

## AT A GLANCE

# ARUBA CX 10000 SERIES SWITCH WITH PENSANDO

The Next Evolution of Switching Architecture

## INTRODUCTION

The Aruba CX 10000 Series Switch with Pensando represents a new category of data center switches that combines best-of-breed Aruba CX data center L2/3 switching with the industry's first hardware-accelerated programmable processor (Pensando P4), delivering stateful services inline, at scale, with wire-rate performance and orders of magnitude improvement over traditional data center L2/3 switches.

## MARKET CONTEXT

While data center networking has evolved over the past decade, providing higher-performing 25/100/400G leaf-spine topologies to address the volume and velocity of emerging application architectures, security architectures **have not**.

Centralized security appliances are inefficient and expensive at inspecting and protecting east-west application traffic within the data center. Hair-pinning traffic to an appliance sitting at the data center edge comes with heavy performance and cost penalties.

This problem is exacerbated by microservices-based applications, where traffic may not even leave a physical host to go from one service to another. This means some application traffic may never be inspected by a hardware firewall, IPS, or other security device—leaving enterprises vulnerable to attacks from within the enterprise itself.

## ARUBA CX 10000 SERIES SWITCH WITH PENSANDO

The Aruba CX 10000 provides an entirely new switching solution to overcome these legacy limitations. The solution allows operators to extend industry standard leaf-spine networking with 800G of distributed micro-segmentation, east-west firewalling, NAT, encryption, and telemetry services—delivered inline, across every port, closer to critical enterprise applications.

The solution delivers a unique blend of performance, scale, and automation for distributing advanced networking and security services where it's impractical and costly to force



traffic back and forth across the network to a centralized policy enforcement point and instead simply applies these services at the services network access layer edge, where the applications are running.

## ARUBA CX 10000 CUSTOMER BENEFITS

- Improves security posture and limits appliance sprawl
- Extends a Zero Trust deeper into the data center
- Delivers isolation and multitenancy at the application, Bare Metal VM, and/or container level
- Optimizes network bandwidth and performance
- Overcomes centralized networking service layer chokepoints, reducing downtime
- Simplifies operations via unified network and security automation and management
- Addresses deployments where security agents can't be deployed into servers
- Accelerates infrastructure service provisioning

## ARUBA CX 10000 SOLUTION DETAILS

The Aruba CX 10000 is high-performance, access layer/leaf data center switch that provides 6.4Tbps of switching capacity, 48 ports of line rate 10/25GbE (SFP/SFP+/SFP28), and 6 40/100GbE ports (QSFP+/QSFP28) and 800G of stateful network and security services in a compact 1U form factor. The switch provides best-of-breed Aruba CX-AOS switching capabilities in a top-of-rack form factor with industry leading, hardware-accelerated (dual) data processing units.



## Key features

- High performance T3 switching ASIC, 6.4 Tbps, 32MB shared buffer
- High availability with industry leading VSX redundancy, and redundant power and fans
- Aruba AOS-CX automation, programmability using built-in REST APIs and Python scripts
- Advanced Layer 2/3 feature set includes BGP, OSPF, VRF-Lite, and IPv6
- Dynamic VXLAN with BGP-EVPN for deep segmentation in data center
- Dual Pensando Elba P4 Programmable Processors (DPU)

Integrated into the Aruba CX 10000 switch are dual Pensando P4 processors. These fully programmable processors are optimized to execute a software stack and deliver cloud, compute, networking, storage, and security services at the network-server edge. The processors are centrally managed and monitored by the Policy and Service Manager (PSM).

## PACKAGING AND PRICING

The Aruba CX 10000 includes a base service license that includes accelerated Stateful Firewall, Zero Trust Segmentation, ERSPAN, Telemetry, DDoS protection, and the Pensando Policy and Services Manager (PSM).

Customers will have the option to upgrade to a premium service license option at a future date, which will include all the base service license functionality plus IPsec Encryption, NAT, Advanced DDoS, and additional network and security services.

Contact your Aruba sales representative for pricing.

## MANAGING THE ARUBA CX 10000

IT operations can leverage Aruba Fabric Composer for unified network, security policy configuration Aruba CX 10000. All switch and network configurations and firewall policy definitions for both the switch and distributed firewall can be handled by Aruba Fabric Composer.

This management includes spine/leaf creation, VSX (MLAG) switch provisioning, OSPF/BGP underlay and BGP EVPN overlay provisioning, server port provisioning, storage QoS provisioning, and end to end visualization that spans switches, servers, storage devices, NICs, hypervisors, and even VMs.

Organizations with dedicated SecOps teams can also leverage Policy and Services and Manager (PSM) based on specific security roles and responsibilities.

