OPC Server Milestone Corporate

Installation and Configuration Manual

Revision History:

Version	Date	Status
1.0	Sep 2015	Released
1.1	Jan 2016	Updated Milestone SDK (v.2014)
1.2	Apr 2017	Add alignment state
1.3	Nov 2018	Filter on the entities to be monitored
1.4	May 2019	Add RecordingServer tag for each entity
1.5	Dec 2019	Updated Milestone SDK (v.2019) Filter on the recordingServer/camera events to be monitored

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Table of Contents

1. Glossary

Acronym	Description
OPC	OLE for Process Control
OLE	Object Linking and Embedding
GUI	Graphic User Interface
SCADA	Supervisory Control And Data Acquisition

2. Introduction

This is a User Manual for the OPC Server Milestone Corporate. The Server communicates with Milestone Corporate System over Ethernet and supports data exchange with Client's via Microsoft's Object Linking and Embedding (OLE) for Process Control (OPC).
S4S's OPC Server is a software package that operates as an OPC driver of Siemens Management stations as MM8000, Desigo CC™ and Cerberus™ DMS. The OPC Server meets the latest standard of OPC DA2.0 that allows connections to various kinds of devices and host OPC machines.
The manual is organized to provide an overview of OPC technology, detailed information on the configuration environment and a complete list of OPC Tag's provided by the OPC Server.

3. About the OPC Server Milestone

The OPC Server Milestone Corporate is based on OPC Data Access, known as 'DA', which provides real-time data from Milestone XProtect® Corporate system to management stations with OPC client drivers as MM8000, DesigoCC™ and Cerberus™ DM.
The server communicates with Milestone XProtect® via MIP SDK 2014 version and Status API protocol over TCP-IP
Protocol has been designed to be compatible with XProtect® Corporate 2014 and the previous versions.
The OPC Server reads and writes data to and from XProtect® Corporate via Ethernet.
The Server has a graphical user interface (GUI) configuration environment with an "Explorer" look and feel. The configuration environment allows the Server to be configured with information such as controller IP addresses and available global variables so that the Server can communicate with these systems on behalf of Clients.

Application Name	: "OPC-Milestone-Corporate.exe"	
OPC NAME	: "S4S.OPC-Milestone-Corporate "	(Can be configured in xml file)
OPC DESCRIPTION	: "S4S OPC Server – Milestone Corporate "	(Can be configured in xml file)
OPC GUID	: {57E9743C-0678-419c-B28B-7508417DAC8C}	

3.2 Key Features:

- Standard Windows application for Windows Server 2003/2008/2012, Windows XP, Windows 7 or Windows 8 operating systems;
- Advanced OPC data quality and data conversion to client's request;
- User interface for viewing OPC tags, logs, and real-time signals;
- OPC tags for server status: checking, detection of connection problems and server failures, detection of the status change of devices connected to the system Milestone, etc.;
- Multiple independent OPC server connection to OPC clients.

3.3 List of managed objects by OPC Milestone:

Object	Device
Milestone System objects	
Camera	
Microphone	
Input	
Output	
Speaker	
Screen	
Server	
Trigger Event	
Status of devices	
Enable/Disable	**(not for Trigger Event)**
Connection/Disconnection	**(not for Trigger Event)**
Activate/Deactivate	**(only for Input/Output)**
Start/Stop Recording	**(only for Camera)**
Start/Stop Motion detection	**(only for Camera)**
Start/Stop PTZ manual session	**(only for Camera)**
Normal/Activate	**(only for Trigger Event)**
Commands to devices	
Activate/Deactivate	**(only for Output)**
Start/Stop recording	**(only for Camera)**
Event Activation with the reference of the Camera	**(only for Camera)**
Generic Event Activation	**(only for Trigger Event)**

Following the activation of Event (from .EventActivation for Camera or from .EventState for TriggerEvent), the state of tag is set to activate and after n seconds will reset and set to normal. The n value is configurable in Settings section.

4. System Requirements

The OPC Server Milestone Corporate 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 OPC server 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 Corporate 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 OPC server, make sure it is installed the Visual C++ 2010 Redistributable Packages, if not please let install it on your computer.
The OPC Server Milestone Corporate is provided with own specific setup. The setup includes all the dependencies (ex. *WtOPCSvr.DLL* -OPC server library) in order to ensure the proper functioning of the application.
The XProtect SDK used is updated to version 2014.

- *S4S_OPC_Library.dll*
- *S4SGenCodeInfo.dll*
- *S4SGenCodeInfoLibrary.dll*
- *WtOPCSvr.dll*
- *SysInfo.dll*
- *VideoOS.Platform.dll*
- *VideoOS.Platform.SDK.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.

5.2 Registration of the OPC Server

Run OPC-Server as Administrator.

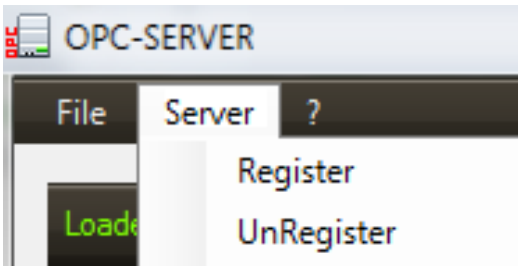


Image 1 Register and UnRegister

- To register the Server, you must click 'Register' in the menu 'Server'.
- To unregister the OPC Server, you must click 'UnRegister' in the menu 'Server'.

5.3 Authentication and Permissions

After OPC Server registration the COM security has to be enabled, so OPC Client can automatically call the OPC Server.
Below are showed all steps needed to enable the security COM, using 'DCOMCNFG1':

1. Verify that the DCOM security registration was executed successfully;
2. Run DCOMCNFG (Only the administrator can run *'Dcomcnfg.exe'*). To use '*RUN Command Windows*' or '*Command Prompt*', to open DCOMCNFG program;

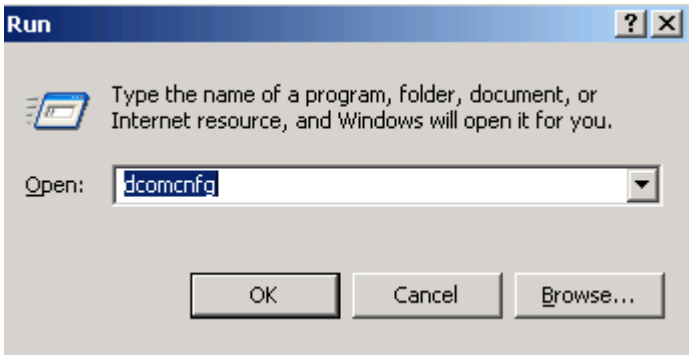


Image 2 DCOMCNFG - Run

3. Locate the My Computer item by expanding the following nodes: Component Services > Computers;
4. Right-click My Computer and select Properties.

