aruba

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Enterprise company

EBOOK ★ ★ ★ ★ ★

Aruba ESP Higher Education
INDUSTRY ADVISOR

Introduction

Higher education has experience major disruption and transformation over the past few months, impacting students, administrators, faculty, learners, and parents. The phrase "anywhere, anytime" learning has never been more true. Applications are increasingly cloud-based, students are using more devices, and new IoT are being added daily to support instruction and operations. As we look to the future, higher education institutions will be highly focused on innovation and delivering exceptional experiences for students, faculty, and staff. Competitive and international market pressures for students and faculty, lower enrollment rates, reduced budgets, and limited IT resources require that IT have solutions and tools that allow them to provide exceptional network connectivity and services for today, while being able to quickly adopt new technology and academic and operational solutions.

Key higher ed challenges

Hybrid learning
...to support in-person, online, and flexible instructional modalities.

Student success
...enabled through data and applications that help drive decision making for personalized learning and other campus improvements.

Device density increases
...that have high-performing connectivity and security, whether they are being used for instruction or student home-like experiences.

Digital transformation and IoT
...that support smart campus initiatives, research projects, or can be leveraged to improve operations and efficiencies.

Cybersecurity
...that ensures staff, student, application, and personal information is secured, no matter the location of network access.

Higher Education transformation: Is your network ready?

Supporting teaching and learning anytime, anywhere, any modality, on any device is a requirement for higher education. Building a network foundation that is agile and able to quickly adopt solutions that support student success is the goal. **Is your network ready?**
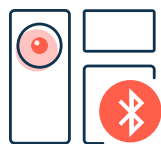
Location, location, location
Location-based interactions can enable personalized offers and provide insights to help understand how spaces are being used.

Always-on agility and scalability
Institutions need to support mobility across the campus and adapt quickly to support new use cases. A powerful, automated, and manageable network should enable always-on, secure, and everywhere connectivity.

Data analytics and insights
Higher education is competitive. Data and predictive analytics are the foundation for student success and can prevent student attrition, which can negatively impact the campus.

Smart campus
"A paradigm shift" to focus on innovative, next-generation technologies like AI and ML creates a digitally-connected and secure campus that delivers exceptional user experience.

Enabling home-like experiences and highly secure IoT
Institutions must Increase support for numerous devices per user including learning, lab, gaming, research, and other headless IoT devices found in residence halls and across facilities.

Campus safety
An increased use of IoT and location-aware solutions improves campus safety initiatives, providing better visibility into people movement and space utilization.

49% of ITDMs cited the use of IoT and location-aware solutions to improve campus safety[2]

70% of schools will fortify their cybersecurity and data encryption defenses[1]

By 2045, **40%** of HED institutions will leverage AI and robotic process automation (RPA) to automate various campus tasks[1]

1 IDC FutureScape – Worldwide Education Industry 2021 Predictions
2 At the Edge of Change Report

The way forward: Solutions to resolve your biggest worries

Are these your biggest IT worries?

- **Inconsistent or unreliable network performance**
- **Identifying where and when connectivity issues are happening**
- **Lack of visibility as growing attack surfaces increase security risks**
- **Digital acceleration by the line of business**
- **Maintaining IT efficiency with limited staffing**
- **Scaling to address the needs of the campus**
- **Ensuring architectural flexibility as future infrastructure needs change**
- **Budget restraints and future cost uncertainties**

Solutions for a worry-free network

1 **Cloud-native unified network management** with AI capabilities that improve IT efficiency and network scale for Wi-Fi, switching, and SD-WAN

2 **High-performance WLAN** for seamless connectivity, reliability, increased capacity, and support of IoT and digital transformation

3 **Purpose-built switching for mobility and IoT** with intuitive management tools and built-in analytics that cut complexity and reduce troubleshooting

4 **Policy-driven security** for users and devices, with simpler visibility, control, and Dynamic Segmentation of traffic

5 **Flexible consumption and management** of network infrastructure, combining all required hardware, software, and services into a single monthly subscription

