



VideoXpert 3.7 – Gallagher Event Integration - Installation and Operation Guide

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Introduction

This document is the installation and operation guide for VideoXpert Event Integration with Gallagher

Version Information

Integration Component Version

#	Component Name	Version	Description
1.	CCVMSVxEventService_Setup_3.7.x.x.msi	3.7.x.x	Installer for VideoXpert Gallagher Event Integration
2.	VxSdk Nuget Package	3.0.16	VideoXpert Sdk used for communications to VideoXpert.

Gallagher Version

#	Component Name	Version	Description
1.	Gallagher Command Centre	8.00	Gallagher Command Centre Application
2.	Gallagher FTCAPI SDK	7.80.026	SDK for Gallagher Controller API

System Overview

This integration allows for events to flow between VideoXpert and Gallagher Command Centre and allows each system to react accordingly.

Installation

Prerequisites

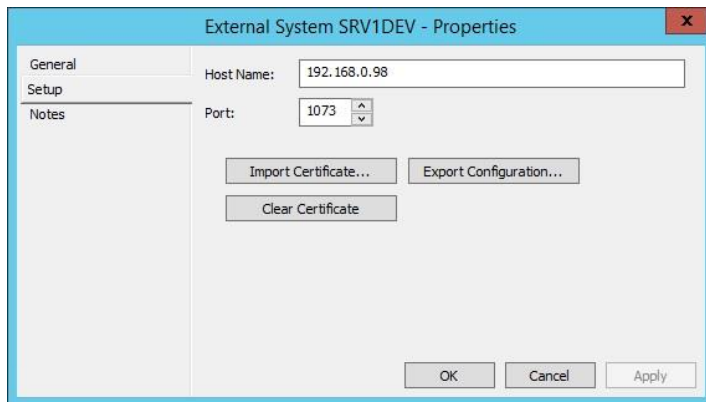
Prior to installation, the following should be installed or the installation will be unable to run and the installation will fail to install:

- .NET Framework 4.6.1 or later
- Microsoft Visual C++ 2015 Redistributable (x86)
- Install Gallagher FTCAPI SDK (run GallagherFTCAPISetup_7.80.026.msi)

Licensing

- Gallagher Command Centre license file should be placed in c:\ProgramData\Gallagher\Command Centre. You may need to create this directory if it does not exist.
- After installing the Gallagher FTCAPI SDK, go to c:\Program Files(x86)\Gallagher\Gallagher FTCAPI and copy the GallagherFTCAPI.pem file to a location where it can be imported into the Gallagher Command Centre. From the Command Centre, create an External System and import the file. Then Export the GallagherFTCAPI.ini file and copy it back to the c:\Program Files(x86)\Gallagher\Gallagher FTCAPI directory.

Note: the External System in Gallagher should point to the middleware machine hosting the FTCAPI based CCVMSVXEvent Service Integration and should use port 1073.

