Integration Tools

Integration with other infrastructure and technologies deliver cost and time efficiencies, improve data integrity, and can help you meet your occupational health and safety obligations. This document provides an overview of the Gallagher interface tools available to external developers.

Server based integrations

Gallagher server based integrations provide a bridge between external sources of data and the information in Gallagher Command Centre. Typical data sources include; human resource databases, payroll, student enrollment, time and attendance, health and safety databases, visitor management systems or facility resource booking systems.

The Gallagher Command Centre REST API defines a set of web based functions which developers can use to query the Command Centre database. It is secure, easy to use, easy to test, and provides superior integration performance.

Gallagher server integrations include:

- Cardholder REST API
- Events and Alarms REST API
- Incoming Events REST API
- Status REST API
- Overrides REST API
- Active Directory Cardholder Sync
- Enterprise Data Interface
- Booking Interface
- Visitor Management Web Service
- OPC Data Access
- Video SDK
- Mobile Connect SDK

Human resources systems

Health and safety systems

Time and attendance

Visitor management

Facility resource booking systems

Command Centre
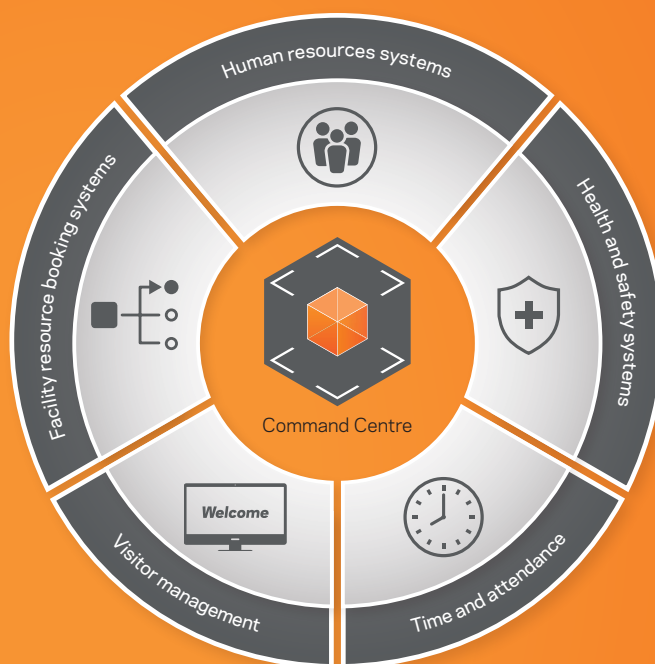
Gallagher Controller Interfaces

Gallagher controller interfaces provide a conduit between external sources of data and Gallagher controllers.

Gallagher controller interfaces include:

- Controller API
- ASCII text
- SNMP integrations
- BACnet Protocol Integration

External Data Source

Middleware

Controller

C6000

security.gallagher.com

GALLAGHER
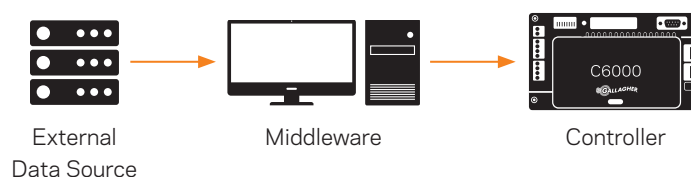
REST APIs

Cardholder REST API

This API allows third party systems to synchronize their user database with the Command Centre Cardholder database. It supports the majority of cardholder fields.

Customers can use this API to:

- Synchronize user data between Command Centre and HR, student and contractor management systems
- Send cardholder data systems monitoring credential use around the site
- Control physical access using external sources (e.g. a room booking system)

Events and Alarms REST API

This API allows third party systems to monitor Command Centre for both live and historical events and alarms. Using filters you can retrieve just the events that are relevant to your requirements.

