Milestone Plugin User Manual

Gen 1.0

Document Revision History

Rev	Date	By	Description
1.0	Feb 2019	JG	Initial draft.
1.1	Feb 2019	JC	Removed EULA and added reference to refer to the separate document.
1.2	Aug 2020	CS, AM, TA, SP	Branding change, minor edits throughout. PlaybackWall is now a non-beta feature of the icetana Milestone Plugin.

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Feedback

Please send any comments, corrections and suggestions about this guide to: support@icetana.com.au

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1 Introduction

1.1 Overview

Traditionally, surveillance was intended to allow operators to see and act on information gathered as it happens. In today's digital age with the scale of CCTV infrastructure, the ability to see where and when it matters is an impossible task. Existing systems are typically operated reactively using the information presented from externally generated intelligence resulting from the effect of unaddressed risk.

The goal of icetana is to see what matters when it matters most, giving you the ability to respond in real-time to address risk across security, safety and operations giving your business situational awareness across all aspects of the organisation. By presenting footage that is most likely to contain these types of events in real-time, icetana gives operators the best possible chance of identifying and addressing risk when it matters.

icetana's real-time Artificial Intelligence (AI) assisted video monitoring learns what is normal for each camera scene and gains an understanding of what is ordinary so it may present the operator with footage containing the abnormal events that are most likely to contain threats and intelligence. Each day the system adapts to new environmental and behavioural events to establish new norms to identify unpredictable activity over time. icetana's underlying AI-assisted video monitoring can scale to thousands of cameras in the one installation – future proofing the use of the video surveillance infrastructure.

1.2 Conventions

The following conventions are used throughout this document:

Points out critical information relating to a topic or step.

Suggests how to apply the information provided for a given topic or step.

Explains a special case or expands upon the information discussed in a topic or step.

1.3 Acronyms and definitions

See Appendix A.

1.4 Use of this document

This manual is intended for use by operators and supervisors. It provides information regarding the operation of non-administrative tools used to view live and historical video recorded by icetana. It explains essential configuration items that are required to configure Milestone to allow icetana to seamlessly integrate with the Milestone XProtect application.

*In circumstances where a change in configuration may result in degradation of system performance, it is highlighted as requiring assistance from an administrator. We **strongly** urge you to seek administrative assistance before changing these values.*

This guide assumes no previous experience working with icetana products and a basic understanding of how to operate and maintain Milestone.

Later versions of this document will be provided upon the upgrade of your system where appropriate. An electronic copy is also available via the icetana website.

1.5 Customer service

Despite best efforts, there may be issues related to the icetana system that may need you to contact our support team. Should you require technical assistance, please contact icetana via the published support telephone numbers, support email or support portal. The following workflow will assist you to lodge an effective support request.

Identify	Identify that there is a problem with the system. There will usually be a change in the way that the system is operating. These changes may include a lack of video clip popups, errors, licensing messages or any other issue which may require escalation.
Classify	Determine the extent of the problem. Is it limited to a single camera, a group of cameras, or the entire system?
Collect	Collect as much information as possible before contacting icetana to ensure that our team can get to the bottom of the issue quickly and as efficiently as possible. Please see the information collection table in Appendix B for the types of information that is required.
Contact	Contact icetana via the published support telephone numbers, support email or support portal. Telephone support is available from 9 am – 5 pm Australian Western Standard Time.

Figure 1: icetana support process

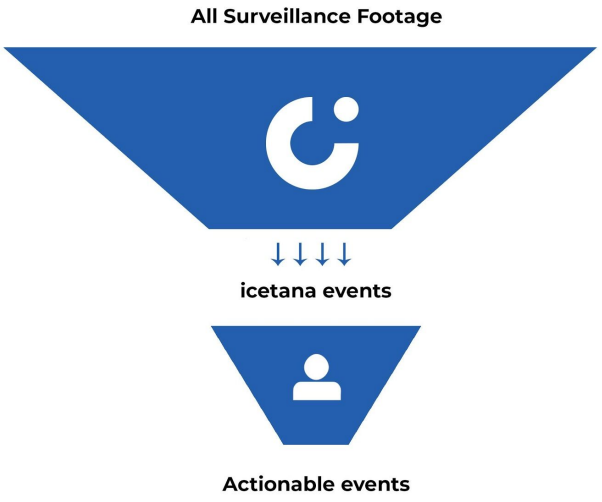
While we will make every attempt to respond to your queries as soon as possible, additional information is available via our support portal, where you may:

- Download user documentation.
- Find answers relating to issues via the Frequently Asked Questions section of our website.

2 ICETANA SOLUTION

2.1 Overview

icetana filters incoming video down to a manageable amount, (approximately 2% of all video), based on whether the movement in the video is normal or abnormal. From the video clips shown, operators decide whether the shown event requires action.



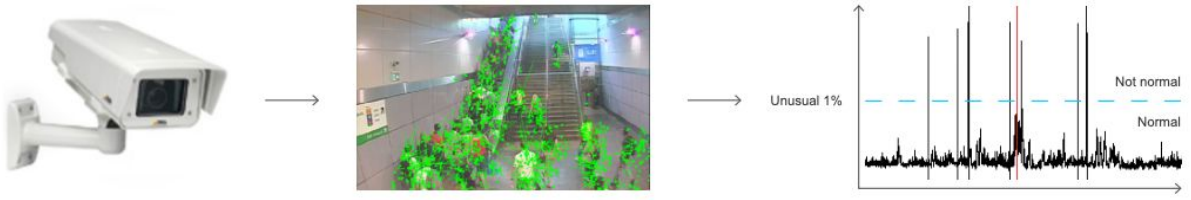
The types of actionable events that can be identified include:

- Suspicious behaviour
- Unauthorized access/trespassing – people and vehicles
- Violence and aggressive behaviour
- Medical events
- Precursory events – crowd gathering/dispersing
- Vandalism
- Camera tampering and theft
- Fire

3 How icetana works

3.1 Overview

icetana receives a constant stream of video which it analyses frame by frame through the application of machine learning to detect and display footage that is most likely to contain risks and other events that are of interest to operators by comparing motion in real-time to that which it has learned as normal. The initial training period is fourteen days, however, once this has passed the system continues to learn from the rolling fourteen-day window to allow it to adapt to changing scenes and environment dynamically.



3.2 Normal vs. abnormal movement

The left image represents footage containing motion that icetana regards as being representative of normal activity within the scene and subsequently, does not require presentation to the operator. The right image represents footage containing abnormal motion that icetana considers as an anomaly based on its understanding of the scene and should be presented to the operator so that it may be reviewed.

Expected movement

Abnormal movement

4 ICETANA MILESTONE PLUGIN OVERVIEW

The icetana Milestone XProtect Plugin (icetana Milestone Plugin) is designed to provide additional features to the Milestone XProtect client for viewing video from cameras configured in icetana. Each is individually tailored to the task at hand whether that be viewing live video or reviewing historical video. The icetana plugin features include:

- The LiveWall™ for seeing anomalies in real-time.
- icetana playback features for reviewing past anomalies, including the icetana Playback and PlaybackWall tools.
- In-built incident reporting and data visualisation tools (Available via a browser accessing the icetana server).

4.1 Plugin architecture

The icetana Milestone Plugin connects directly to the icetana server to subscribe to live events for display on the LiveWall™. It can also request historical events for review using one of the playback features. The icetana server also stores incident reports that are created and retrieved using its r-Track Anomaly Information Management System (r-Track).

The high-level topology for the icetana system appears below.

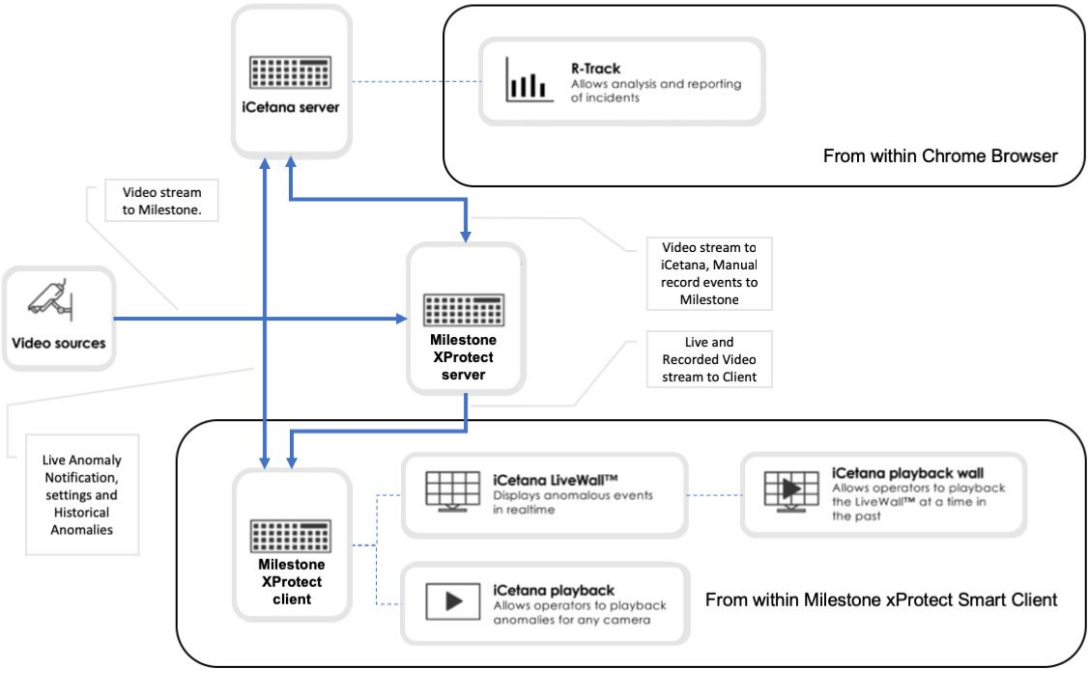
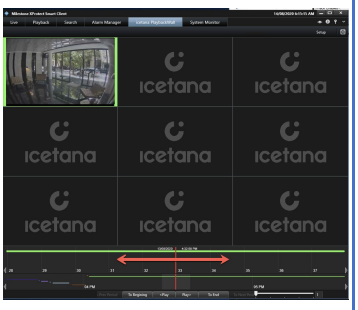
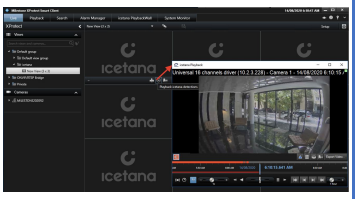
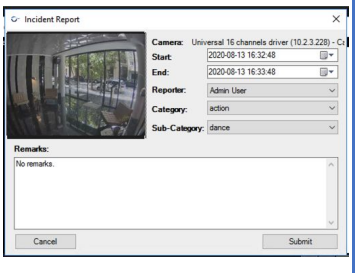


Figure 2: High-level topology of icetana with Milestone.