Aruba ESP (Edge Services Platform)
Connectivity, security, and AIOps convert data into business outcomes

Aruba ESP provides a network foundation campuses can trust to enable hybrid learning initiatives and digital transformation projects. This edge-to-cloud platform, which provides connectivity, WAN, security, and management solutions, gives IT the ability to be agile and to scale with speed, keeping up with a very mobile and device-demanding campus. Let's explore some of the key components of Aruba ESP.
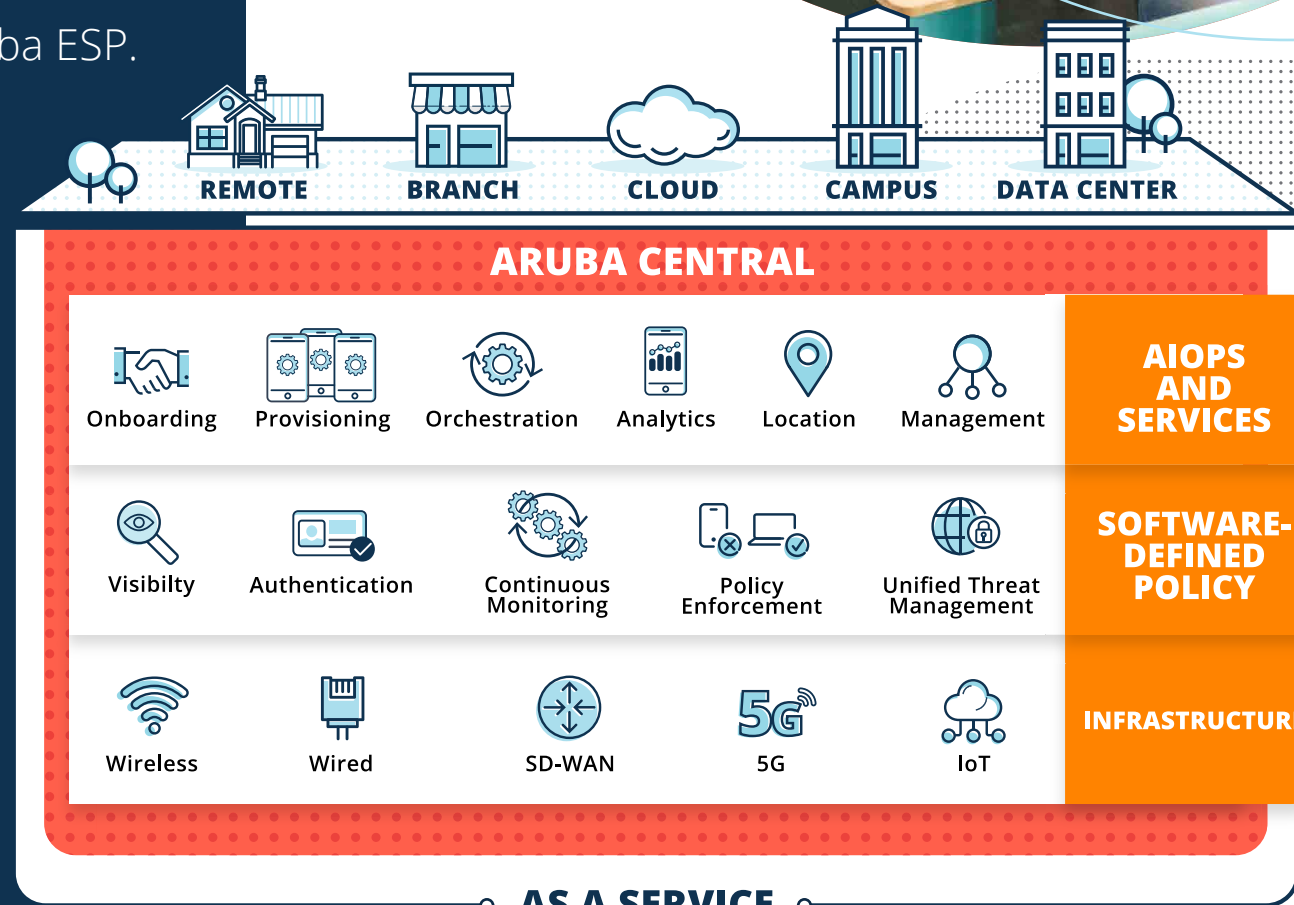
Aruba Central provides a single point of visibility and control across all domains and locations and includes AI-powered features that help identify issues before they impact business.

