

Deploy a wired network capable of supporting multi-gigabit capacity

To mobilize your wired network, it's important to avoid creating bottlenecks to your access switches. It's also important to anticipate how you'll modernize and support network and IP services as hundreds more mobile devices wirelessly connect at every school, without having to upgrade your wired infrastructure at every turn.

Solution: Deploy Aruba 3810 or 5400R switches that support the latest APs with PoE+ SmartRate multi-gigabit Ethernet. This unleashes the full potential of gigabit Wi-Fi, and sets up the learning environment for success as future technologies and mobile devices are developed and used. [Learn more about Aruba's Multi-gigabit Ethernet Switches.](#)

Deploy a flexible wireless network with investment protection

When choosing to invest in a WLAN infrastructure, schools need to make smart financial decisions. Select a networking solution that can accommodate growth and change, without having to rip and replace. Needs within a school can quickly change, as 1:1 and BYOD initiatives are enacted. The network must be able to adapt. A rigid WLAN that is cheap to buy could end up breaking the bank if it can't adapt.

Solution: Aruba offers controllerless and controller-managed Wi-Fi with public cloud, private cloud and on-premises management. You're not locked into one architecture, so when your needs change, you keep 100% of your investment. At any time, Aruba Instant APs can easily convert to controller-managed mode, enabling you to mix and match the right solution for the right location – district office, school site or remote location. [Learn more about Aruba's Enterprise-grade Access Points.](#)

Ensure devices connect to the best AP

Students and their devices are mobile; moving throughout the school campus during the school day. Often, those clients get "sticky" and try to stay attached to the first AP it connects to, even if there is a better AP around the corner.

Solution: WLANs with built-in RF management technology can get rid of sticky clients by gathering session performance metrics from devices and using this information to steer them to the best AP and radio. ArubaOS is built into every Aruba AP, and solves this problem for you with ClientMatch. [Learn more about Aruba's patented ClientMatch™ technology.](#)

Ensure safe and secure digital learning environment

Teachers and students are increasingly using video, gaming and even social media to enrich learning and collaboration. This potentially exposes them to malicious and/or inappropriate content. These bandwidth-hungry applications and increased traffic on the network can also interrupt critical learning times, like when students are taking online assessments.

Solution: IT Departments need a reliable network with smart application handling to prioritize critical learning applications over other apps. With unprecedented visibility, AppRF™ technology in the Policy Enforcement Firewall leverages deep packet inspection to classify over 1,500 enterprise apps – and features a policy wizard to block, prioritize and limit bandwidth for any app or groups of apps. [Learn more about Aruba's Policy Enforcement Firewall, with AppRF.](#)

Support BYOD and 1:1 initiatives with confidence

Students, teachers, staff, and guests connecting to the school network with a variety of personal devices create a tough challenge for IT. How do you authenticate users while providing Wi-Fi access to these devices, and keep the network secure with limited IT resources?

Solution: It is important that you do not sacrifice the security of your network, while trying to make it easy to onboard devices, users and guests. Aruba ClearPass simplifies device onboarding with self-enrollment and grants network access privileges based on user roles, device types and location. [Learn how Goddard Public Schools onboarded 5,500 students.](#)

Simplify network management

Despite limited IT resources, you can keep multi-vendor digital classrooms running by looking beyond traditional network management for a simpler and more cost-effective solution. Opt for an integrated management solution rather than multiple, siloed point-products that solve only one or two management issues.

Solutions: Aruba AirWave is a multivendor network management solution for a complex network infrastructure. Be assured that your solution of choice allows you to manage multiple generations of wired and wireless networking equipment from multiple vendors through a single, centralized pane of glass. [Learn how Fairfax County Public Schools centrally manages Wi-Fi at 238 locations.](#)

Leverage low-cost technologies

Schools everywhere are exploring network-shared devices like Apple TVs as low-cost alternatives to traditional projectors. However, it's important to consider how they can be securely deployed on your network. This allows teachers to grant students access to present their project to the class, while minimizing the risk of hijacking the device and sharing inappropriate content.

Solution: Choose an access management solution that securely enables network-based AV services over the air and allows you to enforce policy-controlled access. Look for a solution that lets you control which AirPlay and AirPrint devices are visible to teachers, students and staff. This visibility should be based on a user's role, location and what device they're using. [See how Fraser Public Schools included Apple TVs in their 21st Century learning environment.](#)

Engage with students and keep them safe

Students are tech savvy. And as they become older, it is rare to find one who does not own a smart phone/device. Student-owned devices can be leveraged to engage them for non-academic use cases such as indoor wayfinding and location tracking. As improving campus security becomes front and center, engaging with students on their smart devices can help improve campus safety.

Solution: Aruba Beacons, Aruba Sensors, and the Meridian App can provide school systems a complete solution for mobile engagement for the campus. Beacons placed across the campus find registered mobile devices and allow for students to interact with customized wayfinding applications built by Meridian. Additionally, these technologies give campus administration the ability to see where students are located and send push notifications to students in all or specific locations. [Learn more about Aruba's Mobile Engagement Solutions.](#)

CONCLUSION

With the right network infrastructure planning, you can empower teachers and students to leverage the latest technology in devices and applications for a richer learning experience while streamlining IT operations across campus.

Summary of Aruba recommendations for a mobile-first learning environment:

- Build a solid wired network infrastructure with SmartRate multi-gigabit Ethernet switches that can accommodate growth and future applications.
- Deploy 802.11ac Access Points to address device density and rich applications.
- Prioritize traffic on the network for a reliable and controlled digital learning experience.
- Protect students from malicious applications with context-based controls to enforce application-layer security and prioritization.
- Streamline BYOD initiatives by having users enroll their own mobile devices.
- Secure network resources by granting network access privileges based on user roles, device types and location.
- Simplify network management and migrate toward a mobile-first infrastructure.
- Strengthen the security of low-cost technology products in classrooms using policy-based access controls.
- Utilize beacon technology to provide automated attendance, location-based notifications and analytics to keep students safe and engaged.