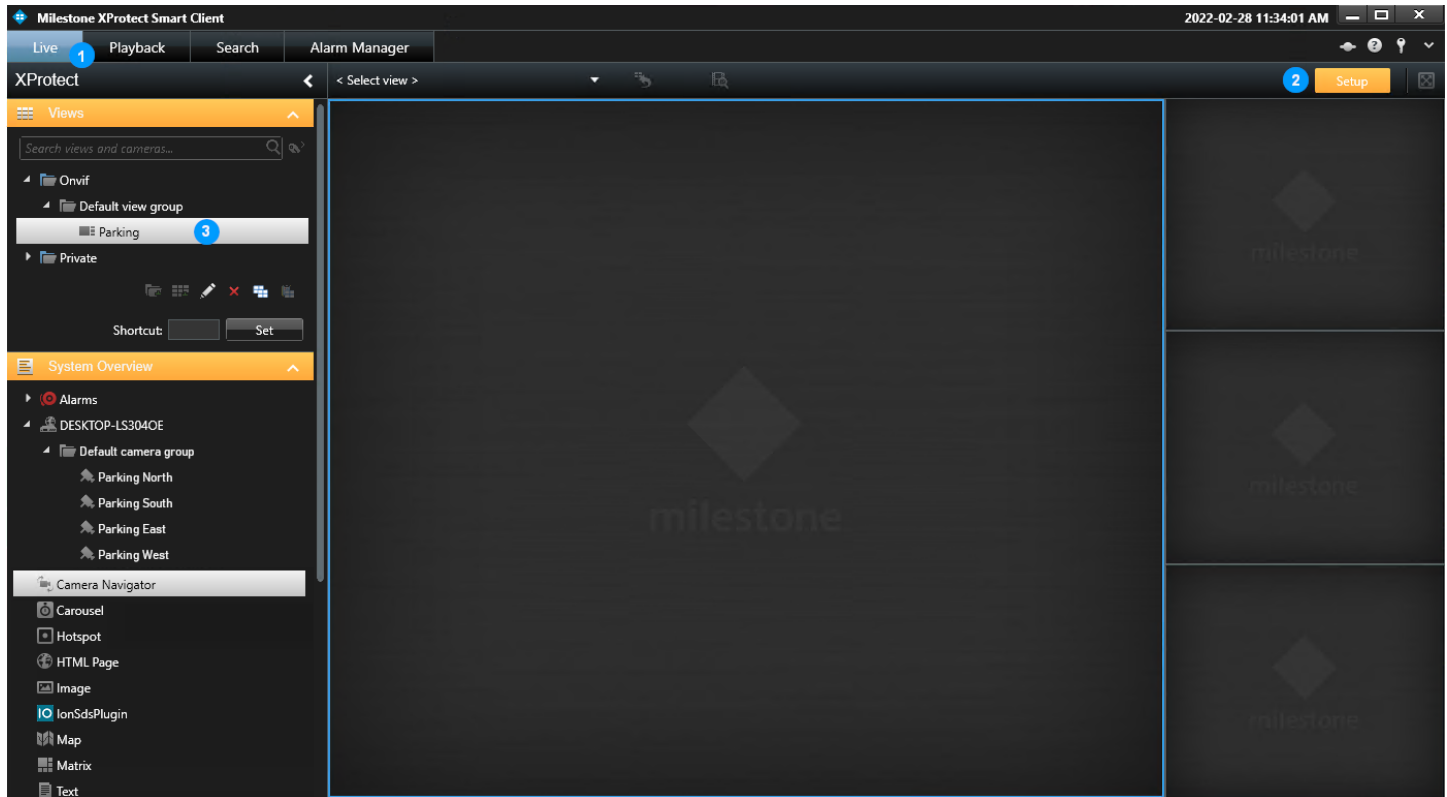8. Click **OK**.
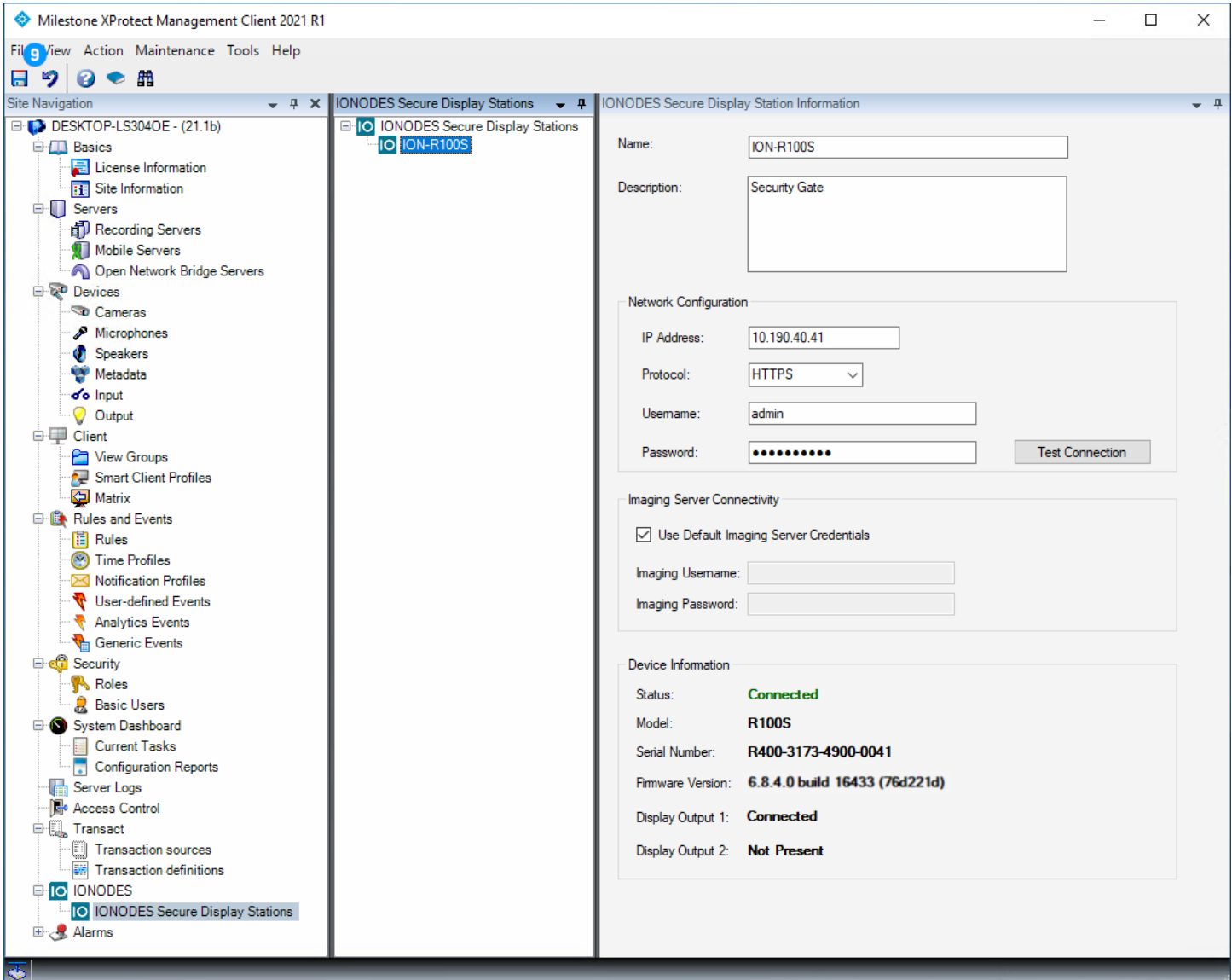
9. Upon successful addition, the SDS will be added with information such as the serial number, firmware version and connection status (Imaging Server configuration shown). Click on the **Save** toolbar icon.


