

Version: 1.3.0

Creation date: May 13, 2021

Scylla IDS

(Intrusion Detection System)

Plugin for Milestone VMS

This plugin adds additional functionality to Milestone VMS (Video Management System) to support Scylla Intrusion Detection System (IDS).

The AI-based Scylla IDS system is dedicated to support existing intrusion detection solutions that are based on non-managed motion detection. The main goal of Scylla IDS is to add smart identification features to otherwise “blind” and not accurate embedded alarm systems of cameras thus reducing the number of false positive alarms. In the core of Scylla IDS is the state-of-the-art “person/car detection and classification algorithm” that double checks the scenery for people/car and filter out the cases where the detection does not contain subjects of interest. Scylla IDS is two-way fully integrated with Milestone XProtect Smart Client alarm management system which means that it takes input from Milestone VMS and reports back to Milestone Client. In current implementation the analysis takes place on a cloud-based server, but local deployment of the AI-core engine is also possible.

In the current version (v1.3.0) Scylla threat detection functionality is added to the intrusion detection system already existing in previous versions (v1.1.0 and v1.2.0). New version of the plugin adds gun/rifle detection which can be enabled in plugin settings.

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1. Introduction to Milestone alarm management system.

XProtect alarm management system allows to see different events configured in Management Client as alarms in Smart Client alarm management tab, get notifications and see recorded preview and additional data from associated cameras.

Custom alarms need to be configured in Management Client then processed through Milestone Event Server become available in the alarm management tab. More details are available at Milestone official documentation.

For the Scylla IDS plugin you do not need to configure any alarm manually. All configurations perform internally when the plugin is activated.

2. Description and configuration of Scylla IDS plugin.

2.1. Introduction to Scylla IDS functionality.

Scylla IDS plugin setup file for Milestone can be downloaded from Scylla web page or Milestone Marketplace.

Plugin connects to Scylla IDS web server to perform image processing.

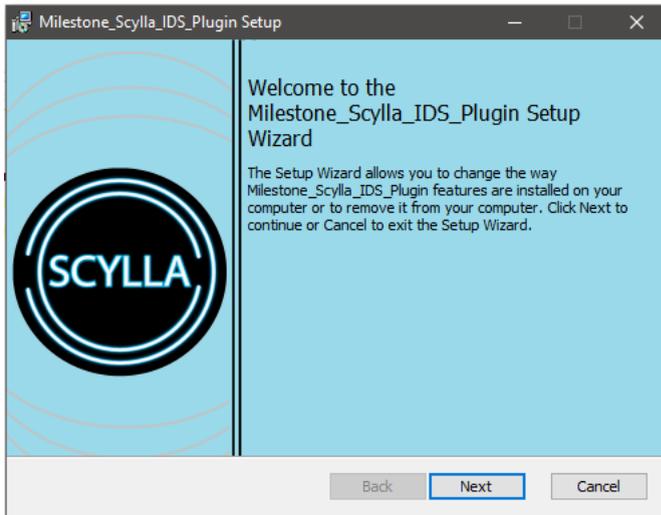
Plugin creates a local MSSQL database to store necessary data needed for plugin correct functionality.

Plugin needs additional local storage (any folder with current user read-write permissions) to store detection frames.

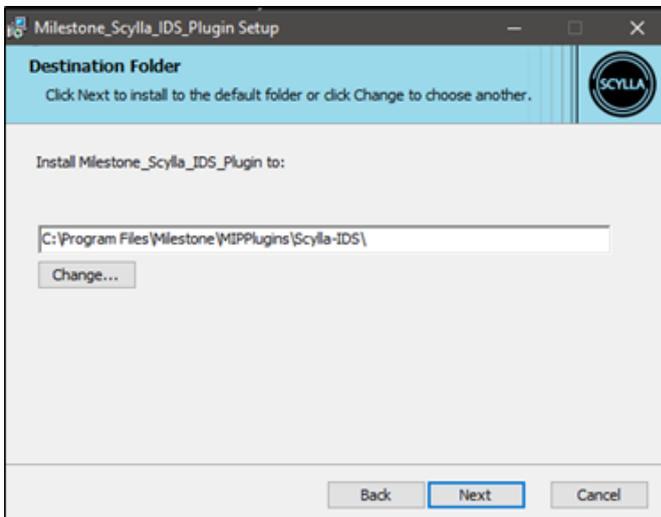
2.2. Scylla IDS plugin setup.

For correct setup please follow steps below

- Double click on Milestone_Scylla_IDS_Plugin_Setup.msi file.
You will see a welcome screen, click on **Next** to continue.

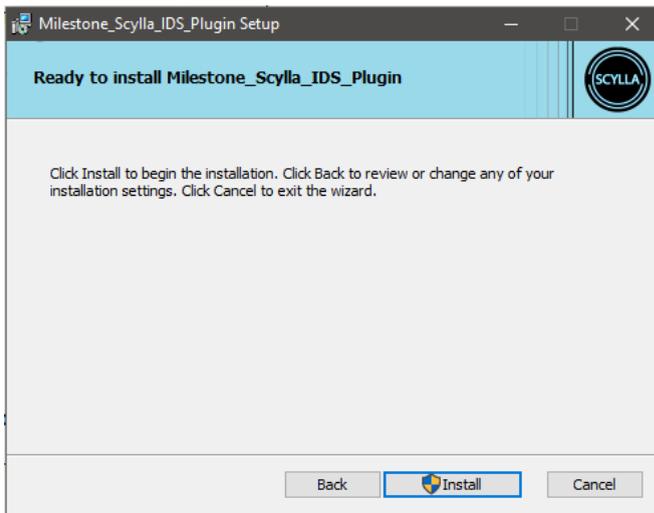


- At the next step set the plugin installation folder path.
All plugins developed for Milestone VMS need to be installed in “MIPPlugins” folder (for example default Milestone path for 64 bit operating system is C:\Program Files\Milestone, so plugin installation folder in this case is C:\Program Files\Milestone\MIPPlugins\Scylla-IDS).

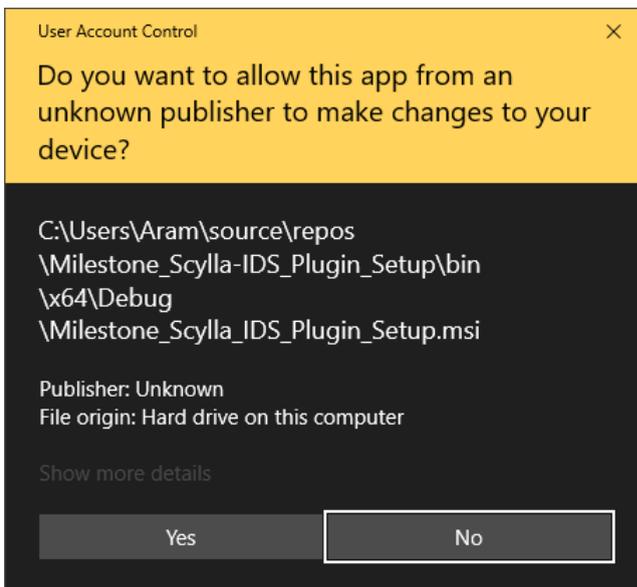


Click on **Next**.

