aruba
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# Transform the operator experience with enhanced automation & analytics.

## ARUBA CX NEXT-GEN SWITCHING PORTFOLIO

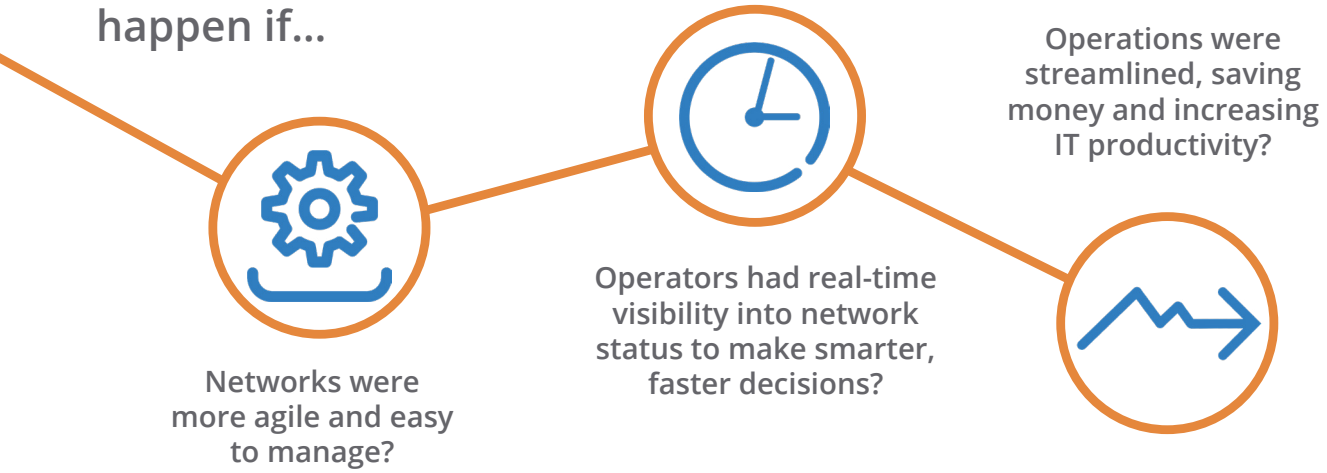
# Modern businesses require a modern network

Enterprises worldwide are embracing digital strategies to modernize operations and make their offerings more compelling to customers, partners, and employees.

To power these digital initiatives, enterprises are adopting technologies like cloud, mobile, and IoT at an impressive clip.

While these technologies are necessary to propel the business forward, IT leaders are being held back by networks rooted in the past. Outdated networking infrastructure, managed with highly manual processes and fragmented tools, is brittle, error-prone, and can't keep up with these latest tech trends.

## But what would happen if...



Networks were more agile and easy to manage?

Operators had real-time visibility into network status to make smarter, faster decisions?

Operations were streamlined, saving money and increasing IT productivity?

# The demands that crush today's networks crush IT

Today's networks are being crushed by the demands of modern businesses and the digital technologies that employees, customers, and partners crave.

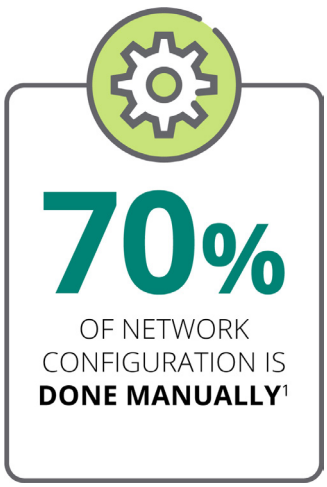
As a result, IT leaders face a number of network-related challenges, most notably:

## Supporting frequent network changes with limited time and resources

IT teams are tasked with supporting unprecedented volumes of data, devices, and apps, requiring non-stop adds and moves to the network. High-touch deployments that require manual processes increase the risk of human error, which can lead to unanticipated issues or even downtime.

Implementing updates device by device using command line interface (CLI), scripts, or templates is time-consuming. When network change windows are short and IT is short-staffed, supporting evolving business requirements become especially difficult.

