



iSentry Operator Guide

Milestone VMS

Version 1.0.3

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Target Audience

This Document is intended for System Operators.

Prerequisites

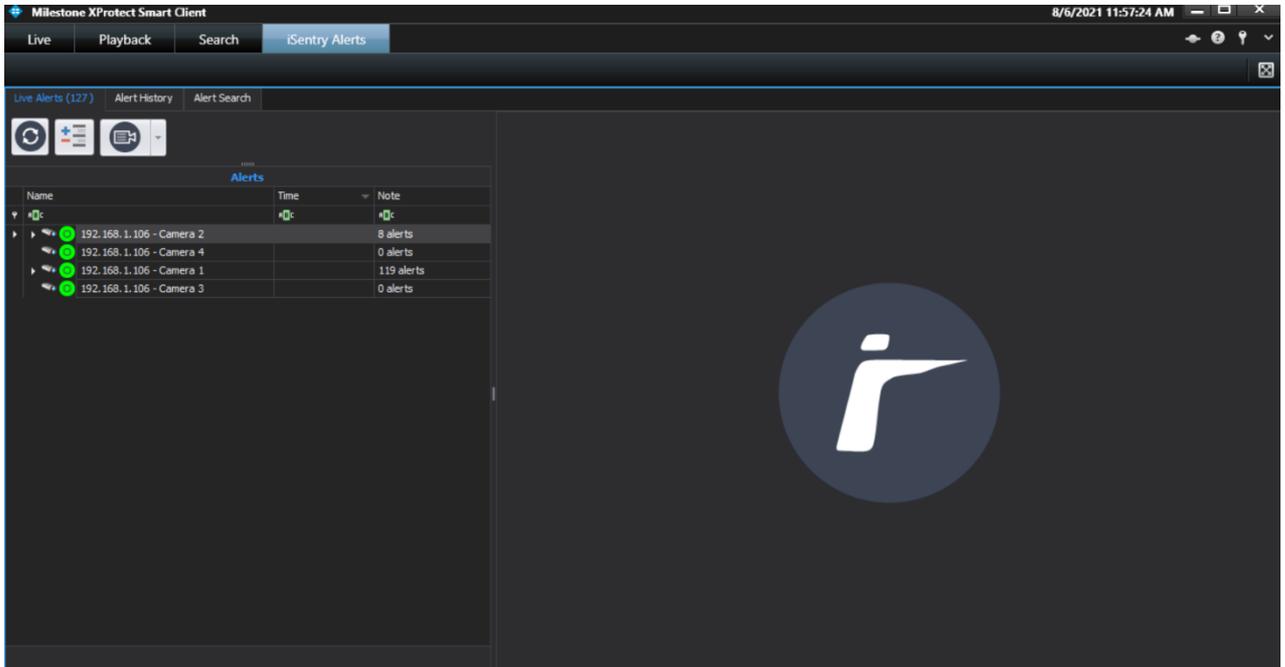
- ❖ .NET Framework 4.7.2
- ❖ Installed and Functional Milestone VMS System with H.264 Encoded Camera feeds
- ❖ Installed and functional iSentry System, minimum version of **1.1.4.0**

Compatibility

- ❖ Supported Microsoft Operating Systems:
 - Windows 10 Professional
 - Windows Server 2016
 - Windows Server 2019
- ❖ Supported Milestone Versions:
 - Milestone 2019,2020,2021:
 - XProtect Express+
 - XProtect Professional+
 - XProtect Expert
 - XProtect Corporate

Using the System

After Successful installation, the iSentry Smart Client Plugin will be visible in the XProtect Smart Client.



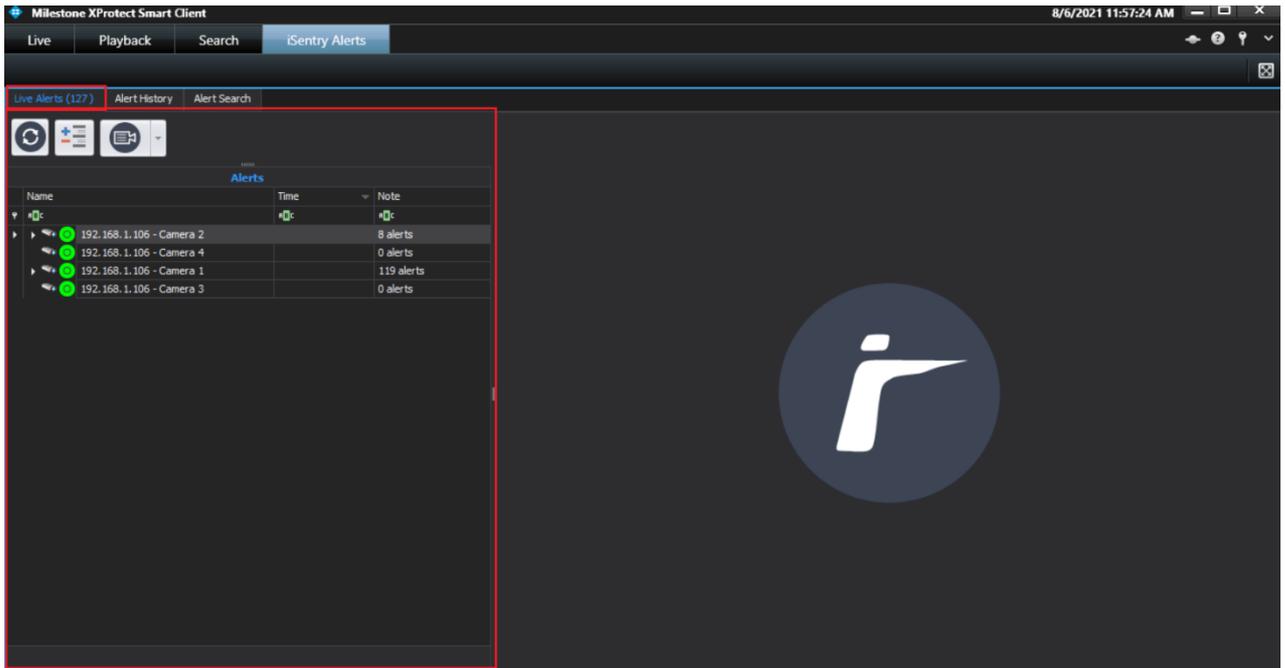
A Note on User roles and rights to view

Cameras are configured for Milestone Roles and users, therefore only alerts (for cameras) that are configured for a particular user will be available in the XProtect Smart Client.

Live Alerts Tab

This tab represents a “Live” view of alerts that require operator review.

When an alert is generated by the iSentry system, the alert will pass through the Rules Engine for classification, and, if no escalation or dismissal rule is applied, the alert will appear in the “iSentry Live Alerts” tab from within the iSentry Alerts tab in the XProtect Smart Client.



Alerts in this tab must be immediately reviewed by an operator, to determine if an alarm should be created, or is the alert should be dismissed.

