

Deliver a  
best-in-class  
user experience.

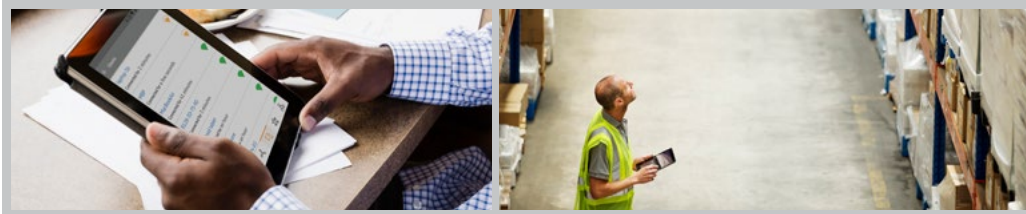
ARUBA CX NEXT-GEN  
SWITCHING PORTFOLIO



## Traditional networks can't deliver modern experiences

The IT ecosystem is changing. Today's technology leaders must oversee a department that supports more customers, remote workers, BYOD policies, and IoT devices. They must also deliver cloud, video, collaboration, and other bandwidth-hungry apps that today's users crave.

Supporting these new technologies and the demands of modern users is crushing today's networks. To offer the best user experience, no matter the location or device, IT leaders need a modern networking infrastructure that successfully delivers these latest technology advances.



## Increased User Demands = Increased Demands on IT

User experience, whether employee, guest, customer, or student, impacts an organization's success. IT leaders constantly need to improve customer-facing technology, enhance the working environment, and plan for the future.

To deliver the experiences modern users demand, IT leaders need a modern network. Switching, in particular, will become more mission critical. No longer just a port for a wired device, today's network switches are also aggregation points for multiple Wi-Fi and IoT devices.

Unfortunately, legacy switching infrastructure doesn't offer enough performance for current demands, nor does it have the scale and flexibility to support tomorrow's unpredictable needs.

Let's look at the demands that employees, customers, partners, and their technology preferences are placing on the network today and how to best tackle them.

### **Anytime, anywhere network access is a requirement, but conditions make it difficult**

Modern users need reliable network access at all times, in environments and places that suit them. Yet it's difficult to ensure user experiences are consistent with network conditions that vary from place to place.

Take the workplace, for example. Today, 64% of employees conduct at least some business remotely after business hours.<sup>1</sup> But as employees move from site to site, bandwidth and latency constraints can be vastly different. Remote employees may be required to use a virtual private network (VPN) to access the corporate network, which can impact application performance and the resulting user experience.





### Technology preference is not a request—it's a demand

Technology can either make or break employee productivity and customer happiness. If the network isn't equipped to deliver the experiences users expect, they are more likely to give up on a task than try to adapt.

Employees are far more likely to change jobs today than they were 10 years ago, and customers won't stick around when they can get a better experience elsewhere. Of employees worldwide, 44% feel that their workspace isn't smart enough and more than half expect to be working in a smart office within the next few years.<sup>1</sup>

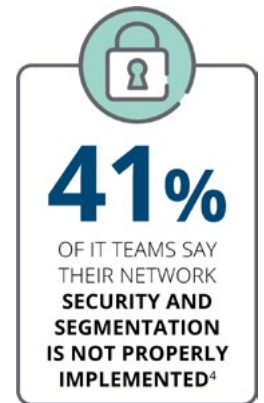
### New security threats emerge

Offering a top-notch guest Wi-Fi service is more important than ever, especially in industries like retail and hospitality. Guests need a simple way to get on the network, but their devices and applications must be kept separate from other corporate resources.

Meanwhile, the rise of BYOD brings more devices to the network, requiring IT departments to manage and secure more personal devices. New work styles, such as remote officing and telecommuting, add to the burden by stretching perimeters that IT must defend.

The advent of IoT initiatives such as automated checkouts and in-store location services also place more strain on the network and IT. Most IoT devices lack stringent security measures, so IT must ensure they are also isolated from other parts of the network.

