A simplified data center architecture for retailers

Data is at the center of retail

Regardless of size, type, or geography, retailers across the industry continue advancing their omnichannel and digital strategies to stay competitive and profitable. From leveraging cloud applications to machine learning and AI, data is at the heart of how retail organizations are evolving to provide always-on, seamless digital experiences. Further, given changing customer purchasing trends and preferences, retail organizations are seeking to balance network and security objectives, while delivering innovative digital products and services to drive loyalty and organizational efficiency.

Personalized shopping experiences, digital channels, precise inventory control, and flexible payment options are just a few of the ways retail operations are creating explosive volumes of data. These high data volumes are driving the need for real-time, always-on, highly secure, high-performance service delivery, from data centers to users and locations—without increasing costs, consuming more IT resources, or creating security concerns. Evolving customer expectations, data privacy challenges, capital restrictions, and a wide range of local and global compliance considerations require a modern, secure, high-performance solution for managing data. HPE Aruba Networking is addressing these challenges with next generation data center solutions that take a security-first approach.

By 2027, 10% of retailers will employ software-defined store services models.[1]

By 2025, 50% of retailers will increase data management and governance technology investments by at least 20% to harness insights from spiraling amounts of data to grow omni-channel revenue.[1]

The economic impact of IoT in retail environments could rise to $1.2 trillion annually by 2025.[2]
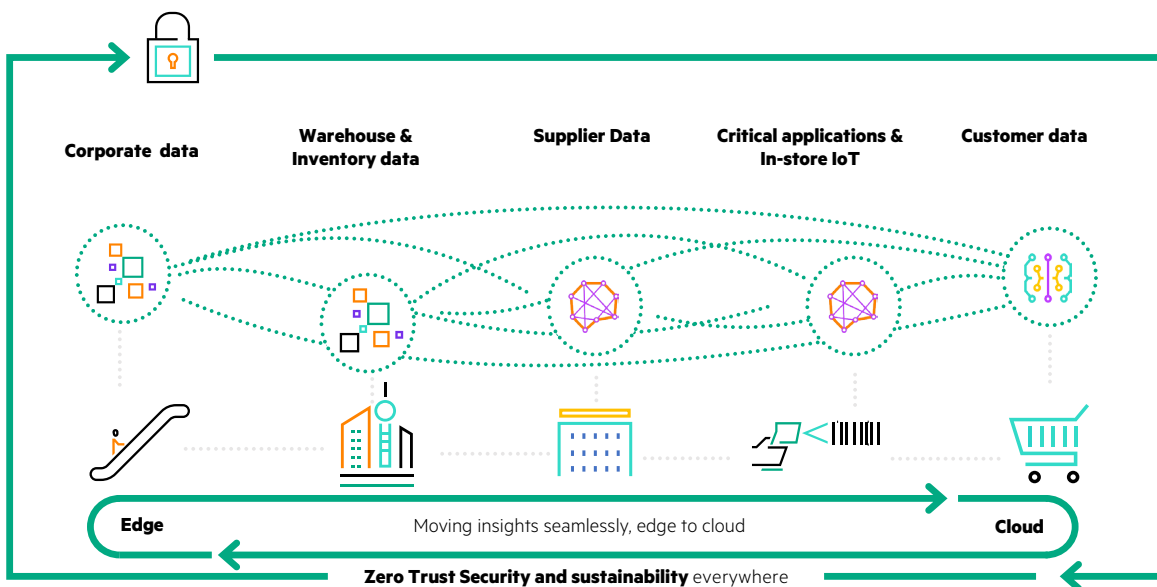

Figure 1. Data is at the center of retail

[1] From: www.idc.com/research/viewtoc.jsp?containerId=US48655022

[2] From: www.mckinsey.com/mgi/overview/in-the-news/by-2025-internet-of-things-applications-could-have-11-trillion-impact

Benefits of HPE Aruba Networking data center solutions

If your organization is under resourced, underfunded, or both—your network infrastructure may struggle to support digital transformation efforts, manage ever-larger volumes of data, and mitigate cybersecurity risks. Our data center solutions integrate compute, storage, and networking infrastructure to help reduce the time, risk, and cost of deploying and managing comprehensive IT infrastructure. Get simplified data center architecture, enhanced performance, and reduced costs—all with embedded security—with our industry-first, DPU-enabled switch. A unified and automated approach to data center networking provides both performance and Zero Trust Security—without sacrificing one for the other. Move faster with deployment times that are reduced from weeks or month to minutes—and deliver a better customer experience with data-first modernization that connects, secures, and automates your data center.

Key pillars of next generation data center

Intrinsic security

- Extend Zero Trust closer to your most security sensitive workloads.

- Ensure point-of-sale, scanners, IoT and other devices are secure with role-based policies across corporate, store and warehouse locations.

