

# Next Generation IT Experience with CX Switch

Samuel Parlindungan Ulysses  
Aruba System Engineer



## 2.1 Introduction Next Generation IT Experience with CX Switch Subtopics

- Network Switch Challenges
- Aruba Switch Solution
- Cloud native operating system
- Switch Virtualization
- Aruba Switch NAE and Nedit
- Simple Switch Configuration
- Switch Key takeaways





## SIMPLIFIES DAY-TO-DAY OPERATIONS ACROSS THE NETWORK LIFECYCLE BY:

Accelerating new deployments



Instantly validating changes are successful



Enabling upgrades with zero downtime



And proactively identifying issues  
and areas for improvement



VIDEO LAINNYA



## Unified, End-to-End Operating Model



Campus

AOS-CX

Data Center

## 2.1 Introduction Next Generation IT Experience with CX Switch

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Make the switch to Aruba CX to enable a next-gen network operator experience

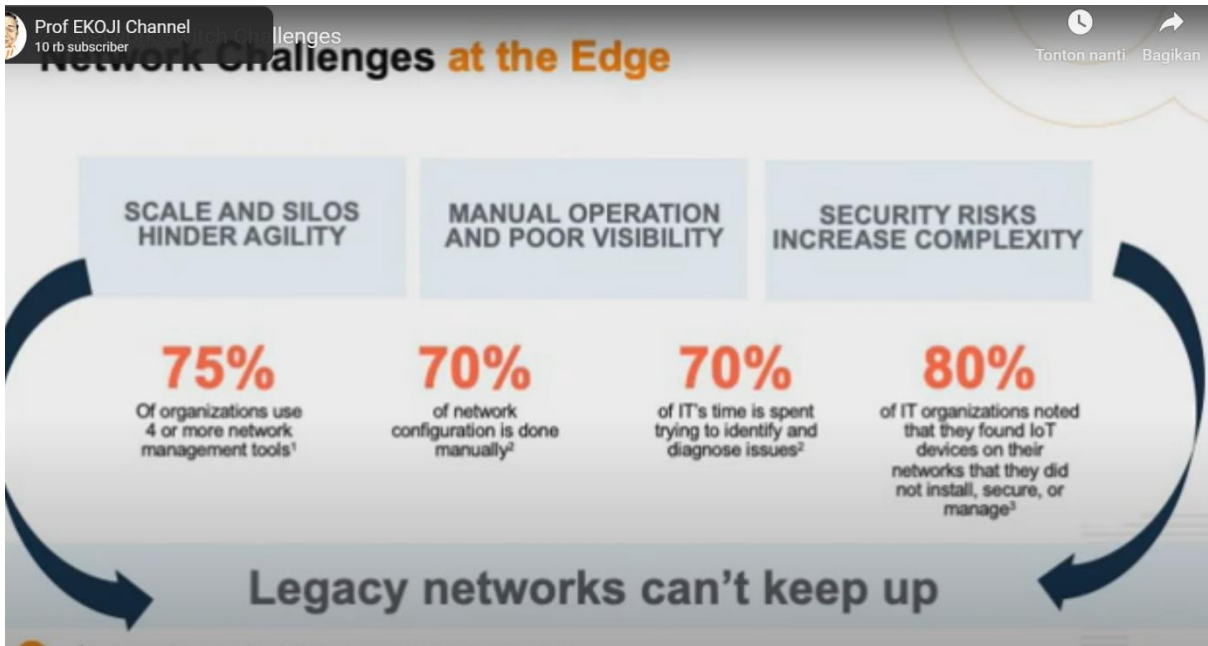
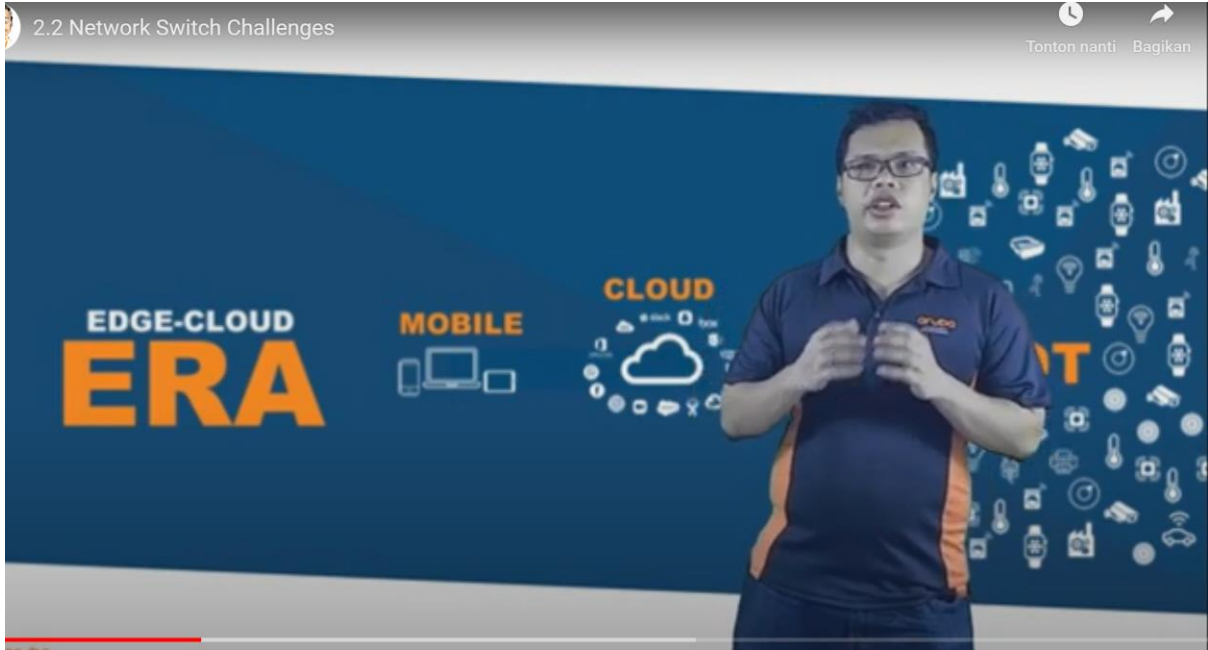
## 2.2 Network Switch Challenges