4.2 icetana Milestone Plugin feature summary

A summary of the icetana's features provided by the icetana Milestone Plugin is listed below. The combination of these features allows the operator to more effectively use the Milestone XProtect Client to monitor the available CCTV infrastructure in real time. A summary of each feature appears as follows:

Core Plugin Features

LiveWall™		LiveWall™ is a Milestone configured View that is enabled by the icetana Plugin. This view displays anomalies as they are happening so that they may be assessed by an operator to determine whether action is required. It may be used on operator machines as well as large wall-mounted monitors and/or video walls.
Playback		Playback is a customised Milestone playback floating window that allows for the review of video with an icetana custom timeline. This allows for the quick identification of and navigation to footage associated with icetana captured anomalies. icetana Playback allows for the evaluation or investigation of individual cameras by an operator.
PlaybackWall		PlaybackWall displays a historical view of anomalies associated with a preconfigured group of cameras. This functionality may be used to mirror the events displayed on the LiveWall™ during a particular period or used to review icetana captured anomalies retrospectively.
r-Track Anomaly Information Management System		Records incident information associated with anomalies that operators have determined required more action. Incident details are available to all supervisors to foster real-time and historical reporting.

5 INCIDENT WORKFLOW

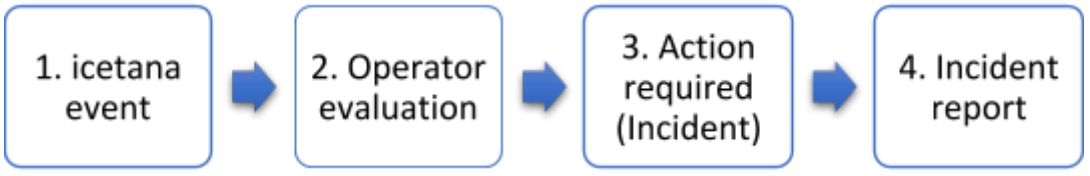
5.1 Overview

icetana allows incidents to be reported directly from the Playback tool and the r-Track Anomaly Information Management System. Details for these incidents are instantly available throughout the network to assist with response and reporting. Data captured by real-time and historical reporting provides valuable business intelligence, which can be visualised using r-Track's inbuilt tools.

5.2 Incident workflow

When an operator sees an event on the LiveWall™, they must first determine whether this represents an actionable incident. Most events displayed to the operator are not actionable, e.g. loitering, movements through car parks, etc. However, icetana does detect numerous events that may represent precursors, trespassing, damage to people and property that may require attention. Ultimately, it is up to the operator to assess and choose the appropriate action for a given situation.

The expected workflow is below:



1	icetana event	icetana detects an event and displays it on the LiveWall™ as a short video clip.
2	Operator evaluation	Review of live events to determine whether an action is required. **Note:** Most events displayed on the LiveWall™ do not require action.
3	Action required	Logging of the camera name and time and further examination or investigation using a VMS or video recall using icetana's Playback tool. **Note:** Serious incidents and suspicious events may require additional steps, in accordance with client standard operating procedures.
4	Incident report	Post-event follow-up and completion of an incident report.

Incident reporting categories and subcategories can be customised to match your reporting needs.

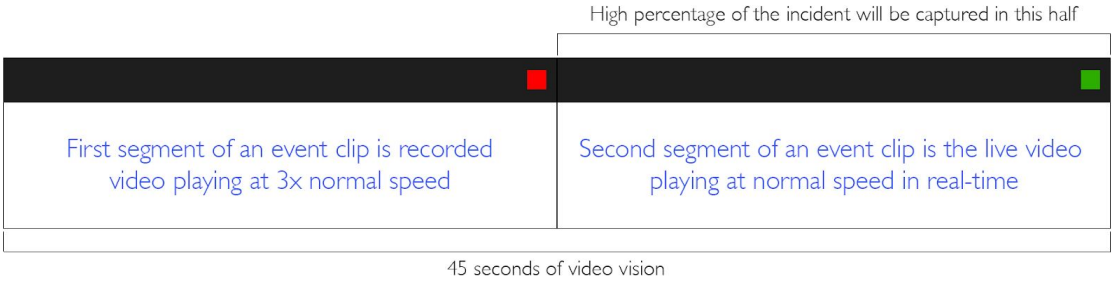
6 LIVEWALL™

6.1 Overview

The LiveWall™ is a configurable grid (Milestone view) that displays abnormal movement to the operator as short video clips as they are occurring. When the video first appears, the footage displayed is approximately 7 seconds behind real-time. This footage is played at 3x speed until it catches up. While this is occurring, the square in the top right of the frame flashes red. Once the video has caught up and is playing in real-time, the square flashes green.

icetana LiveWall™ with no anomalies to display

icetana LiveWall™ displaying one anomaly



Operators watch the short clips displayed to determine what, if any, action should be taken. Each video clip is displayed for approximately 20 seconds up to the default maximum of 45 seconds before disappearing automatically. This period ensures that there is footage for operators to obtain sufficient context for investigation before displaying the next anomaly.

If an anomaly requires further examination or inspection, review the associated camera within the icetana Playback floating window (Section 7) which details the total length of time in which particular video footage was deemed to be anomalous and illustrate any other anomalies associated within the presented timespan of the Playback floating window.

When an anomaly appears on the LiveWall™, icetana logs the camera and associated start and end times, and optionally triggers manual recording within Milestone XProtect Server and/or stores video on the icetana server. *Note: for video stored on the icetana server, this is at the resolution and frame rate as used by the icetana system and not that provided by Milestone or the camera*. Supervisors can review all incidents that occurred within a shift using the icetana Plugin's Playback features and create an incident report retrospectively.

Depending on your system configuration, stored video will only be available for a preconfigured archive duration.

6.2 Configuring a LiveWall™ with Milestone XProtect Smart Client

On an icetana integrated Milestone system, after all the required server commissioning and configuration has been implemented, and the icetana plugin has been installed. An operator can create a LiveWall™ as one would any Milestone View (*refer to Milestone XProtect Smart Client help for details*).

Creation of either a Public or Shared View to use as an icetana LiveWall™ can be achieved as follows:

1. Select the **Live** workspace (tab) listed below the title bar of the XProtect Smart Client Application.
2. Enter **Setup** mode by clicking the Setup button in the top right corner of the currently selected view.
3. Either by creating or using an existing view group create a new Public or Private View. Note that the choice of either a Public or Private View is dependent on the operating practices currently utilised on the client site.

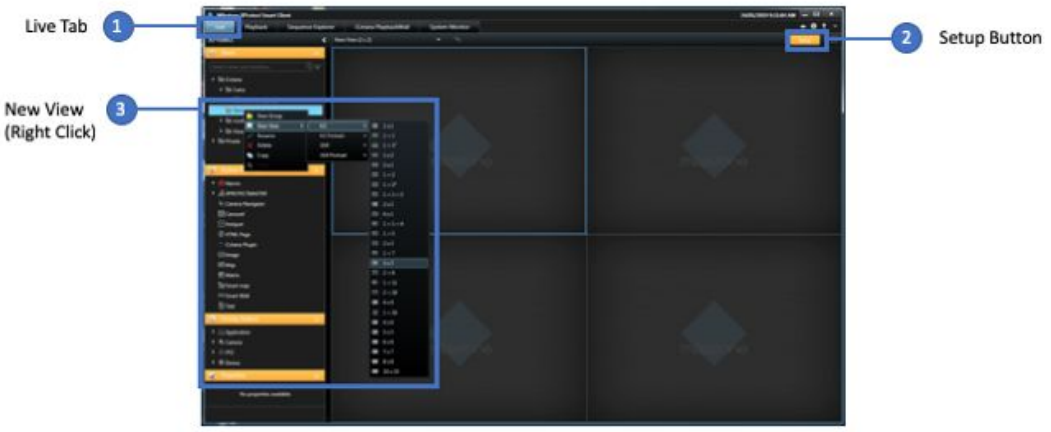


Figure 3: Creating New View in Milestone

4. Select a view layout that is appropriate to the use case. For the icetana LiveWall™ it is standard operating practice to use a uniform grid layout, as the icetana plugin dynamically allocates anomaly videos to available grid cells from the top left to bottom right. Selection of non-uniform grid layouts is not in line with the operating practice of icetana and thus should be avoided.
5. Once the view has been added and named in the **Views** pane, click and drag the icetana Plugin in **System Overview** pane, under the XProtect Server node, into one of the View's grid cells. The plugin automatically populates the remaining cells with the icetana plugin. This is visually verified by each of the cell's background changing from a Milestone logo to an icetana logo.

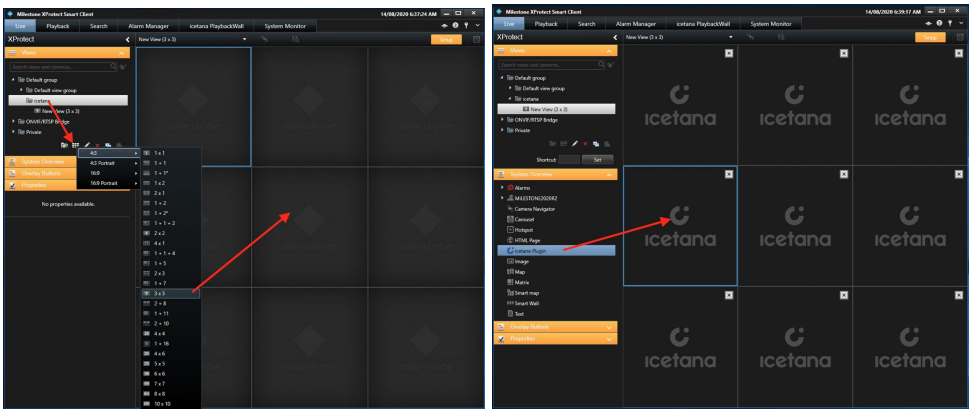


Figure 4: Creating LiveWall™ by dragging icetana Plugin into View

6. Now that the view for the icetana LiveWall™ has been created, with one of the cells in the view selected and highlighted, the

client settings for the new icetana LiveWall™ can be configured in the **Properties** pane with the **icetana** heading.