- Ensure PCI compliance and keep customer loyalty and payment data secure by keeping sales data traffic separate from inventory or other store traffic.

Improved app response time and user satisfaction

- Boost loss-prevention compute applications and real-time inventory storage workload performance with 25/100GbE low latency connectivity.

- Provide high performance, always-on networking to ensure associates and customers are not impacted by slow device or application transaction times.

Reduced overall TCO and simplify operations

- Combine network and security operations into one platform to share universal visibility, global policy management, and end-to-end enforcement.

- Accelerate issue remediation with full visibility and automation from data center to edge.

- Scale and deploy quickly and easily for expanding retail operations.
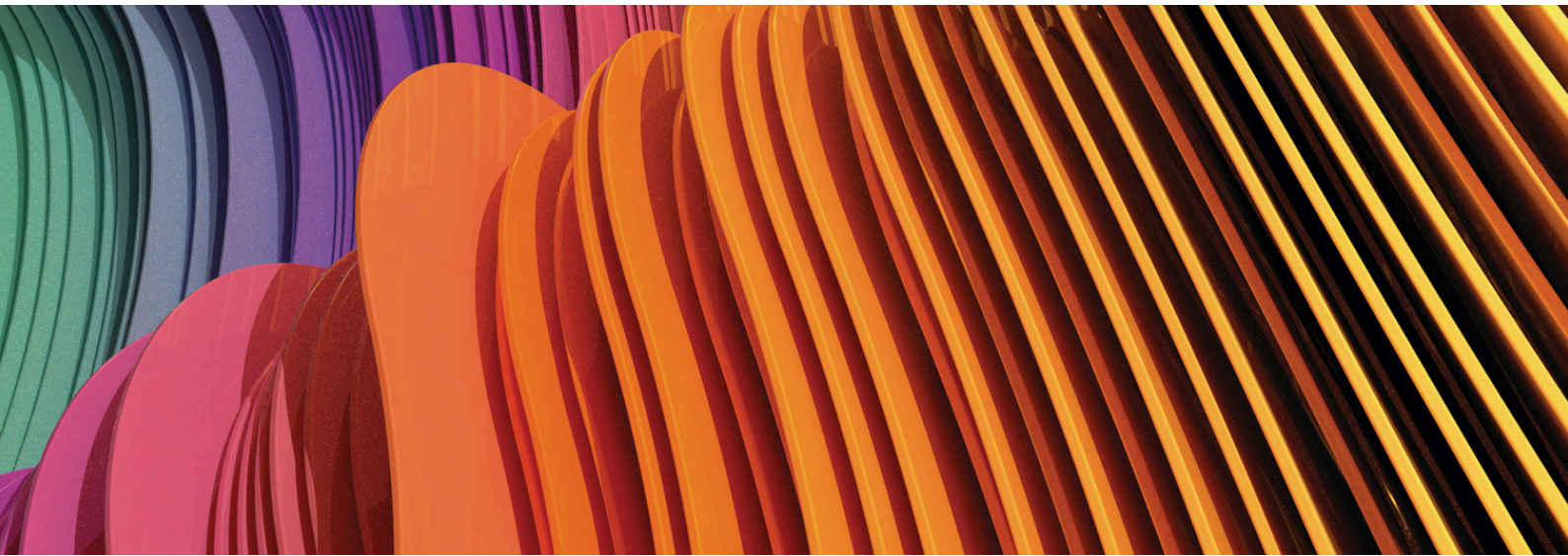
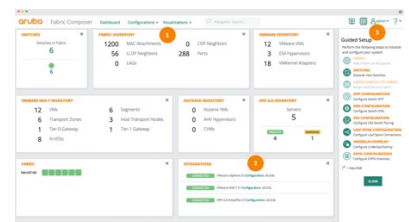## HPE Aruba Networking data center solution components

HPE Aruba Networking data center solutions enable retail organizations to evolve their data center network by simplifying architecture, enhancing performance, and reducing costs—all with the strongest embedded security. Legacy infrastructure can be complex, difficult to deploy, constrain applications, exhibit bandwidth issues, and require bolt-on security appliances. With a next-generation solution you gain a distributed data center, where each application has the right balance of services and built-in security, to deliver great experiences to customers and associates, and enable your IT staff to rapidly accelerate deployments, including at distributed stores, warehouses or when integrating networks of acquired organizations into your environment, more cost-effectively than ever before.

HPE Aruba Networking CX 10000

HPE Aruba Networking Central with Fabric Composer

HPE Aruba Networking CX Switching Portfolio: The HPE Aruba CX10000 is an industry-first DPU-enabled switch with 800G of distributed stateful firewall for east-west traffic, Zero Trust segmentation, and pervasive telemetry. Workloads are fully visible and portable. By combining the HPE Aruba Networking CX 10000 and Fabric Composer, network management is streamlined with an architecture that is easier, simpler, and far-reaching.