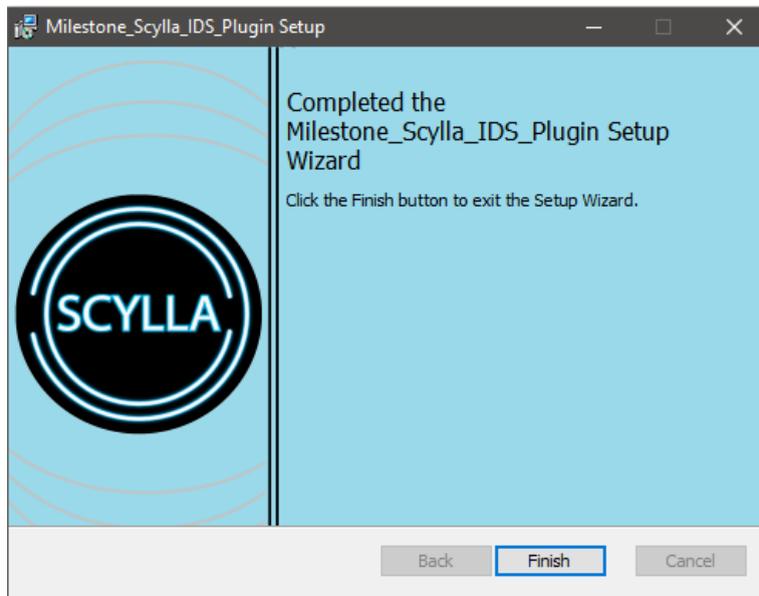
- Click on **Install**.



- Setup needs administrator permissions to install files. Click on **Yes**.

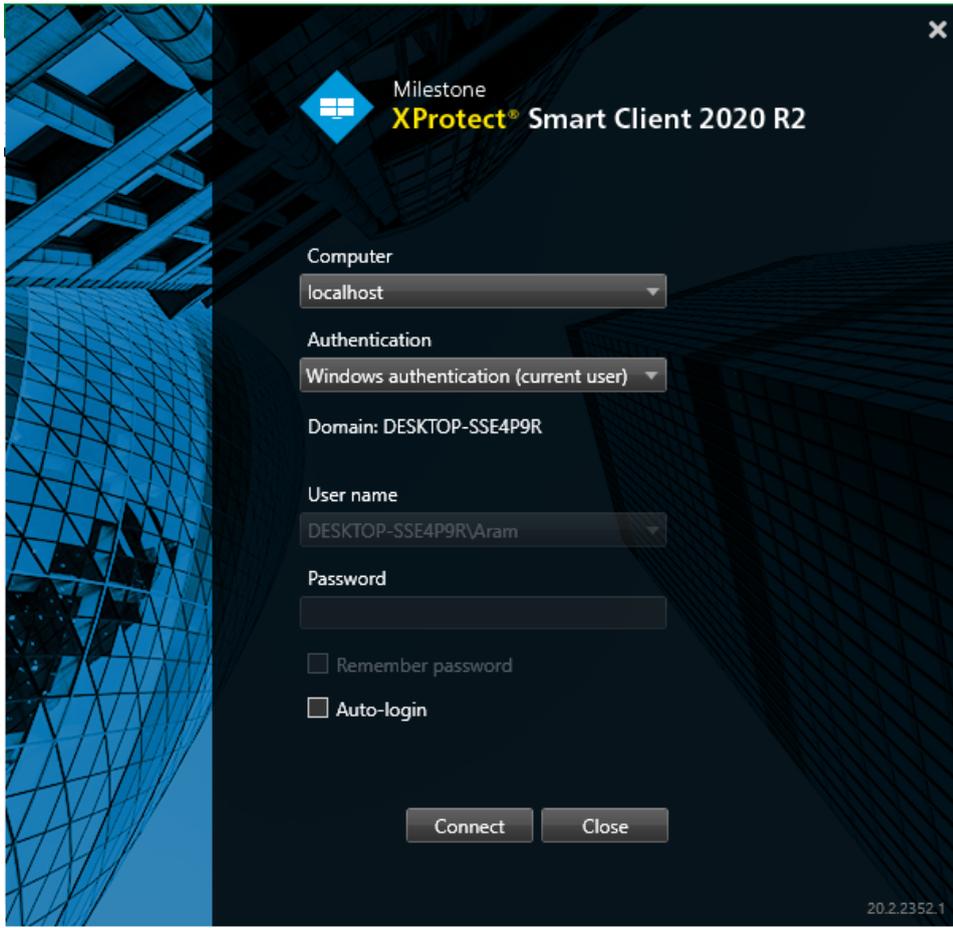


- Then click on **Finish** to complete installation.



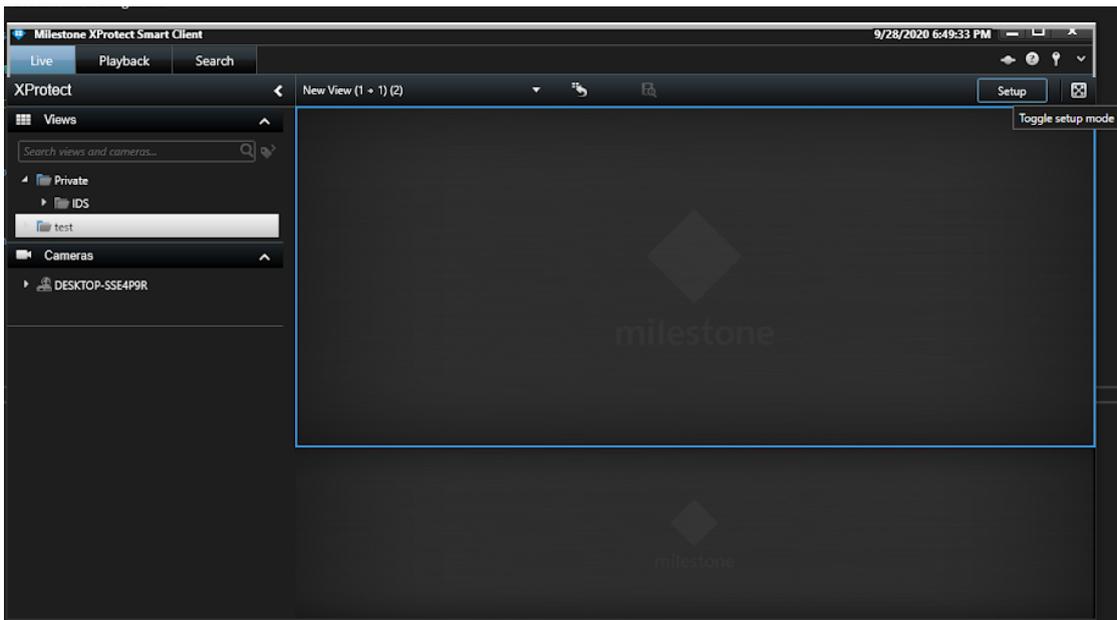
2.3. XProtect Smart Client configuration.