WLAN and switching offer high-performing and secure connectivity.

Policy-driven security applies principles of Zero Trust to increase protection levels while simplifying operations.

As a service flexible consumption model offers network infrastructure hardware, software, management, and licensing components.

ARUBA ESP IS THE INDUSTRY'S FIRST AI-POWERED, CLOUD-NATIVE PLATFORM TO AUTOMATE, UNIFY, AND PROTECT THE EDGE.

REMOTE   BRANCH   CLOUD   CAMPUS   DATA CENTER

ARUBA CENTRAL

Onboarding	Provisioning	Orchestration	Analytics	Location	Management	**AIOPS AND SERVICES**
Visibilty	Authentication	Continuous Monitoring	Policy Enforcement	Unified Threat Management		**SOFTWARE-DEFINED POLICY**
Wireless	Wired	SD-WAN	5G	IoT		**INFRASTRUCTURE**

AS A SERVICE

SOLUTION #1
Add Aruba Central
Cloud-native unified network management

Unify network operations and ensure the best possible user experience for all campus locations by deploying Aruba Central in the cloud or on-premises.

Maintain visibility and control across wired, wireless, and WAN for home-based staff and students, administrative offices, departmental buildings, lecture halls, research facilities, outdoor spaces, stadiums, and more.

Proactively identify and solve network and client issues before they occur to reduce or eliminate help desk tickets from students, staff, or faculty.

Enhance network scale, to evolve and adapt quickly to new building deployments, use-cases, and moves/adds/changes, even with limited IT staff.

Move quickly to execute digital campus initiatives (lighting, HVAC, security cameras, vending machines, automatic door locks, etc.) with a **Zero Trust Security** approach.

Enable integrations to work with best-of-breed software, services, and IoT providers to enable the digital transformation and initiatives most important to the institutions.

Supports campus safety programs with presence-based Wi-Fi analytics, IoT, and integrations with partners to ensure student safety and contact tracing mandates.

ARUBA CENTRAL MANAGES WLAN, SWITCHING, SD-WAN, AND VPN SERVICES AND CAN BE USED IN THE CLOUD, ON-PREMISES, OR AS A SERVICE

ARUBA CENTRAL
A single point of visibility and control for modern network and security use cases

