

# Preparing Your Network for an Omnichannel Retail Strategy

Whitepaper | Retail



# Introduction

**“Physical retail isn’t dead. Boring retail is.”**

— *Steve Dennis, strategic advisor, board member, general manager, and C-level executive at two Fortune 500 retailers*

Imagine that you’re the head of digital infrastructure for a regional retailer. You’ve been tasked with ensuring that your organization has the cloud, edge, endpoint, IoT, and network capabilities needed to turn your omnichannel strategy into reality. You evaluate what you have, and discover that:

- In-store network performance is patchy
- Throughput and latency outside your stores are unpredictable
- Overall network uptime isn’t what it should be

To make matters worse, you can’t get the data you need, from end user to cloud, to identify the problems. These issues impede your ability to do comprehensive, customer-focused analytics, they certainly block your ability to move forward on building leading-edge omnichannel experiences...and you’re not sure how to address the problems.

If that scenario resonates, this paper is for you. In it, we’re going to explore how cloud networking innovation supports omnichannel retail, allowing retailers to continue shifting away from boring, stockroom experiences, toward a compelling showroom experience with anywhere, anytime, integrated physical and digital experiences. We’ll look at the trends and challenges retailers face when working toward omnichannel, uncover network technologies that solve problems and unlock opportunities, and then give you a short view of just how Zayo can help.



To get there, it's easy to see that selecting the right communications infrastructure makes you more successful, and there are ongoing innovations in networking that can solve certain problems, but it's the data gleaned from the network that is most important. The critical problem is that it's easy to invest in a technology that meets current needs but not tomorrow's needs, or can't evolve to accommodate future innovation. Whether or not this has ever happened in your organization, retailers tell us that current technologies stand in their way, limit their growth, and block their success.

This paper will give you steps you can take to avoid those problems.

It's clear that at the crossroads of customer desires and compelling experiences, you can find opportunity, and choosing the right network technologies unlocks that opportunity.

**Let's begin by exploring what's happening with omnichannel retail.**





# The Evolving Situation: Discerning the Trends

Retailers everywhere are working on omnichannel experiences, and of course there's good reason to. The latest research tells us that nine out of ten consumers want omnichannel purchasing experiences.<sup>1</sup> Most of the largest retailers have invested and are investing in omnichannel experiences. As the experiences have been tested in the marketplace, some trends and challenges are emerging.

Let's be clear here — not all of these trends and challenges apply to every retailer because different organizations are at different places on the adoption curve. Some retailers are absolutely on the leading-edge, delivering top-notch experiences, some others are taking a more incremental approach, and still others are lagging behind. Regardless of where your organization is on the adoption curve, at least some of these trends should resonate.

**If it's not customer-centric, there's no point.** Focusing on customer-centricity — rethinking everything from supply chain management to advertising, discounting, store experiences, associate engagement, and the integration of online and offline experiences — is becoming a critical path toward brand differentiation. Smart retailers know that the more effort they put into a single customer-centric “supply chain of capabilities,” (which some thinkers are calling unified commerce) the more they will ultimately benefit from better engagement and retention.

To do this, organizations are thinking of technologies differently — if the technology impedes customer experience, it's simply not good enough, as it impacts engagement and retention. And the best brands know, better engagement and retention...turns into better brand recognition, which helps you grow your revenue.

<sup>1</sup> <https://www.cxtoday.com/contact-centre/delivering-an-excellent-omni-channel-experience/>



**Retailers have to break down silos.** In retail, traditionally, in-store experiences were one silo. Online ecommerce was another. Advertising was another. The connections between them were tenuous, different technologies were used, some were outsourced, and different teams were responsible for the different silos, each with different priorities, goals, and challenges. To move toward customer-centric experiences, organizations are breaking down silos at all levels. Now, the best organizations are bringing digital and offline experiences into a cohesive, interconnected whole, built by the same teams, based on the same technologies, infrastructure, and processes, as part of an integrated strategy.

