



solace.

for Retail



How to unify your physical and digital operations
and channels using an event-centric platform.

THE PATH TO PURCHASE HAS BEEN DISRUPTED

The ubiquity of online shopping has revolutionized the way people buy goods, but that's only one trend in retail that has forever disrupted the path to purchase.

The landscape is full of new players like Apple and Facebook, consumer packaged goods companies are building relationships directly with consumers, and even born-on-the-web brands like Wayfair are opening stores. Online marketplaces like Amazon and Etsy encourage competition from local niche entrants, and "store within a store" partnerships and temporary pop-up operations continuously keep the industry in transformation mode.

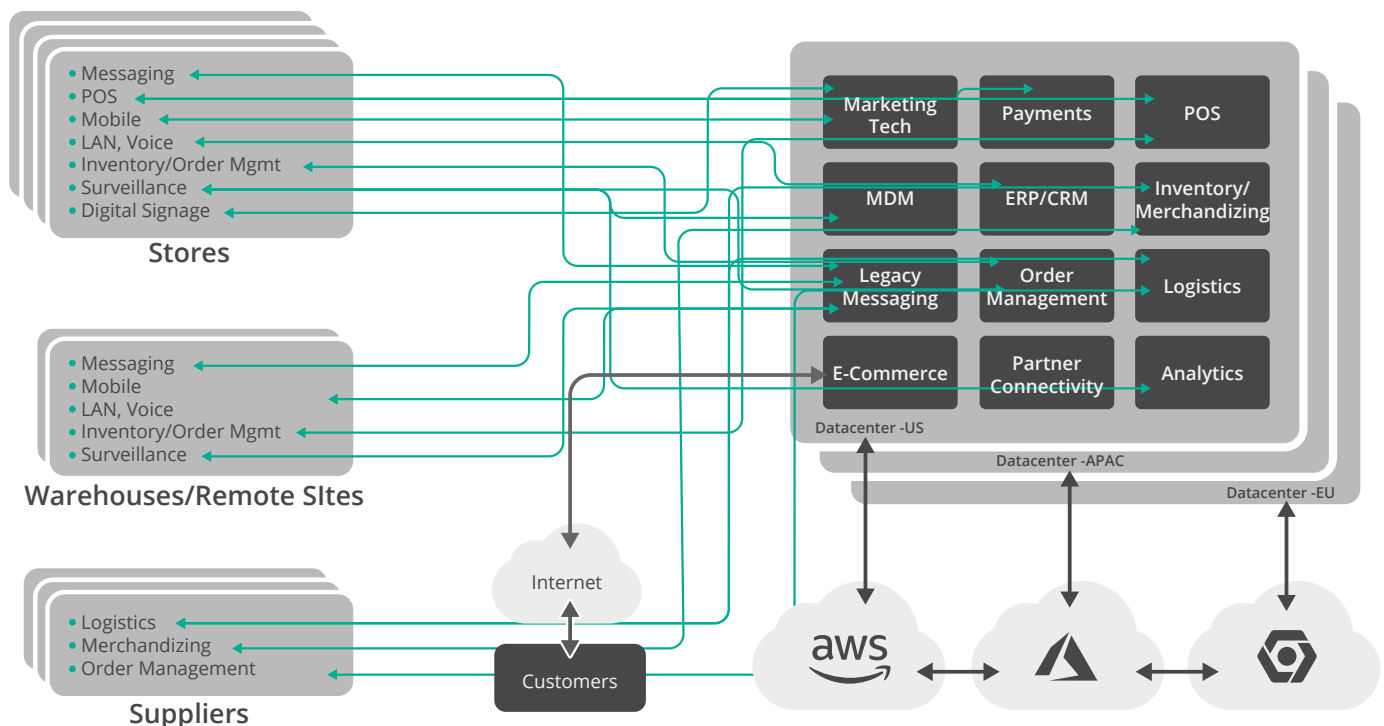
To compete with these new competitors and channels, retailers must keep up with the buying patterns of increasingly empowered and educated consumers who are embracing the ability to buy online and pick up/return in store (BOPIS/BORIS), can now subscribe to or rent just about everything, and who are perhaps just as likely to provide a review based on an experience as on the purchased product.

