

5G LTE Router Setup Guide



Table of Contents

Part 1: Configuring with Skyshield/Solarshield 4G

Router.....	5
Configuration Steps.....	5

Part 2: Data Plan and Data usage Best Practices..... 3

Scenario 1: Less Events, Occasional Live View/Playback.....	3
Scenario 2: Moderate Events, On-Demand Live View/Playback.....	3
Scenario 3: Lots of Events, Frequent Time Live View/Playback.....	3
Fig. 1 Region of Interest Adjustment.....	4

Part 1: Configuring with SiteShield/ Solarshield's 5G Router

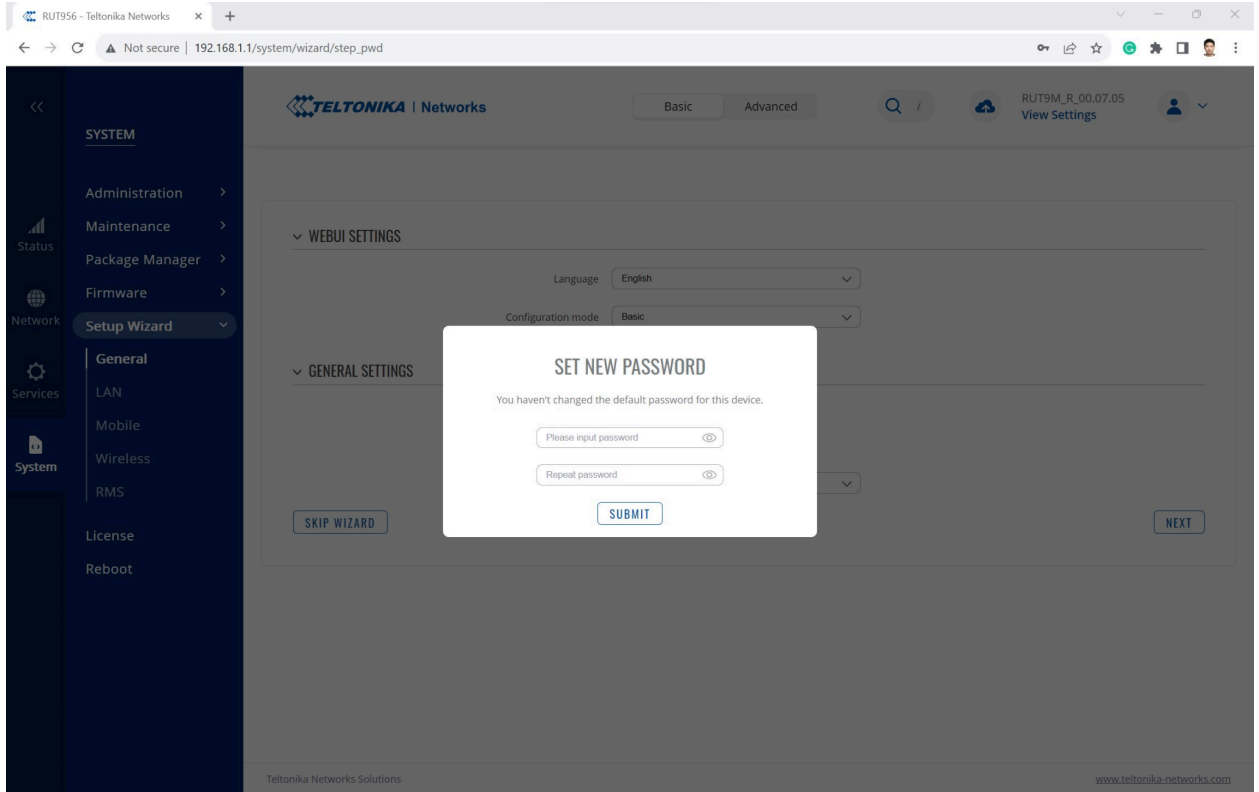
Note: Please configure the Router properly and complete adding cameras to Vision, make sure you are able to view streamings before hanging up devices.