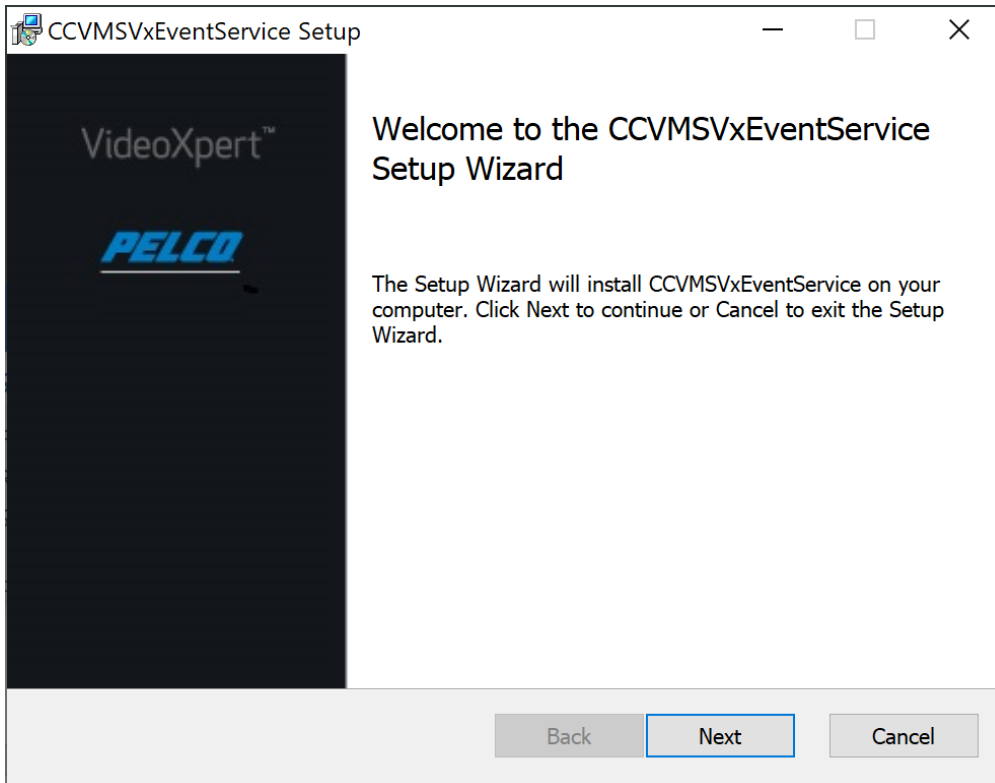


Instructions

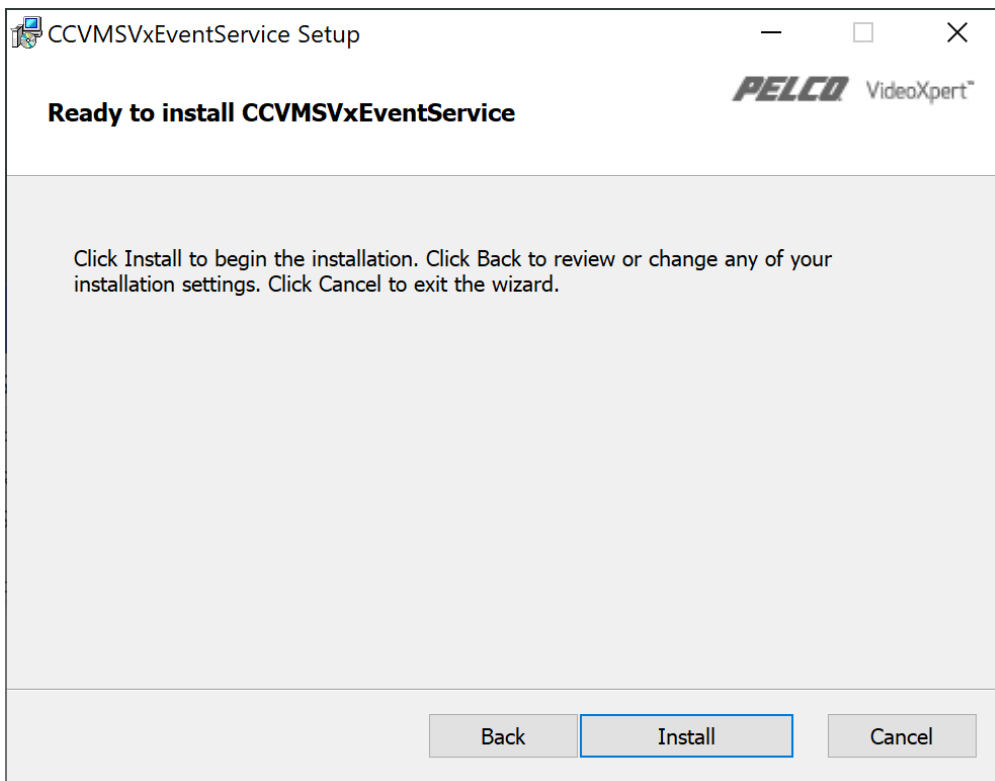
Installation should occur on a middleware PC (some PC other than the Gallagher Control Centre). If it is desired to run on the same PC as the Gallagher Control Centre, some configuration must take place to re-configure ports in the Control Centre. See Gallagher documentation.

To install the **CCVMSVxIntegrationService**, run the **CCVMSVxEventService_Setup_3.7.4.0.msi** file, which will display the following dialog:

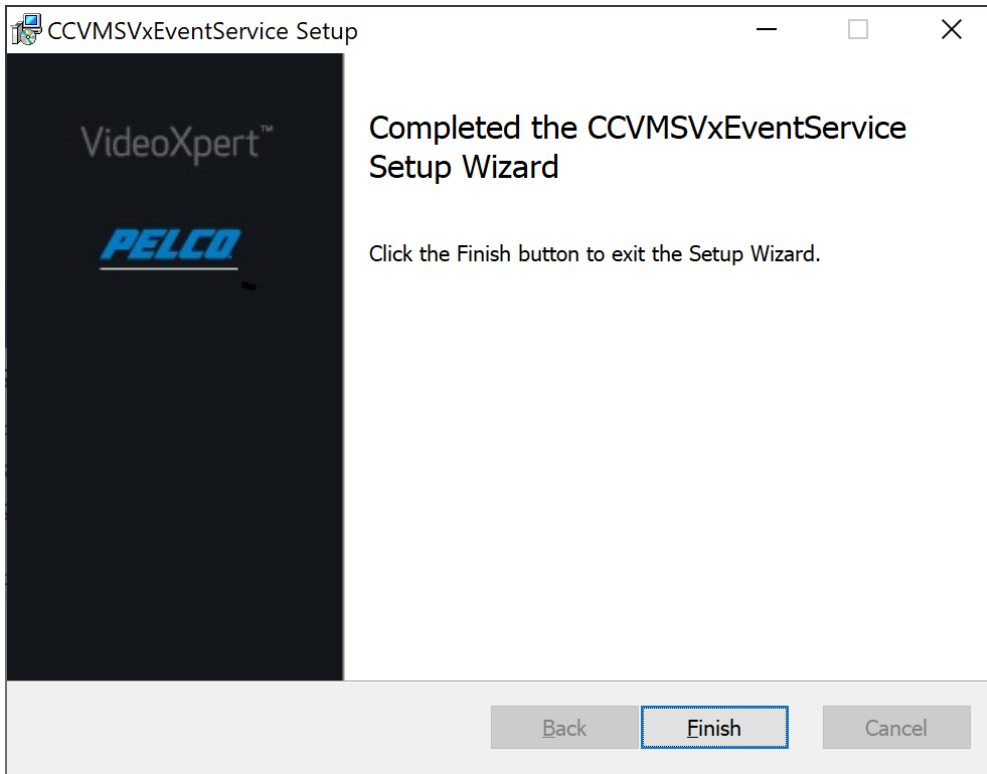
VideoXpert Gallagher Event Integration



Press "Next".