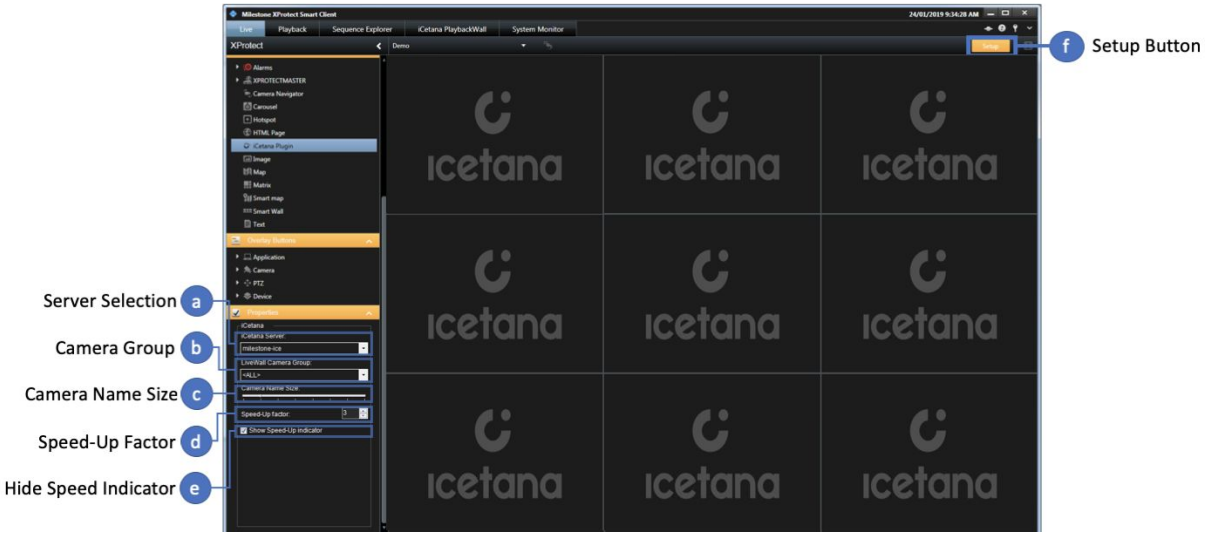


Figure 5: Configure LiveWall™ (icetana Plugin)

a	Server Selection	This drop-down box is for the server selection.
b	Camera Group	This drop-down box is for icetana Camera Group selection.
c	Camera Name Size	This slider is utilised to scale the font size of the camera name used in the header of a Camera View.
d	Speed-Up Factor	This up/down control is used to select the speed that video is played at until the video is playing live (in real-time) on the LiveWall™.
e	Hide Speed Indicator	This checkbox to make the Speed Indicator visible
f	Setup Button	The Setup button toggle in and out of Setup mode.

a. The **icetana Server** labelled drop-down box allows for the selection of an icetana server that has been pre-configured on the Milestone server via the XProtect Management Client. Note that in most scenarios there should only be one available server in this option (including environments where more than one server is required to service the number of cameras associated with the site).
b. The **LiveWall Camera Group** labelled drop-down box allows for selection of icetana View Group that have been pre-configured on the icetana server. This allows this new LiveWall™ view to only show a filtered group of cameras that best suits the operating practice on site. This is usually a requirement for sites with large camera counts and monitored by more than one operator actively.

c. The **Camera Name Size** labelled slider is utilised to modify the font size of the Milestone defined camera name presented on the LiveWall™ custom Camera Image viewer header to identify the camera associated with an anomaly.
d. The **Speed-Up factor** labelled Up-Down control is used to define the speed-up factor of an anomaly video before presenting a live feed. As detailed in section 6.1 the anomaly is presented initially with video footage several seconds prior to current real-time; to catch up to real-time the video is played at the speed factor as defined by this setting. Thus, this setting can be tuned as deemed suitable by the operator. Setting the speed-up to 1 plays anomaly at normal speed but always presents video several seconds before current live (real-time) footage. The icetana recommended setting is a value of 3.
e. The **Show Speed-Up indicator** checkbox is used to define whether the speed-up indicator as detailed in section 6.1 is displayed or not in the custom Video Image viewer header. The icetana recommended setting is checked.
f. Once the configuration has been modified as required, one can exit Setup mode by clicking on the **Setup** button again.

6.3 Accessing a LiveWall™ with Milestone XProtect Smart Client

To access the configured LiveWall™, one would initially select the **Live** workspace (tab) followed by utilising the standard Milestone XProtect Smart Client view navigation methods which include opening up the Views pane and selecting the view in the View hierarchy (1) or selecting/searching the view in the view drop-down and search menu (2). Refer to the appropriate XProtect Smart Client User Manual for details associated with the selection of a View (e.g. page 30 in the 2018 R3 User Manual).

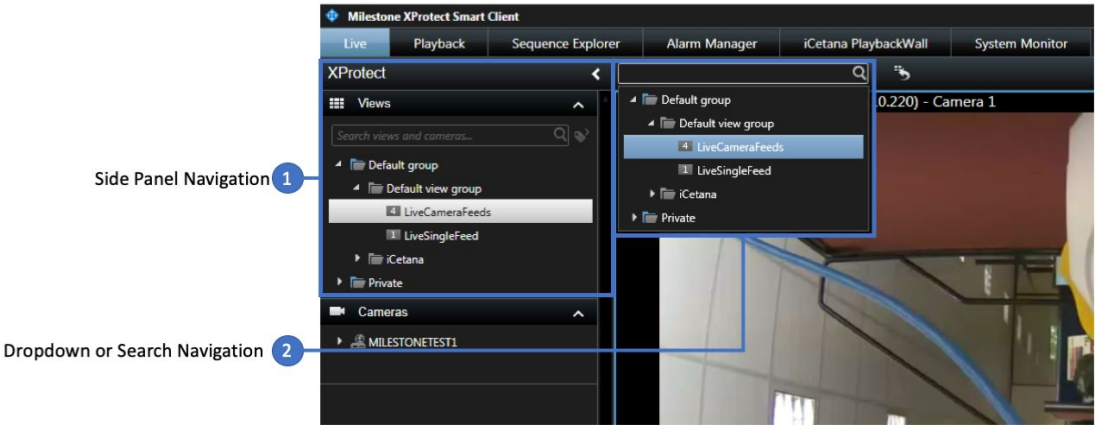


Figure 6: Standard Milestone View Navigation

6.4 LiveWall™ controls

The icetana Milestone Plugin LiveWall™ is similar to a standard Milestone XProtect Smart Client View in that it is composed of a number of Camera Image viewer panels in the layout initially defined in the creation of the View. Each of the Camera Image viewer panels is dynamically connected to a camera based on the icetana server, informing the client that anomalous motion has been detected. The plugin connects to the next available Camera Image viewer panel to that camera's video stream from the Milestone XProtect server. The Camera image viewer panel itself has the standard hidden Camera Toolbar (1) that has been customised to provide only three buttons. Hovering the mouse over a Camera Image viewer panel unhides the Camera toolbar. Refer to the XProtect Smart Client User Manual for details associated with the Camera toolbar (e.g. pages 26-27 for 2018 R3).

The first button available on the Camera toolbar is the standard Milestone Print Evidence button (2) and is used to open the Milestone XProtect Client Print Evidence form (refer to the XProtect Smart Client User Manual, e.g. page 180 for 2018 R3). The next button is the Open icetana Playback button (3) and is used to navigate to the icetana Playback floating window. Details associated with the icetana Playback floating window are described in section 7 of this document. The last button is a custom icetana Bookmark button (4), which is a customised version of the standard Milestone bookmark button that simply facilitates standard Milestone bookmarking from within the LiveWall™.

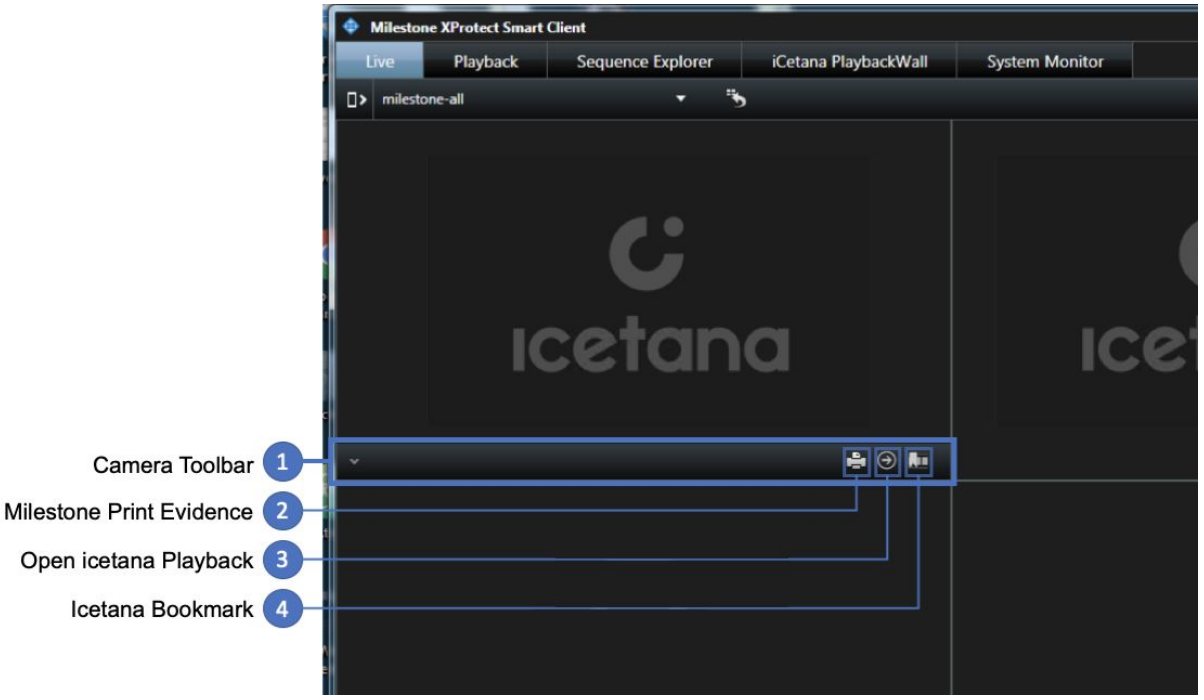


Figure 7: icetana LiveWall™ Camera Toolbar

1	Camera Toolbar	Hover over the Camera Image view panel for the Camera Toolbar to unhide.
2	Print Evidence	Milestone XProtect Smart Client Print Evidence button which displays the Milestone Evidence Form for creating printable reports.
3	icetana Playback	Use this button to open the icetana Playback floating window.
4	icetana Bookmark	Use this custom button to bookmark the current timestamp in the Milestone XProtect Server. The button operates the same as the standard Milestone bookmark button.

7 ICETANA PLAYBACK WINDOW

7.1 Overview

When anomalies are identified by icetana, they are typically displayed in real-time on the LiveWall™ as a series of short video clips. When an individual event requires closer inspection, the icetana Milestone Plugin allows a user to navigate from the LiveWall™ to icetana Playback floating window via the button available on the Video Toolbar. Clicking this button while the anomaly detection is played in the panel of the LiveWall™ opens the floating window with a connection to the associated camera. Otherwise, the floating window has no camera associated with it. To connect icetana Playback floating window to a camera, utilise the Milestone standard practice of dragging a camera onto the floating Live or Playback window.

