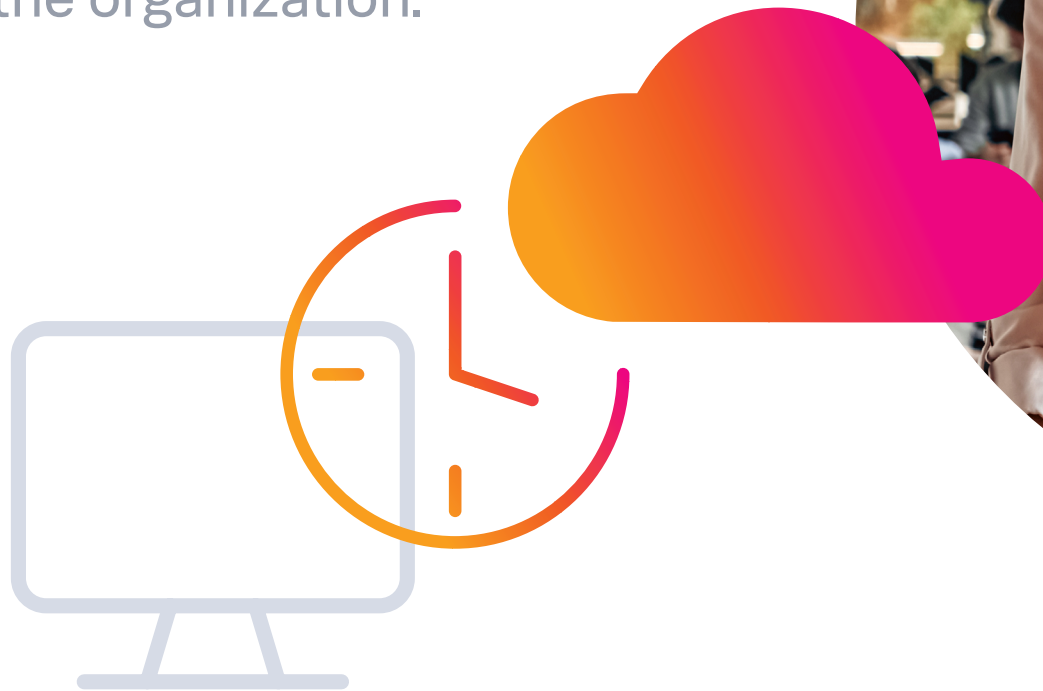


Splunk Cloud and AWS: Redefining physical retail shopping through store modernization

Enabling business resilience and security by making store data accessible and actionable across the organization.



splunk[®]>

| aws

Why brick-and-mortar stores matter more than ever

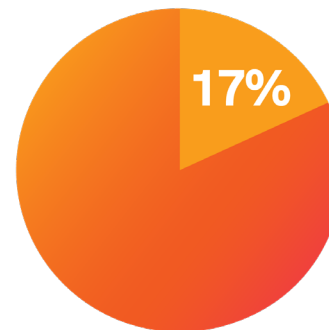
As American writer Mark Twain might have quipped, reports of the death of the brick-and-mortar store are greatly exaggerated.

Forrester predicts 72 percent of sales in 2024 will still occur in physical stores.¹ But it's a dynamic landscape as 70 percent of physical sales will be "digitally influenced."²

The stakes are high because customers have many choices of where to shop—if their expectations are not met, they can simply move on. In 2022, it is estimated that there were \$20 trillion in sales globally generated through in-store or brick-and-mortar retail channels.⁴

Retail businesses need to deliver exceptional in-store customer experiences that are fast, secure, and frictionless.

In this ebook, learn how retailers can modernize stores to build resilience through the merging of digital and physical to create strategic opportunities in four core areas: store infrastructure and Internet of Things (IoT) health; point-of-sale (POS) and mobile-device monitoring; data and insights across a unified commerce journey; and faster innovation to optimize store technology investments.



17 percent of retailers said they could lose up to **\$129,000 per hour** if systems go down.³

¹Chain Store Age, "Forrester: Physical stores to account for 72% of U.S. retail sales in 2024," Oct. 19, 2021

²Forrester, "US Digital-Influenced Retail Sales Will Top \$3.8 Trillion In 2027," Oct. 12, 2022

³AURES, Martyn Nicholls, Service Manager, AURES UK, Oct. 17, 2018

⁴Statista, Estimated value of the in-store and e-commerce retail sales worldwide from 2022 and 2026, March 24, 2023

Evolving challenges create new opportunities to modernize and secure physical stores

Retail modernization and innovation can sometimes be held back by legacy technology and monolithic architecture.