Configuration Steps:

1. Insert a **standard-size** SIM card into the router's SIM slot. There are two SIM slots, if you only have one SIM card, please insert the SIM1 slot.
2. Connect PC from laptop to the router. You can use the router wifi signal to connect with the credentials printed on the shield door. If you don't see credentials on the shield door, please uninstall the router and find credential on the back of the unit.
3. Log in to the Router Web page using credentials
 - a. If the password is forgotten please press and hold the reset button on the back of the device for 10 seconds, while the device is powered on. The password will reset to the default as printed on the router's label.
 - b. Router information is usually printed on the shield enclosure. You can also find it on the back of the router



4. Set up a new password as the system required.



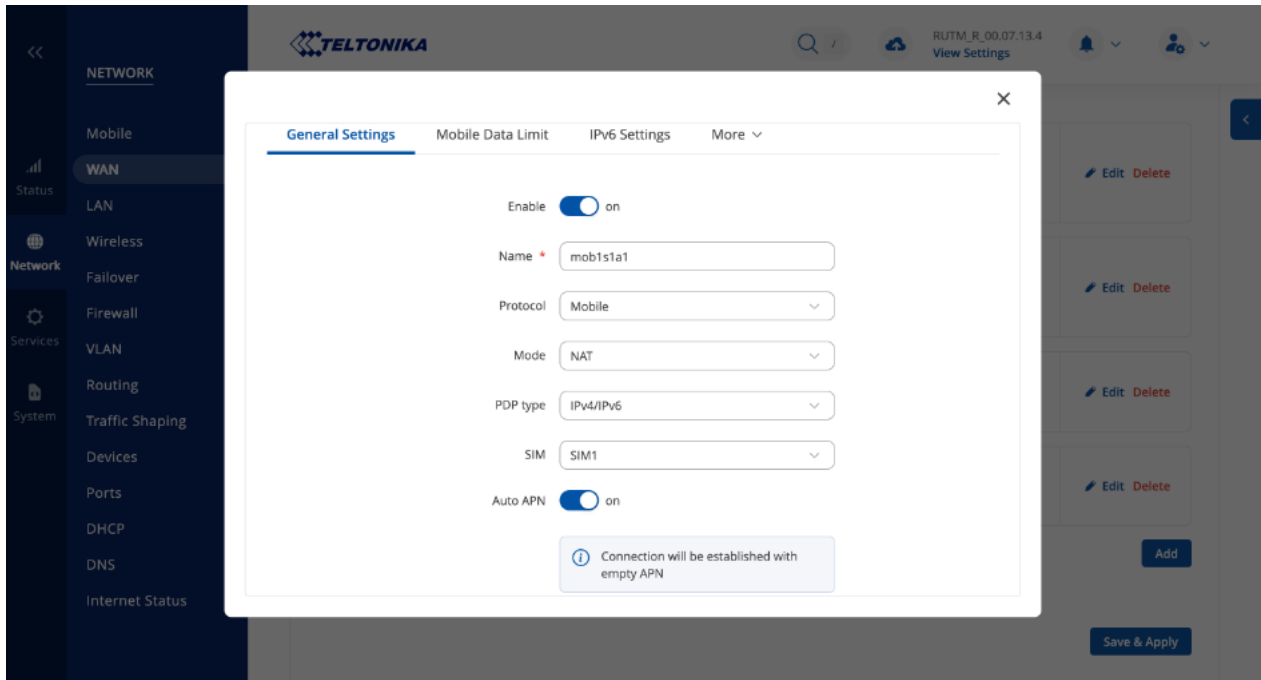
The screenshot shows the Teltonika Networks web interface. The browser address bar displays '192.168.1.1/system/wizard/step_pwd'. The interface has a dark blue sidebar on the left with a menu including 'SYSTEM', 'Administration', 'Maintenance', 'Package Manager', 'Firmware', 'Setup Wizard' (highlighted), 'General', 'LAN', 'Mobile', 'Wireless', 'RMS', 'License', and 'Reboot'. The main content area is titled 'TELTONIKA | Networks' and has tabs for 'Basic' and 'Advanced'. Below the tabs, there are sections for 'WEBUI SETTINGS' (Language: English, Configuration mode: Basic) and 'GENERAL SETTINGS'. A white modal dialog box titled 'SET NEW PASSWORD' is centered on the screen. It contains the text 'You haven't changed the default password for this device.' and two input fields: 'Please input password' and 'Repeat password'. Below the input fields are 'SKIP WIZARD' and 'SUBMIT' buttons. A 'NEXT' button is also visible in the bottom right corner of the main content area. The footer of the page includes 'Teltonika Networks Solutions' and the website 'www.teltonika-networks.com'.

