

aruba

a Hewlett Packard  
Enterprise company

# Integrated solution for distributed network connectivity and security in Data centers

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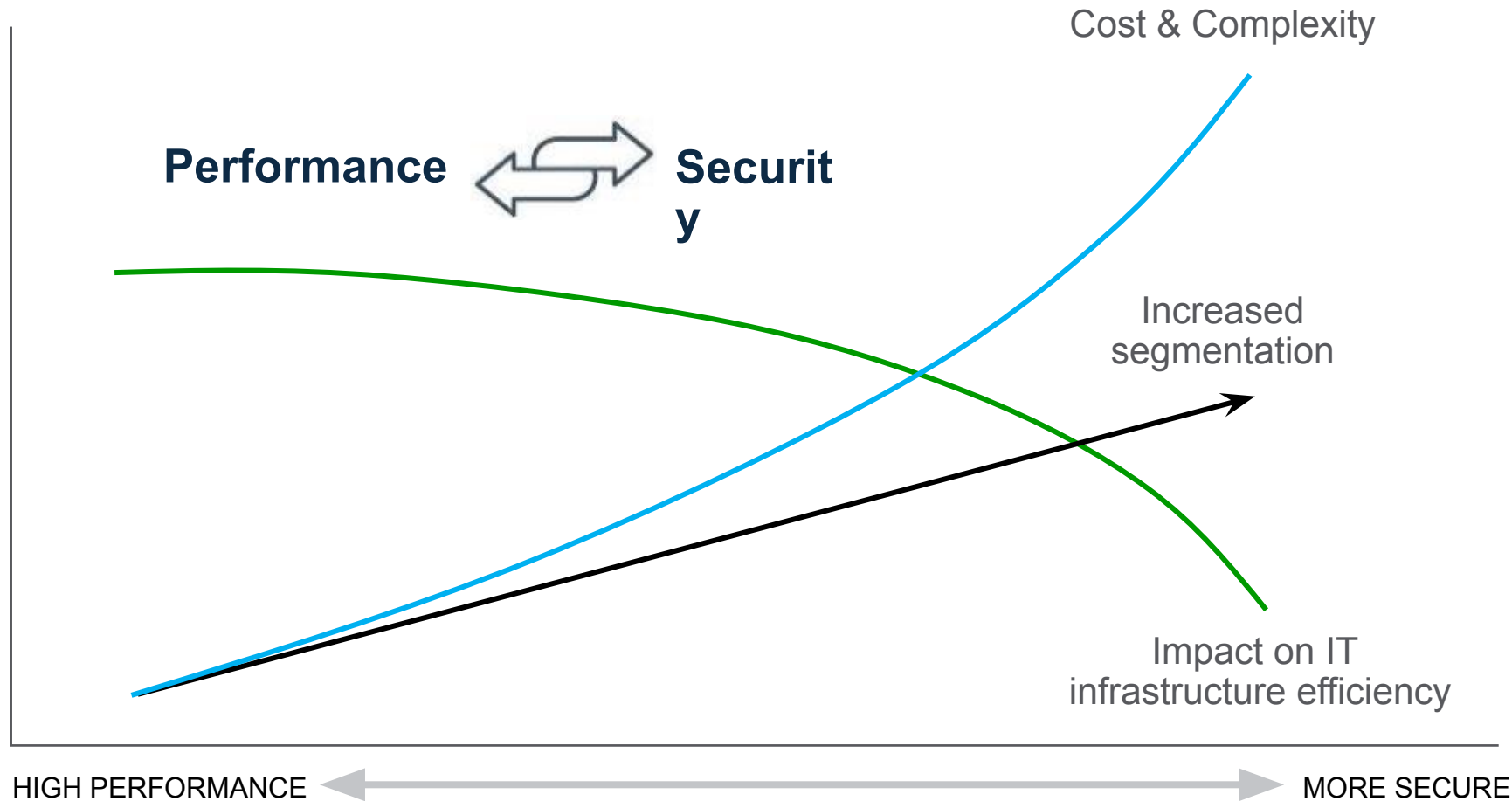
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# The Security vs. Performance Dilemma, at Scale

72% of all traffic stays in the data center



Will you be considering a 'zero trust' security model in 2021 and beyond?



Question: Will you be looking at a 'zero trust' security model in 2021 and beyond for both logical and physical security?

