

White Paper

# Extreme Retail Solutions

Driving Greater Operational Efficiencies and Differentiated Customer Experiences

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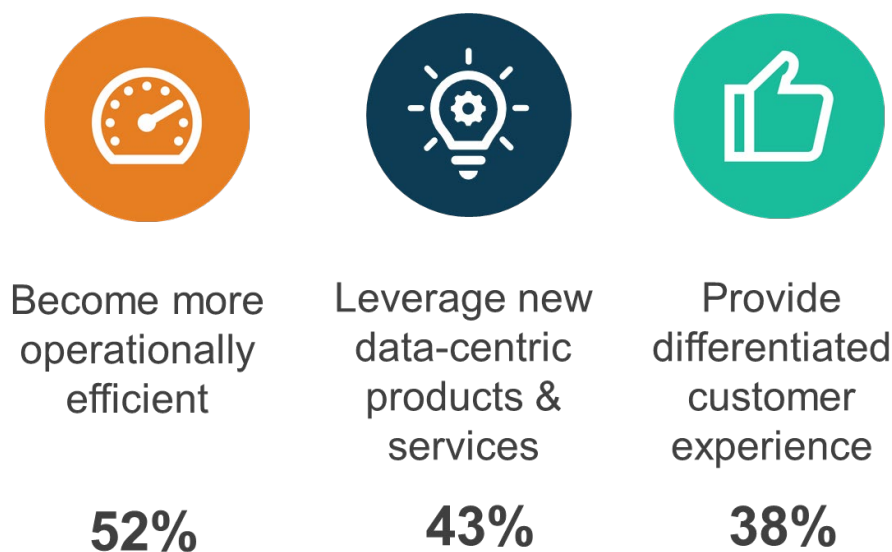
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## Retail Environments Are Rapidly Evolving

Every industry is transforming to create better digital experiences for its customers, but the retail environment is witnessing massive change. As traditional brick and mortar companies aim to provide a differentiated and personalized in-store shopping experience, cloud-native online retailers are opening up retail storefronts that match their online experience. The bottom line? The retail industry is a dynamic, constantly changing landscape today.

In order to deliver quality customer experiences and achieve operational excellence amid the evolving retail environment, organizations are embarking on digital transformation initiatives that encompass people, process, and technology changes. In the retail space, ESG research indicates that organizations are just reaching critical mass, with 18% reporting mature digital transformation initiatives and another 64% reporting that they are in process or just beginning their efforts.<sup>1</sup> The goal of digital transformation most cited by respondents in the retail industry is to become more operationally efficient (52%). This makes tremendous sense given the historically low margins achieved in this industry. So, any efficiencies gained through digital transformation could help organizations yield higher margins. The next goal cited by retailers in the research is to leverage new data-centric products and services (43%) to enable more personalized shopping experiences. This could include leveraging sensors and IoT devices to provide location-based services and real-time offer management. Rounding out the top three most-cited responses is the ability to provide a differentiated experience (38%) for customers while they shop. Ideally this would be the culmination of becoming more operationally efficient and using in-store and loyalty app information more effectively.

**Figure 1. Top Digital Transformation Goals for Retail Organizations**



*Source: Enterprise Strategy Group*

The underlying technology will play a significant role for retailers trying to accomplish all those goals. New point-of-sale systems, digital signage and mirrors, location beacons, and customer devices will all leverage the wireless network for connectivity. Retailers will need to ensure not only sufficient coverage, but also adequate security for all devices connected to the retailer's network. This could span the wireless, wired, and wide area networks. When they do this properly, retailers can create positive experiences for shoppers that can be highly personalized and differentiated. However, organizations need to overcome a number of obstacles to deliver those services.

<sup>1</sup> Source: ESG Master Survey Results, [2019 Technology Spending Intentions Survey](#), March 2019. All research references and charts in this white paper have been taken from the master survey results set.