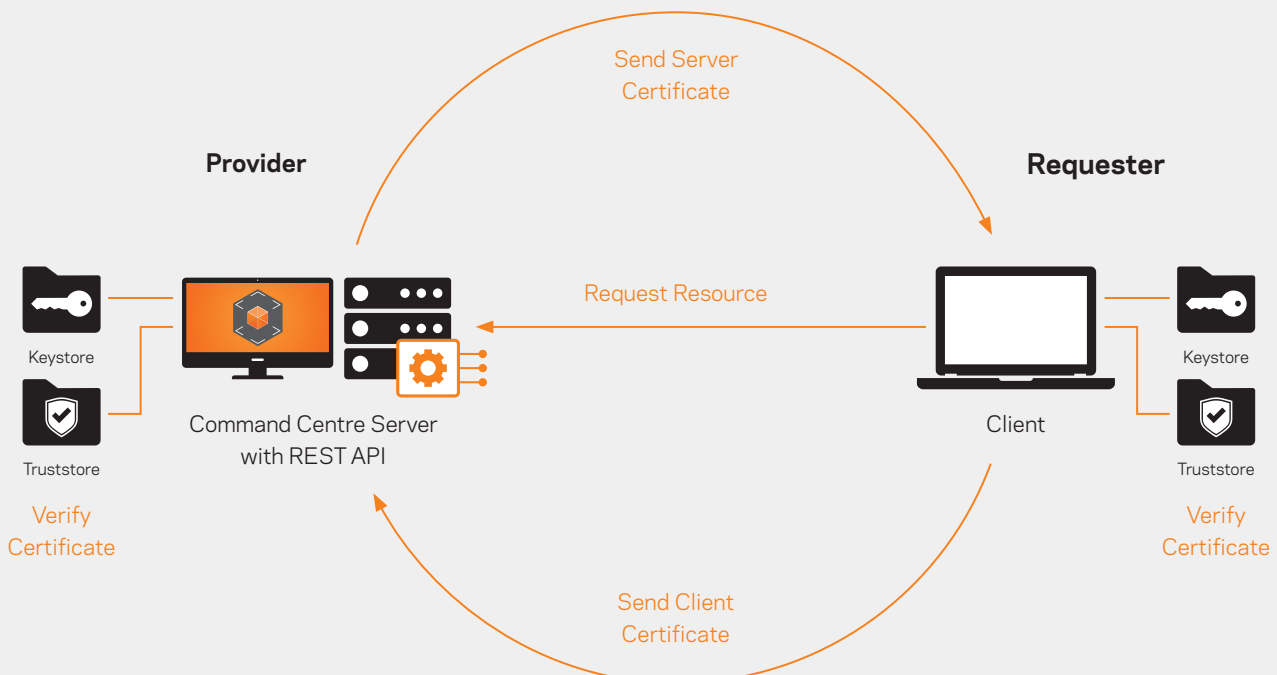Customers can use this API to:

- Integrate with big data analytic engines where Command Centre is one of the data sources contributing to the analytics
- Integrate with billing systems for students travelling on buses
- Integrate with networked print queue management software, to log cardholders on to a specific printer and retrieve printing using a Gallagher card or mobile credential. Paper waste and print costs are minimized and it ensures confidential printing is secure.
- Send specific alarms from Command Centre to IP phones
- Send critical alarms to a police dispatch system

Inbound Events REST API

This API allows alarms from third party systems to be raised in Command Centre

Once the API has brought alarms and events into Command Centre, the customer is able to:

- Generate alarms and events, view alarm instructions, provide alarm indications on site plans and generate notifications
- Run reports to receive a full audit trail of both Gallagher events and those from third parties.

Provider

Keystore

Truststore

Verify Certificate

Command Centre Server with REST API

Send Server Certificate

Request Resource

Send Client Certificate

Requester

Client

Keystore

Truststore

Verify Certificate

Status REST API

This API allows third party systems to obtain the current status of items in Command Centre, providing enhanced flexiblity.