To put it simply, simplicity is the goal. For example, having one network management layer for cloud and another for last mile stands in the way of agility, flexibility, and resilience. Not only does breaking down silos reduce costs and complexity, it supports the innovative thinking that's needed for a customer-centric strategy.

**Integrated automation matters.** The days of clumsy, manual intervention have to be in the past, because they delay value, cost dollars, cause lost opportunities, and drive customers away. Whether it's automated service ticket generation through an integration with something like ServiceNow(™) or automated rerouting over globally distributed networks due to SD-WAN adoption, leading-edge organizations are trying to drive automation throughout their infrastructure and services so that customers can get what they want, when they want it.

**A need for new technologies.** As you can see from the first three trends, many retailers are exploring emerging technologies and trying to determine how to incorporate those technologies into their omnichannel strategies. Many brands have opportunities to utilize aisle-end displays, digital screens, and self-service kiosks. They also have opportunities to leverage geolocation for in-store promo notifications, in-app coupons, and pickup notifications. To support these technologies, they're evaluating and testing new infrastructure technologies. But some brands continue to wrestle with gaps between plans and execution with these technologies.



**Omnichannel is maturing and moving into the mid-market.** Now that robust, customer-centric omnichannel experiences have become more and more common, smaller retailers are trying to get into the game. They're watching larger competitors, to understand new customer expectations, evaluate new possibilities, and benchmark themselves against the best. Now that they've come out of the uncertainty of the past few years, many are exploring just what they need to do to compete with larger retailers who are farther along the omnichannel maturity path.

To put it simply, organizations are rethinking how they serve their customers and evaluating new technologies to deliver new outcomes. As they move from a stockroom experience of store shelves and e-commerce to a showroom experience where a customer can discover, evaluate, and purchase products through their preferred channel (on their own time), they're recognizing that they need to think outside the box to provide the right digital experiences, at the right time, to the right customers, for the right cost.

But there's a fundamental point we haven't made yet. All customer-centric experiences rely on data, whether that's data that's being gathered and analyzed, data that's being pushed to customers, data that are used to automate and optimize experiences, or data that's used to tune outcomes.

And data is where the biggest challenges lie.



# **The Challenges & Possibilities of Data, Intelligence and Infrastructure**

It probably goes without saying that every omnichannel experience rests on a foundation of data collection, data movement, and data analysis.

And, all of those capabilities rely on data infrastructure, particularly the network. Without the right network capabilities, it's impossible to deliver a strong customer-centric, omnichannel retail experience.

Based on our conversations with retailers, we've learned that omnichannel puts distinctive pressure on the network. Distinctively powerful networks are needed to blend physical and digital marketing/purchasing/retention experiences, old network solutions are cracking under the strain. Retailers are putting their networks, and their network vendors, under unprecedented scrutiny because expectations are higher than ever, and risks to continued operational success simply can't be tolerated.

The solution isn't just a bigger pipe. Retailers need new capabilities to succeed.



First, there must be more than **sufficient connectivity** and coverage for new, emerging omnichannel services, at physical locations. For example, many retailers are discovering that their old wireless infrastructure, based on traditional WiFi, isn't sufficient. They're focusing on connectivity through a lens of experiences, goals, and outcomes, asking questions like:



How do I deliver a digital experience that drives a ubiquitous connected feel inside and outside the store?



Are the connections for point-of-sale (POS) equipment integrated to apps to drive improved customer insights?



Is coverage good enough in the pick-up area to support new habits like Buy-Online, Pick-Up-In-Store? Do curbside areas have full connectivity?



Do we have enough wireless coverage to support end-cap digital displays?



Why can't our customers reliably get a 5G signal inside our stores to use our app?



Do we have enough coverage to support automated forklifts at the back of the store, or in distribution?

Second, from the stores, networks **MUST** provide **sufficient performance and resilience**, as one tiny locus of poor performance or resilience can impede or destroy an omnichannel experience. Perhaps your last mile wired connectivity to the store isn't performant enough to support inventory analytics. Perhaps a connection to your cloud has frequent but unpredictable spikes in latency, causing your in-store digital experiences to stutter and freeze. A supply chain of experiences across all channels needs reliable, performant data distribution.