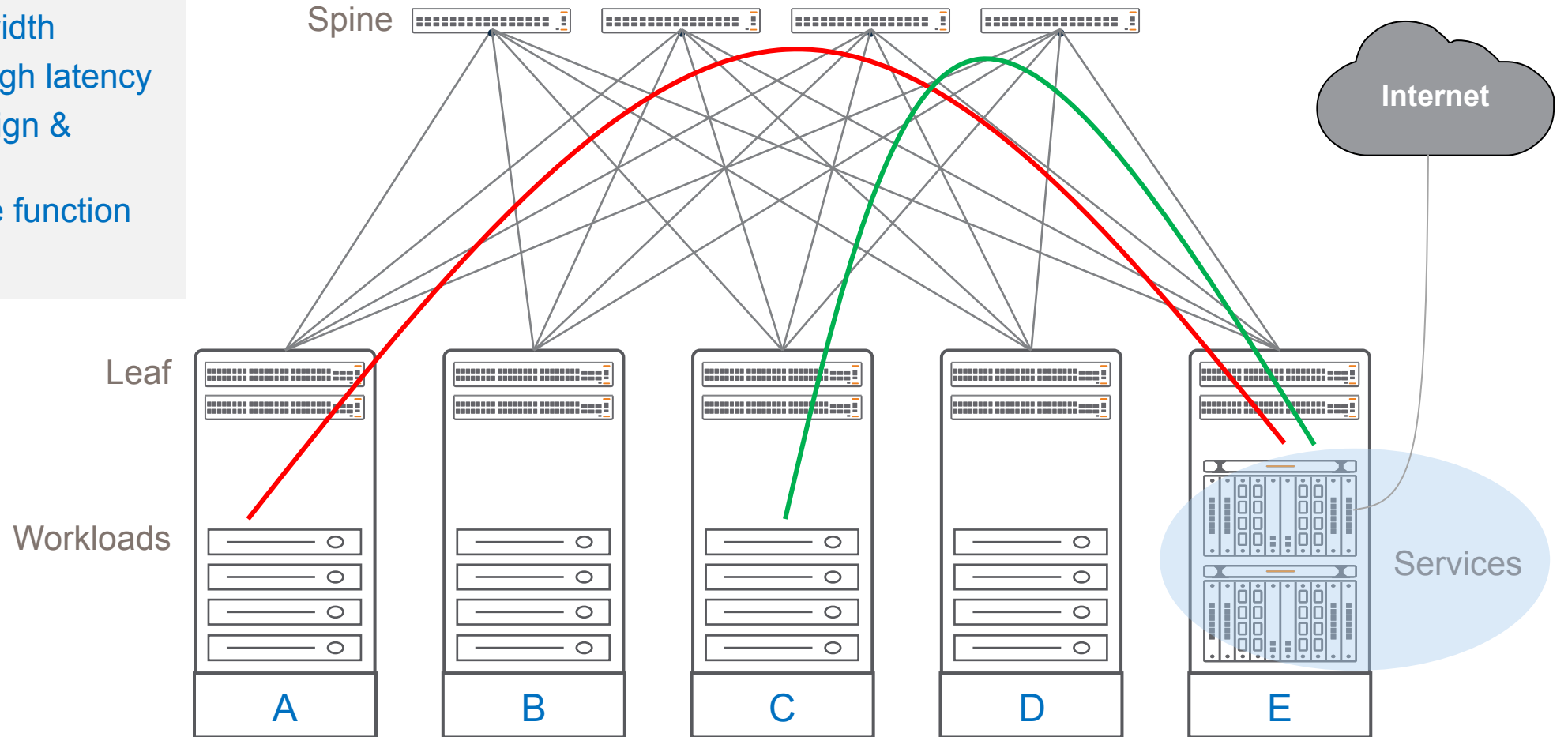
The 2021 State of the Data Center Report

# High Performance Data Center Fabrics

## Centralized Services Architecture

### Centralized Services

- Waste of bandwidth
- Congestion & high latency
- Complex to design & troubleshoot
- Limited to single function
- Very expensive



The image features a solid orange background. In the top-left corner, there is a pattern of small, light-orange dots. On the right side, there is a large, dark blue, abstract shape with curved edges, resembling a stylized wave or a modern logo element. The text is positioned on the left side, overlapping the dotted pattern and the orange background.