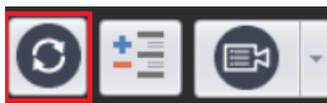
If an alert is ignored by an operator, the system will automatically convert (Promote) the alert to an alarm, after a configured period of time. Alerts can also be dismissed in this way, although this is not recommended.

Alert List:

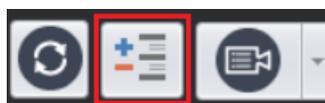
The alert list can be found on the left tab, nested under the “iSentry Alerts” tab. This is a list of currently active alerts.

As soon as an operator selects an alert to review it, the alert will be assigned to that operator. All other operators that can view the same alerts will be notified that the alert has been allocated, because the “Locked By” field will now contain the name of the operator reviewing the alert. As soon as an alert has been “Locked”(assigned), it cannot be automatically promoted to an alarm or dismissal anymore. It is therefore important that the operator fully deals with an alert after selecting it.

Three different live alert buttons are presented to the Operator:



- Refresh button : Clicking on this button will re-fresh the camera devices and the list of live alerts in the Live Alerts Tab.



- Expand/Collapse Button This button either expands and or collapses the camera devices Name

column to show, in the collapsed view, the device names and number of alerts per device.

The Operator can quickly gain insight into each camera device status by looking at the status icons

green = camera is online

yellow = camera framerate is either too low, or too high, from what the expected target frame rate should be

Red = camera is offline or the iSentry Video Processor is not running.

Escalate read cameras if this status does not change in a few minutes.

grey = status unknown

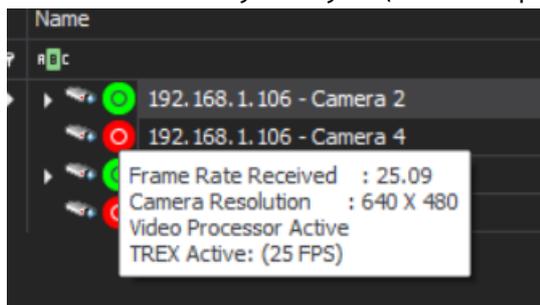
Hovering over the status indicator associated to that camera device will also give the Operator insight into a camera devices health and some useful metrics:

Frame Rate Received:

Camera Resolution

Status of the iSentry Video Processor

The Active iSentry Analytic (and its reported frame rate)



This view works best in the case of a large number of cameras.

The expanded view exposes the number of current alerts per camera device underneath it, now with the time of the alert(s) as well as the analytic type that triggered the alert along an indication of the alert priority, denoted in colour.

Live Alerts (221) Alert History Alert Search

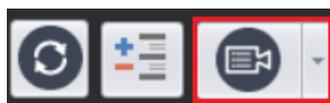




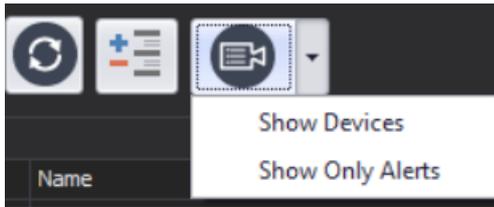
Alerts

Name	Time
192.168.1.106 - Camera 2	
Object Motion	11:53:02
Object Motion	11:52:43
Object Motion	11:44:47
Object Motion	11:36:32
Object Motion	11:36:13
Object Motion	11:28:17
Object Motion	11:27:58
Object Motion	11:44:28
Object Motion	12:17:48
Object Motion	12:17:29
Object Motion	12:09:32
Object Motion	12:09:14
Object Motion	12:01:17
Object Motion	12:00:58
192.168.1.106 - Camera 4	
192.168.1.106 - Camera 1	
Object Motion	12:24:09
Object Motion	12:23:39
Object Motion	12:23:19
Object Motion	12:23:05
Object Motion	12:22:48
Object Motion	12:22:42

Red Indicator = high priority - look at these alerts first
 Orange = Medium-High to medium priority – look at these alerts next
 Grey = no priority - can be looked at and actioned accordingly
 Green = low priority – can be looked and actioned once all other higher priority alerts have been interrogated and actioned.



- Toggle View Button:
 This button can toggle between a list of all the cameras (Devices) for an operator or just a list view of the live alerts.



If the 'Show Devices' view is toggled, then the number of alerts for each camera is shown, along with a sub-list of alerts in a tree structure, as per the Expanded View explained above.

Cameras with zero alerts will also be displayed. The advantage of this view is that the alerts are grouped per camera and that the statuses of all the cameras are visible to the Operator.

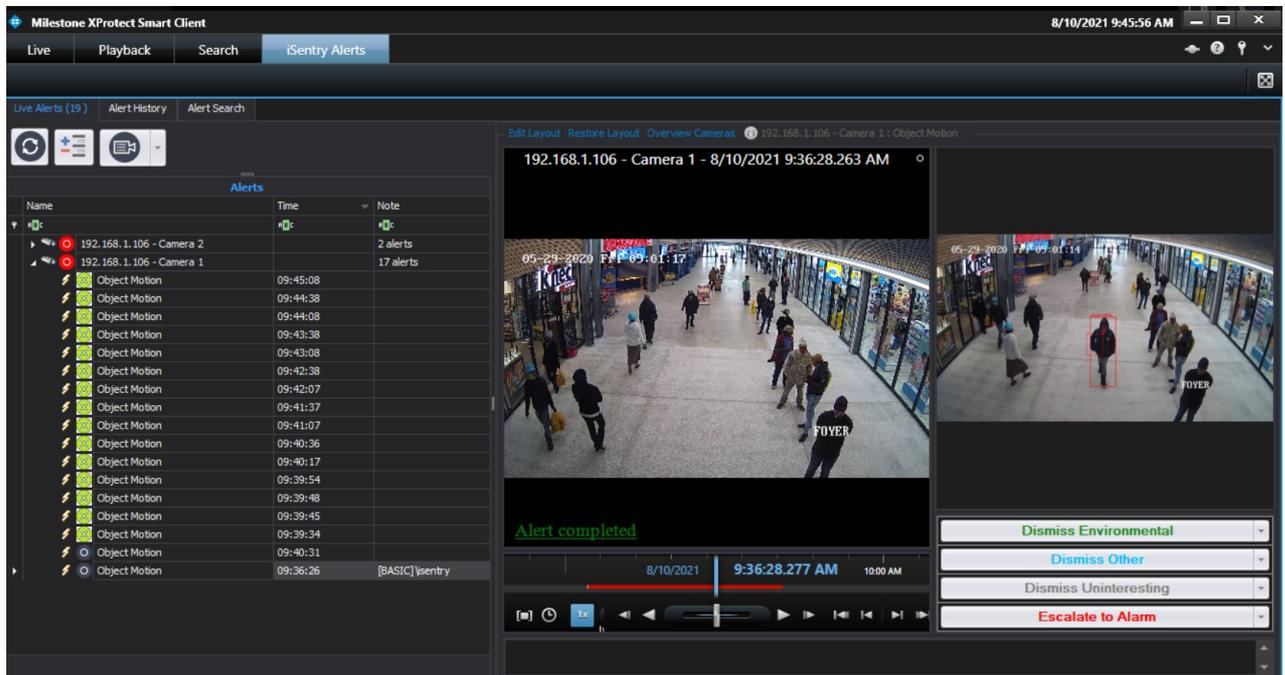
Or, the Operator can choose to view or 'Show only Alerts' coming in, without any devices being shown, in a list view, and deal with alerts based solely on an incoming priority and task basis.