[1]**Dcomcnfg.exe**provides a user interface for modifying certain settings in the registry. By using Dcomcnfg.exe, you can enable security either on a computer-wide or a process-wide basis. You can enable security for a particular computer so that when a process does not provide its own security settings, either programmatically or through registry values, the values set by Dcomcnfg.exe will be used. Or you can use Dcomcnfg.exe to enable security for a particular application only.
Note:You must be an administrator to run Dcomcnfg.exe.

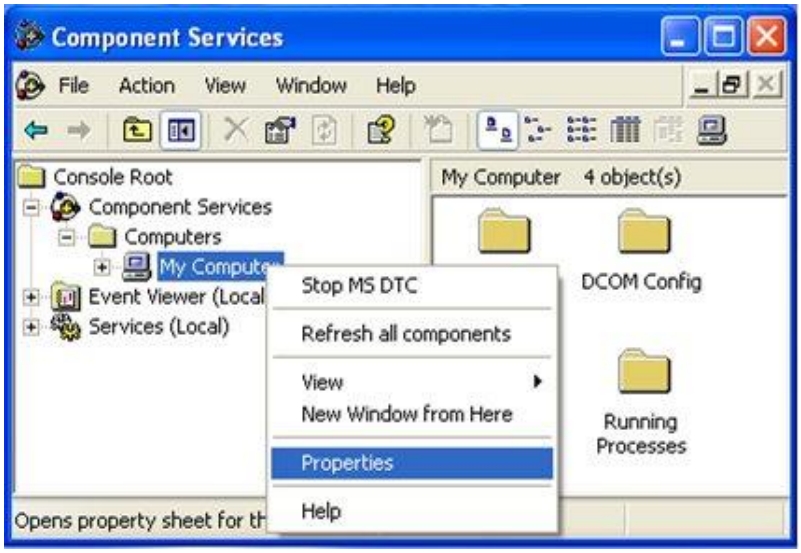


Image 3 Component Services Property

5. Go to the COM Security tab. Edit the default settings to Access Permission, hereby adding 'ANONYMOUS LOGON' and 'Everyone' and giving all access permissions to that group of users. Repeat the setup for the limit settings.

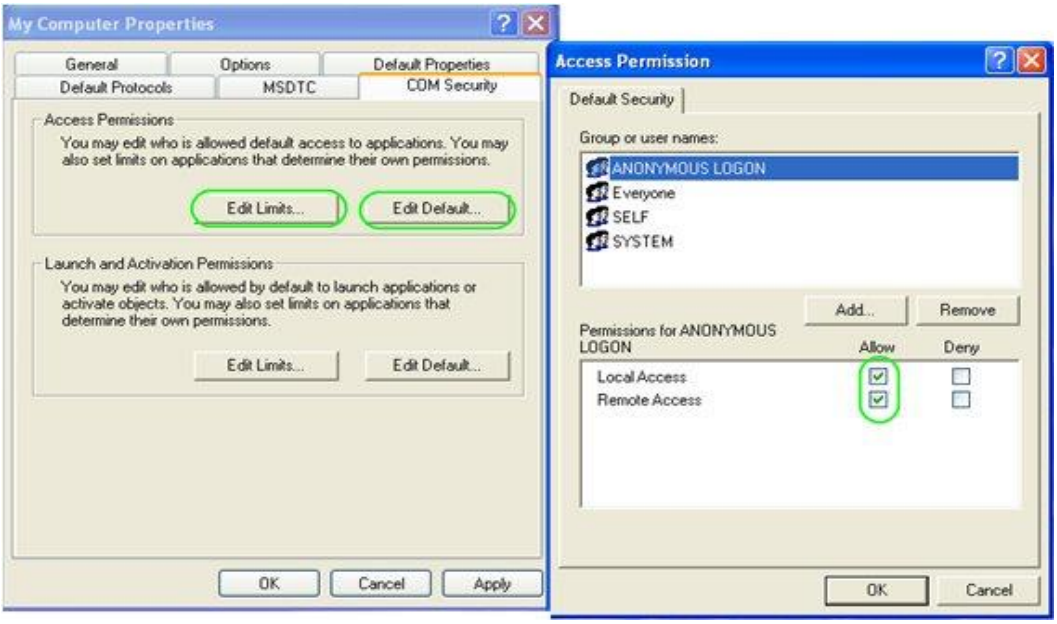


Image 4 COM Security Access Permissions

6. Now edit the default settings for Launch and Activation Permissions, hereby adding' ANONYMOUS LOGON' and 'Everyone' and giving all access permissions to that group of users. Repeat the setup for the limit settings.

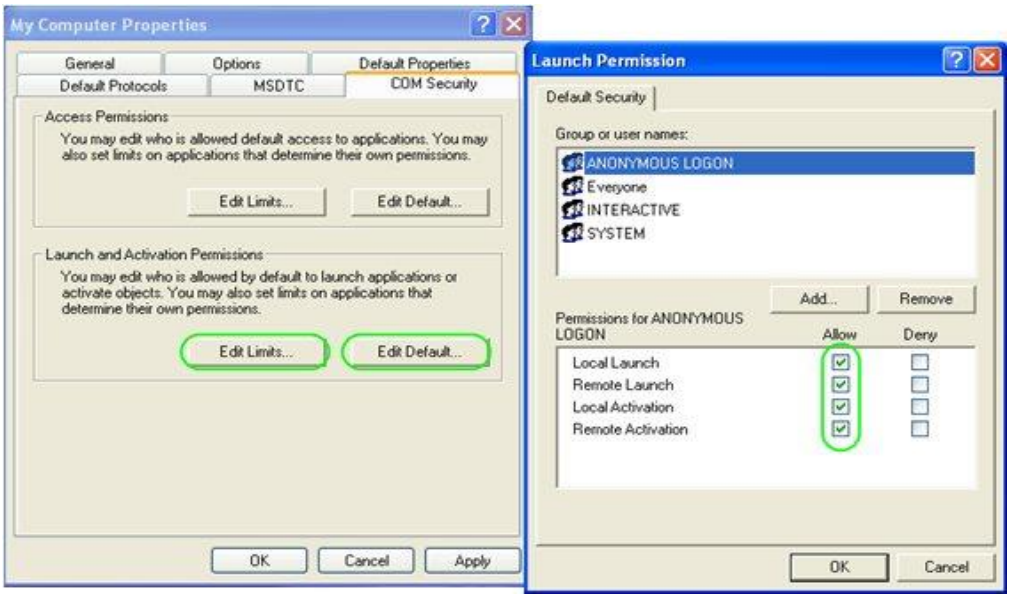


Image 5 COM Security Launch and Activation Permissions

The new settings will take effect when the OPC Client has been restarted. Therefore, close the Component Services (dcomcnfg program) and restart the OPC Client application.

