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

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.

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.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit to Higher ED users</th>
<th>Benefit to IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seamless failover</td>
<td>When a controller fails, another controller in the cluster automatically picks up the user session</td>
<td>Uninterrupted Wi-Fi means continued teaching or learning without impact</td>
</tr>
<tr>
<td>Real-time upgrade of the network</td>
<td>Live Upgrade means upgrading the network operating system with no downtime</td>
<td>Uninterrupted Wi-Fi means continued teaching or learning with no network downtime and no impact to the user experience</td>
</tr>
<tr>
<td>Automated RF optimization</td>
<td>AirMatch, the next generation RF optimization, is tuned for noisy and high-density environments with automated channel placement, channel widths and transmit power</td>
<td>Better Wi-Fi experience in congested or dense environments such as campus common areas and lecture halls</td>
</tr>
<tr>
<td>Optimized Wi-Fi</td>
<td>ClientMatch dynamically optimizes Wi-Fi client performance, even while users roam</td>
<td>User device connecting to the best AP means an enhanced mobile experience</td>
</tr>
<tr>
<td>Multi-tenant wireless networks</td>
<td>Creating multiple separate, secure networks from a single access point with MultiZone</td>
<td>Allowing separate networks for research, IoT, or guests using the same AP</td>
</tr>
<tr>
<td>Unified Communication &amp; Collaboration</td>
<td>Automatically identify and prioritize UCC traffic</td>
<td>Better user experience for Unified communication tools such as Skype for Business and Cisco Jabber</td>
</tr>
<tr>
<td>Hierarchical Configuration</td>
<td>Configuration for the entire network is set up from a centralized dashboard, thereby simplifying and streamlining the configuration process</td>
<td>Users realize connectivity and mobility benefits faster</td>
</tr>
<tr>
<td>User and AP Load Balancing</td>
<td>Users and APs are distributed evenly across controllers to prevent congestion on a single controller</td>
<td>Better network traffic throughput for each user, even in massive crowds Provides better resource utilization and high availability when controller goes down</td>
</tr>
<tr>
<td>AirGroup</td>
<td>Turns on services such as AirPlay and AirPrint for individuals or groups based on their roles, devices and locations</td>
<td>Students and staff can easily onboard their Apple devices</td>
</tr>
</tbody>
</table>
## 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

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