- Click on XProtect Smart Client icon on your desktop then click on **Connect**

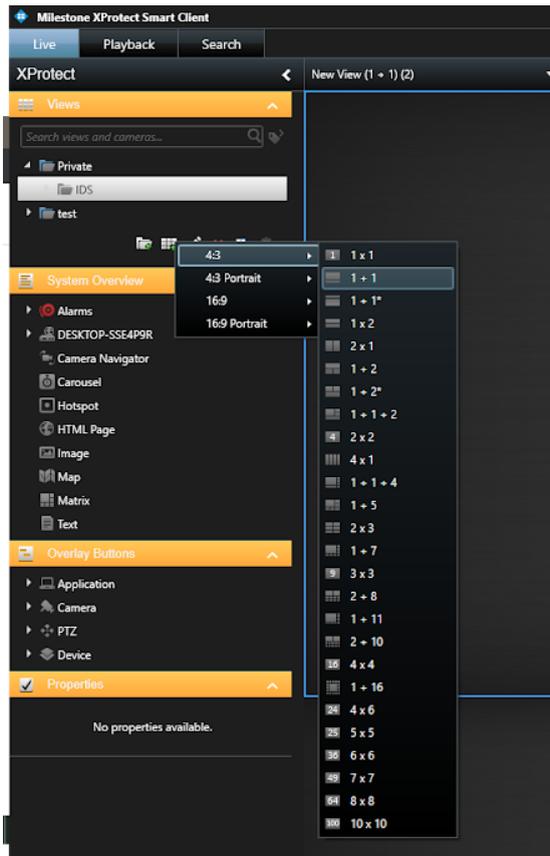


If you have already Alarm Management tab on your Smart Client window go to the [steps to setup plugin configurations](#).

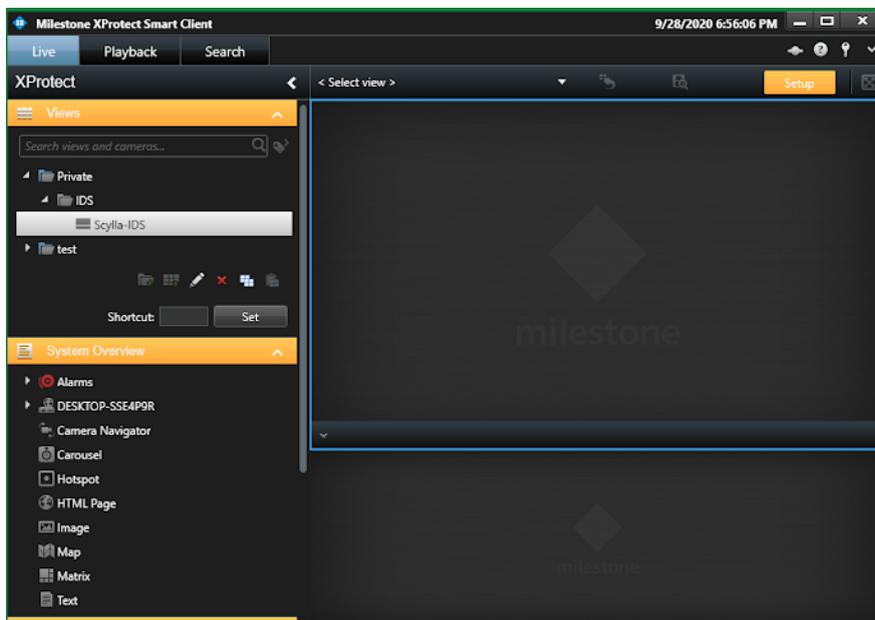
- Click on **Setup** button at the right side of the window.



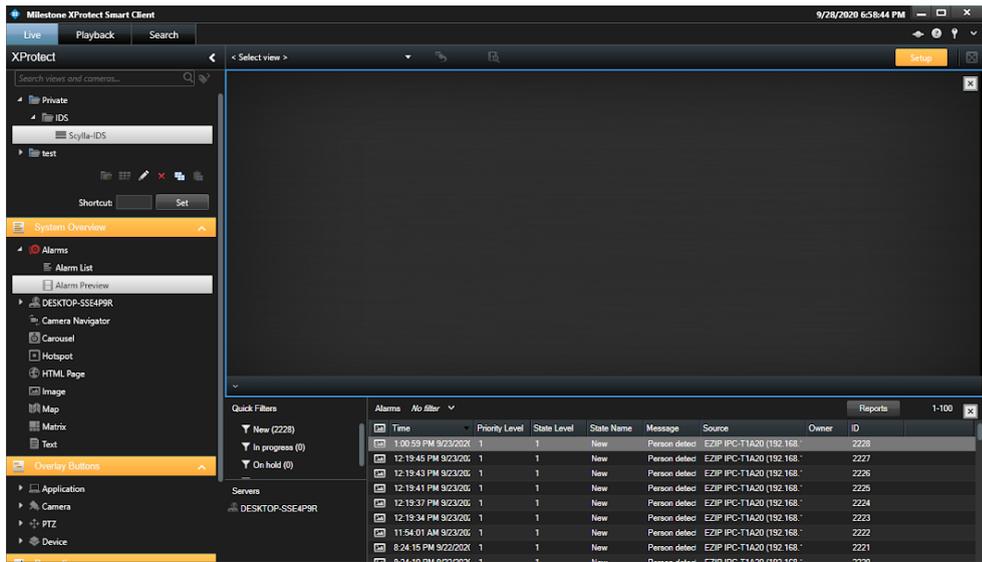
- Add **new group** and then create **new view** in that group folder



- Rename it as per your favor.

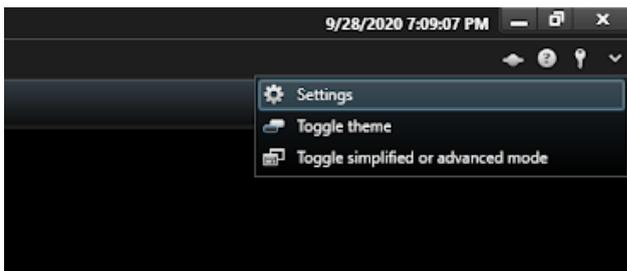


- Use Drag-n-drop functionality to add **Alarm List** and **Alarm Preview** to the newly created view, then press **Setup** to confirm and save changes.