7. Using tree view DCOMCMFG to check the all DCOM registered.

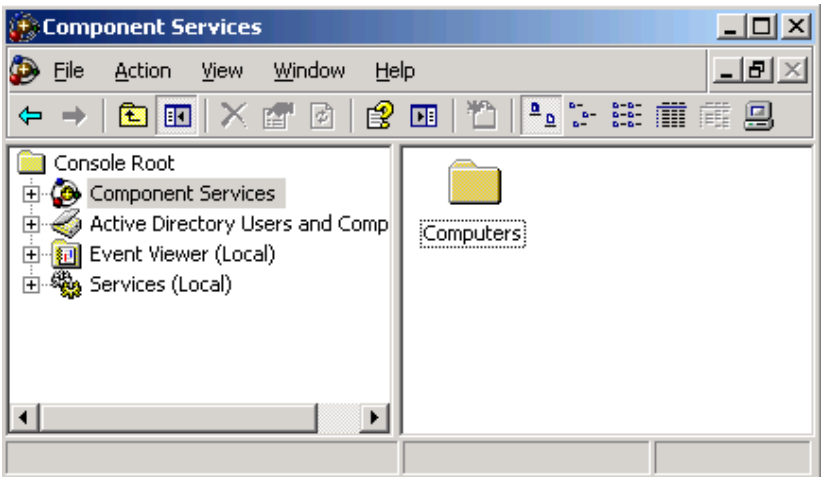


Image 6 DCOMCMFG

Select the 'Component Services' item, than 'Computers', than 'My Computer' and 'DCOM Config' item;
Find the OPC Server name registered in the DCOM list, it must be the same as configured in the xml file.

Xml file example:

*<OPC_PROTOCOL Delimiter="." **OPC_name="OPC-SERVER"** OPC_description="OPC Server –Milestone" ⋯>*

OPC Server name is registered: "OPC-Milestone-Corporate", for this example the name is "OPC-SERVER".

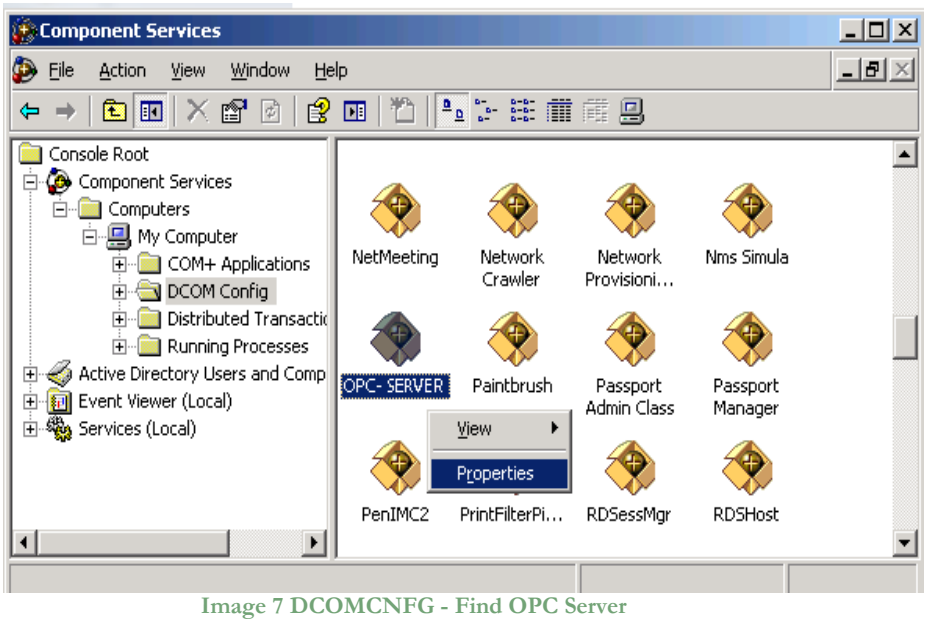


Image 7 DCOMCNFG - Find OPC Server

8. OPC Server Configuration Permissions. Select the 'OPC-SERVER' registration then the properties (pushing the right button) and then select the 'security' tab:

   a. Select '*Customize*' in the *'Configuration Permissions'* and then click the '*Edit'* button.

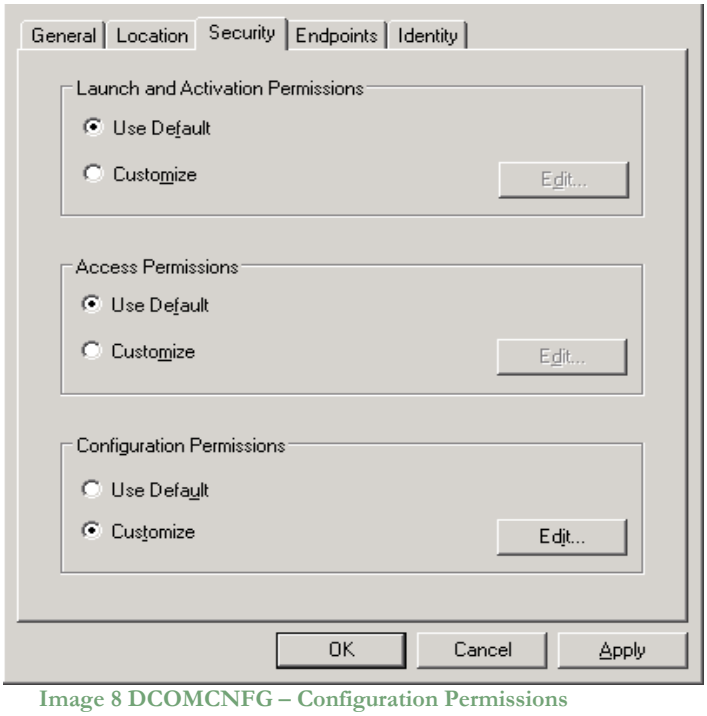


Image 8 DCOMCNFG – Configuration Permissions

   b. Select 'Add' button to add a new user and then, in the new form, select the 'Advanced' button.

c. Click the 'Find' button to search the 'everyone' and then 'ANONYMOUS LOGON' users.

