

SOLUTION OVERVIEW

Reimagine Retail with Smart Digital Solutions

A competitive edge for addressing today's challenges

For years, brick and mortar retailers faced competitive pressures from online retailers, inspiring new innovations and personalized services to gain and retain loyal shoppers. Recent challenges and mandates to curb in-store shopping and dining is yet again prompting retailers to get creative to maintain loyalty and drive revenue. Stores who have not yet started app-based ordering and pick-up are doing so now. Traditional dine-in restaurants are now adopting the same practices as traditional drive-thru chains. Clothing retailers are adapting to deliver high-touch services, in a no-touch world.

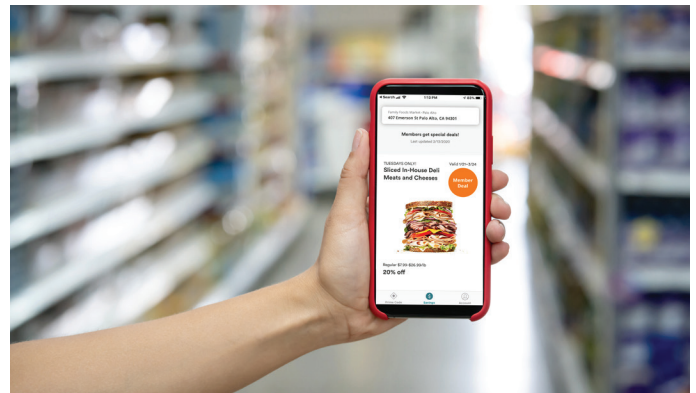
As retailers look to change the way they serve customers, they are transforming their brick and mortar stores to do more. This transformation requires digital tools, data processing right where users and devices are, and leveraging artificial intelligence and machine learning to improve IT processes and drive business outcomes.

As retailers look to innovate, Aruba can help.

ARUBA'S RETAIL SOLUTIONS

Aruba's solutions enable retailers to engage customers and drive top-line growth. Retailers can deploy high-performance networking and security across any location – stores, warehouses, campuses, outdoor locations, and teleworker home offices. Aruba uniquely integrates management and policy enforcement across Wi-Fi, wired, and wide area networks (WAN) to right-size network infrastructure and ensure end-to-end mobility.

Aruba's Edge Services Platform (Aruba ESP) is the industry's first AI-powered platform designed to automate, unify and protect the edge for businesses of any size or type. Aruba ESP includes attributes of Unified Infrastructure, Zero-Trust Security, AI Powered Operations (AIOps), and Flexible Consumption/Financing Models. These attributes are designed for the unique challenges facing retail, including being able to adapt quickly for unknown future use cases. A Unified Infrastructure provides a single management source for wired, wireless, & SD-Branch to facilitate any retail

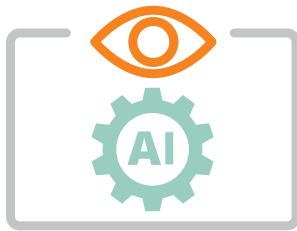


SMART DIGITAL RETAIL USE CASES

An adaptable and agile network supports use cases for today and the future.

- Frictionless and secure checkout
- Buy online, pick up in store (BOPIS)
- Personalized offers or services
- Analytics to integrate online shopping with in-store shopping
- Interactive engagements with kiosks, electronic shelf labels, and digital mirrors
- Physical distancing and contact tracing
- Highly enabled associates, with always-on tablets, Bluetooth headsets, and scanners
- Modern-day warehouse operations include using robots, voice-picking order systems, and driverless forklifts
- Optimized supply chain operations, from warehouse to store

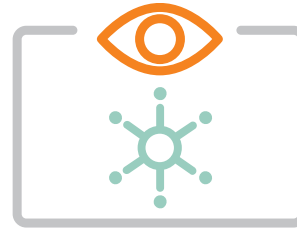
location. Zero-Trust Security ensures that all store, factory, warehouse, associate, and shopper devices are profiled and correctly assigned network access. AIOps enable network automation, proactive problem resolution, and provides robust management tools for network operators.



AIOps



Zero Trust Security



Unified Infrastructure

UNIFIED INFRASTRUCTURE FOR ALWAYS-ON CONNECTIVITY

Performance of the network must always deliver exceptional shopper experiences. When retailers can rely on the network to perform at an optimal level, it increases their ability to focus on shoppers and drive revenue, not on how device connectivity might impact sales.

Seamlessly connect shoppers to Wi-Fi

The first step to knowing your consumer is ensuring they are on your network. **Air Pass** enables an automated seamless transition from a provider's cellular network to your wireless network. Shoppers will appreciate the ease of connecting and you'll gain immediate insights. With data gathered at the point of entry, rather than after a shopper initiates a connection, new data streams on traffic patterns and network usage can be delivered. Store operators can position digital or other signage to promote offers or discounts. Additionally, network insights and usage can help IT understand where there might be connectivity issues so that network alterations can be made to deliver the best experiences.

