ACTIVITYDETECTION EDGE 3.0

Milestone XProtect integration

Revision 1

ACIC sa / nv
Parc Initialis
Boulevard Initialis 28
B-7000 Mons
Belgium

support@acic.eu

www.acic.eu

Tel. : +32 65 39 43 80
Fax : +32 65 39 43 81

TVA/BTW : BE 0861 141 650

Document history

Revision	Date	Comment
1	11/2019	First revision

Intended audience

This document is addressed to installers, integrators and technicians who need to implement the ACIC ActivityDetection Edge 3.0 product. This version of the video analysis is designed to be installed in an Axis product, but the configuration and operating concepts are identical to the server version. The associated documents are thus:

- ActivityDetection 3.0, configuration
- ActivityDetection Edge 3.0, user guide

Getting technical support

You can ask your questions or post your comments and suggestions to ACIC at the following address: support@acic.eu. Don't forget to detail the information on the product you own (firmware number) and your details so that we can reply to you.

Warnings

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1 Introduction

The ACIC ActivityDetection Edge product is an embarked video processing application mainly used for the detection of activity in secure areas. Its functions are as follows:

- To detect the crossing of one or several virtual lines.
- To detect the entry of an object in a zone.
- To detect the parcel deposition and/or collection in a zone.
- To filter detections in function of size, speed or presence time.

This document provides the instructions for the integration of this product with the Video Management Systems (VMS). The integration provides the communication of the detection events to the VMS, and the display of graphics information on the video.

Moreover, another document (“ACIC API 1.2”) explains the ACIC generic API for the streaming of detection metadatas. Such a protocol can be used to integrate ACIC analytics with third party products.

2 Integration with Milestone XProtect

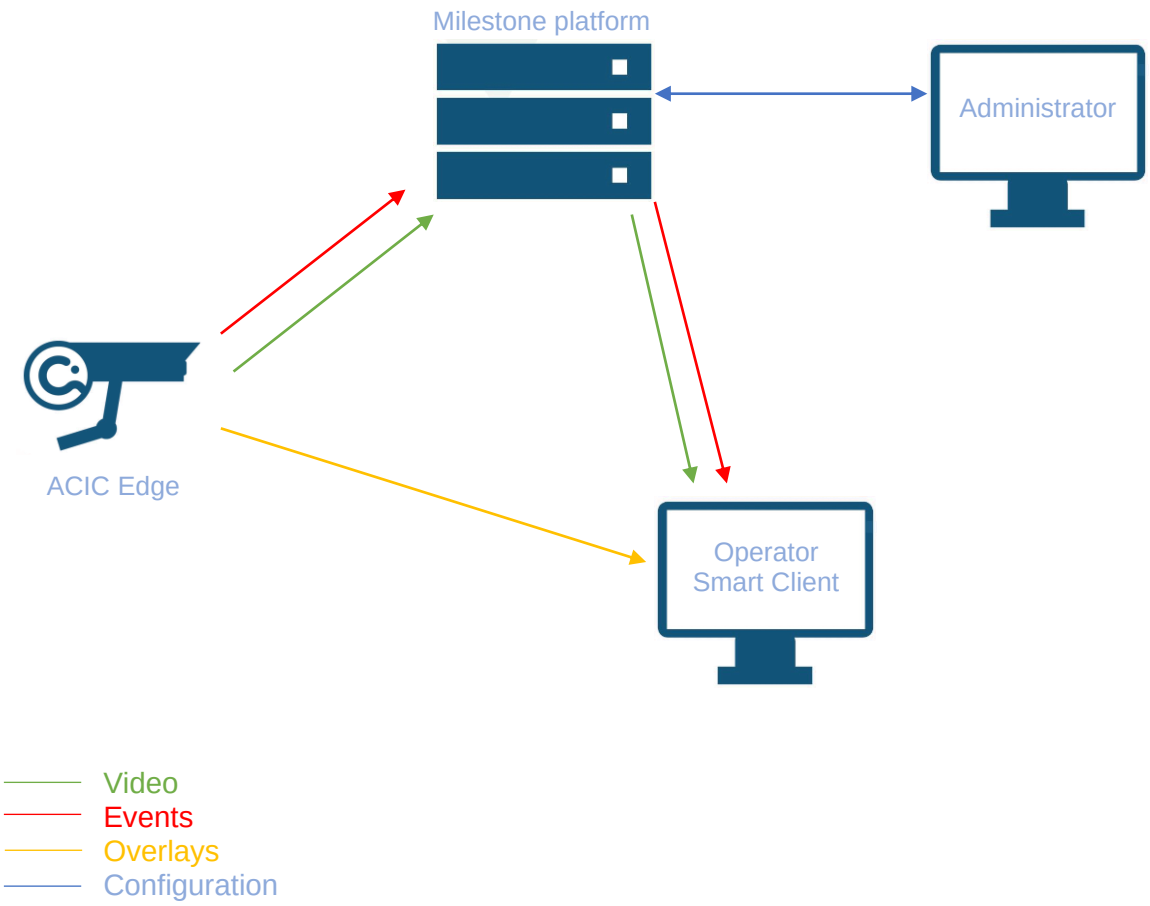
Milestone XProtect is a VMS made by Milestone System (http://www.milestonesys.com/).

