

**CONTROL**  
iPFUSION  
INSTALLATION  
GUIDE

VERSION  
**2024R3**  
November 2024



[lpfusion.ca](http://lpfusion.ca)

## About IPFusion Installation

This guide assumes you have a Milestone XProtect 2017 R3 system or newer installed and licensed.

This guide describes the process of downloading, installing, licensing, and configuring IPFusion **Control**.

## Software Requirements

Minimum system requirements for Designer and Runtime:

- Asset count less than 5,000 Assets

CPU	Intel Core i3-12300 or equivalent. Must have a minimum passmark score of 14,000. See <a href="http://www.cpubenchmark.net">www.cpubenchmark.net</a> for a list of processors.
Memory	8GB
Screen Resolution	1280 x 1024 (* 1920 x 1080)
Operating System	Windows Server 2016 or newer, Windows 10, Windows 11
.NET	4.8

\* recommended

- Asset count 5,000 to 10,000 Assets

CPU	Intel Core i5-12500 or equivalent. Must have a minimum passmark score of 19,000. See <a href="http://www.cpubenchmark.net">www.cpubenchmark.net</a> for a list of processors.
Memory	16GB
Screen Resolution	1280 x 1024 ( * 1920 x 1080 )
Operating System	Windows Server 2016 or newer, Windows 10, Windows 11
.NET	4.8

\* recommended

- Asset count 10,000 – 20,000 Assets

CPU	Intel Core i7-12700 or equivalent. Must have a minimum passmark score of 30,000. See <a href="http://www.cpubenchmark.net">www.cpubenchmark.net</a> for a list of processors.
Memory	16GB
Screen Resolution	1280 x 1024 ( * 1920 x 1080 )
Operating System	Windows Server 2016 or newer, Windows 10, Windows 11
.NET	4.8

\* recommended

- Asset count greater than 20,000 Assets

CPU	Intel Core i9-12900 or equivalent. Must have a minimum passmark score of 34,000. See <a href="http://www.cpubenchmark.net">www.cpubenchmark.net</a> for a list of processors.
Memory	16GB
Screen Resolution	1280 x 1024 ( * 1920 x 1080 )
Operating System	Windows Server 2016 or newer, Windows 10, Windows 11
.NET	4.8

\* recommended

- Minimum requirements for a video processing workstation

CPU	Intel Core i7-12700 or equivalent. Must have a minimum passmark score of 30,000. See <a href="http://www.cpubenchmark.net">www.cpubenchmark.net</a> for a list of processors.
Memory	16GB
GPU	GeForce GTX 1650 or equivalent. Must have a minimum passmark score of 7000. See <a href="http://videocardbenchmark.net">videocardbenchmark.net</a> for a list of video cards.
Screen Resolution	1280 x 1024 ( * 1920 x 1080 )
Operating System	Windows Server 2016 or newer, Windows 10, Windows 11
.NET	4.8

( Up to 16 Video Panes )

\* recommended

Note: This requirement is only necessary if video is being used in the project.

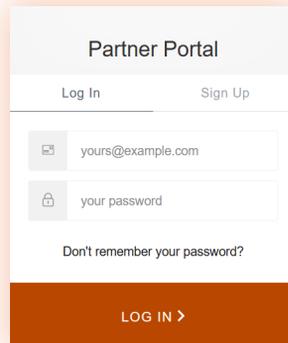
# REQUIREMENTS

- Minimum network requirements for IPFusion

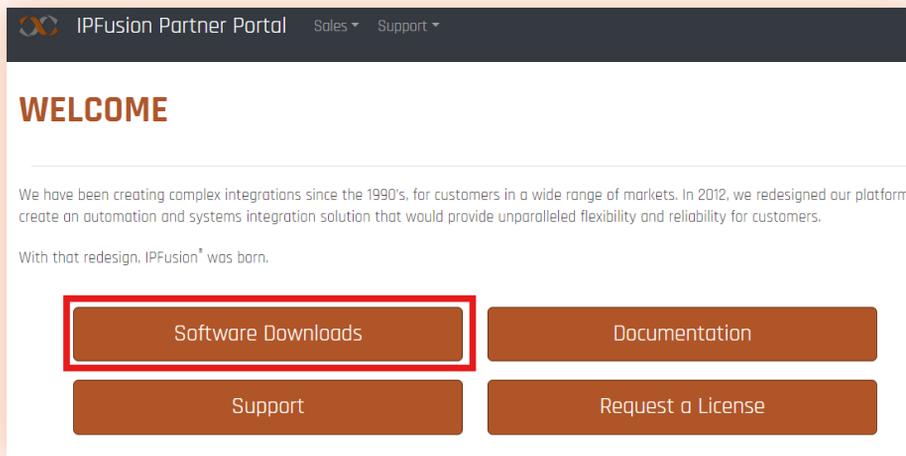
Latency	Less than 100ms between IPFusion Control Workstations.
Bandwidth	1Gbps
Uptime	99.999%

## IPFusion Installer

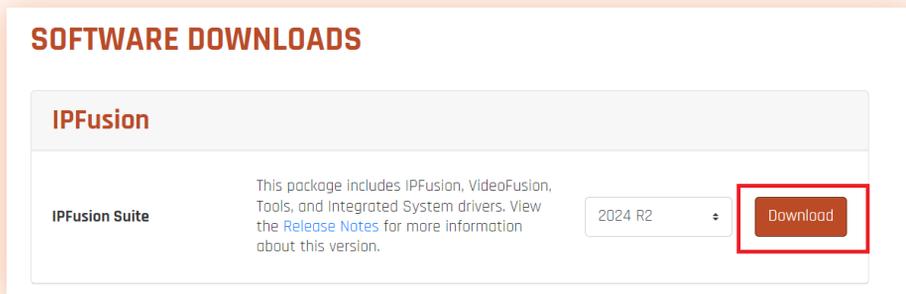
1. Go to the IPFusion Partner Portal at [partner.ipfusion.ca](https://partner.ipfusion.ca)



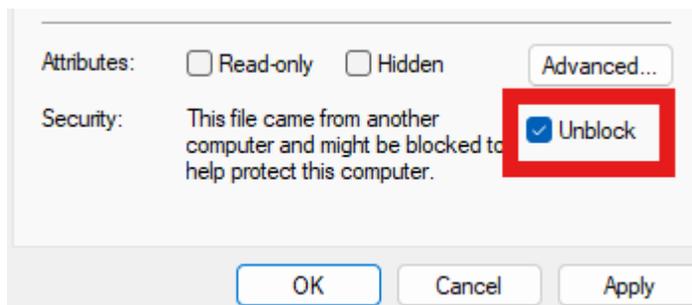
2. Log in. If you do not have an account, please select **Sign Up** and create an account.
3. Navigate to **Software Downloads**.



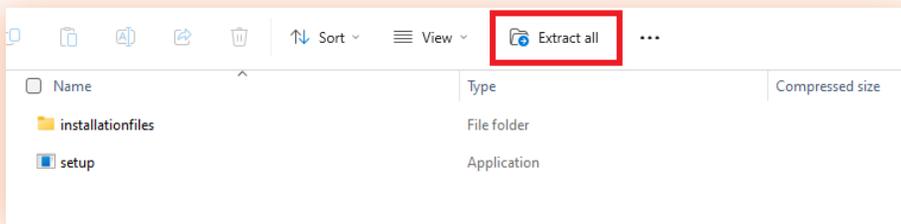
4. In Software Downloads, next to IPFusion Control Suite, click on **Download**.



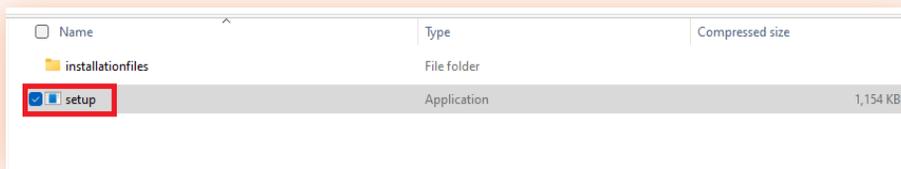
- Sometimes, the ZIP file is blocked by Windows security. Unblock the ZIP file by **right clicking** the file > **properties** > **at the bottom** , select **Unblock**.



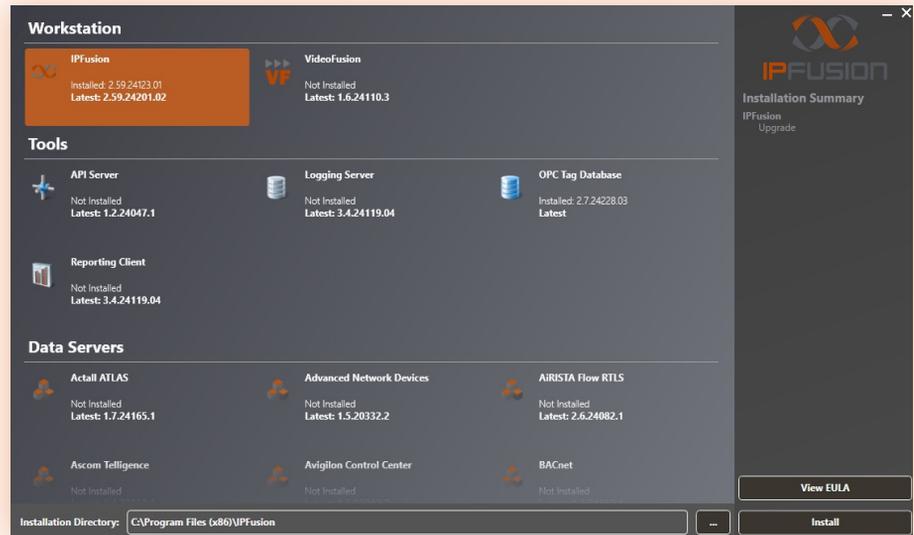
- After IPFusion Control Setup has downloaded, click **Extract all** and save it on the computer.