The icetana Playback floating window is a customisation of the standard Milestone XProtect Client floating window with several modifications. These include:

- The icetana playback floating window is only presented in playback mode and cannot be switched to Live mode.
- The Milestone Export, Evidence Lock and Retrieve buttons are not available.
- An additional customised timeline which provides an indicator to all the icetana detected anomalies associated with this camera in addition to the standard Milestone XProtect Smart Client timeline. (Note: Milestone XProtect Smart Client can also provide a timeline for all the cameras associated with the current view. This is usually utilised in a view with a layout for multiple connected cameras.)
- A button to configure the icetana playback floating window to skip video to only display consecutive icetana detected anomalies.
- A button to open the r-Track incident form to create an r-Track logged incident.
- A button to create snapshots (still images) of the currently displayed image into C:\snapshots\ (or the folder configured in Milestone XProtect Smart Client settings) on the client workstation.
- A standard Milestone XProtect Smart Client print evidence button to open the Milestone XProtect Smart Client evidence form.
- An Export Video button to export a selection of the recorded video from the server to the client. This function operates similarly to the standard Milestone XProtect Smart Client

Export functionality but skips the standard available configuration form and only requests the user to specify a location to export the video to.

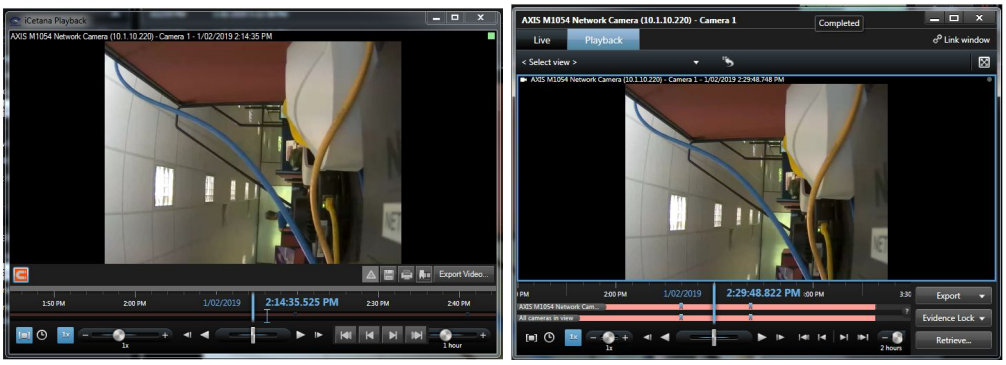


Figure 8: Comparison of the icetana Playback floating window (left) and the standard Milestone floating window (right).

7.2 Accessing icetana Playback floating window

Accessing the icetana Playback floating window is done via the LiveWall™ as detailed in section 6.4. One is required to hover over one of the Camera Image viewers in the View, at which point the Camera Toolbar (1) unhides itself. From the Toolbar one can open the icetana Playback floating window by clicking on the Open Playback button (2) as highlighted in Figure 9.

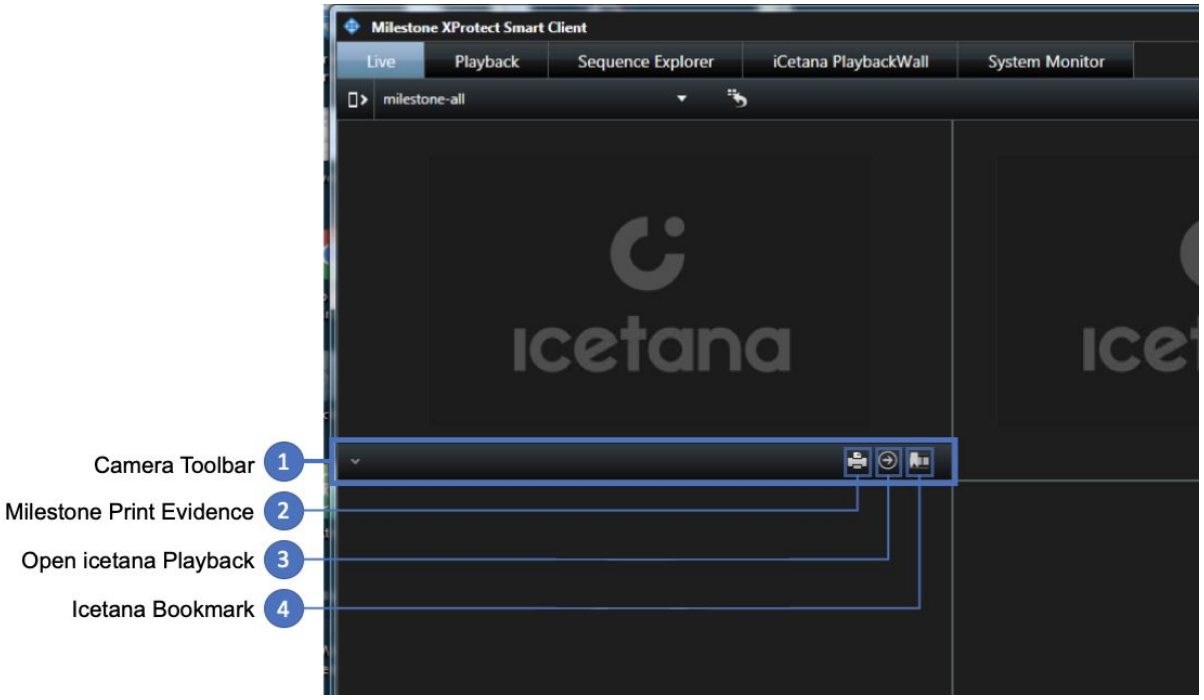


Figure 9: Accessing icetana Playback floating window

7.3 icetana Playback floating window controls

Figure 10: icetana Playback floating window controls

1	r-Track	Use the r-Track button to open the r-Track popup window form. Note that r-Track form will snapshot the image at the time at which the Playback window is currently at and set this as the begin time of the incident.
2	Save Snapshot	Use this button to save a snapshot of the image currently presented in the Playback window to the Snapshot directory configured in the Milestone XProtect Smart Client settings.
3	Print Evidence	Use this button to open the standard Milestone XProtect Smart Client Print Evidence form to create a printable report.
4	Bookmark	Use this custom button to bookmark the current timestamp in Milestone XProtect Server. The button operates the same as the standard Milestone XProtect Smart Client bookmark button.
5	Export Video	Use this to export footage from the Milestone XProtect server to the local client. This functions in a similar manner to the default Milestone XProtect Smart Client export function. It requires the operator to select a period of time using the standard Milestone XProtect Smart Client playback controls, allowing for the selection of a timespan of video footage.
6	Snap to Detections	This is a toggle button that allows an operator to initiate playback in the Playback floating window with only footage that icetana has detected as containing anomalous motion being shown. Thus, it skips any footage that has not been deemed anomalous by icetana.
7	icetana timeline	The icetana time is used to illustrate the timespans in which icetana has detected anomalous motion.

8	Playback Controls	These are the standard Milestone playback controls as detailed in the XProtect Smart Client User Manual (e.g. pages 141-142 for 2018 R3). This allows the operator to play video associated with the camera, change the playback speed and quickly navigate to different periods in time.

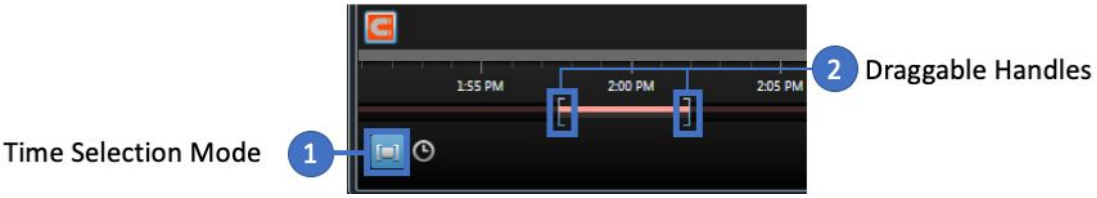
7.4 Operation

1. By default, opening the icetana Playback floating window from the LiveWall™ displays the current last live image that was being presented in the LiveWall™ Camera image viewer from which it was launched. If no anomaly were presented at the time, the icetana Playback floating window would not have a camera associated with it until a Camera is dragged from the left navigation panel in the Cameras section.
2. Use standard Milestone playback controls to navigate recorded footage associated with the camera. Use the icetana timeline and Snap to Detections to navigate quickly to footage that icetana has detected as anomalous.

7.5 Exporting video

Incidents may be exported directly from the icetana Playback floating window. This enables operators and supervisors to share anomaly video at their convenience using the default Milestone video format (e.g. mkv).

1. Use the standard Milestone XProtect Smart Client time selection tools (Set Start/End Time button or Time selection mode button) to select the recorded footage that is to be exported as detailed in the Milestone XProtect User Manual (e.g. page 158 of 2018 R3).



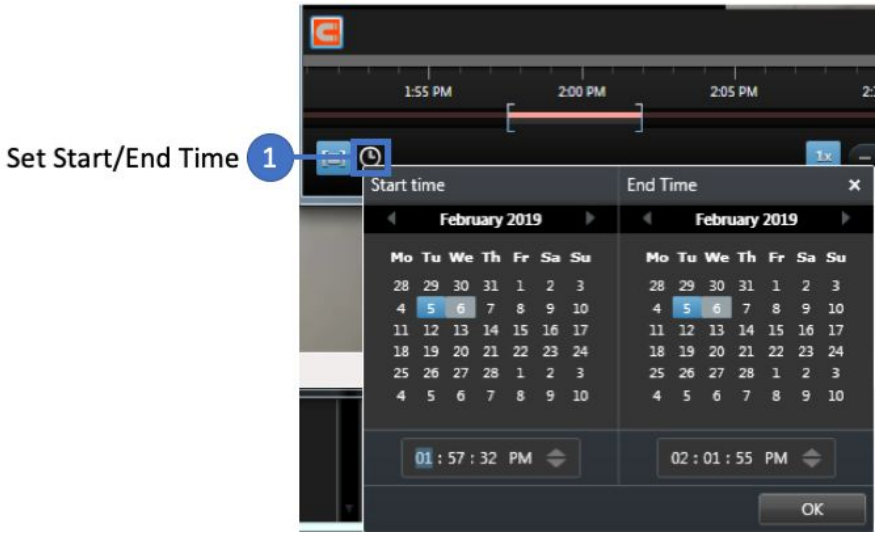


Figure 11: Standard Milestone way to select timespan for export

2. With time selected, use the icetana **Export Video...** button to open the standard Windows **Browse For Folder** dialog to nominate the location into which the exported video should be saved to and click **OK**.