The integration provides:

- automatic reporting of all events to "Analytics Events" in the VMS
- the embedding of "live" and “replay” graphics data on the videos displayed in the Smart Client (this is called video analytics overlays).

The integration is a plugin type integration. Its configuration is as simple as clicking on a button each time some cameras have been added to the VMS. The program is executed directly within the Milestone XProtect applications as indicated in the following figure.

- Milestone platform: the plugin collects the information on cameras known to Milestone from it. Moreover, the plugin collects the ACIC events from the camera and inserts them as "Analytic Events" in Milestone.
- XProtect Smart Client: the plugin provides embedding of the "live" graphics data on the videos displayed.



Note:

- The functionalities available may depend on the VMS version

Compatibility:

- Milestone XProtect Corporate 2013 (6.0a) or higher
- Milestone XProtect Expert 2013 (6.0a) or higher
- Milestone XProtect Enterprise 2013 (8.5e) or higher
- Milestone XProtect Professional 2013 (8.5e) or higher
- Milestone XProtect Professional+ 2017 R2 (11.2a) or higher
- Milestone XProtect Express 2014 (8.6a) or higher
- Milestone XProtect Express+ 2017 R2 (11.2a) or higher
- Milestone XProtect SmartClient 2013 or higher
- ACIC Analytics software with MIP (Milestone Integration Plateform) 3.0 support or higher

2.1 Installation of the plug-in

The steps for installing this suite of plugins are:

2.1.1 Download the program

Download the installation program for "ACIC XProtect Plugin" on the secure ACIC website or get it from your distributor.

Note: The 32 bits version of Milestone XProtect applications require the 32 bits version of "ACIC XProtect Plugin" while the 64 bits version of Milestone XProtect applications require the 64 bits version of "ACIC XProtect Plugin". Both versions can be installed on the same host.