CAMPUS   STADIUM   RESEARCH LAB
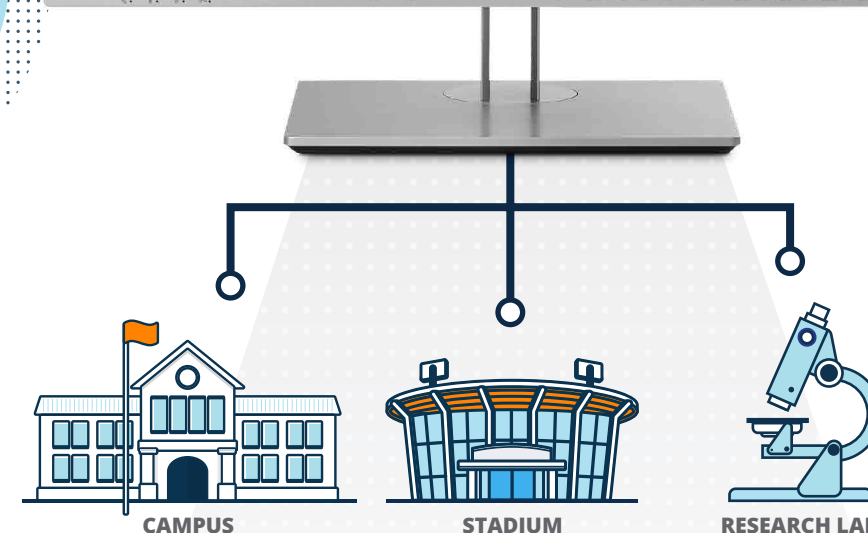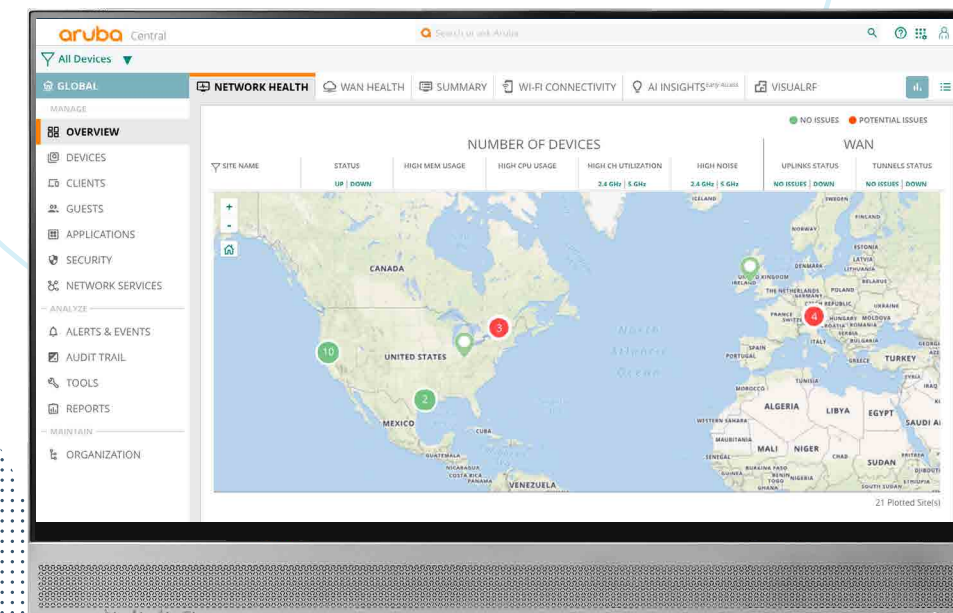
Tip: If you are not planning to upgrade your APs or switches, as long as they can be managed by Central, move your management plane now.

6

SOLUTION #2
High-performance WLAN

Wi-Fi access points for seamless, always-on, and secure connectivity

High-performance Wi-Fi is essential, and needs to provide a reliable and effortless experience for students, staff, faculty, and visitors wherever they are on campus.

Deliver the best Wi-Fi experience, ensuring that there are no drops even in crowded lecture auditoriums and sports facilities packed with device carrying fans.

Support growing wireless device demands. With wireless devices increasing, more capacity and better performance can be delivered with the additional spectrum provided by Wi-Fi 6E.

Ensure seamless roaming to provide a great connection while on the move.

Leverage existing AP infrastructure to securely connect IoT devices using Wi-Fi, BLE, 802.15.4/ Zigbee, and USB-port extensions to support wayfinding, location tracking, sensor monitoring, door locking, and other operational use cases.

Eliminate downtime so daily operations are not impacted. Live upgrades and hitless failovers ensure that the wireless network can stay current with the latest security updates, tolerate faults, and be available whenever needed without impacting student learning.