Given the critical nature of the network, IT leaders need easy automation for actions like configurations, deployments, and upgrades.




## Difficulties troubleshooting and resolving network-impacting issues

Organizations need better visibility into network performance to understand what is happening where, so they can act on issues as they occur. Using show commands or probes to recreate problems is like finding a needle in the haystack—far too reactive, time-consuming, and inefficient.

At the same time, having network performance data is of little help if it doesn't provide actionable insights to help operators readily identify and resolve issues. Third-party monitoring tools usually sample data, which sacrifices granular detail due to scalability concerns, making it difficult to catch intermittent or short-lived problems. And streaming telemetry across the network to a central collector creates raw, unfiltered datasets, where latency and bandwidth constraints can further delay data accessibility and analysis.

When problems arise that require a fast response, IT needs real-time, network-wide analytics, correlated to probable root cause to accelerate troubleshooting and mean time to resolution (MTTR).

**70%**

OF IT'S TIME IS SPENT **TRYING TO IDENTIFY AND DIAGNOSE ISSUES**[2]

## Securing IoT, BYOD, and mobile initiatives

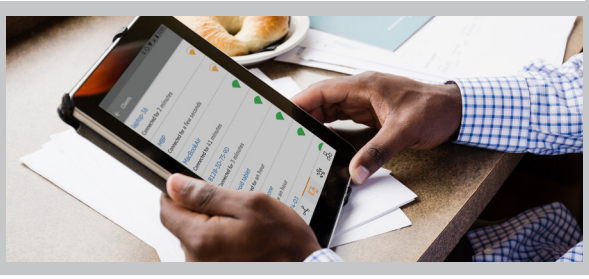
Initiatives like workforce mobility, BYOD, and IoT are widening IT security gaps. Having more devices on the network means more attack vectors, and most IoT devices lack stringent security measures. Adding to the burden, employees expect the same network experience while on the move, but are often required to use a virtual private network (VPN), which can severely degrade the performance of business-critical applications.

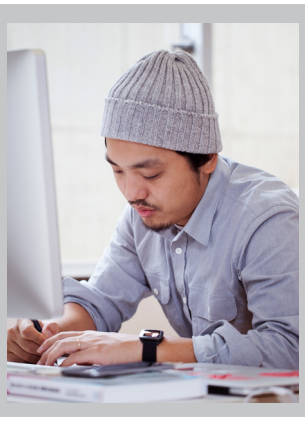
Onboarding IoT and client devices has typically required manual configurations of new virtual local area networks, access control lists, or subnets. Setting and enforcing the right network privileges for various user groups—employees, customers, and guests—has been equally taxing and error prone.

IT organizations need automated, policy-based management to isolate and secure various types of application traffic and the profiles of users who require network access.

**3B**

NEW IOT DEVICES WILL BE DEPLOYED BY 2023,[3] BRINGING **NEW SECURITY RISKS**





# Addressing network issues with automation & analytics

Many IT leaders are turning to next-gen switching infrastructure and management tools to overcome the limitations of yesterday's networks. Making the network more responsive and intelligent with automation and analytics drive their considerations.

Here are three capabilities your organization could benefit from as you consider switching forward to a modern network:

## Improved IT productivity and efficiency

Adopt management tools that automate and simplify common, yet complex networking tasks. For instance, imagine being able to set the NTP or RADIUS server address for all relevant switches through a centralized console using only a few prompt-driven commands, rather than establishing them device by device with CLI.

Open APIs that enable the network to easily communicate with third-party apps, services, and devices can foster full programmability.

This level of programmability ultimately streamlines IT workflows and ongoing network management. Ease of use is also key here, as networking teams should be able to build scripts or apps without needing highly skilled developer resources who are often in short supply or dedicated to other projects.

## Eliminate new security threats caused by mobility and IoT

Instead of relying on manual and static configurations to enforce network access privileges, seek solutions that provide a dynamic, role-based policy framework across wired and wireless networks. This makes it far easier to grant proper access for any client device, user, or connected "thing"—regardless of the location.

