InterSystems Supply Chain Orchestrator

39% of supply chain executives use multiple solutions from different vendors to inform decision making.[1]

Next-Generation Decision Intelligence Platform

Data is the lifeblood of every supply chain organization; as data grows, so too does the prevalence of data silos. Organizations are striving to gain a competitive edge, deliver value to customers, reduce risk, respond more quickly to the needs of the business, and out-innovate the competition. But accessing, integrating, and leveraging data from internal and external data sources is a challenge.

InterSystems Supply Chain Orchestrator™ is an AI-enabled supply chain decision intelligence platform that predicts disruptions before they occur, and optimally handles them when they do, so you'll be ready to manage the unexpected with confidence. It unifies disparate data sources by providing a real-time connective tissue—with built-in predictive and prescriptive analytics—that's complementary and non-disruptive to your existing infrastructure.

It is a cloud-based platform optimized for mission-critical, high-scale applications that provides a unified environment for data management, integration, transaction processing, and analytics. It handles both transactional and analytic workloads simultaneously and supports multiple data models (SQL, NoSQL, document, object, vector), enabling real-time analytics, business rules, AI and machine learning within a single platform.

A key differentiator — and benefit — of Supply Chain Orchestrator is that it provides all of the key data management capabilities that are required in a single, extensible platform, built from the ground up on a single architecture. This eliminates the need to implement, configure, and integrate multiple different data management services.

[1] Optimizing Supply Chain Performance with Unified Data

InterSystems®
Creative data technology

Supply chain-specific accelerators built for your needs.

Supply Chain Orchestrator Is Built to Solve Your Supply Chain Challenges

Supply Chain Orchestrator provides a comprehensive framework which includes the following built-in supply chain accelerators that speed and simplify the development of custom applications:

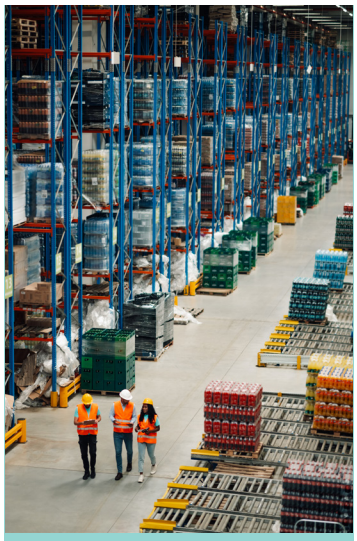
- Extensible supply chain data model
- Built-in supply chain analytics cubes
- Key performance indicator (KPI) framework
- Automated issue detection
- Issue lifecycle management
- Advanced analytics for issue resolution
- Supply chain APIs

Extensible Supply Chain Data Model

Despite commonalities between different supply chains, each supply chain is unique in some way, thus making every business' use case unique. There can never be a "one-size-fits-all" data model that will meet the needs of all supply chains. Therefore, it is important that the canonical supply chain data model can be extended or customized to meet the needs of each specific use case. The data model provided by Supply Chain Orchestrator supports the following features:

- **Custom data attributes:** Custom data attributes can be added to any existing data objects in the model. This can be done by customizing a data object class or simply through an API call.
- **Custom data objects:** If the canonical data model does not provide the business entity required, a new object can be created. A new data object can be created through a new class definition, or simply by making an API call.
- **API support for data model extensions:** As mentioned above, APIs can be used to add custom attributes or to create new custom objects. APIs are also provided to inspect the current data model details: what objects are system defined and which ones are custom; what attributes are defined for each object; and which ones are custom attributes.
- **API support for data access:** Once the data model is extended, APIs can be used to access the extension by adding data to the extended data model, query data based on custom attributes or on custom objects, or other create, read, update, and delete (CRUD) operations on the data anywhere in the extended data model.
- **Upgrade safe:** Any extension of the data model will be preserved during Supply Chain Orchestrator upgrades, even if the canonical data model is enhanced in a new release. No additional data migration step is required for upgrades.

