

Transform Your Supply Chain with Cloud Integration Technologies

Integrated IT is a key enabler of key partnerships that can unlock value across the supply chain.

Highlights

- The supply chain is fast evolving to deliver a superior omnichannel customer experience
 - Optimizing Multi-store operations requires a secure and integrated IT backbone
 - Integration technologies enable a streamlined vendor management capability
 - The need for an effective collaboration across the supply chain creates a strong case for integration technologies
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The supply chain is evolving to deliver a superior omnichannel customer experience. This means effectively balancing demand and supply through planning and execution, supported by an integrated knowledge management system that incorporates demand and contingency planning across each functional area. Through this integration and digital transformation, companies can experience lower production and operational costs, accelerated lead times, and enhanced reporting and data analysis capabilities which can fuel better planning and production programs.

To achieve these goals, companies must leverage a pervasive integration strategy that enables planning and reporting applications to expose a set of integration endpoints that are rich, comprehensive, well documented, and easy to discover, understand and consume (typically in the form of RESTful APIs). API-enabled applications are much easier, faster and cheaper to integrate with, than those that can only be integrated by using web services, undocumented database stored procedures, direct access to complex relational data structures, or large and convoluted comma separated values (CSV) flat files. They also provide enhanced security levels.

How do you accomplish this, and more? Let's look at these use cases that combine variables of messaging, integration and APIs to unlock the potential for a retailer of the future.



The audience for this paper is a senior executive who champions the case for a responsive architecture, which is pivotal for a digital transformation of the entire supply chain. For example, Chief Supply Chain Officer, CIO. etc. It is the intersection of LOB and IT.



Digital transformation has affected the entire value chain of consumer industries, whether it involves integrating data with upstream suppliers, enabling open innovation, building smart factories, engaging with the digital customer or shifting away from traditional retail models. Digital natives, marketplaces, and direct-to-consumer models are disrupting the traditional consumer value chain creating winners and losers.

The supply chain is quickly evolving to deliver a superior omnichannel customer experience. More than half of outperforming supply chain executives surveyed said their top investments in the next three years will be cognitive or cloud¹.

This evolution relies on: integrated planning and execution systems, logistics visibility, autonomous logistics, smart procurement and warehousing, spare parts management, and advanced analytics. This will enable companies to react to disruptions in the supply chain, and even anticipate them. This approach necessitates a completely integrated ecosystem that is fully transparent to all the players involved - from the suppliers of raw materials, components, and parts, to the transporters of those supplies and finished goods, and finally to the customers demanding fulfillment.

Through this integration and digital transformation, companies can experience lower production and operational costs, accelerated lead times, and enhanced reporting and data analysis capabilities which can fuel better planning and production programs. To achieve these goals, companies must leverage a pervasive integration strategy that enables planning and reporting applications to expose a set of integration endpoints that are rich, comprehensive, well documented, and easy to discover, understand and consume (typically in the form of RESTful APIs). API-enabled applications are much easier, faster and cheaper to integrate with than those that can only be integrated by using web services, undocumented database stored procedures, direct access to complex relational data structures, or large and convoluted comma separated values (CSV) flat files. They also provide enhanced security levels.

Customers are adopting newer technologies and expect retailers to provide the convenience offered by these technologies. But how do you manage this tidal wave of change? You have silos to overcome, secure messaging to implement to meet global privacy regulations, all while speeding up the business transactions.

IBM solutions for the retail industry introduce simplicity, as well as security, innovation and agility. Make your job easier by implementing single views of consistent data, and by securing your messaging with end-to-end encryption that will not weigh down the speed of your transactions. How do you accomplish this, and more? Let's look at these use cases that combine messaging, integration and APIs to unlock the potential for a retailer of the future.

1. Multi-store inventory and demand synchronization in real-time

Retailers need a secure means of exchanging information between stores, optimize buying and replenishment and improve the overall customer experience. Opening a new store in a different region (or converting a store post-acquisition) can be challenging, as it involves disparate IT environments. A standard process and information exchange must be established to bring about business efficiencies.

APIs, secure messaging and an enterprise bus are needed to ensure efficiency and integrity across various touch points in a multi-store scenario and thus optimize costs.

- i. APIs can be used to manage the automated and secure exchange of sales, inventory, and other critical information between each store and the company's head office, regardless of data format or communication protocol, in real-time.
- ii. Stores can use a secure and real-time messaging system to enable frequent exchange of sales and inventory information between the stores and the head office. The buying department is thus able to adjust and fine-tune their plans and forecasting according to real market demand. This enables stores to optimize their buying and replenishment through improved planning and forecasting, resulting in maximized on-shelf availability, and ultimately improved customer experiences.
- iii. A clear majority of employees work in store locations far from the head office. A distributed workforce makes the security of personal data even more critical; confidential payroll and human resource information must be exchanged securely using encrypted messaging, to protect privacy.

- iv. An enterprise integration bus helps connect throughout an array of heterogeneous applications and web services, removing the need for complex point-to-point connectivity.

2. Vendor management



On-boarding new suppliers and integrating them into corporate structures (processes, product catalogs and IT systems) is a challenge for companies and the vendors being on-boarded. Managing multi-tier partners adds another layer of complexity.

Integration technologies enable a streamlined vendor management capability.

- i. APIs are simple and designed for self-service, removing much of the on-boarding effort. Using APIs to expose catalog data, integrate supplier data into current workflow solutions, and send electronic invoices and business documents to all business partners can shorten the on-boarding cycle. Additionally, APIs can be used to enable new partner services to improve go-to-market strategies when necessary.
- ii. Partners or customers can also check inventory levels, place service requests for package pickups, enquire about prices and track deliveries. All this could be integrated with your web or mobile apps. This kind of data exchange in real-time and in a secure manner can be enabled by a secure messaging system.