1. You need more than sufficient bandwidth, both wired and wireless.
2. For latency-sensitive applications, you need ways to deliver experiences locally and regionally without long trips to and from a distant cloud.
3. You need failover paths and redundancy, preferably automated.
4. You need to ensure quality of service across the network.

Third, analysis matters. Retailers must be able to **analyze all sources of data across all layers**. It's not good enough to simply identify that an essential microservice for your application is bogged down. It's essential to be able to dig down and recognize that the issue is at the infrastructure level — it's really a network problem, a fiber cut, and to solve the issue with the application, the network needs to be fixed, regardless of WHERE on the network the problem emerges.

Fourth, it's important to **minimize manual intervention**. Your network needs to be self-healing and self-optimizing, but ideally, it also needs to automatically provide insights for improvement. If, twice a month, network performance from your store in Boston to your colocation center in Denver slows down, based on end-to-end network performance data cross-correlation, your network platform should automatically identify the problem and attempt to fix it. If it can't be fixed automatically, a network function should automatically issue a trouble ticket so that your NetOps teams, or your vendor, can fix the problem. That capability has to span your entire network, from store to cloud, in order to ensure a consistent quality of service.

And, finally, everything has to be **safe and secure**. Ideally, your network must provide a set of protections to defend your customers, your stores, your distribution centers, and your corporate offices from attack. Robust security integrations help you ensure that something like a DDoS attack won't break your omnichannel experience delivery efforts.

These technology considerations are foundational and support other, business-level considerations that are easily overlooked but essential to success.



**Efficiency is critical.** Being forced to overprovision network connections, accepting higher costs, because the provider cannot provide the right service for your requirements isn't good enough. Providers who can provide the right service, at the right place, for the right price are an invaluable aspect of your success. Simply choosing big network pipes — in case you need the capacity — is the wrong approach because it's not cost-effective. You need the right connections at the right places for your requirements. If you're having performance problems, your network vendor has to be able to add on additional tools, like wavelengths or SD-WAN, to help you overcome issues.

To that point, your network vendor must have a **track record of innovation**. If your infrastructure vendors aren't constantly innovating, sooner or later, their technology will become an impediment to your strategy. They must have a track record of, and a long-term roadmap for, delivering innovative capabilities and solutions for your peers as well as the organizations you're aspiring to be more like. For example, the right network providers should have virtually unlimited future bandwidth opportunities, aggressive geographic growth, and always-enhanced intelligent architectures that give you more insight, command, and control over time. If your providers are not innovating, you can't innovate either, and there's no way you can have a future-ready network.

Finally, you need network infrastructure that gives you the **ability to adapt to change**. As retailer after retailer discovered during COVID, strong omnichannel capabilities are becoming integral to ongoing success. As we've learned, time and time again, "shift happens". Whether it's geopolitical turmoil, a pandemic, or a looming recession, organizations with efficient and flexible omnichannel platforms, built on efficient and flexible infrastructure, are best positioned to weather the storm. Right now, as we seem to be shifting toward recession, adapting to new financial pressures and skill set shortages becomes more important than ever.

We've made the point that your provider needs to give you the capabilities you need, when you need them. To that point, your provider needs to have a powerful services capability to offer **customer-defined solutions**. One-size-fits-all never fits, and your requirements are certainly unique. Having a network provider who offers the same capabilities to everyone, and isn't able to work with you on distinct requirements, ends up impeding your ability to succeed, practically and financially.



The end goal is **versatility**. The underlying network infrastructure has to support any possibility because there's always pressure to innovate, since yesterday's leading-edge experience is today's big yawn. The catchphrase of composable commerce — integrating any possibility, built by an emerging vendor, into your omnichannel approach — relies on flexible infrastructure that doesn't stand in the way of innovation.