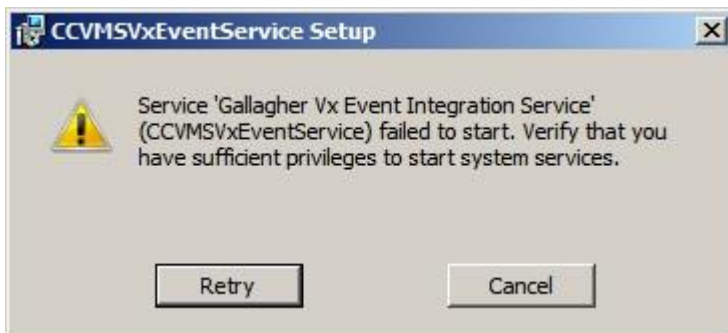
Press "Install". If all prerequisites are present and the service is up and running, the following dialog will be displayed:



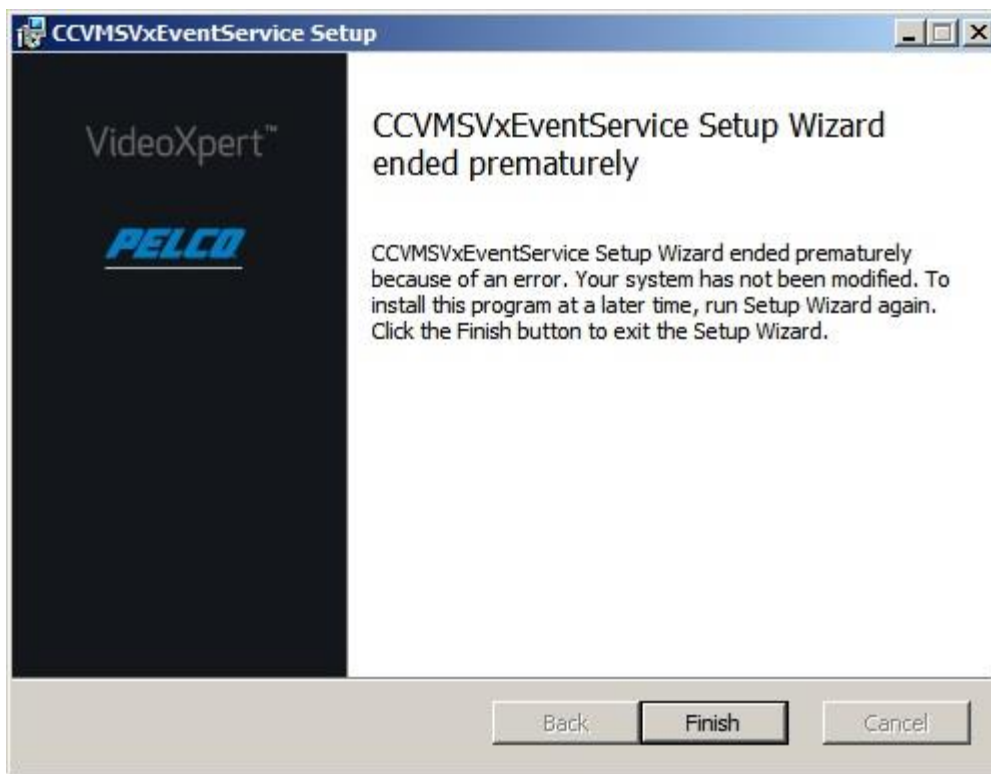
Press "Finish" to exit the installation.

Installation Failure

If the following dialog appears on installation:



Pressing "Cancel" will display the following:



Press "Finish" to exit. Make sure that all prerequisites are installed and run the installer again.

Operation

Integration as a Service

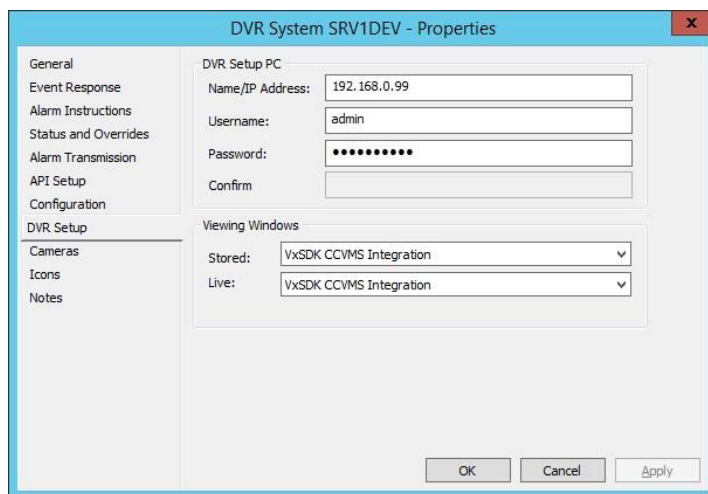
The integration runs as a service and will appear in the services.msc dialog as **Gallagher Vx Event Integration Service**. If this service is started, stop the service until configuration is complete and then restart the service from the dialog. If any change to configuration occurs in the .xml file, the service should be restarted.

Gallagher Configuration

Configuration takes place within the Gallagher Configuration Client application.

DVR System – DVR Setup

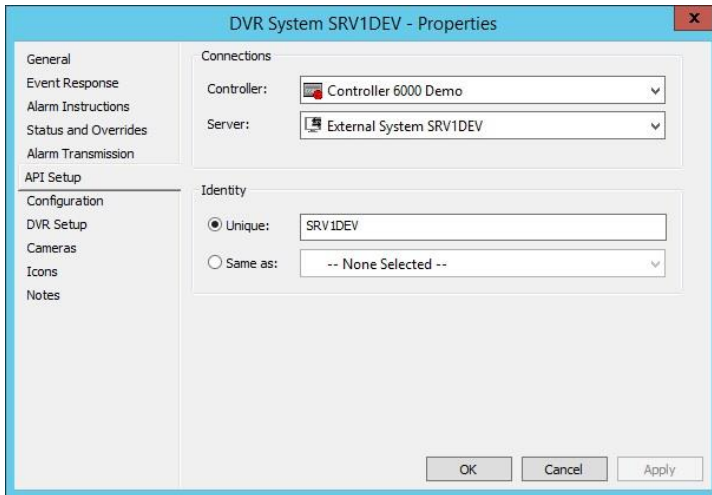
Using the Gallagher Configuration Client, the user must set up an External DVR System specifying its IP Address, and Username and Password credentials for the integration to use to log into the VideoXpert system. The DVR System name is not used for identification and may be any name the user desires. If video is to be viewed in Gallagher Command Centre, the “VxSDK CCVMS Integration” should be setup and selected for Stored and Live video. See the CCVMSVxSDKIntegration documentation for setting up the VideoXpert video integration with Gallagher Command Centre.