Note: The steps above show a simple deployment, where a single Imaging Server (Recording Server) is used, and all SDS connect with to it using the same user (Default credentials). It is possible to add any number of Imaging Servers and/or set different credentials for individual SDS. This can be warranted for larger deployments and / or to constrain individual SDS access to specific cameras.

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5   Configuring Secure Display Station Views

Follow these steps to configure live views on an SDS.

1. From the XProtect® Smart Client, select the **Live** tab.
2. Click on **Setup** to toggle it ON.
3. Select or create a View with the desired layout you wish to display in the SDS.
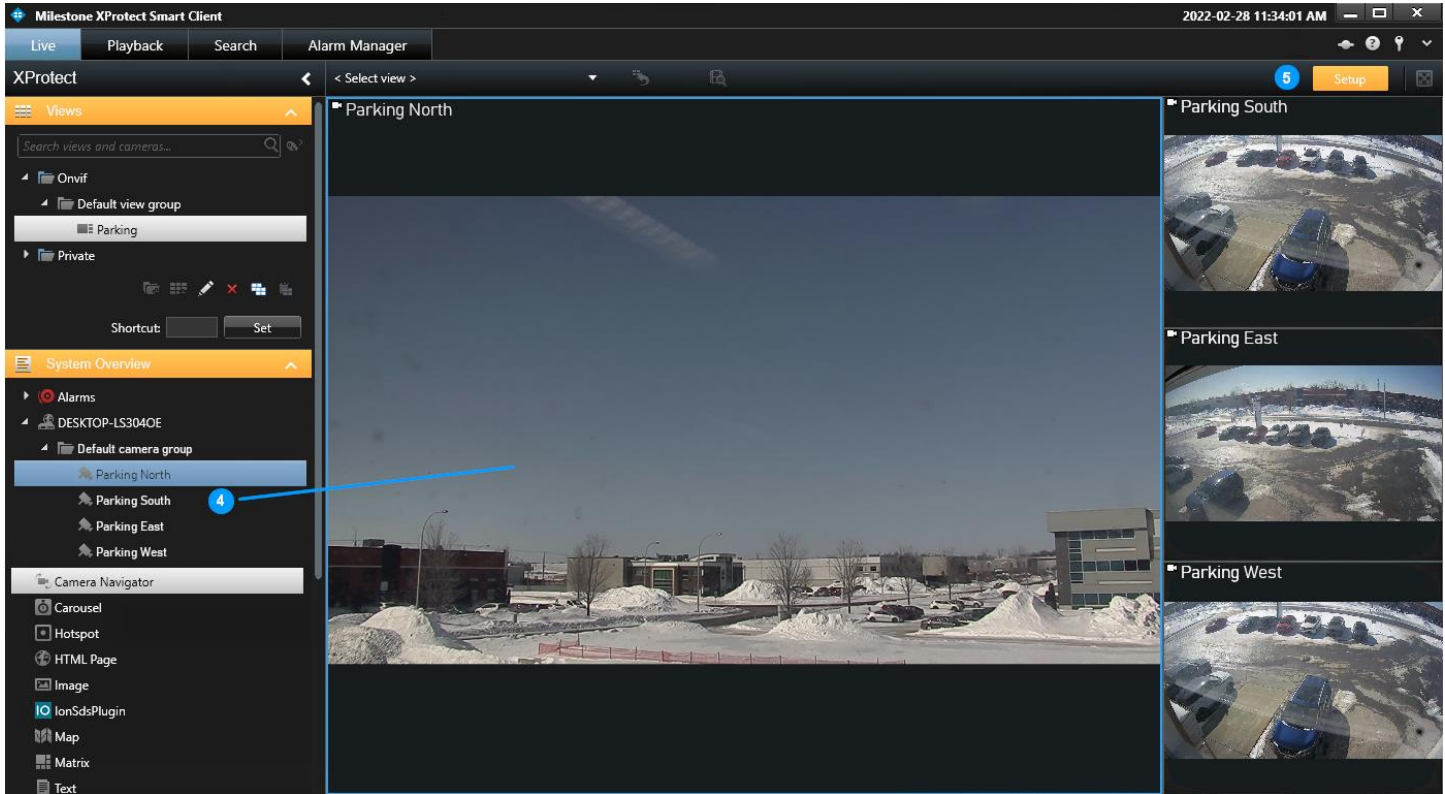