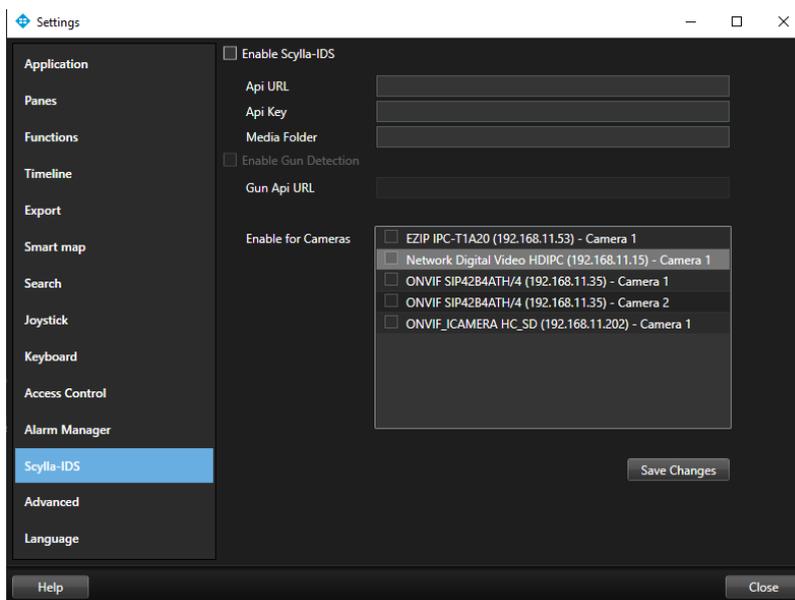


2.4 Scylla IDS plugin settings configuration

- Open XProtect Smart Client **Settings**

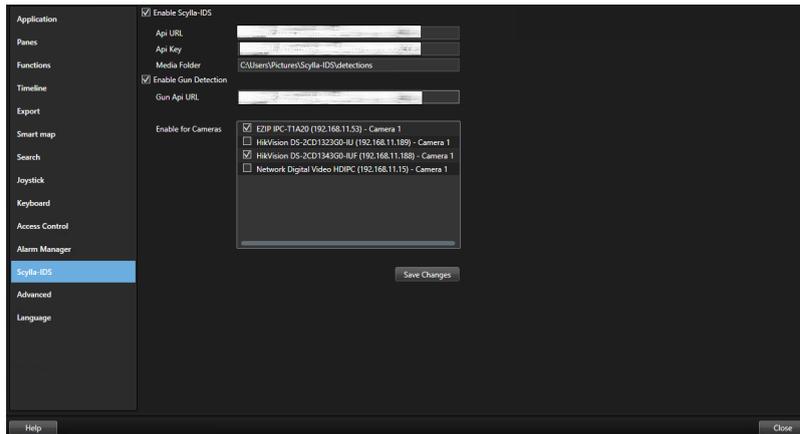


- Click on **Scylla-IDS** settings menu

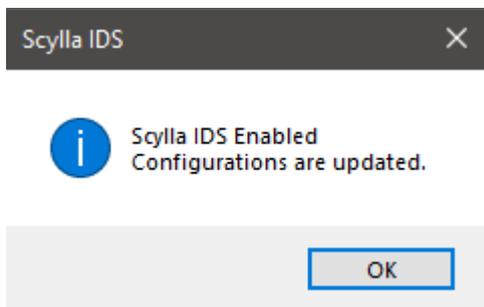


- Input Scylla IDS server **API URL**, **API Key** provided by SCYLLA and add a local folder path where frames of detections will be stored.
- Check **Enable Scylla-IDS** checkbox.
- Input Scylla IDS server **GUN API URL** provided by SCYLLA.
- Check **Enable Gun Detection** checkbox.
- Choose cameras.

After these steps, the settings window will look like the screenshot below.



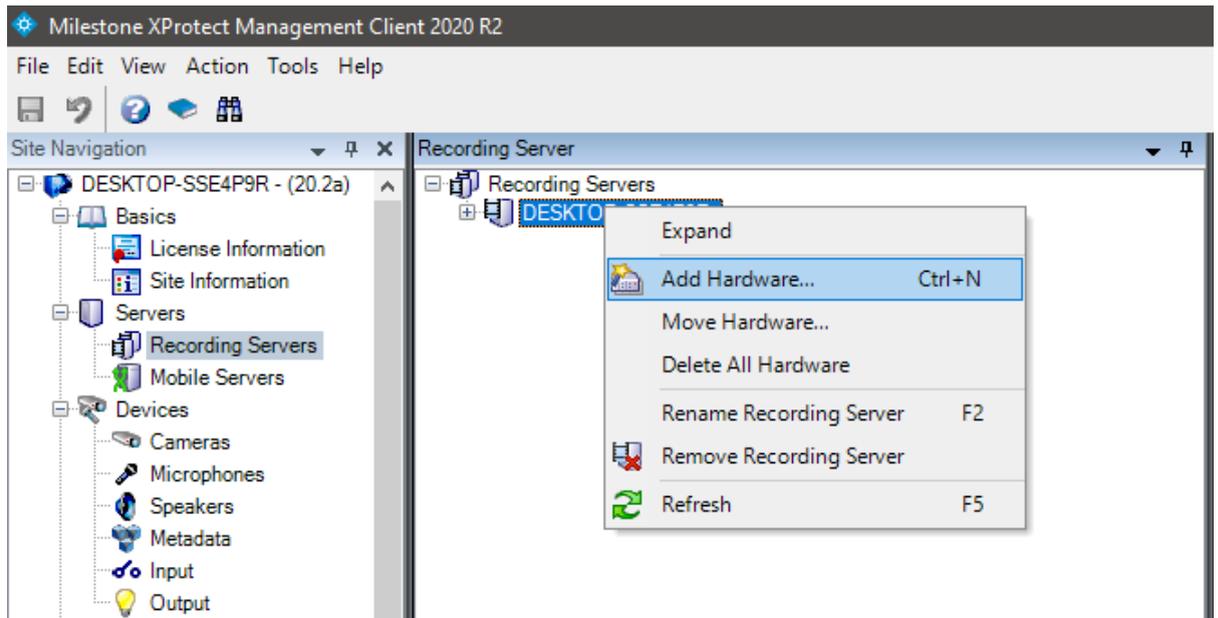
- Click on the **Save Changes** button.
- Message box with confirmation message will appear. Click on **OK** and Close.