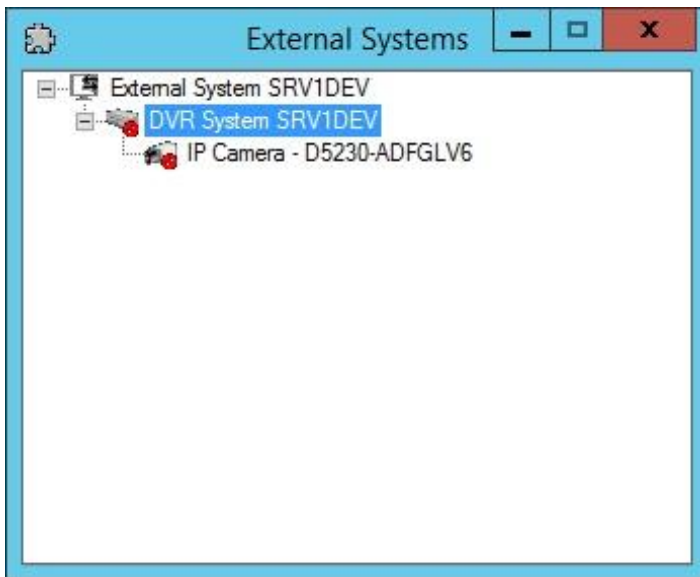
DVR System – API Setup

The DVR System API Setup needs to be associated with a Controller and External System similarly to that shown below. The Identity is not used by the integration and can be any unique string.

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A DVR System should be placed under the External System that points to the FTCAPI middleware. Cameras can then be added to the DVR System.



DVR System – Configuration

In order to connect to a VideoXpert External System, the integration itself also needs to know the IP Address, UserName and Password of the VideoExpert system being targeted for integration. This is essentially the same information as that entered into the DVR System – DVR Setup screen, however this information is being passed to the integration for its use where the DVR System – DVR Setup information is used by Gallagher Command Centre to pull video into the Command Centre.

These parameters can be supplied by one of two means – through a configuration file in the service’s executable directory called config.xml, or through the FTCAPI Configuration parameters, however, connection to VideoXpert is not completed until communication to the Command Centre has been established through the FTCAPI interface which provides other configuration information.

The optional configuration can be placed in the config.xml file located at “c:\program files (x86)\Pelco\CCVMSVxEventService\config.xml”. The config.xml file contains the following xml elements:

```
<VxEventServerSettings>
```

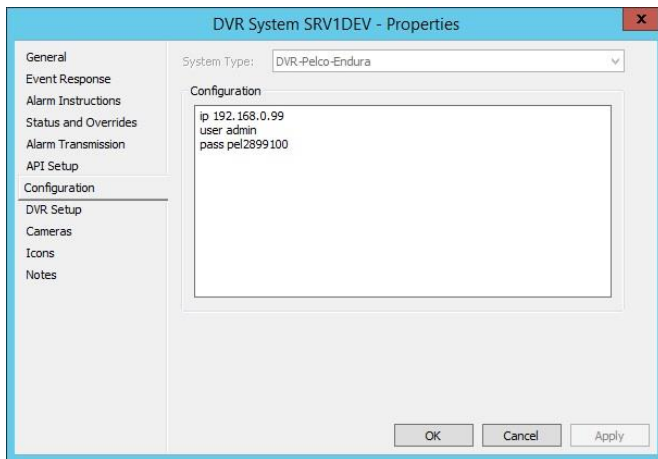
VideoXpert Gallagher Event Integration

```
<DebugLevel>1</DebugLevel>
<VxCoreAddress />
<VxUsername>YWRtaW4=</VxUsername>
<VxPassword> YWRtaW4=</VxPassword>
</VxEventServerSettings>
```

Where:

- DebugLevel is either 0 or 1. 1 will output verbose debug messages. Output may be seen by turning off the service and starting the service from the command line or windows explorer. (See Console Mode section under TroubleShooting)
- VxCoreAddress is a string.
- VxUserName is a base64 encoded string.
- VxPassword is a base64 encoded string.

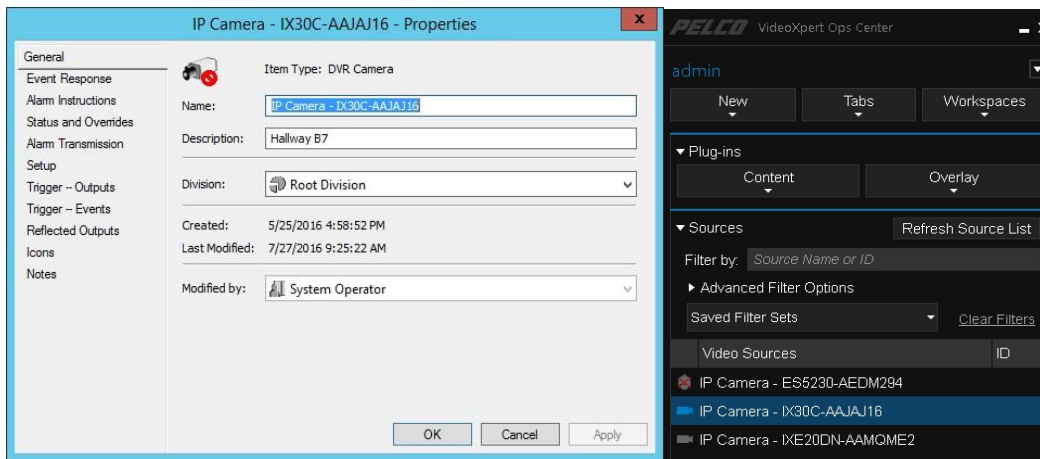
For security reasons, the IP Address, Username and/or Password may be supplied through the Configuration dialog in the Gallagher Configuration Client. Any item defined in the Gallagher Configuration Client will override a setting from the config.xml file. The External System Properties Configuration dialog appears as below, where each line of Configuration may contain either “ip”, “user” or “pass” keywords followed by the value of the item. Minimally, the “ip” must be defined in order to recognize the notifySystemRegistered message from Gallagher as belonging to the VideoXpert system.