4. Drag and drop cameras into tiles to configure the desired view layout and camera assignments. Note that only live camera streams can be displayed. No other types of sources (static image, web content, analytics, etc.) are supported.
5. Once the view configuration is completed, toggle the **Setup** mode to OFF

Selecting a non-default Live stream (optional)

In some situations, it may be necessary or desirable to select non-default live streams. Secondary streams can be configured with lower resolutions and bitrates to reduce load on the network, server(s) and IONODES SDS decoding resources. Once secondary streams are configured from XProtect® Management Client for the required cameras, they can be selected in the view and pushed to the SDS, as shown below.
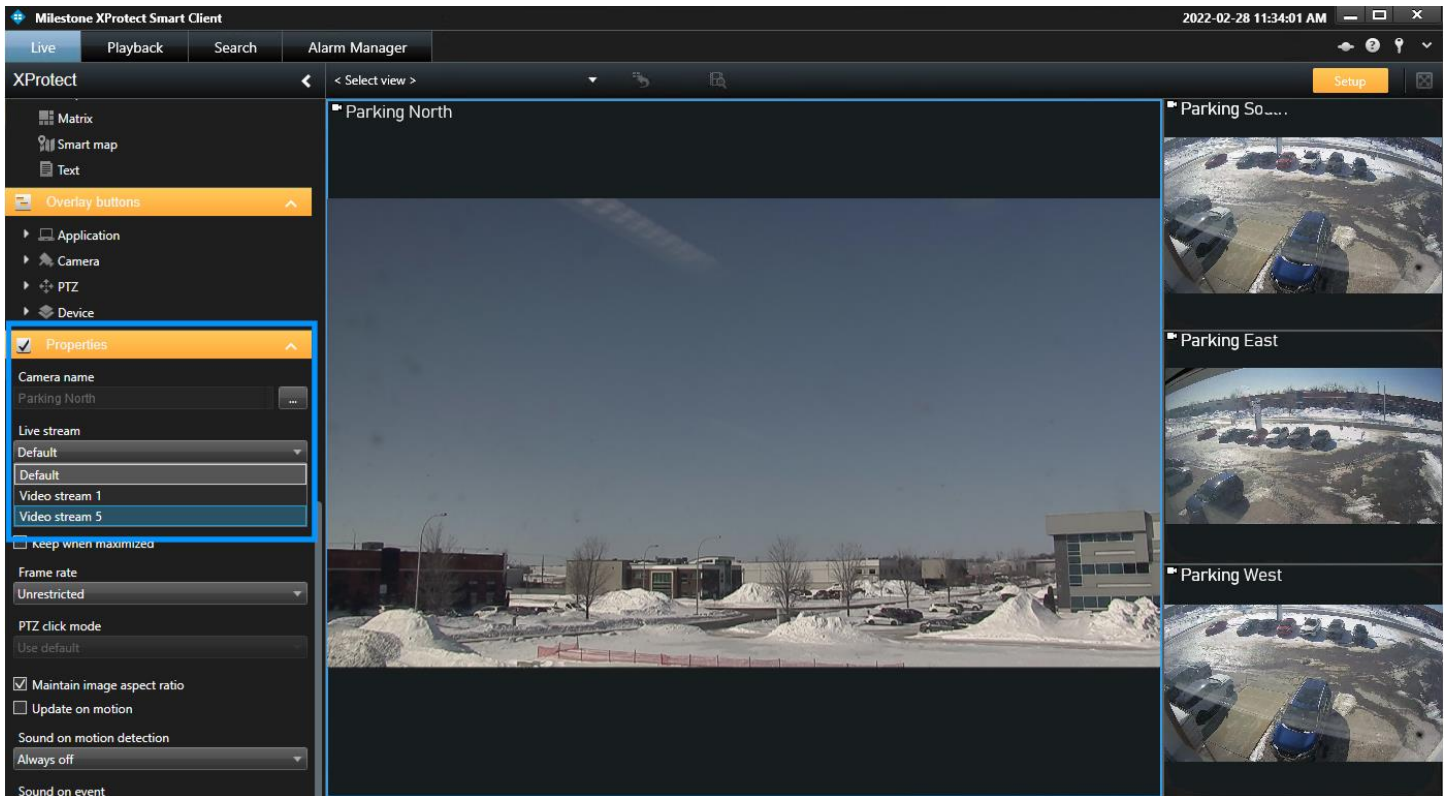
From the **Setup** mode, select a camera tile and scroll down the left pane to the **Properties** section. From the drop-down menu, select the desired stream.