Name	Time
192.168.1.106 - Camera 2 - Object Motion	11:53:02
192.168.1.106 - Camera 2 - Object Motion	11:52:43
192.168.1.106 - Camera 2 - Object Motion	11:44:47
192.168.1.106 - Camera 2 - Object Motion	11:36:32
192.168.1.106 - Camera 2 - Object Motion	11:36:13
192.168.1.106 - Camera 2 - Object Motion	11:28:17
192.168.1.106 - Camera 2 - Object Motion	11:27:58
192.168.1.106 - Camera 2 - Object Motion	11:44:28
192.168.1.106 - Camera 2 - Object Motion	12:34:18
192.168.1.106 - Camera 2 - Object Motion	12:33:59
192.168.1.106 - Camera 2 - Object Motion	12:26:03
192.168.1.106 - Camera 2 - Object Motion	12:25:44
192.168.1.106 - Camera 2 - Object Motion	12:17:48
192.168.1.106 - Camera 2 - Object Motion	12:17:29
192.168.1.106 - Camera 2 - Object Motion	12:09:32
192.168.1.106 - Camera 2 - Object Motion	12:09:14
192.168.1.106 - Camera 2 - Object Motion	12:01:17
192.168.1.106 - Camera 2 - Object Motion	12:00:58
192.168.1.106 - Camera 1 - Object Motion	12:39:23
192.168.1.106 - Camera 1 - Object Motion	12:39:09
192.168.1.106 - Camera 1 - Object Motion	12:38:39
192.168.1.106 - Camera 1 - Object Motion	12:38:35
192.168.1.106 - Camera 1 - Object Motion	12:38:29

Example of Show Only Alerts View |Toggle screen.

Single Alert View:

As soon as an operator selects a single alert, by clicking on the alert, the Single Alert View will be displayed to the right of the Alert list.

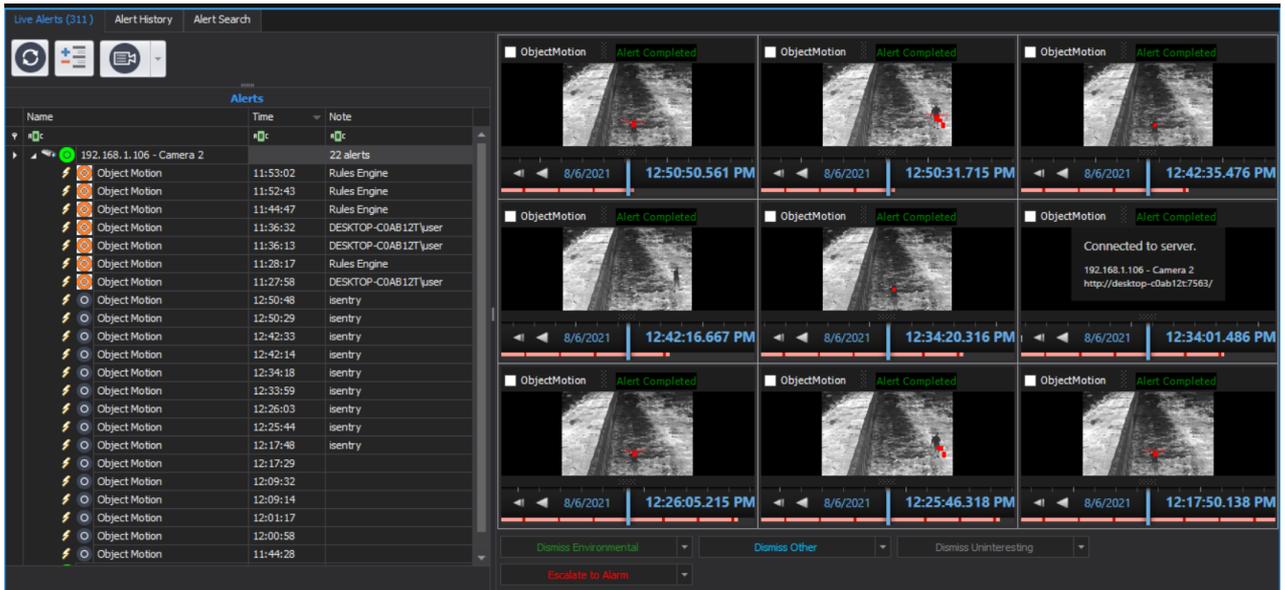


Depending on the configuration settings, an alert snapshot, or an alert GIF comprised of at least 3 alert snapshots scrolling automatically, or live video along with playback video is displayed when an alert is selected. The Standard Operating Procedure (S.O.P.) for the Camera and Alert Type, will also be displayed, to guide the operator in his or her actions, if configured.

Object classification bounding boxes are displayed on the Alert snapshot (if enabled) and indicators for each alert type is displayed in the video. The indicators and bounding boxes will assist the operator in understanding why the alert was raised.

Once the minimum amount of playback time has elapsed, when the alert video is reviewed, an “Alert Completed” message will appear in green text in the bottom left of the video playback window as the Operator views it. Once the alert is completed the operator will be allowed to process (Escalate or Dismiss) the alert.

Multiple Alert View:



When a Device (camera) is clicked on, in the Alert list (when cameras are visible), the multiple alert processing window is displayed. This window will simultaneously play the video for up to 9 live alerts. It is up to the operator to confirm that each video has been inspected by checking the checkbox in the top right-hand corner of each video, where after the selected alerts can be processed simultaneously.

This manner of processing is not recommended for normal use, but it is useful in the case where an environmental factor (e.g., strong wind) is temporarily causing multiple nuisance alerts. The operator then has the ability to quickly confirm that all the alerts are in fact nuisance alerts and quickly dismiss them in a batch.

Processing an Alert:

Alerts are processed when an operator clicks one of the Action buttons, in the window. Each action will display a list of sub-categories that the operator must choose from.

