EVI

(External Video Integration)

Milestone

Installation and Configuration Manual

Revision History:

Version	*Date*	*Status*
1.0.6	Nov 2015	Released
1.0.7	Jan 2016	Added new parameters and updated Milestone SDK (v.2014)
1.0.8	Feb 2016	Added Full level of video quality

S4S - Via Vespucci 6 - 20018 - Sedriano (MI) – Italy - VAT 05172500968
Tel. +39 3939505055 - Fax. +39 02 36547223 - Email: info@s4s.it

Table of Contents

1. Glossary

Acronym	Description
GUI	Graphic User Interface
SCADA	Supervisory Control And Data Acquisition
EVI	External Video Integration

2. Introduction

This is a User Manual for the EVI Milestone. The EVI – External Video Integration - viewer communicates with all type Milestone System (Corporate, Enterprise, ..) over Ethernet.
EVI Milestone is a software application for video, executable with certain parameters that characterize the behavior. This application has a graphical user interface (GUI) for dedicated operations of display management.
The manual is organized to provide an overview of EVI technology, detailed information on the configuration environment and a complete list of functionality provided by the EVI.

3. About the EVI Milestone

The EVI application can be activated by standard Windows application as SCADA / DMS / BMS systems. Can be connected to all kinds of Milestone XProtect® systems (Corporate, Enterprise, etc...).
EVI has a simple and intuitable Graphical User Interface (GUI) that displays the encoders connected to the Milestone system through different multiplexer formats. From the GUI you can choose the format of the multiplexer (a button to format) and enable/disable each camera through GUI Tree.
Can be run more EVI simultaneously, but every EVI allow the connection to a single Milestone system at a time. Each EVI can display a single screen (on a single monitor) with the possibility to select in various modes (1x1-mux, 2x2-mux, 3x3-mux or 4x4-mux).From the command line you can specify which alarmed camera view and which modes.

Application Name : "EVI-Milestone.exe"

3.2Key Features:

- Standard Windows application for Windows Server 2003/2008/2012, Windows XP, Windows 7 or Windows 8 operating systems;
- SCADA/DMS/BMS systems activation;
- Displaying of alarmed camera;
- Single or multiview cameras displaying;

4. System Requirements

The EVI Milestone application runs on any hardware which supports Windows Server 2003/2008/2012, Windows XP, Windows 7 or Windows 8 with DCOM, Visual C++ 2010 Redistributable Packages and .NET Framework 4 Installed.
The system must have 10 Mb of free disk space to install the program and 1 Gb of free memory is required to load and run the application. All systems information is stored in the server's disk. For configuration purpose a monitor connected to the computer is required.
The EVI-Milestone is a 32 bit application which runs on both 32/64 bit operating systems.

Hardware characteristics recommended

- CPU i5 high-end (for example INTEL Core i5 4690K) or i7 mid-range (for example Intel Core i7-4770K)
- RAM : 4GB

Checks on the network

Since the Server communicates with the Milestone system over TCP-IP, an Ethernet network must be in place. The network itself should be fully tested and be known to operate before attaching the controllers and the Server computers. Contact your system administrator for assistance or consult instructional documentation and manuals to setting up the network. It is beyond the scope of this Users Manual to discuss networking topics in any detail.
Once the network is in place and the Server computers and controllers are attached, check connectivity using available network testing tools and programs such as ping command.

5. Installation guide

Before installation of the EVI server, make sure it is installed the Visual C++ 2010 Redistributable Packages, if not please let install it on your computer.
The EVI-Milestone is provided with own specific setup. The setup includes all the dependencies in order to ensure the proper functioning of the application.
The XProtect SDK used is updated to version 2014.

VideoOS.Platform.dll
VideoOS.Platform.Primitives.dll
VideoOS.Platform.SDK.dll
VideoOS.Platform.SDK.Export.dll
VideoOS.Platform.SDK.Media.dll
VideoOS.Platform.SDK.UI.dll
AudioPlayerDotNet.dll
AudioPlayerDotNet_axinterop.dll
AudioPlayerDotNet_interop.dll
ImageViewerDotNet.dll
ImageViewerDotNet_axinterop.dll
ImageViewerDotNet_interop.dll
IMV1.dll
J2KCoreX.dll
mfc100.dll
mfcm100.dll
Mm025.dll
msvcp100.dll
msvcr100.dll
xerces-c_3_1.dll
xqilla22.dll
S4SGenCodeInfo.dll
S4SGenCodeInfoLibrary.dll
SysInfo.dll

Two security issues require attention:

- Installation needs Administrator rights;
- Windows Firewall must be configured;
- DCOM security settings must be configured. This guide describes how to make the necessary settings.