It's simply impossible to provide a customer-centric set of experiences without the ability to collect the right data, move it where it's needed, analyze it appropriately, and make decisions that benefit the customer — and the retailer. If your network is impeding digital transformation, reducing or delaying value, and interfering with the ability to compete with other retailers, you could discover that your efforts to develop or enhance your omnichannel experience are sub-par — and your customers might end up dissatisfied.



# Exploring a Scenario: Inventory, Supply Chain, Analytics

Let's consider a scenario that, although fictional, offers a sense of the possibilities empowered by better networking.

Imagine a retail brand that's struggling with in-store network coverage and performance due to legacy wireless networking. They decide to solve the problem by establishing a private wireless network, based on 5G, in all their stores.

At their store in Boston, thinking through opportunities to leverage that technology, they decide to trial deploying RFID readers every forty feet throughout the store.

Suddenly the store can use the RFID readers to gather on-floor inventory in real-time.

1. They know that the local store has eight pairs of girl's pink tennis shoes, and even know which aisle they're on, and where on the aisle they are.
2. A customer can use in-app wayfinding to go to the right shelf right away instead of wandering around or asking associates.
3. If ordering online, a delivery company associate picks up the right shoes from the store, and within hours, they're in Dad's hands.

That simple access to and use of data has implications for associate productivity, customer satisfaction, loyalty, and retention.

The store in Boston is also able to track shrinkage. Most stolen merchandise leaves through a particular exit, and they're able to correlate disappearing merchandise with a particular employee. That employee is fired, and shrinkage is reduced.



The trial is a success so the retailer deploys 5G and RFID readers in all their stores. The retailer starts conducting cross-store comparisons and discovers, based on real-time analytics from real-time inventory information, a disturbing trend.

In Boston, suddenly pink tennis shoes are passé. Nobody is buying them.

That's a problem. If it's not fixed, those shoes will be sent to a discounter, resulting in increased costs and lost margin.

For the first time, the retailer has a new set of interventions.

1. The chain automatically offers, through text, app notifications, emails, and in-store signage, discounts and promotions to try and move the shoes.
2. The analytics team casts their net wider and notices that stores in Phoenix are selling out of pink shoes.
3. The store managers in Boston receive a notification: instead of sending the pink shoes to a local discount store, please ship them to the distribution center in Phoenix.
4. The Boston stores stop ordering pink shoes.
5. A notification goes out to Phoenix shoppers — "Pink shoes are back in stock!"

The stores have the right inventory for the right location and sales skyrocket. The retailer has a new buzz around it and the problem has been solved — faster than before, with better outcomes for customers, individual stores, and the entire company.

As we observed in this scenario, adding a new network capability unlocked access to a new source of data. Fortunately, thanks to internal silos being broken down, this retailer is well-positioned to use this stream of inventory data in dozens of ways — from changing procurement to enhancing distribution, to modifying advertising.

And for a while, they enjoy good results.



However, over time, it becomes clear that there's another problem. As new stores are added across the country, so much data is being collected, that there's no good way to get it to the cloud. Data is backing up, and the intent to use real-time analytics to provide superior customer experience is...well, it's broken.

Fortunately, this retailer's network provider has a few options to help.

- 1. Edge connectivity and capabilities.** Instead of transferring endless amounts of data to a single cloud, this provider gave the retailer access to enhanced connectivity at the metro-level, allowing data aggregation and decision-making to be done locally. Only the most essential data has to be sent to the cloud.
- 2. An optimal mix of connectivity, from stores to the cloud.** The network vendor helps ensure that store-level connectivity, through various connections, is both resilient and offers the right performance. Metro-level connectivity is robust and reliable. Connections to the cloud, through cloud on-ramps, offer the highest performance and the lowest latency.
- 3. SD-WAN.** Unlike other network providers, this provider offers autonomous SD-WAN that spans every element of the network, from in-store 5G to cloud connectivity. The retailer's NetOps team has a comprehensive view and automated alerting that identifies problems and speeds up resolution.