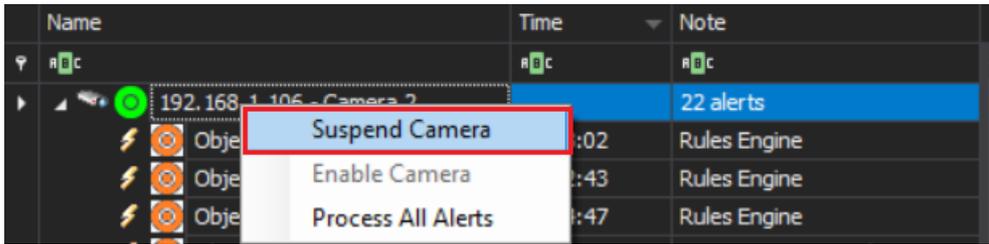
Dismissals:

Each dismissal action button, will pop-up a list of sub-categories for the dismissal action chosen. The operator must choose one of these categories, and the alert will be processed and removed from the active alert list.

Escalations:

Each escalation action button, will pop-up two lists as well as a note space. The first list is the alert classification list, which classifies the alarm that will be created. The second list defines the action that should be taken for this alarm. The alert note field allows the operator to add additional information to the alert, for later reference. Once the operator makes the required selections, the “Send” button will process the alert and create an alarm for it. The alarm will be transferred to the “Alarm Manager” tab in the XProtect Smart Client.

Suspending a Camera – Administrators Only

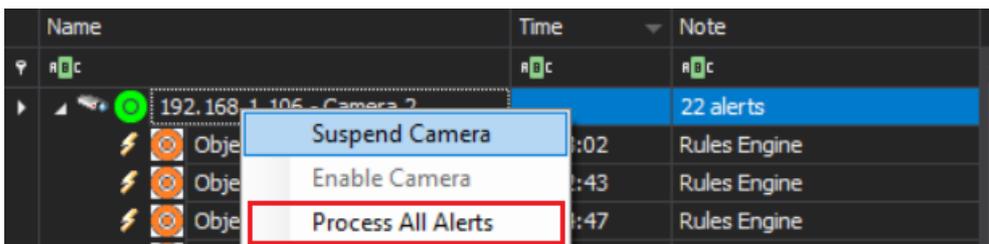


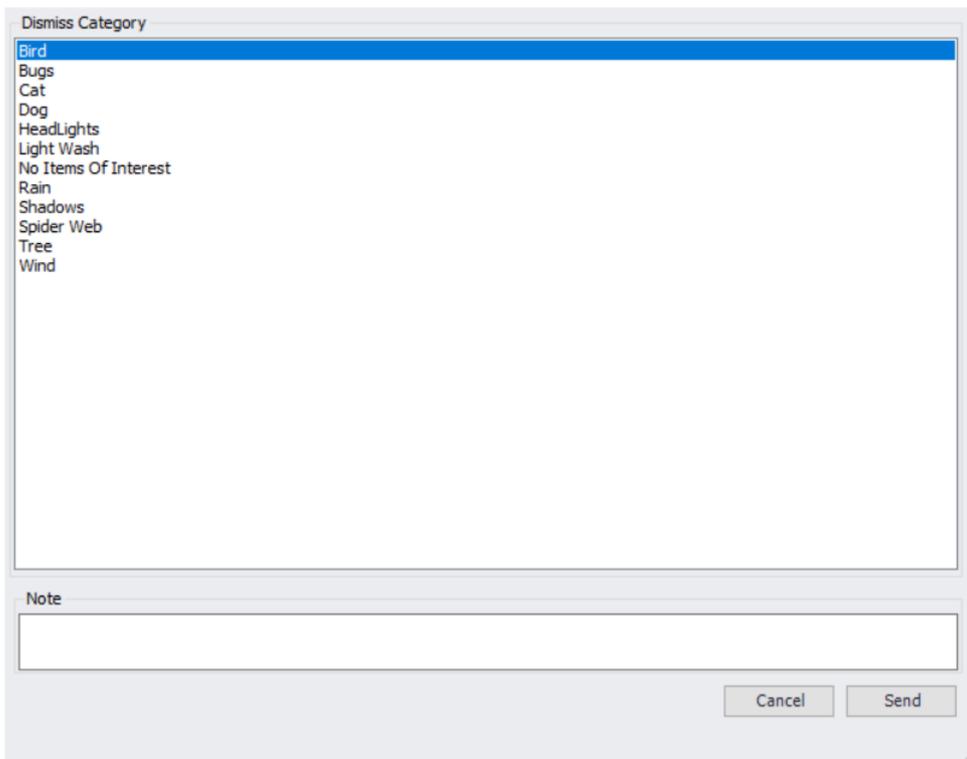
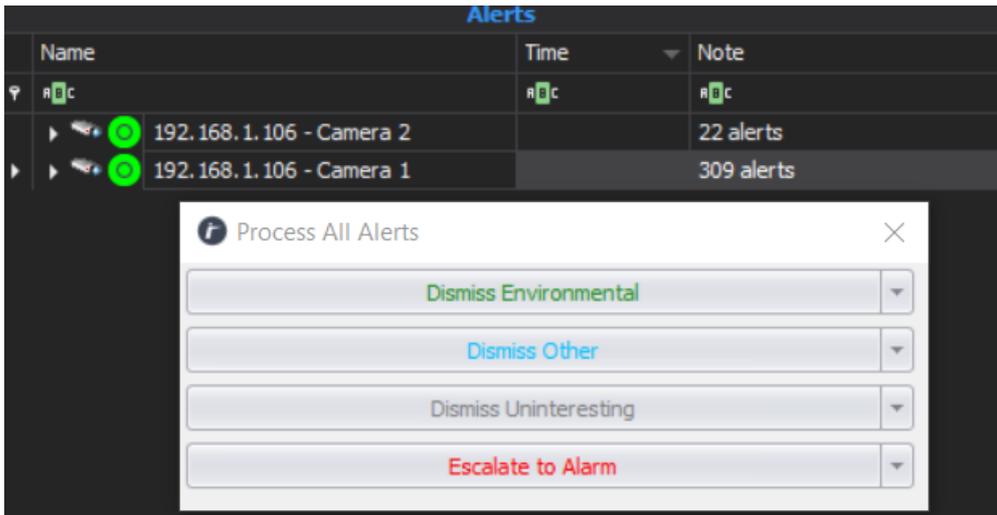
Right-clicking on a device (camera) in the live alert list, will show a context menu, where the option to “Suspend Camera” is available.

When suspending a Camera, all alerts for that camera will be ignored for the time specified. This is useful if a camera is experiencing a high volume of nuisance alerts due to something like a spider’s web, or hailstorm etc. in this case, alerts can be temporarily stopped until a maintenance crew can clean the lens or the storm passes.

Simultaneous processing of all alerts for a Device – Administrators Only

Right-clicking on a device (camera) in the live alert list, will show a context menu, where the option to “Process All Alerts” is available. Selecting this option, will display the available action buttons. All the alerts for a particular camera will be simultaneously processed in this way.





This processing method allows an Administrator to remove a group of confirmed nuisance alerts for a camera.

Alert History Tab

The iSentry Alert History tab contains a list of all alerts generated by the system.