ARUBA WI-FI 6 AND WI-FI 6E OFFER THE HIGHEST PERFORMANCE, SECURITY, AND CAPACITY - AND ARE UP-TO-DATE WITH THE LATEST CERTIFICATIONS AND DEVICE INTEROPERABILITY.
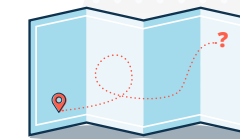
ARUBA CENTRAL
Manages the WLAN wetwork
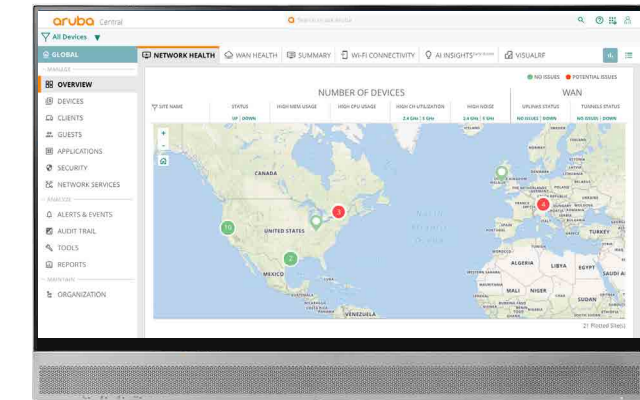
Indoor AP 635

Outdoor AP 575

Roaming-friendly and always-on

Location aware

Multiple events

Ready for mobility and IoT use cases

SOLUTION #3
Enterprise network switching
Performance and intelligence for your network access layer

Higher education institutions are transforming. Applications are moving to cloud, hybrid learning delivery methods are on the rise, and new devices are being added to support instruction, student entertainment, and operational efficiencies. ArubaOS-CX is purpose built for cloud, mobility, and IoT.

Deliver the throughput, performance, and actionable insights IT administrators need to handle the massive amounts of data now being generated at every college and university.

Prioritize connectivity AND security. Student records and payment transactions can be a high target for hackers. AOS-CX switches are an integral component of Dynamic Segmentation, providing secure, automated, role-based access for users and IoT devices.

AOS-CX ensures high availability so that maintaining superior experience can remain the #1 priority. Upgrades and updates can be easily enabled, reversed, and changed without impacting the network or the people who rely on it.

Reduce configuration time and accelerate troubleshooting through smart automation and built-in analytics. Aruba NAE and NetEdit deliver insights that help with issue prevention and resolution.

Unify wired, wireless, and WAN operations under one management solution. Whether on-premises, cloud, or hybrid, Aruba Central offers a single pane of glass to view and manage large campus networks.

Support IoT use cases lighting, HVAC, security cameras, and more. Aruba switches securely connect devices and Wi-Fi 6 access points, power IoT devices, and have the flexibility to support all digital transformation initiatives.

ARUBAOS-CX CUTS COMPLEXITY, AUTOMATES DIAGNOSTICS, AND IS BUSINESS-READY FOR WHAT COMES NEXT.

ARUBA CENTRAL
Manages the Wired network
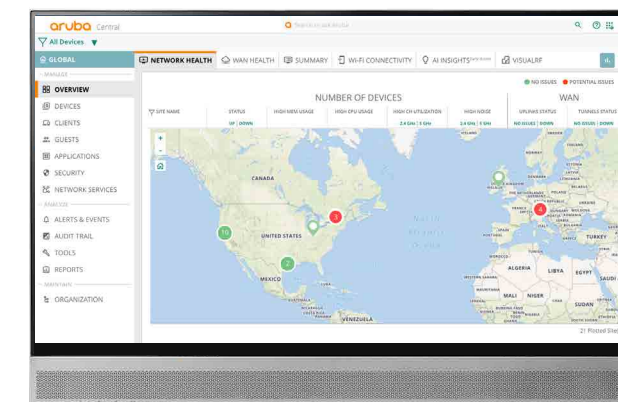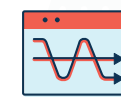
NetEdit

Aruba CX Switching

Automation to improve efficiency

Zero Trust Security

Ensure high availability so that the student learning experience can remain the #1 priority

A single OS for simplicity

Faster troubleshooting

SOLUTION #4
Adopt ClearPass, Gateways, and EdgeConnect for SASE
Full visibility, control, and enforcement from campus to home to cloud

Distributed research facilities, technology driven uses cases, and cloud applications are elevating security concerns for higher education. A smart network can not only identify and detect new devices as they come onto the network, but also find malware or intrusions to the environment. Aruba security solutions empower IT with the same controls applied to campus, sporting venue, research lab, or home-based faculty for wired and wireless connections, extending security policies across the WAN.