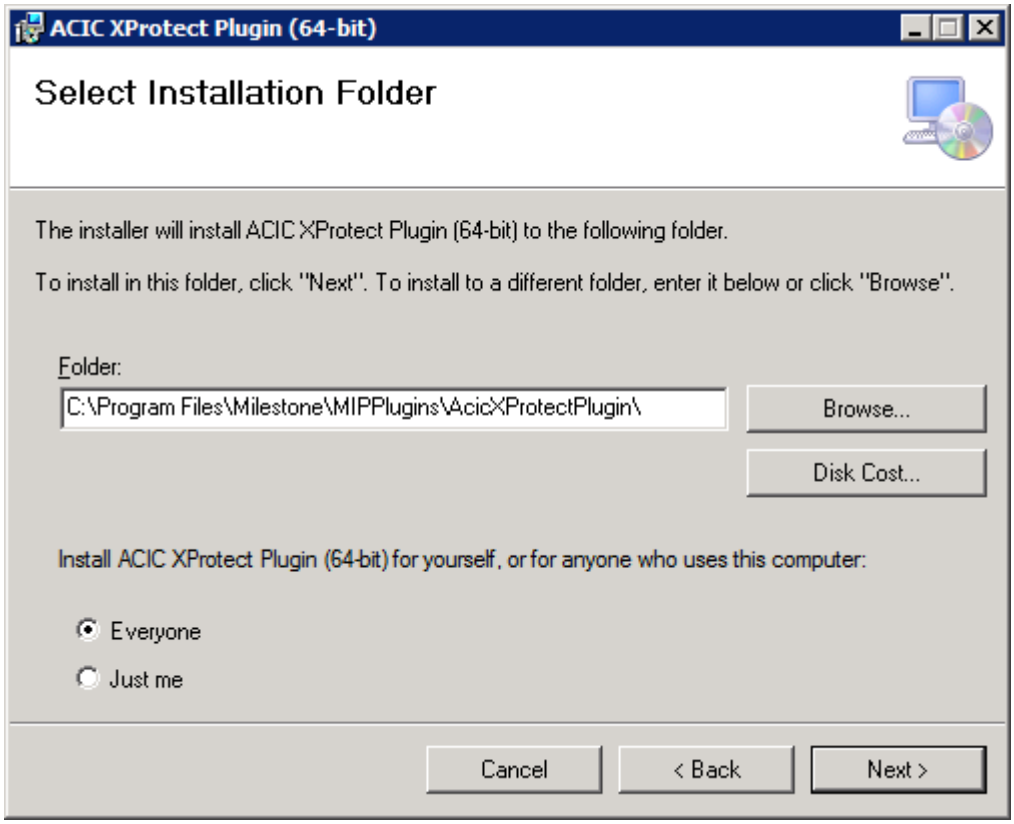
2.1.2 Installing the program

The "ACIC XProtect Plugin" program must be installed on the server on which the Milestone XProtect Event Server is installed and on any other machine where the Milestone Smart Client is used.

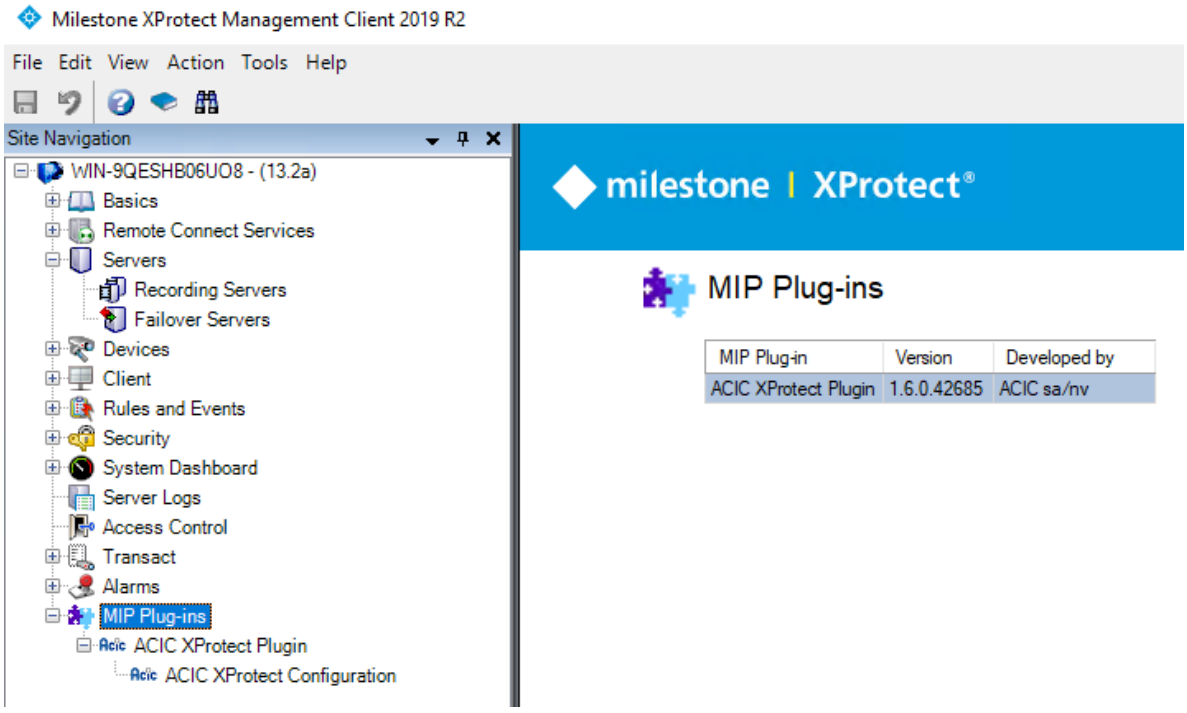
Note: When the Milestone XProtect application is deployed on several servers (e.g. several events servers), "ACIC XProtect Plugin" must be deployed on each server.