Note: When you walk through the setup Wizard, please do not create your own RMS account and register the Router to your own account. This step will be automatically done when you add Solarshield/Skyshield into Vision. Duplicate operation may lead to errors. As shown in the snapshot below, **DO NOT** click the Connect button during wizard setup, just click Finish or SKIP Wizard to finish.

APN is an essential setting for routers to work properly. Device will use auto APN as default. If you have an internet connection already, there should be no need to change this setting. If you do not have internet connection by default, please check the following:

- Note:** Main page will be under (ip_address)/status/overview

5



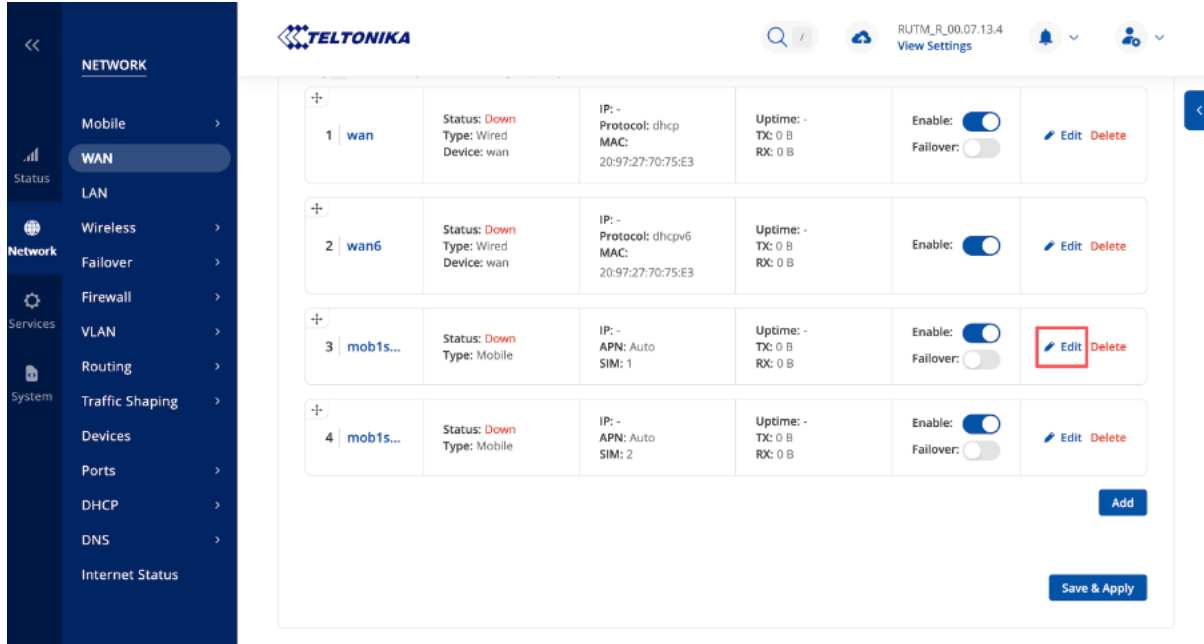
c. once gear icon is clicked, Config window will automatically pop up for you. Auto APN is ON by default, please adjust accordingly based on your carrier's credential

i. There are several common APN if you purchased directly from these providers:

1. Verizon: **vzwinternet** or **v5ga01internet**
2. AT&T: **revgeniot.com.attz**
3. Tmobile: **fast.t-mobile.com**
4. Turing SIM card: **wbdata**

Note: APN might be different, so if the APN does not work, please contact the ISP provider to get the right APN.

d. Click **SAVE&APPLY** at the bottom.



ID	Name	Status	Type	Device	IP	Protocol	MAC	Uptime	TX	RX	Enable	Failover	Actions
1	wan	Down	Wired	wan	-	dhcp	20:97:27:70:75:E3	-	0 B	0 B	On	Off	Edit Delete
2	wan6	Down	Wired	wan	-	dhcpv6	20:97:27:70:75:E3	-	0 B	0 B	On	Off	Edit Delete
3	mob1s...	Down	Mobile	-	-	APN: Auto	SIM: 1	-	0 B	0 B	On	Off	Edit Delete
4	mob1s...	Down	Mobile	-	-	APN: Auto	SIM: 2	-	0 B	0 B	On	Off	Edit Delete