5.1 Licensing

To run the EVI-Milestone without any time restriction a regularly software license has to be purchased from S4S.

Without the software license the EVI-Milestone runs in demo mode with full functionality for 30 seconds.

5.1.1 How to obtain a license

A software license must be obtained from S4S and the request has to be done from the computer where is installed the EVI. From the its User Interface click the right mouse button and then “Information EVI Milestone” then “View license” then “Product activation”.

In the 'Product Activation' the following fields have to be filled :

- Customer installation data
  - User name,
  - Organization,
  - Email,

- Code generation (via the 'Generate new user code' button);

- Save the code and directly send it to 'orders@s4s.it ' or send it via 'Send' button if it is configured a mail box on the computer.

A PAK (Program Authorization Key) code will be generated for that specific configuration and for the PC from which has been requested the software license.

5.1.2 Software license activation

To activate your license you must access to the 'Product Activation' dialog and through the 'Load New License' button you load the license file released by S4S.
A dialog will appear for feedback at the end of loading to indicate the outcome of activation.

6. System Configuration

EVI can be performed without any parameters by connecting to the system Milestone through an appropriate dialog, or EVI can be run by passing the configuration parameters to connect directly, without the use of the Login dialog, to the system to view determined alarmed encoders.

To get the list of cameras connected to Milestone and each camera ID you must run EVI-Milestone with connection parameters (-ip {ip address} -u {username} –p{password} –ct{conection type} -sv 1 -t 1) and the creation log parameter(- t). EVI will create in your installation folder a folder named "LOG" which will insert the text file of the log. In the log file you can identify all the cameras connected, and its ID to use for call the camera (-t {ID}) by EVI.

Below is an example of log:

```
Cameras Configured:

ID ; DESCRIPTION ; GUID
1 ; CAMERA HALL; {2cdbb033-8c7e-44e1-889e-a527456d395d}
2 ; CAMERA RECEPTION; {43787873-6c9d-4a43-8d09-f103657be392}
3 ; CAMERA PARK; {9730a0fd-3ec0-452d-b293-2dfbf67e718e}

Total number of cameras configured: 3
```

For example:
If you want to view CAMERA HALL is need configure –t 1,
If you want to view CAMERA RECEPTION is need configure –t 2,
If you want to view CAMERA PARK is need configure –t 3,

6.2.1 Configuration parameters

Parameter	Name	Description
-ip	IP address	**IP address or gateway name** Default: 127.0.0.1 Syntax: -ip IP_address Example: -ip 192.168.0.0.2
-u	User	**The name of the user to connect to the gateway** Default: user Syntax: -u User Example: -u test Parameter is not required if the type of communication is set to "Current".
-p	Password	**The user's password** Default: password Syntax: -p Password Example: -p test Parameter is not required if the type of communication is set to "Current".
-sv	MUX alarmed	**MUX alarmed** Define the number of cameras to display. The possible value are: **Cameras number** / **MUX** **1** – MUX 1(1x1) **4** – MUX 2 (2x2) **9** – MUX 3 (3x3) **16** – MUX 4 (4x4) This parameter allows the display of cameras alarmed and must be used together with the 'Cameras alarmed' parameter. Default: 1

		Syntax: -sv MUX (MUX= 1,2,3,4) Example: -sv 2
-t	Camera alarmed	**Camera alarmed** Define which cameras to be displayed in the MUX alarmed (define by 'MUX alarmed' parameter). If you configure more cameras than you can hold in the MUX in alarm, the system will display the first and will not consider those in excess. If you configure few cameras than you can hold in the MUX alarmed, the system will display the cameras configured and will fill the remain views live with the empty videos. Default: 0 Syntax: -t [IDEncoder]$^{+}$ Example –t 1 2 3 4
-e	Hide Exit Button	**Hide button exit** Hide button exit in EVI GUI.
-q	Quality Video	**Quality Video** **Value** / **Description** **0** Full **1** Super High **2** High **3** Normal **4** Low Default: 3 - Normal Syntax: -q Quality (Quality = 0,1,2,3,4) Example: -q 4 (Low quality)
-ps	Port: Socket	**Port: Socket** Port used for communication of new alarms via tcp. Make sure the port selected is not already in use by other services. Default: 11735 Syntax: -ps Port Example: -ps 9000

<table>
<tr><td>-ct</td><td>Connection Type</td><td>Connection Type

Authentication method to use on Milestone connection.

<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>AD</td></tr><tr><td>2</td><td>Basic</td></tr><tr><td>3</td><td>Current</td></tr></table>
AD = Indicates that Microsoft Negotiate authentication should be used on the connection.