Launch the installation and follow the instructions. The program must be installed in the MIPPlugins folder under the Milestone installation directory. It is recommended to install the program for all users.

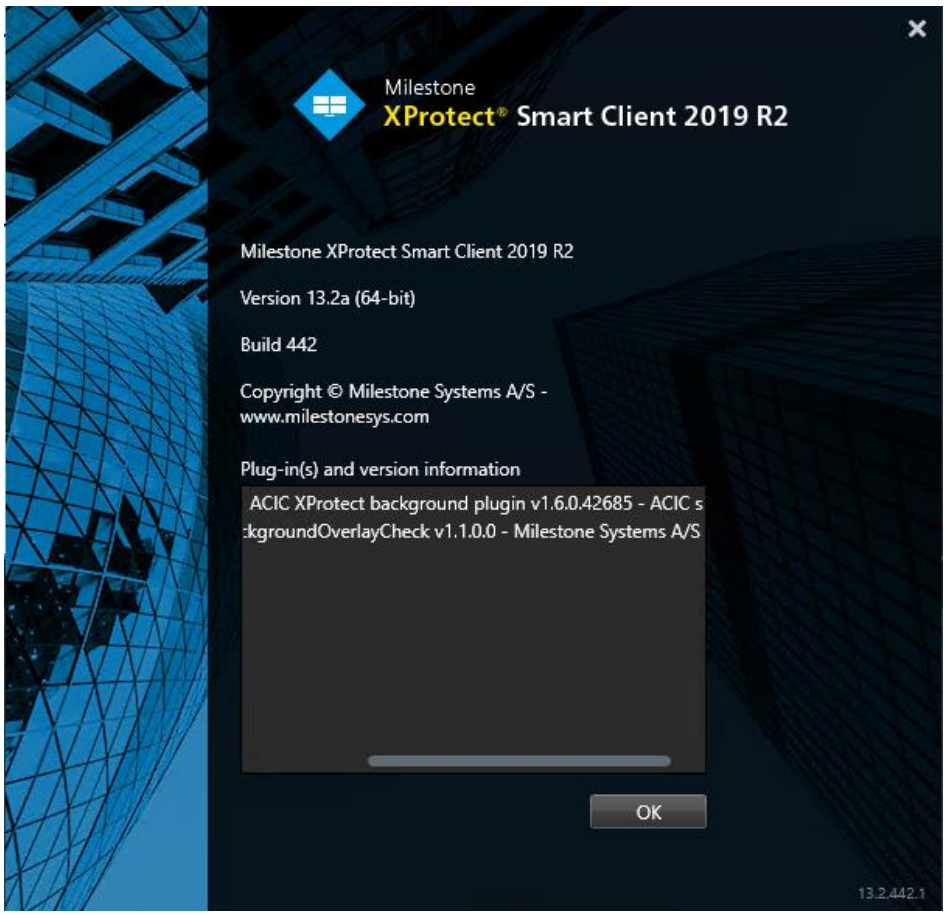
For a standard installation of Milestone XProtect, you don't have to change any settings.