Large stores have hyper-distributed environments with tens of thousands of endpoints creating telemetry data and customer touchpoints across online and brick-and-mortar environments. This presents a massive opportunity to be turned into operational insights and acted on to optimize costs while delivering a better customer experience.

Limited visibility across store technology and application performance disrupts the customer experience and increases costs for the retailer. Adding the capability to capture new insights from in-store customers (and employees) can eliminate these blind spots and makes for a smoother shopping experience.

Many forward-leaning retailers are introducing personalized ways to check out, such as mobile Point-of-Sale (mPOS) and self-checkout. However, technical challenges with mobile mPOS rollout create friction for customers and associates during the transaction process on mPOS and self-checkout. IT support teams are required to grow because of operational gaps, cutting into the profits that new in-store experiences are intended to drive. Management and support of new POS devices require manually collecting logs, metrics, and traces from devices, services, and applications for investigation.

As a result of the pandemic, many physical stores added services in order to operate like mini-fulfillment centers, either shipping from the store or providing curbside pick-up. Retailers that lacked flexibility in their systems and the ability to scale as needed were unable to take advantage of these new-found revenue streams.

In addition, brick and mortar stores also need support in advancing solutions that protect their businesses from employee fraud, external loss, and organized retail crime.

Store modernization: Key questions

When it comes to infrastructure, retailers should assess their current systems and identify any limitations or areas for improvement. This may include evaluating their POS systems, inventory management tools, and other edge devices or backend systems. Here's a good place to start:

- Are systems secure and scalable?
- Are you able to collect, correlate, and create insights to drive action?
- What digital bandwidth is available to stores? Real-time availability and service level of ISPs?
- How many SKUs do you carry and at what transaction volume?
- Do you want to eliminate store servers or reuse any hardware?



Improving the resilience of mission-critical, in-store applications and services

By moving store application workloads to Amazon Web Services (AWS), you can gain elasticity while scaling your infrastructure. AWS Partner Splunk provides comprehensive visibility across the hybrid and edge technology landscape, as well as powerful tools for investigation and response, at scale. This enables retailers to transform store infrastructure, reduce operating expenses, improve profitability, and more confidently navigate change.

To improve resilience of mission-critical, in-store applications and services, there are four areas of focus for store modernization:

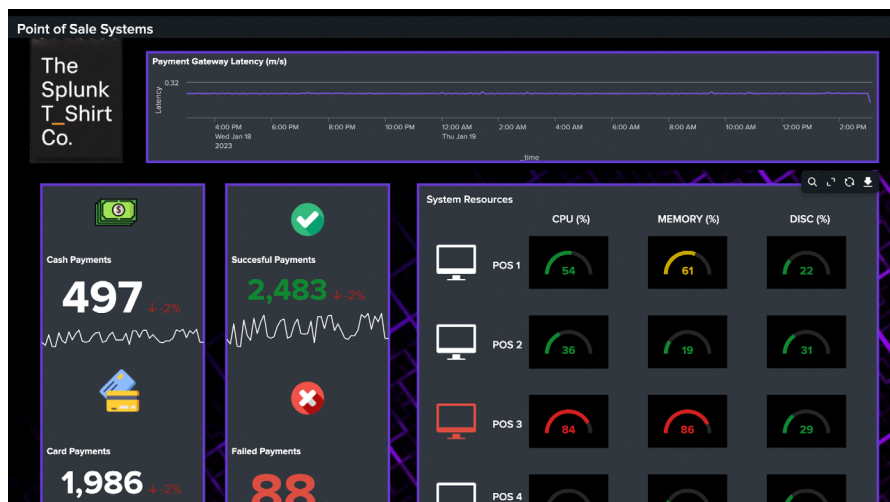
Store infrastructure and IoT health: Monitor and correlate issues quickly to determine the root cause of outages and performance degradation at the store with the ability to implement changes faster to meet customer requirements.

POS and mobile-device monitoring: Ensure that POS, payment services, and mobile handhelds for associates are optimized for the best experience. Managing this data in Splunk allows store associates to serve customers better and provide a frictionless commerce experience in stores.

Data and insights across a unified commerce journey: By leveraging AWS edge services, such as [AWS Outposts servers](#), [AWS Panorama](#), [AWS IoT](#), and [Amazon Elastic Container Service \(Amazon ECS\) Anywhere](#), retailers can connect in-store systems with online channels to create a seamless, omnichannel experience for customers. This allows retailers to gain insights into customer behavior across multiple touchpoints and tailor offerings to their preferences.