Built-In Supply Chain Analytics Cubes



With embedded analytics and a canonical supply chain data model, clients can get immediate value from their supply chain data once loaded, such as via business intelligence dashboards or reports. With a smart data fabric architecture, there is no need to move the data from a transactional schema to an analytics schema, and analytics cubes can be defined directly on the supply chain data model. To speed this up even further, data cubes for key supply chain data objects, such as orders, shipments, inventories, and issues are prebuilt frameworks within Supply Chain Orchestrator. These cubes can be used for configuring custom dashboards, generating business intelligence (BI) reports, or used by other supported BI tools. The data cubes provided out of box can be extended with new measures or dimensions, based on data model extension or customization. But new cubes can also be configured independently. In addition to the common BI and reporting usages, cubes are also used by Supply Chain Orchestrator as the foundation for its KPI framework.

Key Performance Indicator Framework

Many supply chain activities are driven by key performance indicators (KPIs), which can be used for many different purposes such as tracking business objectives and goals or detecting risks in a supply chain. Conceptually, there are many common supply chain KPIs, such as on-time in-full (OTIF) orders or aging inventory, but the actual logic behind these KPIs can still vary from business to business. Supply Chain Orchestrator offers a KPI framework that can be used to configure KPIs based on a client's specific logic. The KPI framework allows clients to define KPIs with the following details:

- **KPI logic:** For example, the logic for the definition of "late" for a late ship order KPI.
- **KPI dimensions:** If a client is interested in learning late ship orders by country and by products, the KPI definition can include country and product as KPI dimensions.
- **KPI thresholds:** Two KPI threshold values can be defined for each KPI, watching threshold and warning threshold.
- **KPI value type:** Two types of values can be used for a KPI, raw value (such as count of late orders, or sales revenue dollar amount), or a percentage value (percentages of orders that are late).
- **Issue flag:** A KPI can be used to autogenerate issues for any data records to meet the KPI condition. For example, one can make late ship order KPI to be an issue-generating KPI, so any orders shipped late will have an issue generated and tracked in the system.

Automated Issue Detection

Supply chain disruptions and risks are modeled as issues in Supply Chain Orchestrator. Issues can be automatically generated based on KPIs, triggered from business processes, or imported from external systems. Once an issue is saved in Supply Chain Orchestrator, its lifecycle can be managed within the system, including setting issue status, running issue analysis, providing actionable insights, etc. Supply Chain Orchestrator also provides out-of-the-box issue analysis to help clients understand issues in different categories, business impacts by different type of issues, and statistics on issue status.

Advanced Analytics for Issue Resolution

A key part of issue lifecycle management is issue analytics, which can provide insights to the following about an issue:

- **Severity level:** How big an impact is it for the business?
- **Urgency level:** How time-critical is the issue? Root cause analysis, e.g., what triggered the problem?
- **Impact analysis:** What would the impact of this issue be if it is not properly addressed?
- **Prescriptive actionable insights analysis:** What are the recommended actions to mitigate the risk of the issue and related business impacts?

Although the analysis of each business challenge is different, Supply Chain Orchestrator provides the key infrastructure and framework to simplify the development or configuration of related business processes and business rules for the above analysis needs, making it ideal for enterprise organizations, systems integrators and application software developers.

Supply Chain APIs

APIs are provided for accessing all Supply Chain Orchestrator features, including:

- Data model APIs for model discovery and model extension.
- Data access APIs for data management including create, read, update, and delete (CRUD) operations on any supply chain data and search capabilities. All data access APIs support user-defined pagination and sorting, which simplifies the work of related UI development.
- KPI-related APIs, including listing defined KPIs, creating new KPIs, getting a KPI value or values, getting a list of data records associated with a KPI, etc.
- An API for issue management, including new issue creation, search or retrieve issue details with analysis results, run issue analysis, and closing issues.

In addition to the APIs listed above, Supply Chain Orchestrator also provides many other APIs for different aspects of the data platform.

Conclusion

Supply Chain Orchestrator is a powerful supply chain decision intelligence platform for any organization in any industry. As supply chain organizations are faced with the need to make real-time decisions amidst increasing amounts of data, the challenge lies in breaking down data silos and providing end-to-end visibility and embedded real-time predictive and prescriptive analytics to respond more quickly and accurately to exceptions and disruptions. With a focus on real-time data sharing and trusted insights, Supply Chain Orchestrator empowers organizations to optimize their supply chain operations, and enhance overall efficiency.

By seamlessly integrating disparate data sources, Supply Chain Orchestrator empowers decision makers, driving better outcomes and delivering value to customers. For those navigating today's increased complexities of supply chain management, Supply Chain Orchestrator provides one reality of the supply chain, powered by unified data.

Learn more at **InterSystems.com/Orchestrator**

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