

SOLUTION OVERVIEW

Aruba CX Switching

A modern, cloud-native portfolio spanning from the edge access to data center

The growing use of IoT, the demand for cloud-based services, and business critical mobility are crushing legacy networks. Today's enterprise network must be able to quickly and safely connect new devices, scale to handle new traffic loads, and provide smart, automated insights to help IT more efficiently operate, manage, and secure the network.

Switches still create the foundation of modern networks, yet their role has moved beyond purely providing high-performance wired connectivity. Switches must now offer high-performance Wi-Fi aggregation and also act as an IoT gatekeeper for everything from surveillance cameras to medical devices – all while delivering uninterrupted 24x7 network availability.

Aruba's next-gen CX switching portfolio is purpose-built for today's digital world, satisfying the most demanding use cases from the access layer, to the core, and to the data center. Built on cloud-native principles, our portfolio gives IT the flexibility to deploy a single platform from edge access to the data center that includes intuitive management tools and distributed analytics that transform the IT network operator experience.

NETWORK CHALLENGES

Operational complexity

Dealing with disparate network operating systems, oversubscribed hardware, and complex software licensing overburdens IT teams. The increasing number of IoT devices connecting to the network bring new security concerns, which raises the importance for better visibility into what's running on the network and an easier way to segment traffic. Limited IT resources also require that networks should be easy to deploy, provision, and manage with a simple way to unify roles and privileges across wired and wireless.

Legacy networks can't keep pace

The shift to digital has disrupted every portion of the network from the edge to the core. As mobile users demand high-performance video, voice, and cloud applications

KEY BENEFITS

- **Simplified operations with a single operating model**
A single operating system from edge access to data center delivers consistency and ease of management.
- **Time savings via smart automation**
Smoothly, safely and quickly coordinate switch provisioning and changes using intelligent automation to search, edit, validate, deploy, and audit configurations.
- **Proactive troubleshooting and resolution**
Enhance troubleshooting with real-time, network-wide visibility via distributed, embedded analytics in each switch to help detect and resolve issues before operations and users are impacted.
- **Secure and easy enforcement of unified policies**
Deploy unified wired and wireless role-based policies to keep traffic segmented and ensure security.
- **Reliable, always-on networking**
A microservices architecture provides full programmability and automation to create an always-on high availability network, even during upgrades.
- **A world class user experience**
An enterprise network that scales to deliver non-blocking performance from edge to data center for the best user experience possible.

to better collaborate, conduct business, and learn, the amount of data crossing enterprise networks is increasing exponentially. Aging networks are inhibited by closed system architectures with highly manual, hard-coded configs that restrict the adoption of new technologies needed to support time-sensitive networking services and 24 x 7 access.



Limited control and visibility

Quickly determining the root cause of an application or network slowdown is challenging. Existing network analytic tools, typically performed by external devices running separately purchased software, provide fragmented data with limited actionable insights. High network traffic volumes and mission critical network access puts growing pressure on IT teams to diagnosis and resolve issues instantly.

ARUBA'S CX SWITCHING SOLUTION

Aruba simplifies the complexities of managing today's networks with AI-powered automation and policy-driven segmentation. Built from the ground up with a combination of cutting-edge hardware and powerful AOS-CX operating system, our family of switches are designed for today's most demanding enterprise campus, branch, and data center networks.

Aruba's switching ASICs create the basis for unparalleled performance, innovative software feature advancements, and deep network visibility. These programmable ASICs, now in the 7th generation, are purpose-built for a tighter integration of switch hardware and software in campus and data center architectures to maximize network performance and bring new innovations to life more quickly.

Flexible ASIC resources deliver benefits such as high-performance Virtual Output Queuing (VOQ) which optimizes the use of all switch ports by preventing head-of-line blocking, allowing Aruba Network Analytics Engine (NAE) to inspect all data for improved troubleshooting and analytics.

By combining a modern, fully programmable network operating system with NAE, Aruba switches provide industry-leading monitoring and troubleshooting capabilities across the network. Deep visibility with contextual analytics helps simplify network operations, reduces network complexity, and enables faster response times.

FEATURES BUILT FOR ENTERPRISE NETWORKS

Carrier-class
High Availability



Automated
Configuration



Built-in Monitoring
and Diagnostics



ARUBA CX



Simple Secure
Segmentation



One-touch
Deployment



Programmability



Single OS for edge access to data center

Aruba's AOS-CX is a modern, database-driven network operating system that automates and simplifies many critical and complex network tasks. A built-in Time Series Database (TSDB) enables customers and developers to utilize software scripts for historical troubleshooting, as well as analysis of past trends. This helps predict and avoid future problems due to scale, security, and performance bottlenecks.

Single pane of glass management

Flexible cloud-based or on-premises management for unified network operations of wired, WLAN, SD-WAN, and public cloud infrastructure. Designed to simplify day zero through day two operations with streamlined workflows. Switch management capabilities include configuration, onboarding, monitoring, troubleshooting, and reporting.

Built-in monitoring and diagnostics

For industry leading visibility and troubleshooting, NAE provides real time insights that automatically interrogates and analyzes events that can impact a network's health. Advanced telemetry and automation provide the ability to easily identify and troubleshoot a network, the system, application, and security-related issues easily, through the use of python and CLI-based agents and REST APIs.