Delivery always-on mobility with high-performance Wi-Fi

Aruba's Wi-Fi 6 infrastructure is designed to support hundreds of devices simultaneously without impacting Wi-Fi quality. Shoppers, staff, or warehouse personnel can roam a facility with consistently great performance. Critical applications can be prioritized so they can perform at their peak, not impacting the guest or associate experience. These always-on experiences are enabled with Aruba technology that auto-adapts to changing environments and applications, ensuring uninterrupted operation. These **technologies** include ClientMatch, that optimizes roaming performance; AppRF that optimizes the performance of critical applications such as point-of-sale systems; AirMatch that enhances radio

performance; and AirSlice that manages bandwidth allocation to enhance specific applications. Hitless updates and hitless failover also ensure that the wireless network can stay current with the latest security updates, tolerate faults, and be available whenever needed. No test interruptions, no lost experimental data, no dropped connections or transactions.

Send your non-customer facing workers home.

Retail has traditionally been a worksite dependent industry – but with the need to follow social distancing and self-quarantine guidelines, it has become essential to enable workers to be productive at home. **Aruba Remote Access Points (RAPs)** extend the same network services and security policy to an employee's home, just as if they were in a store or office. Virtual Intranet Agent (VIA) is another option providing an easy to deploy and use software client provides secure remote network connectivity to corporate resources. Use the same authentication credentials to gain access. Dynamically apply and enforce access policies based on the user's role.

Expanded services and coverage.

Many retailers are building drive-through pick-up stations and pop-up stores outside of their facilities. These environments can be challenging, but the in-door network can easily – and securely – **extend outside**. The use of Aruba's Zero-Touch Provisioning, a network can be installed and configured without IT being physically involved.

Manage hundreds of stores with one solution.

The **Aruba SD-Branch** solution allows retailers to manage and deploy a secure, high-performance network across all locations – stores, warehouses, corporate headquarters – including teleworker home offices. Proven capabilities in wired and Wi-Fi connectivity, network security and new SD-WAN features deliver end-to-end performance.



Scale quickly by leveraging the power of the cloud.



One key facet of cloud service delivery is the ability to manage many different distributed sites easily. **Aruba Central**, a Cloud-native single-pane-of-glass solution, allows IT staff to work remotely (without on-site presence) while maintaining visibility and control over all vital network services at the main facility and all remote sites. When the need for temporary drive-thru or pop-up stores passes you can scale back. If you need to add new sites quickly, you can do so.

Smart switches from store to core.

Mobility in retail is a priority, but so too is the wired network. **Multi-gigabit switches** support high density APs and new IoT devices, while easily segmenting traffic for wired devices, delivering enhanced performance and improved security. In addition to Smart Rate PoE, Aruba provides auto-negotiation between switch and access point to determine the needed throughput for devices and applications, ensuring great performance. The Aruba AOS-CX operating system includes many features including intuitive software-defined management tools, built-in analytics, and programmable scripting that can deliver insights into network and system performance to help IT stay ahead of issues. Similarly to the wireless network, upgrades and updates can also be easily enabled, reversed, and changed without impacting the network or the shoppers, associates, warehouse workers, and store managers who rely on it. Aruba switches deliver the performance and actionable insights IT administrators need to handle the massive amounts of data now being generated at the network edge.

ZERO-TRUST SECURITY FROM END-TO-END

Retail organizations must continue to invest in cybersecurity to stay ahead of threats. Most traditional security solutions focus on securing the perimeter by detecting known attacks and malware by their patterns or signatures. Yet never before seen threats, mutated threats, and advanced targeted attacks can often bypass these types of traditional solutions.



Secure and Simple Device onboarding

IoT devices can have many standard OS platforms and it can be challenging to know what is on the network, especially with shoppers connecting. Simplifying device onboarding is accomplished with **ClearPass Device Insight**. Machine learning discovery methods identify and profile a wider range of device types (point-of-sale systems, kiosks, temperature sensors, sales associates' tablets, etc.) and also provides intelligence to understand behavior and other contextual factors over time to help profile new devices as they come on to the network. Visibility is the first step toward security.

"Zero Trust" network access

Once devices are identified, **ClearPass Policy Manager** uses role-based policies and profiles, authenticates, authorizes, and tightly manages network access using granular, policy-based access controls. Users and devices have restricted access to only those network, IT, and application resources for which they have been approved.