Faster innovation to optimize store technology investments: Monitoring of [AWS Smart Store](#) solutions and hybrid-cloud environments to drive business resilience and outcomes that the retail business depends on.

Using Splunk in combination with AWS edge services enables retailers to gain near real-time visibility into customer transactions, behavior, and preferences across all channels, including in-store, online, and mobile. This provides a complete view of the customer journey and helps retailers deliver personalized experiences that increase customer loyalty and drive revenue growth.



Splunk and AWS combine to help you securely accelerate innovation

AWS and Splunk are a powerful combination to help a retailer's team accelerate and mature their DevOps processes. AWS provides the DevOps tooling and Splunk helps retailers understand when mission-critical systems, applications, and endpoints are not working as intended due to related system changes, new software deployments, configurations, or scaling services up or down.

With the continuous expansion of AWS offerings and Splunk's ongoing innovation in data analytics management, customers can access the tools and solutions needed to address evolving business needs. Through these innovative offerings, Splunk and AWS empower teams to enhance collaboration and redirect critical resources to high-value projects, fostering an innovative spirit across the organization.





Correlating data and extracting value—and empowering store teams with data insights

Transaction and order metrics from POS systems enable retailers to make data-driven decisions about replenishment, forecasting, staffing, and store layouts. They can also help quickly identify when underlying IT issues might be causing negative impact to the business and its revenue.

With [AWS Smart Store](#) solutions capturing data throughout the customer journey, retailers can make data-driven decisions that lead to better customer experiences, increased sales, and improved business performance. By leveraging the high-performance compute and storage resources of AWS, you can process and analyze large volumes of data faster and more efficiently with Splunk.

One platform—many security benefits

You can build on the world's most comprehensive and broadly adopted cloud offering. Splunk also enables you to bring in data from non-AWS environments like POS and inventory systems and provides a comprehensive overview of your security posture.

The robust security capabilities of AWS, combined with Splunk's security analytics, can help you detect, investigate, and respond to threats more effectively. Splunk helps protect customer, associate, and vendor data. This reduces risks from internal and external threats while minimizing the impact of data breaches and fraud by understanding the potential security and privacy-related risks from devices in stores.

With the ability to pinpoint fraudulent and abnormal behavior within purchasing, accounts payable, POS, warehouse movements and returns, negative business impact is shorter with fewer incidents.

Splunk provides visibility across your entire retail landscape, informing what actions and decisions need to be made to optimize performance, improve uptime, and enhance your security posture.



Modernize and secure your stores with Splunk and AWS

Store modernization with Splunk and AWS is reinventing in-store shopping experiences and operational efficiency, delivering business resilience and results.

Leveraging AWS Global Infrastructure and elasticity, you can scale Splunk deployments to accommodate growing data volume and operational analytics needs.

By leveraging the high-performance compute and storage resources of AWS, you can process and analyze large volumes of data faster and more efficiently with Splunk.

The robust security capabilities of AWS, combined with Splunk's security analytics, can help you detect and respond to threats more effectively. Customers can deploy the power of AWS services such as [Amazon Simple Storage Service \(Amazon S3\)](#) and [Amazon Elastic Compute Cloud \(Amazon EC2\)](#) with Splunk's powerful analytics capabilities.

Splunk and AWS enable you to collect, store, and analyze massive volumes of data in near real time—and use those insights to drive actionable business decisions.

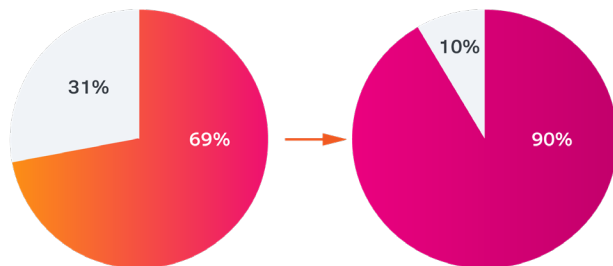
Splunk customers turn data into outcomes

69% Better Mean Time

90% Reduction in Downtime Costs

69%
Better mean time to resolution for unplanned downtime or performance degradation for observability leaders⁵

90%
Reduction in downtime costs (from an estimated \$23.8 million annually to just \$2.5 million) by the most sophisticated observability practitioners⁵



⁵Splunk and Enterprise Strategy Group, "State of Observability 2022"