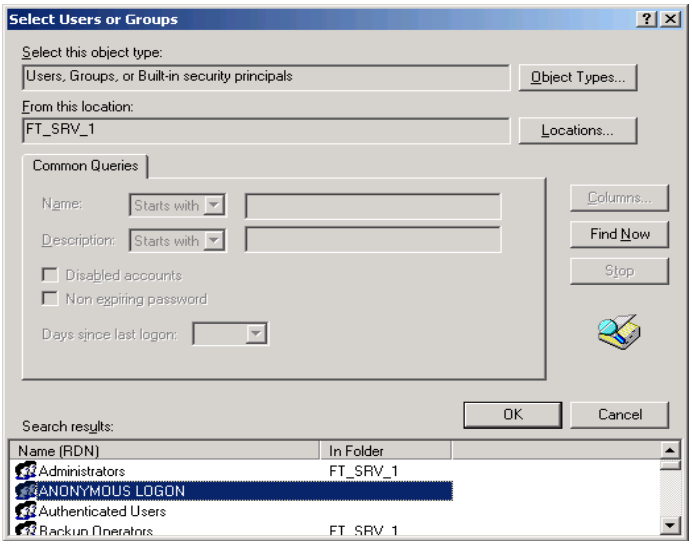


Image 9 DCOMCNFG – Find User

d. Add 'everyone' and 'ANONYMOUS LOGON' user;

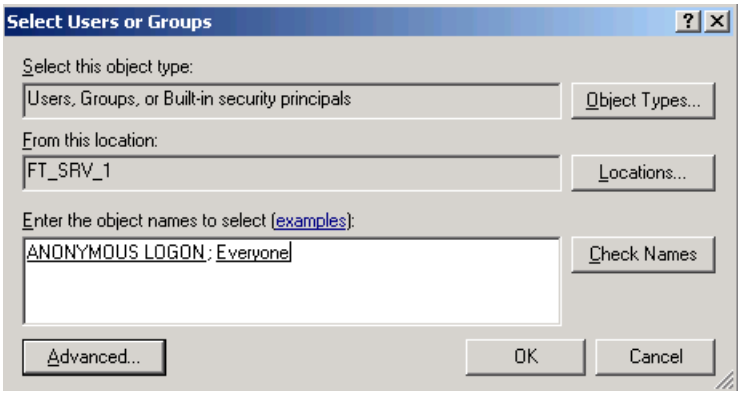


Image 10 DCOMCNFG - Add users

e. Provide all permission to added users.

9. Set OPC Server identity. Select the 'identity' tab:

   Set *'This user'* and insert User and Password used to access DMS8000.

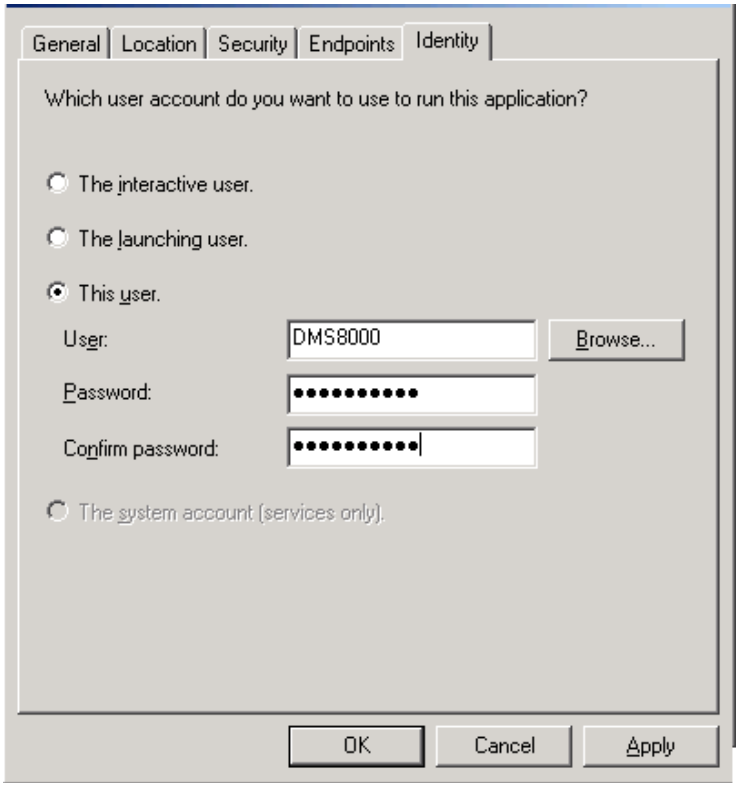


Image 11 DCOMCNFG – Identity

Note: The demo version runs only with Launching or Interactive User. A different user from Launching or Interactive can be used ONLY if the OPC-Server runs with a registered PAK.

Set the user who activates the SCADA, in this way the SCADA will activate the OPC-Server using the same user. Verify that the user is configured on both PCs with the same permissions. When the OPC-Server is activated by SCADA it will run in the background and no icon will be visible. In order to monitor the operation of the OPC-Server in background, it will be necessary to connect with any OPC client.
Activating OPC-Milestone manually, a new instance of the application different from the background one will be created with a new connection to Milestone. Activate OPC-Milestone manually only to modify the configuration parameters and once the new configuration is saved it is necessary to close all instances of the OPC-Server in order that the next reactivation OPC-Server will start with the new configuration.

5.4 Licensing

To run the OPC Server without any time restriction a regularly software license has to be purchased from S4S.
A software license defines the maximum configuration managed by the OPC Server in terms of:

- N° of Cameras or only N° of Trigger Events;
- Activation of EMV -External Viewer Milestone.

Without the software license the OPC Server Milestone Corporate runs in demo mode with full functionality for two hours. The demo mode runs only with Launching or Interactive User (see OPC Server identity 9).

5.4.1 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 OPC Server. From the its User Interface selecting "?" then "Information about OPC Server 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,

- Milestone configuration in terms of: number of cameras or only Trigger Events; Activation of EMV -External Viewer Milestone;

- 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.

5.4.2 Software license activation

Run OPC-Server as Administrator.
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

The purpose of this section is to provide the necessary information for configuring the OPC Server.

After a successful installation, the OPC Server has to be configured in order to communicate with the Milestone System and acquire data from it.
The OPC Server Milestone configuration tool consists of three sections: Settings, Exposed Items and Subsystems.

- **SETTINGS**: Is the section where to define the OPC Server general parameters;
- **EXPOSED ITEMS**: Is the section to configure the items of Milestone to expose their state and view them by OPC-Client. If an item is not selected all entities connected of this type are not exposed.
- **SUBSYSTEMS**: Is the section where to configure the subsystems that the OPC Server has to connect.
- **RECORDING SERVER**: Is the section to select which Recording Servers you want monitoring.

SETTINGS

The SETTINGS section allows configuring the OPC Server name and description and the main operating parameters:

Image 12 OPC Server – SETTINGS

- *Reconnection Frequency (s):*
  Interval time of control of the connection to the OPC server. The time is in seconds. Default value is: 10000.

- *SystemStatus Update (ms):*
  System status update in milliseconds. Default value is: 500.

- *Level_Log_Detail*
  Define the level LOG detail (1-LOW, 2-MEDIUM, 3-HIGH)
  - (1) LOW - [Default value] - Log write only on OPC GUI.
  - (2) MEDIUM - Log write on OPC GUI and on File.txt (\LOG\).
  - (3) HIGH - Log write on OPC GUI and on File.txt (\LOG\). The detail level is verbose and can slow down the program. Used only for Debug.

- *Automatic Command Reset (s):*
  Interval of time in seconds before resetting the Tag value bringing it to normal.
  Used for:
  - .EventActivation Tag for Camera Entity;
  - .EventState Tag for Trigger Event.