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# Network Switch Challenges

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Prof EKOJI Channel  
10 rb subscriber

Messages

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# Networking Challenges at the Edge




- Technology Siloes Hinder Agility
- Lack of Network Automation & Visibility
- Security Threats Rising
- Economic & Resource Headwinds


Networks Must Do More

2.3 Aruba Switch Solution

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# Aruba Switch Solution



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# Aruba ESP AI-Powered Edge Services Platform



# Aruba CX Switching Design, deploy, monitor and analyze with ease

The graphic highlights three key benefits of Aruba CX Switching:

- Automated Operations:** Intelligent and Flawless Configs with Aruba NetEdit.
- Actionable Insights:** Distributed Analytics Embedded in every Switch.
- Secure Segmentation:** Automated and Unified Dynamic Segmentation for IoT and Users.

At the bottom, a stack of Aruba switches is shown next to a text box:

**Simplicity from edge access to data center**  
 Single operating model with cloud-native AOS-CX and no switch software licensing or subscription costs

# Aruba CX Switching

## Next-gen switching designed for the network operator

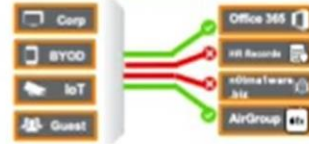
Simplicity from edge access to data center with cloud-native **AOS-CX**



Visibility with distributed analytics at the edge with **Aruba Network Analytics Engine**



IoT and User Security with Automated **Aruba Dynamic Segmentation**



Intelligent and Automated Configs with **Aruba NetEdit**



High Availability with **Aruba VSX Live Upgrades**



Always-on PoE

Data center class performance with **Gen7 ASIC**



No software licensing or subscription costs



Press Esc to exit full screen

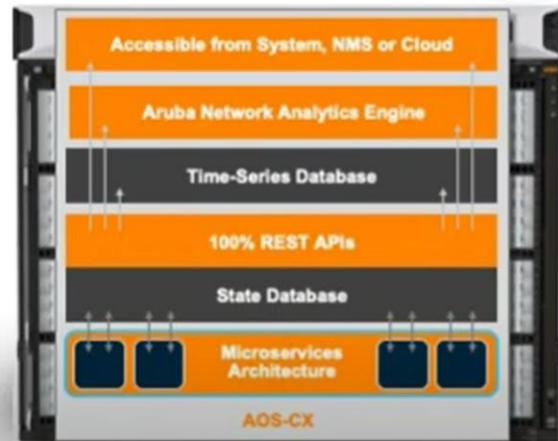
# Cloud Native Operating System

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# AOS-CX Built on cloud-native principles