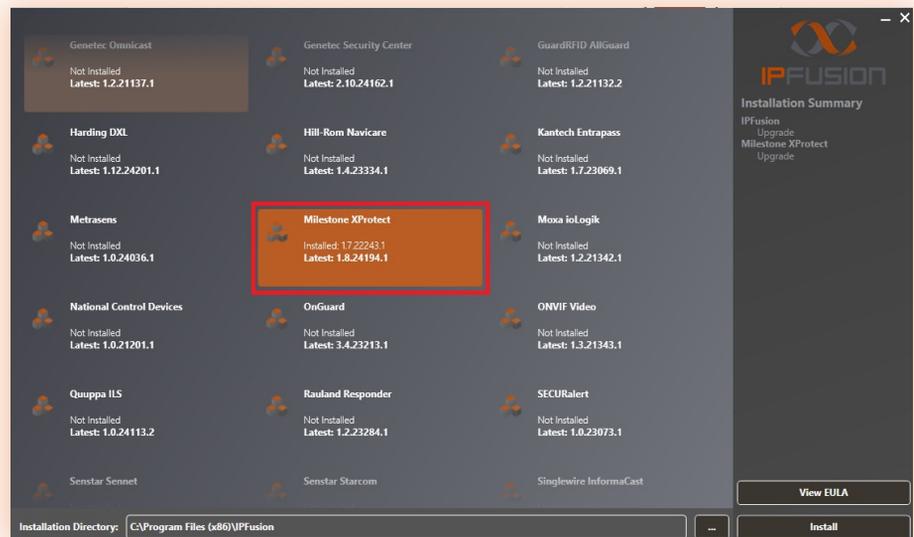
- Once completed, double-click on the **setup** application file.



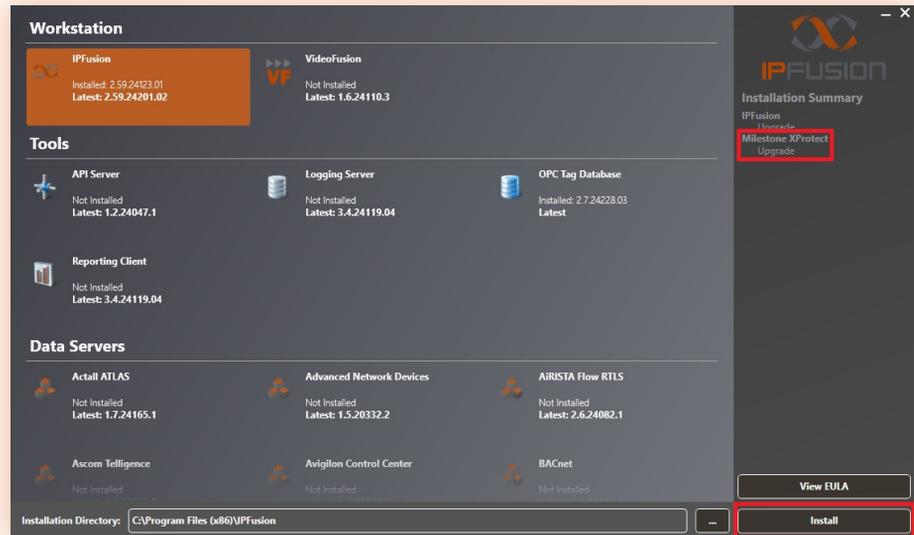
- At the **Installation Summary** page, select **IPFusion** under the **Workstation** section.



- To install Milestone XProtect, find and select **Milestone XProtect** under **Data Servers**.



10. Verify that **Milestone XProtect** and **IPFusion** is listed under Installation Summary. Click **Install**.

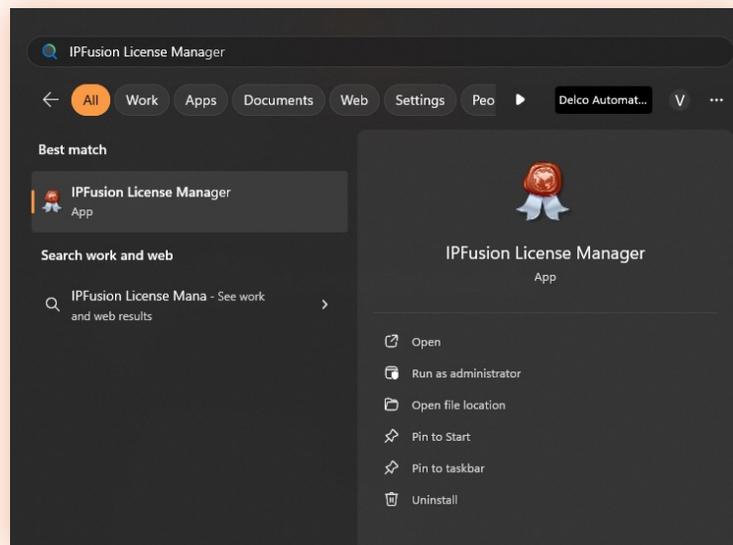


**IPFusion** and **Milestone XProtect** will now be installed onto the Workstation. You can now configure **IPFusion** to connect to a **Milestone XProtect System**.

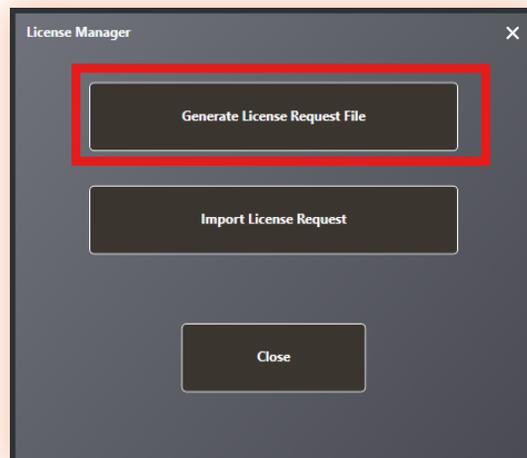
## IPFusion Licensing

All instances of Runtime will require a license. While Designer does not require a license, it is recommended to prevent warnings. Ensure that licenses are acquired for each Workstation you want to run Runtime.

1. Open **IPFusion License Manager**.



2. Click **Generate License Request File** to generate a `.keyreq` file. Save the file to a secure location.



3. Go to the **IPFusion Partner Portal** at [partner.ipfusion.ca](https://partner.ipfusion.ca).

4. Log in.
5. Navigate to **Request a License**.

6. In the **End User** section, fill in the information for the organization who will be using the IPFusion installation.
  - a. **Name** – The name of the organization who is using the IPFusion installation.
  - b. **Site** – The location where the IPFusion Control installation will be. This can be an address or institutional name.
  - c. **Contact Name** – The name of your project manager for the site.
  - d. **Contact Phone** – The phone number for the institution. It is usually recommended to use the institution's main line.
  - e. **Contact Note** – Further information for the contact. For example, they may leave alternative contact information.

### End User

Name	Site
<input type="text" value="Municipality of Springfield"/>	<input type="text" value="City Hall"/>
Contact Name	Contact Phone
<input type="text" value="Bill Smith"/>	<input type="text" value="888-111-1111"/>
Contact Note	
<input style="width: 100%;" type="text" value="If I am unable to answer the above phone number, you can contact me at 888-222-2222."/>	

7. In the **Partner** section, fill in the following:

- a. **Partner Name** – The reseller for this IPFusion installation.
- b. **Project Number** – The partner will have a number specific to the project.
- c. **Purchase Order** – The partner will have a purchase order for the project.
- d. **Partner Note** – Any further information about the partner.

**Partner**

Name	Project (e.g. Number)	Purchase Order
<input type="text" value="Acme Corp."/>	<input type="text" value="22222"/>	<input type="text" value="333333"/>

Partner Note

Ordered from the Springfield location.

8. Fill in the **IPFusion Use** section with the following:

- a. **Number of Assets** – The maximum number of integrated system devices to be used.
- b. Check all integrated systems that you intend to use for the project.
- c. If there are systems you need to license which are not in the list, set **Other Systems** for the rest.

**IPFusion Use**

Number of Assets

256

Integrated Systems

<input type="checkbox"/> Acuity nLight	<input type="checkbox"/> Advanced Network Devices	<input checked="" type="checkbox"/> AIRISTA Flow UVS
<input type="checkbox"/> AppArmor Alert	<input checked="" type="checkbox"/> Ascom Telligence	<input checked="" type="checkbox"/> Avigilon Control Center
<input checked="" type="checkbox"/> Bosch Security	<input checked="" type="checkbox"/> Cisco Unified Communications	<input type="checkbox"/> Control By Web
<input type="checkbox"/> Deister Electronic ProxSafe	<input type="checkbox"/> Douglas Lighting Dialog	<input type="checkbox"/> Douglas Lighting WNP-2150

9. In **License Type**, select the **Key Type Software**.



The screenshot shows a form titled "License Type". It contains a "Key Type" dropdown menu with "Software" selected. Below it is a "License Req. File(s)" section with a "Choose Files" button and the text "10 files".

10. Click the **End User License Agreement** link to view the agreement. To complete the license submission, accept the license agreement and click **Submit**.



The screenshot shows a form titled "Submission". It features a toggle switch that is turned on, followed by the text "End User License Agreement".

The license keys will be approved within 72 hours. Once your licenses are approved, open your license request submission and download the licenses.

## IPFusion Control Configuration with Milestone Integration

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In this section, we will configure a basic IPFusion project to callup cameras to a Milestone XProtect Smart Wall.