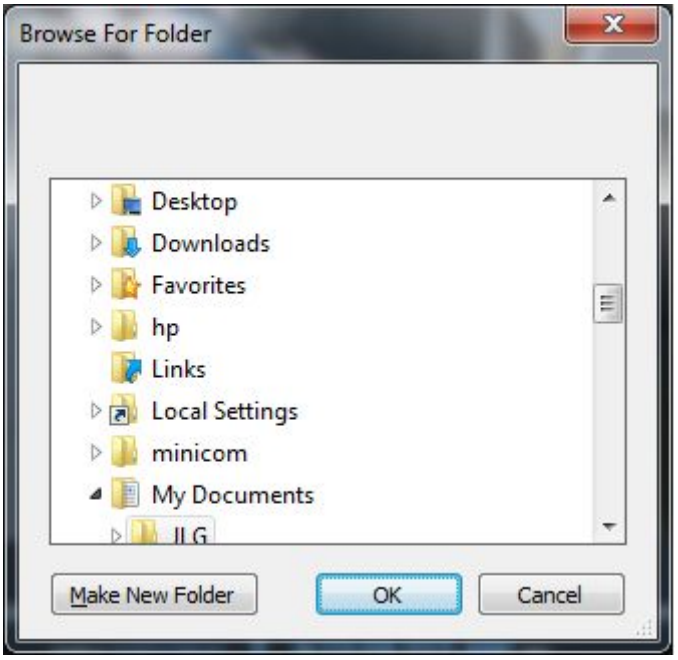


Figure 12: icetana Export Video button and Browse For Folder dialog

7.6 Creating incident reports

Incidents may be reported directly from the Playback floating window. To create an incident from this tool:

1. Click on the Report Incident button

Figure 13: r-Track button

The **Create Incident Report** window will appear

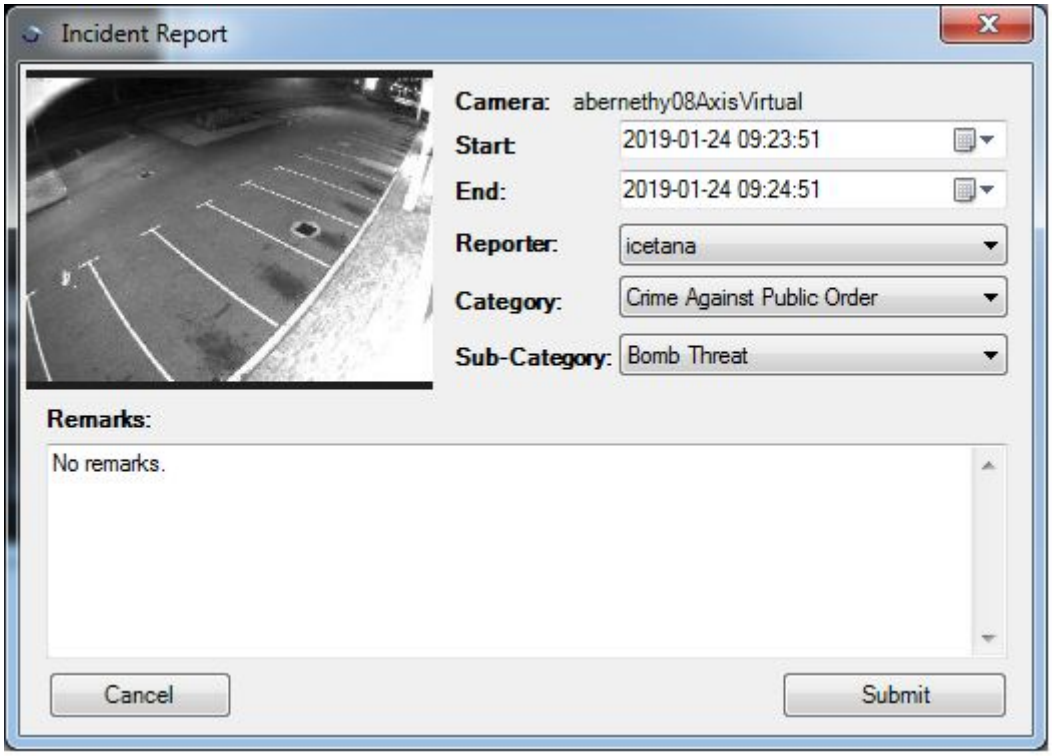


Figure 14: r-Track Form

2. The **Start** and **End** times are automatically populated in the Incident Report form. The start time is set to the time at which the current moment in the icetana Playback has been navigated to and that of the image captured by the Incident Report. The end time is set to one minute after the start time by default. These can be updated by using the Datetime Picker to reflect the context and duration of the incident being recorded.
3. Select the **Reporter**, **Category** and **Sub-Category** relating to the incident and add appropriate **Remarks**.
4. Click **Submit** to save the incident report or **Cancel** to close the window without saving.

   If you have chosen to save the incident report, confirmation of its creation appears as follows:

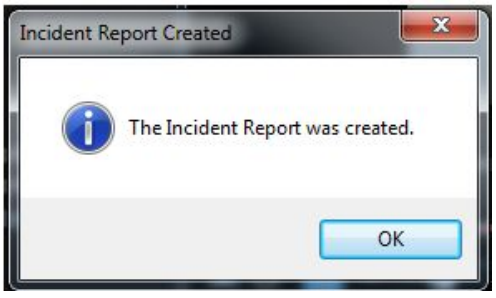


Figure 15: r-Track Incident Report creation confirmation

ICETANA PLAYBACKWALL

7.7 Overview

icetana's PlaybackWall is used to review icetana detections retrospectively and mirrors what would have been shown on the LiveWall™. Anomalies are displayed sequentially, and the last 24 hours will be available when opened.

The PlaybackWall can be used to assist in the detection of unknown events retrospectively by providing a means to review the icetana filtered video footage at a configurable speed and maximum no of cameras at a time.

7.8 Accessing the PlaybackWall

To access the PlaybackWall one selects the icetana PlaybackWall tab that is added by the icetana Plugin.

1. Clicking on the **icetana PlaybackWall** tab presents a View that is composed of configuration size grid of Video Image viewers and custom playback controls to allow one to navigate through icetana captured anomalies.

    a. Click the icetana PlaybackWall Tab

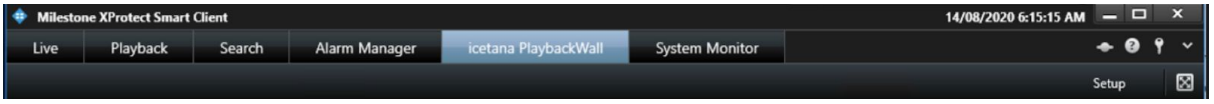


Figure 16: icetana PlaybackWall tab

    b. Opens the icetana PlaybackWall Workspace

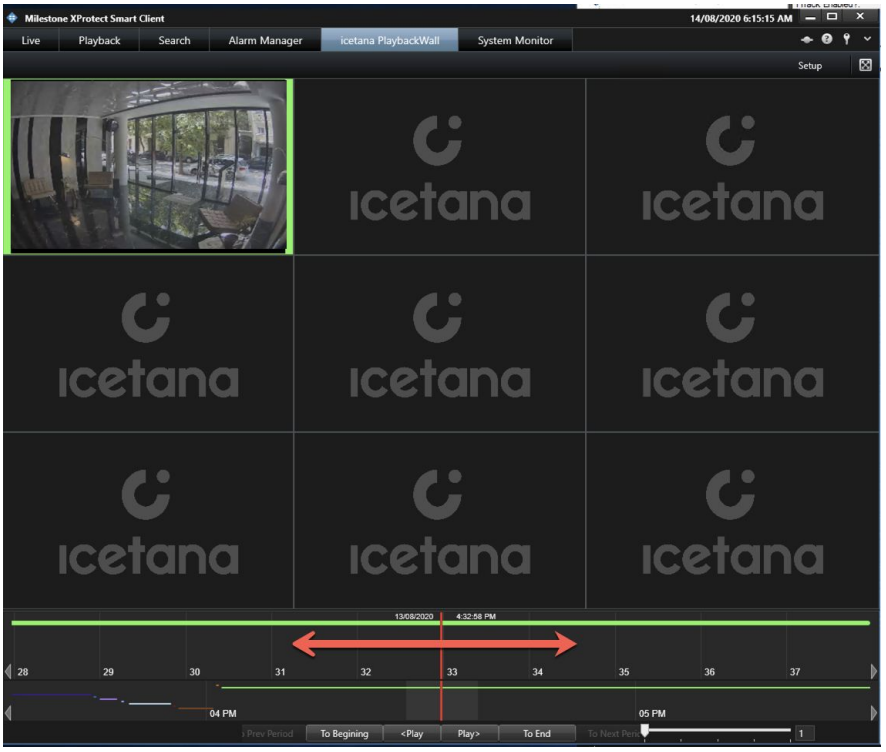


Figure 17: icetana PlaybackWall Workspace

Once the icetana PlaybackWall Workspace is opened using the pre-configured connection and layout settings, the PlaybackWall extracts the past 24 hours of icetana detected anomalies from the icetana server and present the user with timelines that provide indications of all icetana detections. The playback time is centred within the middle of the 24-hour period, precisely 12 hours prior to the time at which the PlaybackWall was loaded. At this point, the user can commence playing back the identified anomalies.

7.9 Configuring PlaybackWall Display

The configuration of the PlaybackWall Display follows the standard Milestone XProtect Smart Client workflow of selecting the **Setup** button. This, in turn, opens the **MIP Plug-ins** Panel where the **icetana Settings** child Panel encapsulates the available options to configure the PlaybackWall.

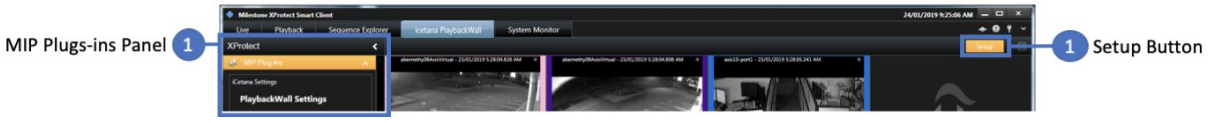


Figure 18: icetana PlaybackWall setup initiation

Figure 19 illustrates the available configuration options for the icetana PlaybackWall. It is important to note that there are two sets of settings. These are dynamis settings that take effect immediately, and non-dynamic settings that require a restart of the Milestone XProtect Client. A restart is required for non-dynamic to take effect as these properties are only read and utilised by Milestone XProtect Smart Client on the start-up of the application.