Separate shopper, associate and corporate traffic

Retailers can feel confident in supporting a variety of use cases and applications without reducing the security posture. Aruba's **Dynamic Segmentation** delivers the micro-segmentation needed for traffic on wired, wireless and the WAN using granular user/device/connectivity information.



Policies are carried across the network end-to-end, ensuring that cardholder data can only be accessed by authorized personnel while keeping guest network traffic kept separate from business traffic, regardless of the location of the user or device or the switch port carrying the traffic.

Marsh Cyber-Catalyst Designation

One of the leading vendors of Cybersecurity Insurance has recognized Aruba's Policy Enforcement Firewall (PEF) as a leading component to a Zero-Trust security environment, designating it as a "Cyber-Catalyst". For retail organizations that leverage Aruba PEF, they can receive a better rate on their insurance, as well as be more secure through automated policy enforcement.

Meet and Exceed PCI Requirements

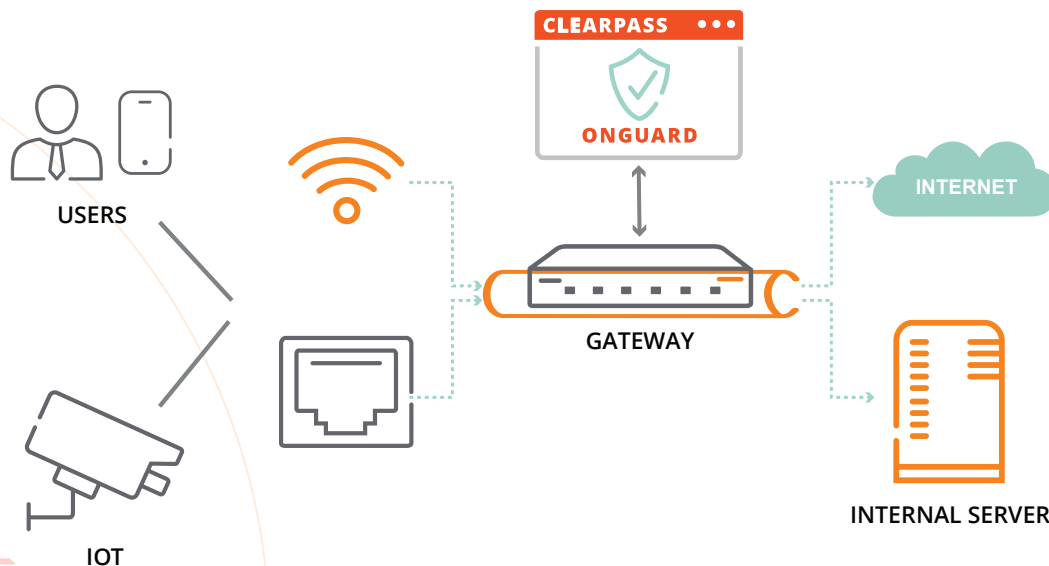
Aruba provides multiple levels of protection to allow merchants to meet and even exceed PCI requirements. Strong authentication and authorization, WIPs, role-based access controls and advanced encryption ensure adherence to the stringent mandates of PCI DSS, even in the most challenging environments. Features such as the stateful Policy Enforcement Firewall™ (PEF™) allows retailers to securely enable customers, employees and credit card transactions to share the same network.

ACT QUICKLY WITH INTUITIVE AI-POWERED MANAGEMENT TOOLS

The amount of data generated at a retail location can challenge the very fabric of network operations. Aruba's Edge Services Platform (Aruba ESP) includes assurance and orchestration features to maximize up-time, optimize user experiences, and reduce the time to troubleshoot issues to root cause. Automated network assurance delivers **AI Ops insights from Aruba Central**, a single pane of glass, while edge-to-cloud experience monitoring generates automated AI-based alerts that proactively pinpoint critical application and network issues.

Optimize remote site visibility and management

Remote stores may not have full-time IT staff available. Aruba Central gives complete visibility of remote sites to those at corporate headquarters. IT can remotely monitor, manage, and troubleshoot the wired, wireless, and SD-WAN infrastructure from anywhere. Aruba's SD-Branch solution offers integration capabilities across the WLAN and LAN optimized for SD-WAN, MPLS and cellular connectivity that is destined for the Internet or a data center.





Aruba Installer App

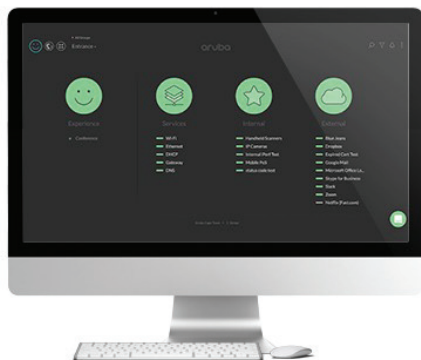
Simplified deployment at remote sites

Non-technical staff can participate in the deployment of a store network. This helps reduce IT headaches and gets stores operational in the fraction of the time it would take to send a dedicated person to each site. A mobile app allows employees to barcode scan Aruba infrastructure and plug them, automating the configuration to get devices profiled and onboarded.