## Challenges Holding Back Retailers

Retail organizations may have hundreds or thousands of sites, multiple data centers, and cloud computing environments. As a result, the technology required to support these highly distributed environments can get very complex, very quickly. In fact, according to ESG research, 73% of retail organizations stated that their IT environment is either more complex or significantly more complex than it was two years ago. And why is that? According to the research, the top five drivers of complexity in a retail environment reported by respondents are:

- **An increase in the number and types of endpoint devices (56%).** This challenge will only increase as users rely on mobile devices to enhance their shopping experience. Additionally, ESG research highlights that almost a third of retailers (32%) have IoT initiatives underway and another 55% plan to deploy IoT in the next 12-24 months. As a result, retail locations will need to connect and secure even more sensors and IoT devices. This surge in IoT comes with additional challenges as respondents to the survey report securing IoT devices as the top challenge in IoT deployments.
- **More users (31%) and more data (31%).** These two challenges are self-fulfilling, as outlined previously. With retail organizations looking to launch more data-centric products and services, the additional users and IoT devices in the environment will result in the creation of additional amounts of data. While servicing more users and collecting more data can be leveraged to create business advantages, it can also create a number of IT challenges related to collecting, transporting, storing, and securing all that data.
- **An increase in the number and types of applications used by employees (25%).** To deliver the best service, retail organizations are deploying customer-friendly point-of-sale (POS) solutions to expedite checkout, including self-service checkout. In addition, a number of price match and loyalty applications are in use, as well as back-end supply chain, ERP, and credit approval applications. Plus, as they collect more data, organizations will need to employ new advanced analytics apps to make sense of it all. These applications may reside in corporate data centers, public cloud environments (IaaS or SaaS), or in edge locations. It will be important to ensure all these locations are able to effectively communicate with one another and that the application traffic is segmented and secured.
- **Need to incorporate artificial intelligence and machine learning (AI/ML) with advanced analytics (19%).** This is a natural extension to the collection of additional amounts of data. Organizations want to be able to leverage the data and need to incorporate these new technologies and applications to do so. Unfortunately, networking is located in the top two parts of the infrastructure stack, which is believed to be the weakest link in an organization's ability to deliver an effective AI/ML environment.

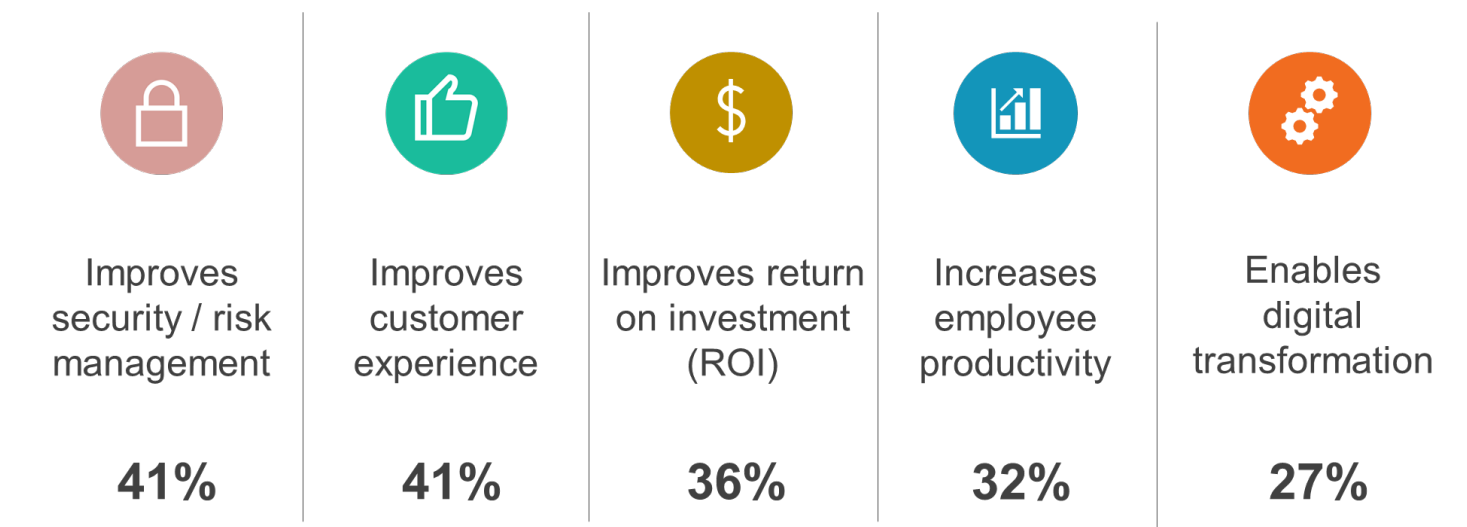
Another challenge organizations face is the lack of centralized control in what is typically a highly distributed environment. It is not cost-effective to deploy IT resources at every location and it is not efficient for resources to complete the manual tasks that must be repeated at each location. Even if there were budget for resources at each location, organizations would find it difficult to find skilled resources for every site.