As the demand for personalized, real-time engagement grows, the lack of integration between e-commerce, inventory, pricing, order management, service, and marketing systems directly impacts the customer experience. Legacy systems and silos make it hard to innovate and compete in the marketplace. In-store associates still often lack visibility into what an online shopper is coming to pick up. And online shoppers rarely see the same offer shown on the in-store display signage systems.

TODAY'S TYPICAL ARCHITECTURE

Most retailers' IT systems consist of silos of information connected by proprietary messaging products via inflexible point-to-point, request/reply interactions. Many are migrating some peripheral applications and services to the cloud but will leave others running on-premises for the foreseeable future. They need to align back-end systems with front-end systems, and link cloud services with on-prem applications, but the tightly coupled nature of their existing system prevents agility and innovation.

BUILDING A REAL-TIME EVENT-DRIVEN FOUNDATION



To solve these challenges, retailers are moving their digital transformation focus from the front-end to the back-end operations. They are adopting a real-time digital foundation that provides a single view of information (from supply chain to customer-facing) to connect consumers, store associates, product and inventory information, and stores to each other.

Unifying physical and digital operations requires an event-driven foundation that enables the exchange of data/events in real-time between front-end and back-end applications – no matter where they reside. On-premises legacy systems need to talk to the e-commerce platform, to the inventory and POS systems, to the cloud ERP, and to the AI/analytics services. There can be no silos – internally, externally or with your consumers. This foundation must be reliable, secure and high-performing.

WHY PUBSUB+ FOR RETAIL DIGITAL TRANSFORMATION

Solace simplifies and accelerates your digital transformation by helping you make anything that happens in your company become a digital **event** that travels through your distributed systems (warehouse, stores, payments, inventory, e-commerce, etc.) in real-time. Solace PubSub+ streams events/data between all your applications in different environments (on-premises, in private clouds, in public clouds), to drive operational efficiencies, to make better decisions, to spur innovation, and ultimately to serve your customers better.

PubSub+, the market's first event streaming and management platform, provides a comprehensive way to create, document, discover and stream events from where they are produced to where they need to be consumed – securely, reliably, quickly, and guaranteed.

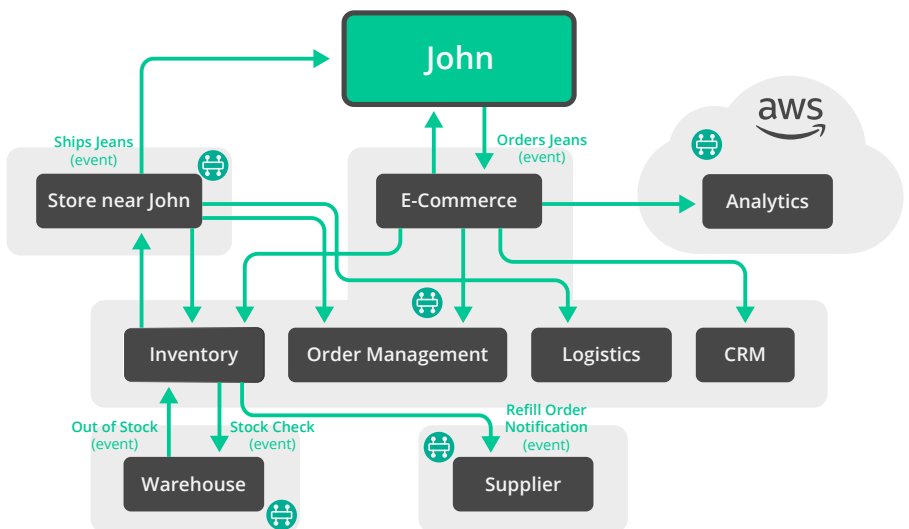
1.1 Unify physical and digital operations and channels with an event mesh

The key to enabling agility and innovation is dynamically routing events from where they are produced to where they need to go across e-commerce, in-store and supply chain systems.

In a PubSub+ powered event mesh, applications don't need to know about each other, they only need to express interest in the kinds of events they need to know about. When a relevant event occurs anywhere in the system, whether it's generated in-store or in the cloud, they are notified and can take action.