### PREREQUISITES

Before following the steps below, please ensure you have the following:

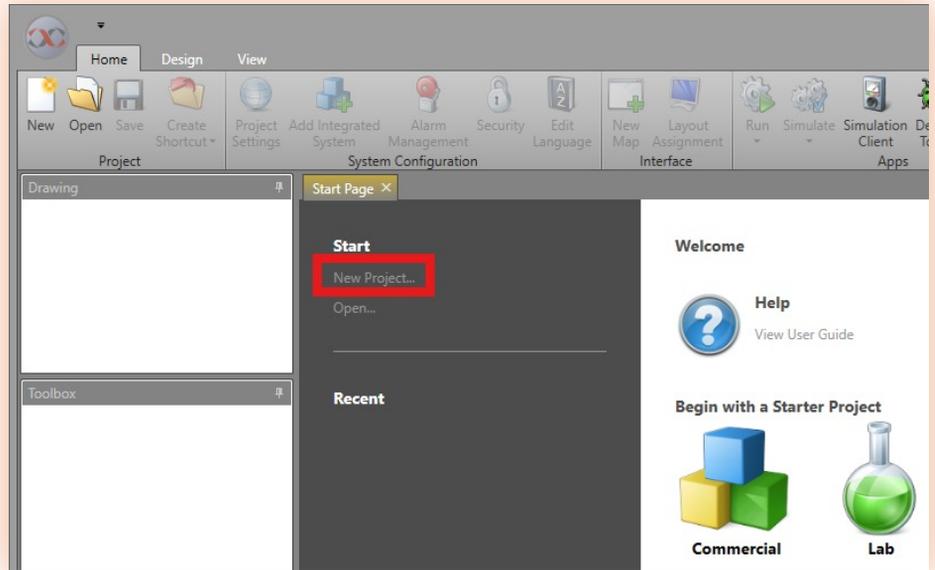
- Licensed Milestone XProtect System, 2017 R3 or newer
- Two video surveillance cameras setup in Milestone XProtect
- Milestone Server Credentials
- At least one Smart Wall configured with a Monitor

For information on how to acquire the prerequisites above, please see the following sections:

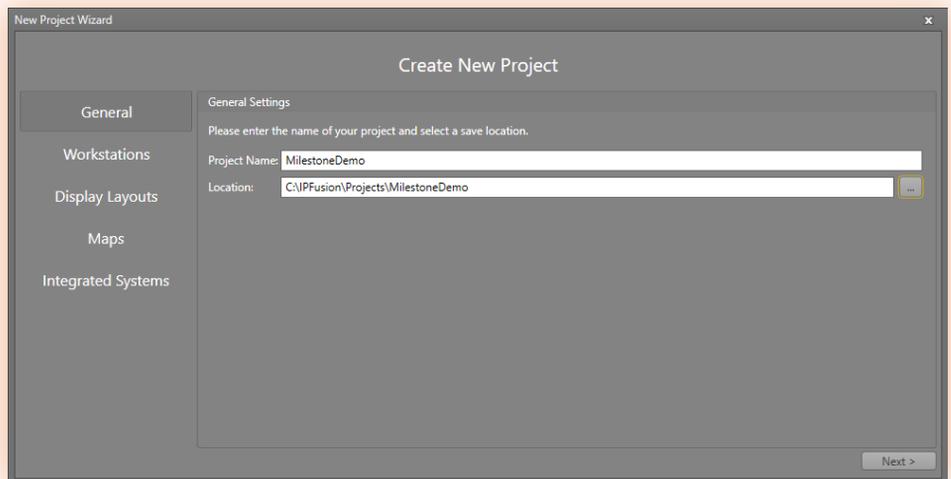
- **Appendix A:** Configuring Authentication with Milestone XProtect
- **Appendix B:** Find Milestone GUID
- **Appendix C:** Find Milestone Monitor ID
- **Appendix D:** Find Milestone Tile ID

## Creating a New Project

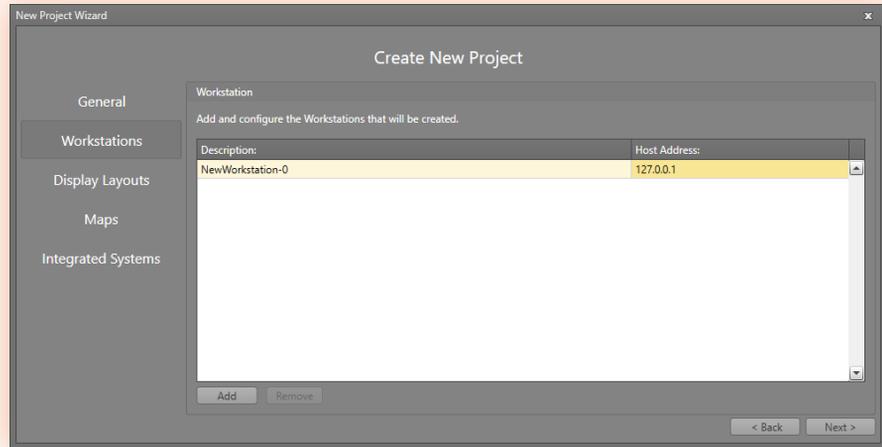
1. Launch **IPFusion Designer**.
2. In the Start Page, click **New Project...**



3. Give the project a name and a location. Then, click **Next**.



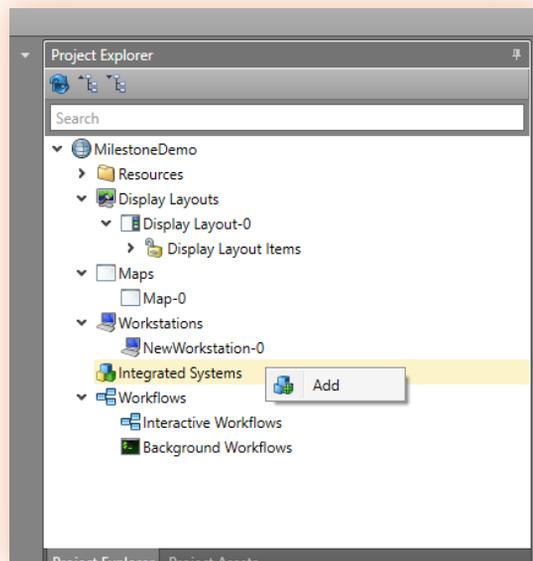
4. Ensure the project has at least one workstation and give it a **Host Address** of 127.0.0.1. Then, click **Next**.



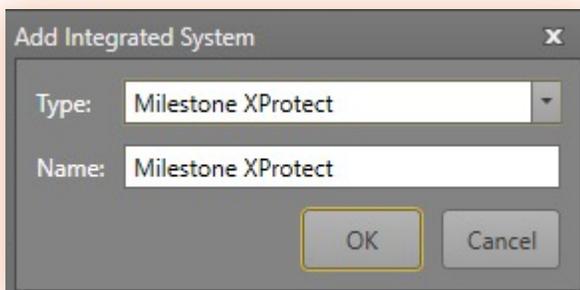
5. Leave the rest as their defaults/blank; **Display Layouts**, **Maps**, and **Integrated Systems** will be configured later. Click **Next** and then **Finish** to exit the New Project Wizard.

## CONFIGURING THE MILESTONE INTEGRATED SYSTEM

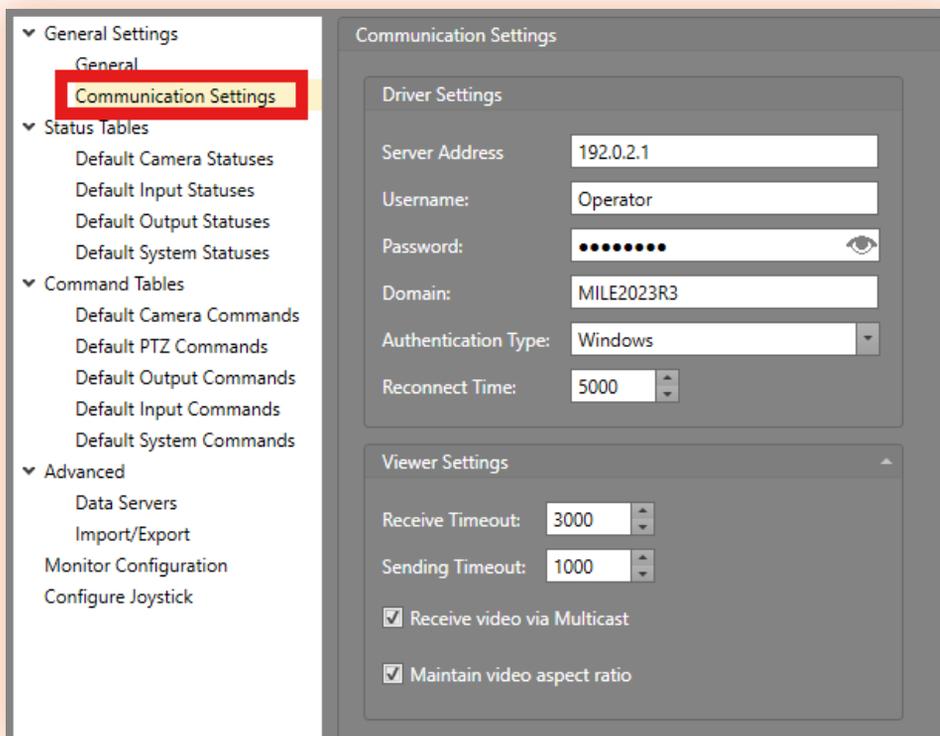
6. In the Project Explorer pane on the right, right click **Integrated Systems** and click **Add**.



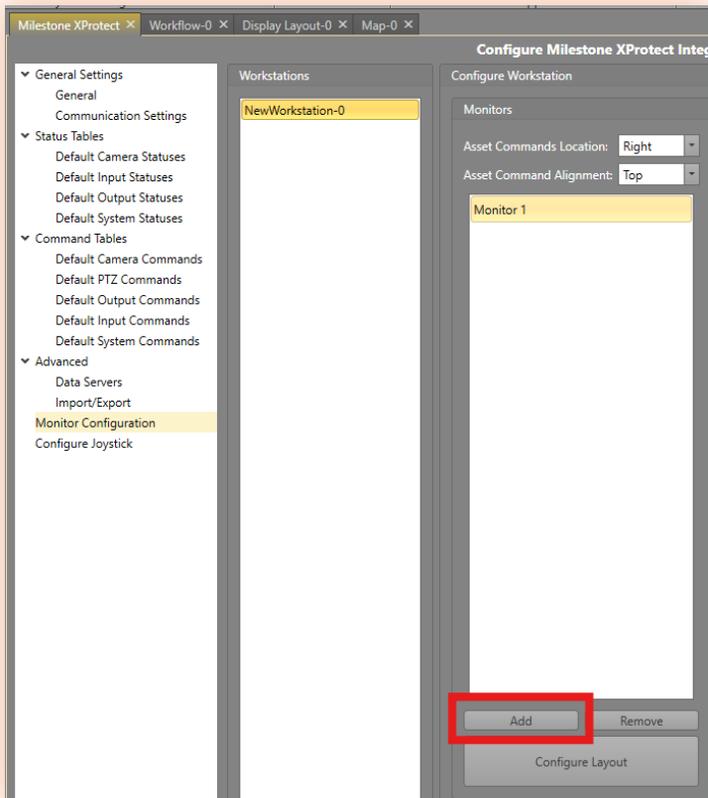
- When the Add Integrated System wizard appears, select **Milestone XProtect** in the Type dropdown. Click **OK**.



