

Gallagher Interface Tools

Interface mechanisms extend the functionality and flexibility of the Gallagher system. Integration with other infrastructure and technologies delivers cost and time efficiencies, improves data integrity and can help meet your occupational safety and health obligations.

Gallagher Server Interfaces

XML Import/Export Interface

The Gallagher system uses features such as 'Schedule and Cardholder' import. These use standard software functionality known as an XML Interface to import and export data between the system and external sources.

Why import data from and export data to external sources?

Often there are external sources of data on a customer's computer network that may be used as the basis for information in the Gallagher system, such as access control schedules or cardholder records.

Gallagher Cardholder Import/Export and the Gallagher Schedule Import provide a means of transferring the data between existing systems and Gallagher Command Centre, via a common file format. These XML Interfaces have been developed to allow third parties to dynamically update information in existing cardholder databases or schedules. This data can be synchronized on an on-going basis with other applications within the organization.

Typical sources of cardholder data include an organization's human resources database from a system such as SAP®, payroll, student enrolment, time and attendance, and health & safety databases. Typical sources of resource scheduling data include facility resource booking systems.

The advantages of using XML Interface are:

- The process can be set up to run automatically, reducing manual data entry.
- Predetermined access criteria based on the source record data can be set up.
- For cardholder records, a single source of records is used, minimizing the possibility of data entry errors.

Data Transfer Process

Data transfer allows the external database application to put the records that are intended to be imported, into a specific file location in a common data format (such as CSV format) for the cardholder import/export or schedule import utilities to access. The Gallagher utility then picks up the data and imports the data records into the specified Gallagher cardholder records or schedules. This process is mirrored for exporting cardholder information. An exception report listing any records that failed the import/export process is produced for later resolution.

Implementation

Utilities developed by Gallagher are available; providing maximum flexibility to allow connection to virtually any system. Software database knowledge is required to successfully implement the cardholder import/export feature. The mapping of third party information to the database fields requires an understanding of XML programming. A Developer Guide has been produced to assist software engineers to carry out this work. The guide can be found on the Gallagher Command Centre Installation DVD.



Enterprise Data Import Interface

The Enterprise Data Import Interface tool allows configuration and synchronization of cardholder data with external enterprise systems.

- Automatically reflects data maintained in a primary database (e.g. human resources database) in the Gallagher database on an ongoing basis.
- Allows migration of existing cardholder details from the legacy system over to the Gallagher system for sites migrating from an obsolete security system.
- Enables mapping of existing employee fields (e.g. personal details, group memberships, licenses etc.) to their Gallagher Command Centre equivalent (e.g. Personal Data Fields, Access Groups, Competencies etc).
- Allows mapping between systems of 1-1 or 1-many relationships.
- Allows abbreviations used in the external system to be translated to more meaningful descriptions on import to the Gallagher system.
- Provides manual one-off migrations of cardholder data to the Gallagher database and/or automatically updates in the Gallagher system any changes made in a primary employee database, via the mapping of employee data exported to text files from the third party system.

OPC Alarms and Events API

Gallagher Command Centre server supports the open process control alarms and events standard (OPC AE).

The OPC Alarm and Events API allows external systems to

- Acknowledge alarms and add comments when acknowledging them
- Request extra 'attributes' that a server may make available

The connections between an OPC alarms and events client and the Gallagher server are in the form of 'subscriptions' where the client registers a subscription to the server. This subscription can be for all, or a filtered subset of the server alarms and events.

Third party systems such as CCTV, time and attendance, pager systems, building management systems (e.g. lighting and air-conditioning systems) which have an OPC alarm and events client running can subscribe to and receive the relevant data from the Gallagher OPC server operating on the network.

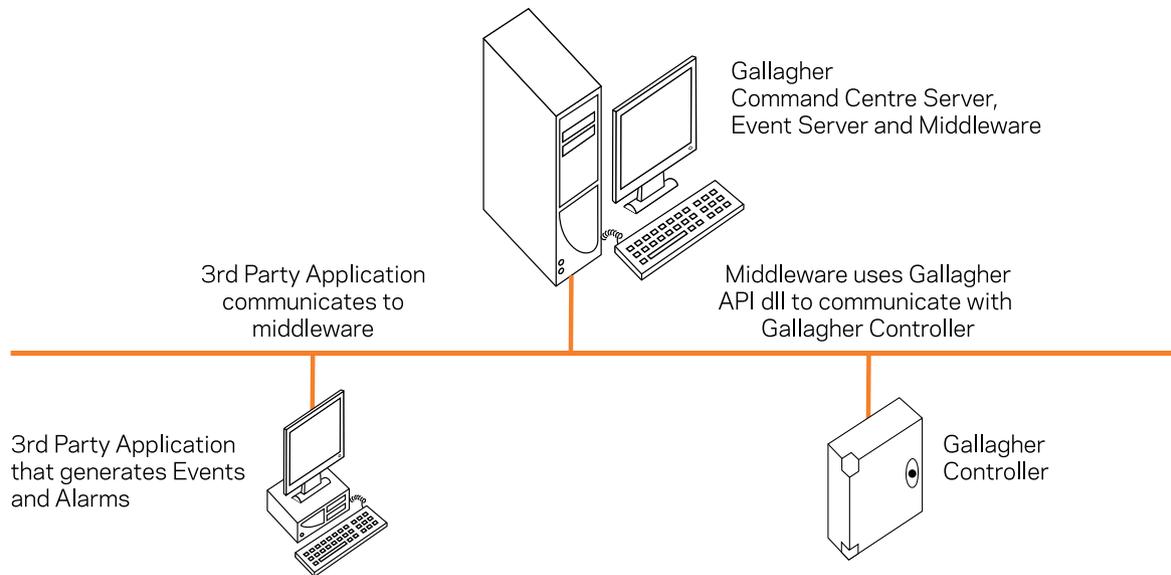
A CCTV system, for example, can receive specific types of messages via its OPC client. When an event occurs, the CCTV system reads the event message and initiates a sequence of actions such as starting a video recording or zooming into a specific area.