Buttons: Add, Save & Apply

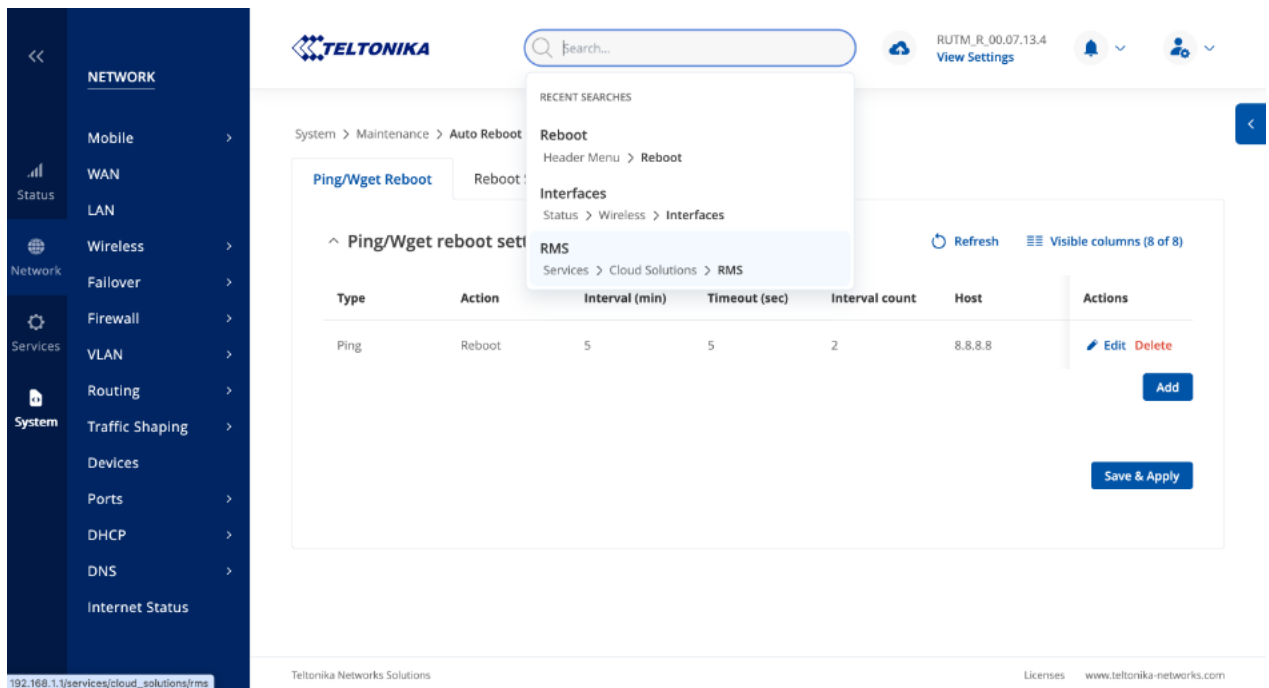
- Click the "Edit" button on the "MOB1S1A1" icon to pop up the interface, go to More - > advanced Settings, Change the MTU settings based on the different ISP carrier you are using. Input the MTU value specified below. Click "Save & Apply"

Verizon: MTU shall be set as 1428

AT&T: MTU shall be set as 1430

What is MTU?

- MTU is Maximum Transmission Unit. It is a measurement of the largest IP (Internet Protocol) packet that can be carried on a network. MTU includes all headers and the actual payload - including the TCP (Transmission Control Protocol) header of 40 bytes.
- The network MTU used by FirstNet devices will be lowered to 1342 bytes. This is different from the MTU used in AT&T's network where the MTU is 1430 bytes.