Customers can use this API to:

- Overlay door status into a camera view on a video system
- Display live fence voltages on a security dashboard
- Providing floor zone counts to a BMS application to efficiently monitor power

Overrides REST API

This API allows third party systems to override specific items in Command Centre, providing enhanced flexibility.

Customers can use this API to:

- Provide ability to open a door from a video management platform
- Trigger an open door override from an intercom or phone system
- Escalate a high voltage override of an alarm zone based on triggers from a separate system
- Trigger a macro to perform any number of overrides within Command Centre
- Perform a lockdown from a third party emergency system

Licensing and version support

Each REST API component is an individually licensed feature of Gallagher Command Centre.

| Rest API	Available with Command Centre version
Events & Alarms	v7.80 onwards
Cardholder	v7.90 onwards
Status	v8.00 onwards
Overrides	v8.00 onwards
Inbound Events	v8.10 onwards

Cardholder Integrations

Enterprise Data Interface

Enterprise Data Interface (EDI) allows configuration and synchronization of cardholder data with external systems.

Customers can use EDI to:

- Replicate data maintained in a primary database, (e.g. human resources database) in the Command Centre database
- Import via .CSV file or direct from database tables / views (both MSSQL and Oracle are supported)
- Enable the mapping of existing employee fields, (e.g. personal details, group memberships, licenses, etc.) to their Command Centre equivalent, (e.g. Personal Data Fields, Access Groups, Competencies, etc)
- Allow Command Centre to import from a single course or multiple sources
- Allow third party data used in the external system to be translated to more meaningful descriptions on import to the Gallagher system
- Provide manual one-off migrations of cardholder data to the Gallagher database and/or automatically updates when triggered by changes made in a primary employee database

CSV

Database
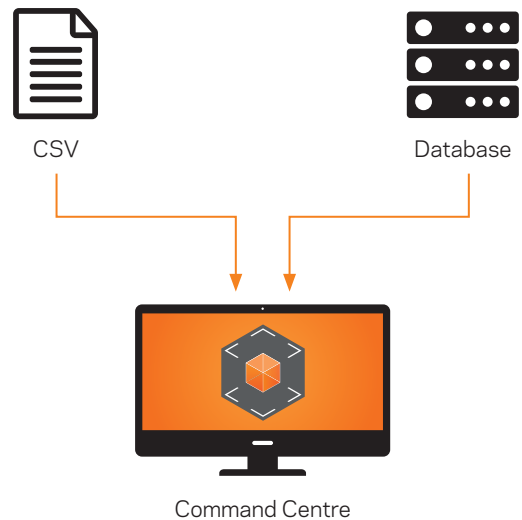
Command Centre

Cardholder Change Tracking API

Gallagher's Change Tracking API enables a third party application to retrieve cardholder related properties from the Command Centre database. The query polls the database, searching for changes to cardholder records and publishes them to the external system to ensure parity between systems. This API is particularly useful where third party systems, (e.g. HR or IT) are the source of truth for the business.

Change Tracking API

Command Centre Database
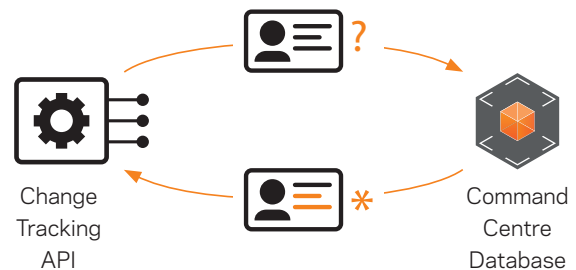
Active Directory Cardholder Sync

Active Directory Cardholder Sync is a bidirectional integration between the Command Centre cardholder database and Microsoft Active Directory (AD). It allows AD user records to be replicated through to Command Centre cardholder records. This includes creation, modification and deletion of both user details and access permissions. Additionally, changes to cardholder details and images within Command Centre can be replicated out to AD or a file share location.

