GAINS
MOVE FORWARD FASTER

Whitepaper

Reduce Risk and Improve Decision Making Quality with GAINS Connect Integration Suite

Executive Summary

The GAINS Connect Integration Suite facilitates efficient integrations between client systems and GAINS, offering modern and standard-based strategies. It includes a RESTful public API for real-time processing of crucial information like purchase orders and support for complex enterprise needs, including hybrid, file, and API-based integrations.

The suite modernizes data exchange mechanisms, streamlines integration processes, and enhances the GAINS Halo360° Decision Engineering and Orchestration Platform. Additionally, it provides developer-friendly APIs and configurable solutions to improve accuracy and decision-making.

What is an API?

API stands for Application Programming Interface and is a set of rules or protocols that enable software applications to communicate with each other, exchanging data, features, and functionality.



Source: https://morioh.com/a/98b797cf24af/what-is-an-api-api-for-beginners

Function and Advantage of APIs

APIs simplify the design and development of new applications and services as well as the integration and management of existing ones. They also make the integration effort more predictable for GAINS customers, further de-risking GAINS implementations and supporting adherence to project timelines and budgets.

APIs offer other significant benefits to developers and organizations at large, including:

They make the integration effort more predictable for GAINS customers, further de-risking GAINS implementations and supporting adherence to project timelines and budgets.

- Improving connectivity between partners to enable data sharing at a higher frequency than traditional methods and facilitates the exchange of higher-quality data
- Eliminating information silos that compromise productivity and performance
- Connecting to data sources quickly to add incremental improvements to decision-making

Business Benefits Achieved with GAINS Connect

Using modern technology to exchange data between the GAINS Halo360° Platform, legacy systems, and external data sources can yield the following benefits:



Replenish with a single click

Use Straight Through Replenishment (STR) to initiate order fulfillment.
Restocking vital products requires immediate action, especially in today's volatile times. Within GAINS, a planner needs only click 'submit' to send an order(s) immediately to SAP, Oracle NetSuite, or another ERP system.



Improve Reliability

Eliminate manual entry and improve collaboration between planning and execution teams.
Plans, forecasts, policies, and other supply chain documents drive thousands of decisions that impact service levels, resiliency, sustainability goals, and revenue. The use of the GAINS Connect RESTful API eliminates risk through accurate data communication between GAINS and other systems.



Improve decisions

Exchange data to ensure that orders, transfers, allocations, and more are based on the latest insights.
Disruption and volatility are too commonplace to make decisions using outdated insights and analysis. Ensure the latest insights are implemented to yield the greatest return on investment through inventory optimization, demand planning, and replenishment strategies.

Achieve real-time connections

Automate and control data flow to and from ERP, CRMs, data lakes, or other systems. GAINS Connect performs inbound and outbound data exchanges in seconds, making it easy for purchase orders, demand planning data, and inventory parameters to fuel decisions and actions in a timely and accurate manner. Data is made available via the API or by subscribing to key events via webhooks.

Improved Developer Experience

The GAINS Connect Integration Suite improves the user experience for many roles that engage with the GAINS Halo360° for Decision Engineering and Orchestration Platform, including:

Supply Chain Planners and Buyers

- Accessibility to higher quality data that has lower latency and fewer errors
- Quicker access to new data streams for better decision-making

IT Professionals

- Ease in building models that support point-to-point and canonical connections
- Ease in building standard API-based interfaces for internal and external integration use cases
- Sole ownership of the integration between the company's system of record and GAINS, no need to rely on support from third parties
- Use existing API documentation for GAINS Connect to make the process more user-friendly.

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GAINS Connect Integration Suite

The GAINS Connect Integration Suite is a collection of tools and strategies to facilitate modern, efficient, and standards-based integrations between customers' systems and GAINS platforms. It supports integration modernization by:

- Building connectors in low-code/no-code environments, enhancing GAINS' capacity to create and support more connectors
- Introducing a standard public-facing REST API, allowing GAINS customers to benefit from real-time straight-through processing of critical information such as purchase orders
- Providing improved tooling for all GAINS integrations

The GAINS Connect API allows access to outbound data, such as:

- Time series representation of customer demand for all or specific SKUs by location
- Representation of all inventory policies for all or particular SKUs by location
- Recommended purchase orders, transfer orders, and work orders derived from GAINS replenishment calculations

Benefits of the GAINS Connect Integration Suite

The traditional file-based (CSV, XML) integration model can cause performance and productivity challenges. This approach needs more transparency, is resource-intensive, and can introduce unnecessary delays. The GAINS Connect API aims to modernize the data exchange mechanism for the GAINS platform by leveraging industry-standard API practices. GAINS recognizes that companies may continue to use batch file processes. A hybrid approach using GAINS Connect enables companies to continue using base file processes where necessary and leverage APIs for added benefit.

GAINS embraces a hybrid approach that offers multiple options to customers but still embraces standards to make integrations manageable and predictable. GAINS Connect seeks to increase the speed and ease of customer integrations while improving platform flexibility and reducing operational overhead.

GAINS customers and partners benefit from:

- Automatically loading the GAINS Halo360° Decision Engineering and Orchestration with master and transactional data sets to eliminate errors and drive actionable decisions
- Developer-friendly APIs offering an excellent developer experience
- Configurable APIs save time and resources by tailoring the integration experience
- Modular solution enabling standalone or combined usage with other integration methods
- Accelerated time-to-market for developing new services and applications

GAINS Connect Integration Strategies

The GAINS Connect API will provide a well-defined interface for interacting with the GAINS platform's key data elements. The data objects the API can call will include orders, products, items, locations, and other data required for supply chain optimization. The list of data objects will grow as the number of GAINS Connect users increases.