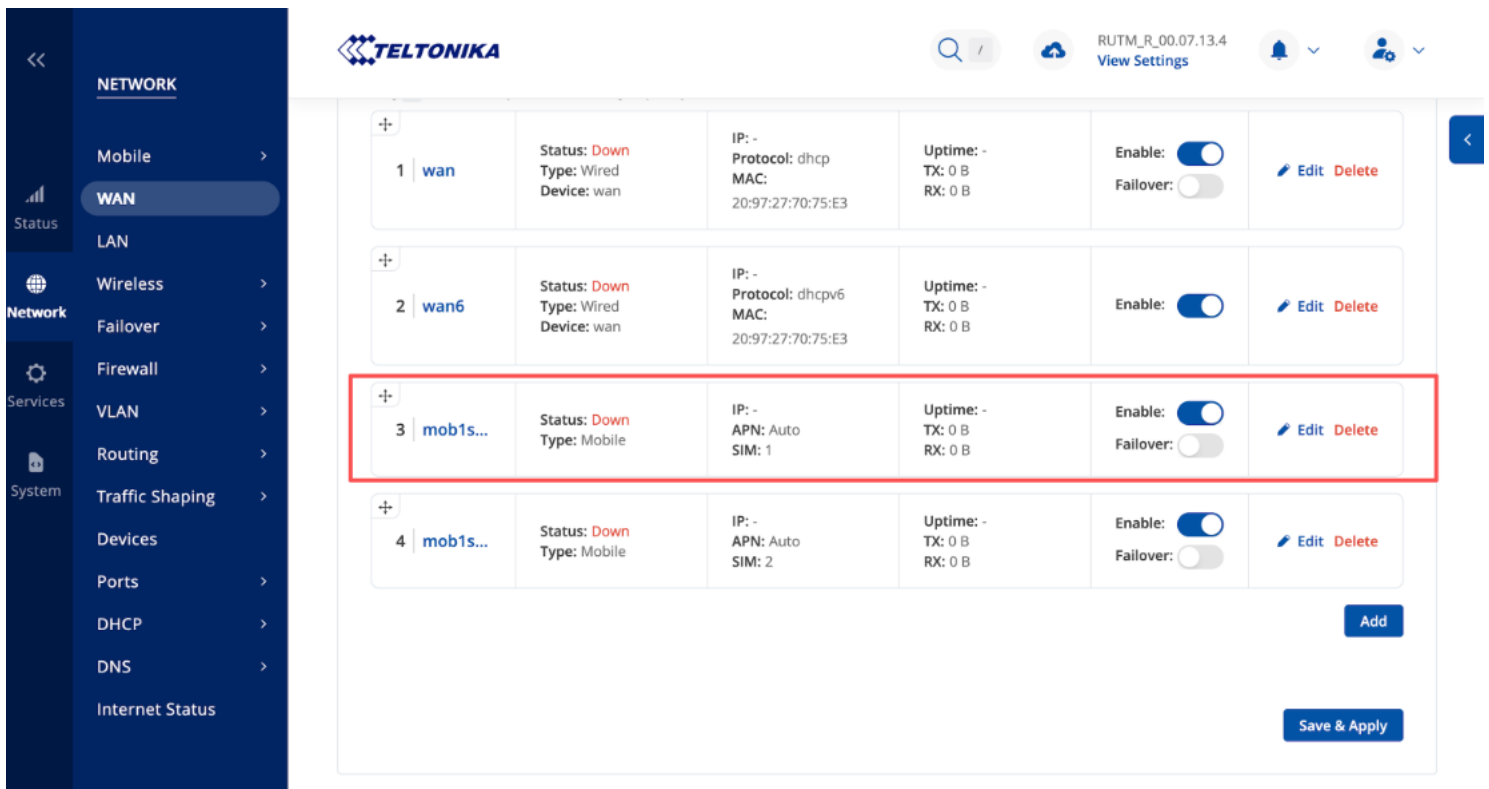
192.168.1.1/services/cloud_solutions/rms

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7. Disconnect power and reconnect, or you can search "Reboot" on the top search menu to reboot the router

8. Wait a few minutes, if you see the WAN IP address when you select Status -> WAN, the router is online



1 wan Status: Down Type: Wired Device: wan IP: - Protocol: dhcp MAC: 20:97:27:70:75:E3 Uptime: - TX: 0 B RX: 0 B Enable: Failover: Edit Delete

2 wan6 Status: Down Type: Wired Device: wan IP: - Protocol: dhcpv6 MAC: 20:97:27:70:75:E3 Uptime: - TX: 0 B RX: 0 B Enable: Failover: Edit Delete

3 mob1s... Status: Down Type: Mobile IP: - APN: Auto SIM: 1 Uptime: - TX: 0 B RX: 0 B Enable: Failover: Edit Delete

4 mob1s... Status: Down Type: Mobile IP: - APN: Auto SIM: 2 Uptime: - TX: 0 B RX: 0 B Enable: Failover: Edit Delete

Add

Save & Apply

You can verify you have internet connection by going to network -> WAN page and check the status of "MOB1S1A1" and its status. It should grab a public ip address for you. If YES, it means it gets online properly. You can also open a web page to see if you can visit google.com to double check

Part 2: Data Plan and Data usage Best Practices

Turing SiteShield has two parts that consume data. **One** is Events, when the camera detects a person or a vehicle, it uploads a 5-second video clip to the cloud. **Second** is Remote view, including both live view and playback.