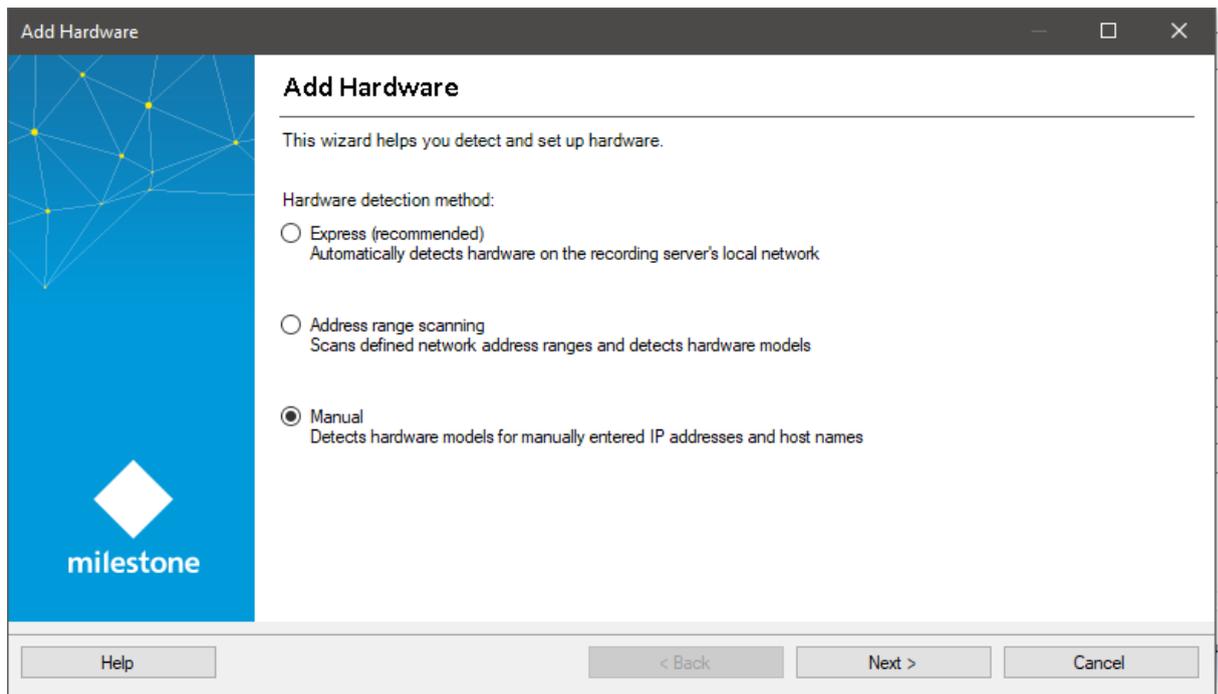
2.5. XProtect Management Client hardware configuration

Configure hardware devices in XProtect Management Client.

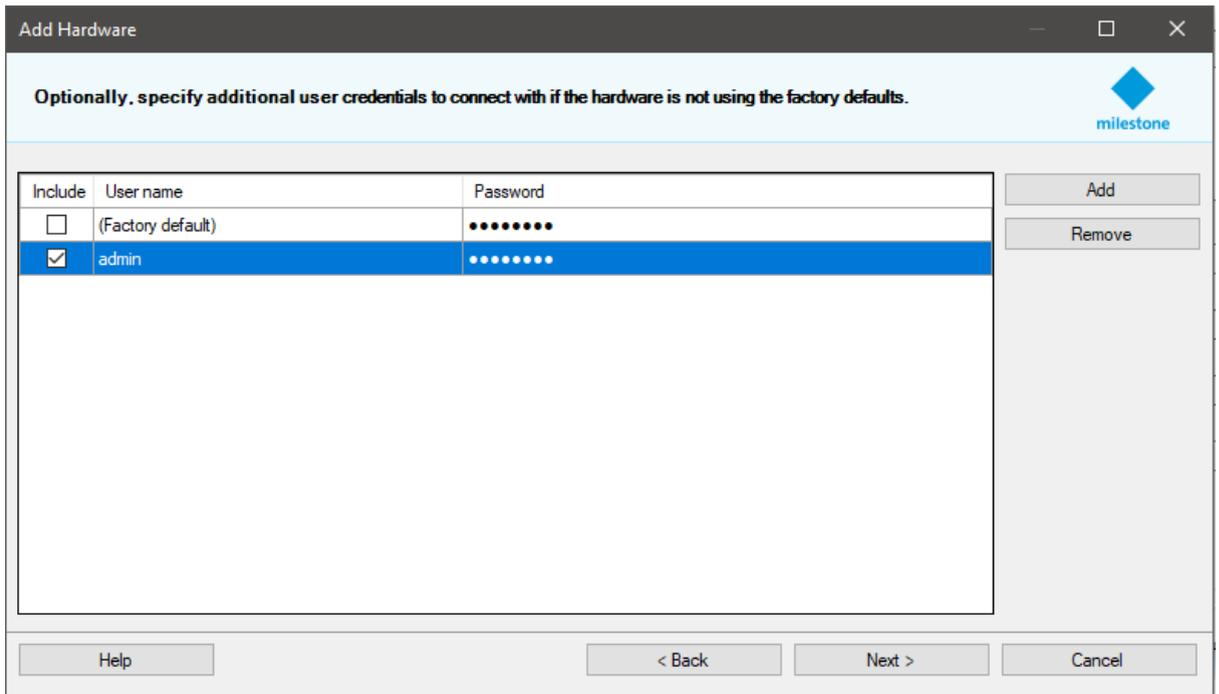
- Open **Recording Servers** on navigation tab
- Right click on the server installed on your machine



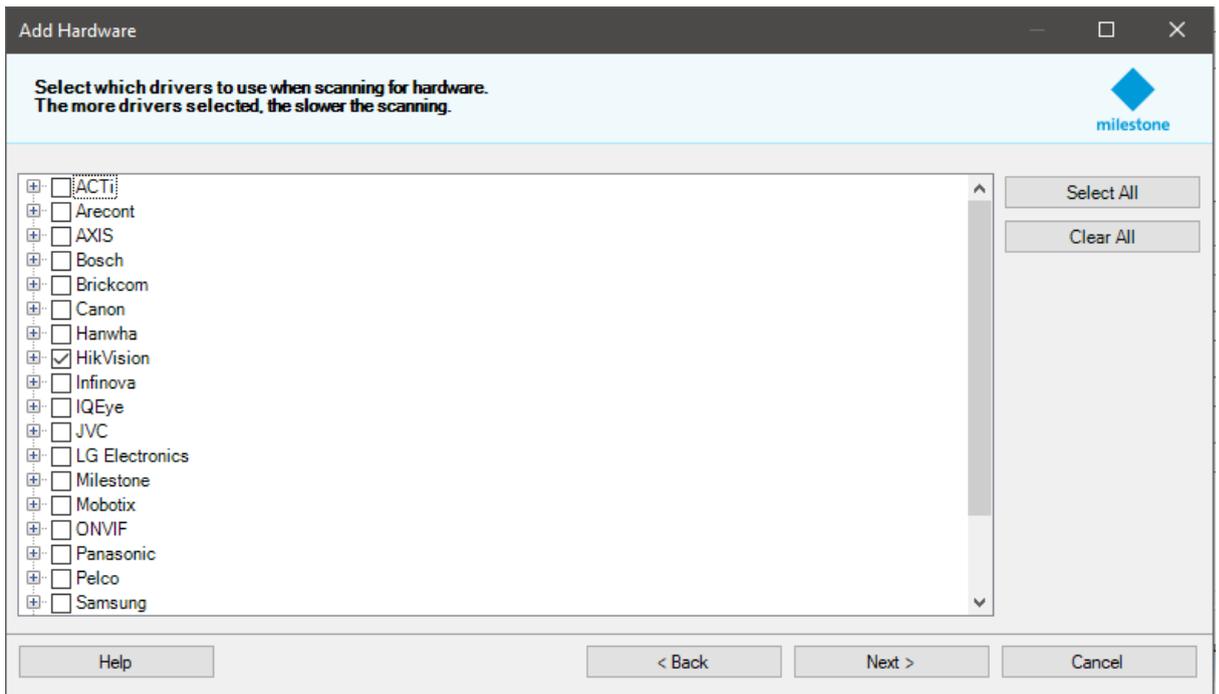
- Click on **Add Hardware...**



- Select **Manual** and click on **Next**



- Add camera **User Name** and **Password** and click on **Next**



- Choose your camera type and click on **Next**

Add Hardware

Enter the network address and port of the hardware you want to add.
Optionally, select the hardware model to speed up detection.