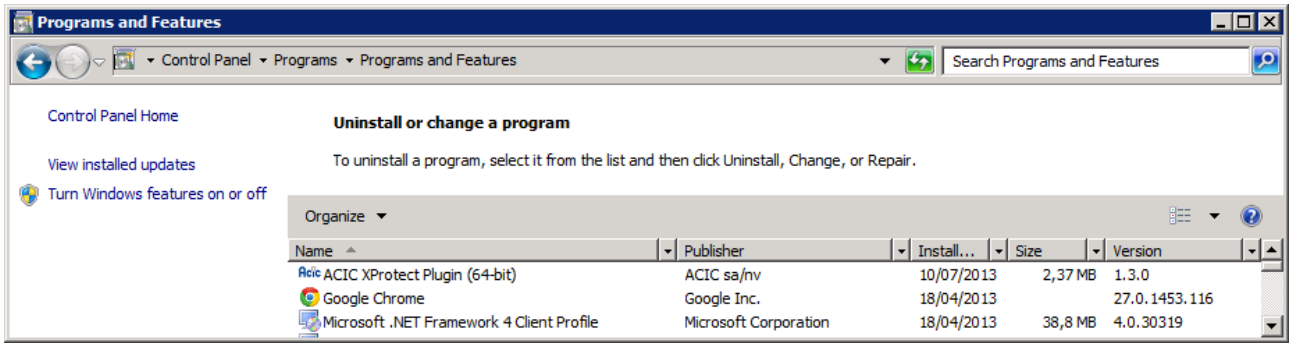
You can check the installed version in the administration tool:



For the Smart Client, the version can be checked in the About menu:



For a XProtect Events Server executing on a remote machine, the only way to check the installation is to check the version in the Windows programs manager.



2.2 Using the plugin suite

2.2.1 Configuration in XProtect Administration Application / Management Client

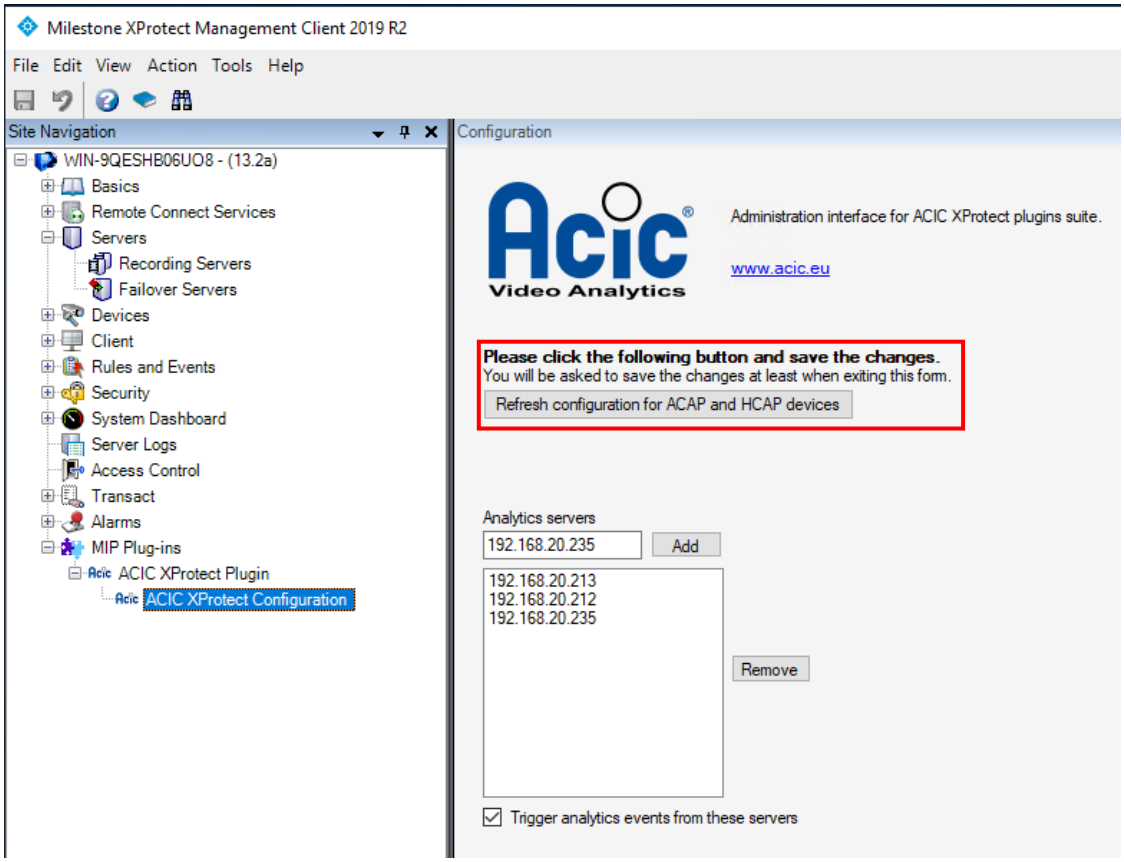
The illustration below shows the interesting part of the plugin configuration for edge ACIC video analytics applications.