Fully configurable to suit the AD structure of your organization, this integration simplifies the user experience by:

- Seamlessly linking physical access permissions to existing logical access permissions
- Eliminating duplication of data entry, minimizing the possibility of data errors and ensuring fast and efficient management of staff
- Ensuring a swift response to security risks by disabling both logical and physical access permissions at the click of a button

Microsoft Active Directory Server

Users

Images and card data

Active Directory Cardholder Sync

Cardholders

Images and card data

Command Centre Server

OPC Data Access

OPC Data Access allows a Command Centre item's status to be shared or overridden by a third party system. For instance, a third party OPC client system could monitor the status of Gallagher Perimeter sensors, and be alerted when an alarm is raised.

OPC Data Access is a group of standards that provides specifications for communicating real-time data from data acquisition devices. The specifications focus on the continuous communication of data, and deals with real-time data only, not historical data.

Booking Integration

Using Gallagher's 'Bookable Resource' module with Gallagher's Enterprise Data Interface makes it possible to manage room accessibility and environmental automation:

- Resources can be tied to access schedules so that the doors unlock in response to a scheduled booking, and lock when the booking expires
- Room services such as lighting and air conditioning can activate in response to scheduled bookings ensuring efficient energy management

Visitor Management Web Service

The Visitor Management Web Service allows an external system to create and modify visits and visitors in Command Centre.
The web service is SOAP based and enables a third party system to dynamically update Command Centre with visit and visitor details.
A custom SOAP application must be written for the external system to interact with the web service.

Advantages of using a web services are:

- Reduce manual data entry with automatic processes
- Minimize the possibility of data entry errors

Gallagher Controller Integrations

Controller API

The Controller API is a bidirectional integration allows third party systems to:

- Trigger Command Centre events such as arming or disarming an alarm zone, triggering an emergency release, or as an input to a Controller logic block
- Receive information in string format after a Command Centre event. This information can include cardholder details, event sources or event types. Potential uses of this include sending cardholder details to canteen management systems
- Card information can be sent or received for access events

ASCII text

Many systems are capable of receiving ASCII text commands to trigger actions, or notify them of external events. Common systems using this type of interface are matrix switches, DVR systems, and paging systems etc. Gallagher provides several options for an ASCII Text interface.

The Gallagher Controller interface mechanism allows the Gallagher Controller to send and receive ASCII text strings in response to events generated within a third party system or Command Centre. A separate middleware PC is required to host the plugin.

The following two options are hosted on the Controller, so a separate middleware PC is not required:

1. Controller - Resident RS232 ASCII Text Plugin enables Command Centre to communicate (both send and receive) ASCII strings with a third party system from the Gallagher Controller 6000 RS232 Port.
2. Controller - Resident TCP ASCII Text Plugin enables Command Centre to communicate (both send and receive) ASCII strings with a third party system from the Gallagher Controller 6000 TCP Port.

Note: The TCP Plugin can manage a connection to another device, and can both send and receive ASCII data on this connection. However, it cannot accept an incoming TCP connection initiated by another device.

SNMP interfaces

Simple Network Management Protocol (SNMP) is a protocol used in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

The Gallagher Controller SNMP interface mechanism allows Gallagher Command Centre to listen for SNMP traps from any SNMP Agent (for example, alerts from the Gallagher Command Centre server hardware, or UPS devices).

These SNMP messages are converted into events/alarms at the Gallagher Controller for alarms management and audit purposes.