Note: Some versions and editions of XProtect® allow configuring live streams to start only when needed. Depending on version and cumulative patch level of the XProtect® system, a live video stream request from an IONODES SDS may not trigger the 'when needed' condition to start the stream. If this occurs, configuring the stream's Live mode to 'Always' ensures it will be available when an SDS requests it. See troubleshooting section of this guide.
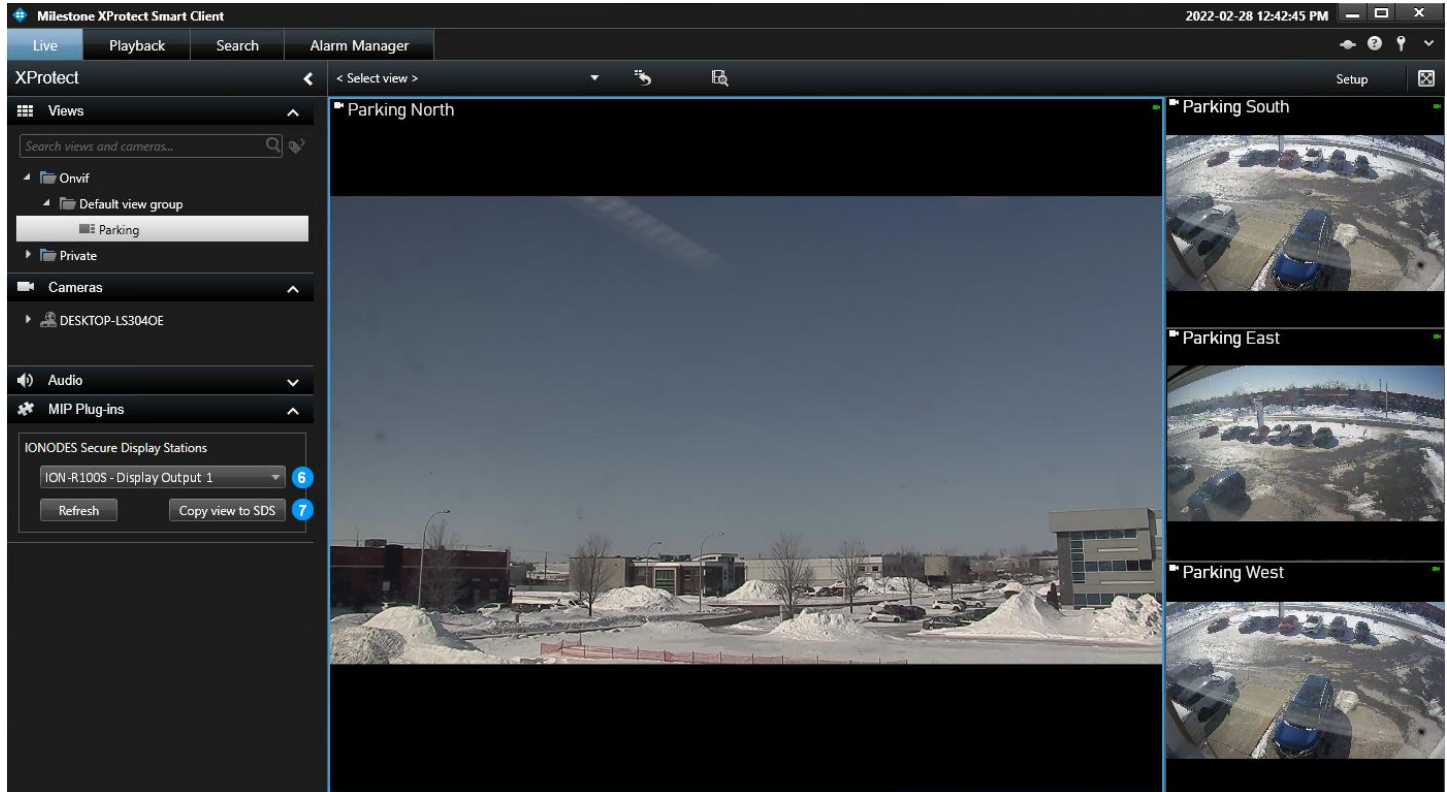
6. From the **MIP Plug-ins > IONODES Secure Display Stations** section's drop-down menu, select the SDS display output where the configured view shall be displayed.
7. Click on **Copy view to SDS**, this will copy the view configuration to the selected SDS.