- *Delimiter Export CSV file:*
  Defines the delimiter character used in the CSV file. Default value: ;

- *Export full CSV file:*

  Whether NOT checked the CSV export file contains the following data;

Full Tag name	Tag description text	OPC Class
SETTINGS.ReconnectionFrequency_ms	System_status_update[s]	0
SETTINGS.System_status_update_ms	System_status_update_ms	0
SETTINGS.Maximum_number_Gateway	Maximum_number_Gateway	0
SETTINGS.Maximum_number_Entity_to_Gateway	Maximum_number_Entity_to_Gateway	0
SETTINGS.Date_XML_Upload	Date_XML_Upload	0
GATEWAY1.Configured	Configured	0
GATEWAY1.ID	ID	0
GATEWAY1.Description	Description	0
GATEWAY1.IP	IP	0
GATEWAY1.User	User	0
GATEWAY1.Connection	Connection	1
GATEWAY1.LastUpdate	LastUpdate	0
GATEWAY1.CAMERA1.Enable	Enable	9
GATEWAY1.CAMERA1.Connection	Connection	2
GATEWAY1.CAMERA1.RecordingState	RecordingState	4
GATEWAY1.CAMERA1.MotionState	MotionState	5
GATEWAY1.CAMERA1.PTZManualSessionState	PTZManualSessionState	6
GATEWAY1.CAMERA1.EventActivation	EventActivation	8
GATEWAY1.CAMERA2.Enable	Enable	9
GATEWAY1.CAMERA2.Connection	Connection	2
GATEWAY1.CAMERA2.RecordingState	RecordingState	4
GATEWAY1.CAMERA2.MotionState	MotionState	5
GATEWAY1.CAMERA2.PTZManualSessionState	PTZManualSessionState	6
GATEWAY1.CAMERA2.EventActivation	EventActivation	8
GATEWAY1.INPUT1.SignalState	SignalState	3
GATEWAY1.INPUT1.Enable	Enable	9
GATEWAY1.INPUT1.Connection	Connection	2

  Whether is checked the CSV export file contains the following data (for DesigoCC);

#								
# Server Data: S	[Server name (DB element)]	[ProgId]	[Description]	[Name]				
#								
# [opc_3]								
# server = ""Milestone_OPC_Server"" ""39433436-4443-4230-2D41-3333332D3435""								
#								
S	Milestone_Corporate	S4S.OPC-Mil	S4S OPC Serv	Milestone_OPC_Server				
#								
# Groups Data: G	[Group name (DB element)]	[Description	[Name]					
#								
G	Zones	Zones	Zones					
#								
# Tag Data: T	[Tag name]	[Type]	[Direction]	[PVSS DP name]	[PVSS DPT name]	[PVSS DPE name]	[Descriptic	[Name]
#								
T	SETTINGS.ReconnectionFrequency_ms	INT16	IO	System_status_updat	GMS_OPC_MultiStateInput	System_status_upd	System_status_update[s]	
T	SETTINGS.System_status_update_ms	INT16	IO	System_status_updat	GMS_OPC_MultiStateInput	System_status_upd	System_status_update_ms	
T	SETTINGS.Maximum_number_Gateway	INT16	IO	Maximum_number_G	GMS_OPC_MultiStateInput	Maximum_number_	Maximum_number_Gateway	
T	SETTINGS.Maximum_number_Entity_to_Gateway	INT16	IO	Maximum_number_E	GMS_OPC_MultiStateInput	Maximum_number_	Maximum_number_Entity_to_G	
T	SETTINGS.Date_XML_Upload	STRING	IO	Date_XML_Upload	GMS_OPC_MultiStateInput	Date_XML_Upload	Date_XML_Upload	
T	GATEWAY1.Configured	INT16	IO	Configured	GMS_OPC_MultiStateInput	Configured	Configured	
T	GATEWAY1.ID	INT16	IO	ID	GMS_OPC_MultiStateInput	ID	ID	
T	GATEWAY1.Description	STRING	IO	Description	GMS_OPC_MultiStateInput	Description	Description	
T	GATEWAY1.IP	STRING	IO	IP	GMS_OPC_MultiStateInput	IP	IP	
T	GATEWAY1.User	STRING	IO	User	GMS_OPC_MultiStateInput	User	User	
T	GATEWAY1.Connection	INT16	IO	Connection	GMS_OPC_MultiStateInput	Connection	Connection	
T	GATEWAY1.LastUpdate	STRING	IO	LastUpdate	GMS_OPC_MultiStateInput	LastUpdate	LastUpdate	
T	GATEWAY1.CAMERA1.Enable	INT16	IO	Enable	GMS_OPC_MultiStateInput	Enable	Enable	
T	GATEWAY1.CAMERA1.Connection	INT16	IO	Connection	GMS_OPC_MultiStateInput	Connection	Connection	

EXPOSED ITEMS

The ***EXPOSED ITEMS*** tab defines which entity type will be exposed by the OPC-Server.
By default, all entity types are exposed, you can select which ones to set and which not.
It is mandatory to set at least one entity type.
When you select only 'Trigger Event' the OPC-Server reads the list of 'Trigger Event' objects configured in the Milestone system and allows you to send the command (active). The status events about Trigger Events are not managed so when a Trigger Event is activated (not by OPC-Server) the status is not updated. If you want to have the status updated, is needed to enable also the Recording Server.
When you select "Recording Server" you can define what type of entity you want monitoring and if you select Camera you can define the additional events that you want monitoring.

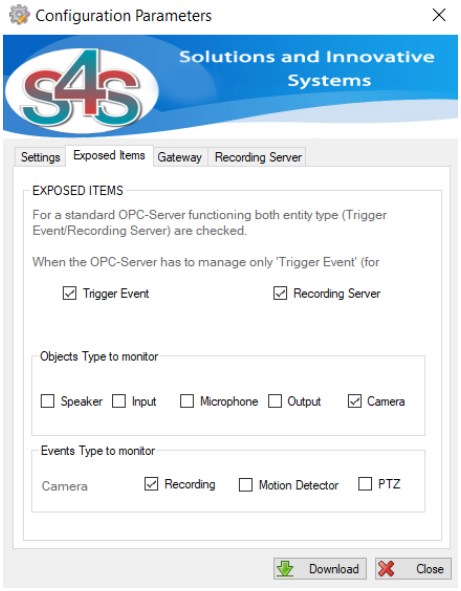


Image 13 OPC Server –EXPOSED ITEMS

GATEWAY

The GATEWAY section allows configuring information regarding the Milestone System communication parameters

Image 14 OPC Server –GATEWAY

- *Description*
  Is the description of the Gateway. At the sturt-up the OPC Server creates by default one subsystem which description is set to "EXAMPLE". The description can be freely modified.

- *Computer*
  IP address of the Miestone System to be connected. The default is 127.0.0.1 (localhost).