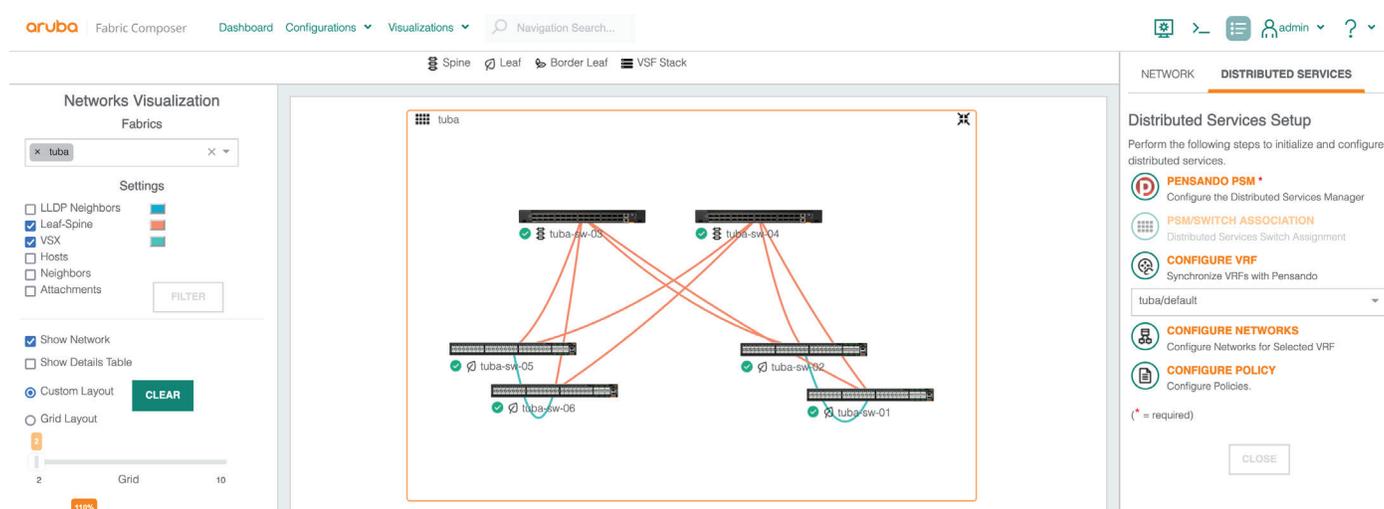


Figure 1: Aruba Fabric Composer - Network Visualization Leaf-Spine, VSX View



## ARUBA CX 10000 USE CASES

### On-premises enterprise data centers and private cloud

Traditional data center architectures with centralized, hardware-based security appliances are being pushed to their breaking point—imposing performance, agility, and cost burdens that are not sustainable. The CX 10000 provides a compelling architectural alternative that distributes these advanced services to the data center edge, with unified network and security automation and policy management. This new solution optimizes network bandwidth and performance by not having to trombone local traffic to a centralized chokepoint, which helps improve security posture while limiting appliance sprawl complexity and cost.

### Co-location edges—securely interconnecting cloud providers

The cost of encrypting access to the public cloud using traditional appliances is exorbitant. Many customers have a compliance mandate to encrypt all access to public cloud resources. The CX 10000 provides edge routing, line-rate encryption, firewall, and NAT for public cloud dedicated connections to Azure or AWS, from either on-prem or colocation data centers. This solution radically lowers TCO, provides an optimized security architecture, and reduces IT blast radius and risk.

### Security ecosystem integration

The Aruba CX 10000 integrates via a Rest API and provides flow data to a wide variety of security and network performance tools including Advanced Security ML (XDR), Application Dependency Mapping (ADM), Network Performance Management (NPM), SIEM/SOAR, firewall compliance rules, and identity group mapping tools.

For example, the CX 10000 can provide full visibility to all east-west traffic flows in the data center, and as such, it is the source of telemetry truth that XDR ML engines require for their service to work. The CX 10000 can stream all the telemetry for these traffic flows in the data center (complimented by existing north-south Firewall telemetry), providing the data required for the XDR engines to find lateral malware movement, insider attacks, command and control traffic, or an external actor within the data center.

### HPE and Pensando announcement synergy

The Aruba CX 10000 complements the recent introduction of the **Pensando Distributed Services Platform (DSP) for HPE Servers**, delivered as a PCI form factor option in HPE ProLiant servers, HPE Apollo systems, and HPE Edgeline Converged Edge systems.

The Aruba CX 10000 extends the implementation of these intelligent services into the data center network fabric, addressing a wider range of use cases, including brownfield deployments or infrastructure agnostic/heterogenous environments, to complement and augment SmartNIC deployments.

Learn more at <https://www.arubanetworks.com/products/switches/distributed-services-switches>