Set and automate policies for new wired and wireless technology (lectern devices, point-of-sale systems, kiosks, temperature sensors, gaming systems, etc.) quickly. Aruba ClearPass simplifies access for authorized users as they come on the network.

Maintain IT consistency. The campus is everywhere. Students, staff, faculty, guests, and devices are mobile throughout the campus. IT requires consistency in management, no matter how connectivity takes place. This consistency means faster onboarding of new devices and faster time to implementing new use cases.
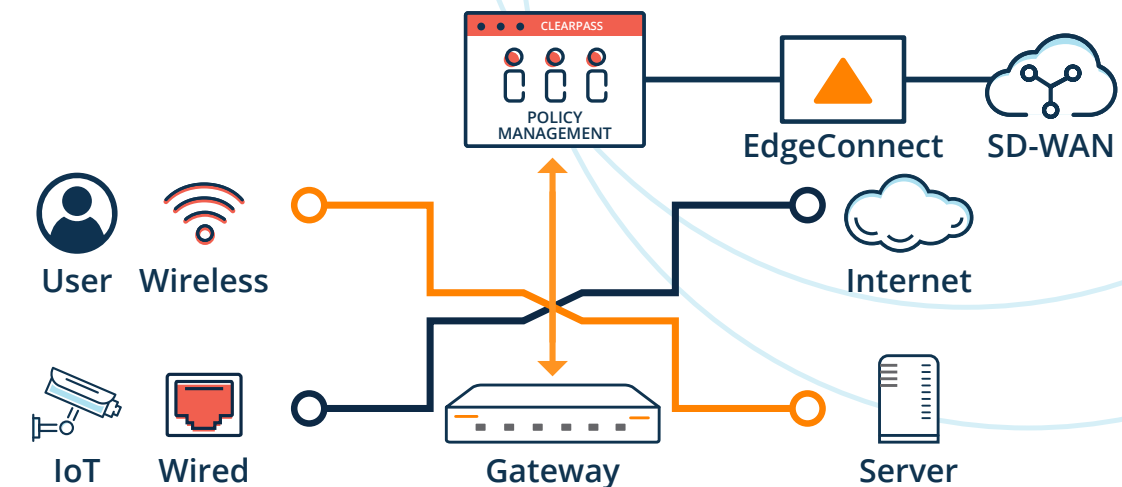
Ensure the same security policies across your distributed footprint. Users and devices are mobile

but need restricted access to the network, IT, and application resources for which they have been approved only. Security management should be simple, no matter how or where connectivity takes place.

Keep student records, campus data, and IoT traffic separate. Regardless of the location of the user or device or the switch port carrying the traffic, be assured that access to the network is secure using role-based policies and Dynamic Segmentation.

Simplify IT operations. Save time and eliminate VLAN sprawl by reducing configurations needed for SSIDs, ACLs, subnets, and wired ports.

Aruba offers complete visibility, authentication, policy-based access authorization, and attack detection and response for the modern enterprise by assuming that all users, devices, servers, and network segments are inherently insecure and potentially hostile.

CLEARPASS
POLICY MANAGEMENT
EdgeConnect   SD-WAN
User   Wireless
Internet
IoT   Wired
Gateway   Server

SOLUTION #5
Embrace NaaS
A new higher education network consumption model

HPE GreenLake for Aruba enables colleges and universities to accelerate digital transformation initiatives and hybrid learning services, and adopt next-gen networking for cost-reducing outcomes.

Focus on better learning experiences and enabling new technologies. NaaS helps educators efficiently implement digital initiatives with enhanced security protocols and automation.

Improve investments and time management as part of your network infrastructure strategy. Focus on business-enabling tasks and student success, instead of day-to-day management of the network.

Drive efficient administration and operations with management tools like AI/ML capabilities for enhanced visibility and automation.

Be flexible and scale when needed with a network that is flexible, both financially and operationally.