3. Planning collaboration in ecosystem

As consumer preferences change, new products are introduced and feedback is received. The organization must be able to incorporate this feedback in real time and make rapid adjustments to product design and production processes.

Current suppliers may have to change the mix of what they are providing or be replaced by others with different products. There is a need to detect, analyze, and resolve disruptions within your enterprise, as well as with your key trading partners. Such changes must be achieved quickly to ensure the organization maintains its market position and satisfies customers' demands. 86% of outperforming supply chain executives surveyed said cognitive computing will transform their demand planning and forecasting capabilities².

The need for an effective collaboration across the supply chain creates a strong case for integration technologies.

- i. Cognitive or Watson powered APIs can help manage multi-channel order processing platforms and inventory management systems. These systems can help support:
- Creation and publishing of supply plans
 - Gaining manufacturers' and suppliers' commitments to your plans
 - Coordination of production, inventory and purchasing processes
 - Alerting partners to demand changes and
 - Receiving proactive alerts about supply problems.

This level of coordination helps you make better strategic decisions with visibility into your customer and business partner network. 92% of financial outperformers surveyed said AI and cognitive computing will enhance performance in production planning³.

- ii. Sharing data and demand forecast information across supply chain players improves transparency and supply chain coordination, making that information more efficient and responsive. Secure messaging ensures integrity across the ecosystem and ensures once-and-only-once delivery of messages.

- iii. The integration layer allows for collaboration among the various departments of the company, for example, integrating deep consumer insights into the demand forecasting process that feeds supply chain processes and distribution network.

4. Customer service center

Customer service is becoming a business differentiator. Retail service centers are strained and would benefit from a digital strategy that eliminates manual processes in customer care, billing, and tech support to satisfy customer inquiries in a cost effective, efficient way.

- i. IBM Watson based APIs enable virtual agents and use cognitive to assist live agents that answer your customers' questions, responding to their needs quickly and efficiently.
- ii. Support tickets can be submitted through multiple channels and are all assimilated to provide a unified view of the customer to the support agent.
- iii. APIs can be used for in-app shipment tracking experience, sending push notifications of delivery updates, analyzing delivery time and shipping performance, verifying if your shipments are delivered or not. With this system in place, you'll see an overall reduction on call center loads.
- iv. The interaction data can be integrated with Salesforce for smooth handover between virtual and live agents.

5. Blockchain to reinforce source authenticity for consumer goods in the supply chain

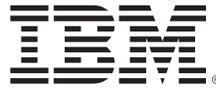
Blockchain can help retailers fight fraud, boost margins and build brands by driving counterfeit goods from the marketplace, reducing onerous transaction payments, improving operating efficiencies, slashing the cost of proving product claims and strengthening customer relationships. Blockchain's initial impact will be focused on enabling retailers to provide more reliable information to customers, who-particularly for some product categories-increasingly base their purchase decisions on product content, origins, purity and authenticity.

Using blockchain technology, retailers can provide customers with indisputable proof of the provenance and authenticity of their products at every step in the supply chain. By ensuring the security of business transactions, substantially reducing fraud and increasing the efficiency of business partnerships, blockchain would free significant resources that can be redirected to more innovative and valuable ways of working across the value chain.

Blockchain can also dramatically improve visibility into complex retail supply chains, such as information on product status and location. Retailers and distributors today must reconcile information from multiple systems and use this data to optimize inventory levels. Another useful application is food supply chain tracking and authentication which is critical to address sources of contamination in the food supply chain worldwide.

Businesses face many challenges integrating the blockchain infrastructure with their own systems and processes due to the level of complexity. A key success factor for blockchain in an enterprise architecture is middleware integration.

- i. You need to integrate blockchains with each other and with many other systems in real time, using different technologies and communication protocols.
- ii. Data discovery, event correlation, API management, security enforcement and governance are other middleware features to leverage in real world blockchain projects.
- iii. Middleware integration can be leveraged to reduce and solve these challenges since it is built for connecting different systems with various technologies, standards and communication protocols.
- iv. Secure messaging ensures compliance with all regulators involved and ensures once-and-only-once delivery of messages.
- v. In addition, integration technologies can add augmented intelligence via event correlation and visualization to ensure governance requirements or create added value by finding new insights (such as sub-optimal processes, performance issues, malicious usage or additional opportunities).



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Please Recycle

A proactive approach to innovation is needed to keep up with customers’ expectations in the digital business era. Business units are increasingly relying on IT to integrate speed, agility, and the competitive advantage of AI-powered capabilities into how they deliver customer experiences. The need for digital transformation is now at the forefront, driving customer interaction through tech-based initiatives, such as improving data management capabilities for proactive customer engagement, and leveraging structured and un-structured data through advanced analytics. 69% of IT professionals have either invested in a strategic digital transformation initiative, or plan to within the next 12 months⁴. Some of the toughest issues plaguing today’s retail environments today can be addressed to a large degree with a focus on digital customer engagement through the effective use of: application management, messaging and APIs. To learn more, [download the IDC Report, The Urgent Need for Hybrid Integration](#), or go to the [IBM Cloud Integration website](#) to learn more about IBM’s view on multi-cloud integration.

Want to learn more about how API’s and Cognitive can help your business and operations? Or, do you have a specific business problem you may like to discuss?



[Schedule a call from an expert](#)

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⁴The State of Salesforce, Bluewolf’s annual report 2017–2018 (insights from over 1,800 customers)