SMART CAMPUS
Personal Student Networks

RUCKUS an ARRIS company

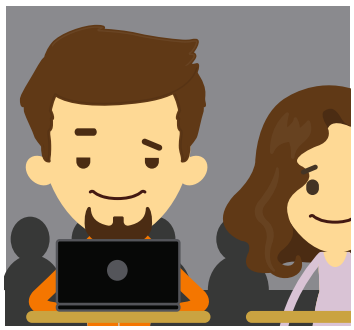
SOLUTION BRIEF

"Digital natives" hitting college campuses today think of digital experiences the same way they think about electricity and water: a basic, ubiquitous part of life. Recognizing this, more colleges and universities are putting Internet of Things (IoT) "Smart Home" technology front and center in their pitch to prospective students. It's part of the modern Smart Campus. And it's a major factor in providing the kind of home-away-from-home experience that digital natives expect.

Among the most important Smart Campus experiences: providing each student with a personal, private network that looks and acts like home Wi-Fi. Sounds easy to students. But historically, it's been a huge challenge to deliver in large-scale campus networks. Colleges had basically two choices:

- **Totally open:** Students are dumped onto a shared domain—and get all the privacy of living in a house with no doors. Network traffic, such as Bonjour traffic storms or other students downloading huge files, can quickly degrade their experience. And their personal devices are right out there in the open for other users to see, and potentially tamper with.
- **Totally closed:** Locking down access with per-client isolation gives students all the privacy they could want—to a fault. Having each device on a separate virtual LAN (VLAN), with no ability to share content across devices or collaborate with others, feels more like prison than home to digital natives.

Now, there's a way for colleges to deliver a true home-away-from-home networking experience. And Ruckus makes it easy.



WHAT'S SO IMPORTANT ABOUT PERSONAL STUDENT NETWORKS?

At modern colleges and residence halls, students expect to be able to live, work and play the way they do at home. That means being able to AirPlay video from their iPad over Wi-Fi, play multiplayer games with friends down the hall, or connect to a personal printer without scrolling through dozens of networks and devices that have nothing to do with them.

On a campus that felt like home, each student would have their own secure virtual network, where they could see all their stuff—and only their stuff. But Layer-2 VLANs don't make it easy. Trying to create static VLANs ahead of time—without knowing who's coming or what they'll connect—is just not feasible. And conventional dynamic VLANs can't scale with thousands of students.

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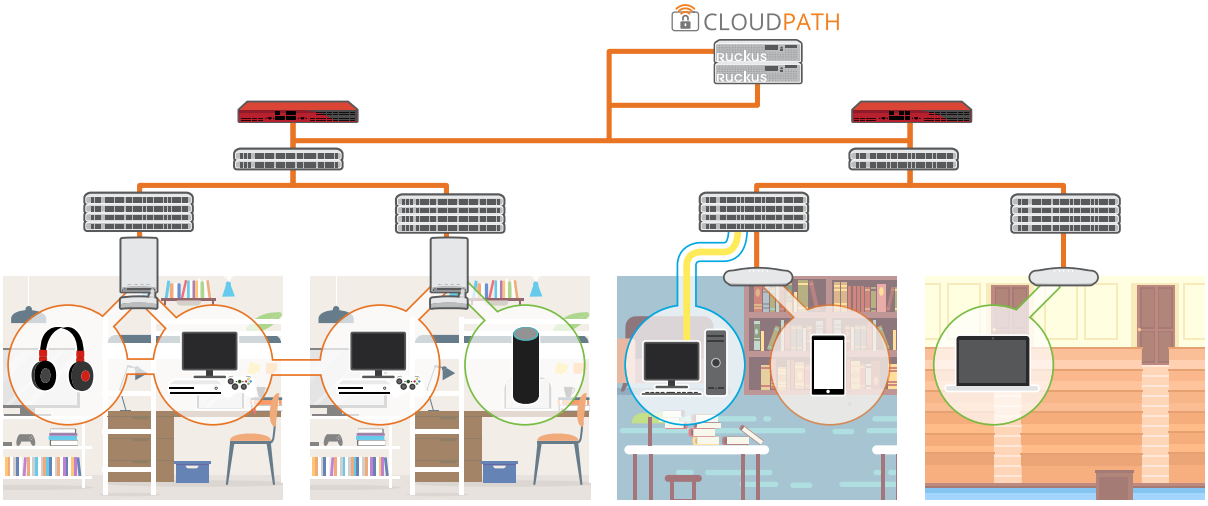
RUCKUS PERSONAL STUDENT NETWORKS

What if thousands of VLANs were as easy to distribute and manage as an IP address? What if students could register all of their devices through a self-service portal—even before hitting campus—and find their own secure, personal network waiting for them when they arrive?