In order for the plugin to identify the cameras with edge analytics, it is just required to click on the “Refresh configuration for ACAP devices” button and save the changes. You will be asked to save the changes at least when exiting the plugin configuration.

The list of cameras able to host an ACIC edge application is compiled when saving the plugin configuration changes. Event reporting and graphics data embedding are done for these cameras only!

In order for the changes in the Milestone XProtect configuration tool to be applied, they must be saved, and the services must be rebooted[1].

When a camera is added to or deleted from the Milestone XProtect administration tool, the XProtect Events Server is notified within approximately one minute. It is also necessary to reboot the Smart Client for that changes to be taken into account.



1 See Milestone XProtect user documentation

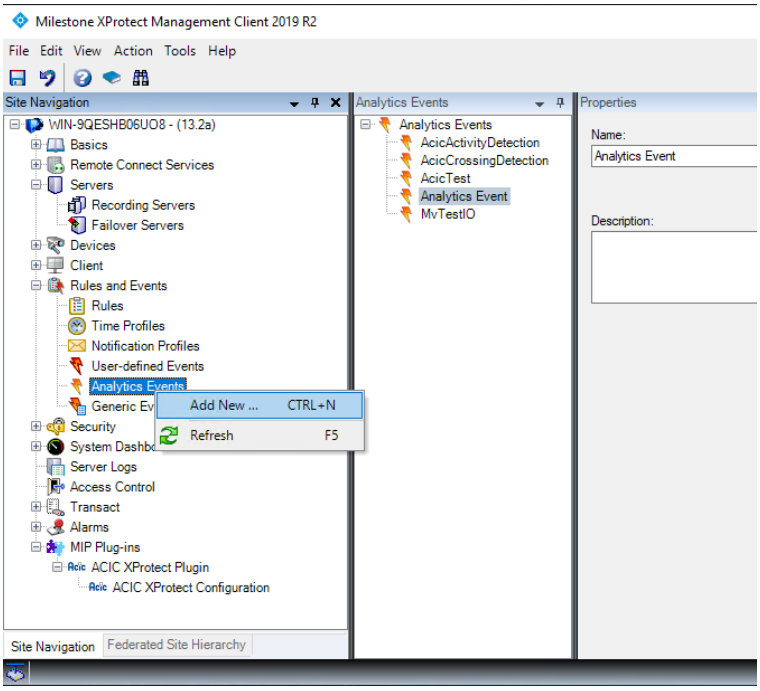
2.2.2 Event reporting

All ACIC events are automatically sent to Milestone as "Analytics Events". The source camera is automatically associated with each event transmitted.

To use these events, in the Milestone XProtect administration tool, you need to:

1. Declare an Analytics event bearing the same name as the ACIC event. The list of ActivityDetection events is:
   - AcicActivityDetection: detection of activity in a zone
   - AcicCrossingDetection: crossing of a single virtual line
   - AcicMultipleCrossingDetection: crossing of several virtual lines
   - AcicStationaryDetection: detection of stationary object
   - AcicMotionDetection: movement detection
   - AcicPTZPreset_i: activation du preset PTZ i
   - AcicTest: test event generated on request
2. Declare an alarm using this event.

For events with a duration (for example ActivityDetection), only the start of the event is sent to the VMS.



Note: XProtect Event Servers must be restarted after the plugin installation since the plugins are only loaded when the XProtect Event Server service is starting.

2.2.3 Embedding of graphics data in the Smart Client

The illustration below shows the embedding of "Live" graphics data in the Smart Client.