- Authentication
  Connection type to authenticate to the Corporate - Milestone system.
  - 1-[AD] Indicates that Microsoft Negotiate authentication should be used on the connection.
  - 2-[Basic] Indicates that basic authentication should be used on the connection.
  - 3-[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).

- User Name
  User account to login to the Server.

- Password
  Password account to login to the Server.

- Auto alignment
  Automaticaly alignment of the OPC TAGs with the last Milestone configuration, if this checkbox is not enabled the OPC doesn't recreate automatically the OPC TAGs to align them to the last Milestone system configuration. It is possible send a manual alignment request from UI interface or from OPC TAG command on *AlignmentState* TAG to request the last configuration by Milestone system and recreate the OPC TAGs structure.
  Each time an alignment is requested the OPC-Milestone will disconnect and then reconnect and make a status request.
  For big systems where changes to milestones are frequent, it is recommended not enable this function and manually proceed to align OPC using the dedicated command on the *AlignmentState* TAG.

RECORDING SERVER

The RECORDING SERVER section allows enable which Recording Servers you want monitoring.

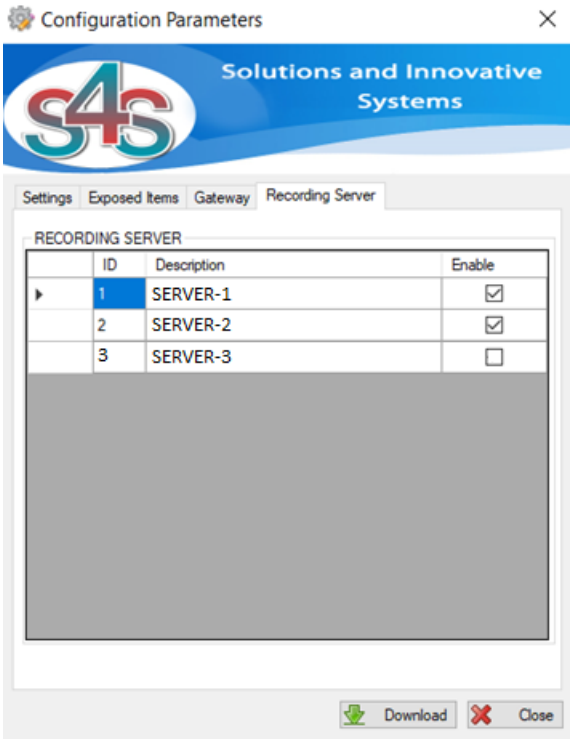


Image 15 OPC Server – RECORDING SERVER

6.2 User Milestone permission

The user used from OPC-Server to connect to the Milestone system must be configured in Milestone as administrator or he must have all permission to ensure the OPC-Server features.

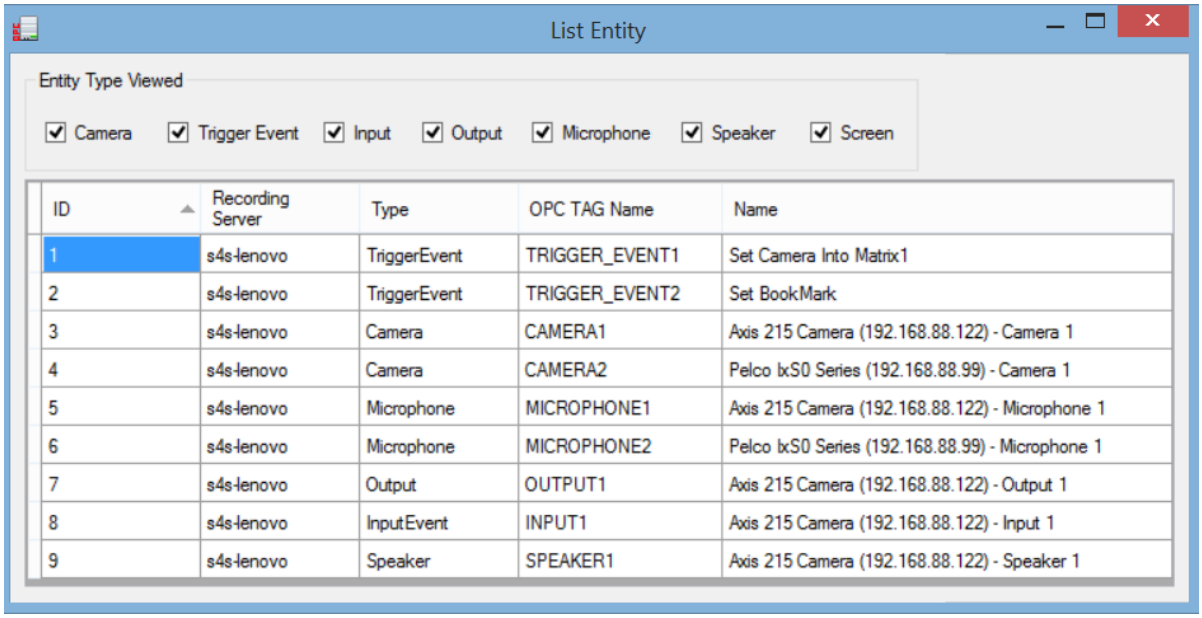
Below the required permissions for a non-administrator user (reference to *Milestone XProtect Corporate 2016*).
Create a new *Roles* in *Security* section and allow:

- **Management Server**: Read, Status API;
- **Cameras**: Read, View Live, Playback, Start manual recording, Stop manual recording;
- **Microphones**: Read, Listen, Playback;
- **Speakers**: Read, Listen, Speak, Playback;
- **Input**: Read;
- **Output**: Read, Activate;
- **User-defined Events**: Read, Trigger;
- **Matrix**: Read;

6.3 List Objects Configuration

OPC Server when it connects to the system Milestone reads all the devices configured and it saves them in a xml file "*ListObject.xml*". Whenever OPC Server is reactivated reads the configuration from the old xml file and creates OPC tags with default values, these values will be updated when OPC Server will connect to the system Milestone. OPC Server using this xml file, assigns a unique ID to each devices connected, in this way even if opc server is reactivated the devices will have the same ID associated with it.
When you add one or more devices in the system Milestone, OPC Server automatically adds this information in the xml file by assigning a unique ID consecutive to those already assigned. The IDs are consecutive in relation to the type of device is associated.
ListObject.xml is read either from the OPC Server and the viewer cameras. If you use a viewer of cameras you need to make sure that the file (*ListObject.xml*) is the same otherwise, you risk that the ID associated with different devices are referred to by the two programs.

You can view the list of objects Milestone configured through a graphical interface by clicking on 'Server / Entity List'.