Ruckus makes the vision of secure personal student networks a reality. The solution has two basic components:

Ruckus Cloudpath: Ruckus' Cloudpath Enrollment System uses both PEAP- and EAP-TLS IEEE802.1X authentication to let students securely onboard their devices through a self-service portal, and automatically places them in the appropriate virtual network. Students can use the web portal to register all their devices—including headless devices, like printers and gaming consoles—even before arriving on campus.

RG Nets rXg Gateway: The RG Nets rXG works with Cloudpath to make the magic of scalable, self-managed personal networks happen. When a student associates with the campus Wi-Fi network, a RADIUS 802.1X request is sent to the rXg system and Cloudpath. The solution then dynamically assigns each user a unique VLAN that follows them wherever they roam. Since both Cloudpath and the rXg support thousands of dynamic VLANs, each user can have his or her own logical network. Now, students can securely access their devices anywhere on campus.



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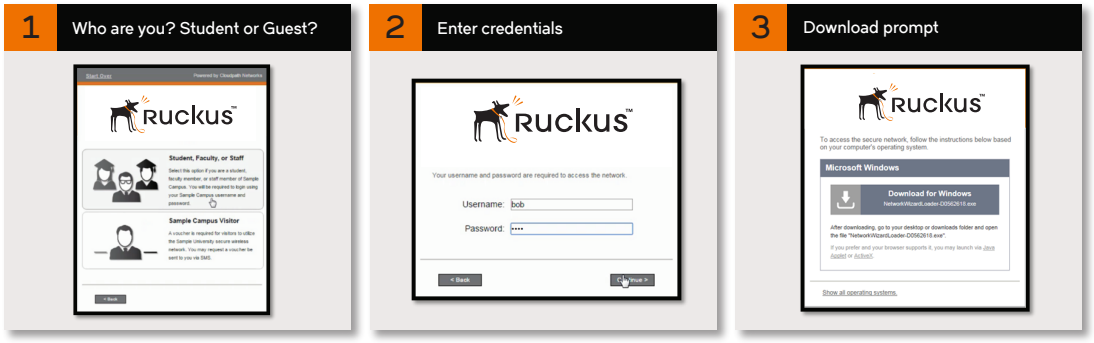
SMART CAMPUS
Personal Student Networks

SOLUTION BRIEF

PERSONAL STUDENT NETWORK BENEFITS

- **True home-away-from-home networking:** When students arrive on campus, their own personal network—with all of their personal devices, and no one else's—is ready for them. Everything just works. No calls to the helpdesk. And granting access to a friend—to use a printer or hop onto a PlayStation—is just as easy as at home.
- **Connectivity from anywhere:** Students can access their network and devices from across campus—sending a paper to their personal printer on the way back from class, streaming video from their personal media server to a smartphone while out in the quad, and more.
- **Strong security:** Ruckus personal student networks give all students their own secure, private VLANs. Each student sees only their own devices, so they don't have to worry about someone down the hall accessing their stuff. And for the college, personal VLANs reduce the network attack surface. Even if a device is infected with malware, it can't spread beyond that student's personal network.
- **Personalized, high-performance network experience:** With no need for shared VLANs, students don't have to share the network problems that often accompany them. Traffic storms, other students hogging bandwidth—none of that affects their personal network.
- **Simpler IT:** Since onboarding is entirely self-service, campus IT can expect a huge reduction in helpdesk calls on move-in day. When problems do crop up, they're easier to troubleshoot, since each student has a very small domain to be investigated. And, if a student is using the network for unauthorized or malicious activity, IT can now easily lock them out—without affecting anyone else.
- **Improved campus safety:** Ruckus' personal student networks solution makes campus safer by enabling instant cross-campus emergency notifications. If there is a fire or security situation, or forecasted severe weather event approaching campus, administrators can generate a banner alert to every device on the network.



GET STARTED

What are you doing to make your campus a place where digital natives want to live? With personal student networks, you can deliver a network experience that feels just like home. Click here to learn more.

See our other Smart Campus solution briefs:
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