DVR Cameras

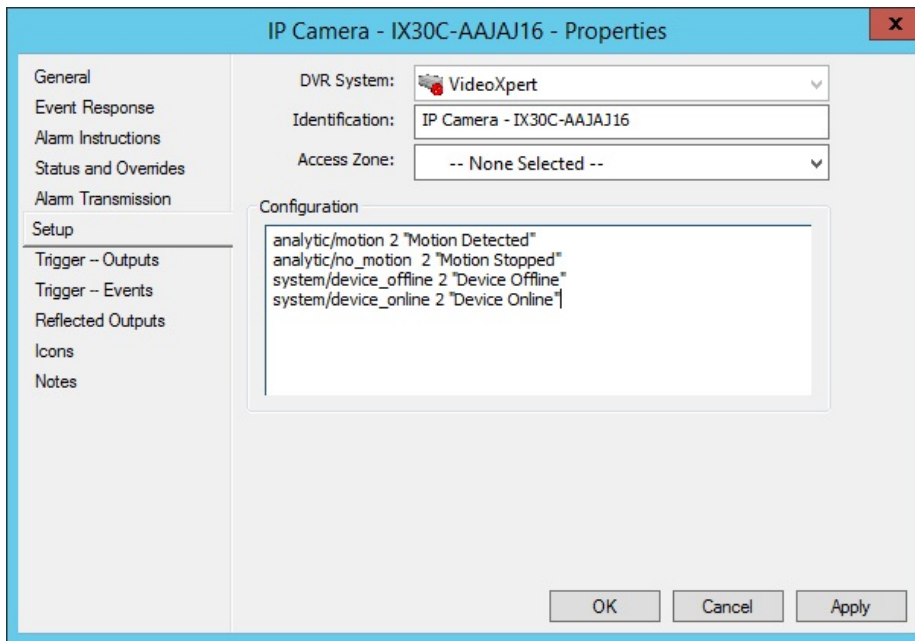
Unlike the DVR System, each DVR Camera added to the DVR System must have a matching name to the camera name found in the Vx System. The name entered in the Gallagher Configuration Client must match the camera name found in the Configuration screens of VideoXpert or in the VideoXpert Ops Center as shown below.

VideoXpert Gallagher Event Integration



VideoXpert Events (injecting into Gallagher)

In order to associate an event from VideoXpert to a DVR Camera, the Configuration data must contain a line consisting of the VideoXpert Situation, Gallagher Event Type and Message separated by spaces as seen below.



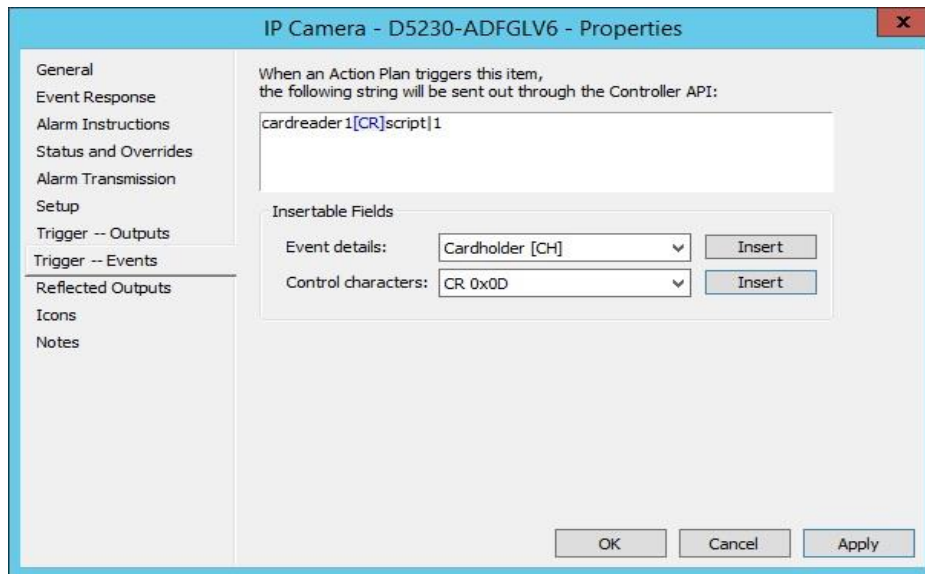
There may be multiple situations tied to each DVR Camera. In the above Setup Configuration, there are four situations that will be forwarded from VideoXpert that are associated with the given camera. These situation types will only be forwarded to Gallagher if the SourceDeviceId of the camera matches that of the event.

Note that situations "system/device_online" and "system/device_offline" are also reported to the Gallagher Command Centre through a notifyStatus call which will change the camera's icon status in the Command Centre.

Trigger Events (injecting into VideoXpert)

To send events from Gallagher to VideoXpert, the Situation Type must be configured in the "Trigger – Events" property dialog of the DVR camera in the Gallagher Configuration Client as seen below:

VideoXpert Gallagher Event Integration



Note that a [CR] may be added through the Insert button in conjunction with the Control characters drop down box.

The string being sent above by the Action Plan trigger “cardreader1[CR]script|1” is delimited by the [CR] character. The first part of the string (up to the first [CR]) must be the Situation to inject into VideoXpert. Following the Situation are key|value pairs that can be either properties to inject with the Situation or scripts to run. A key of “script” is a special key that tells the integration to run a script followed by the script number.