Also, adopt a solution that can inspect, secure, and separate network traffic through tunnel-based segmentation. For example, an HVAC system can be restricted to send traffic to only a specified server, eliminating the possibility of it communicating with other servers that host financials or other sensitive data.

This capability, known as dynamic segmentation, not only enhances security postures, but it also reduces costs and management complexity by minimizing the need for expensive firewalls for first-line network defense.

## Proactively address issues and continually improve performance

To proactively detect, prioritize, and resolve problems, operators need instant access to network-wide insights. Look for networking infrastructure that captures and stores data natively on each node to offset the limitations of data sampling and telemetry streaming.

Collected analytics should be viewable in a common, web-friendly UI, with automatic correlation to performance events and configuration changes to accelerate root cause analysis. Such analytics should also help preempt problems and guide improvement efforts. For instance, by understanding trends around network usage, operators can make adjustments before a service degrades and causes a poor user experience.

Streamlining monitoring, troubleshooting, and reporting processes not only increases IT efficiency, but ultimately drives improved user satisfaction, business productivity, and overall revenue.

CUSTOMER STORY

# Network automation with Aruba: Deploy. Validate. Done.

During a network audit, an insurance company discovered several configurations were out of compliance and not adhering to industry regulations.

## THE CHALLENGE

Normally, reconfiguring the network to bring the customer into compliance would entail numerous, highly manual steps: translating audit findings into proper configuration changes, identifying which configuration templates and switches were impacted, and then scripting and pushing out CLI changes to make the necessary updates.

Even then, validating the updates were conformant required spot checks—an equally manual and error-prone effort.

## THE SOLUTION

With Aruba, what once took 10 steps now only takes two. After translating audit findings into specific configuration changes, all updates were instantly pushed out across the entire network using simple, GUI-driven workflows, with validation conformance automatically baked in.

# Bring networking into the digital era with Aruba CX

The Aruba CX Switching Portfolio is purpose-built for today's digital world. IT gains the flexibility to deploy a single architecture across the network, with intuitive management tools and distributed analytics that transform the operator experience for unrivaled agility and efficiency.

## Deliver better user experiences with fast, complete visibility

Analytics embedded in every switch provide intelligent preprocessing of data for real-time insights, helping operators proactively detect and resolve network-impacting issues and continuously improving user experiences.

## Intelligent automation enabled by a cloud-native design

A cloud-native design and microservices-based architecture enables many common, yet complex tasks to be automated. Full Representational State Transfer API (REST API) coverage enables complete programmability, so networks seamlessly integrate with third-party tools and systems, further expediting everyday workflows for the network operator.

## Dynamic segmentation for simplified, enhanced security

Aruba Dynamic Segmentation automatically applies and enforces user and device policies on wired and wireless infrastructure. This makes it easy for business-facing operations and corporate-managed networks with IoT and IT-managed client devices to coexist, while optimizing network experience and IT operations end to end.

CUSTOMER STORY

"The best thing, thanks to the built-in analytics, is that we can now see what is coming towards us. With all the analytics and trending information available from the core, we can make adjustments before a service experiences latency or capacity issues due to growth. What's more, we can do all this in an automated manner and move away from cumbersome CLI."

**Foeke Hoekstra**
**Automation Team Leader, Friesland College**

**Read the full story.**

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# Switch forward to an automated, intelligent network with Aruba

IT leaders must displace legacy networks from the past if they wish to help their businesses move forward with today's digital technologies.

Automation and analytics must be a focal point of this modernized networking strategy. Automation empowers IT to spend less time on tedious administrative tasks and more time on innovating and improving services for end users.

Analytics can be used to quickly triage and resolve network issues as they arise, while also aiding in future planning like design and capacity requirements.

The Aruba CX Switching Portfolio is uniquely positioned to deliver the automation and intelligence today's network operators need.

To learn more, please visit:
**arubanetworks.com/switching**

Footnotes:

1. Gartner, "5 Network Cost Optimizations," June 2019
2. Ibid
3. Ericcson Internet of Things forecast: www.ericsson.com/en/mobility-report/internet-of-things-forecast