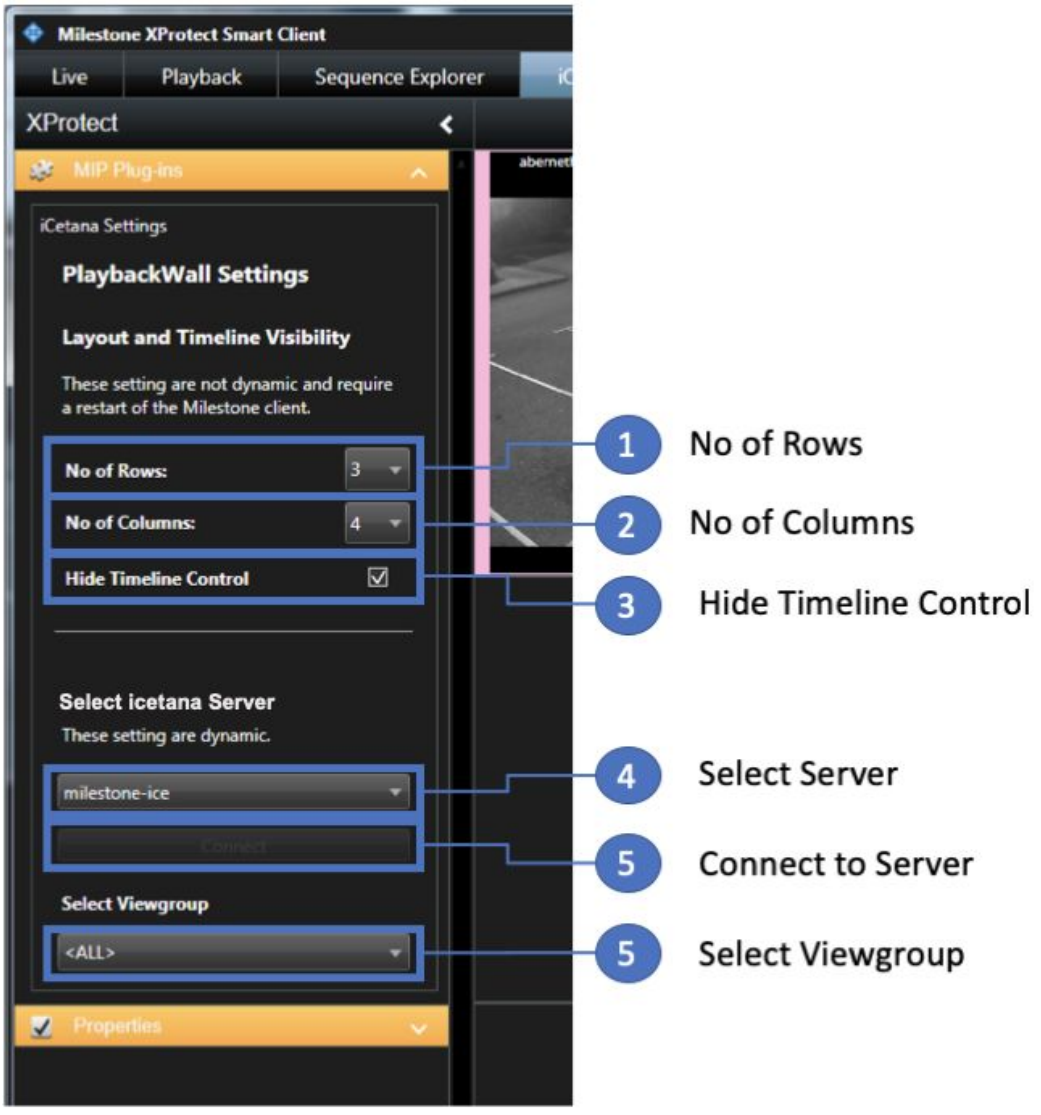


Figure 19: icetana PlaybackWall settings

1	No of Rows *	This dropdown box is used to select the number of rows in the grid layout for the Video Image viewers. The options are limited to 1, 2 or 3 rows.
2	No of Columns *	This dropdown box is used to select the number of columns in the grid layout for the Video Image viewers. The options are limited to 1, 2, 3, 4 or 5 columns.
3	Hide Timeline Control *	This checkbox specifies whether or not hide the Timeline Control should be hidden, allowing for maximised screen real-estate for the grid of Video Image viewers. This is best utilised when just reviewing the previous 24 hours of footage.
4	Select Server	This drop-down box is to select one of the configured icetana servers that are configured on the Milestone XProtect Server via the Milestone XProtect Management Client (with icetana Milestone Plugin installed). In most production site installations, there is only one option even where more than one server is required to service the number of cameras associated with the particular site. Note to allow this setting to be dynamically utilised the selection does not take effect until the Connect button is clicked as detailed in the next item.
5	Connect to Server	This button is to initiate a connection to the selected Server.
6	Select Viewgroup	This dropdown box is used to select one of the pre-configured views groups on the icetana server. This allows the presented anomalies to be only from cameras in the configured view group.

** These are dynamic settings that take effect immediately.*

7.10 PlaybackWall controls

Figure 20 details the navigation and playback controls of the icetana PlaybackWall.

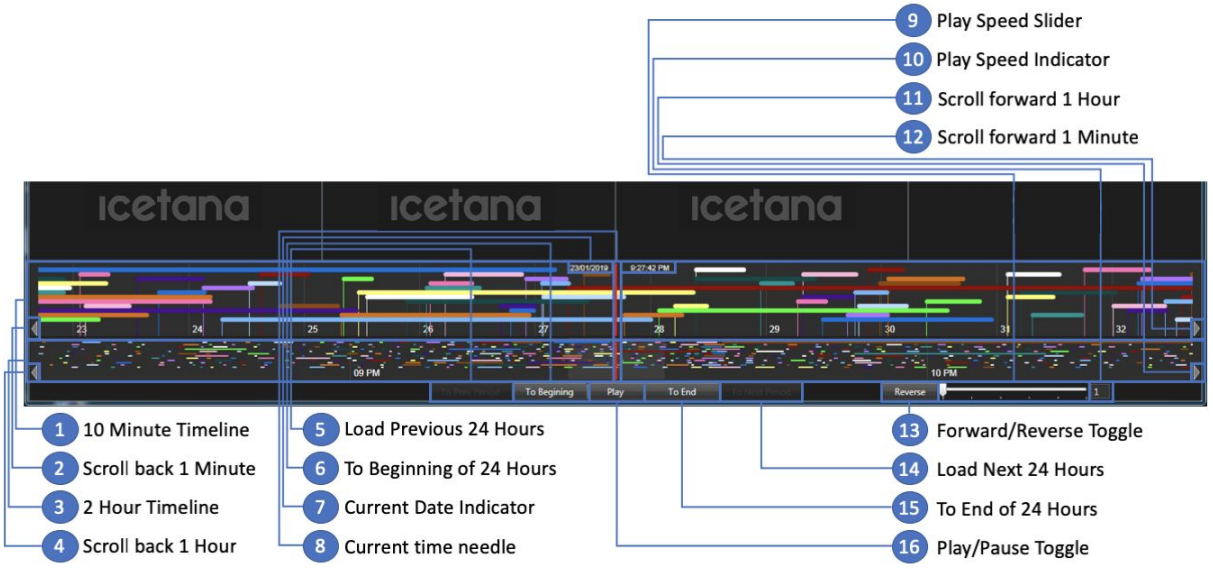


Figure 20: PlaybackWall controls

1	10 Minute Timeline	This is a 10 Minute Timeline view. Within the view are duration bars indicating a recorded icetana anomaly detection. Each bar is associated with the anomaly detection of a camera. This line allows for the perception of where anomaly detections have occurred in relation to each other within the 10-minute window and their duration. The timeline can be dragged forwards and backwards to allow the user to navigate quickly and precisely around the 10-minute window.
2	Scroll back 1 Minute	This button scrolls the current time back 1 Minute.
3	2 Hour Timeline	This is a 2 Hour Timeline view that operates the same as the 10 Minute Timeline while providing the context of the 2-hour time period. The 10 Minute window of the 10 Minute Timeline is highlighted within this view. This timeline can also be dragged forwards and backwards in time for navigation.
4	Scroll back 1 Hour	This button scrolls the current time back 1 Hour.
5	Load Previous 24 Hours (**To Prev Period**)	This button is used to load the previous 24 hours of anomaly detections. The PlaybackWall provides 24 hours of data at a time, and this is one of the two load buttons to open adjacent periods of data. Note to assist with

		navigational context, this button is only enabled when the user has navigated to the beginning of the timeline.
6	**To Beginning** of 24 Hours	This button will skip to the beginning of the 24-hour timeline. (Enables **To Prev Period** Button)
7	Current Date Indicator	Displays the current playback time and date.
8	Current time needle	Visual indicator to illustrate the current time in relation to the timelines.
9	Play Speed Slider	Controls the playback speed of the videos displayed. The slider currently provides the following speed settings: 1x, 2x, 4x, 8x, 16x and 32x normal speed.  It has been observed that the XProtect Smart Client may become unstable playing at 16x and 32x normal speed so use with caution.
10	Play Speed Indicator	Displays the speed factor as selected by the Play Speed Slider.
11	Scroll forward 1 Hour	This button scrolls the current time forward 1 Hour.
12	Scroll forward 1 Minute	This button scrolls the current time forward 1 Minute
13	**Forward**/**Reverse** Toggle	This button toggles the playing of the video from the normal forward direction to reverse and vice versa.
14	Load Next 24 Hours (**To Next Period**)	This button is used to load the next 24 hours of anomaly detections. The PlaybackWall will only provide 24 hours of data at a time and this is one of the two load buttons to open adjacent periods of data. Note to assist with navigational context, this button is only enabled when the user has navigated to the end of the timeline.
15	**To End** of 24 Hours	This button skips to the end of the 24-hour timeline. (Enables **To End Period** Button)
16	**Play**/**Pause** Toggle	This button toggles between playing and pausing through the timelines and presenting the anomalies that were detected at the playback time.

7.11 PlaybackWall Operation

The PlaybackWall once selected is ready to play anomalies. The workspace may show or hide the Timeline navigation control depending on whether the PlaybackWall configuration was configured to hide the Timeline control. Figure 21 illustrates loading the PlaybackWall, for both of the options of hidden and visible Timeline controls.

The clicking of the play button commences playing through the timeline. Anomaly detections are presented in an available Video

Image viewer in the grid layout. With the Timeline displayed a user can cross-reference presented footage with the timeline via the coloured border of the Video Image viewer and the colour of the time bar illustrated in the timeline.