# Aruba CX 10000 Distributed Services Switch

# Aruba CX 10000 Distributed Services Switch

PENSANDO

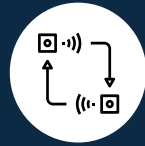
## L4-L7 Stateful Software Services



FIREWALL



DDoS



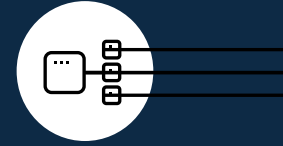
TELEMETRY



ENCRYPT\*



NAT\*



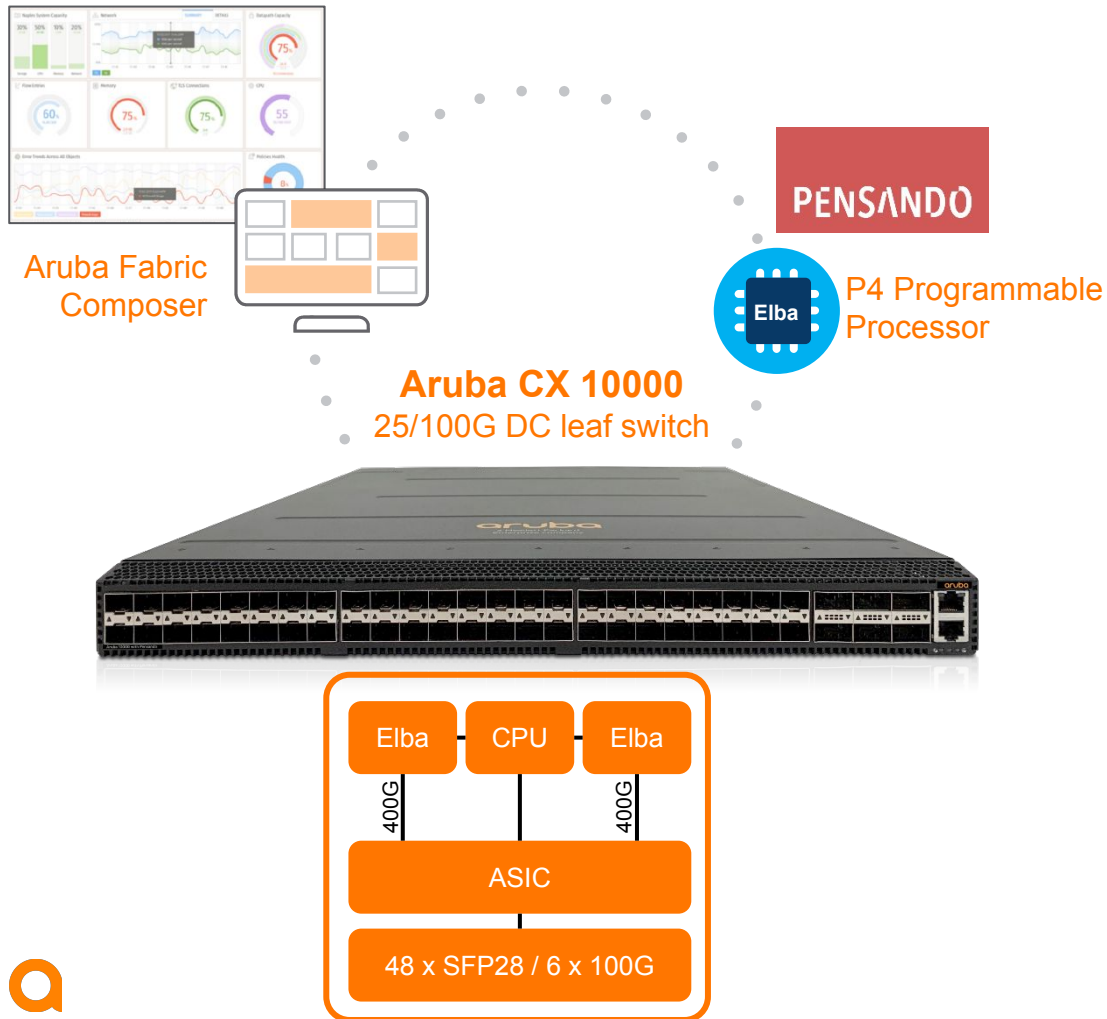
SLB\*



**Aruba AOS-CX and 3.2Tbps, 48P 10/25G x 6 100G**  
Full protocol stack, centrally managed at scale

\*Requires future software release.

