# Middleware Framework vMF8.90

# Release Note

## 1 Controller API (FTCAPI)

The Controller API now has improved authentication with controllers, ensuring secure controller communication.

## 2 Background

- The FTCAPI Middleware Framework (FMF) service now generates and uses its own keys for authenticating with controllers rather than sharing the server's keys.
- The FMF now performs stronger authentication of controllers by verifying that the controller's certificate is up to date and issued by the server. This means that controllers using the FMF will need to connect to the server periodically to obtain an up to date certificate (at least once per week).
- The FMF requires the creation of a new External System Server item.
- The FMF requires manual importing of an FTCAPI certificate and exporting of a configuration file.
- A configurable middleware (FTCAPI) listening port allows multiple applications to run on the same machine. The FMF can also now be hosted on the same machine as Command Centre without the need to change the port that the controllers use.
- FMF vMF8.90 will not communicate with Command Centre vEL8.00 or earlier releases.

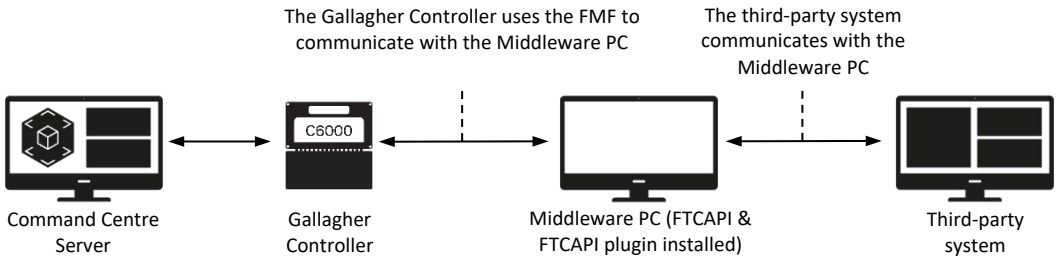
**IMPORTANT:** The Gallagher FTCAPI Middleware Framework and the 'Gallagher Controller API' must not both be used on the same machine.


Copyright © Gallagher Group Limited

# 3 Functionality

The FMF allows for the following functionality:

- communication of events and status from third-party systems to Command Centre
- command strings triggered by internal or external events to be transmitted from Command Centre to a third-party system
- status change messages from external systems to change the state of outputs.




# 4 Installing the Gallagher FTCAPI Middleware Framework

The middleware PC needs to have the Gallagher FMF installed (vMF8.90.xx). Perform the following procedure on the middleware PC:

1. Store the licence file in the following folder: `C:\ProgramData\Gallagher\Command Centre`
2. Run the executable **FMFSetup_8.90.xx.msi** located in the Gallagher installation media in the following folder: `Utilities\System Interfaces\Middleware Framework vMF8.90.xxx`
3. The Gallagher FTCAPI Middleware Framework Setup Wizard displays.
4. Click the **Next** button on each wizard screen, then click the **Finish** button on the final screen.
   The following are installed on the middleware PC:
   - The Gallagher FTCAPI Middleware Framework.
   - A new service named **FTCAPI Router Service**. From vMF8.70 and later versions, this service runs under 'Network Service'.
   - Microsoft .NET Framework 4.7.2 if not already installed.
5. Start the **FTCAPI Router Service** from the Windows Services application.
   This service needs to remain running to enable FTCAPI functionality.

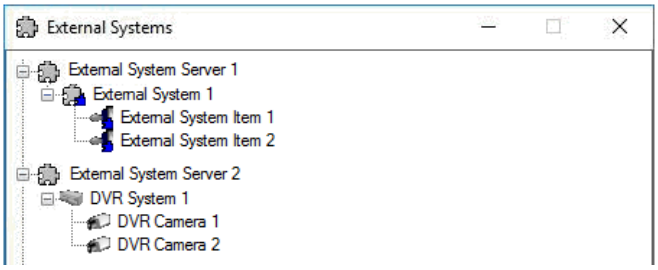
## Configuration:

- If this is the first time you are installing the FMF, complete section 5 *"Configuring the External System Server item"*.
- If you have installed the FMF before on vEL7.70 or earlier and have upgraded to vEL7.80 or later, complete section 6 *"Upgrading the FTCAPI Middleware Framework"*.
- If you already have an External System Server item configured with the Host Name / IP Address of the middleware PC (i.e. you have already configured the FMF on vEL7.80 or later), you should not need to configure anything.