Alert Type	Device Name	Event Started Time	Accepted By	Accepted Time	Processed Action	Processed Category	Escalation Action	Alert Note	Processed Time	Video	Picture	Flag	Comments
											No image data		
Object Mo...	192.168.1.106 - Cam...	7/29/2021 7:59:33 PM	Auto Proce...	7/29/2021 8:05:5...	Inactivity Dismi...	Dismissed due to ina...	Dismissed	Auto-Dismissed due to Ina...	7/29/2021 8:05:5...				
Object Mo...	192.168.1.106 - Cam...	7/29/2021 7:59:24 PM	Auto Proce...	7/29/2021 8:05:5...	Inactivity Dismi...	Dismissed due to ina...	Dismissed	Auto-Dismissed due to Ina...	7/29/2021 8:05:5...				
Object Mo...	192.168.1.106 - Cam...	7/29/2021 7:58:54 PM	Auto Proce...	7/29/2021 8:05:2...	Inactivity Dismi...	Dismissed due to ina...	Dismissed	Auto-Dismissed due to Ina...	7/29/2021 8:05:2...				
Object Mo...	192.168.1.106 - Cam...	7/29/2021 7:58:47 PM	Auto Proce...	7/29/2021 8:04:5...	Inactivity Dismi...	Dismissed due to ina...	Dismissed	Auto-Dismissed due to Ina...	7/29/2021 8:04:5...				
Object Mo...	192.168.1.106 - Cam...	7/29/2021 7:58:38 PM	Auto Proce...	7/29/2021 8:04:5...	Inactivity Dismi...	Dismissed due to ina...	Dismissed	Auto-Dismissed due to Ina...	7/29/2021 8:04:5...				

When the list is refreshed (upon entry from the Live Alert or Alert Search tabs) or searched, a “Snapshot in time” of the current and previous alert list is displayed. This list is not updated in real time (as with the Live Alerts Tab).

The alerts list contains the following fields:

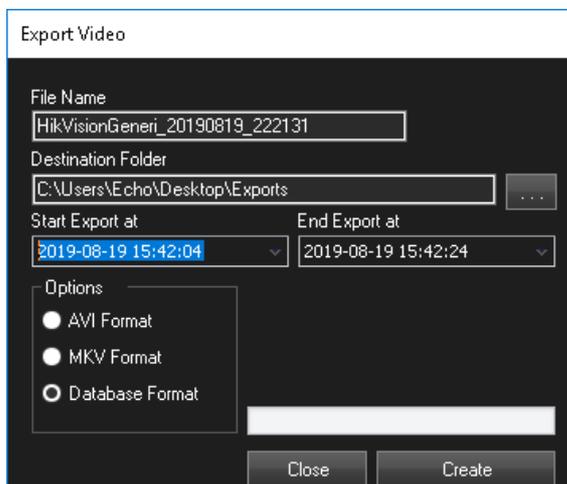
- **Alert Type:**
Type of Alert e.g., Unusual Behaviour, Left Object etc.
- **Device Name:**
The name of the camera related to the alert.
- **Event Started Time:**
The Start time of the alert.
- **Accepted By:**
Name of the operator that processed the alert.
- **Accepted Time:**
The time when the operator accepted the alert.
- **Processed Action:**
Action taken by the operator or the rules engine.
- **Processed Category:**
The Sub-category of the action taken.
- **Escalation Action:**
In the case of escalations, the action recommended.
- **Alert Note:**
Note added to the alert when it was processed by the operator or rules engine.
- **Processed Time:**
The time when the Alert was processed, by an operator or the rules engine.
- **Video:**
Clicking this button will pop-up a Video playback window, where the alert

video can be reviewed.

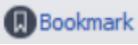
- o Video can be exported by clicking the  button

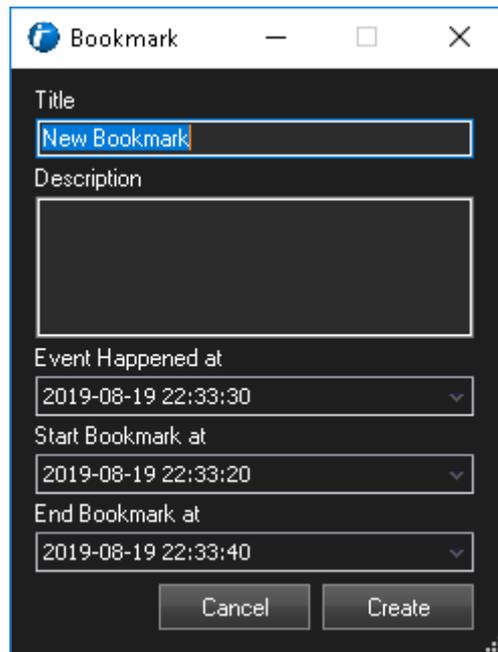


Export Video Details:

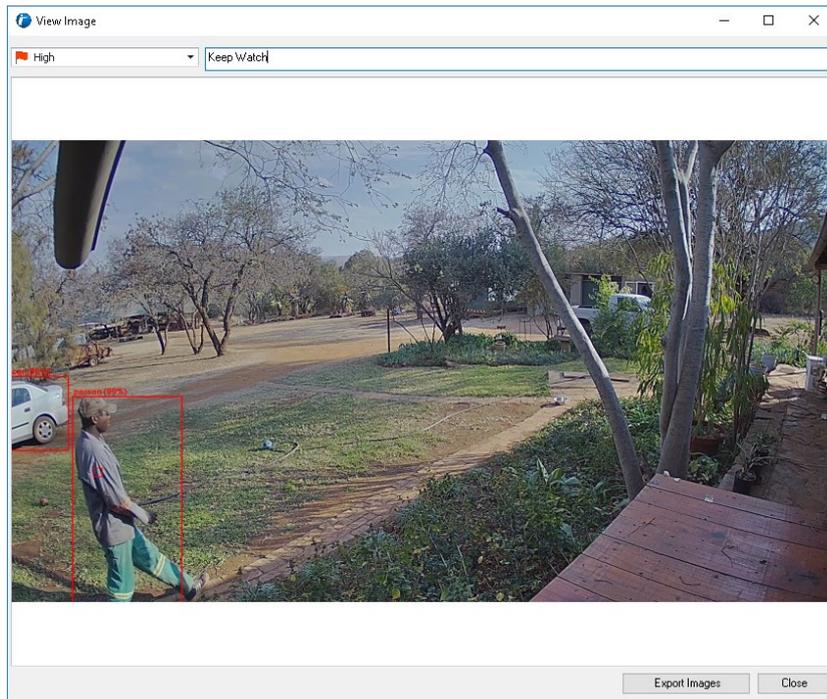


Choose a Filename, the destination folder for the video, the Start and End time, as well as the export format, and click “Create”, to start the export. Please note that only database format will export the accompanying metadata with the video.

- A bookmark  can also be created for an alert, in order to be searched for in the Milestone Smart Client, in the future. Complete the Title, Description of the alert, Alert Time, Bookmark Start and end times, and click “Create” to save the bookmark.