Once fixes are in place, the retailer returns to reliable, real-time data utilization that makes customers happy, reduces costs, and lets the brand offer a distinctive, compelling set of experiences.



# Understanding the Zayo Difference

If this scenario and other omnichannel retail innovations resonate with you, Zayo is in a position to help you move forward.

Zayo, as you know, is a leading provider of fiber networks for some of the world's largest retailers. Our scope and span of fiber networks give retailers a wealth of options and opportunities, and our remote network service and broadband aggregation capabilities are second to none. Zayo's global low-latency, high-speed, secure fiber infrastructure provides best-in-class Internet, MPLS, and Cloud connectivity. Our network can be complemented by our ecosystem of fixed and wireless partners, or you can bring your own network.

## Organizations that choose Zayo discover:

- **A future-ready network where you need it.** Our expansive, deep, and diverse networks in North America and Europe include extensive metro connectivity, lit & dark fiber solutions, and expanding 400G & 800G-enabled routes that empower you to reliably leverage new technologies that demand low-latency, high-bandwidth, scalability, and control.
- **Trusted experts committed to your success.** Our team puts trust at the core of every relationship, combining an approach built on collaboration, agility, and creativity with decades of experience serving wireless and wireline carriers, media, tech, content, finance, healthcare and other large enterprises. Our managed services offerings help you do more with less, especially in the face of recession threats, skill set shortages, and an uncertain future.
- **Connectivity solutions tailored to your needs.** Our solutions are designed to meet you where you want to be met. From last-mile or long-haul to the software-defined layer, we connect you from edge to edge, edge to cloud, cloud to edge, and everywhere in between with dark fiber, private data networks, SD-WAN, wavelengths, Ethernet, dedicated internet access, and data center connectivity solutions.



Recently, we've added private wireless networking to our suite of services. Our 4G and 5G solutions give stores and distribution facilities a way to solve coverage, connectivity, performance, and resilience problems at physical locations. For the first time, retailers have a powerful set of tools to ensure that digital experiences within stores are well-supported, don't cause problems, and can provide superior customer experiences.

It's important to note that we also have managed services to facilitate your needs at the edge. Our SD-WAN offering delivers resilient site connectivity and application-aware routing, ensuring that your mission-critical applications stay working. At Zayo, we understand that businesses need more, and that true WAN transformation goes all the way from the LAN to the Cloud. We also know that implementing this is difficult and time-consuming which is why we use automation and AI to deploy complex solutions at scale, and then holistically manage those solutions end-to-end.

Wrap all of those services with our security capabilities (encryption, private networks, SASE) and software stack that visualizes the network every step of the way, and our customers can do more than ever before.

These capabilities give retailers a true end-to-end network solution that offers the performance, resilience, and value that's the right fit for a customer-centric, omnichannel retail transformation. As data leaves the edge, providing faster connectivity at the right locations matters.





# Transformative Benefits

## But what are the benefits?

### Benefits for Users

- Endpoint customer experiences are better than ever before. Whether we're talking about experiences in the app or experiences in the store, our network enhances performance and has the capacity to support game-changing service delivery.

### Benefits for IT staff

- Much of the network experience becomes automated. NetOps teams don't spend their days performing manual interventions, whether that's network provisioning or troubleshooting.

### Benefits for Business Operations

- Operations teams have access to new sources of data faster than ever before. Integrated service delivery becomes real, new possibilities for omnichannel experience become possible, and incidents are fixed faster than before.