HPE GreenLake for Aruba provides network infrastructure hardware, software, management, and licensing components consumed in a flexible consumption model

Secure equipment recycle & upcycle
- Access to new technology
- Sustainability

Financial flexibility
- Sale & leaseback options
- Flexible procurement models

Superior system optimization & monitoring
- Automated analysis & system optimization custom services

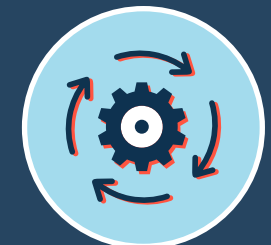## Single monthly payment

HPE GreenLake for Aruba

Hardware & software

Foundation Care Support

Customer Experience Management

Intelligent Operations (optional)

Contracted over 3, 4, or 5 years

Starting Points and Destinations – The Journey

There are multiple, flexible ways to adopt Aruba solutions. **If you are new to Aruba,** let us help you identify your top priorities and start you on your Aruba journey. **If you are an existing customer of Aruba,** there are options too! Review the next few slides to understand possible adoption journeys and let us work with you to build the best plan for your unique situation.

Starting Points

Existing Customers

Aruba Central / Instant

AirWave / Instant

AOS-S / AOS-CX

AirWave / ArubaOS

ClearPass Policy Manager

New Customers

Various starting points

Multiple Destinations

Cloud

Hybrid

On-prem

Hybrid to cloud

Existing Customer – Where will your journey take you?

Cloud Destination

Aruba Central / Instant

STEPS

1 Continue with Aruba Central
2 Upgrade to IAP 8 and Wi-Fi 6/6E
3 Upgrade to AOS 10

Migrate APs and upgrade to AOS 10

AOS-S / AOS-CX

STEPS

1 Upgrade to Aruba CX Switches
2 Evaluate Central for management
3 Add NetEdit (on-prem) or use Multi-Edit (in Central) for configuration

Upgrade to CX switches today and add Central for more value

On-Premise Destination

AirWave / ArubaOS / CPPM

STEPS

1 Upgrade to AOS 8 with Mobility Conductors
2 Migrate to Central (on-prem)
3 Deploy Dynamic Segmentation

Upgrade to AOS 8 and Central (On-Premises)

AOS-S / AOS-CX/ CPPM

STEPS

1 Upgrade to Aruba CX Switches
2 Add NetEdit (on-prem) or use Multi-Edit (in Central) for configuration
3 Enable Dynamic Segmentation with CPPM and controllers

Upgrade to Aruba CX and add Central (On-Premises)

Hybrid Destination

AirWave / ArubaOS / CPPM (Option 1)

STEPS

1 Upgrade to AOS 8
2 Deploy Central (on-prem)
3 Deploy Dynamic Segmentation

Deploy cloud-native management for unified configuration and modern services

AirWave / ArubaOS / CPPM (Option 2)

STEPS

1 Upgrade to AOS 8
2 Deploy Central (on-prem) in campus
3 Deploy Central (cloud) + IAP in branches

Deploy cloud-native management for unified configuration and modern services

AOS-S / AOS-CX

STEPS

1 Upgrade to Aruba CX Switches
2 Add Central for management
3 Add NetEdit (on-prem) or use Multi-Edit (in Central) for configuration

Deploy cloud-native management for unified configuration and modern services

Why higher education institutions chose Aruba

Aruba can help you meet student, faculty, and operational demands while addressing operational challenges with leading-edge technology. Discover why campuses like yours look to Aruba for smarter, more flexible networks.

DOANE UNIVERSITY

"We wouldn't want to put all of our APs in the cloud and manage them with one system, then have to troubleshoot our switches on another platform. Being able to **manage everything from a single pane of glass using Aruba Central saves us valuable time and resources.**"
Ryan Dorshorst, Director of IT

INDIANA UNIVERSITY

"As the connectivity provider for a demanding community that never sleeps, users expect our wireless and wired networks **to work seamlessly,** like turning on the lights. We're **exceedingly happy** with our Aruba environment for enabling us to make that happen every day." *Kirt Guinn, Director of Telecommunications and Enterprise Infrastructure*