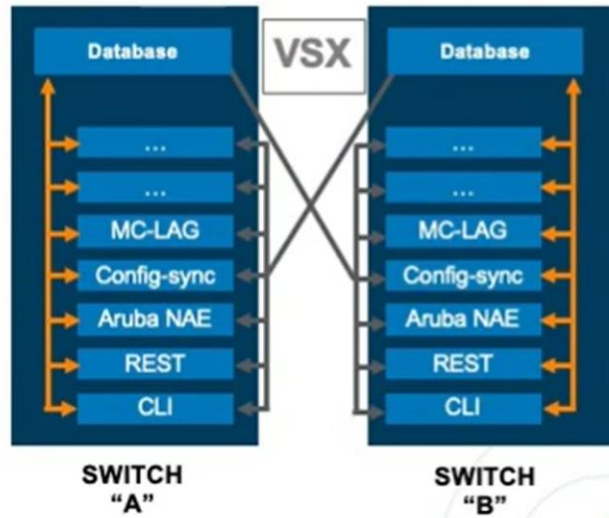
- Modularity**  
Faster innovation with independent processes
- Programmability**  
Simplified operations through automation
- Resiliency**  
Stable and reliable microservices design
- Elasticity**  
One operating model from edge access to data center



Gartner

## Resiliency Enables Always-on Availability Aruba VSX Live Upgrades

- Orchestrated upgrades
- Delivers on the promise of ISSU
- No maintenance windows mandated
- Gradual and planned traffic re-balancing
- Dual Control-Plane equals Software Redundancy





2.5 Switch Virtualization

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# Switch Virtualization

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Aruba System Engineer

2.5 Switch Virtualization

## Aruba Switch Virtualization

**Aruba VSF**  
Stacking for access

Chassis 1	Chassis 2
Management Control Routing Ethernet Links	Management Control Routing Ethernet Links
Shared	

**Aruba VSX**  
HA for core/agg/data center

Chassis 1	Chassis 2
Management Control Routing	Management Control Routing
Ethernet Links	
Shared	

**Deployment**

# Aruba Switch Virtualization

### Aruba VSF

Stacking for access

Chassis 1	Chassis 2
Management	Management
Control	Control
Routing	Routing
Ethernet Links	Ethernet Links
Shared	Shared

### Aruba VSX

HA for core/agg/data center

Chassis 1	Chassis 2
Management	Management
Control	Control
Routing	Routing
Ethernet Links	Ethernet Links
Shared	Shared

← SYNC →

### Deployment

# Aruba Virtual Switching Framework (VSF)

Front plane stacking

**Simplified Management** with virtual switch stack

**Grow** your network quickly

**Go further with stacking** across campus and site using long range transceivers

**Fast stack config with Aruba CX Mobile App** that auto-detects potential stack members and stack links makes it go from independent switches to a virtualized stack with just a few taps



### CX 6300

10 unit CX 6300 stack  
 Flexibility to combine 6300M and 6300F models  
 Uses high speed 1/10/25/50GbE uplinks

### CX 6200

8 unit CX 6200 stack  
 Uses 1/10GbE uplinks

(6200 and 6300 mixed stack not allowed)

2.6 Aruba Switch NAE and Netedit

Press **Esc** to exit full screen

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# Aruba Switch NAE and Netedit

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2.6 Aruba Switch NAE and Netedit

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## Turning Network Telemetry into Actionable Insights

Intelligent pre-processing with Aruba Network Analytics Engine

### Legacy Approaches

<p>Probes and Show Commands</p> <p>Needs in the haystack</p> <p>Difficult to recreate and/or identify issues</p>	<p>Telemetry Streaming</p> <p>Latency and large, unfiltered data sets</p> <p>Delays in data processing and analysis</p>	<p>Third-Party Monitoring Tools</p> <p>Manual correlation and limited actionable insights</p> <p>Resource intensive with longer MTTR</p>
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vs

### Aruba CX Approach

**NAE integrated everywhere in network**

Real-time, network-wide visibility with actionable data	Automated monitoring for rapid detection of issues	24/7 network technician built-in to every switch
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# Rich Visibility and Troubleshooting at the Point of Access

## Legacy Approach

Alert with manual, step-by-step investigation

User: Video chat is not working!



### WHERE IS THE PROBLEM ?

- "Was it a top-talker issue? Nope."
- "Is there a memory leak? Nope."
- "Is QoS misbehaving? Nope."