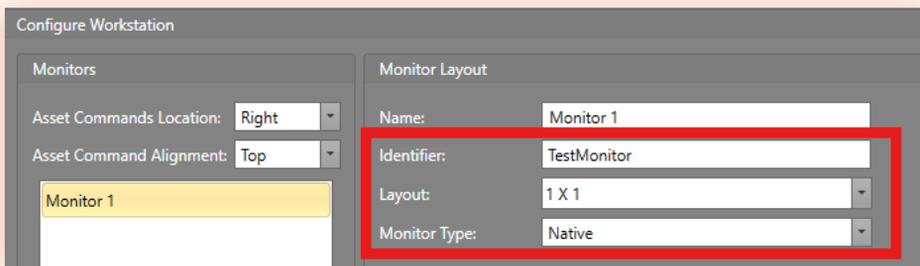
- Under General Settings, click **Communication** and enter your Milestone Server information. For more details, see Appendix A: Configuring Authentication with Milestone XProtect.



- Under Monitor Configuration, you must associate Milestone monitors with workstations. Select a workstation to configure. Click **Add** to add a monitor.



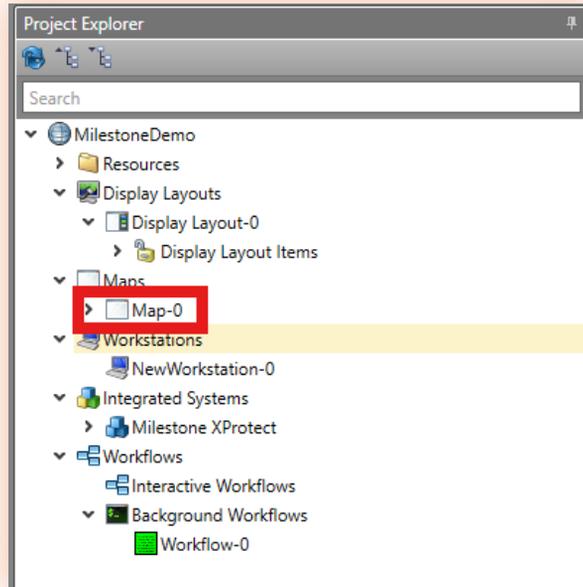
- In the Monitor Layout pane, fill in the **Identifier** and **Layout** fields to match the Monitor ID and layout respectively. Set the **Monitor Type** to **Native** (Milestone Smart Client).



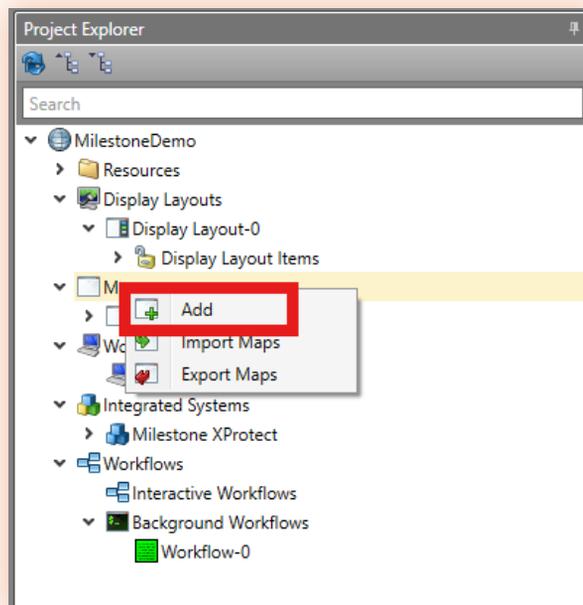
For more information on finding the Monitor ID, see Appendix B: Finding Milestone Monitor ID.

## ADDING ASSETS TO A MAP

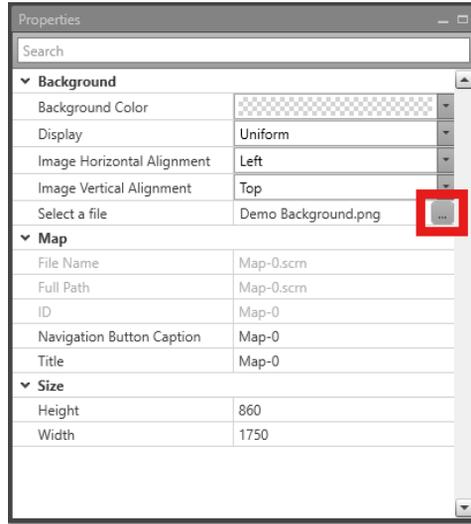
11. Under Maps in the Project Explorer pane on the right, click the map that was generated during project creation.



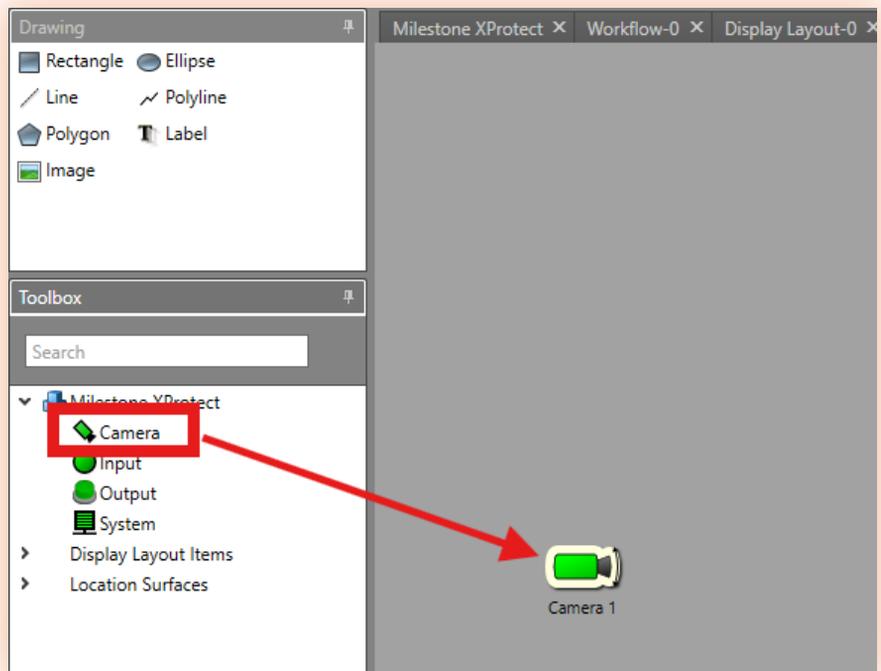
- a. If no map was created, right click on Maps and click Add.



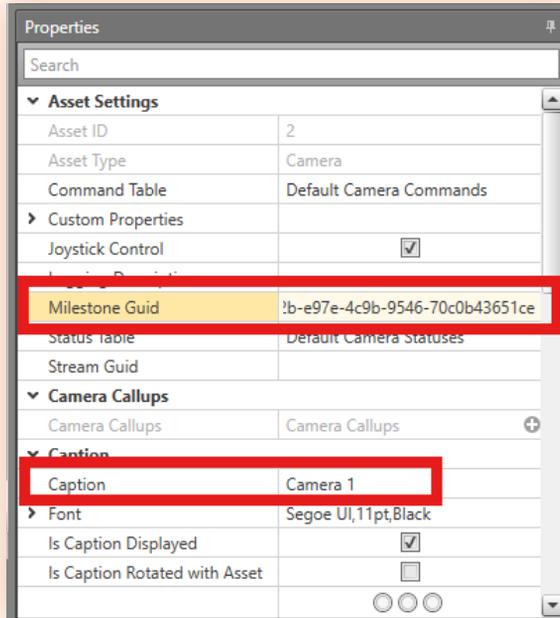
- If a graphical floorplan is available, assign it to the map. In the Properties pane on the right, click the “...” button to the right of **Select a file**.



- From the Toolbox pane on the left, drag two camera Assets onto the Map.



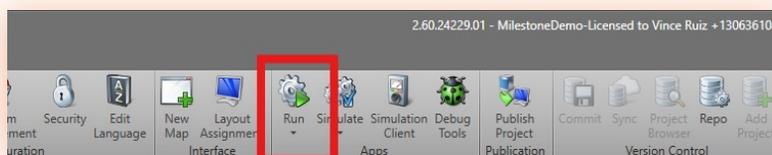
14. Select the camera icon and enter a valid Milestone GUID and a caption. To obtain GUID, see Appendix C: Finding Milestone GUID



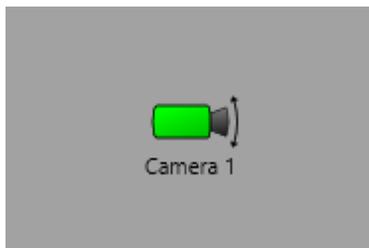
15. Save the project by pressing **Ctrl + S**. Alternatively, you can press the **Save** button in the Home tab in the ribbon menu.



16. Launch **Runtime** to test the project and verify the connection to the Milestone server and cameras. In the Home tab in the ribbon menu, click **Run**.



- Once the project loads in Runtime, the camera icon should turn either Green (representing a Normal state) or Red (representing a Recording state).

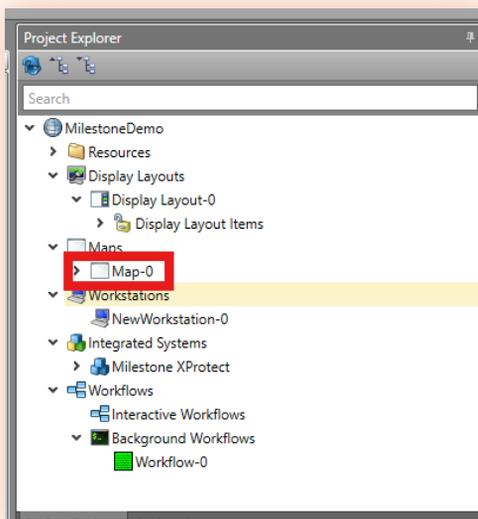


If the camera icon is any other color (i.e. purple), refer to Appendix E: Troubleshooting Milestone Connectivity.