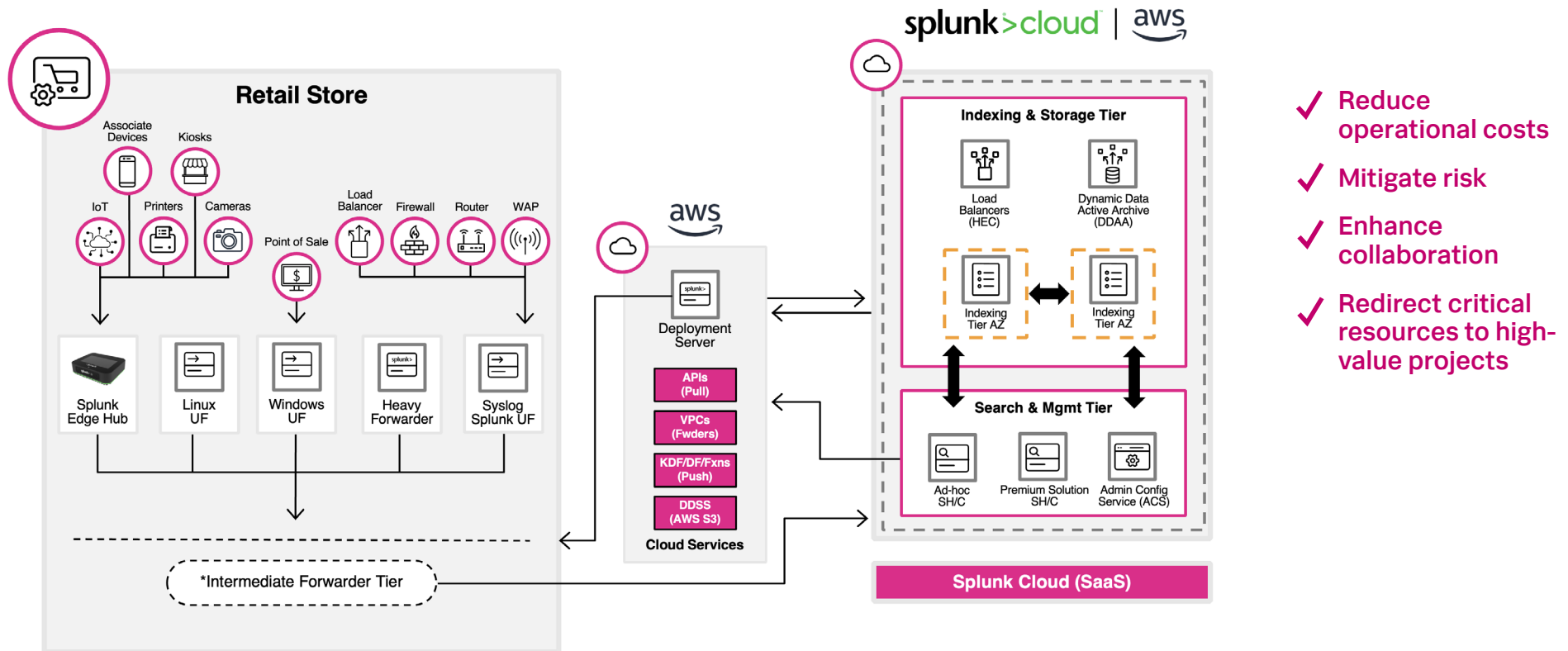
Splunk and AWS: Better together for retailers

Retail businesses need to deliver exceptional in-store customer experiences that are fast, secure, and frictionless. AWS and Splunk offer a better-together value that enables you to achieve greater insights, efficiency, and innovation than you could achieve using either alone. Splunk, in cooperation with AWS, allows you to integrate Splunk's data analytics and management platform with the powerful and scalable AWS Cloud.

Splunk Cloud is built on AWS and leverages all the benefits of AWS products and services. The strong technical collaboration between Splunk and AWS ensures close alignment of the product road map. This proven architecture is deployed by hundreds of global customers.

Get insights into your AWS services, users, applications, and infrastructure with the help of the monitoring, troubleshooting, and response tools from Splunk, including [Splunk Cloud Platform](#), [Splunk Enterprise Security](#), and [Splunk Observability](#).

The better-together value of AWS and Splunk is the ability to provide you with a comprehensive, scalable, and secure way to unlock the full value of your data and achieve business goals more effectively.





[Learn more about Splunk](#) [Learn more about AWS](#)

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