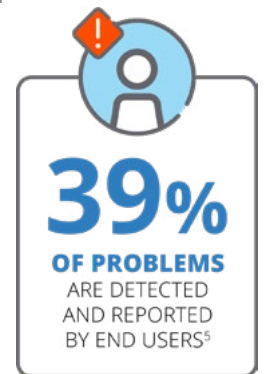
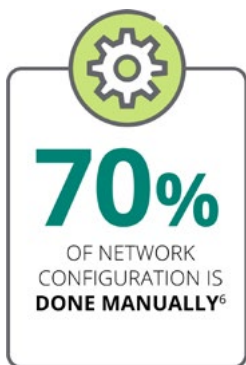
Onboarding and securing these initiatives using traditional methods such as virtual local area networks, access control lists, and subnets won't scale. They require too much manual configuration to set up, and are equally complex to maintain as networking and business requirements grow.



### Visibility gaps make it difficult to detect and resolve user-impacting issues

Device and technology preferences increase complexity for IT, which has a direct impact on their ability to deliver consistent, reliable experiences for all types of users. Given the critical nature of the network providing best-in-class user experience, IT needs better visibility into when and where issues are occurring.

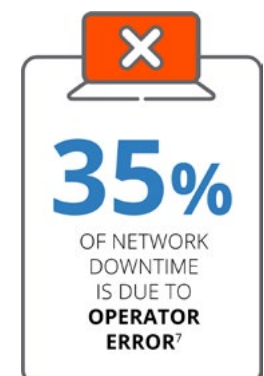
IT teams often employ fragmented monitoring approaches, with disparate datasets that must be manually correlated to network health or performance events. As a result, IT is often notified of a user-impacting issue well after the problem started occurring.



### High-touch, manual network deployments can mean lost business

IT teams are under constant pressure to build and deploy new apps to foster employee retention or stronger customer loyalty. Business expansion often means launching entirely new locations, requiring the right IT infrastructure to enable compelling, on-site experiences.

Rolling out new apps or sites is often a time-consuming, error-prone process, particularly when using legacy networking infrastructure. Deployment delays mean lost revenue for the business, and an under-provisioned network creates unsatisfactory experiences for customers, employees, or guests.



## Moving forward with next-gen switching infrastructure

Increases in network complexity make it difficult for IT to consistently deliver on today's lofty user expectations. A next-generation switching portfolio that offers advanced analytics, intelligent automation, top-notch performance, and simple, yet enhanced security will deliver on users' expectations and boost IT productivity and the bottom line.

### Improve user experiences with network analytics

To offer the best user experience and continuously improve performance of critical services, your IT team needs visibility with the right contextual insights to understand what is happening on the network, no matter when or where.

Advanced analytics are critical to resolving network-impacting issues as they arise, before they lead to a poor user experience. Analytics can also provide insights around usage trends so IT can proactively improve network services in a way that fosters even better experiences.

To enable these insights, look for networking infrastructure that can capture telemetry natively on each node, with easy-to-implement rules that specify what traffic to monitor, and how operators should act on that data.

This intelligent approach to monitoring helps operators detect and even prevent performance anomalies, while pinpointing probable root cause to simplify troubleshooting.

### Simplify IT with network automation

To keep up with non-stop adds, moves, and changes on the network, IT needs to simplify and accelerate common management tasks. Automation is key to deploying new user-facing services faster while reducing the risk of errors that lead to unexpected downtime or service degradations.

As an example, say a big box retailer is opening up a new location and needs a stack of access switches to enable in-store Wi-Fi for its customers. Instead of manually configuring each device, automation provisions and deploys the switches on the network in minutes—avoiding configuration errors and the potential cost of having a skilled IT operator onsite.

When considering what automation capabilities your new switching infrastructure should have, programmability is key. In particular, seek one that has an operating system offering comprehensive API coverage and ease of scripting. This way, operators can program the network to communicate seamlessly with other systems—such as IT service management or collaboration platforms—which will further streamline common workflows.



### **Keeping devices and users secure**

Securing IoT, mobile, and BYOD initiatives can be greatly simplified using a dynamic segmentation approach. With dynamic segmentation, policies that were previously configured and managed on different network nodes are now done in a centralized place, reducing manual touchpoints and operator error.