The string “cardreader1[CR]script|1” tells the integration to do the following:

1. Inject Custom Situation “cardreader1” into VideoXpert
2. Run script 1. (See Scripts section)

The string “cardreader1[CR]alarmid|4[CR]script|1” tells the integration to do the following:

1. Inject Custom Situation “cardreader1” into VideoXpert
2. Add the key value pair “alarmid”, “4” to the properties of the cardreader1 Situation being injected to VideoXpert.
3. Run script 1. (See Scripts section)

The string “cardreader1[CR]script|1[CR]alarmid|4” is identical to “cardreader1[CR]alarmid|4[CR]script|1” since the order is unimportant after the first [CR].

To run a script without injecting a situation into VideoXpert, leave the situation blank by starting the string with [CR]. “[CR]script|1” would run script 1 without injecting a situation.

The Situation must be a pre-defined Situation in VideoXpert, or an external situation that appears in the CustomSituations.xml file. If it is a custom situation, such as cardreader1 defined in the CustomSituations, it can be either “external/Gallagher/cardreader1” or “cardreader1” for short, since there is a limit to the number of characters in the string. Any pre-defined VideoXpert situation must have the full string defined, such as “system/alarm_active”. Using pre-defined system events is discouraged but possible. Pre-defined events will be rejected by the system if the parameters are not correct for the type of event being injected.

Scripts

This integration is able to run scripts triggered by the Trigger Events configuration. Scripts are configured using the "c:\program files (x86)\Pelco\CCVMSVxEventService\Scripts.xml". An example of this file can be found in the same directory with the name "defaultScripts.xml". This may be modified and saved as "Scripts.xml" for use by the integration.

Actions that may be added to a script include:

- SetLayout

```
<Action>
    <Name>SetLayout</Name>
    <Monitor>1</Monitor>
    <!-- valid values: "1x1", "1x2", "2x1", "2x2", "2x3", "3x2",
    "3x3", "4x3", "4x4", "5x5", "1+12", "2+8", "3+4", "1+5", "1+7",
    "12+1", "8+2", "1+1+4", "1+4 (tall)", "1+4 (wide)" -->
    <Layout>2x2</Layout>
</Action>
```

- DisplayCamera

```
<Action>
    <Name>DisplayCamera</Name>
    <Monitor>1</Monitor>
    <Cell>1</Cell>
    <Camera>1</Camera>
    <!-- Number of seconds in the past to seek to. If 0, displays camera Live -->
    <PreviousSeconds>0</PreviousSeconds>
</Action>
```

- DisconnectCamera

```
<Action>
    <Name>DisconnectCamera</Name>
    <Monitor>1</Monitor>
    <Cell>2</Cell>
</Action>
```

- GoToPreset

```
<Action>
```

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```
<Name>GoToPreset</Name>
<Camera>1</Camera>
<Preset>PRESET1</Preset>
</Action>
```

- RunPattern

```
<Action>
  <Name>RunPattern </Name>
  <Camera>1</Camera>
  <Pattern>PATTERN1</Pattern>
</Action>
```

Custom Situations (External Situations)

This integration is designed to inject custom situations into VideoXpert. Custom situations must be defined in order to be sent through to the VideoXpert system. Custom Situations are defined in the file, “c:\program files (x86)\Pelco\CCVMSVxEventService\CustomSituations.xml”. An example of this file can be found in the same directory with the name “defaultCustomSituations.xml”. This may be modified and saved as “CustomSituations.xml” for use by the integration.

The CustomSituations.xml file contains the following xml elements:

```
<CustomSituations>
  <CustomSituation>
    <SituationType>external/gallagher/cardreader1</SituationType>
    <Name>Card Reader 1 Event</Name>
    <Severity>5</Severity>
    <Log>1</Log>
    <Notify>0</Notify>
    <DisplayBanner>1</DisplayBanner>
    <Audible>1</Audible>
    <AckNeeded>0</AckNeeded>
    <AutoAcknowledge>5</AutoAcknowledge>
    <SourceDeviceId>USE_INTEGRATION_ID</SourceDeviceId>
  </CustomSituation>
</CustomSituations>
```

Where:

- SituationType is a string defining the situation type. Must start with “external/gallagher/”.
- Name is a descriptive string of the situation.
- Severity is an integer from 1 – 10.
- Log is a Boolean (0 or 1), telling Vx to Log the situation or not.
- Notify is a Boolean, telling Vx to Notify users of the situation or not.
- DisplayBanner is a Boolean, telling Vx to display a banner on each Ops Center or not.
- Audible is a Boolean, telling Vx to have an audible indication of the event or not.
- AckNeeded is a Boolean, telling Vx that an Ack is needed or not.

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- AutoAcknowledge is an integer number of seconds to automatically acknowledge the alarm.
- SourceDeviceId is string containing a unique identifier for the device associated with the custom situation. It should be defined as "USE_INTEGRATION_ID" so that the integration knows to fill the SourceDeviceId sent with the external event with the Id of the integration itself which is generated by the VideoXpert system when the integration registers itself.

Gallagher Documentation References

This section refers to Gallagher documentation used in creation of this document.

TriggerEvents Setup in Gallagher

From Gallagher Controller API Interface Spec_March2016.pdf,

6.5 Triggered Strings

Events One user-configured “event” string may be defined on every External System Item. Then, if the External System Item has been included in the “Cameras, Macros, and External System Items” list on an Action Plan, the middleware will be notified whenever that Action Plan fires. Specifically, the FTCAPI will call the **IFTTrigger2::triggerEvent** method, passing the identification string for the External System Item and the External System Item’s “event” user-configured string. This works for any priority level – i.e. alarms *and* events. Also, the userconfigured string may contain placeholder parameters (covering various event details and control characters) that will be substituted with their appropriate values at the time the **triggerEvent** method is called.

MiddleWare PC setup

5.3 Licensing

The Gallagher Command Centre FTCAPI is a licensable feature for Command Centre system installations. Every Command Centre system installation requires a Command Centre license file, which is keyed to specific Controller hardware running on the site.

Licensing details are largely transparent to clients of the FTCAPI. **If the API is installed on a separate machine from Command Centre server, the same license file that is installed on the server (in the C:\Windows directory) must be present on the API machine. NOTE that in version 7.80.026 of the Gallagher FTCAPI SDK, the license is now required to be in C:\ProgramData\Gallagher\Command Centre**

5.4.1 Configuration Security

An FTCAPI instance may not be used to submit events and status information into a Command Centre system installation unless the relevant External System and External System Items have first been created and configured within the Command Centre system. This includes assigning the External System a specific middleware PC.

Troubleshooting

VxSdk Log File

This integration is built using the VideoXpert Sdk which outputs log files to C:\ProgramData\Pelco\VxSdk\Logs. These log files can be helpful in determining communication errors between the integration and VideoXpert.

Console Mode

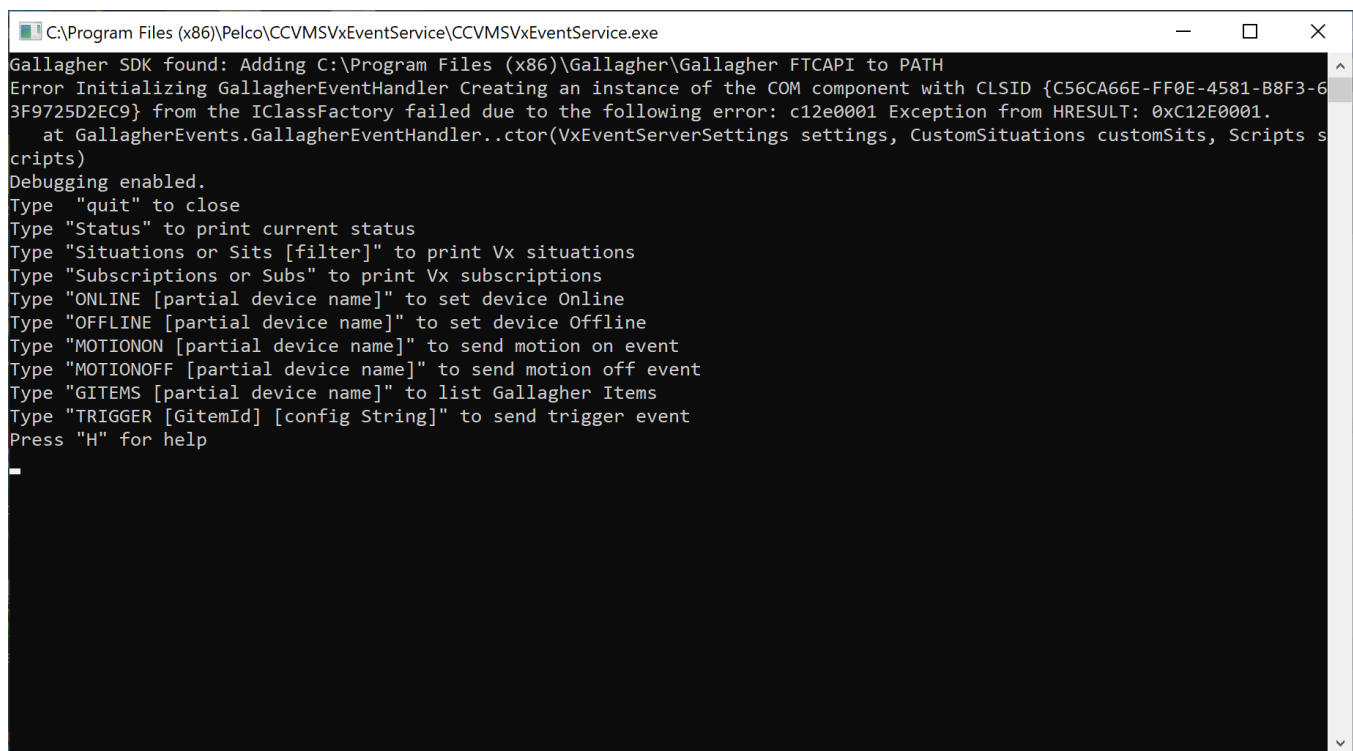
The integration normally runs as a service, but for troubleshooting and setup the service may be run from the command line or windows explorer.

Steps to Run Console Mode

1. Make sure the service is not already running by checking the services.msc dialog for the **Gallagher Vx Event Integration Service**. If this service is started, stop the service.
2. Explore to C:\Program Files (x86)\Pelco\CCVMSVxEventService and double click on CCVMSVxEventService.exe. This will launch the service in console mode.

Console Features

The console presents various command line options and displays debug information from the service in real time.



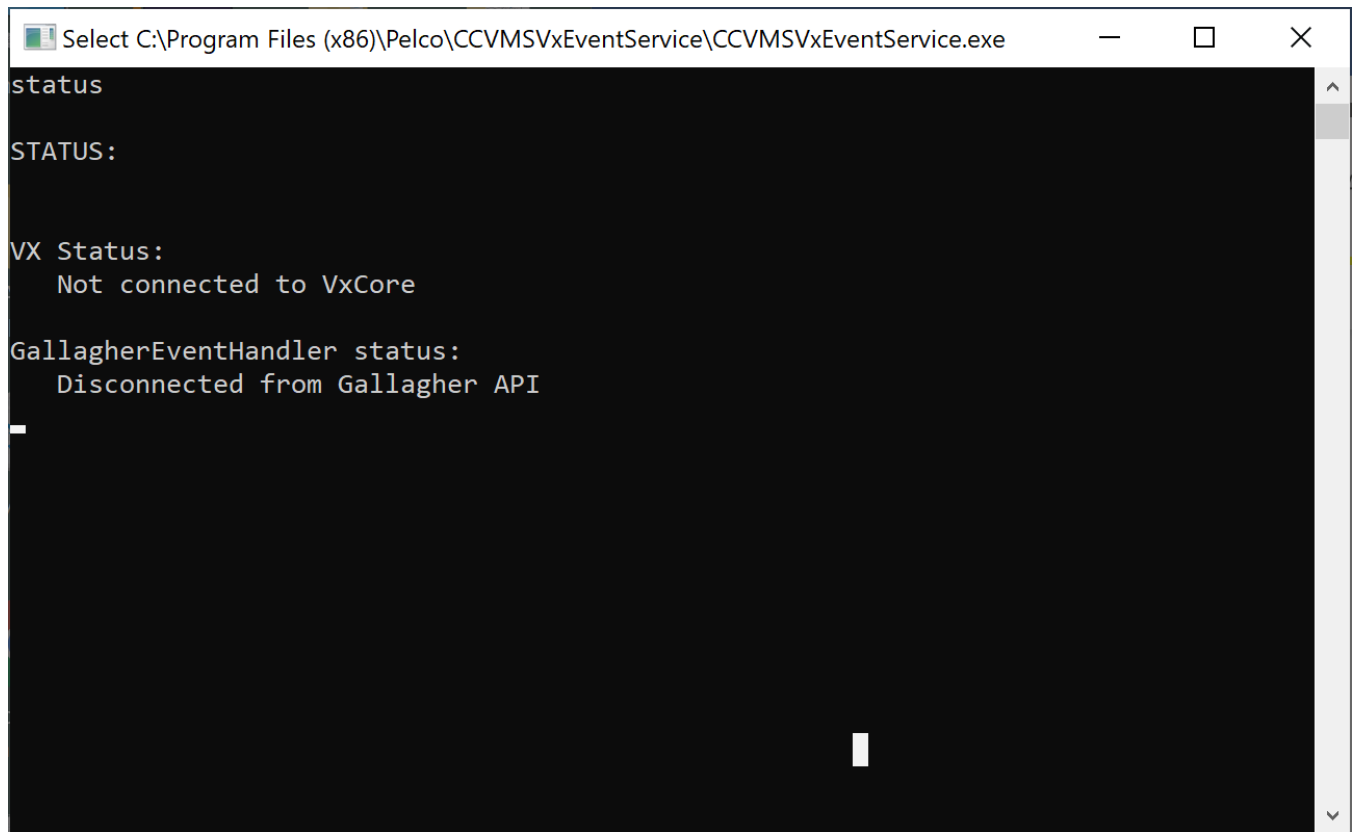
```
C:\Program Files (x86)\Pelco\CCVMSVxEventService\CCVMSVxEventService.exe
Gallagher SDK found: Adding C:\Program Files (x86)\Gallagher\Gallagher FTCAPI to PATH
Error Initializing GallagherEventHandler Creating an instance of the COM component with CLSID {C56CA66E-FF0E-4581-B8F3-63F9725D2EC9} from the IClassFactory failed due to the following error: c12e0001 Exception from HRESULT: 0xC12E0001.
   at GallagherEvents.GallagherEventHandler..ctor(VxEventServerSettings settings, CustomSituations customSits, Scripts s
cripts)
Debugging enabled.
Type "quit" to close
Type "Status" to print current status
Type "Situations or Sits [filter]" to print Vx situations
Type "Subscriptions or Subs" to print Vx subscriptions
Type "ONLINE [partial device name]" to set device Online
Type "OFFLINE [partial device name]" to set device Offline
Type "MOTIONON [partial device name]" to send motion on event
Type "MOTIONOFF [partial device name]" to send motion off event
Type "GITEMS [partial device name]" to list Gallagher Items
Type "TRIGGER [GitemId] [config String]" to send trigger event
Press "H" for help
-
```

Status

The status command will display the current service status in regards to communication between the integration and both VideoXpert and Gallagher.

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Note that the initial status will normally report that nothing has been connected until configuration is received from Gallagher through the FTCAPI interface.