### Benefits for Business Strategy

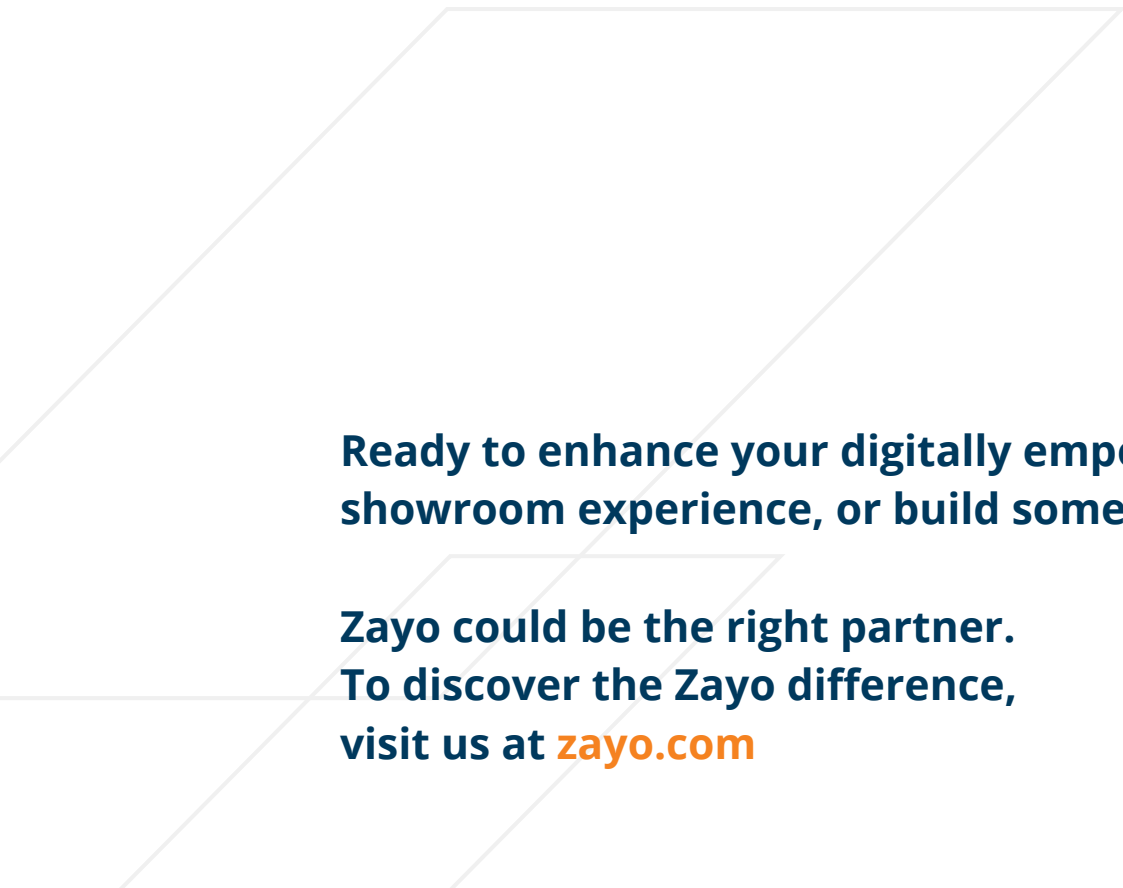
- The network supports breaking down business silos. Across the organization, leaders have new, valuable insights into controlling costs, whether at the infrastructure level or at the application level. They can make more nuanced decisions about investment and engagement which informs their strategy and execution. Finally, business leaders have added confidence in their networks, freeing them to pursue game-changing omnichannel retail initiatives.



## In Conclusion

To wrap up, our customers know that we deliver a superior network experience for omnichannel retail. We help some of the largest retailers rethink their networks, solve intractable problems, support distinctive capabilities, and move into next-generation omnichannel service delivery.

Regardless of whether you're a global retailer, or a smaller organization aiming to transform your omnichannel capabilities, if you're aiming to deliver a superior set of customer-centric solutions, and your network is holding you back, consider Zayo. With advanced end-to-end networking, comprehensive command and control, intelligent insights, automated enhancement, and powerful overlay services, we provide retailers with global reach, visibility, and security that spans every element of the network.



**Ready to enhance your digitally empowered  
showroom experience, or build something new?**

**Zayo could be the right partner.  
To discover the Zayo difference,  
visit us at [zayo.com](https://zayo.com)**

