

## SOLUTION OVERVIEW

# ARUBAOS 8 – MAKING THE GRADE IN HIGHER EDUCATION

The university campus is likely the most complex mobility environment. Supporting thousands of users – faculty, staff, students and guests – in a way that enables a reliable and superior always-on experience, no matter the device or location can be daunting.

### MULTI-DEVICE USERS CREATE NUMEROUS CHALLENGES

University users are tech savvy, with many connecting multiple wired and wireless devices to the network. The campus is saturated with mobile device dense locations like student centers, dorm buildings, lecture halls and sporting venues. Large universities report millions of authentications to the network per day – with each user expecting a fast and reliable connection and a great mobile experience.

66% of college students connect  
2+ devices simultaneously<sup>1</sup>  
Network demands increase with the  
proliferation of IoT and wearable devices

### UNIVERSITY IT CHALLENGES

Ensuring a high functioning network to support student success and satisfied users isn't easy, especially in times of budget cuts and staffing shortfalls. University IT departments not only need insight into their network to improve user experience, but they also need intelligent network solutions that are flexible and can automate network functionality.

### ARUBAOS 8 ENABLES NETWORK RELIABILITY, AUTOMATION, AND OPERATIONAL SIMPLICITY

As users engage with their mobile devices to study, teach and socialize, they most likely aren't thinking about their connection nor the foundational network infrastructure that is behind that connection – unless, of course, they begin to have issues with network access.



The Top 10 Issues for IT for 2017 include Student Success, Sustainable Funding, and Sustainable Staffing<sup>2</sup>

**“ArubaOS 8 allow us to centrally manage and push network configurations without the need for new hardware appliances.”**










Sean O'Connor,  
Chief Information Security Officer and Assistant CIO,  
Worcester Polytechnic Institute.<sup>3</sup>

**“Significantly more nimble with ArubaOS 8 , such as when we receive special event requests with various forms of access. Previously, it required about a day to design a solution. Now, we do it in less than an hour.”**

Ron Gardner,  
Network Engineer at Townsville, James Cook University in Australia<sup>4</sup>

ArubaOS 8, with a centralized architecture, introduces the **Mobility Master**, a new component that hosts network services and allows networks to scale due to increased demand for mobile and IoT devices in universities. Deployed both as a virtualized appliance or x86 hardware for better compute and memory power, Mobility Master includes a set of integrated features to provide reliability at all levels, automation and built in intelligence, simplified operations and enhanced security.

ArubaOS also introduces the **Mobility Controller as a Virtual Appliance**, allowing for flexibility of deployment.

WHAT DO THE FOLLOWING FEATURES IN ARUBAOS 8 MEAN TO THE USER AND IT?			
	Feature	Benefit to Higher ED users	Benefit to IT
<b>Seamless failover</b>			
	When a controller fails, another controller in the cluster automatically picks up the user session	Uninterrupted Wi-Fi means continued teaching or learning without impact	IT is not burdened with a user complaint or request for assistance
<b>Real-time upgrade of the network</b>			
	Live Upgrade means upgrading the network operating system with no downtime	Uninterrupted Wi-Fi means continued teaching or learning with no network downtime and no impact to the user experience	No need for risky daytime upgrades or late night or weekend upgrades
<b>Automated RF optimization</b>			
	AirMatch, the next generation RF optimization, is tuned for noisy and high-density environments with automated channel placement, channel widths and transmit power	Better Wi-Fi experience in congested or dense environments such as campus common areas and lecture halls	Save time with network automation Fewer user complaints regarding Wi-Fi performance
<b>Optimized Wi-Fi</b>			
	ClientMatch dynamically optimizes Wi-Fi client performance, even while users roam	User device connecting to the best AP means an enhanced mobile experience	Less user issues and complaints with the network
<b>Multi-tenant wireless networks</b>			
	Creating multiple separate, secure networks from a single access point with MultiZone	Allowing separate networks for research, IoT, or guests using the same AP	Better network efficiency, data security, and less RF interference Lower cost and better TCO
<b>Unified Communication &amp; Collaboration</b>			
	Automatically identify and prioritize UCC traffic	Better user experience for Unified communication tools such as Skype for Business and Cisco Jabber	Less network complaints from the users Ease of troubleshooting problems with the UC dashboard
<b>Hierarchical Configuration</b>			
	Configuration for the entire network is set up from a centralized dashboard, thereby simplifying and streamlining the configuration process	Users realize connectivity and mobility benefits faster	Network configuration setup and deployment is easier and more efficient
<b>User and AP Load Balancing</b>			
	Users and APs are distributed evenly across controllers to prevent congestion on a single controller	Better network traffic throughput for each user, even in massive crowds Provides better resource utilization and high availability when controller goes down	Less network issues with better user experience Saved IT time as load balancing is automated and doesn't require manual intervention
<b>AirGroup</b>			
	Turns on services such as AirPlay and AirPrint for individuals or groups based on their roles, devices and locations	Students and staff can easily onboard their Apple devices	Less usability issues and helpdesk escalations

Mobility Controller Deployment Option – Virtual/Hardware Appliance



The Mobility Controller Virtual Appliance provides the following benefits:

- Ease of moves, changes and use
- 99% feature parity with [Mobility Controller hardware appliance](#)
- Cost effective if building for redundancy

Mobility Master Virtual/x86 Hardware Appliance



The Mobility Master provides centralized management for all the Mobility Controllers on the network. Some major benefits of Mobility Master are:

- Seamless failover – users won't notice any change on the network if a controller fails
- Real-time upgrade of the network with Live Upgrade for 24-7 operation that university campuses require with no user downtime
- Multi-tenant wireless networks – multiple secure networks using the same infrastructure
- Unprecedented Wi-Fi coverage with automated RF optimization
- Hierarchical configuration – centralized management simplifies network operation

<sup>1</sup> ECAR Study of Undergraduate Students and Information Technology, 2016, <https://library.educause.edu/~media/files/library/2016/10/eig1605.pdf>

<sup>2</sup> Educause Top 10 IT Issues for 2017, <http://er.educause.edu/articles/2017/1/educause-research-snapshot>

<sup>3</sup> <http://news.arubanetworks.com/press-release/arubanetworks/hpe-aruba-introduces-developer-ready-mobile-first-platform-unlock-potent>

<sup>4</sup> <https://community.arubanetworks.com/t5/Technology-Blog/James-Cook-University-s-Move-to-ArubaOS-8/ba-p/295892>