```
Select C:\Program Files (x86)\Pelco\CCVMSVxEventService\CCVMSVxEventService.exe
status
STATUS:
VX Status:
  Not connected to VxCore
GallagherEventHandler status:
  Disconnected from Gallagher API
```

Situations

This will print all situations known to VideoXpert. A filter may be provided. This is useful to see the situations injected by the service that have been defined in the CustomSituations.xml file. Typing “Situations Gallagher” would show a list of situations containing the work “Gallagher”.

Subscriptions

This will print a list of situations that the service has subscribed to in order to pass events related to those situations to Gallagher. See the topic “VideoXpert Events (Injecting into Gallagher)” above.

ONLINE and OFFLINE

Allows you to inject an event into Gallagher as if the “system/device_online” or “system/device_offline” event were received from VideoXpert. Command must contain a partial valid camera name.

MOTIONON and MOTIONOFF

Allows you to simulate a motion event. Command must contains a partial valid camera name.

GITEMS

Lists all Gallagher Items received from Gallagher through the FTCAPI interface. A partial device name may be used to filter the list.

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TRIGGER

Allows you to simulate a trigger event from Gallagher which will inject an event into VideoXpert given the proper parameters. Using the GITEMS command to obtain a GitemId, you may then send any config string which will be processed in the same manner as if receive from Gallagher through the FTCAPI interface.

Help

Brings up the help menu.

Pelco Troubleshooting Contact Information

If the instructions provided fail to solve your problem, contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (international) for assistance.



Pelco, Inc.

625 W. Alluvial Ave.

Fresno, CA 93711

Tel. +1 559-292-1981

www.pelco.com

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