# Aruba CX 10000 Distributed Services Switch



## 1RU Fixed Switch Form Factor:

- T3 Switching ASIC - 3.2 Tbps, 32MB Buffer (shared)
- **Used for forwarding/routing/other features**
- 2 x Pensando Elba (7nm) Programmable Processor
- **Used for smart stateful services (all forwarding performed by T3)**
- 2 x Redundant Power Supplies (N+1)
- AOS-CX Network OS, full protocol stack support

## Port Configuration:

- 48 x 1/10G/25G SFP28, 6 x 100G QSFP
- 1 x 1G RJ45 management, 1 x RJ45 console port, 1 x USB

## Phase 1 Planned Services/Use-Cases:

- East-West DC Segmentation (Distributed Firewall & DDoS)
- Micro segmentation
- Observability (Packet Capture, Flow Logging/Statistics)

## Platform Management Options:

- Aruba AFC & Pensando PSM
- PSM & DevOps Tools (Terraform/Ansible), REST-API

# Delivering Advanced Services Closer To The Network-server Edge

CX DSS integrates **intelligent network / security services** into Aruba's **software-defined data center switching fabric**

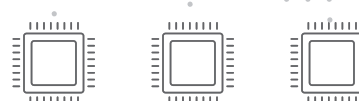
...by **centralizing control** and **distributing intelligence** of advanced services



Aruba Fabric Composer (AFC) & Policy & Services Manager (PSM)

Unified Network / Security Policy, Orchestration & Management

Custom P4 programmable processor



PENSANDO

High Performance Distributed Intelligence

LEAF/ACCESS



Aruba CX 10000 Switch Series



SPINE/CORE

AOS-CX  
Common Operating Model  
Edge to Cloud

# High Performance Data Center Fabrics

## Distributed Services Architecture

### Distributed Intelligence

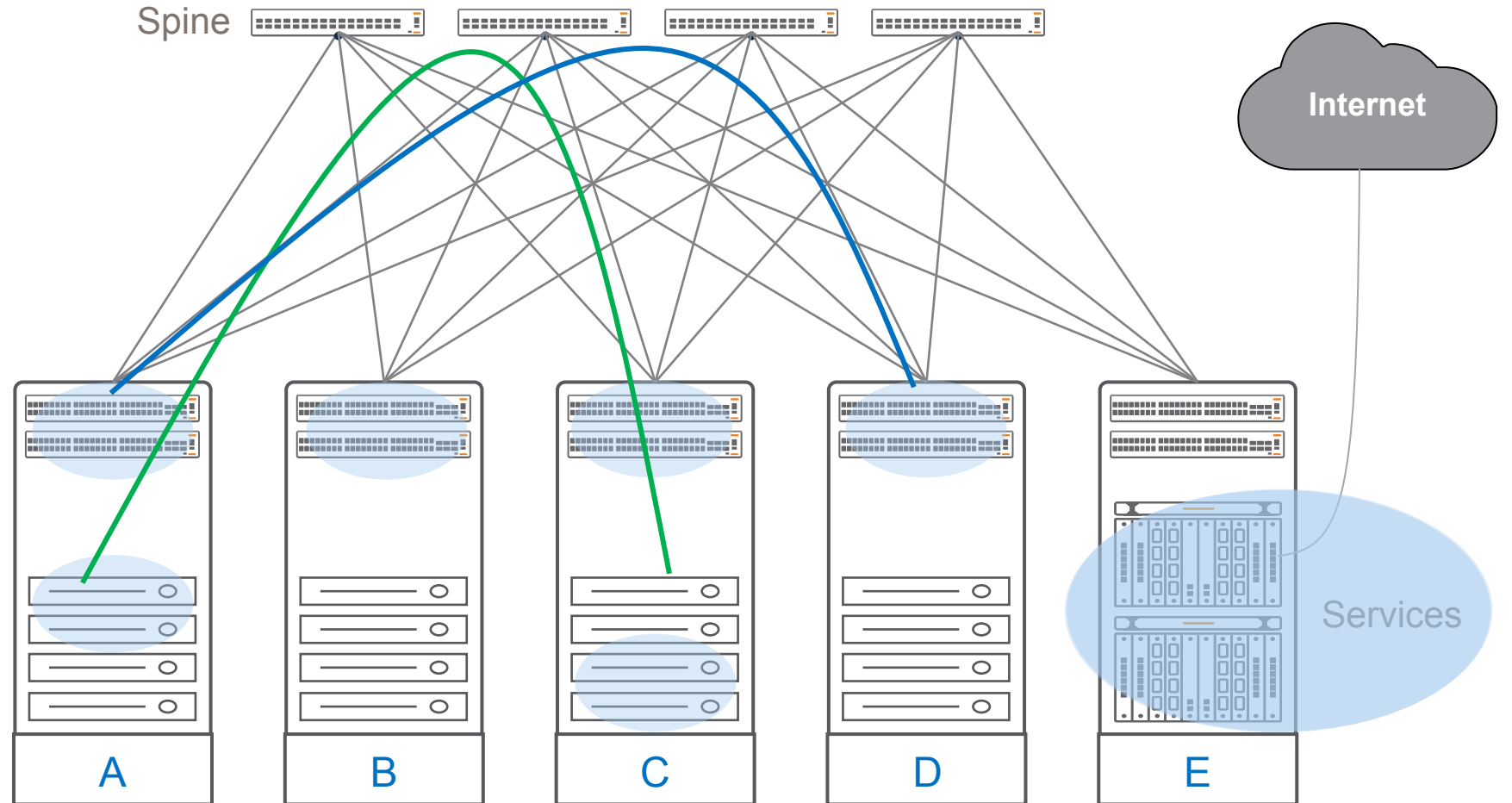
- Proper provisioning
- Software defined services
- High performance at scale
- Granular services at scale
- Underlay & overlay capable
- Centralized management
- L4 Stateful services (Phase 1)
- New capabilities