Note: Secure Display Stations support a maximum of 16 tiles per view. Attempting to send a view with more than 16 tiles will return an error message.

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6 Viewing the Secure Display Station Video Output

Once the SDS is added to Milestone XProtect® and live view layout(s) are configured, your SDS Video Output Preview(s) and actual monitoring display should reflect what has been set.

The screenshot below shows how the Video Output preview in the SDS Web GUI looks like after configuring the view from XProtect® Smart Client in the previous section.
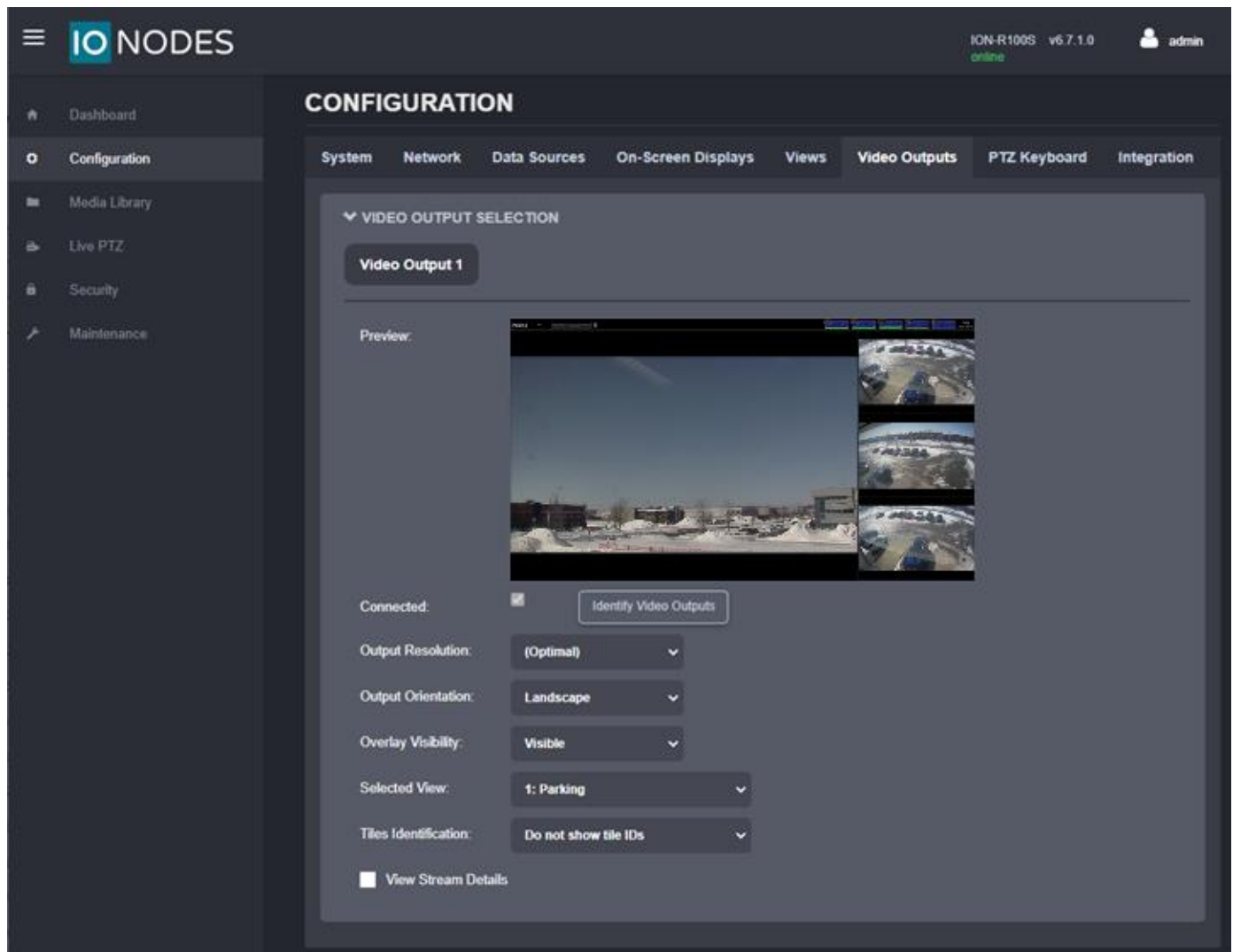