The Time Series Database stores configuration and operational state data, making it available to network operators to quickly triage and resolve problems. The data may also be used to analyze trends, identify anomalies, and predict future capacity requirements.

Automated configuration and management

The Aruba CX switching portfolio empowers IT teams to orchestrate multiple switch configuration changes for smooth, end-to-end service rollouts. Using Aruba Central's multi-editor feature or standalone Aruba NetEdit, CX switches support automation that allows for safe, rapid network-wide changes and ensures policy conformance post network updates. Intelligent capabilities include search, edit, validation (including conformance checking), deployment, and audit features. Tight integration with NAE means powerful monitoring and troubleshooting analytics from across the network can be quickly visualized, analyzed, and acted on.

Software-defined orchestration for data center networks

Aruba Fabric Composer is an intelligent, API-driven, software defined orchestration solution that simplifies and accelerates

leaf-spine network provisioning and day-to-day operations across rack-scale compute and storage infrastructure. This solution is fully infrastructure and application aware providing automation of various configuration and lifecycle events, and can uniquely orchestrate a discrete set of switches as a single networking fabric which significantly simplifies operations and troubleshooting.

Carrier-class high availability

Requirements for 24 x 7 network availability leaves no windows for upgrades and important configuration changes. Aruba Virtual Switching Extension (VSX) has been designed from the ground up to deliver the availability, virtualization, and simplicity requirements for a non-stop, carrier-class network. With unique control plane synchronization for multi-chassis high availability and an architecture that's redundant in both hardware and software, Aruba VSX offers a better way to ensure business success with a network that is always available.

One-touch deployment

An easy-to-use mobile app simplifies connecting and managing Aruba CX switches for any size network project. Switch information from the Aruba CX Mobile App can be imported into Aruba NetEdit for simplified configuration management and to continuously validate configuration conformance anywhere in the network.

ARUBA DYNAMIC SEGMENTATION - CAMPUS AND BRANCH FABRIC

The Aruba Dynamic Segmentation solution enables seamless mobility, consistent policy enforcement, and automated configurations for wired and wireless clients across networks of all sizes. And it extends these benefits to applications hosted on the data center and the public cloud.

This innovation begins with colorless ports and role-based micro-segmentation technologies. Colorless ports allows wired clients to connect to any switch port, with the configuration automated using Radius-Based Access Control. This eliminates the need for manual on-boarding of clients, including IoT devices, onto the network.

Role-based micro-segmentation delivers benefits of reduced subnet and VLAN sprawl, simplified policy definition, and scales policy enforcement by introducing the concept of client User Roles. These roles are independent of network constructs such as VLANs and VRFs, and allows clients to



be grouped into a User Role based on their identity. This allows the colorless ports technology to be extended to the overlay fabric, as clients are on-boarded with automatic tunnel creation based on the associated User Role policy. The User Role policy also offers the choice between micro-segmentation with a Layer 4 Role-Rule ACL on switches or a Layer 7 stateful firewall enforcement.

Dynamic Segmentation provides much needed scale and flexibility in network design by allowing the stretching of VLANs and subnets across the entire network. Fabric overlays offer VXLAN or VXLAN-GBP tunnels on the data plane and provide the option of a Multi-Protocol BGP eVPN control plane for large deployments, or a static Layer 2 control plane for simplified deployments.

Dynamic Segmentation also eliminates the complexity of service-chaining and redirection of traffic to 3rd party firewalls. User Role Policy can steer client's traffic on overlay tunnels (User Based Tunnels) to Aruba's Policy Enforcement Firewall for deep-packet inspection and application aware Layer 7 stateful firewall filtering. After performing this stateful inspection for any security threats, the traffic is automatically put back on the VXLAN fabric to be delivered to its destination.

SWITCHES FOR ANY ENTERPRISE ENVIRONMENT

Data center, campus, and branch

From small to large enterprise environments, Aruba's comprehensive portfolio includes solutions ideal for access, aggregation, core, and data center deployments. The power of the Aruba CX switching portfolio provides a choice of fixed ports or modular chassis with non-blocking speeds from 1GbE to 100GbE. This gives you the flexibility to start with a low port count and scale to full-density switches – all with built-in automation and analytics – as your business requires.

Features include high availability platforms with redundant management, fabric, power, and fans and high-density industry-standard high power PoE and HPE Smart Rate multi-gigabit ports. And the new ruggedized switch series is ready to extend your enterprise network beyond the office to challenging, harsh environmental spaces.

No extra switch software licensing or subscriptions are required for the Aruba CX switches.

CUSTOMER FIRST CUSTOMER LAST SUPPORT

When your network is important to your business, then your business needs the backing of **Aruba Support Services**. Partner with Aruba product experts to increase your team productivity, keep pace with technology advances and software releases and obtaining break-fix support. Our Foundation Care for Aruba support services include priority access to Aruba Technical Assistance Center (TAC) engineers 24x7x365, flexible hardware and onsite support options and total coverage for Aruba products.

NETWORK MIGRATION SERVICES

Aruba offers industry-leading global high touch **Professional Network Services** for network design, installation and enablement services. Work with our team of Aruba experts and partners that have in-depth technical know-how to accelerate and simplify your migration to AOS-CX.

BECOME AN EXPERT ON CX

Aruba Education Services offers comprehensive training and certification programs from fundamental to advanced levels to give you the skills to fully utilize the power of AOS-CX.

TO LEARN MORE

<https://www.arubanetworks.com/products/switches/>