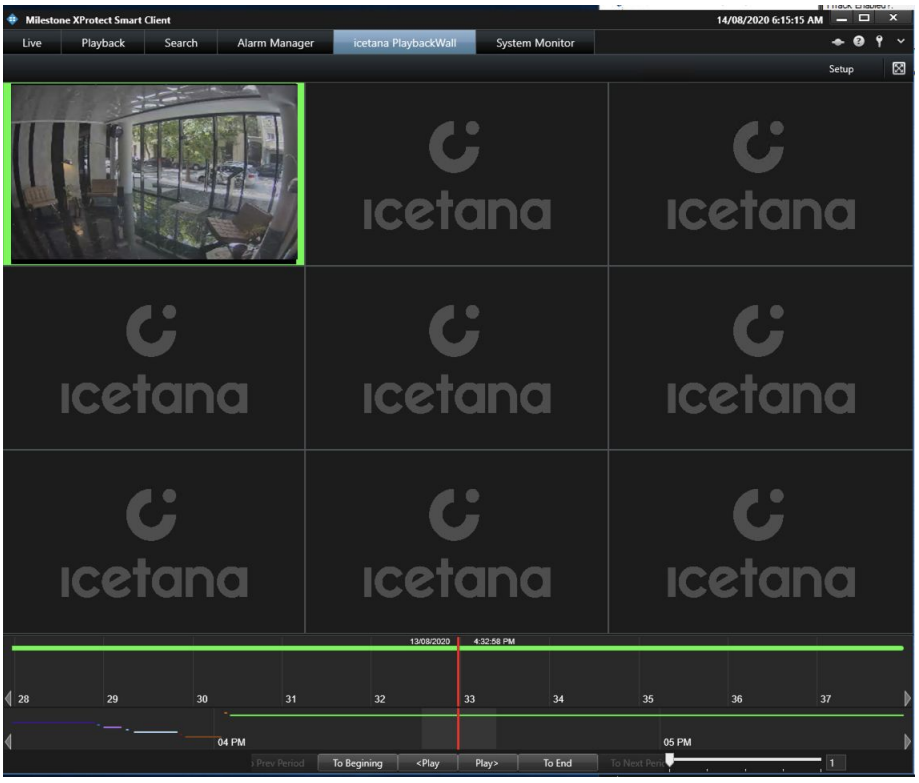


Figure 21: With the Timeline control

APPENDIX A ACRONYMS AND DEFINITIONS

The following acronyms and definitions are used throughout this document:

Term	Description
Actionable Event	An event detected by icetana that requires further action. These may include suspicious behaviour, medical events, fire and vandalism.
Anomaly Video Panel	Video panel displaying the anomaly video obtained from a camera at a specific date and time.
AVI	A multimedia file (container) format that stores audio and video for playback on most applications and web browsers.
Camera Set	A logical configuration group of cameras that share the configuration for storage paths and a few other settings.
icetana Event	An event detected by icetana that requires evaluation by an operator to determine whether further action is required.
icetana LiveWall™ (Milestone Plugin)	A Milestone XProtect Smart Client view configured with the icetana plugin that displays live events to operators using a non-interactive video grid.
icetana Playback (Milestone Plugin)	A custom Milestone XProtect Smart Client floating window for re-playing individual anomalies on a per camera basis.
icetana PlaybackWall (Milestone Plugin)	A custom Milestone XProtect Smart Client Workspace (tab) for re-playing multiple anomalies for a selected View group over a given period.
Incident Event	An actionable event that required further action and a subsequent incident report loaded to provide further information.
Incident Report	A report lodged by operators that describes the incident and contains additional information regarding the actions taken.
Live	A Milestone XProtect Smart Client Workspace (mode) for displaying Live video in a pre-configured View.
MJPEG	Motion JPEG (or M-JPEG) a video compression format used to store video. This format is supported natively by most video editing applications and web browsers.
Playback	A Milestone XProtect Smart Client Workspace (mode) for displaying pre-recorded video in a pre-configured View.
R-Track Anomaly Incident Management System	Allows analysis and reporting of incidents by operators and supervisors.
View Group	A logical grouping of cameras configured in icetana, utilised as a means to filter the anomalies presented to clients to only the cameras within the view group.

APPENDIX B INSTALL PROCEDURE FOR ICETANA MILESTONE PLUGIN

Please read the End User Licence Agreement (EULA) that is distributed separately before continuing. The most recent version of the EULA can be found on the icetana.com website: https://icetana.com/eula/

Pre-installation requirements

The following are required before for installing the icetana client tools:

- Windows Operating System
- Administrator privileges for your local machine
- At least 100 MB of free disk space available
- An existing icetana installation

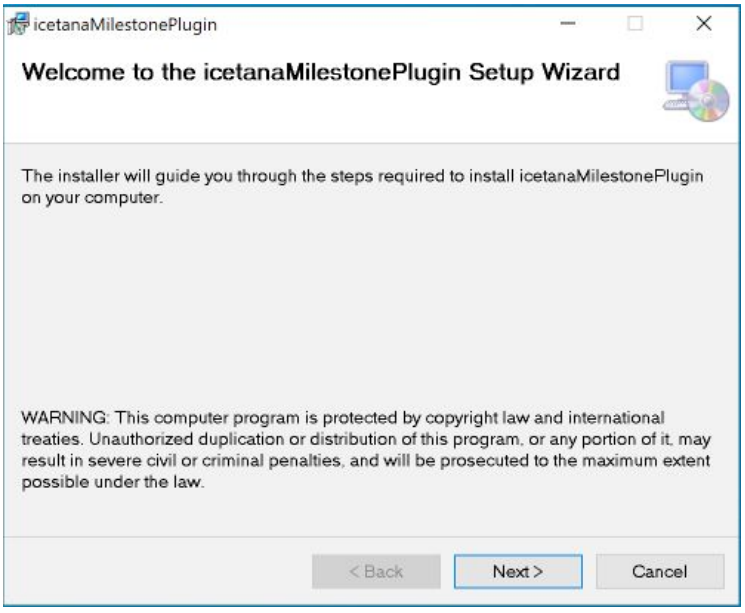
If the existing icetana installation version is > 3.2.1, then the additional prerequisite step outlined in Appendix E must be completed for the icetana Milestone Plugin to communicate with the icetana installation.

Installation procedure (Current Production Release: 1.0.1)

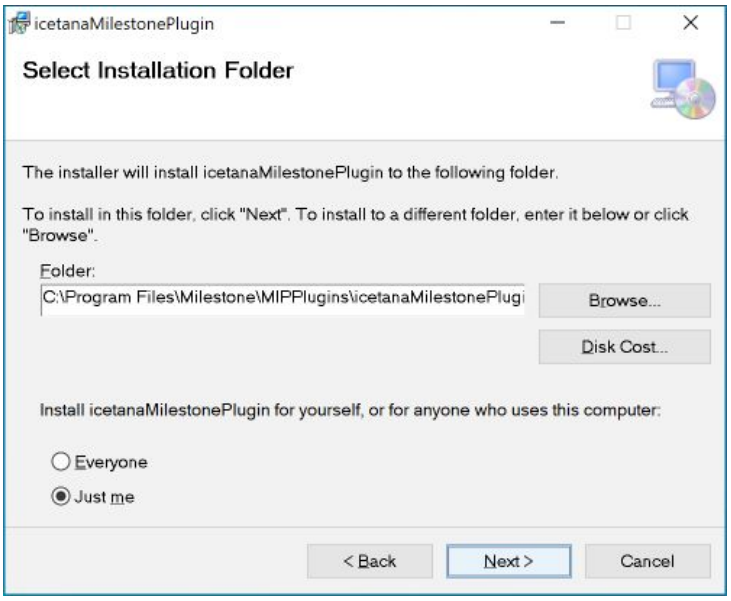
1. Open a web browser such as Chrome, Microsoft Edge or Internet Explorer.
2. Download the installer from the following web location:

https://s3-ap-southeast-1.amazonaws.com/files.aws.icetana.com.au/milestone-plugin/icetanaMilestonePlugin-1.0.1.msi

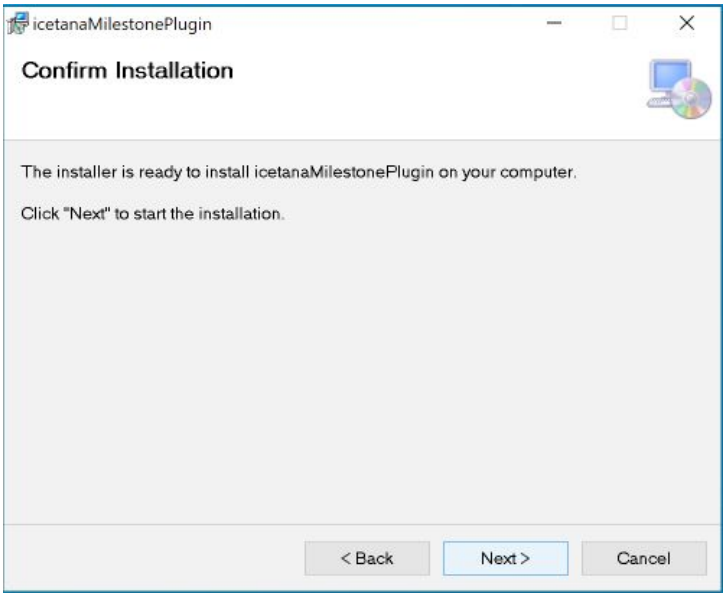
3. Depending on the browser one may be prompted to select the option to run the application or save to a known place on your computer. Select download or run if prompted to do so.
4. After executing the .msi file one may be prompted "Do you want to run this file" depending on the version of Windows, browser used or the browser security settings. Confirm to allow for the execution to proceed.
5. This will open the **icetana Milestone Plugin** Installer window, click **Next** to continue.


icetanaMilestonePlugin
Welcome to the icetanaMilestonePlugin Setup Wizard
The installer will guide you through the steps required to install icetanaMilestonePlugin on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
< Back
Next >
Cancel

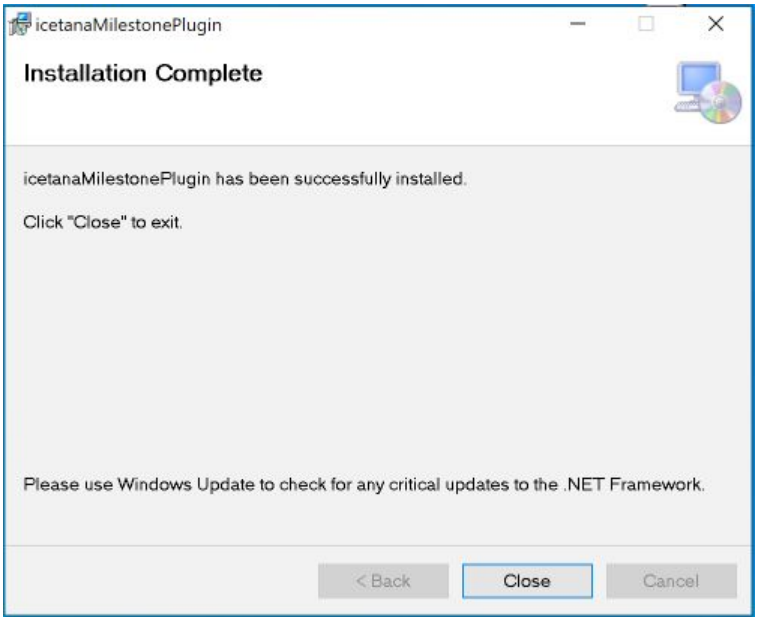
6. In the "Select Installation Folder" window ensure that default location is used, and installation is for "Everyone" prior to clicking the **Next** button.