For each camera displayed in "Live" mode, the graphical metadata (graphical overlays) can be visible if this camera executes the ActivityDetection application.

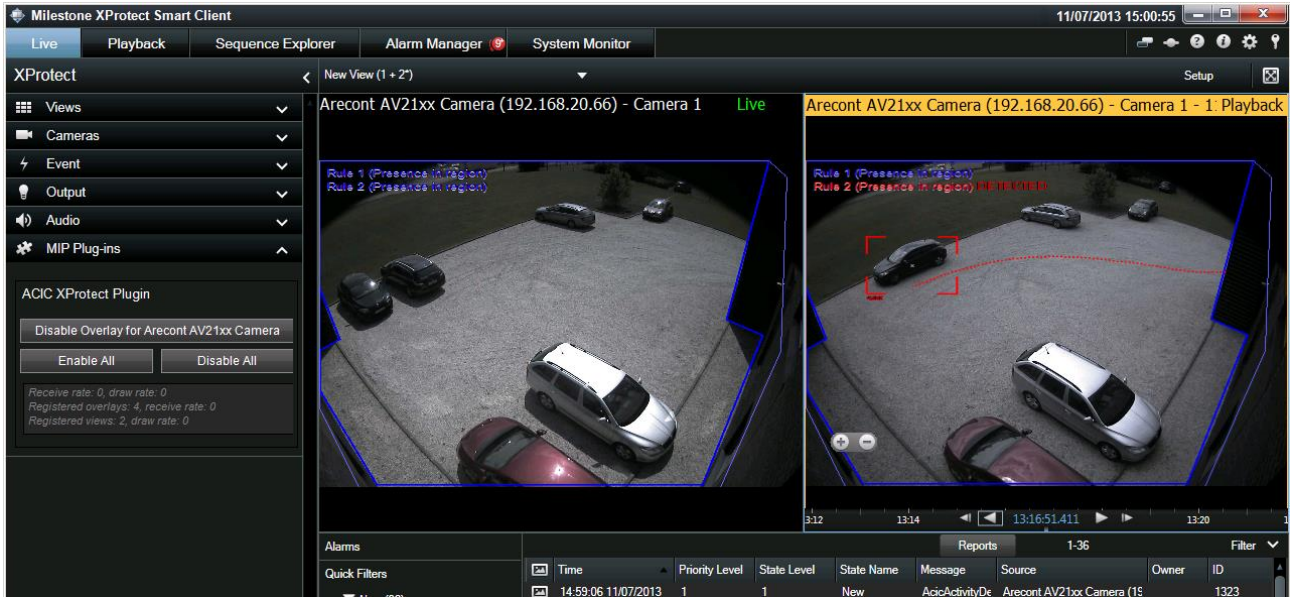
Some statistics are also provided for reference, such as:

- The flow of graphical data received and displayed for the selected camera.

- The number of cameras displayed producing a graphical data flow and the overall flow of this data.
- The number of views displayed and the overall display flow.

Note: The graphical data flow can be null in normal operation since graphics data are only sent when they change.

Known problem: to display the statistics of a camera that has just been slide over the currently selected view, you must temporarily select another view before you can select this camera. The Milestone development tools do not currently provide a solution to this problem.



3 Generic integration

The ActivityDetection Edge program has a multi-part HTTP protocol (http://en.wikipedia.org/wiki/MIME) for the dissemination of graphics events and meta data.
The URL to use is the following:

http://<ip of the camera>/local/activitydetection/streaming.cgi?<query string>

Parameters are available in <*query string*> to customize the stream format and content. That genetic interface is presented in detail in the "***ACIC API 1.2, metadata streaming***" document. That protocol can be used in Edge and Server ACIC products.

4 Miscellaneous integrations

4.1 Axis rule engine

ACIC ActivityDetection Edge events can be used to trigger actions in the Axis rule engine embedded in each camera. Refer to the Axis documentation for more information on the Axis rule engine.

Caveat : Due to a bug in Axis VAPIX, a call to port.cgi cannot have a delay between actions of more than 5 seconds. If the I/O must remain in a state for more than 5 seconds before returning to its initial state (“pulse”), you must use a manual trigger to return to the opposite state.