- In the case of Left objects, the  button will show the placement of the Left object (if the Video was recorded by Milestone)
- Picture:
This column displays a thumbnail of the master alert image. Clicking this Thumbnail will pop-up a window containing all the alert images for the chosen alert, in full resolution. Images with classified objects as well as without them are available. Clicking “Export Images” allows the operator to export the images for the chosen alert.



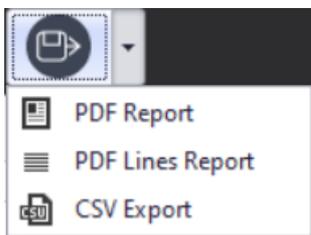
A flag and comment can also be added here.

- Flag:
a Flag can be assigned to any alert, marking the alert for future reference. Flags can be customised in the General settings window under the “Smart Client” section.
- Comments: General comments may be added to any alert, for future reference.

Export the Alerts List



At the top of the Alert list, click the  button, choose a location and a name for your export file. All the data displayed in the Alert list will be exported as CSV, or PDF format.



The CSV report contains no images and raw data for later review or customized layout/display.

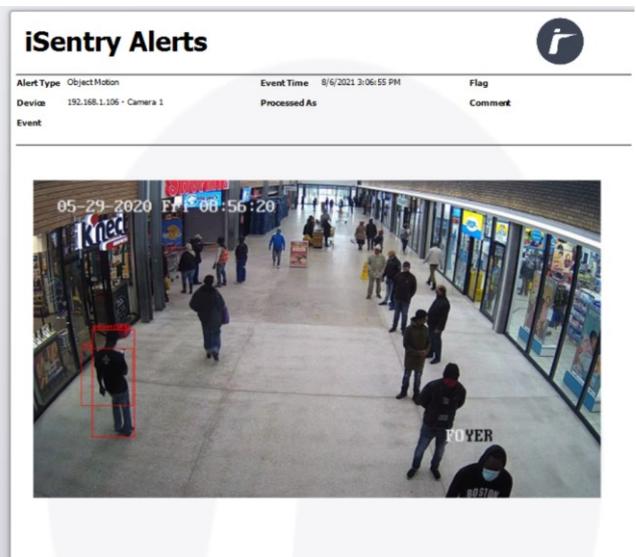
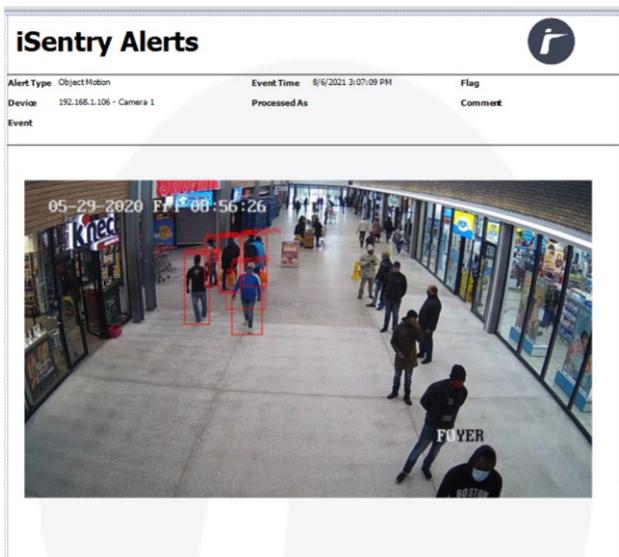
The PDF Lines Report contains small thumbnail images per alert and is displayed as such:

iSentry Alerts



Alert Type	Event Time	Flag
Object Motion	8/6/2021 3:03:24 PM	
Device	192.168.1.106 - Camera 1	Processed As
Event		Comment
Object Motion	8/6/2021 3:03:05 PM	
Device	192.168.1.106 - Camera 1	Processed As
Event		Comment
Object Motion	8/6/2021 3:02:50 PM	
Device	192.168.1.106 - Camera 2	Processed As
Event		Comment
Object Motion	8/6/2021 3:02:48 PM	
Device	192.168.1.106 - Camera 1	Processed As
Event		Comment
Object Motion	8/6/2021 3:02:31 PM	
Device	192.168.1.106 - Camera 2	Processed As
Event		Comment
Object Motion	8/6/2021 3:02:25 PM	
Device	192.168.1.106 - Camera 1	Processed As
Event		Comment
Object Motion	8/6/2021 3:01:59 PM	
Device	192.168.1.106 - Camera 1	Processed As
Event		Comment

The PDF Report contains larger snapshot images, but should be use only for smaller datasets or shift reporting (the system will warn the user if they try to export too much data)



Basic Search, Filter and Group

The Alert list interface is a fairly sophisticated search and grouping interface, which can be used to investigate past alerts and extract useful information.

Searching

Nearly every column of the past alerts grid allows for searching and filtering.

Simply typing a search value in the top row of the grid will immediately search for the value that has been typed, in the same column. The mechanism by which the matching is done can be adjusted as required.

Alert Type	Device Name	Event Started Time
		=
Object Motion		8/6/2021 3:34:09 PM
Object Motion		8/6/2021 3:33:46 PM
Object Motion		8/6/2021 3:33:41 PM
Object Motion		8/6/2021 3:33:23 PM

Drag a column header here to group by that column

- = Equals
- ≠ Does not equal
- ABC Contains
- ABC Does not contain
- ABC Is like
- ABC Is not like
- ABC Begins with
- ABC Ends with
- > Is greater than
- ≥ Is greater than or equal to
- < Is less than
- ≤ Is less than or equal to

Text Operators

- Equals: The results must match the search phrase exactly.
- Does not equal: The results must not exactly match the search phrase.
- Contains: The results must contain the search phrase. E.g., Typing “Axis” in the Device name column, will result in returning all Device names that has the word “Axis” in it like “123 Axis (192.168.1.1)...”

Symbol	Description	Example
%	Represents zero or more characters	bl% finds bl, black, blue, and blob
_	Represents a single character	h_t finds hot, hat, and hit
[]	Represents any single character within the brackets	h[oa]t finds hot and hat, but not hit
^	Represents any character not in the brackets	h[^oa]t finds hit, but not hot and hat
-	Represents a range of characters	c[a-b]t finds cat and cbt

- Does not contain: The results must not contain the search phrase.
- Is Like: This operator stems from

the SQL Comparison operator “Like” allowing us to use wildcard characters in searching

- Is not like: The reverse of the “Like” operator above. Will return all values NOT matching the search criteria.
- Begins with: Search for all items starting with the characters in the search phrase.
- Ends with: Search for all items ending in the characters in the search phrase.