Example of Data usage by Event Qty

Number of Event Per day	Estimate Monthly Data usage(GB)
500	1.5
1000	3
3000	9
10000	30

Example of Data usage by Remote view hours

Remote viewing hours per Month	Estimate Monthly Data usage(GB)
10	3.5
30	10.4
60	20.7
200	69.1

Note: Remote view is based on 1 camera and sub stream (720P@768kbps)

Scenario 1: Less Events, Occasional Live View/Playback

Required: 5GB Plan

- Assume user watch 1 camera for 10 hours per Month
- And 500 Events occur one day

Scenario 2: Moderate Events, On-Demand Live View/Playback

Required: 20GB Plan

- Assume user watch 1 camera for 30 hours per Month
- And 3000 Events occur one day

Scenario 3: Lots of Events, Frequent Time Live View/Playback

Required: 100GB Data Plan

- Assume user watch 1 camera for 200 hours per Month

- And 10000 Events occur one day

In order to reduce data usage, it is important to set up regions of interest properly to reduce event quantity. By default it is full screen, it is strongly recommended to adjust the area to cover most important areas.

The following are guidelines for adjusting the Vision Platform's region of interest area.

Region of Interest Adjustment (in cloud platform)

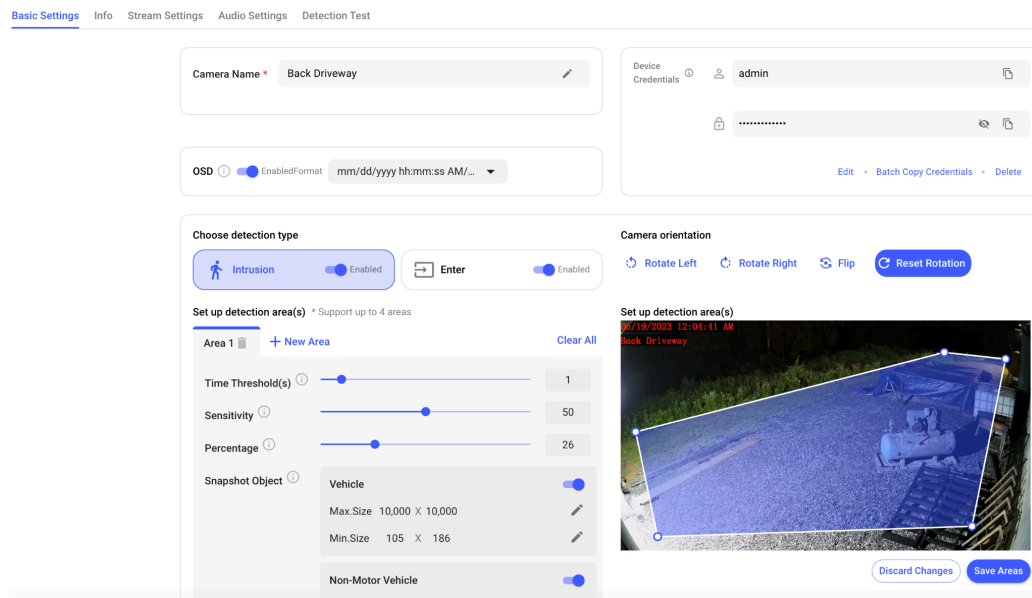


Fig. 1 Region of Interest Adjustment

- Each Smart Camera Supports
 - Intrusion
 - Enter Area
 - Detection Area
 - Full screen by default
 - **Detection area is adjustable.**
 - Up to 4 detection areas.
 - Each detection area supports up to 6 drawing points.
 - Time Threshold (Intrusion) - time requirement before a trigger can occur.
 - Sensitivity - Higher the value, easier the detection.
 - Percentage (Intrusion).
 - Minimum ratio of the object size within the detection area.
 - Snapshot Object - Event trigger object type.