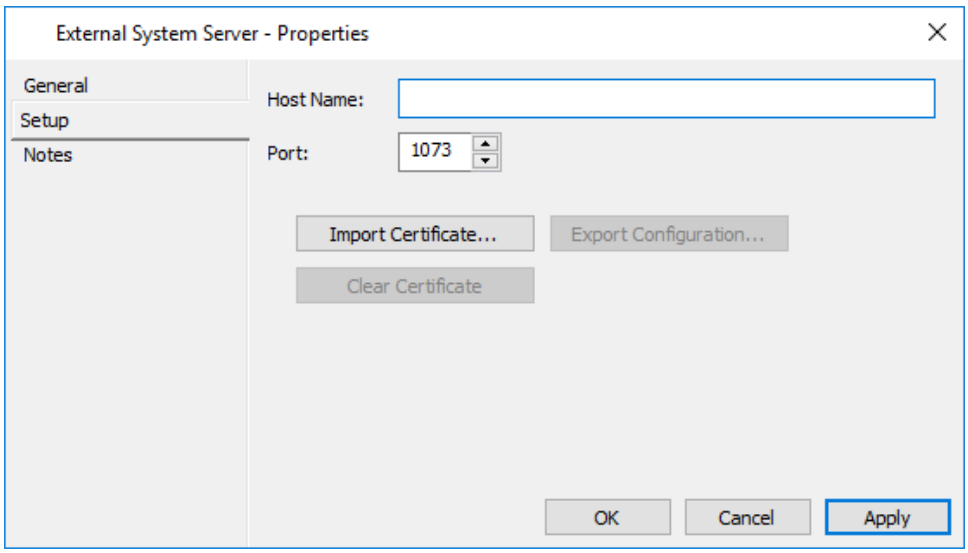

Copyright © Gallagher Group Limited

# 5 Configuring the External System Server

1. In Gallagher Configuration Client, click **Configure** from the menu bar, then **External Systems**.
   The External Systems window displays.
2. An 'External System Server' item is used to configure the Host Name / IP Address of the middleware PC. It is possible to have multiple External Systems sharing the same External System Server. In the example below, however, the External System 1 and DVR System 1 have different server items:




   The port that FTCAPI middleware uses to communicate with controllers is now configurable from the **Setup** tab of this item. Valid range is from 1024 to 65535.
3. Open the properties of the External System Server, and click the **Setup** tab.



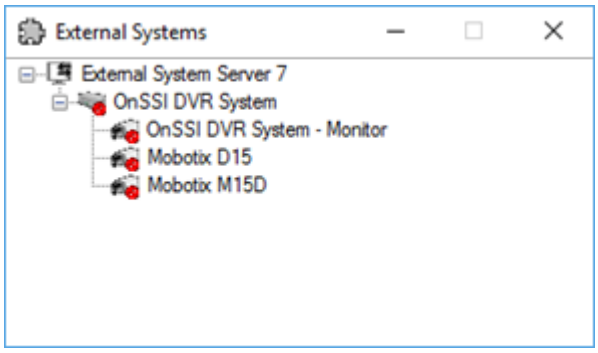

4. Enter the middleware PC's name or IP Address in the **Host Name** field (limited to 255 characters).
5. Enter the FTCAPI listening Port that the External System (or DVR System) is configured on in the **Port** field.
6. Click **Import Certificate...**
7. Import the certificate. You need to get it from the following folder on the middleware PC:
   `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework\GallagherFTCAPI.pem`
8. Once the certificate is imported, select **Export Configuration**. This will export the configuration as **GallagherFTCAPI.ini** to the folder:
   `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework\GallagherFTCAPI.ini`
9. Copy the **GallagherFTCAPI.ini** file to the same folder as above on the middleware PC.
10. Restart the 'FTCAPI Router Service'.
    **Result:** The External System Server item is configured.

    For full instructions on how to set up external systems, refer to the *"External Systems"* chapter in the Gallagher Configuration Client Online Help.

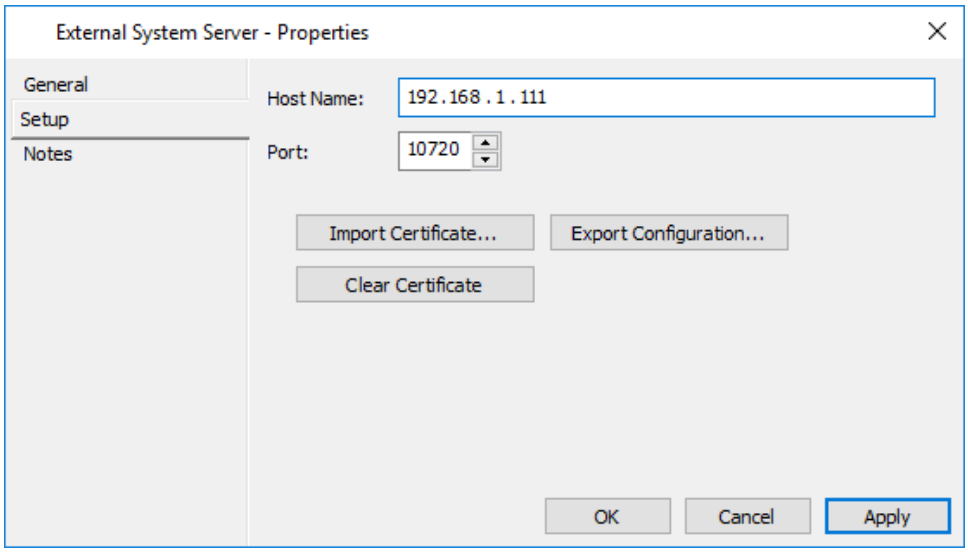

Copyright © Gallagher Group Limited

# 6 Upgrading the FTCAPI Middleware Framework

When upgrading an existing configuration from Command Centre vEL7.70 or earlier to vEL7.80 or later, a new 'External System Server *X*' item is automatically created at the top level of External Systems. Any pre-configured items automatically become associated with this new server:




1. The certificate and configuration file must now be imported and created.
   Open the properties of the new 'External System Server', and click the **Setup** tab.




2. Click **Import Certificate…**
3. Import the certificate. You need to get it from the following folder on the middleware PC:
   `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework\GallagherFTCAPI.pem`

   **Note:** If you can't find the GallagherFTCAPI.pem, open a command prompt as admin under `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework`, and run the command "GallagherFTCAPIKey.exe create".
   Two files "GallagherFTCAPI.pem" and "GallagherFTCAPI.key" will be generated afterwards.
4. Once the certificate is imported, select **Export Configuration**. This will export the configuration as **GallagherFTCAPI.ini** to the folder:
   `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework\GallagherFTCAPI.ini`
5. Copy the **GallagherFTCAPI.ini** file to the same folder as above on the middleware PC.
6. Restart the 'FTCAPI Router Service'.
   **Result:** The External System Server item is configured.


Copyright © Gallagher Group Limited

# 7 Debug logging

Debug logging can be enabled. To enable debug logging, perform the following procedure:

1. On the middleware PC, open the **FTCAPIRouterService.exe.config** file located in the following folder:
   `C:\Program Files\Gallagher\FTCAPI\Middleware Framework`

   **Note:** If you are running an older Command Centre version, the location may be:
   `C:\Program Files\CARDAX\FTCAPI\Middleware Framework`
   Likewise, wherever else the "Gallagher" folder is mentioned in this document, it could be "CARDAX".
2. Locate the following line in the file:
   `<!--<add name="Debug" />-->`
3. Remove the "`<!--`" characters from the beginning of the line and the "`-->`" characters from the end of the line, so it looks like:
   `<add name="Debug" />`
4. Save the **.config** file.
5. Restart the 'FTCAPI Router Service'.

   Errors will now be logged in the **fmf.log** file located in the following folder:
   `C:\Program Files (x86)\Gallagher\FTCAPI\Middleware Framework\Log`

# 8 Troubleshooting

- **Error popup when installing the FMF**
  When installing the Gallagher FMF, you may receive the popup error *"Gallagher FTCAPI Middleware Framework. Error 1001. An exception occurred in the OnAfterInstall event handler of Cardax.FTCAPI.Framework.Service.Projectinstaller. --> Failed to configure Windows Firewall."*

  This error indicates that the *"Windows Firewall"* and/or *"Internet Connection Sharing (ICS)"* services are not running. To install the Gallagher FMF, you can temporarily start these services, install the Gallagher FMF, then stop them again if they do not need to be running.
- **External System Items displaying ? icon and 'Awaiting status from Controller' status**
  If the Controller that the External Systems are hosted on is restarted (e.g. through an upgrade or Reset override), restart the FTCAPI Router Service on the middleware PC in order for the External System Items to return to a normal status.
- **External System Items offline and 'Cardax FT Event Input API licence failure' error**
  If your External System items are offline after upgrading the FMF to a newer version, your External System Server certificate may need to be updated. If you have enabled debug logging, you will see a 'Cardax FT Event Input API licence failure' error message in the 'FMF.log' file. To fix this, click the 'Clear Certificate' button on the 'Setup' tab of your External System Server, then follow steps 6-10 in section 5 *"Configuring the External System Server"*.


Copyright © Gallagher Group Limited

**Disclaimer**

This document gives certain information about products and/or services provided by Gallagher Group Limited or its related companies (referred to as "Gallagher Group").

The information is indicative only and is subject to change without notice meaning it may be out of date at any given time. Although every commercially reasonable effort has been taken to ensure the quality and accuracy of the information, Gallagher Group makes no representation as to its accuracy or completeness and it should not be relied on as such. To the extent permitted by law, all express or implied, or other representations or warranties in relation to the information are expressly excluded.

Neither Gallagher Group nor any of its directors, employees or other representatives shall be responsible for any loss that you may incur, either directly or indirectly, arising from any use or decisions based on the information provided.

Except where stated otherwise, the information is subject to copyright owned by Gallagher Group and you may not sell it without permission. Gallagher Group is the owner of all trademarks reproduced in this information. All trademarks which are not the property of Gallagher Group, are acknowledged.

Copyright © Gallagher Group Ltd 2024. All rights reserved.