Faced with these and other challenges, what do retailers need to do to overcome them and achieve their goals of becoming more operationally efficient and delivering differentiated experiences?

## Enabling the Retail Store

Let's start by examining how retail organizations are justifying their IT spending. According to ESG research, the five considerations most-cited by retail organizations as important for justifying new IT expenditures are that it (see Figure 2):

**Figure 2. Top Five Justifications for IT Spending for Retail Organizations**



*Source: Enterprise Strategy Group*

- **Improves security and risk management:** Solutions need to provide enhanced levels of security. This could range from segmenting credit card traffic from guest WiFi, isolating or securing IoT traffic, to providing stronger authentication processes.
- **Improves customer experience:** This has already been outlined as a goal of digital transformation, so it is not a surprise that it is a top justification for IT spending. Vendors and solution providers need to clearly articulate how a solution will enhance customer experiences or deliver a differentiated customer experience for in-store customers.
- **Improves ROI:** In an industry with notoriously low margins, the ability for new solutions to deliver a return on investment is still very important. Retail organizations need to understand how an investment in a particular solution will help to increase sales, reduce costs, or even mitigate risk.
- **Increases employee productivity:** With all the increased complexity, retailers need to find solutions that will help drive employee productivity, enabling employees to do more with less.
- **Enables digital transformation:** Organizations should understand how new solutions will enable them to accelerate their digital transformation efforts. For retailers, this would mean driving greater operational efficiencies, new data-based services, and enhanced customer experiences.

Key components in accomplishing many of these objectives are the ability to leverage the cloud to provide a centralized, uniform control and an analytics platform that can be utilized across the entire retail environment. This would allow organizations to set policies to ensure a consistent experience and deliver the requisite security. By creating centralized policies and automating enforcement at the edge (or retail store), organizations can operate more efficiently and leverage automation as much as possible. Other key solution components include:

- **Ease of deployment:** The solution needs to be simple to deploy and operate. This would include the entire process of assessing, designing, testing, and deploying a solution. With retail organizations needing to support hundreds, if not thousands, of sites (stores), turnkey solutions will greatly accelerate adoption and ensure greater operational efficiency.

- **Consistent high-quality experiences:** This would include both customers and employees. For customers, this means quickly and easily accessing in-store WiFi and loyalty applications. For employees, it means securely connecting to POS applications and inventory management apps to provide answers to customer questions in real time. For employees, it may also include ensuring that digital signage and mirrors are connected and working properly.
- **Personalized experiences:** Organizations need to consider how IoT devices or connecting to Bluetooth Low Energy (BLE) sensors can provide real-time, location-based services in order to deliver personalized offers based on prior shopping experiences and proximity to product.
- **Requisite levels of security to every retail location:** This includes segmenting the traffic as needed (such as guest network, credit card, IoT or sensor traffic, ERP, etc.) to ensure that a breach in one area does not give access to another. This also means encrypting traffic in flight to avoid man-in-the-middle attacks. Robust access management will also be important to ensure that only authorized personnel and devices are on the network.
- **Innovative data-centric services:** Finally, with retailers indicating that one of their important goals for digital transformation is to offer new data-centric products and services, the solution needs to provide the ability to use advanced analytics. Much of the data collected from sensors and IoT devices will need to be linked to information on buying habits and tied to loyalty applications so that when customers are in the store, retailers can deliver a truly differentiated and personalized shopping experience.

## Extreme Retail: Designed for Retail Environments

To overcome the challenges associated with designing, purchasing, deploying, and operating network services at retail locations to deliver differentiated experiences, Extreme Networks has announced its Extreme Retail Select solution for retail organizations. Extreme has simplified the ordering process by creating packages for organizations to select based on a retailer's requirement for either essential connectivity or for high-performance, evolved environments. The essential package includes the performance required to connect to customers, employees, and point-of-sale devices safely and securely. It will also provide out-of-the-box analytics. The evolved package is designed to enable greater levels of performance for augmented reality smart shelves, dynamic pricing, and in-store IoT. These packages are further segmented to accommodate locations of varying size.