The screenshot below shows the actual Video Output on video wall.
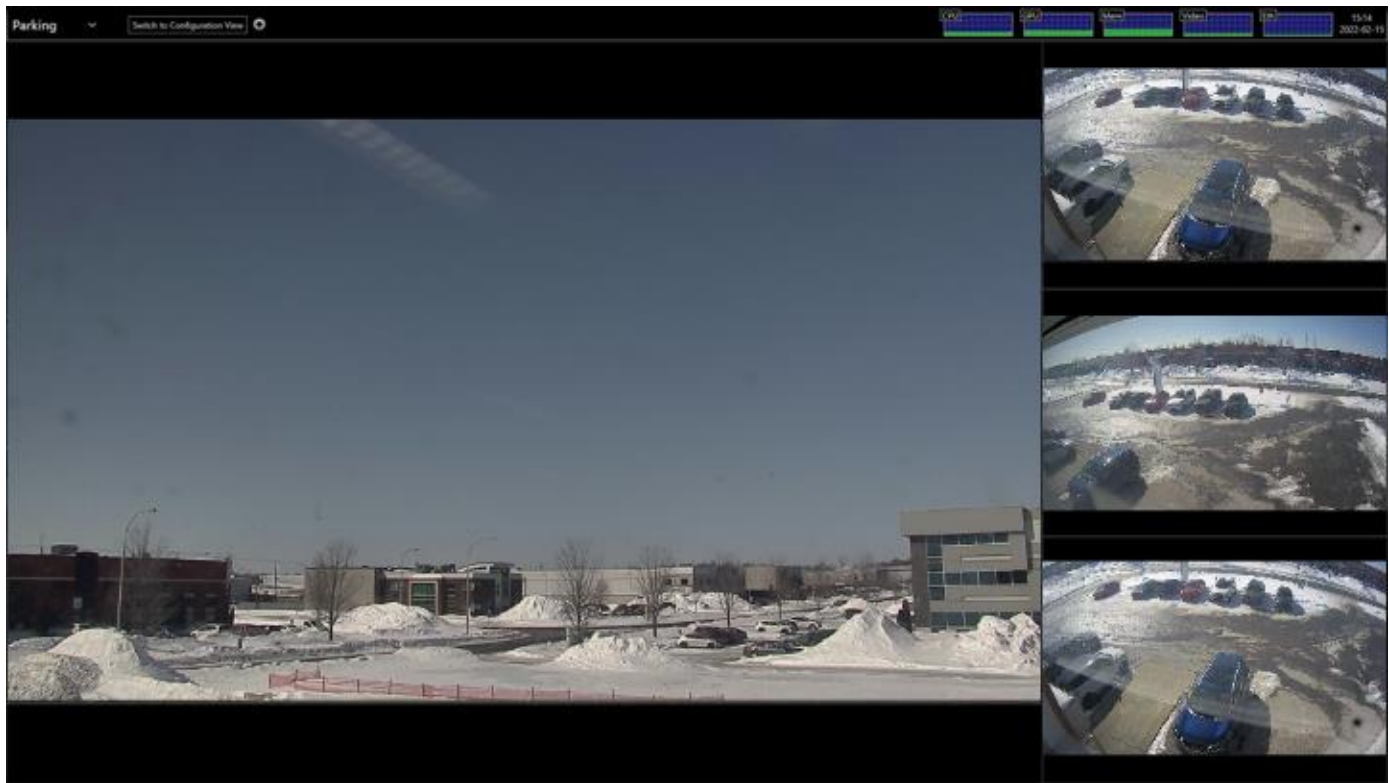
To later change the SDS view, repeat steps described in the previous section.

7 Enabling Streaming Media Encryption (optional)

Streaming media encryption is supported since plugin version 1.0.2.5 and SDS firmware version 15.3.0.6. When streaming media encryption is enabled in Milestone Server Configurator, the SDS automatically detects encryption settings and connects to imaging servers using Secure Socket Layer (SSL). To establish SSL streams, the SDS validates the imaging server's certificate chain to ensure it trusts its identity.