	Address	Port	Use HTTPS	HTTPS port	Hardware model
...	192.168.11.40	80	<input type="checkbox"/>	443	(Auto-detect)

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

- Enter **IP Address** and click on **Next**
Wait until successful detection and click **Next** and then **Next**

Add Hardware

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

Progress bar (green)

Stop

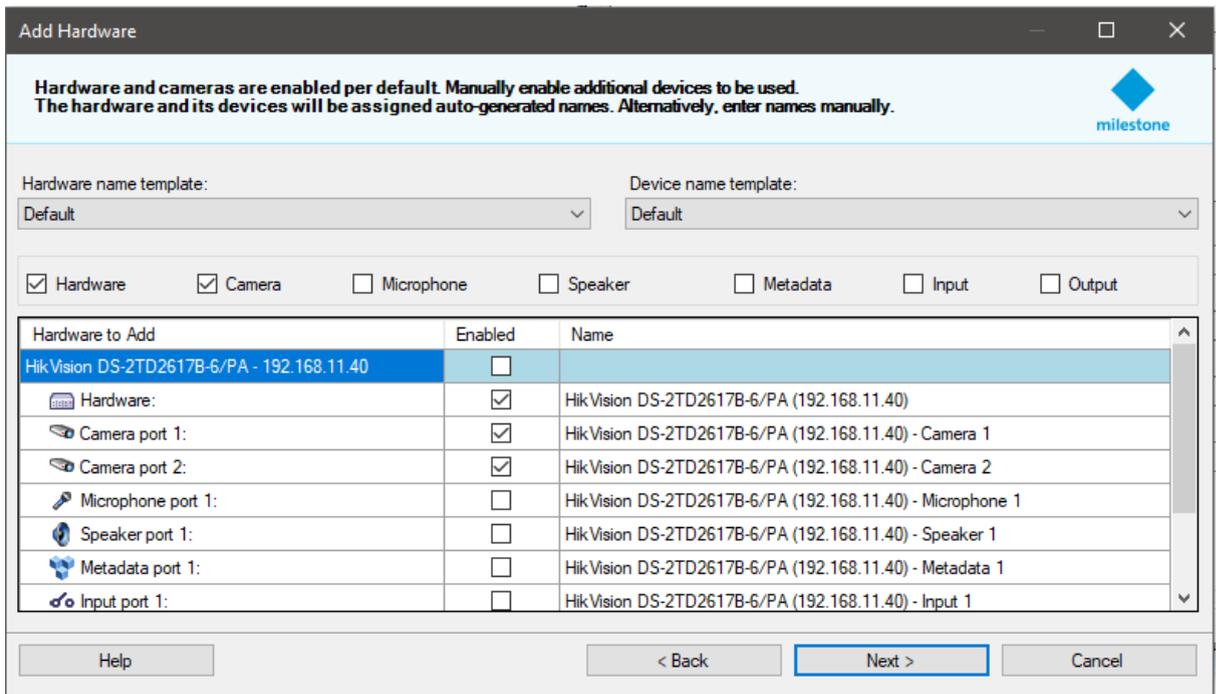
Detected hardware:

Add	Address	Port	Hardware model	Status
<input checked="" type="checkbox"/>	192.168.11.40	80	Hik Vision DS-2TD2617B-6/PA	✓ Success

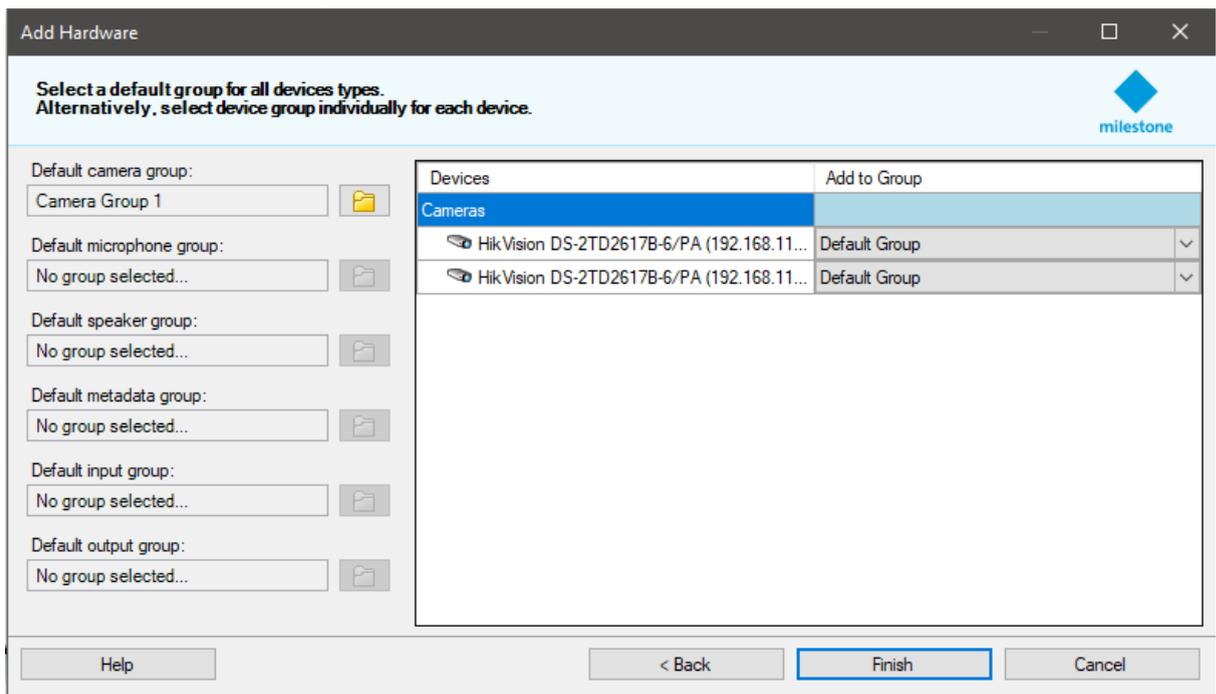
Show hardware running on other recording servers