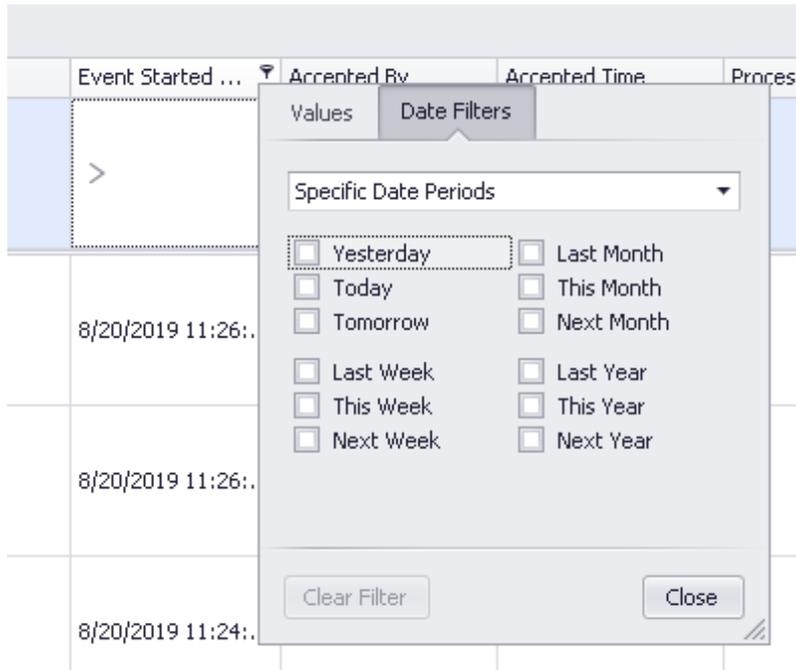
Numeric Operators

- Equals: The results must match the search number exactly.
- Does not equal: The results must not exactly match the search number.
- Is greater than: Returns all numbers greater than the search number.
- Is greater than or equal to: Returns all numbers greater than or equal to the search number.
- Is less than: Returns all numbers smaller than the search number.
- Is less than or equal to: Returns all numbers smaller than or equal to the search number.

Filtering

All the columns in the Past alerts grid will have a “filter” available.

Date Filters

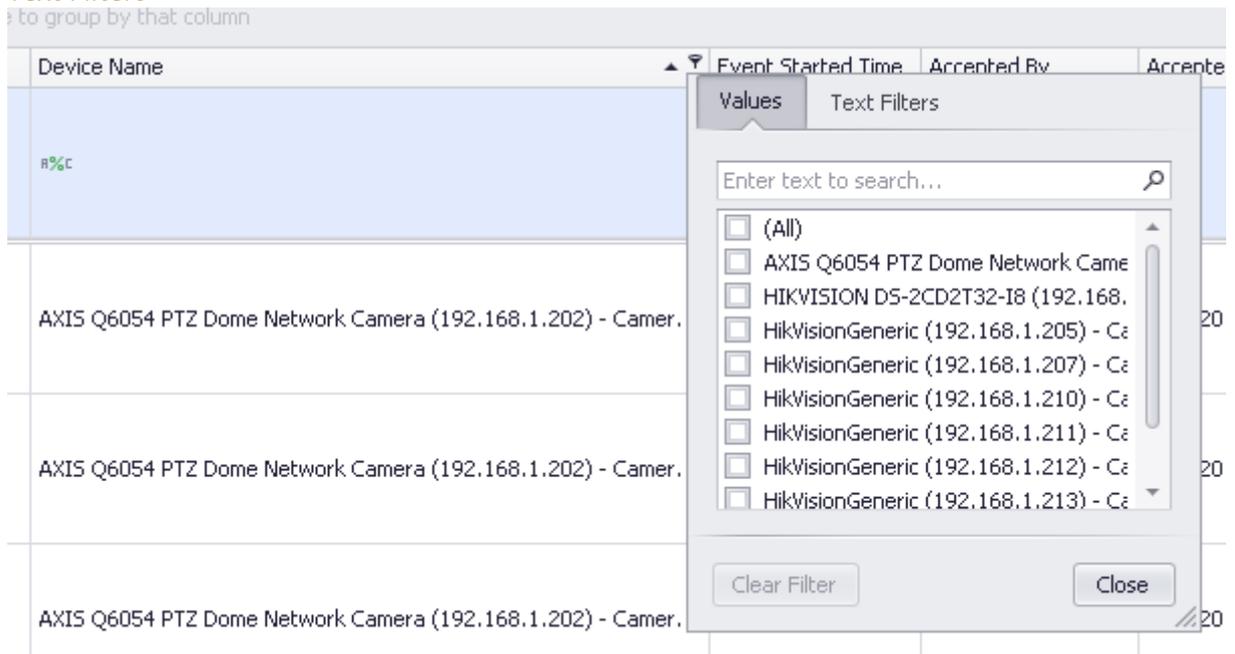


By selecting a date filters tab, (by default “Specific Date Periods” selected) a specific time period can be easily selected by checking the appropriate check box, or by changing a comparison criterion in the dropdown box, and selecting a value from the date time picker.

A custom criterion is available allowing for customised filtering on multiple date values.

The Values Tab, will list date values that may be selected.

Text Filters



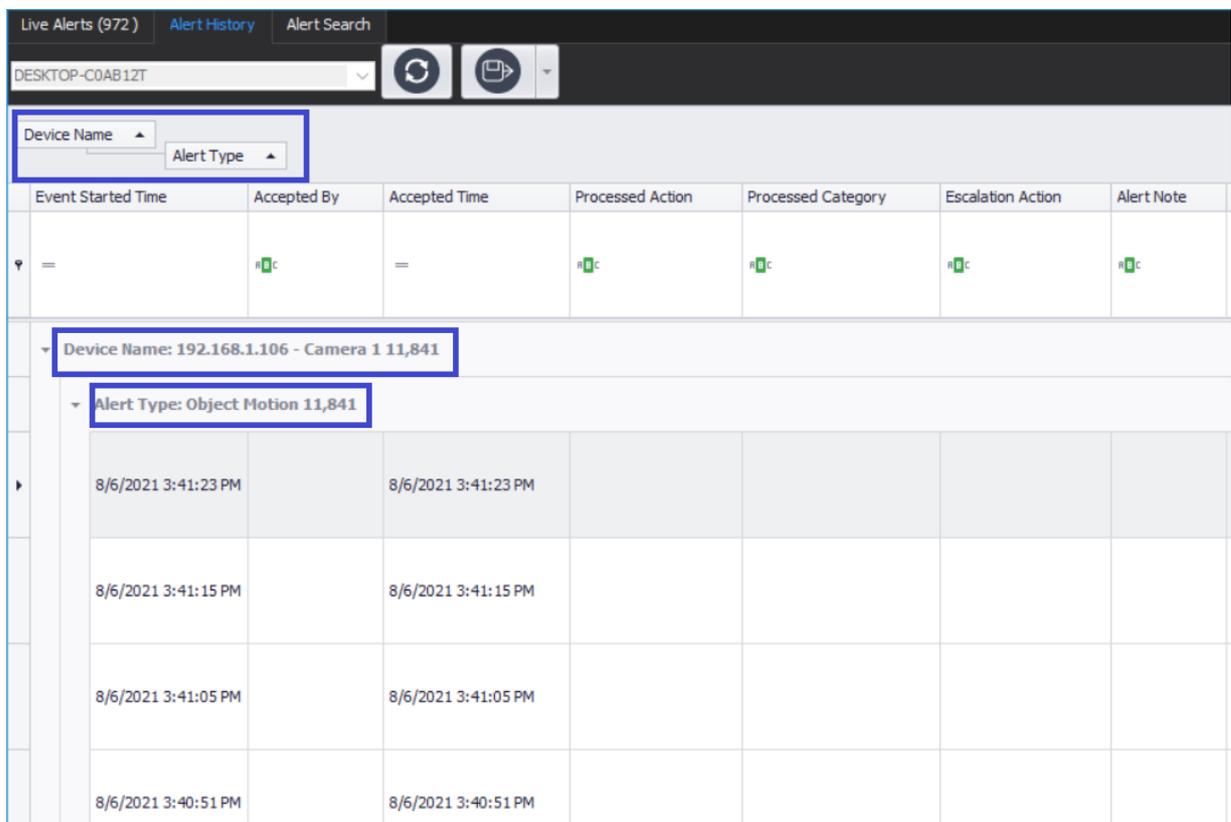
By selecting the values tab, a list of available items will be displayed and by checking the appropriate items, the data will be filtered. The Text Filters Tab functions in much the same way as described in the [search](#) section above.