One or more OPC clients can access the data on Gallagher Command Centre and use it as required.

This system is very efficient; the server will send all subscribed events and alarms to the client without being continually polled, thus reducing system load.

Alarms and events can be communicated in a variety of ways to people monitoring them, for example, via SMS, pagers, popup windows, email and webpages or enterprise data import interface

Connectivity diagram



OPC Data Access API - Status and Overrides

Gallagher Command Centre allows status and overrides to be shared with third party systems.

This is ideal when a 'turnkey' solution involving multiple systems controlled via one graphical user interface (GUI) is required.

The Gallagher system allows this to occur by way of an API, based on the industry standard OPC (OLE for Process Control) data access protocol.

OPC data access allows independent systems to share status and override information by providing a standardized framework for this sharing.

Any system conforming to this framework is able to do the following

- Control the state of selected Gallagher items directly from the third party system by invoking overrides
- Report the state of selected Gallagher items directly in the third party system.

Access by the third party system to Gallagher status and overrides is protected by a session logon for all OPC clients before allowing any operations between client and server.

Once a valid set of logon credentials have been passed to the Gallagher system a session identifier is exchanged with the client which then is required to verify read/write/view privileges for all operations attempted via the OPC interface. Middleware development is required to link the two systems with the customer's required status and override information.

All events and system activity including operator activity are recorded in the Gallagher system audit trail.

Gallagher Database Access

A 'read only' view of the Gallagher database is available. Access to the Gallagher database is possible; please contact Gallagher for more information.

Gallagher Controller Interfaces

The Gallagher Controller interfaces allow:

- Controller based events and alarms to be sent to and received from third party systems such as video, duress, building management, external alarm, fire alarm, license plate recognition and biometric recognition systems. High level integrations between the Gallagher system and third party systems often require events and alarms to be shared at the Gallagher Controller level. This type of sharing is useful for any third party system requiring real-time event and alarm sharing independent of the Gallagher Command Centre server.
- A standard interface for Gallagher events and alarms, allowing easy mapping of these items to an equivalent event or alarm in a third party system. This mapping is achieved via middleware, typically unique for each integration.
- The middleware to reside on the same physical machine as the Gallagher Command Centre server.
- External system items to be represented within the Gallagher system and to interact with the control functions occurring in the Gallagher Controller.

Third party system events can be used to trigger Gallagher events such as arming or disarming an alarm zone, triggering an emergency release, or as an input to a Controller logic block. Information in string format can also be sent through to third party systems triggered by a Gallagher event. This information can include cardholder details, event sources or event types. Potential uses of this include exporting Gallagher event information to paging systems, alarm displays or text insertion onto video.

ASCII Text Interface

Many external systems are capable of receiving ASCII text commands to trigger actions in their system, or notify them of external events. Common systems using this type of interface are matrix switches, DVR systems, and paging systems etc. The Gallagher Controller interface mechanism allows the Gallagher Controller to send out ASCII text strings in response to Gallagher events to a third party system, such as those above.

SNMP Interface

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 interface mechanism SNMP 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.
SNMP Supported Version - SNMP Version 1

Technical Specifications

Data Transfer - Gallagher Command Centre server and Gallagher Controllers (6000, 3000, 5000GL)

	Gallagher Command Centre Server		Gallagher Controller	
	Incoming	Outgoing	Incoming	Outgoing
Cardholders	✓	✓		
Schedules	✓			
Events		✓	✓	✓
Alarms		✓	✓	✓
Status		✓		
Overrides	✓			
ASCII Text			✓	
SNMP			✓	

Gallagher application programming Interface - June 2011		
Supported Versions	OPC Alarms and Events	Version 1.0
	OPC Data Access	Version 3.0

GALLAGHER WORLD HEADQUARTERS

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

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

REGIONAL OFFICES

New Zealand.....+64 7 838 9800
Americas..... +1 888 430 0770
Asia +852 2910 7912
Australia +61 2 9412 4477
India +91 80 2661 1590
Middle East.....+9615 808728
South Africa +27 11 974 4740
United Kingdom / Europe..... +44 2476 64 1234

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