Buttons: Help, < Back, Next >, Cancel

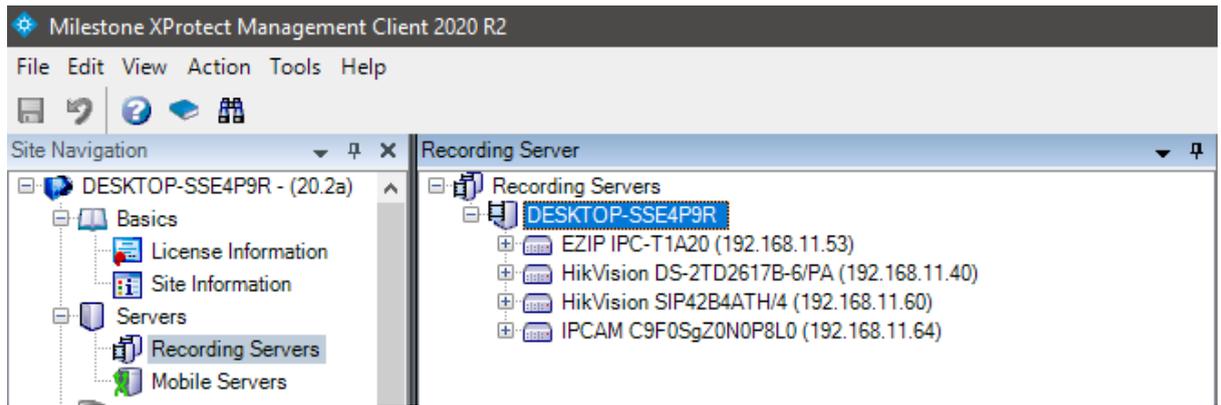
Note: if detection failed please check your camera http port. The default http ports for ONVIF cameras are usually 8080 or 8000.



- Ensure that camera ports are checked and click **Next**



- Click on **Finish** to complete hardware configuration. New camera will appear in the list.

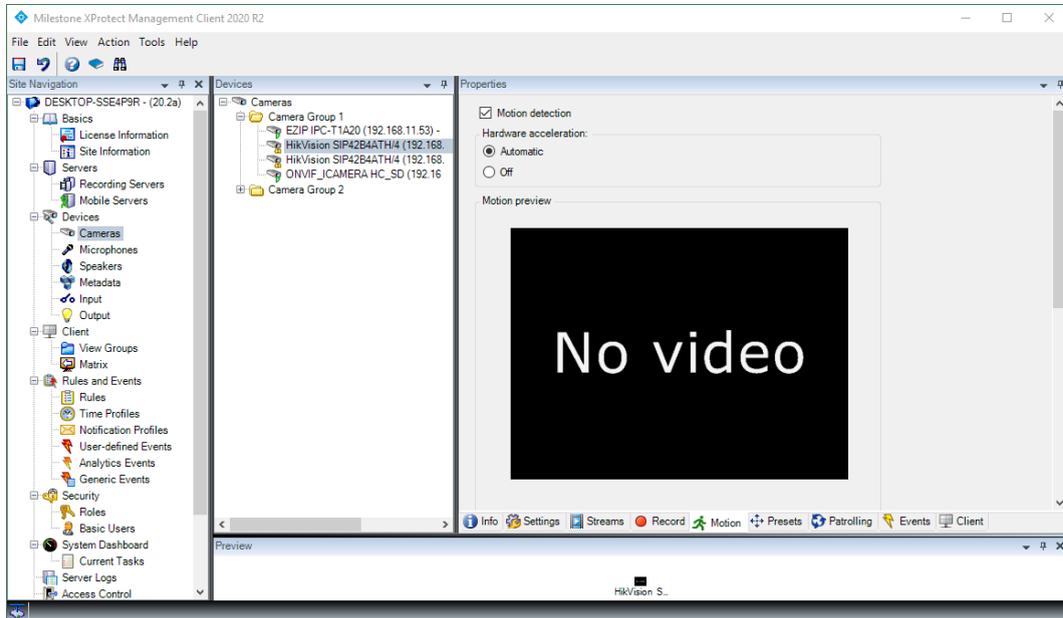


Notes.

1. If camera preview is not available after configuration, check hardware authentication settings:
 - Right click on hardware
 - Click on Edit Hardware
 - Verify/set **Username** and **Password**
2. If XProtect Smart Client is already running during configuration you should restart it for the changes to take effect, otherwise motion detection will not be operational.

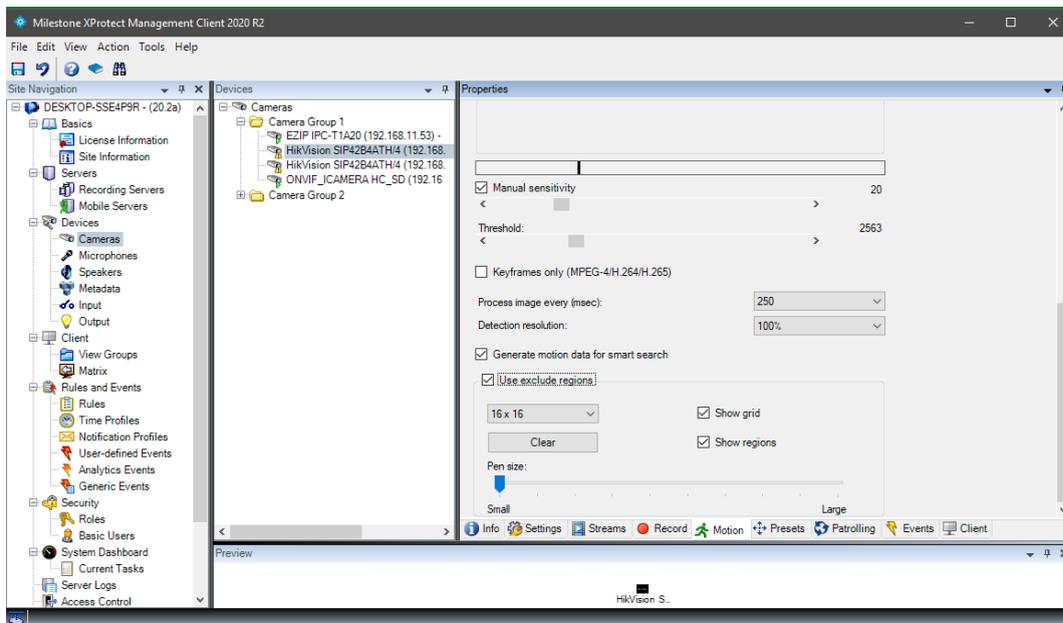
2.6. Motion detection settings configuration in XProtect Management Client.