A custom criterion is available allowing for customised filtering on multiple text values.

Grouping

Grouping allows for a customised view of the available data. In order to group by a column value, the column must be dragged and dropped, by left mouse button, to the bar at the top of the grid marked “Drag a column header here to group by that column”.

Multiple columns can be grouped and sub-grouped in this way.



Event Started Time	Accepted By	Accepted Time	Processed Action	Processed Category	Escalation Action	Alert Note
=	📄	=	📄	📄	📄	📄
Device Name: 192.168.1.106 - Camera 1 11,841						
Alert Type: Object Motion 11,841						
8/6/2021 3:41:23 PM		8/6/2021 3:41:23 PM				
8/6/2021 3:41:15 PM		8/6/2021 3:41:15 PM				
8/6/2021 3:41:05 PM		8/6/2021 3:41:05 PM				
8/6/2021 3:40:51 PM		8/6/2021 3:40:51 PM				

The resultant number of alerts for each group is displayed at the end of each row.

Any number of search criteria, filters and groups may be combined to produce a resultant view of the data.

Alert Search Tab

Besides the Basic Searching available in the display grid, an “Alert Search” tab is also available, for detailed investigation of the data contained in the database.

At the top of the Tab page the following selections must be made in order to use the Advanced searching process:

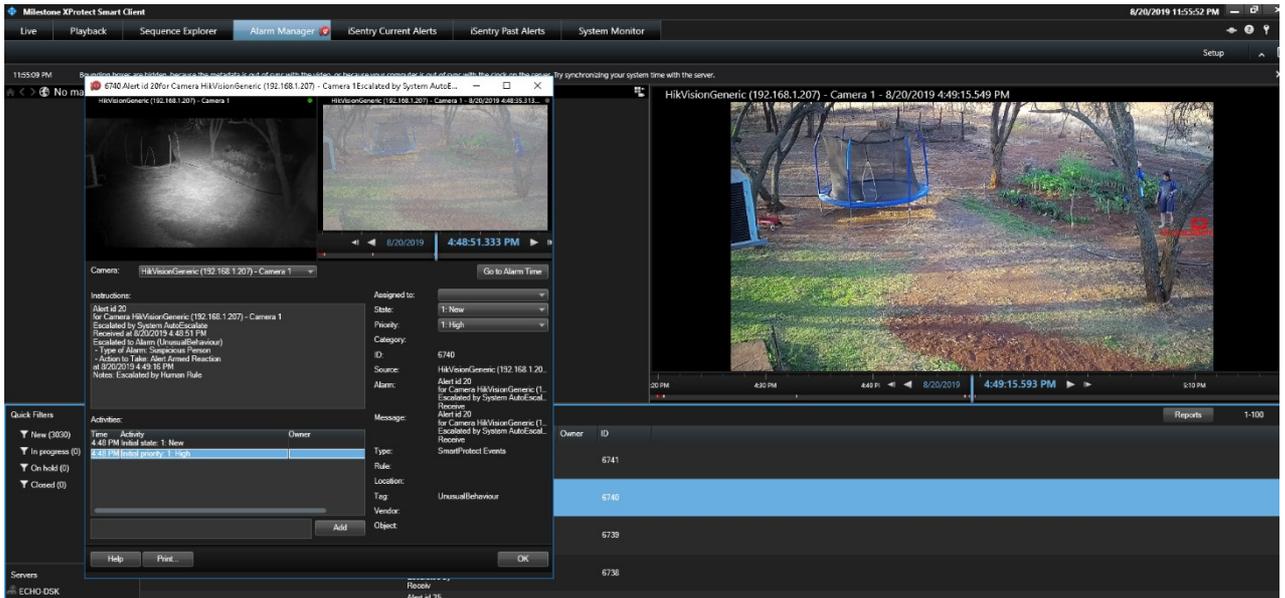


- **Device:**
The Advanced search is Camera related, so please select the device for which the metadata should be searched.
- **Search Area:**
By default the entire image is selected for the advanced search function, however, by selecting a region within the image for the selected camera, only a particular region within the view of a camera may be used for searching.
- **Classification Type:**
By Checking the Checkbox for Classification Types and selecting one or more types with their relative probabilities and quantities, the search engine will filter for only these item parameters.
- **Event Type:**
By checking the checkbox for Event Types, and selecting one or more types, the search engine will add the selected type(s) to its filtering criteria.
- **Start Date and Time:**
The start date and time for the search.
- **End Date and Time:**
The end date and time for the search.

An operator can then use the Search, Cancel or Export Functions buttons below to start a search, cancel it if it takes too long , or export the searched data in various formats.



Alarm Manager



The Alarm Manager tab in the Milestone XProtect Smart Client is a standard component of the Milestone system. For detailed information on its full capabilities please consult the Milestone XProtect Manuals.

The iSentry system will create alarms when, rules are triggered based on the alert information, or if an operator escalates an alert from the “iSentry Current Alerts” tab in the smart client.

In each case an alarm will be created and visible in the Alarm Manager.

Double clicking on an alarm in the alarm list will display a floating window with all of the details for the alarm including live and playback video.

System Logs

The default location of all the system logs for the Smart client is:

C:\ProgramData\SmartProtect\iSentry\Logs

The following logs are generated:

- Milestone iSentry Alert Plugin Logs:
- o XProtect Smart Client Logs:
“SmartClient_YYYYMMDD.log”