ID	Recording Server	Type	OPC TAG Name	Name
1	s4s-lenovo	TriggerEvent	TRIGGER_EVENT1	Set Camera Into Matrix1
2	s4s-lenovo	TriggerEvent	TRIGGER_EVENT2	Set BookMark
3	s4s-lenovo	Camera	CAMERA1	Axis 215 Camera (192.168.88.122) - Camera 1
4	s4s-lenovo	Camera	CAMERA2	Pelco IxS0 Series (192.168.88.99) - Camera 1
5	s4s-lenovo	Microphone	MICROPHONE1	Axis 215 Camera (192.168.88.122) - Microphone 1
6	s4s-lenovo	Microphone	MICROPHONE2	Pelco IxS0 Series (192.168.88.99) - Microphone 1
7	s4s-lenovo	Output	OUTPUT1	Axis 215 Camera (192.168.88.122) - Output 1
8	s4s-lenovo	InputEvent	INPUT1	Axis 215 Camera (192.168.88.122) - Input 1
9	s4s-lenovo	Speaker	SPEAKER1	Axis 215 Camera (192.168.88.122) - Speaker 1

Image 16 OPC Server –List Entity

6.4 Event Activation

OPC Server is able to read the events configured in Milestone system and run them.
Each Milestone event is identified with the TRIGGER_EVENT entity and through tags .EventState you can activate it. Each TRIGGER_EVENT entity has a unique ID that you can see from the OPC Server GUI in the 'Server/Entity List ' section.

In addition, each CAMERA entity can execute Milestone events by sending the ID of the event on EventActivation tags. In this way the event is triggered and sent to Milestone system the reference of the selected camera. If the Milestone event is configured to take the reference of the camera, the camera automatically combines the rule invoked, otherwise it runs the event without reference.
This way you can create a single Milestone event (User-defined Events) and to associate only one rule in milestones used for all cameras. The rule must be set to withdraw the reference camera (set: The device from metadata) from the OPC Server ".

6.4.1 Example Event Activation

Here's an example of how to create in Milestones an event to send a camera on the Matrix 1 and activate this event from OPC server.

Create and set a matrix that defines the monitor to be used on the client display Milestone. In this case it was called 'Matrix 1'.

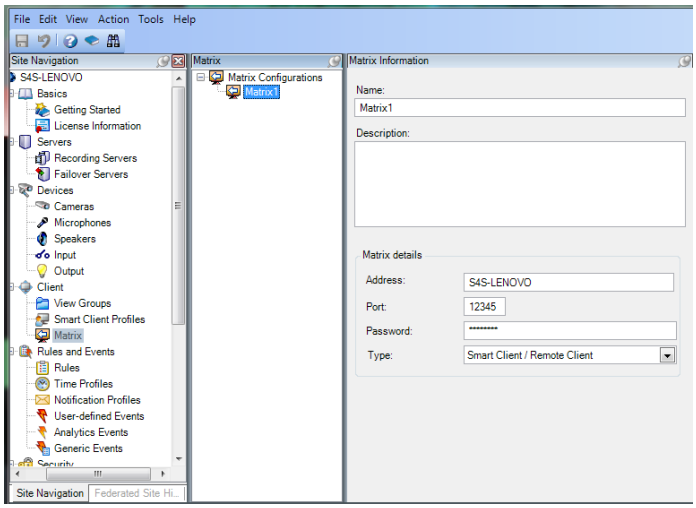


Image 17Milestone–Set Matrix

Create a user event in 'User-defined Events'. In this case it is called 'Set Camera Into Matrix1'.

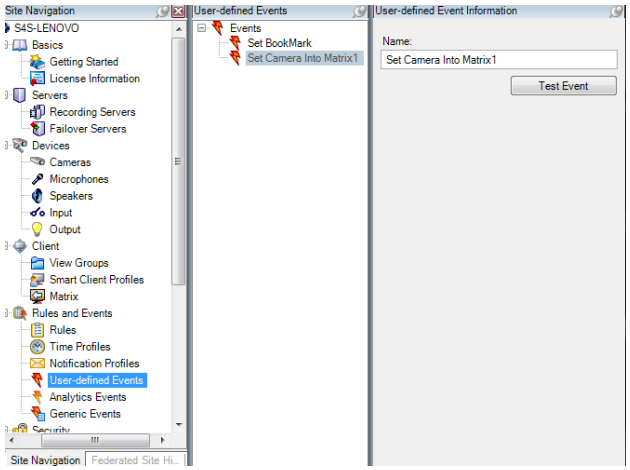


Image 18Milestone–Set User Event

Create a rule that associates the event with the action to take. In this case you must configure the event 'Set Camera Into Matrix 1' that configures the Matrix 'Matrix 1' to view 'the devices from metadata'.

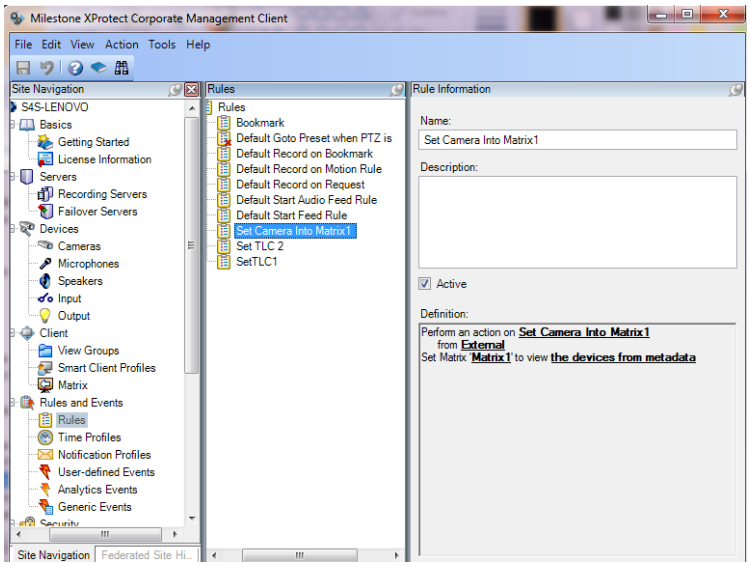


Image 19Milestone–Set Rule

To trigger, from OPC-client, the selected cameras on the Matrix 1 will need to send from tag .EventActivation of the selected camera, the ID of the "Set Camera Into Matrix1" event.
You can find the ID to identify this event from the OPC Server GUI in the 'Server / Entity List' section.