In the example to the right, John orders a pair of jeans from his home, which alerts applications that are interested in that event: inventory, order management and CRM. Inventory checks with the warehouse to see if it's in stock, and when it's not, checks with a store near John's house. The store has a pair, so it notifies order management and logistics that it will ship them.

In the meantime, the supplier app has subscribed to the out-of-stock events so they can ship more to the warehouse, and the analytics app subscribes to all kinds of events so it can factor the situation into manufacturing recommendations and marketing promotions.



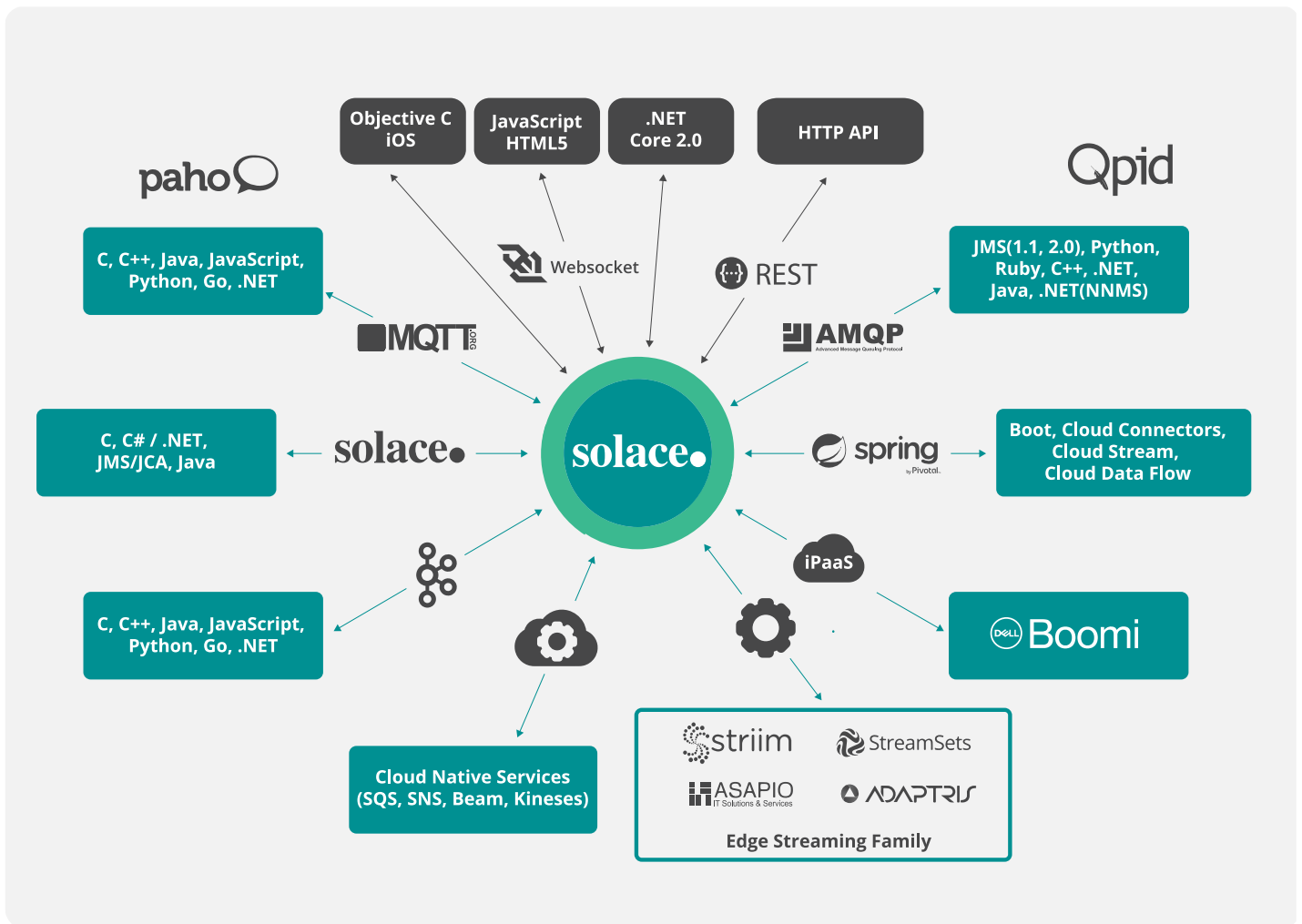
1.1.1 Advantages of an event mesh

- **Achieve a unified view of channels:** An event mesh provides a single view of information from all your systems (from storefronts to supply chain) so you can personalize the consumer experience and generate more revenue.
- **Align teams and technologies:** As the line between physical and virtual shopping fades, the event-driven distribution of data can help you unlock the potential of new clienteling and fulfillment options such as endless aisle, BOPIS, BORIS, and ship from store.
- **Unify digital and physical assets:** An event mesh can help you keep up with the increasingly complex matrix of connections between shoppers, vendors and influencers, and the demand for real-time communication across this ever-shifting ecosystem.

1.2 Future-proof your infrastructure

There's nothing worse than investing in a new infrastructure to then learn that you must spend more because newly developed apps that you haven't thought of don't talk to your current apps or cloud services.

PubSub+ provides a variety of on-and-off ramps to the event mesh that support open protocols and APIs like AMQP, JMS, MQTT, REST and WebSocket. We also provide open source connectors for Kafka, and we partner with providers of streaming technologies so you can easily integrate all kinds of streaming data.



1.3 Modernize without risk and at your own pace

Because PubSub+ integrates with your old and new apps, architectures and technologies, you can modernize piece by piece and at your own pace. The event mesh is dynamic, so it's easy to have apps move, leave, and re-join the mesh as routing topics automatically follow the applications.

We offer flexible packages so that you can start with our free PubSub+ Standard Edition for your initial modernization requirements (i.e., datacenter) and switch to the Enterprise edition for increased scalability as the number of shoppers, internal users and partners grow. Also, as you expand or on-ramp your RFID devices, we make sure you can scale.