BACnet Protocol Interface

Gallagher's BACnet Protocol Interface supports bidirectional communication with BACnet-compatible building management devices. This makes it possible for:

- Command Centre operators to monitor the status of building services. Examples of events that can be monitored are: generator faults, high and low temperature zone alarms, chiller failures, filtration pressure alarms, fuel control system overflow / underfill / failure alarms, and general mechanical fault alarms
- Command Centre operators to proactively manage and report on these alarms within Command Centre
- Command Centre to write to BACnet objects enabling building services (such as lighting or air conditioning) to be activated in response to building occupancy

External Data Source   Middleware   Controller   Command Centre Server
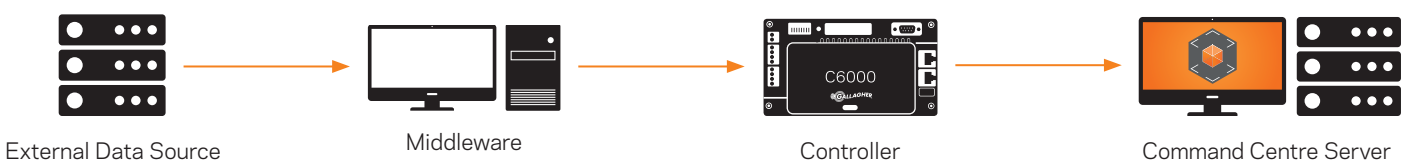
Software Developer Kits

Gallagher Video Viewer SDK

Gallagher's Video Viewer SDK provides third party integrators with a complete set of tools to easily and effectively integrate video feeds from third party Video Management Systems, enabling the retrieval of both live and stored footage for display within Command Centre.

The SDK is built upon the same code framework that is used by Gallagher-built Video Integrations, providing a consistent 'Gallagher' look and feel.

This API should be used in conjunction with the Controller API which separately integrates alarms and events, e.g. motion detection, camera inputs, etc.

Gallagher Mobile Connect SDK

The Gallagher Mobile Connect SDK is a developer package that provides the functionality of Gallagher Mobile Connect to third party mobile applications. It allows a third party app to request access at Gallagher and SALTO controlled doors and supports Mobile Connect Digital ID.

GALLAGHER
Mobile Connect

Technical Specifications

	Data Type that can be transferred									Communication Level	Direction of Transfer
	Cardholder Records	Visitor Records	Schedules	Resource Bookings	Events	Alarms	Status	Video	Overrides	Server or Controller	Incoming/ Outgoing
Active Directory Sync	✓									Server	In + Out
VM Web Service		✓								Server	In
Enterprise Data Interface	✓									Server	In
BACnet Protocol Interface					✓	✓				Controller	In + Out
Events and Alarms REST API					✓	✓				Server	Out
Inbound Events REST API					✓	✓				Server	In
Cardholder REST API	✓									Server	In + Out
Status REST API							✓			Server	Out
Overrides REST API								✓		Server	In
Booking Interface				✓						Server	In
Cardholder Change Tracking API	✓									Server	Out
OPC Data Access							✓		✓	Server	In + Out
Controller API					✓	✓				Controller	In + Out
ASCII Text					✓	✓				Controller	In + Out
SNMP					✓	✓				Controller	In
Video Viewer SDK								✓		Server	In
Mobile Connect SDK										Server	

Gallagher Application Programming Interface		
Supported Versions	OPC Data Access	Version 2.05a, 3.0

For more information on any of these tools (including installation documentation and developer guides) please contact your Gallagher representative.
All of the features in this document are licensed features.

GALLAGHER WORLD HEADQUARTERS

Kahikatea Drive, Hamilton 3206
Private Bag 3026, Hamilton 3240
New Zealand

TEL: +64 7 838 9800
EMAIL: security@gallagher.com

REGIONAL OFFICES

New Zealand.................................. +64 7 838 9800
Americas...................................... +1 877 560 6308
Asia .... +852 3468 5175
Australia .... +61 3 9308 7722
India ....+91 98 458 92920
Middle East.................................. +971 4 5665834
South Africa .... +27 11 974 4740
United Kingdom / Europe.........+44 2476 64 1234

3EI339 - 10/20

security.gallagher.com

GALLAGHER