Converge network and security operations at a lower cost

The convergence of network and security services utilizing Aruba's gateway helps to reduce your total cost of ownership. These Aruba Central cloud-managed gateways are optimized for SD-WAN using MPLS, Internet and LTE cellular connectivity to help ensure always-on performance and also include role-based access and firewall features.

Assurances for optimized network and mission critical application performance



Aruba delivers customized recommendations through AI-based machine learning to improve network and application performance based on anonymized comparison with peer environments. If a change could increase performance by 10%, it is recommended to the network administrator who can then authorize the settings change. But traditional methods of performance monitoring need to adapt to current deployment and application needs. One way to ensure those who are working directly with customers receive a quality network experience is by using **Aruba User Experience Insight (UXI)**. Aruba UXI provides IT a real-time

view of the end-user experience and clear action steps to resolve any issues before a service ticket is opened. These powerful tools bring much-needed help to enable already overwhelmed IT staff to take necessary action and stay ahead of issues.

LEVERAGE ANALYTICS AND LOCATION FOR IMPROVED EXPERIENCES AND OPERATIONS

High-performing networks leverage additional solutions to meet shopper expectations and drive business outcomes. Ecosystem partner solution can automatically gather data from multiple sources - access points, people counters, mobile devices, and other IoT - and turn them into insights about shopper preferences. These solutions allow retailers the opportunity to renew the focus on how shoppers, associates and IT leverage the network to drive personalized experiences and better customer service.

Customer Wi-Fi portal - With ClearPass Guest or Aruba Central, retailers can build a powerful marketing database by registering shoppers and capturing demographic information. Retailers can use the ClearPass Guest advertising module to launch targeted campaigns to deliver personalized offers and other relevant content to enhance shopping. The highly scalable guest portal can support tens of thousands of concurrent sessions and millions of users.

Mobile applications - Retailers can offer loyalty programs, product information, marketing offers and concierge services to shoppers in the store through mobile apps. The Aruba Meridian-powered mobile app allows retailers to offer a richer, highly personalized in-store shopping experience for shoppers who use their smartphones.

Location-awareness

Retailers can use a shopper's indoor presence to tailor up-sell and cross-sell offers. Aruba APs are location ready and when supplemented with Aruba Beacons, can make an entire location smart. **Aruba Meridian** is an integral part of a holistic app strategy by using location services to enable blue-dot wayfinding, push notifications, and implement specific campaigns. Utilizing analytics from the network, store operators can ensure guests are helped the moment they enter a store or customers can self-service and use their smartphone to find a department, location, or item. Leveraging Wi-Fi analytics, retailers can build intelligent integrations that will help them understand information such as customer dwell time and store traffic flow patterns.



Find and track expensive assets

Aruba's asset tracking solution helps associates track assets by leveraging location-ready Aruba WLAN infrastructure and Bluetooth-based **Aruba Tags**. Assets such as carts or lifts can be monitored and found when needed, freeing up associates to focus on guest experience and not on finding a high-value item. This capability increases associate efficiency, reduce equipment costs, and improves shopper experience.

Access Points as IoT Platforms

We are accustomed to thinking about Wi-Fi access points in the context of secure wireless network access, and for many years that was their primary function. Not so today. Aruba Wi-Fi 6 access points include radios for wayfinding, location tracking, sensor monitoring, door locking, enabling electronic shelf labels, and other uses cases. These capabilities transform Aruba access points into secure, multi-purpose communication systems, eliminating the need for additional gateways, reducing cost, and simplifying IT operations.

Do more with partners

With some of the industry's best technology partners and app developers, Aruba is helping to deliver innovative solutions that connect the dots between today's business and IT priorities. These solutions provide retailers tested



and proven integrations to support staff communications, electronic shelf labels, shopper analytics, real-time data and inventory management, and predictive machine maintenance. To learn more, visit our list of **retail partners**.

A PARTNER YOU CAN TRUST

The most dynamic and transformative experiences happen at the edge. Aruba's mission is to harness and secure data at the edge, enabling retailers of all sizes to deliver mobility-centric networks, security and management services that are tailored to the needs of their stores, corporate headquarters, warehouses and outdoor environments. Aruba delivers on performance, providing retailers the confidence that their infrastructure investments will scale to meet the simultaneous demands of in-store customer engagement and retail operations. Start the smart digital store journey and gain the competitive edge for addressing today's challenges. Learn more by contacting your local Aruba salesperson or reseller today.