Components of Extreme Retail Select include:<sup>2</sup>

- **Cloud management:** Based on the recently announced ExtremeCloud IQ (non-AWS cloud-agnostic management platform), this solution provides unified management of the wired, wireless, and SD-WAN environment. In addition, ExtremeCloud IQ for retail includes dual persona dashboards that enable both business and technical users. Utilizing a single solution (ExtremeCloud IQ), business users such as store or business managers can benefit from visibility into KPIs such as dwell times, loyalty information, and site flow. IT users will benefit from visibility into response times, alerts, and application usage across the unified network. To ensure security, ExtremeCloud IQ provides segmentation and detailed control so guest or IoT traffic is separate from store operations traffic. The ability to provide 360 degree views of the customer and network ensures the appropriate team can take advantage of advanced analytics for shopper presence and proximity as well as comparative analysis and cloud telemetry. Open APIs enable retail organizations to integrate ExtremeCloud IQ with emerging technologies to empower real-time pricing, smart shelf and digital signage, augmented reality, real-time IoT, and distributed order management solutions.

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<sup>2</sup> Note: Components will vary by size; not all SKUs will have all components.

- **Wired LAN:** This is made up of either 8, 24, or 48 port switches based on the size, performance, and availability requirements. They are capable of delivering PoE+ to support WiFi 6 environments.
- **High-performance wireless network:** This includes the latest generation WiFi 6 (802.11 ax) access points that also support BLE technology for enhanced location-based services. It ensures complete coverage and provides options for performance and high availability.
- **SD-WAN routers:** This is made up of one or two SD-WAN devices per site with dynamic path selection, simplified WAN management, and efficient use with active/active path.

Extreme believes the Extreme Retail Select solution will deliver retail organizations several benefits, including that it is:

- **Easy to consume or purchase:** Trying to design a solution for hundreds or thousands of sites can be a time-consuming effort. Extreme is trying to simplify this process by building out easy-to-order solutions based on desired performance levels and size of location. Based on years of experience selling into this space, Extreme has tailored solutions for retailers as they evolve their customer experiences. This should greatly simplify the design and ordering process.
- **Cost-effective:** Store in a box solutions like Extreme Retail Select can be purchased as a subscription, eliminating upfront CapEx and allowing organizations to tie operational costs to each location.
- **Simple to use:** Given the increasing complexity retail organizations will face as more emerging technology is deployed onsite, it will be imperative for IT staff to be more productive. Leveraging a single, centralized, cloud-based portal and management solution (ExtremeCloud IQ) for all of the wired, wireless, and SD-WAN connectivity will enhance employee productivity; expedite the roll-out of any patches, upgrades, or new services; and ultimately enhance customer experiences. Additionally, the business side will benefit from retail-specific dashboards and analytics.
- **Scalable and open:** Leveraging a modern application, open standards-based platform will enable organizations to scale services quickly and seamlessly to add new functionality at an accelerated pace. Leveraging open APIs ensures that organizations can integrate this solution with emerging technologies to deliver enhanced or personalized in-store experiences.

## The Bigger Truth

As retailers evolve their business to deliver higher levels of operational efficiency and differentiated personal experiences, IT, and the network specifically, should be enablers, not create additional challenges to overcome. Simplifying the design and procurement phases with easy-to-understand SKUs based on required performance and location size should greatly accelerate the time to value in these locations. The centralized cloud-based management and analytics portal will not only simplify day-two operations but will also empower IT and the business with deeper visibility and insights into these remote locations. The combination of wired, wireless, and WAN capabilities will provide the appropriate levels of connectivity for customers, employees, and IoT devices to corresponding application, cloud, or analytics platforms. This foundation of connectivity will be the starting point for retailers to deploy emerging location-based services and real-time offer management. It will also enable evolved retailers to leverage loyalty applications on mobile devices that will assist retailers as they customize each customer's visit to the store with a personalized shopping experience.

Extreme's deep knowledge of and experience working with retailers over the last 20 years is reflected in these solutions. By understanding the operational challenges and threats facing online retailers, Extreme was able to build a solution to empower not only IT but also the business. Drawing from its experiences delivering analytics to NFL stadiums to improve the customer experience, Extreme has built out a dual-purpose portal to ensure both IT and the business functions and

staff in the organization are able to derive value from the information collected at remote retail locations. Essentially, retailers should view these solutions as fundamental connectivity building blocks to provide a truly differentiated experience at retail locations. Partnering with Extreme will help to accelerate the time to value with easy-to-use solutions. Subscription-based pricing will allow organizations to tie infrastructure to building lease contracts. Ultimately, for retailers to succeed, they will need a strategic partner to help them deliver a better experience. Extreme is betting its new Extreme Retail Select solution will be a must-have in their shopping carts.

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