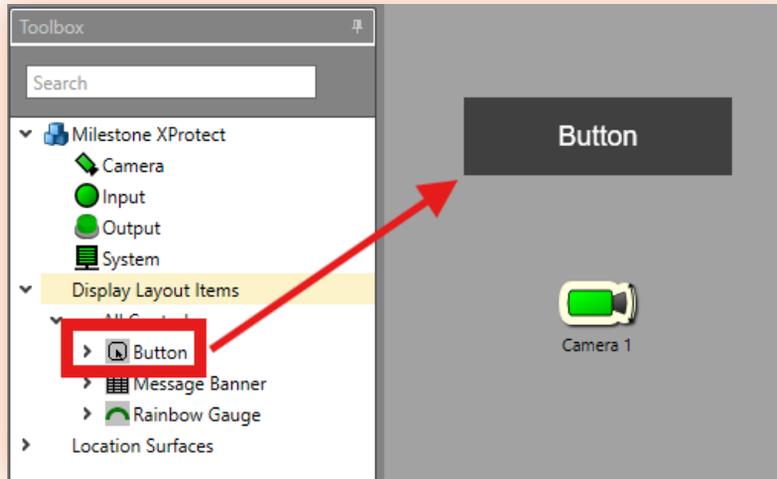
## CONFIGURING A CAMERA CALLUP WORKFLOW

Next, add logic that will call up the camera to the Milestone Monitor when a button is pressed. In IPFusion, logic is defined through graphical flowcharts called Workflows.

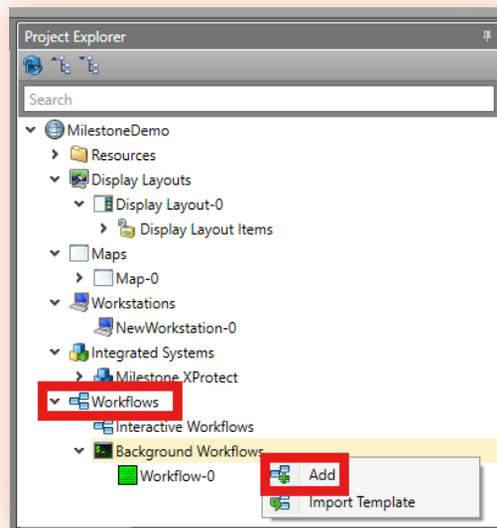
- Close Runtime by pressing **Alt + F4** on your keyboard.
- In Designer, return to the map configuration.



- In the Toolbox on the left, expand Display Layout Items and drag a **Button** onto the map.

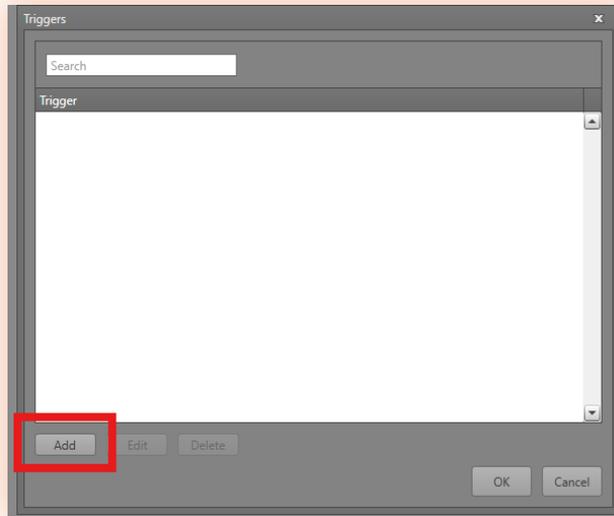


- Under Workflows in the Project Explorer pane on the right, right click **Background Workflows** and click **Add**.

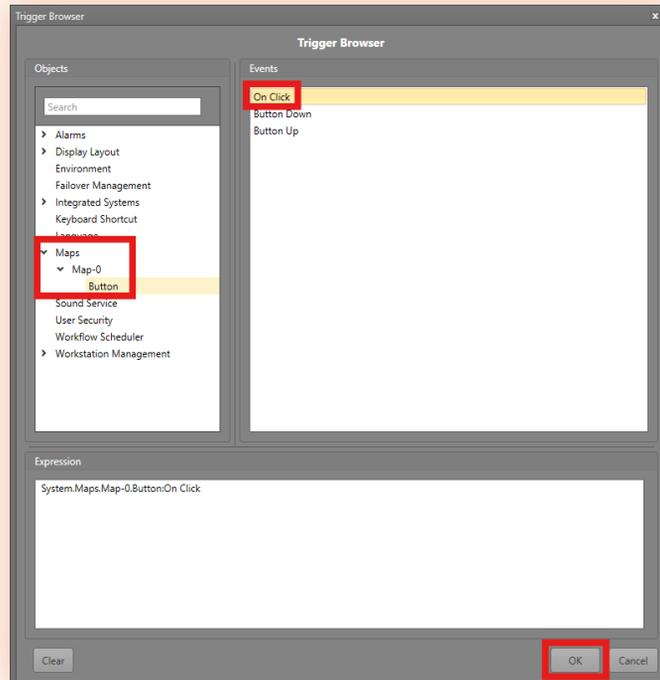


First, add a trigger that executes this workflow when the button is pressed.

22. Double click the green **Start block** and click **Add** at the bottom.

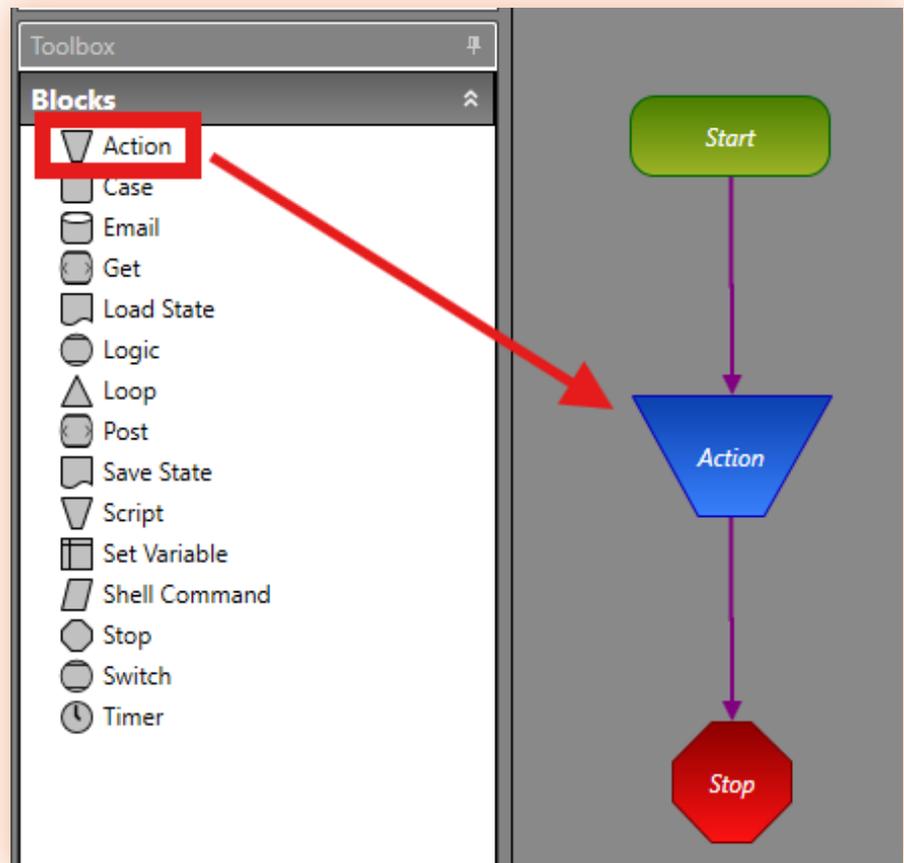


23. Expand **Maps > {Map name}** and left click **Button**. In the Events pane on the right, select the option titled **On Click**. By adding this trigger, IPFusion will execute the workflow whenever the button is clicked. Press **OK** at the bottom.



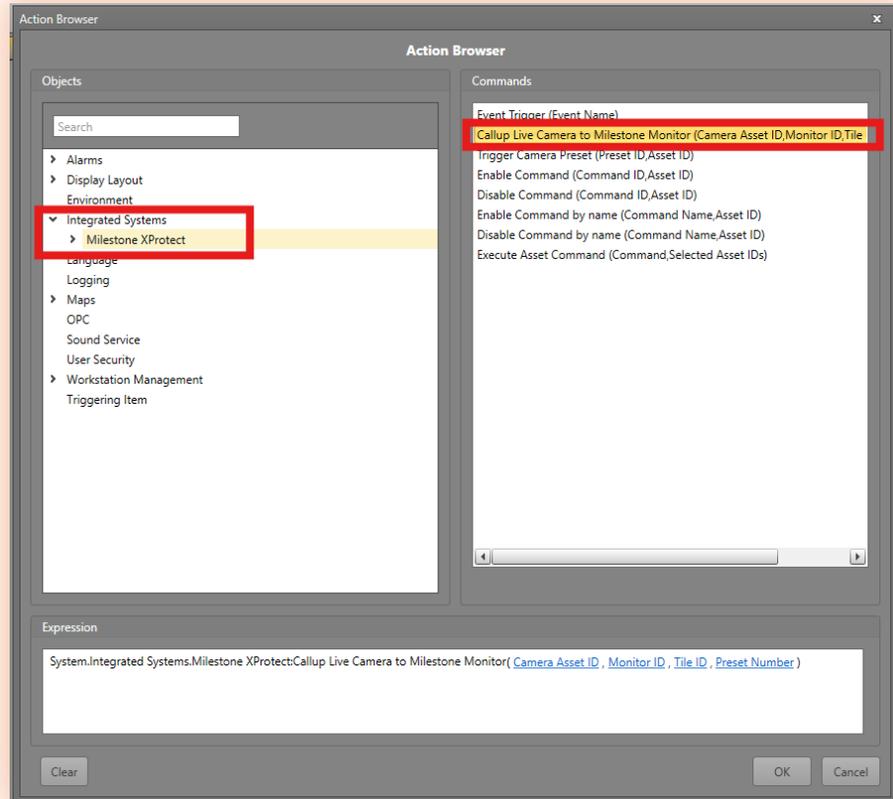
Next, add an action block that will call up the camera to the Smart Wall.