### CORRELATION

### SOLUTION PROPOSAL



## Aruba CX with NAE

Visibility with distributed analytics at the edge



NAE alert: Video chat down, switch needs a config change  
Solves with quick visual health of network with easy to use dashboard to pinpoint issue

20

# Rich Visibility and Troubleshooting at the Point of Access

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# Analytics and Automation Powered Network Operations

Automated config management with Aruba NetEdit



### Management Simplicity

- Topology for fast view into network health, including devices with config issues
- GUI-driven solution configs to implement common configurations easily across multiple systems
- Auto-Change Verification to minimize change windows and reduce errors
- Continuous Validation to monitor for deviations from intended policy or design

### One Touch Deployment with Aruba CX Mobile App

Accelerate day zero config, view and manage using your mobile device

### Visibility and Analytics via NAE

- Embedded analytics with real-time health status and diagnostics for efficient root cause analysis
- Health reports on devices, apps, and network services
- Script tags indicate what layer is contributing to issues, speeding root cause analysis

### Workflow Integration with 3<sup>rd</sup> Party Tools

Immediate notifications from Slack, TOPdesk, ServiceNow, etc.

## Save Time and Reduce Risk

With next-gen config experience

**Use Case** Insurance company must rapidly update network configurations after a compliance audit

### Legacy Approach

1. Translate audit findings into specific config changes
2. Identify which/where Config Templates are at variance
3. Identify individual switches at variance with Templates
4. Script CLI changes for each unique config group
5. Config change review meeting to find errors & validate
6. Push to each switch where required, one-by-one
7. Spot-check switch configs for best-effort assurance
8. Spot-check for unintended consequences to network
9. Update and create new Config Templates as needed
10. Document switches at variance w/ Templates for future



Command-line scripting

### Aruba CX Approach

1. Translate audit findings into specific config changes
2. Make changes using simple GUI
3. Done!



Aruba CX



# Save Time and Reduce Risk

With next-gen config experience

### Use Case

Insurance company must rapidly update network configurations after compliance audit

### Legacy Approach

1. Translate audit findings into specific config changes
2. Identify which/where Config
3. Identify individual switch
4. Script CLI changes for each switch
5. Config change review
6. Push to each switch
7. Spot-check switches
8. Spot-check for compliance
9. Update and create new Config
10. Document switches at various locations

### Aruba CX Approach

1. Translate audit findings into specific config changes
2. Make changes using simple GUI-driven workflows, pan-network
3. Done!



Aruba NetEdit

VIDEO LAINNYA

Command

# Simple Switch Configuration

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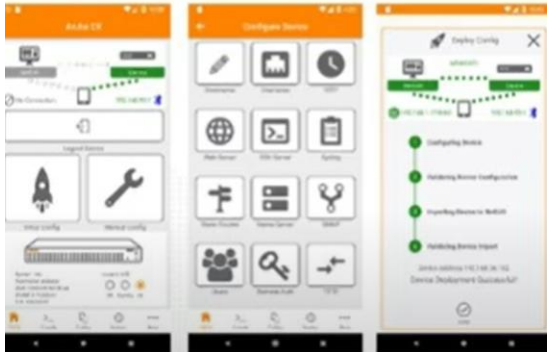
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# Simplified Install and Configuration

## Aruba CX Mobile App



Aruba CX Mobile App



Visibility and convenience for today's IT

- **Configure, view and manage** configurations
- **Simple to use built-in templates** save time and cut down on errors
- **Integration with Aruba NetEdit** allows for intelligent and validated configuration conformance
- **Quickly check the PoE budget and utilization** on switches from the CX Mobile app home screen to see available PoE
- **Auto-detection of potential stack members** and stack links makes it go from independent switches to a virtualized stack with just a few taps
- **Connectivity via Bluetooth or Wi-Fi** makes setting up switches quick and easy

The Aruba CX Mobile App is subscription free and is available to download at <https://www.arubanetworks.com/products/networking/switches/cx-mobileapp/>

# Simplifying the Operator Experience

## From Day 0 through Day 2 operations

**Install a new switch** using mobile app and connect to management

**Resolve issues using always-on monitoring** with built-in diagnostics and dynamic actions within every node



New switch and its config are **automatically** imported

**Manage, automate, validate, and verify** configuration and network state including compliance

# Key takeaways

Unified Infrastructure Switch  
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## Aruba CX Switching

Design, deploy, monitor and analyze with ease

### Automated Operations

Intelligent and Flawless Configs with Aruba NetEdit



### Actionable Insights

Distributed Analytics Embedded in every Switch



### Secure Segmentation

Automated and Unified Dynamic Segmentation for IoT and Users



**Simplicity from edge access to data center**

Single operating model with cloud-native AOS-CX and no switch software licensing or subscription costs