- Open XProtect Management Client and enable **Motion detection**



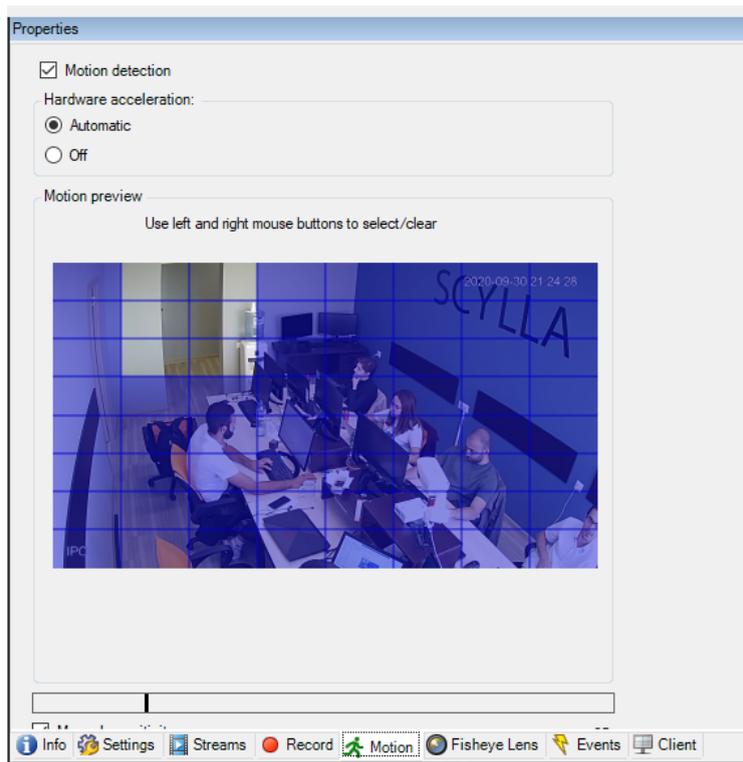
2.7. Excluded region configurations in XProtect Management Client

- You can choose to configure excluded regions where motion will not be detected. To enable it click on **Use Exclude Region** checkbox.



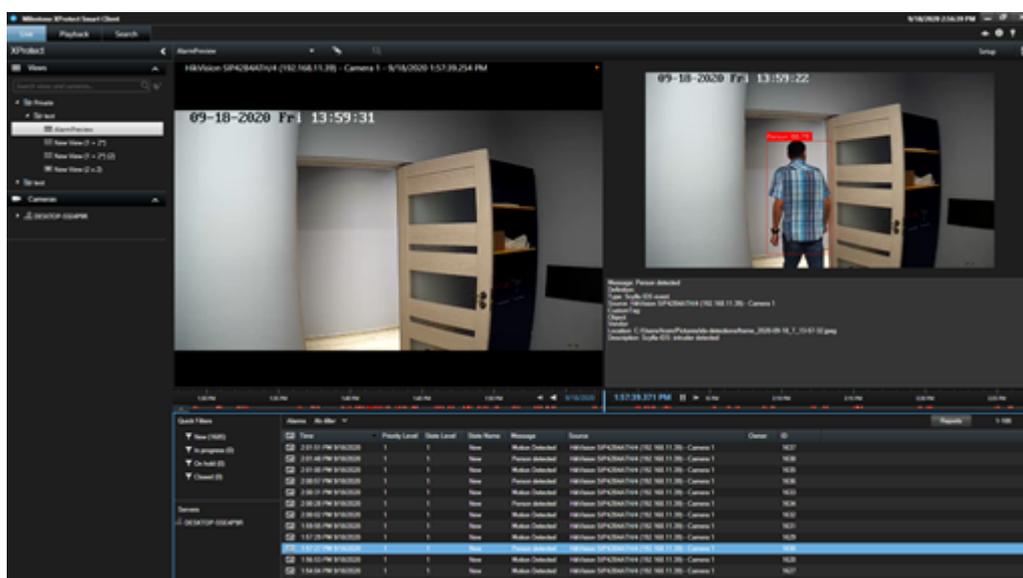
- Then click on the boxes of the grid drawn on camera view. The boxes enabled will be shown in the original color while the neglected boxes will be in blue. Below example will detect only motions occurring near the

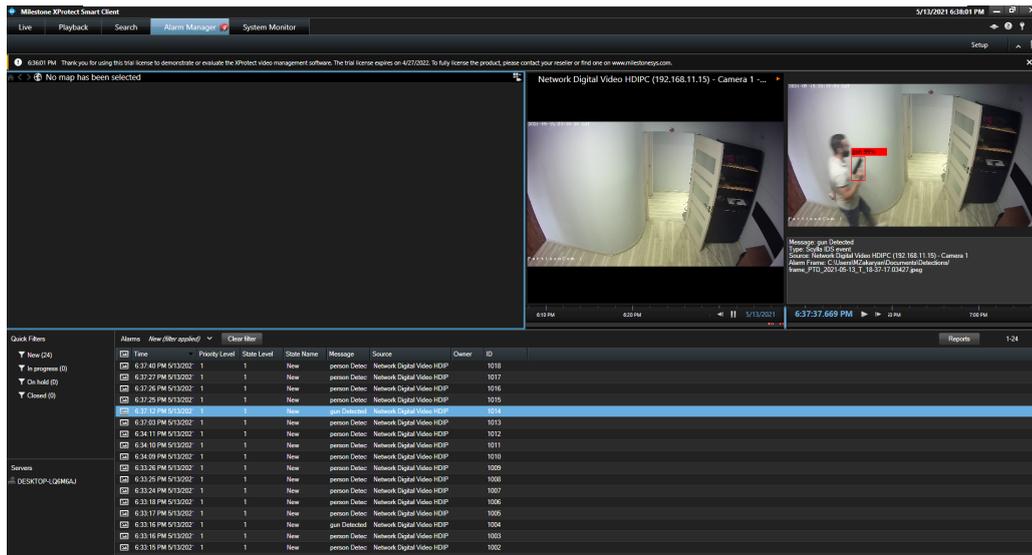
door.



3. Plugin testing.

If all steps above are performed successfully, after first motion detection at any person moving in front of the camera, you will see a **person detection** alarm in the **Alarm List** window, and if the gun is detected, you will see a **gun detection** alarm in the **Alarm List** window. Clicking on the report line will open an additional info view on the right side of the **Alarm View** window.





Note.

In the current version errors occurred due to not correct inputs in the settings panel will be visible **only** after first person detection as error message boxes.



4. References.

Milestone software download page:

<https://www.milestonesys.com/support/resources/download-software>

Product		Type	
XProtect Corporate		Software	
Version		Language	
XProtect Corporate 2020 R2 (20.2a)		English	
Free Search		Filter	
<input type="text"/>			

Name	Version	Size
XProtect Corporate		
Milestone EULA	20200402	200.87 KB
DLNA installer	2020 R2 (20.2a)	78.09 MB
Migration Assistant tool	2020 R2 (20.2a)	9.35 MB
XProtect Smart Client 64-bit	2020 R2 (20.2a)	134.72 MB
XProtect Smart Client 32-bit	2020 R2 (20.2a)	122.54 MB
ReadMe for XProtect VMS products	2020 R2 (20.2a)	4.33 KB
XProtect VMS Products	2020 R2 (20.2a)	1.83 GB
AXIS One Click	2.17	9.38 MB