24. From the Toolbox pane on the left, drag an **Action block** onto the workflow. Connect the bottom of the **Start block** to the top of the **Action block**, and the bottom of the **Action block** to the top of the **Stop block**.

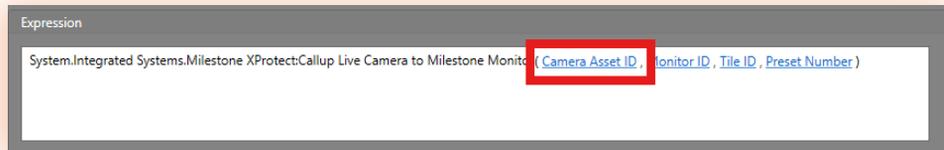


25. Double click the **Action block** to open the Action Browser.

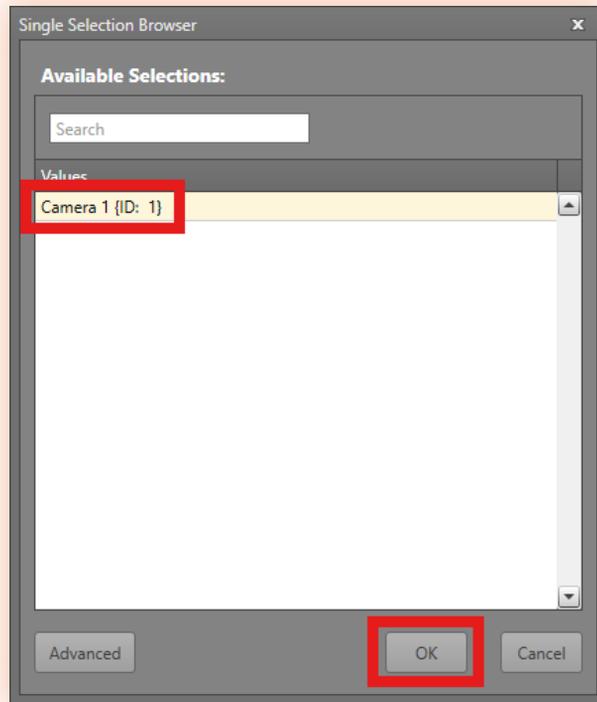
26. Expand **Integrated Systems** and left click on **Milestone XProtect**. Then, in the Commands pane on the right, click **Callup Live Camera to Milestone Monitor**



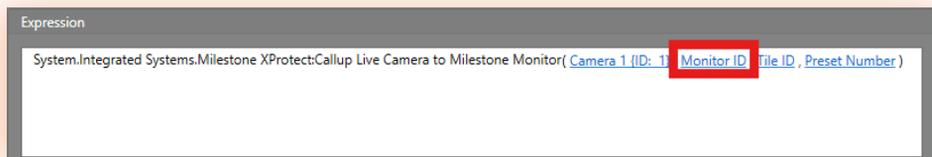
27. In the Expression pane at the bottom, we will replace the blue highlighted information with our Milestone information. Left click **Camera Asset ID**.



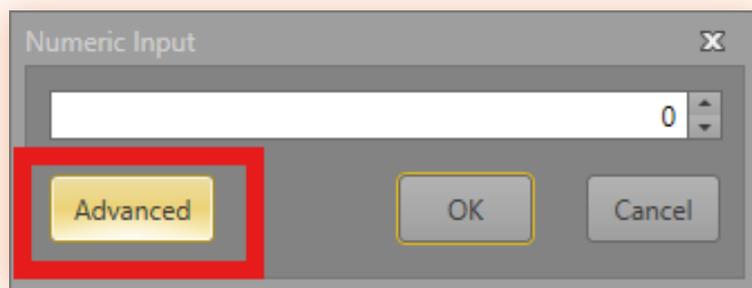
28. Click the **camera** and click **OK**.



29. Left click **Monitor ID** in the Expression pane at the bottom.



30. Click **Advanced**



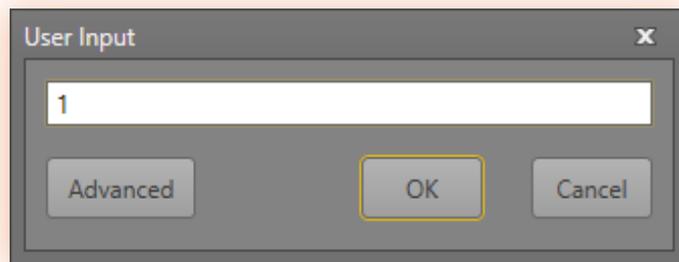
- In the Constants group on the right, click **String** and in the text field at the bottom, type in a valid Milestone Monitor ID. For more information on finding the Milestone Monitor ID, see Appendix B: Finding Milestone Monitor ID. Press **OK** at the bottom.



- In the Expression pane at the bottom, click **Tile ID**.

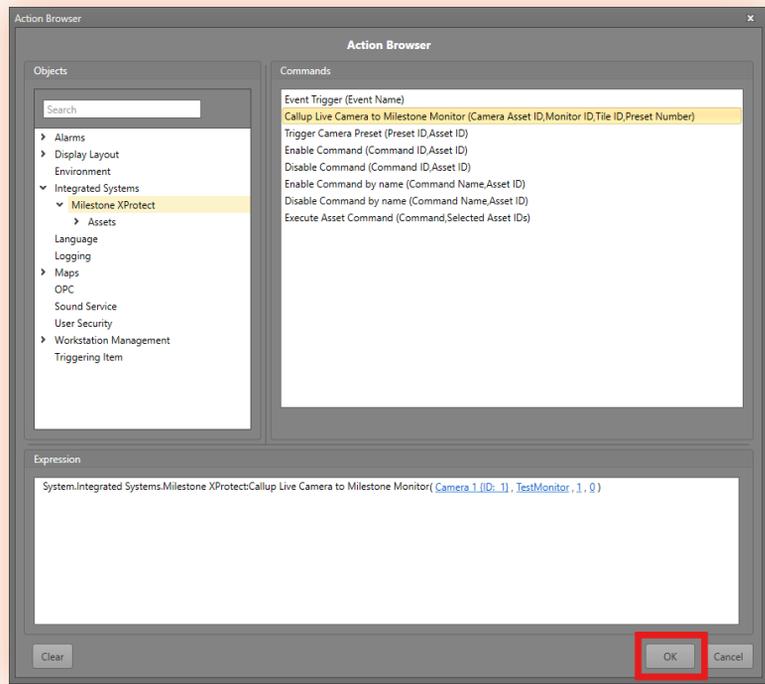


- In the User Input field, enter the value **1** (or any valid Tile ID). For more information on finding Milestone Tile ID, see Appendix D: Finding Milestone Tile ID. Press **OK**.



- The Preset Number is an optional field. Leave it blank.

35. At the bottom of the Action Browser, click **OK**.



36. **Save the project** and start **Runtime**.

37. Once the project loads in Runtime, click the **button** we created in step 20. The camera should be called up to the Milestone XProtect Smart Wall. If not, ensure all steps have been followed and refer to Appendix E: Troubleshooting Milestone Connectivity if needed.



## Appendix A: Configuring Authentication with Milestone XProtect

Milestone XProtect has two authentication methods: Basic and Windows authentication. When setting up Milestone XProtect, it is important to understand the difference between the two methods and choose the right one.

### WINDOWS AUTHENTICATION

Users using Windows authentication use their Windows login credentials, which are created and administered, usually by domain administrators, through Active Directory. It is a directory service implemented by Microsoft for Windows domain networks. Organizations will typically choose this authentication method.

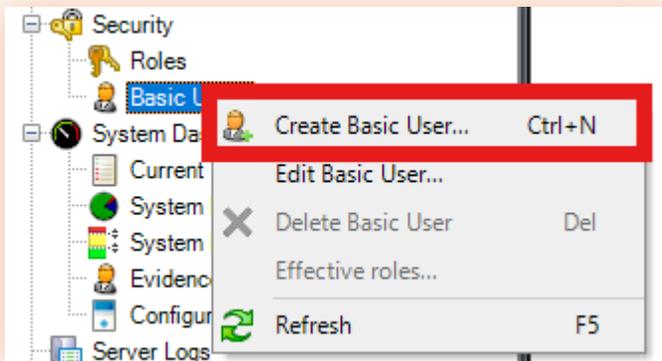
### BASIC AUTHENTICATION

Basic users are user accounts that you create directly in Milestone XProtect. The major difference is that while Windows users are created through Active Directory and are not exclusive for use in Milestone XProtect, Basic users are dedicated user accounts exclusively for Milestone XProtect. If the Milestone XProtect system does not have access to Active Directory, Basic authentication is the right method to choose.

1. In Milestone XProtect Management Client, expand **Security** > Basic Users.



2. Right-click **Basic Users** and click **Create Basic User**.



3. Specify a **User Name** and a **Password**. Repeat the password to ensure it is entered correctly. Also, specify if the basic user should change password on next login. Milestone recommends selecting the **check box** so that basic users can specify their own passwords when they log in for the first time. Ensure the Status is set to **Enabled**.

The 'New Basic User' dialog box contains the following fields and options:

- User name: [Text input field]
- Description: [Text area]
- Password: [Text input field]
- Repeat password: [Text input field]
- Force Basic User to change password on next login
- Status: [Dropdown menu showing 'Enabled']
- Buttons: OK, Cancel

4. Press **OK** to complete Basic User setup.

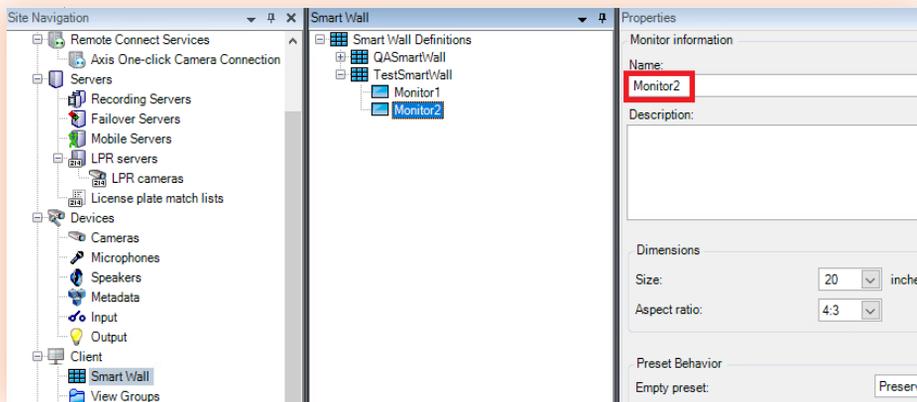
## Appendix B: Finding Milestone Monitor ID

To send camera callups to a Milestone monitor, the monitor ID is required. This is used both within the Milestone monitor configuration and the Callup Live Camera to Milestone Monitor Workflow command.

The camera callups made to Milestone will match the first instance containing the text for the monitor name. It is recommended to ensure all Milestone monitors have unique names to ensure the callup is sent to the expected monitor.

To find the ID for a Milestone monitor:

1. In the Milestone server, open the **Milestone XProtect Management Client** application.
2. In the **Overview/Site** pane, navigate to **Client > Smart Wall**.
3. Expand **Smart Wall Definitions**, then the Smart Wall group your monitor belongs to.
4. Select the monitor you wish to send callups to and note the configured **Name** value.



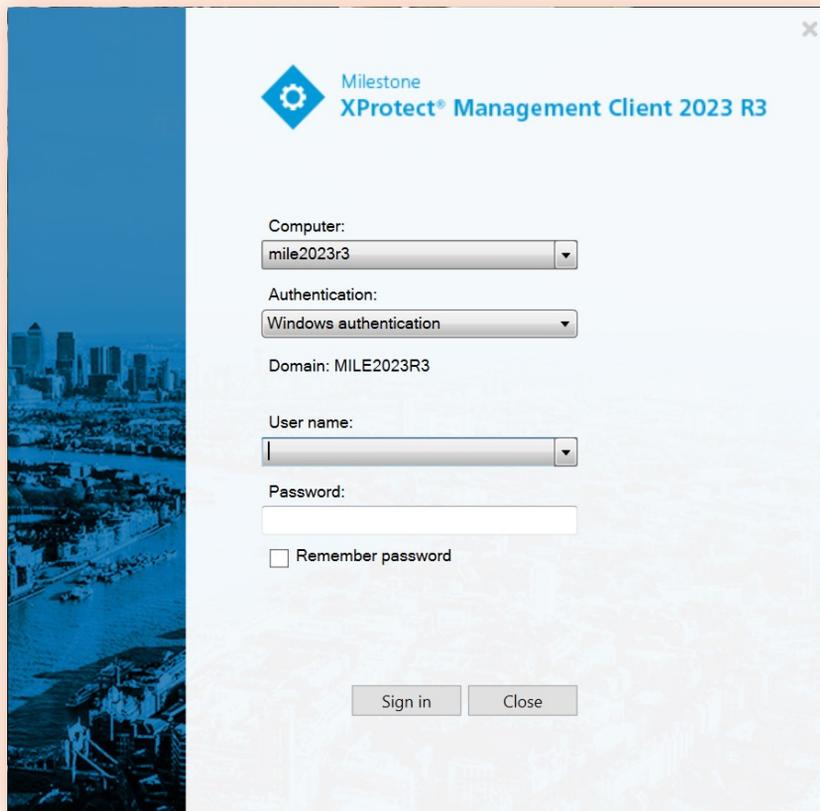
The monitor name value can be used as the Monitor ID in both the Monitor Configuration and Callup Live Camera to Milestone Monitor Workflow command in Designer.

## Appendix C: Finding Milestone GUID

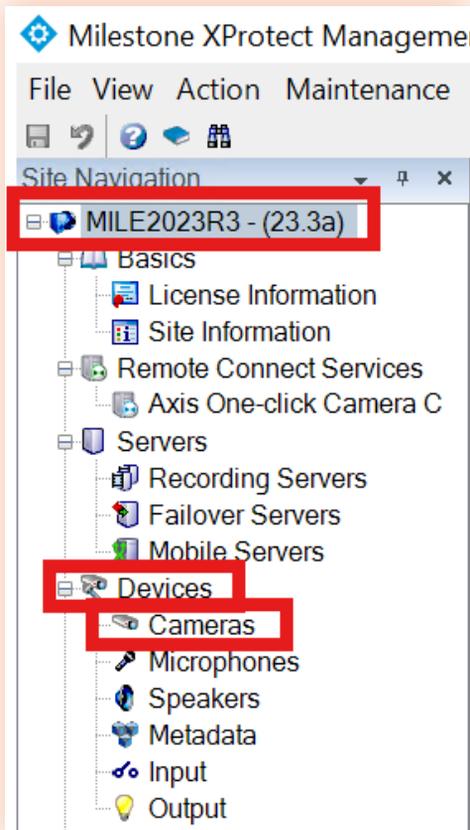
To connect a Milestone camera asset to the camera it represents, you will need its GUID (Globally Unique Identifier). This will allow you to interact with that Milestone camera.

To find the GUID for your Milestone camera, follow the steps below:

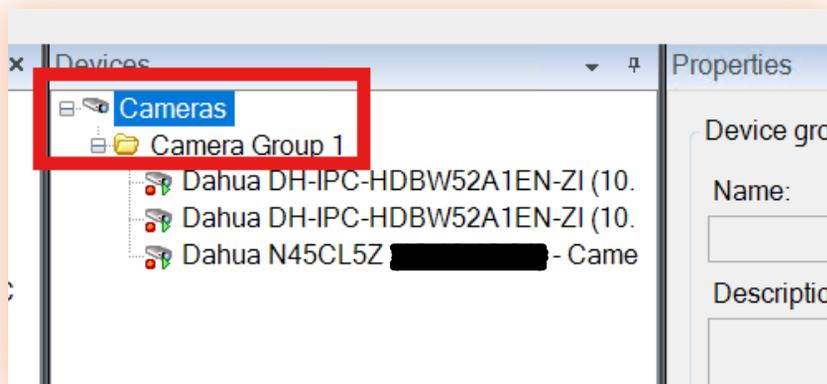
1. Open the **Milestone Management Client**.
2. Log in.



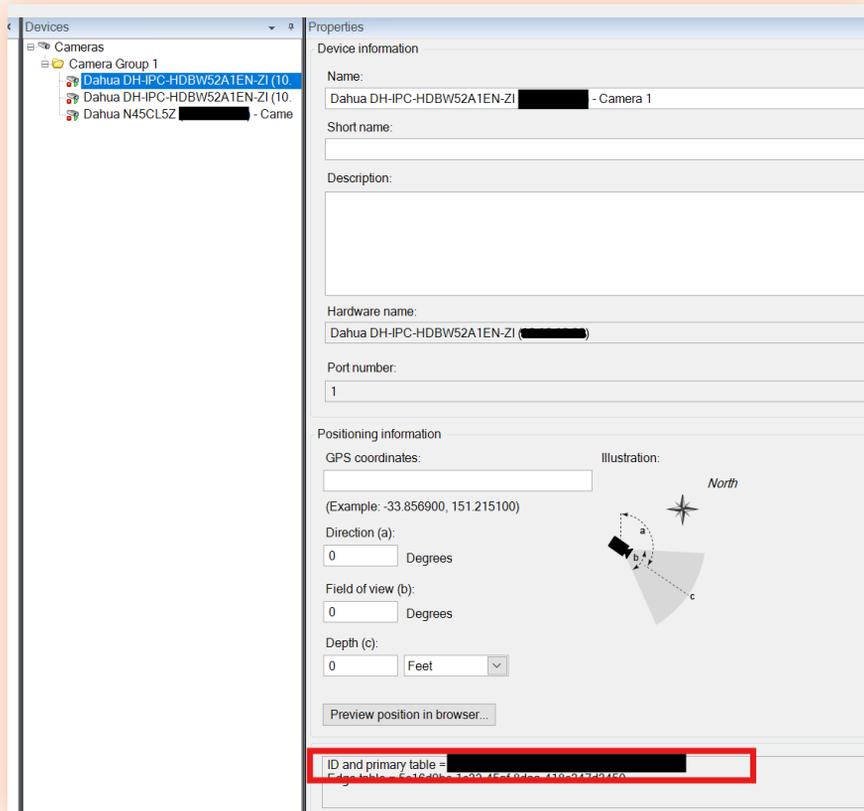
- In the Site Navigation pane on the left, expand the desired **server** > **Devices**. Select **Cameras**.



- In the Devices pane, expand **Cameras** > **{Desired Camera Group}**



5. Hold the **Ctrl** key and click the desired camera. At the bottom of the Properties pane, the GUID will be listed as **ID and primary table**.



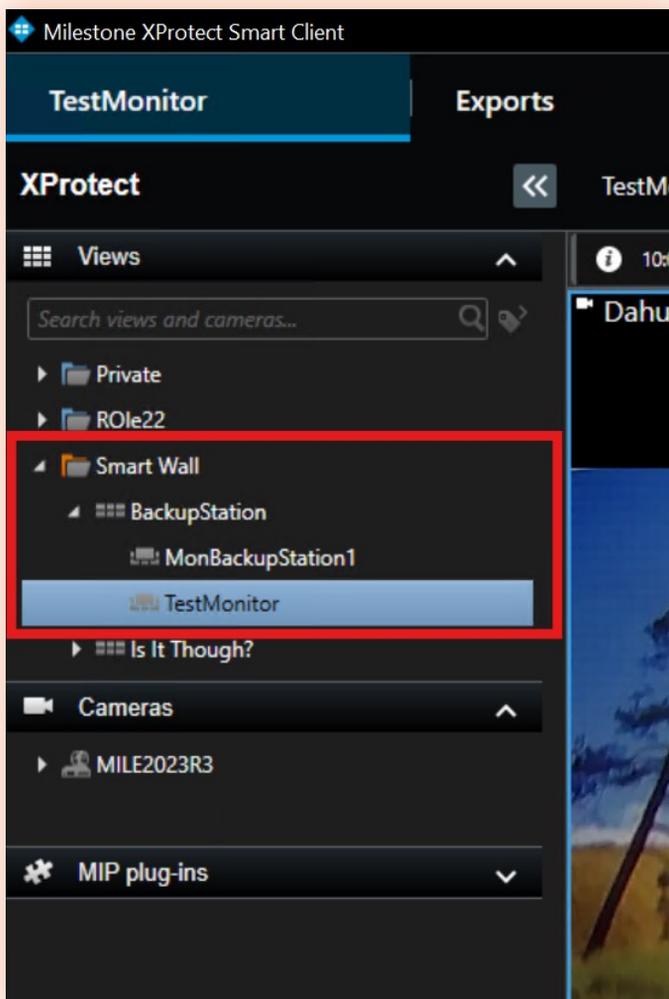
NOTE: GUIDs are case sensitive. Ensure that characters are properly cased.

## Appendix D: Finding Milestone Tile ID

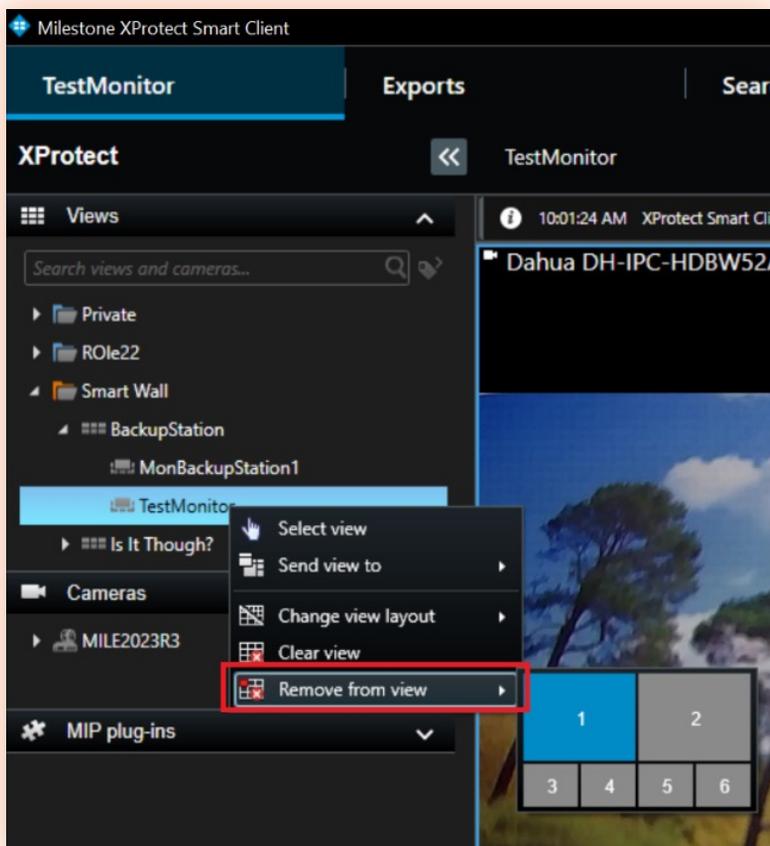
To send camera callups to a tile within Milestone monitor via a Workflow, the tile ID is required.

A quick way to find the ID for a Milestone tile:

1. In the Milestone server, open the **Milestone XProtect Smart Client** application.
2. In the navigation pane on the left, expand **Smart Wall > {Name of the Smart Wall}**.



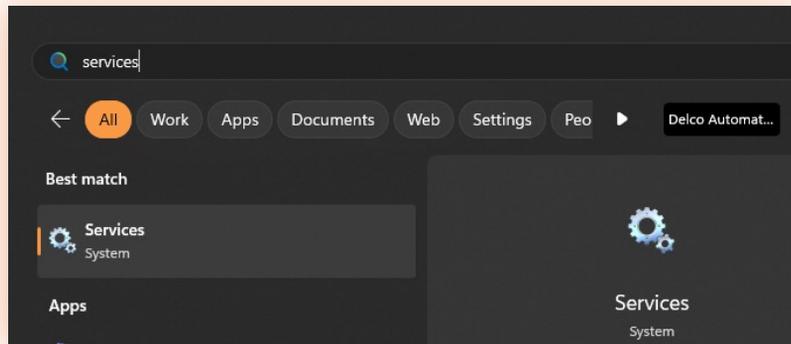
3. Right-click the monitor and hover over **Remove from view**.



4. The layout with the tile IDs is displayed. Note the ID for the desired tile.

## Appendix E: Troubleshooting Milestone Connectivity

1. If Runtime is running, close it by pressing **Alt + F4** on your keyboard.
2. Press the **Windows key** and type **services**. Click the **Services app** to open it.

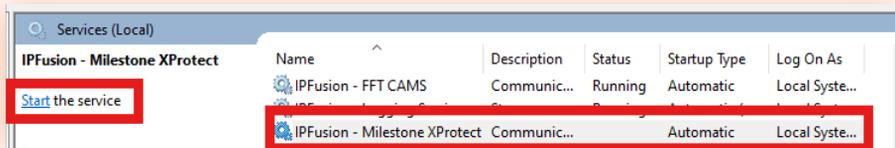


3. Verify that the **IPFusion – Milestone XProtect** service is Running.

A screenshot of the Windows Services console. The title bar reads 'Services (Local)'. The main area shows a table of services. The 'IPFusion - Milestone XProtect' service is highlighted with a red box, and its status is 'Running', also highlighted with a red box.

Name	Description	Status	Startup Type	Log On As
IPFusion - FFT CAMS	Communic...	Running	Automatic	Local Syste...
IPFusion - Logging Service	Stores mess...	Running	Automatic (...)	Local Syste...
<b>IPFusion - Milestone XProtect</b>	Communic...	<b>Running</b>	Automatic	Local Syste...

4. If it is not running, click on the IPFusion – Milestone XProtect entry and in the pane on the left, click **Start the service**.

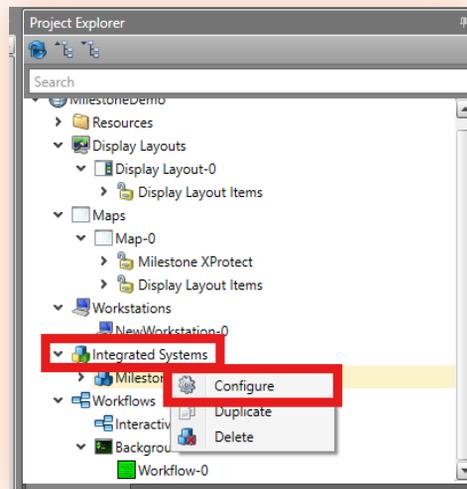


5. Start Runtime and verify that the asset states reflect a good connection.

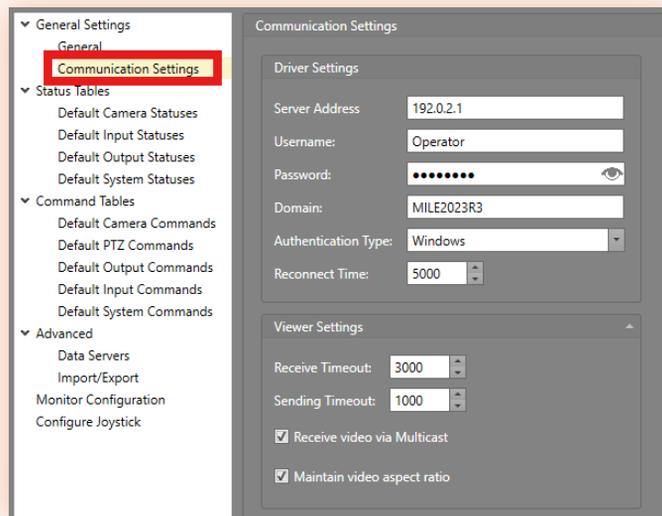
## VERIFY MILESTONE CONFIGURATION IN IPFUSION

Entering incorrect credentials, GUIDs, etc. will cause assets to reflect a purple “No Communication” state.

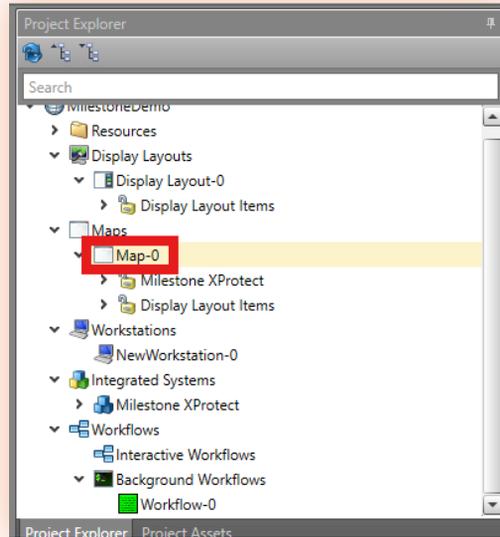
1. In Designer, enter the Milestone XProtect Integrated Systems configuration. In the Project Explorer pane on the right, expand Integrated Systems, right click on **Milestone XProtect integrated system**, and click **Configure**.



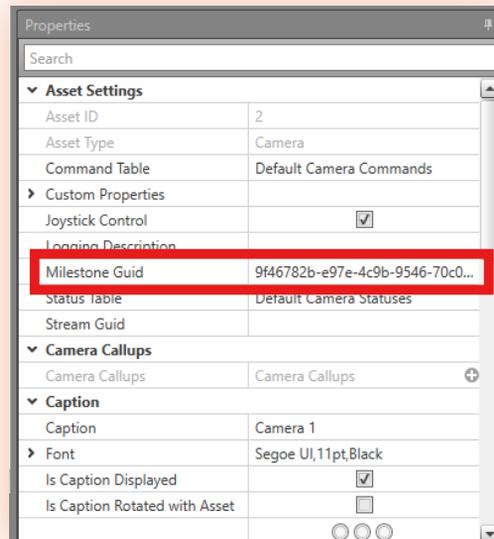
2. In the pane on the left, click **Communication Settings** and verify that the information in the pane on the right is correct.



3. In the Project Explorer pane, click on the configured map to open it.



4. For each camera asset, ensure their Milestone GUIDs are valid. Click on a camera asset and check the Milestone GUID field in the Properties pane on the right.



NOTE: GUIDs are case sensitive.

For additional assistance, please email IPFusion support at [IPFusionSupport@ipfusion.ca](mailto:IPFusionSupport@ipfusion.ca) or open a support ticket at [ipfusion.ca](http://ipfusion.ca).