7. In the "Confirm Installation" window click the **Next** button to begin installation.



8. In the User Account Control window confirm "Yes" to "Do you want to allow this app to make changes to your device?".
9. If installation completes successfully the "Installation Complete" dialog is presented. Click the **Close** button to finalise the installation.

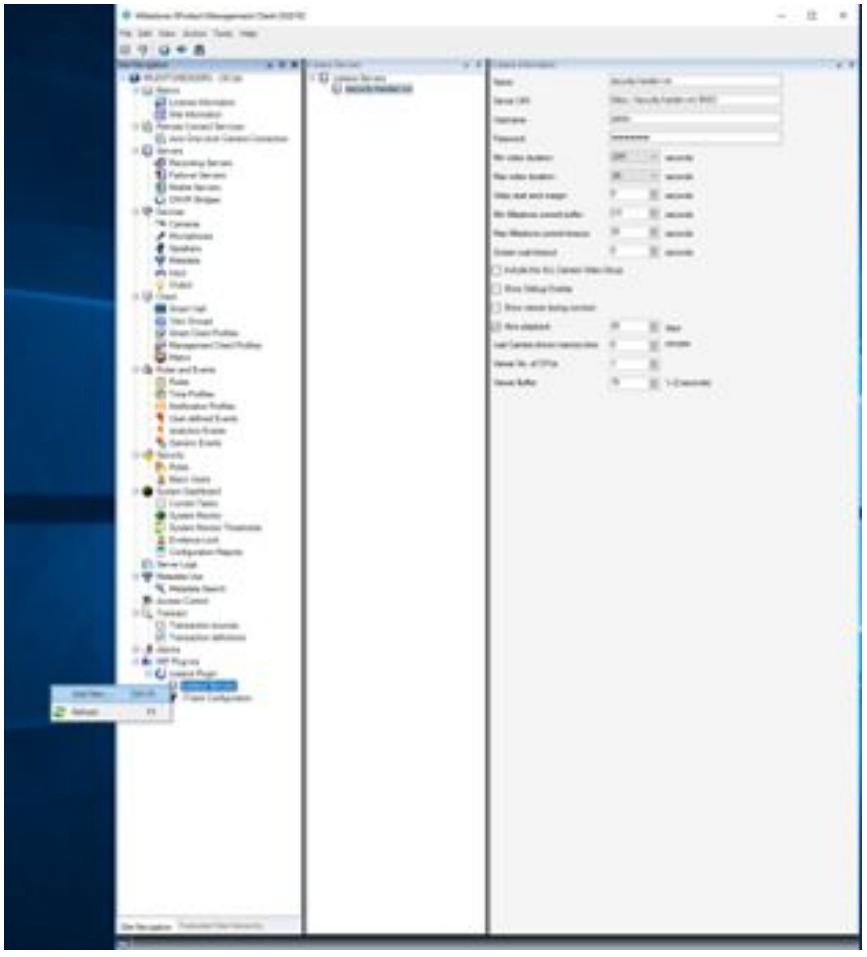

icetanaMilestonePlugin
Installation Complete
icetanaMilestonePlugin has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
< Back
Close
Cancel

APPENDIX C SETUP THE ICETANA MILESTONE PLUGIN WITH THE MILESTONE XPROTECT MANAGEMENT CLIENT

Once the plugin has been installed, the final steps of set up must be performed using the Milestone XProtect Management Client. This is necessary to ensure that the icetana LiveWall™ and icetana PlaybackWall are able to be configured to use camera groupings correctly, as well as to ensure that Incident Reporting to r-Track works seamlessly.

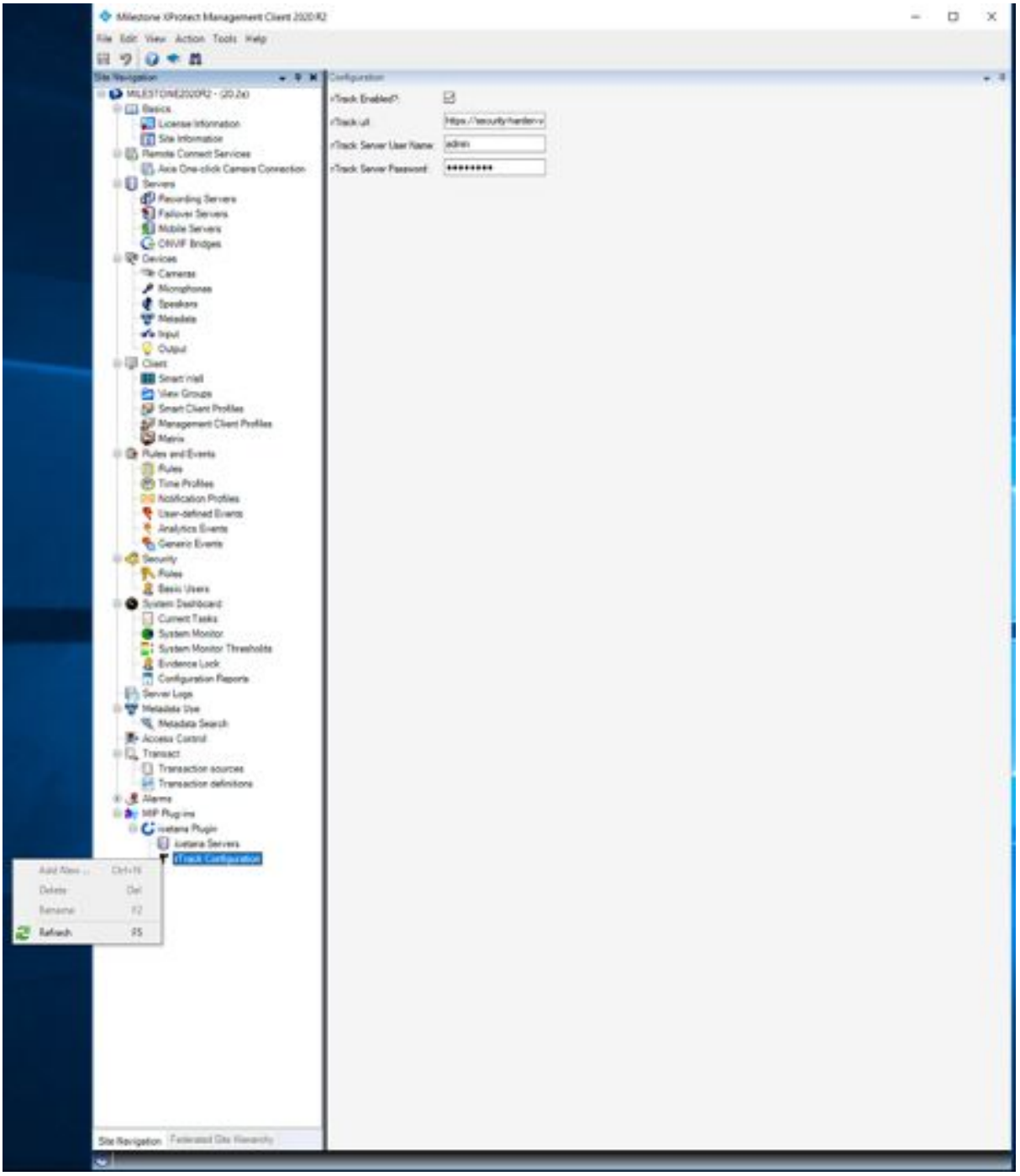
Configure icetana Servers

1. Open the **Milestone XProtect Management Client**.
2. On the sidebar tree view, navigate to **MIP Plugins** → **icetana Plugin**.
3. Right-click on **icetana Servers** and select **Add New**…
4. On the **Add icetana** dialog box enter:
    a. **Name**: the hostname of the icetana server.
    b. **Server URL**: the URL of the icetana server (e.g. <http/https>://<domain>:<port>/).
    c. Provide the authentication credentials and **Save**.



Configure r-Track Incident Reporting

1. Open the **Milestone XProtect Management Client**.
2. On the sidebar tree view, navigate to **MIP Plugins** → **icetana Plugin**.
3. Select **rTrack Configuration**.
    a. Check the **rTrack Enabled?** Checkbox.
    b. Provide the **rTrack url** (e.g. <http/https>://<domain>:<port>/).
    c. Provide the authentication credentials and **Save**.



APPENDIX D UNINSTALL PROCEDURE FOR ICETANA MILESTONE PLUGIN

Uninstallation procedure (Current Production Release 1.0.1)

1. Should you need to remove the icetana Milestone Plugin from your computer, open Windows Control Panel and navigate to Programs and Features.
2. In the list of installed applications find "icetanaMilestonePlugin" and right click and select **Uninstall** from the context menu.
3. In the "Program and Features" pop-up dialog select "Yes" to "Are you sure you want to uninstall icetanaMilestonePlugin?"
4. In the User Account Control window confirm "Yes" to "Do you want to allow this app to make changes to your device?".
5. "icetanaMilestonePlugin" is now removed from the installed applications list and is successfully uninstalled.

APPENDIX E IMPORT TRUSTED CERTIFICATE AUTHORITY (CA)

In order to make secure **HTTPS** requests, the plugin requires a trusted certificate authority registered on the Windows host machine where the plugin is installed. To set up, follow the steps below.

1. Copy your certificate from the icetana server installation which the icetana Milestone plugin will communicate with:
    a. Shell into the icetana server and convert the *cert1.pem* certificate to *cert1.crt* certificate:

```
$ ssh icetana@<your-icetana-server>
$ cd /opt/icetana-apps/certs/dmt-rtrack.icetana.com.au
$ openssl x509 -outform der -in cert1.pem -out cert1.crt
```

    b. Copy the *cert1.crt* file to the Windows machine onto which the icetana Milestone plugin will be installed.
2. Import the *cert1.crt* certificate as one of **Windows Trusted Root Certification Authorities** using the Internet Options client on the Windows machine.
    a. Open **Internet Options** on Windows,
    b. Go to the **Content** tab,
    c. Select the **Certificates** button,
    d. Go to **Trusted Root Certificate Authorities** tab, and;
    e. Import the cert1.crt certificate by selecting the **Import** button: