



Milestone Integration Version 2020 R2

Instructions for Installation

Part 1. Integration Architecture

- **Overall Architecture**
- **Prerequisites**

Part 2. Senturian Plugin Installation

- **Installation Program & Senturian Plugin**
- **First-time configuration steps**

Part 3. Senturian VA Server

Part 4. Verifying Senturian Video Analytics

Part 5: Caveats

1. Integration Architecture

1.1 Overall Architecture

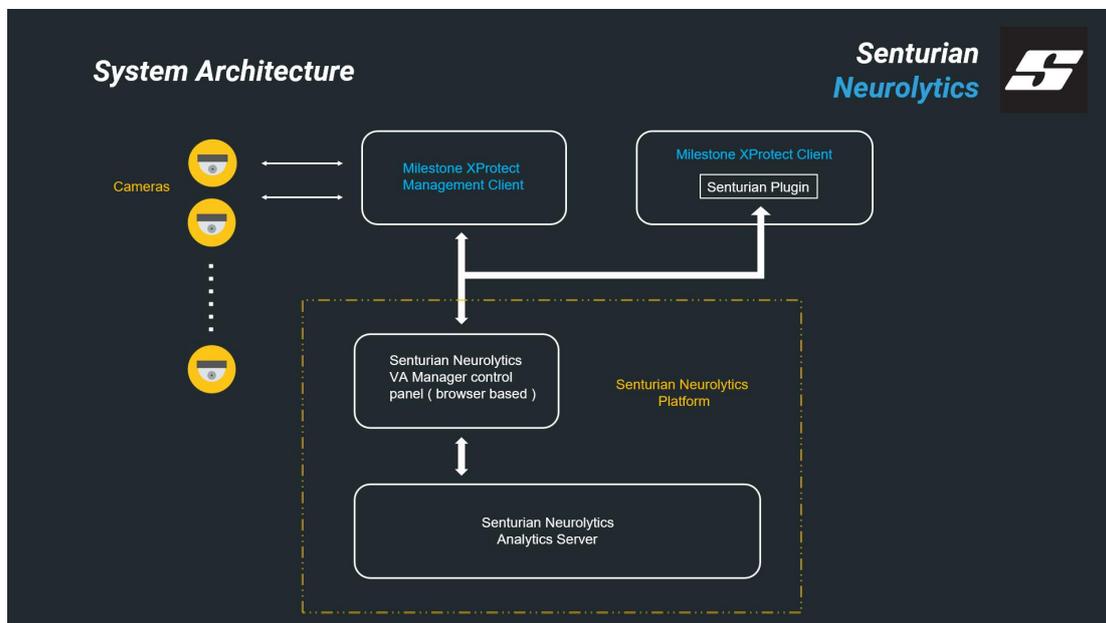


Figure 1: Overview of Integration Architecture

According to Figure 1, the integrated architecture includes two main parts: **Milestone Software** and **Senturian Solution Software**.

For demo purpose, both software can run on the same machine. However, for real scenarios to support multiple cameras simultaneously, we recommend that you install **Senturian Solution Software** and **Milestone Software** in separate machines and that both PC's clocks are synchronized.

Milestone Software has two main components: **XProtect Management Client** (for managing multimedia data) and **XProtect Smart Client** (for viewing multimedia data). They can be installed on the different machines.

The Senturian Solution Software has two main processes: Video Analytics (VA) setting GUI process and Video Analytics Server. The setting GUI is used to set parameters for VA algorithms for all cameras. For example: drawing ROI and line, setting sensitive level, and so on.

1.2 Prerequisites

- Milestone XProtect (2020 R2).

In order for the XProtect Corporate system to receive and record the metadata, Milestone XProtect Software needs to be activated with a trial, commercial or testing license.



According to license type, the number of active channels is limited according to Milestone's Policy.

1.2.1 Download and install Pre-installer programs on Senturian Solution Server

- Make sure that the following software is the x64 bit version. If the program is already installed in the system, just skip these installations.

- **Execute Maria Database (DB) installer file. (mariadb-10.3.14-winx64)**

In this step, a user is required to create a password for mariadb. You have to use this **password** while installing Senturian solution program (called **Senturian VA Server**).Therefore, remember this information.

- **Execute MySQL connector called mysql-connector-odbc-3.51.30-winx64.msi**

- **Install Visual C++ Redistributable Packages(2015-2019)**

- **Execute Node.js installer called node-v10.16.0-x64.msi**

- **Install mysql-query-browser-1.1.20-win**

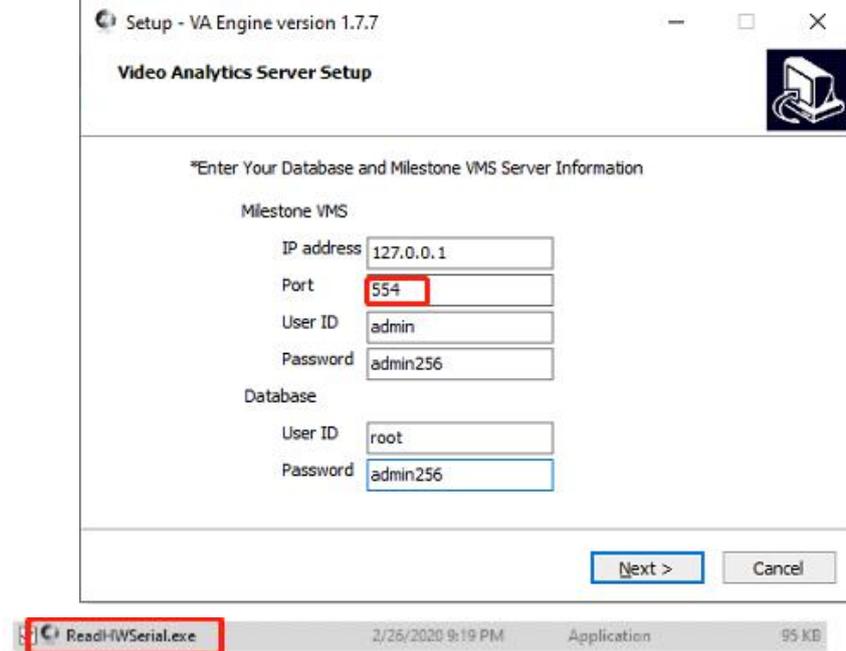
- **Check if the NVIDIA device Driver is installed. If not, please install it.**

- **Install ONVIF Bridge**

"VideoOS.ONVIF.Installer.exe" program is provided by Milestone. We recommend you use default parameters during installation process. To get detailed information on ONVIF device and installation, you can refer to "ONVIF-Bridgedetailed-guide.pdf" which is **available in:** <http://download.milestonesys.com/MTSKB/KB000003403/ONVIF-Bridge-detailed-guide.pdf>

2. Senturian VA Server Installation and first-time configuration steps

(Install ReadHWSerial,You will get the MAC address of the server, send the MAC address to us, and we will apply for license for you.)



2.1 Senturian VA Server Installation

Step 1: Install VA Engine setup file and wait for few seconds before proceeding to step 2.

Step 2: The following setup window will show up as shown in the figure below. The user is required to use the **same** password that the user has used while installing mariadb in part 1.2.1 for DB PW. (DB ID must be **root** by default) and the Ip address of Milestone VMS Server is **<VMS Server IP>:554** . Press "Next" multiple times to reach the "Finish" stage of installation.

Step 3: After finishing step 2, press "choose" and navigate to locate a license file. You have to store a license file received from Senturian in a folder in advance. Select the license file stored in the folder and install it.

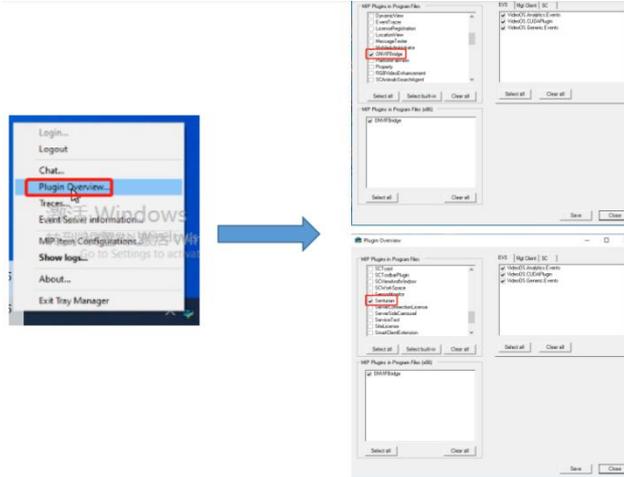
2.2 Senturian plugin Installation

Senturian plugin is required to show alert messages in real-time when a video analytics event is detected in XProtect Smart Client. Therefore, it needs to be installed on the PC that **XProtect Smart Client is installed on.**

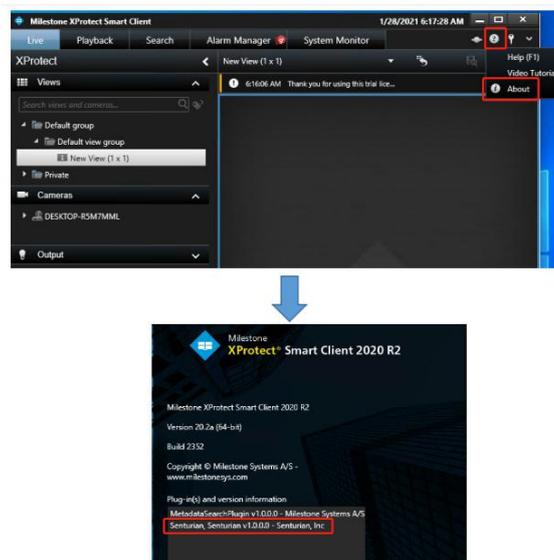
- Installation

- Run **MIPSDK_Installer_2020R2.exe** provided by Milestone.

- Copy folder named “Senturian” to “C:\Program Files\Milestone\MIPPlugins” .
- Enable Senturian plugin by opening “Plugin Overview” and choosing Senturian option in MIP SDK Tray Manager as shown in the below figure:



- To verify if Senturian plugin is installed successfully, let’ s open XProtect Smart Client program, and go to “About” option. Then, a pop-up window will show up as shown below.



2.3 First-time configuration steps

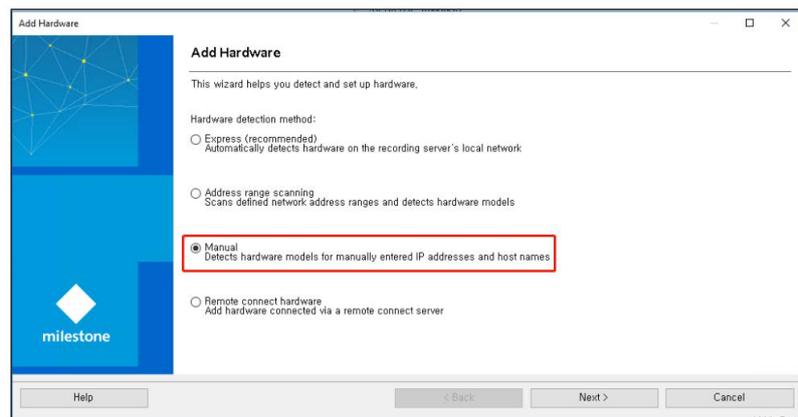
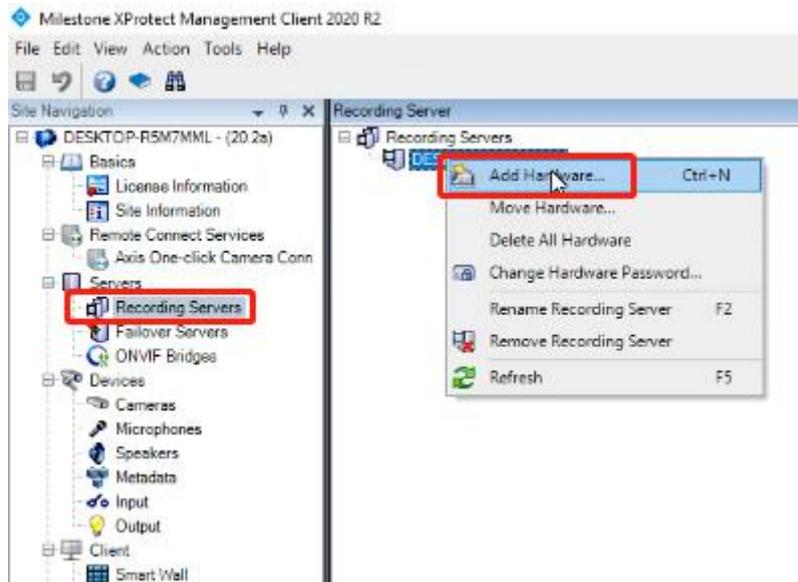
2.3.1. Adding MIP Driver in the Milestone XProtect Management Client

When running the Senturian VA plugin for the first time, you need to add MIP ((Milestone Integration Platform)) driver for each channel in order.

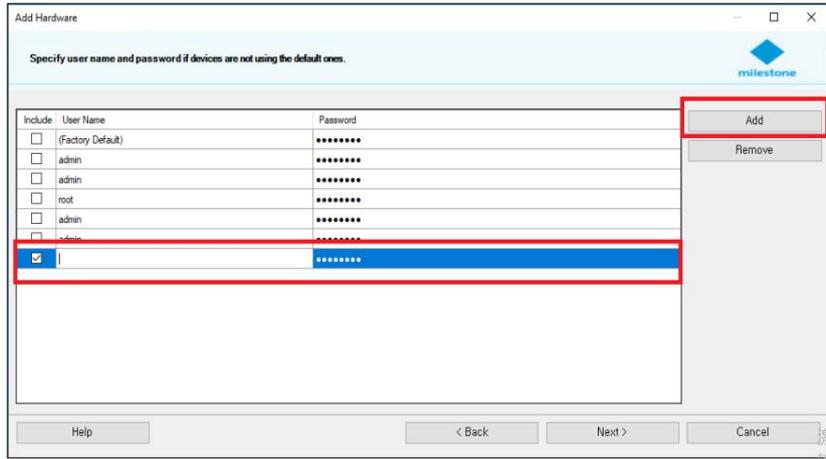
Notes: MIP driver can only be installed when the VA Engine is running

To add MIP driver, perform the following steps:

- In Milestone XProtect Management Client, right-click a recording server and select “Add Hardware...”

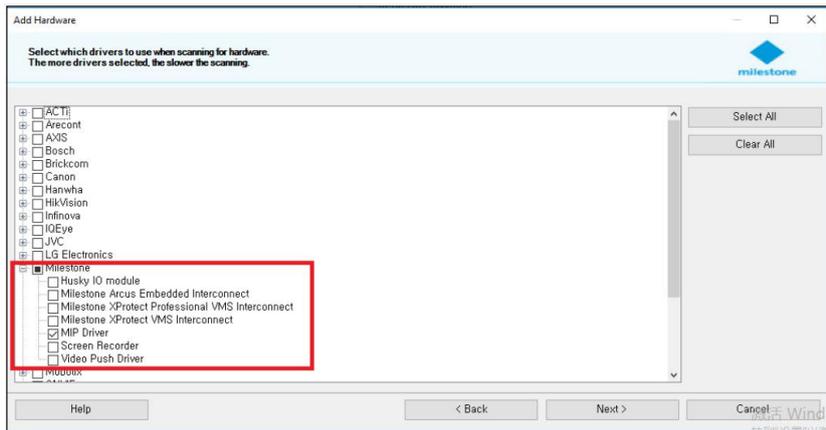


- Choose the Manual mode, and then click “Next” .
 - Then, the following window will be displayed. To add a new MIP driver, first click “Add” .
- Then a new row will be added as follows:

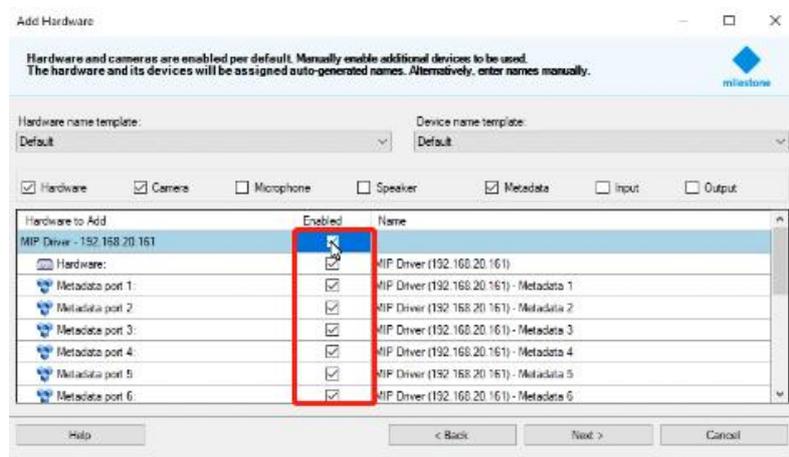
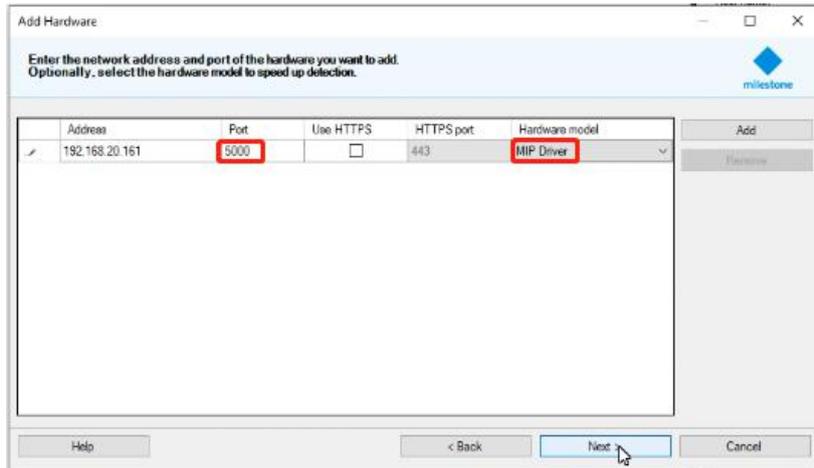


Include	User Name	Password
<input type="checkbox"/>	(Factory Default)	*****
<input type="checkbox"/>	admin	*****
<input type="checkbox"/>	admin	*****
<input type="checkbox"/>	root	*****
<input type="checkbox"/>	admin	*****
<input type="checkbox"/>	admin	*****
<input checked="" type="checkbox"/>	admin	*****

- Set “User Name” field to “admin” and “Password” field to the one used by the VMS account.
- Click “Next” again to go to at the driver selection page. Clear all selections and select “Milestone” followed by “MIP Driver” and then click “Next” .

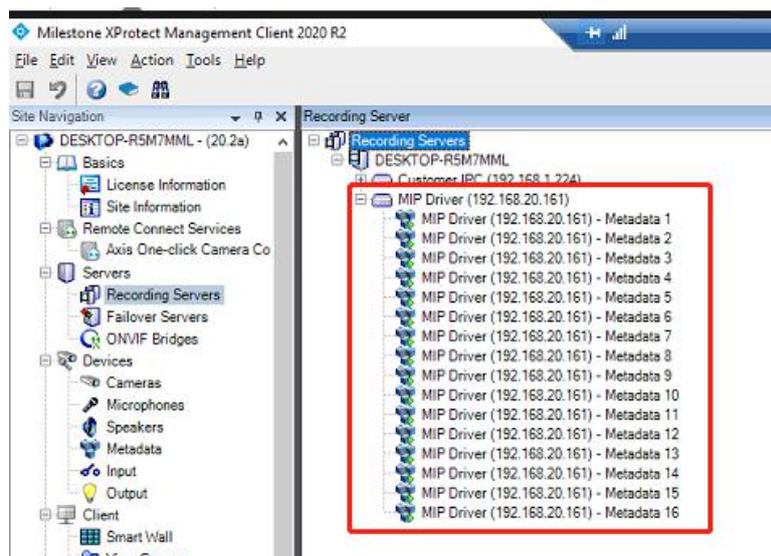


- Set “Address” field to IP address of **XProtect Management Client**’ s machine, “Port” field to “5000” and “Hardware model” field to “MIP Driver” as shown below.



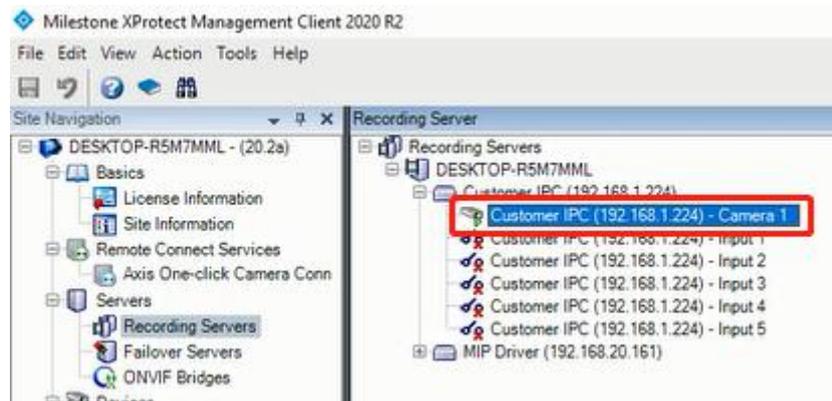
- Verify MIP Driver and add to camera channels

In this integration version, we add 16 metadata channels for 16 channels. In this version, thus, only up to 16 camera channels can be analyzed concurrently.

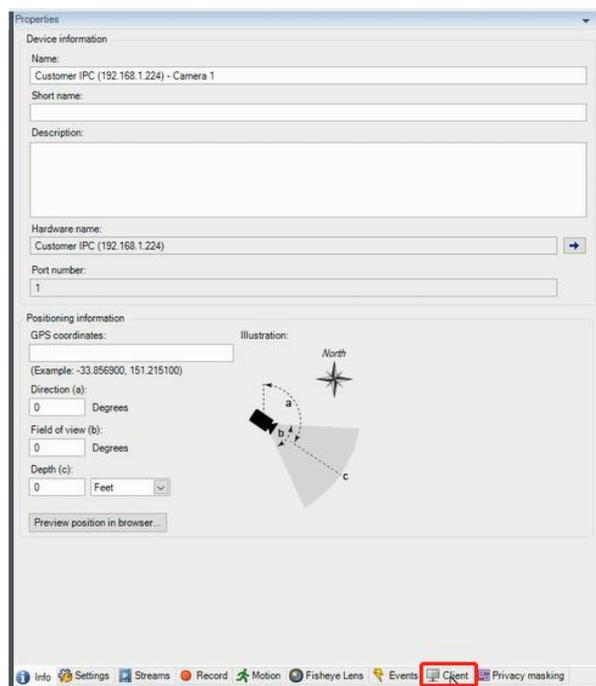


Next, you need to add these metadata channels to camera channels one by one in order according to the following steps:

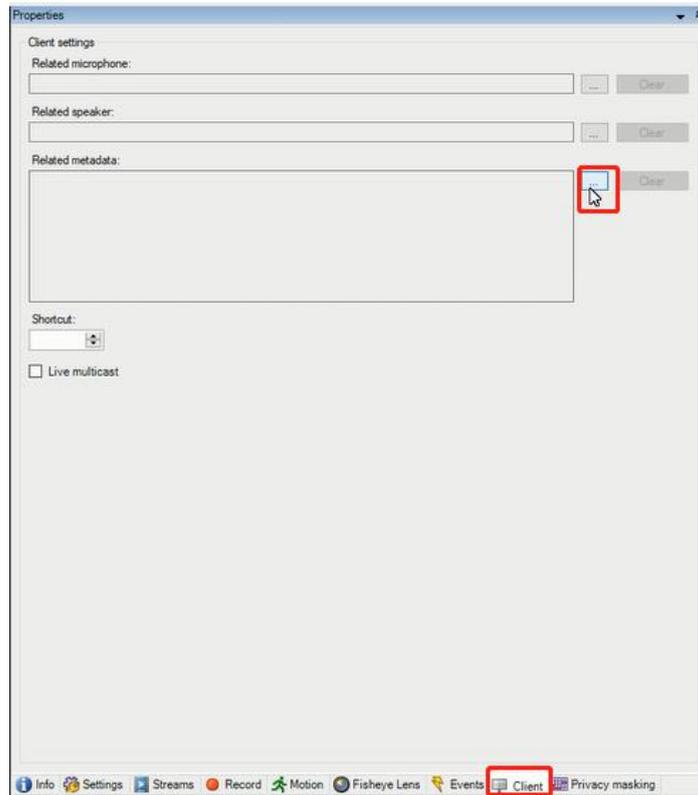
- Choose the camera in Recording Server at Milestone XProtect Management Client as shown below



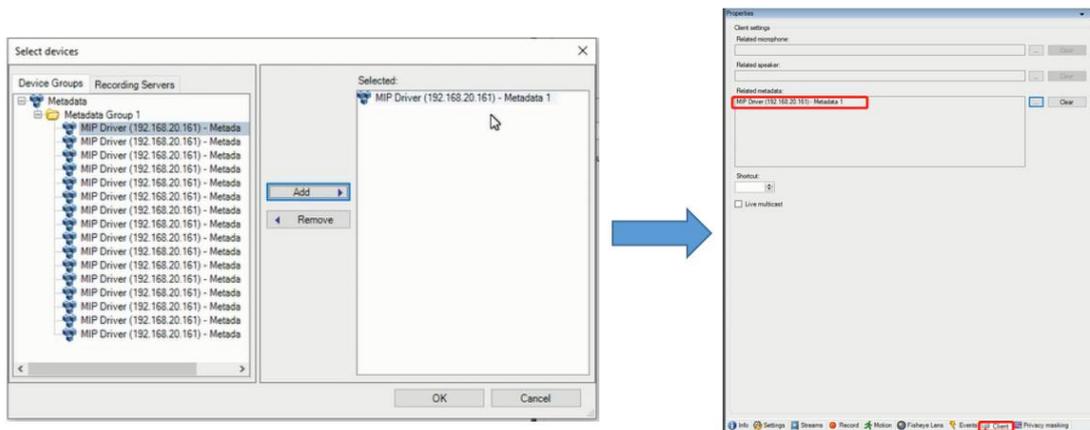
- Click the Client options in the camera properties in the Milestone XProtect Management Client as shown below



- Open the related metadata panel to choose the device.



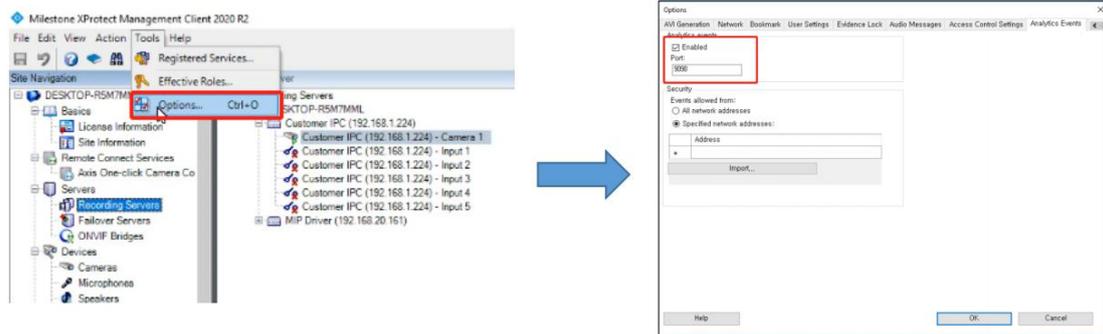
➤ Select the metadata channel that must be associated with the camera from the available ones. Note that you have to associate metadata channels with cameras in a one-to-one mapping manner.



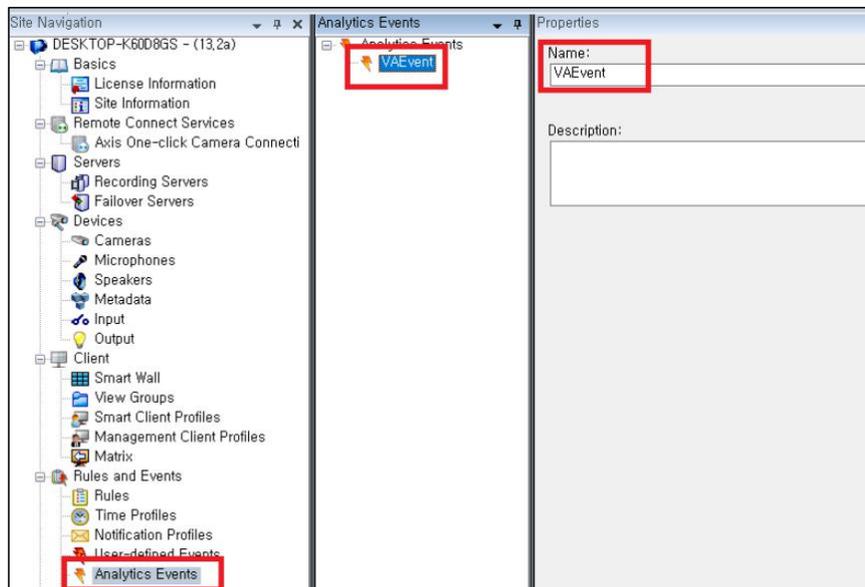
2.3.2 Setting for Analytics Events

In order for Milestone VMS to receive event data from Senturian VA Server, you must activate Analytics Events as follows:

- Check if Analytics Events option is enabled in the Milestone XProtect Management Client and if the related port is set (default is **9090**). If not, enable this option.

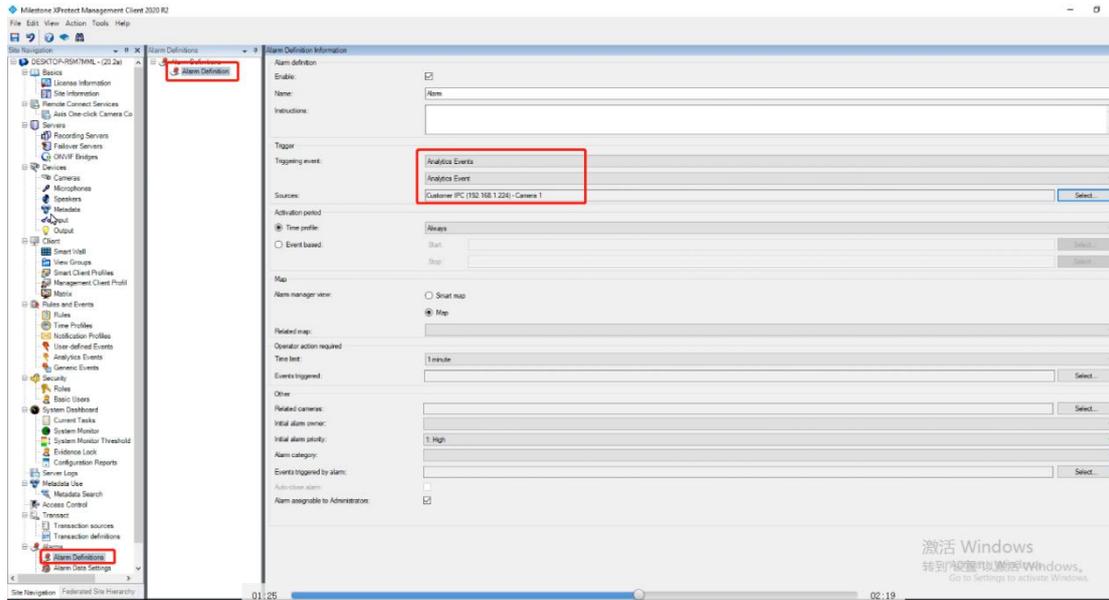


- Create a new event in the Analytics events section in the Rules and Events menu in the Milestone XProtect Management Client as shown below. The event must be named “VAEvent” as shown below.



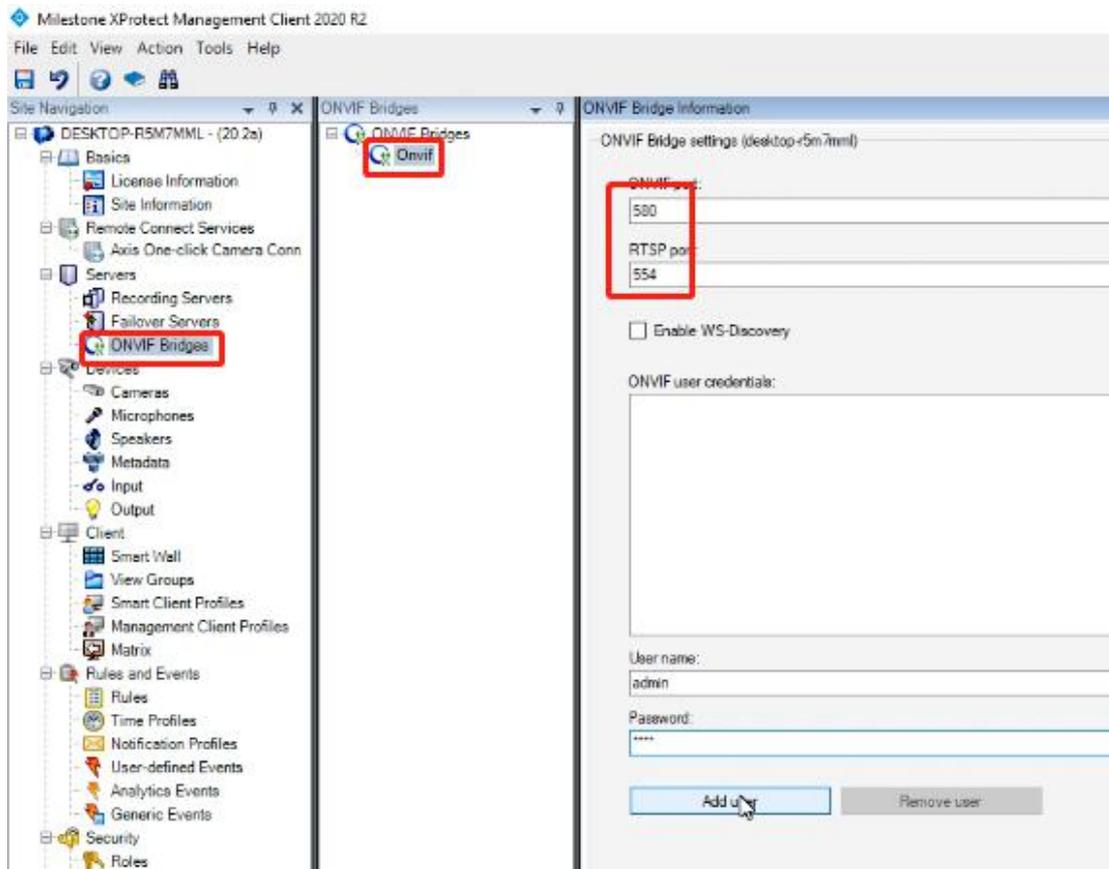
2.3.3 Setting for Alarm Definition

- 1) In order for the Milestone **XProtect Management Client** to manage alarms sent by the Senturian VA server, you must add an Alarm Definition as follows: Click on **Alarm Definitions** under the **Alarms** section of the Main Navigation Tree.
- 2) Right-click at the top of the tree and select **Add new...**
- 3) Check the Enable checkbox for the Alarm.
- 4) Provide a unique name for the Alarm.
- 5) Click on the **Triggering Event** and select **Analytics Events** and **VAEvent** from the dropdown menu.
- 6) Click on the Source and select interested cameras from list as shown below:



2.2.4 Setting for Milestone ONVIF Bridge

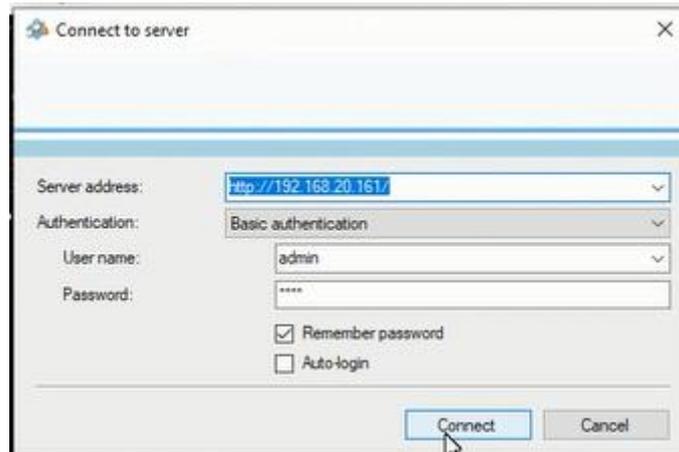
- Open **XProtect Management Client**, Click on **ONVIF Bridge**
- Right-click at the top of the tree and select **Add new...** to create new user with username and password is the same with Milestone VMS server.



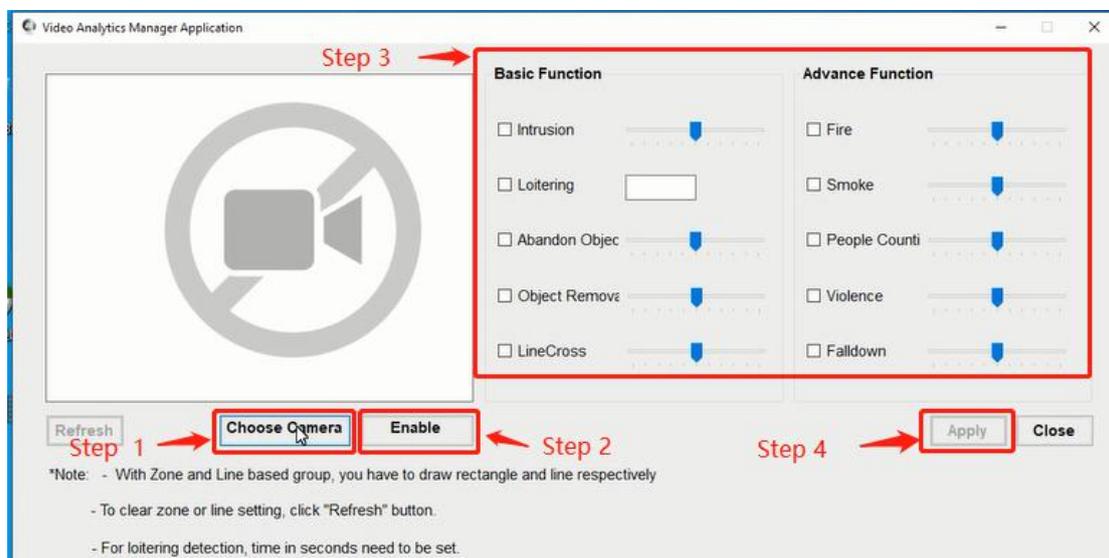
- ONVIF Port: 580; RTSP Port: 554; Login info: Milestone management server info.

3. Senturian VA Server

- Execute Senturian VA Server.
- The following window show up, which asks you to enter the IP address of the Milestone server that you want to connect to, username and password.

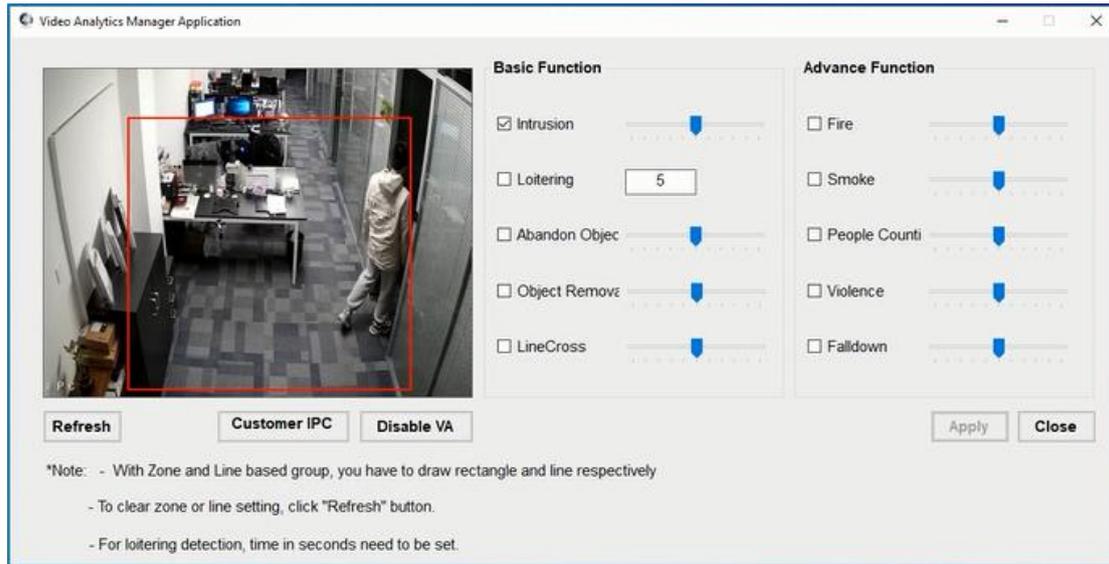


- Once login is successful, the following VA Manager Application will pop up, which allows users to enable or disable various Algorithms for each camera.



- Setting algorithms for each channel can be executed in four steps: 1) Choose Camera, 2) Enable VA, 3) Turn on Algorithms that you wish to use and set control parameters, e.g., sensitivity, if available, and 4) Click 'Apply' button as shown below.

The following figure shows how to set Intrusion detection. You have to draw a Zone in which an intrusion event is detected as shown.



Note the following:

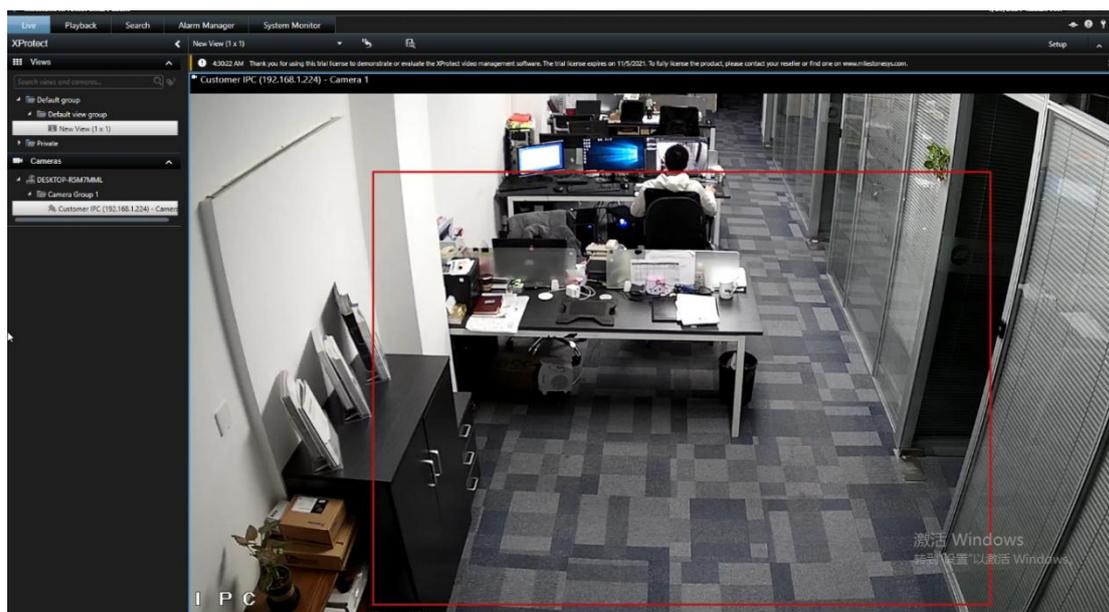
- Depending on the enabled features, you can draw a zone(s) or line in the camera view directly.
- For Loitering, time range is 0 to 180 sec (3 min).

4. Verifying Senturian Video Analytics

You can verify the operation of Senturian VA Server in live tab and Alarm manager tab.

4.1 Live Tab

If you have enabled Senturian VA Server, markers of detected objects will be displayed in the live tab in the Milestone XProtect Smart Client as shown below.

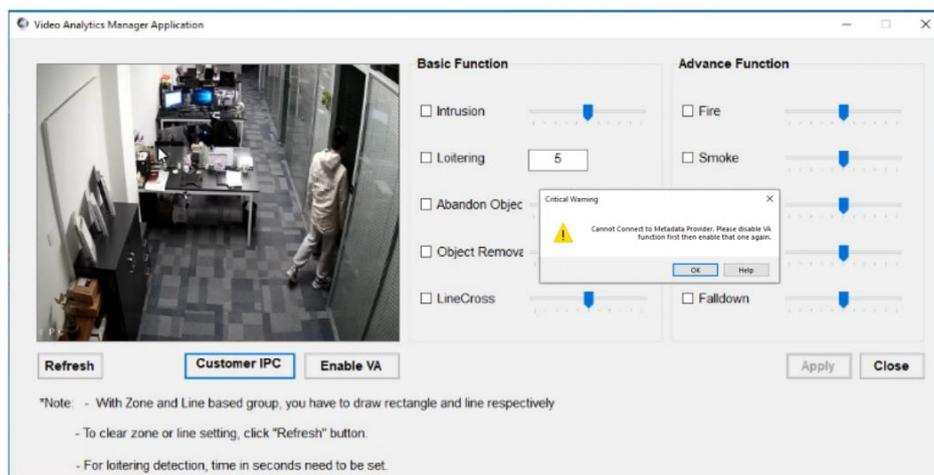


If an event such as intrusion detection has occurred, a popup window will be displayed, as shown below, to show the event.



5. Caveats

- If the Senturian VA Server and the Milestone VMS server fail to connect to each other, an error message will be shown as shown below.:



If this event occurs, you need to click "OK" button on Dialog, and then click "Disable VA" button and "Enable VA" , successively.