Basic = Indicates that basic authentication should be used on the connection.

Current = Indicates the authentication credentials for the current security context in which the application is running (does not require the configuration of username and password).

Default: 3
Syntax: -ct ConnectionType
Example: -ct 2</td></tr>
<tr><td>-mm8000</td><td>MM8000 mode</td><td>MM8000

Mode for display on MM8000 system.</td></tr>
<tr><td>-k</td><td>Kill EVI Process</td><td>Kill

On closing, EVI closes the port used for communication of new alarms via TCP. Kill execution of other EVI previously performed instances. With this parameter will be executed always the last call in temporal order.</td></tr>
<tr><td>-al</td><td>Auto Connection Alarmed</td><td>Auto Connection Alarmed

Auto login with saved parameters in the Milestone connection memory. EVI alarms the cameras configured on command line with the credential used in last Milestone Login Form connection. Use this parameter with MUX alarmed and Camera alarmed.</td></tr>
</table>

-wm	Windows Monitor	**Windows Monitor** View EVI Program on a local monitor, second, third or fourth monitor (0, 1, 2,3 or 4). Default: 0 Syntax: -wm IDMonitor (IDMonitor = 0,1,2,3,4) Example: -wm 1 (View EVI on second monitor)
-wp	Windows Position	**Windows Position** View Program EVI in various positions inside the monitor. • 0 = central position; • 1 = upper right corner; • 2 = upper left corner; • 3 = lower right corner; • 4 = lower left corner. Default: 0 Syntax: -wp NumMonitor (0,1,2,3,4) Example: -wp 4
-sp	Salve Position	**Save Position** Saving the size and location of the EVI program in "*Configure.xml*" file. This configuration no considers the windows position ("-wp") or windows monitor ("-wm").
-l	Log File	**Log File** Creates a log file where it is reported the number of Recording Server configured and their ID, and the cameras visible by the application and their ID. The file is created in C:\EVI-Milestone\LOG.
-rs	Recording Server	**Recording Server** Identifies which Recording Server you want select. If you select a Recording Server can be displayed, through the command line parameters, only cameras associated with the Recording Server.

		To display id associated with each recording server you can use the -l parameter. Default: 0 – all Recording Server Syntax: -rs IDRecordingServer (1,2,3,4) Example: -rs 1
-ds	Previous (Delay Seconds)	**Previous** Displays the video stream of n seconds before the activation of the application. If not set this parameter, the video stream is live, otherwise if the value is greater than 0, the video stream will show the images of n seconds before the activation.
-o	Offset	**Offset for ID Camera** Added offset value to the ID camera. Default: 0 Syntax: -o [0 to N] Example: -o 3 –t 1 2 3 4 (4 5 6 7 cameras alarmed)
-hb	Hide all Buttons	**Hide all Button from GUI** Hides all buttons to select different MUX and the button to change camera Displays only the camera and the connection status.
-hm	Hide Mux Buttons	**Hide all Button from GUI** Hides all buttons to select different MUX but the button to change camera is showed. Displays only the camera the button to change camera and the connection status.

6.2.1 Configuration examples

Example 1

Command line
>EVI-Milestone.exe -ip 169.254.247.226 –ct 1 –u admin –p AAA -sv 1 –t 4 -l

EVI connects to the Milestone system with IP address http://169.254.247.226, basic authentication with user ‘admin’ and password ‘AAA’, showing the video camera with ID 4 into single view (1-MUX). GUI shows Exit Button. It is created the log file with all the cameras and IDs to use for view the camera by EVI.
The Socket Port is 11735.

Example 2

Command line
>EVI-Milestone.exe -ip 169.254.247.226 –ct 1 –u admin –p AAA -sv 2 –t 1 2 3 4 -e

EVI connects to the Milestone system with IP address http://169.254.247.226, basic authentication with user ‘admin’ and password ‘AAA’, showing the video cameras with ID 1, 2, 3 and 4 into a multi view (2-MUX). In the GUI is hided the Exit Button. The Socket Port is 11735.

Example 3

Command line
>EVI-Milestone.exe -ip 169.254.247.226 –ct 2 -sv 2 –t 1 2 3 4 –e –ps 8000 -k

EVI connects to the Milestone system with IP address 169.254.247.226, use the authentication credentials for the current security context in which the application is running, showing the video cameras with ID 1, 2, 3 and 4 into a multi view (2-MUX). In the GUI is hided the Exit Button. The Socket Port is 8000. On closing, EVI closes the port used for communication of the new alarms via TCP.