HPE Aruba Networking Fabric Composer: Fabric Composer is an intelligent, API-driven, software-defined orchestration tool that automates and simplifies configurations and network provisioning in the data center. It increases efficiencies and improves productivity for network operators and server and virtualization admins.

Advanced segmentation and encryption: Drive protection deeper into the data center, while dramatically scaling and strengthening network workload security posture.

Retail locations

Edge compute and security to run and secure applications while processing data close to users and devices

Private data center

Private data center to meet organizational protocols or industry compliance mandates

Colocation facilities

Colocation enables exiting the real estate business or saving on operational costs

[3] hpe.com/psnow/doc/a00047694enw2

Deploy your data center your way

With the move away from traditional, constrained, on-premises deployments to modern cloud-enabled solutions, timelines and appetite for deploying cloud infrastructure varies, yet interest in enabling workloads to function with cloud-like velocity and agility is strong. High-performance, flexible private cloud, cloud-like, and hybrid deployment options that also improve security and functionality assist with overcoming these challenges.

Managing budget and operational demands

There are many avenues to funding digital transformation in retail. HPE Aruba Networking can help with data center financing and has options to reduce budgeting complexity, while enabling you to move forward with your digital transformation initiatives and goals.

- **HPE GreenLake for Networking:** This network as a service (NaaS) offering allows you to quickly deploy and transition to a subscription based, OpEx model for better financial flexibility and improved data center network infrastructure resourcing, enabling you to reserve CapEx funds for other projects.

- **Fast and flexible IT solution integration with HPE:** HPE Aruba Networking data center solutions stand apart from network-only vendors by offering a variety of deployment and integration options powered by HPE GreenLake. Data centers can be on-premises, fully managed in a pay-per-use model at the edge, or in colocations. According to a Forrester study[3], customers deploying HPE GreenLake report up to 80% faster time to market when implementing complex global IT projects.

In addition to cloud and as-a-service options, an array of pre-engineered and tested HPE and HPE Aruba Networking integrations are available for more traditional on-premises, customer-managed options. Ready-to-deploy, custom IT data center solutions help simplify and speed IT service delivery while reducing the time, risk, and expertise needed.

- **HPE Financial Services:** During digital transformation, organizations typically aim to maximize technology within the available budget. Often unexplored is the flexibility to fund these new projects when the IT assets are managed across a solution's entire lifecycle. HPE Financial Services provides a suite of options to sustainably propel your organization's growth.
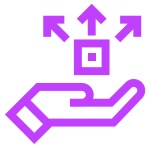
Distributed

Streamlined

Protected

Automated

Unified

Why HPE Aruba Networking

Standardize on a single vendor with tightly integrated solutions that securely connect all your enterprise domains, edge to data center to cloud, while eliminating the complexity of bolt-on and third-party additions. Gain a data-first networking modernization strategy that is grounded in five key tenants:

Distributed: Puts services closer to where data/apps live. Network and security policies follow workloads and tap the power of DPU-enabled switches to offload compute.

Streamlined: Breaks the cycle of "more." Subtract appliances, devices, and siloed tools.

Protected: Drives pervasive Zero Trust defense. Supplies policy-based micro-segmentation and closes east-west traffic exposures.

Automated: Eliminates manual tasks. Provides simplified orchestration, deterministic policy automation, and algorithm-driven infrastructure, whether physical or virtual.

Unified: Provides full-stack visibility. Leverages real-time telemetry for infrastructure, applications, domains, and micro-services.

Summary

Retail digital transformation is underway—to address ever-increasing data volumes that must be processed, secured, and analyzed. Applications that use this data demand real-time capabilities with very low latency. A new era of intelligent data center networks is pivotal to foster retail innovations, create new services and experiences, and to stay competitive and profitable. HPE Aruba Networking data center solutions address these business demands with a unified, secure, and simplified data center network infrastructure that delivers real-time, always-on, highly secure, high-performance services. It's time to modernize your data center approach. Turn data center legacy into legendary with HPE Aruba Networking.

Our solution partners

CSPi
Technology Solutions

CSPi Technology Solutions offers Managed IT Services, Professional Services, and Cloud Services to assist clients in architecting and managing a secure, high-performance, and highly available IT infrastructure. Our engineers have industry experience and specialized certifications in networking, wireless & mobility, unified communications & collaboration, data center, and advanced security technologies, ensuring tailored solutions for our clients' needs.

www.cspitechsolutions.com
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Learn more

HPE Aruba Networking Data Center Modernization Webpage
arubanetworks.com/solutions/data-center-modernization/

Five principles for a smarter data center
arubanetworks.com/resource/5-principles-for-a-smarter-data-center/

IDC Spotlight - Meeting the Need for High Performance and Security Through a Modern Datacenter Fabric

pages.arubanetworks.com/IDC-secure-data-center-fabric

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