The SDS runs a locked down operating system in workgroup environment, with a predefined store of trusted root certification authorities (CA). If the root CA certificate that signed the imaging server's certificate is not included in the SDS built-in store, it needs to be manually added to the SDS.
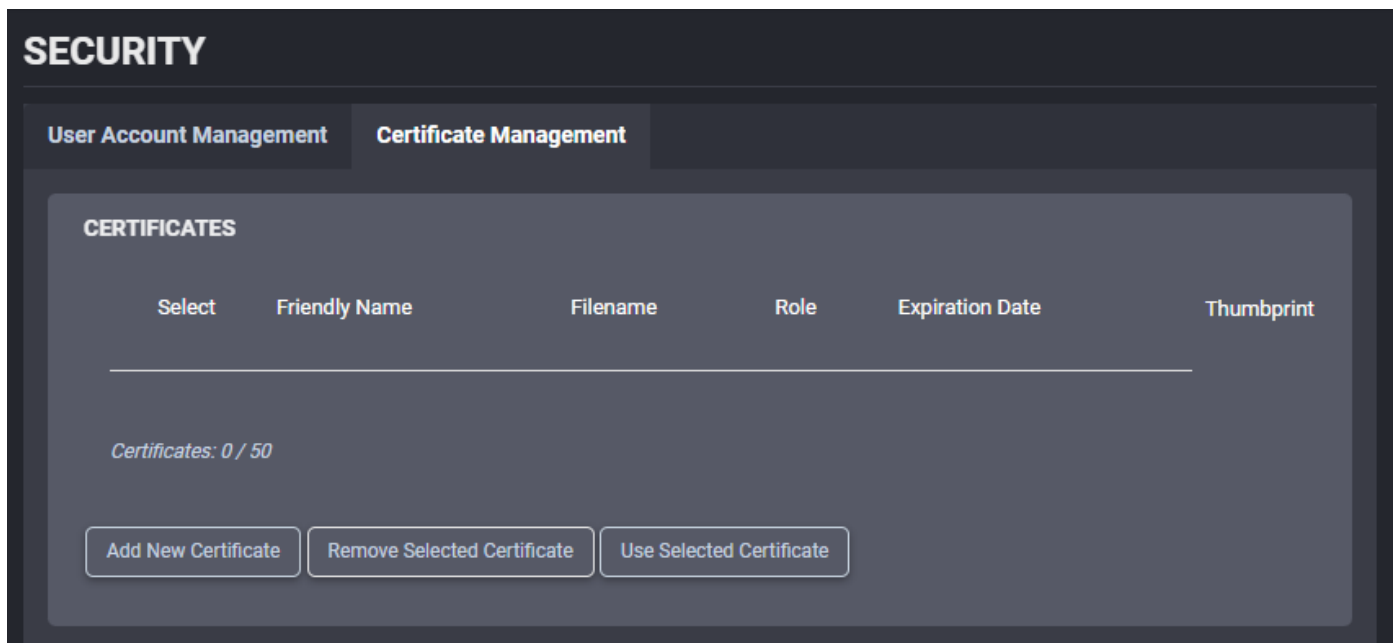
Login to the SDS Web interface with an account with **Administrator** role, open the **Security** page to the **Certificate Management** tab and click on **Add New Certificate**. Browse your computer to find the root CA certificate file that signed the imaging server's certificate. Set the **Role** to **Milestone SSL** and click **OK**.
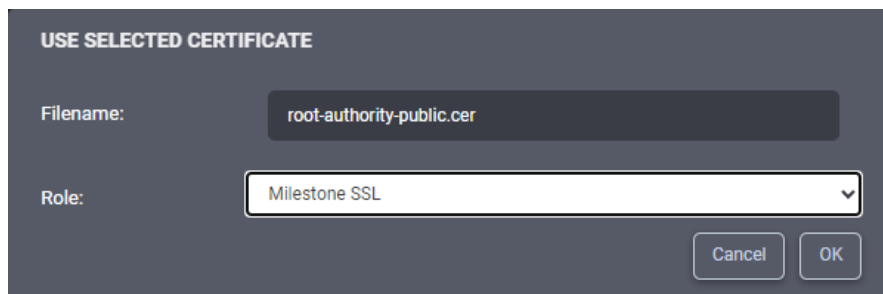
Repeat these steps for any additional root CA certificates required.

8 Licensing

When installing the plug-in, it will activate a demo license for ten (10) Secure Display Stations. The demo license has no feature limitation, is valid for 30 days, and followed by a 30-day grace period. Production licenses can be obtained by contacting the IONODES sales team (sales@ionodes.com) or your authorized reseller. Licenses are activated following the same process as Milestone XProtect® licensing.