IT can also leverage the concept of user and device roles to dynamically assign network privileges to a given user or device, including IoT. Application traffic is isolated through tunnel-based segmentation, and then inspected and assigned appropriate priority based on its criticality to the business. For instance, voice and video traffic can be given higher-priority bandwidth, while social media is rate-limited.

With dynamic segmentation, consider offerings that enforce policies consistently across both wired and wireless topologies. A solution that automatically discovers new devices on the network and assigns them the appropriate rules and privileges is also important.

### **Best-in-class performance for IoT, mobility, and cloud**

User experience is jolted by aging network infrastructures that can't offer the performance or capacity to incorporate mobile, cloud, or IoT-related apps.

Deploying next-gen switching platforms can help IT avoid oversubscription on campus and branch networks. Such platforms should be built to scale with capabilities like flexible uplinks and multi-gigabit Ethernet, allowing networking teams to boost bandwidth and performance without new cabling or hardware.

In support of IoT, the new switches should include always-on Power over Ethernet (PoE) so that Wi-Fi access points, sensors, and other devices never lose power when supporting critical processes. High-availability designs should factor in further resiliency to prevent network downtime, even during upgrades and other maintenance windows.

## Deliver a world-class experience with the Aruba CX Switching Portfolio

Today's businesses need a next-generation network capable of delivering the high-performing services that modern users demand. IT needs simplified network management in order to focus more on proactively improving experiences for employees, customers, students, and partners.

The Aruba CX Switching Portfolio delivers on these requirements and more. It provides a modern, cloud-native design built on a flexible switching architecture with built-in intelligence, programmability, and automation in every node—from campuses and branches to data centers.

### The Aruba CX Switching Portfolio offers:



Performance and capacity to support the demands of IoT, cloud, and mobile, with enough investment protection to scale and address future needs.



Embedded analytics in every switch so network operators can continually monitor and improve network services that are critical to delivering today's modern user experiences.



Automation to bring new sites and services to market faster while also simplifying common, yet complex tasks so IT resources can focus more on better serving users.



Dynamic Segmentation automatically applies and enforces user and device policies on Aruba wired and wireless infrastructure, making it easy to secure IoT, mobile, and other initiatives.

## CUSTOMER STORY

# Pierce College modernizes and future-proofs its network core with Aruba CX

Pierce College is one of nine campuses in the Los Angeles Community College District. Like any college, Pierce takes student safety to heart.

### THE CHALLENGE

The college wanted to install 150 security surveillance cameras around the campus, but first needed to refresh its network infrastructure.

### THE SOLUTION

As part of that refresh, Pierce College decided to migrate its existing network core to Aruba CX 8400 Switches, providing a reliable backbone for the security camera project while future-proofing its infrastructure for growing use of IoT and the cloud.

With Aruba CX, Pierce College is benefitting from high performance, high capacity, and high availability, as well as enhanced analytics and automation. The analytics help the IT team better understand how to shape their network traffic, including dynamically adjusting capacity based on seasonal need.

“ As a modern community college, having a secure and reliable network that we know will allow us to adopt emerging technologies in the future is key to addressing the growing and changing needs of our students, faculty, and staff. ”

Mark Henderson  
Manager of College Information Systems  
Pierce College

[Read the full story.](#)



## 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: [www.cspitecholutions.com](http://www.cspitecholutions.com) or call your CSPI representative at 800-940-1111 or email [tech\\_solutions@cspi.com](mailto:tech_solutions@cspi.com).

To schedule a 30 minute consultation visit, [click here](#).

CSPI Technology Solutions, a Hewlett Packard Enterprise Silver Partner, and an Aruba Platinum Partner, provides the expertise and service scope - including Managed IT Services, Professional Services, and Cloud Services - to help you architect and manage a high-performance, highly available, and highly secure IT infrastructure.



### Footnotes:

1. <https://www.information-age.com/technology-secret-happy-employees-123458718/>
2. Gartner, "5 Network Cost Optimizations," June 2019
3. ZDNet, "The astonishing hidden and personal costs of IT downtime (and how predictive analytics might help)," May 30, 2017
4. Network World, "Top Reasons for Network Downtime," Nov. 18, 2016
5. Enterprise Management Associates, Network Management Megatrends 2018
6. Gartner, "5 Network Cost Optimizations," June 2019
7. ZK Research, 2016