	Standard Edition	Enterprise
Pricing	Free	Licensed per Core
Use Cases	Eval, Dev, Prod	Eval, Dev, Prod
Messaging Functionality	Full	Full
Max Message Rate	10,000 messages/second	Unthrottled
Simultaneous Connections	1,000 concurrent connections	200,000 concurrent connections
Compression	Yes	Yes
TLS	Yes	Yes
MQTT, REST, JMS, Websockets	Yes	Yes
HA	Yes	Yes
Replication for DR	Yes	Yes
Support	\$	Yes

Les Mousquetaires

With 4,000+ stores and known for “Intermarche” supermarkets, this European distributor is building a hybrid integration platform and plans to replace many legacy messaging middleware systems with an event mesh that unifies systems across their brands and operations.



Home Improvement Store

With over 350 stores in 14 U.S. states, this home improvement store implemented Solace technology at the hub to increase scalability and streaming performance to stores. A phased deployment enabled seamless migration from the existing legacy messaging system.



PARTNERSHIPS

Event-Enabling and Migrating SAP Assets

A Solace-powered event mesh can help you accelerate and de-risk the adoption of SAP Cloud services, and migrate from on-premises to the cloud. The messaging infrastructure for S/4HANA is based on our technology, and we've partnered with SAP partner ASAPIO to help companies liberate their data from SAP systems of record and provide on-ramps to the event mesh.

Event-Driven Integration with Boomi

Together, Dell Boomi and Solace PubSub+ provide a cloud-native, enterprise-grade and event-driven integration solution, enabling every person, application and device in an enterprise to be notified when something they are interested in happens, as it happens. Joint customers are expediting their event-driven implementations with targeted support as they integrate their solutions with existing applications.

ABOUT SOLACE

Solace helps enterprises become agile and real-time by giving them everything they need to make their business operations and customer interactions event-driven. Behind Solace technology is the world's leading group of data movement experts, with nearly 20 years of experience helping global enterprises solve some of the most demanding challenges in a variety of industries – from capital markets, retail and gaming to space, aviation and automotive. Established enterprises such as SAP, Barclays and the Royal Bank of Canada, multinational automobile manufacturers such as Renault, and industry disruptors such as Jio use Solace to modernize legacy applications, deploy modern microservices, and support their hybrid cloud, multi-cloud and IoT architectures.

Learn more at solace.com.