Built in accordance with the OpenAPI specification, the GAINS Connect API has robust documentation, versioning, and change management capabilities to ensure that GAINS customers can leverage their ERP data in a real-time, interactive, and standardized manner.

When GAINS customers are ready to deploy GAINS Connect, they can choose from four high-level strategies, depending on their needs and constraints. These strategies can be used for inbound or outbound flows, and different strategies can be used if a customer has multiple systems of record.

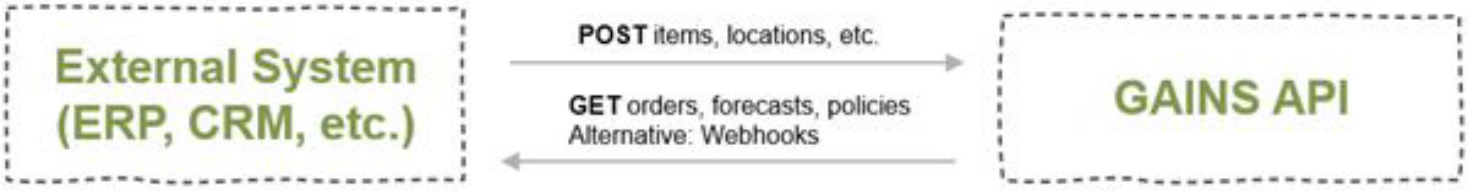
1. **GAINS Connect API**
2. **Connectors**
3. **File-based**
4. **Hybrid**

Consider the following when selecting a strategy:

- Do you prefer integrating directly through a vendor API supported by development resources?
- Are existing iPaaS systems such as Boomi or MuleSoft available?
- Are there requirements for specific connectors provided by particular ERPs?
- Do you need a real-time integration method?
- Do you need to manage transformation variations across different ERPs, necessitating the use of an iPaaS provided by the customer or GAINS

Integration Strategy – GAINS Connect API

- GAINS provides a REST API that supports both inbound and outbound integration endpoints, as well as a webhook subscription for time-sensitive events.
- Standard interface specification enables quicker implementation.
- Developer-friendly (RESTful, OpenAPI spec) with well-documented examples and the ability to try out functionality.
- Status monitoring capabilities are included.
- Easy connectivity with iPaaS such as Boomi, Mulesoft, Workato, etc.



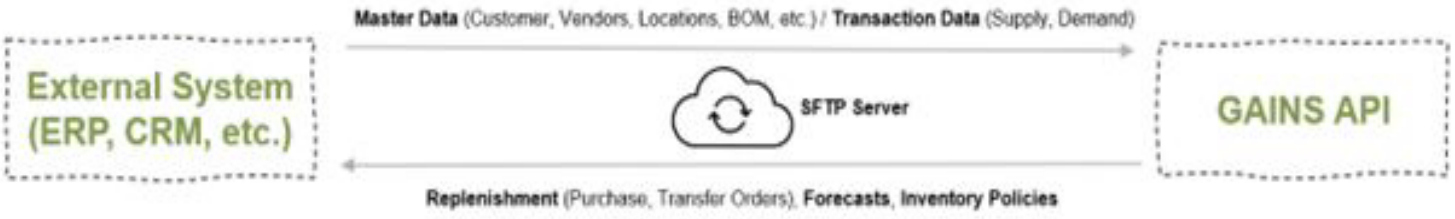
Integration Strategy – Connectors

- GAINS offers connectors (powered by Boomi) tailored for clients using SAP S/4HANA, Oracle NetSuite, EBS and Fusion, Microsoft Dynamics 365, and Salesforce. Additional connectors are continuously being added.
- Collaboration with clients to connect their ERP systems via Boomi while utilizing the specific connector strategy offered by Boomi.
- Transformations are managed within a Boomi integration process based on a customer's needs. This process is suitable for intermediating between GAINS and multiple client systems that require different formats or mappings.



Integration Strategy – File Exchange

- Support for delimited (comma, pipe, etc.) based interfaces for data ingestion into and export from GAINS.
- Delimited files created by the client according to standard specifications will be exchanged via SFTP.
- Handling format requirements of multiple customer systems where frequent exchanges occur throughout the day.
- Challenging aspects include difficulties in implementing real-time integrations, leading to suboptimal solutions and potential errors that can be hard to recover from, resulting in system synchronization issues lasting several hours or days.



Integration Strategies – Hybrid

- Hybrid strategies offer flexibility in integrating with one or more ERP systems while optimizing time-to-value.
- Common hybrid strategies involve data exchange between GAINS via files and from GAINS to customers via API webhooks (single ERP) or using both files and connectors for data exchanges involving multiple ERPs employing different strategies.
- They are typically used in more complex environments requiring additional diligence from GAINS and the customer to ensure robust integration.

About GAINS

GAINS is the supply chain performance optimization company helping companies fulfill their customer's promise. Our first-in-class, best-in-breed composable GAINS Halo360° Decision Engineering and Orchestration Platform transcends traditional silos of ERP, supply chain planning, and network design, enabling integrated, smarter, faster, and composable decisions across the time to plan horizons from strategic design to order execution. Specifically designed to manage volatility, uncertainty, complexity, and ambiguity (VUCA), GAINS customers are able to focus on prioritizing the right decisions at the right time at the right speed and scale to optimize supply chain performance, improving profitability and customer confidence. For more information, visit www.gainsystems.com.

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