1. From XProtect Management Client's **Site Navigation**, expand the **Basics** menu item and open **License Information**.
2. Note your system's **Software License Code**. This code is required when purchasing an IONODES plug-in license from IONODES or from an authorized reseller.
3. Upon purchase, licenses will be assigned to this system and available through the Milestone Customer Dashboard. Automatic, manual online and manual offline license activation are supported by the plug-in. Refer to Milestone documentation web page, under the Milestone Customer Dashboard header for detailed instructions: https://doc.milestonesys.com/latest/en-US/index.htm

Annex A - Troubleshooting Guide

- **Video Tiles show "Connection Lost" on the SDS**
    - Logon to the SDS web UI and enable the Video Output Stream Details to display troubleshooting information overlays.
    - A continuous *Connecting…* error with an URI that starts with milestone:// indicates the Imaging Server connection settings, credentials and/or permissions are invalid.

    Parking North
    milestone://10.190.40.212:7563/a45551bc-e2fb-4c03-b70c-a996ddb11d60
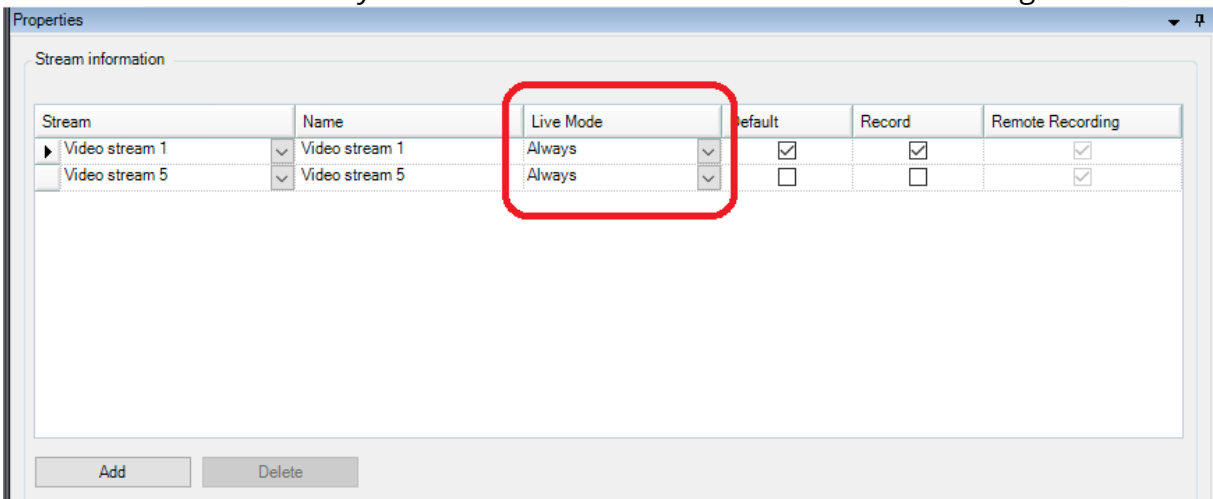   Connecting...
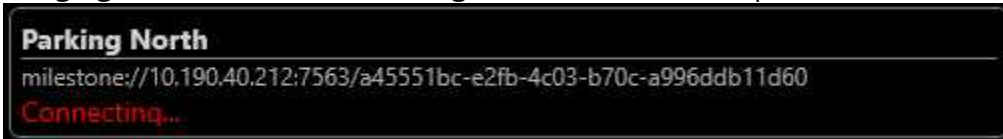
    Alternatively, if streaming media encryption was enabled or disabled since the view was last pushed from XProtect® Smart Client, push the view again for the SDS to detect the updated encryption settings.
    - A *Missing Milestone streaming media certificate* error on a video tile indicates the SDS does not trust this recording server's certificate. Follow steps in section 7 to add the root CA certificate that signed the imaging server's certificate to the SDS certificate management.

    Parking North
    milestone://10.190.40.212:7563/a45551bc-e2fb-4c03-b70c-a996ddb11d60
    Missing Milestone streaming media certificate.
    - A *Connection failed* error on a video tile could indicate the Milestone® Recording server lost connection with that camera.
    - Alternatively, a *Connection failed* error on a video tile could indicate the Live stream for that camera has not started. This is more likely to occur when setting a view with non-default live stream(s) On some versions and patch level of XProtect®, it may be required to set the streams' *Live Mode* to *Always* instead of *When needed* from XProtect® Management Client.

Stream	Name	Live Mode	Default	Record	Remote Recording
Video stream 1	Video stream 1	Always	☑	☑	☑
Video stream 5	Video stream 5	Always	☐	☐	☑

- **Cannot add SDS to Milestone**
  - Verify the SDS is connected, and its network settings are properly configured.
  - SDS Milestone Plug-in requires credentials for an SDS user with *Power user* or higher role.

Note: Milestone XProtect® Management Server and/or Smart Client may need to be restarted when settings are changed for troubleshooting.

Note: A View may need to be pushed again from XProtect® Smart Client to the SDS after settings are changed for troubleshooting.