DSS



DSC





# Performance at Scale is Orders of Magnitude Ahead

Metric	L2/L3 Switch	CX 10000	Improvement
Stateful Firewall Policy Rules	N/A	1M	New
Stateless ACLs	8K	1M	~125x
NAT	8K	1M	~125x
IPsec Tunnels	10K	200K	~20x
IPsec Bandwidth	100G	800G	8x
Connections per Second	N/A	4M	New
Suited for Data Center, Provider Colocation edges		No Compromise on Performance	Flexible Services at Scale



# Aruba Fabric Composer & Pensando PSM

# Aruba Fabric Composer Orchestration to Speed Delivery

**Orchestration and Automation** for Aruba Data Center fabrics. Build DC fabrics with API driven super wizards.

**Provision in minutes vs. hours.** Create leaf-spine networks with OSPF underlay, and BGP based EVPN overlay.

**Holistic policy synchronization** for Aruba CX and DSS Switches/Pensando PSM.

**Eco-System aware integrations** enable visualization and monitoring of attached hypervisors, VMs and Host networking environment.

**Automates away everyday networking tasks**, including provisioning of VLANs and LAGs on Top of Rack.

**Simplified troubleshooting** thanks to a deep insight into end-to-end connectivity.

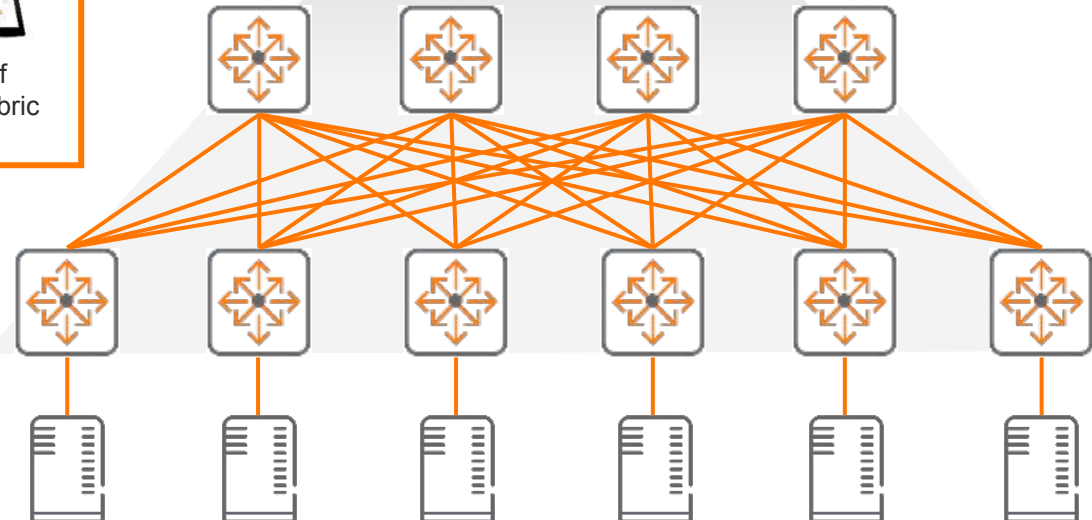
Powerful Integrations Help IT Admins Automate Network Configuration



iLO Amplifier Pack



Single Point of Integration to Fabric Infrastructure



Aruba CX Switch Series: CX 6300 (OOB), CX 8325, CX 8360, CX 8400, CX 10000



# ARUBA CX 10000 DISTRIBUTED SERVICES SWITCH

## The next evolution of switching architectures

A new category -  
Distributed  
Services Switch

Extends Zero Trust  
to network-server  
edge to closer to  
apps

Optimizes  
bandwidth,  
simplifies  
network/security  
provisioning

Orders of  
magnitude  
improvement in  
scale and  
performance,  
Lower TCO



aruba

a Hewlett Packard  
Enterprise company

# Thank You!

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Hewlett Packard Enterprise operated by Selectium

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