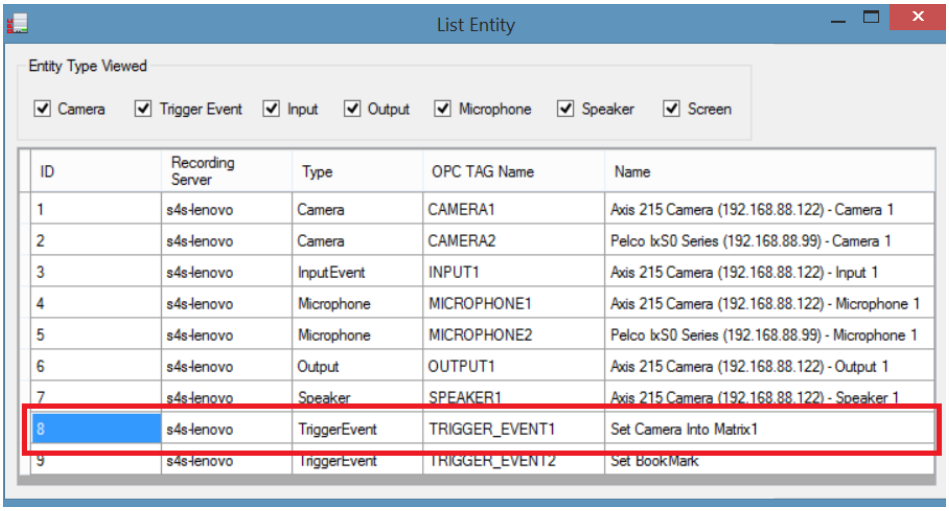


Image 20OPC-Server–ID Event

In this case the ID of "Set Camera Into Matrix 1" is 8.

To view the camera 2 on the monitor 1 will be necessary to send the ID event 8 to the .EventActivation Tag of the camera 2.
Once you send a command 8 the tag value will assume the value of the command until it is automatically reset at the end of a configurable time interval (View Settings Section).

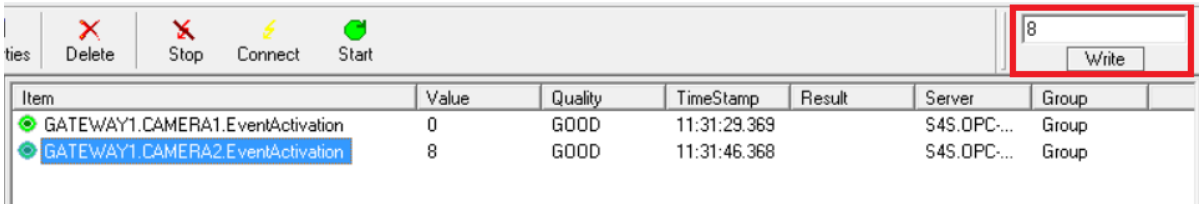


Image 21OPC-Client–Run Milestone Event

7. OPC TAGs

TAG	DESCRIPTION	TYPE	PROPERTY	VALUE	VALUE DESCRIPTION
S4S.OPC-Milestone-Corporate					
SETTINGS					
.ReconnectionFrequency_[ms]	Reconnection Frequency	Short	R/W	5000 to N	(usually N is about 5000-20000) Maximum 100000
.SystemStatusUpdate[ms]	System status update in milliseconds	Short	R/W	500 to N	(usually N is 2000-5000) Maximum 100000
.Maximum_number_Entity_to_Gateway	Maximum Number Entity configurable for each Gateway	Short	R	1 to N	(usually N is 10-700) Maximum 2000
.Date_XML_Update	Last date reading configuration file.	String	R		
GATEWAY					
.Configured	Gateway configured by XML file.	Boolean	R	true	Configured
				false	Not configured or Description = "EXAMPLE"
.ID	Server ID	Short	R		
.Description	Description	String	R		
.IP	Address of the server (eg "192.168.0.1").	String	R		
.User	User account to login to the Gateway	String	R		
.Connection	Connection state	Short	R	0	Connected
				1	Disconnected
.LastUpdate	Last update.	String	R		

.AlignmentState	Alignment state with system milestone	Short	R/W	0	Alignment
				1	No alignment. (It is request a manual alignment command to recreate the opc tags with the last milestone configuration)
				2	Start automatic alignment (This value change to alignment state after the request)
				3	Start manual alignment (This value change to alignment state after the request)
				10	Command: Manual alignment
GATEWAY.ENTITY * [ENTITY can be: CAMERA, MICROPHONE, INPUT, SPEAKER, SCREEN, SERVER, TRIGGER_EVENT]					
.Name	Entity name.	String	R		
.RecordingServer	Recording Server name	String			
.Type	Define entity type.	Short	R	-1	Unknown
				1	Camera
				2	Microphone
				3	Input
				4	Output
				5	Speaker
				6	Screen
				7	Server
.Enable	Enable state	Short	R	-1	Unknown
				0	Enabled
				1	Disabled
.Connection	Connection state	Short	R	-1	Unknown
				0	Connected
				1	Disconnected
.SignalState	Signal state (Input entity, Output entity).	Short	R	-1	Unknown

				0	Deactivate
				1	Activate
				2	NotAvailable
				3	Command: OutputActivate *(Output entity)*
				4	Command: OutputDeactivate *(Output entity)*
.RecordingState	Current recording state (Camera entity).	Short	R	-1	Unknown
				0	Stopped
				1	Started
				2	Command: StartRecording *(Camera entity)*
				3	Command: StotRecording *(Camera entity)*
.MotionState	Current motion state (Camera entity).	Short	R	-1	Unknown
				0	Stopped
				1	Started
.PTZManualSessionState	Current PTZ manual session state (Camera entity).	Short	R	-1	Unknown
				0	Stopped
				1	Started
.EventActivation	This tag allows you to send the activation command to a specific Milestone Event passing the reference of the associated camera. This is possible sending from this TAG the ID of Milestone Event. ID of Milestone Event identifies which event you must activate on this tag, you can view the ID of Milestone Event from graphical interface of the OPC-Server in the 'Server/Entity List ' section. To send the reference of the camera associated with this tag is important to activate events Milestone configured with rules that receive the reference from the camera metadata. (Camera entity).	Short	R/W	0	Normal
				Milestone Event ID	Event Activated
				Milestone Event ID	Command: Event Activation (after n seconds after sending the command, the state is reset to normal). The time interval reset is configurable.

.EventState	State (Trigger Events entry)	Short	R/W	-1	Unknown
				0	Normal
				1	Event Activate
				11	Command: Event Activation (after n seconds after sending the command, the state is reset to normal). The time interval reset is configurable.
.State	State (All entity).	Short	R	-1	Unknown
				0	Connected
				1	Disconnected
				2	Enabled
				20	Disabled
				3	Start Recording
				30	Stop Recording
				4	Start Motion Detector
				40	Stop Motion Detector
				5	Start PTZ Manual Session
				50	Stop PTZ Manual Session
				6	Output Activate
				60	Output Deactivate
				61	Output Not Available
				7	Input Activate
				70	Input Deactivate
				71	Input Not Available
				8	Trigger Event Normal
				80	Trigger Event Activate

.Command	Connection state (Camera entity Output entity).	Short	R/W	-1	Unknown
				0	Command: StartRecording *(Camera entity)*
				1	Command: StotRecording *(Camera entity)*
				2	Command: OutputActivate *(Output entity)*
				3	Command: OutputDeactivate *(Output entity)*

Table 1 OPC TAGs