UNIVERSITY OF CAMBRIDGE

"Our Aruba solution has proven easy, reliable and intuitive to manage. Given our limited IT resources, we would not have been able to achieve what we've achieved without a solution like Aruba." *John Holgate, Head of Network*

UC SANTA BARBARA

"Student residence hall experiences with Aruba's Wi-Fi gave us the confidence to deploy across campus. Our new wireless network provides **exceptional experiences and is critical** to continuing our distinction as a center of educational and research excellence on the global stage." *Ben Price, Associate CIO of Administrative and Residential IT*

RMIT UNIVERSITY

"We chose Aruba because it is **the leader in its field**… we worked closely with the team to deliver a wired and wireless network infrastructure to support **anytime, any-where learning."** *Stephen Castellas, Senior Manager of Global Networks*

UNIVERSITY OF MINNESOTA

"Standardizing on a **centrally managed Wi-Fi solution** for the entire University system has **significantly improved security controls and responses while enhancing performance, capacity, and stability** for our ever-growing user base. We're addressing complex problems and delivering solutions that work." *Louis Hammond, Service Owner of Voice and Data Network Services*

Learn more about how Aruba has helped other organizations. Visit our news releases and case studies pages.

Start your journey today!

Leverage the links below to learn more about Aruba solutions and the value they provide. Let us help you with your Aruba ESP journey.
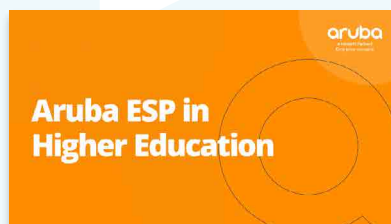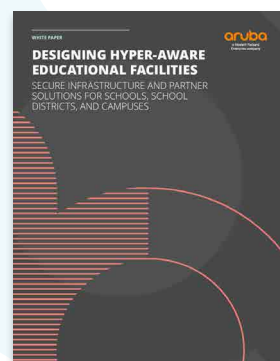
Aruba ESP in Higher Education

As the demand for smart learning spaces, safer environ-ments, & flexibility grows in the hybrid campus, so do the challenges. Discover how Aruba ESP can help you connect, protect, and automate network operations.

WATCH THE VIDEO

eSports for Education Overview

Esports activities are growing rapidly in this $1B+ industry. Making a program successful requires a solid network infra-structure that can support both players and fans. Aruba ESP can help students compete and increase learning.

READ THE SOLUTION OVERVIEW

Higher Education Solution Overview

The phrase "anywhere, anytime" learning has never been more true. See how Aruba ESP provides exceptional network connectivity and services with flexibility to adopt new technology and academic and operational solutions for the future.

READ THE SOLUTION OVERVIEW
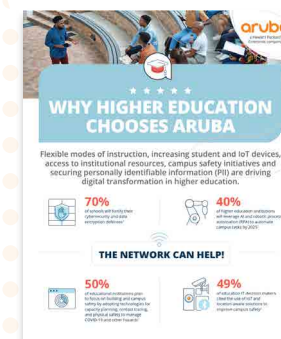
Why Higher Education Organizations Choose Aruba

Learn directly from Aruba higher education organizations on how Aruba is helping improve student and staff experi-ences and outcomes. Aruba solutions provide better, faster, less expensive, and high-performing services.

DOWNLOAD THE INFOGRAPHIC

Designing Hyper-aware Education Facilities

Leverage secure infrastructure and partner solutions for digital transformation in higher education.

DOWNLOAD THE WHITEPAPER
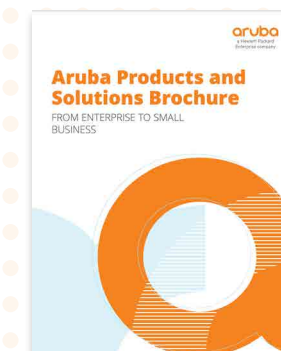
Aruba Products and Solutions

Learn about Aruba's portfolio, including Aruba Central, access points, switches, Aruba ClearPass, and more.

READ THE BROCHURE

Thank You