Today’s college and university students don’t think about wireless mobility in industry terms. Yet their use of mobile devices and Internet connectivity certainly defines it. They don’t simply want collaborative Internet experiences via their video game consoles, mobile phones and laptops – they expect it. Everywhere they are, anytime they want and through a rapidly evolving number of devices. College students’ insatiable appetite for bandwidth-intensive, mixed-media (voice, video, data) applications is a critical component of their social lives and has dramatic implications for campus networks.

But students aren’t alone in their desire for robust wireless content. Professors are also looking to leverage streaming video and multimedia applications to enhance students’ learning experience in classrooms and lecture halls. Managing these demanding and sometimes competing wireless expectations poses significant challenges for CIOs and IT managers in an environment where aging IT infrastructures are the norm and IT investments must balance near-term budget allocations with longer term needs.

According to the 2009 Gartner report, “Defining the WLAN Experience in Higher Education,” when students go to college, they expect wireless LAN (WLAN) connectivity to network resources will be part of their educational experience. Some key considerations for IT:

- They have an expectation that wireless connectivity will be available on campus, even if it is only a “hot spot” implementation on the campus.
- Wireless connectivity is no longer an option on laptops that students purchase; 802.11n is the standard implementation for new laptop wireless connectivity.
- IT organizations that do not define a campus-wide WLAN strategy will have students or faculty implementing different technologies by different vendors.

A Balancing Act
In a challenging economy, higher education IT expenditures are among the first to come under scrutiny and yet they have the potential to have the greatest impact in attracting students and enhancing their overall learning experience. In an increasingly wireless world, making new investments wisely can not only deliver
robust, meaningful student and faculty learning opportunities, but also improved campus security and a compelling competitive differentiator for the institution itself. Whether expanding existing network infrastructure or establishing a new network, advanced WLAN technology provides a cost-effective way to future-proof college and university networks to accommodate next generation peer-to-peer applications and satisfy demand for all things wire-free for years to come.

The wireless network of today has evolved from a network of convenience with a value that is measured in Return on Investment (ROI) to business or operations-critical (such as the phone or laptop) with a value that is now measured by Total Cost of Ownership (TCO). The ability to impact TCO is certainly a powerful justification to validate IT investments.

### The 802.11n Difference

The new 802.11n standard offers many distinct network benefits for higher education. In addition to crisp, clear voice and video connectivity and better range for 11n devices, it also delivers significant improvements in WLAN reliability and coverage for existing 802.11 a/b/g deployments. But with added bandwidth and capacity, comes the need for more intelligent network infrastructure, management tools and air-time fairness policies to optimize access. This is particularly critical in a setting defined by high densities of mobile users and disparate network architectures.

Motorola Adaptive Wireless Networks, comprised of 802.11a/b/g/n access points and controllers with distributed intelligence across the network and collaborative data packet forwarding, deliver an outstanding quality of experience for the most demanding multimedia applications when and where users need them. Featuring Motorola’s innovative Wi-NG operating system, Adaptive Networks makes the network edge smarter and self-aware, intuitively finding and retaining the best, most reliable pathways for network traffic. This enables critical services right at the network edge, including processing, security and application optimization even under heavy bandwidth traffic.

In short, Motorola has developed a reliable, “always on,” intelligent wireless network that can accommodate voice, video and data intensive applications with ease and an exceptional Quality of Experience (QoE) for all users, as well as best-in-class TCO. These powerful capabilities ensure students are satisfied with their wireless living and learning experiences, while providing IT leaders and school administrators with the confidence that their Adaptive Wireless Network is a sound business decision that can scale to support expanding demand for years to come.

### Advanced Network Advantages

High performance voice and video communications. Improved Quality of Experience (QoE). The ability to manage and launch e-learning initiatives campus-wide. Increased bandwidth to effectively manage dense networks and eliminate interference and congestion. These are just a few of the compelling advantages 802.11n Adaptive Networks deliver. Other, equally impressive 11n-enabled services include:

- Consolidated and integrated network management of large, diverse campus environments – dorms, departmental building, outdoor coverage
- Secure Guest Access for visitors
- Access controls management for various devices – laptops, smartphones etc.
- Protecting the network from being hacked by an eager student population - assigning strict access controls
- Ensuring departmental buildings have high bandwidth communications capabilities to manage large multi-media intensive file transfers
- Secure student access with enhanced IT visibility, control and protection
- Reliable network connectivity indoors and out
- Multi-vendor network management to leverage legacy network investments
- Managing multi-vendor equipment across various campus buildings

The higher education learning environment is undergoing a significant transformation. Multimedia and interactive applications increasingly define online and classroom curriculum. Wi-Fi voice and wireless video surveillance technologies deliver enhanced campus security and peace of mind. Students expect the same level of network access they enjoy at home and in the world in their chosen campus environment – from the dormitory to the stadium. As a result, WLAN network investments and priorities should be evaluated against how well they will meet users’ growing bandwidth needs, add value and contain costs over the long-term. Adaptive Wireless Network technology allows CIOs to design and build a smarter, scalable, more robust network that performs reliably, securely and cost-effectively – today and in the future.

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**About Motorola Wireless Network Solutions**

Motorola delivers seamless connectivity that puts real-time information in the hands of users, giving customers the agility they need to grow their business or better protect and serve the public. Working seamlessly together with its world-class devices, Motorola’s unrivaled wireless network solutions include indoor WLAN, outdoor wireless mesh, point-to-multipoint, point-to-point networks and voice over WLAN solutions. Combined with powerful software for wireless network design, security, management and troubleshooting, Motorola’s solutions deliver trusted networking and anywhere access to organizations across the globe.

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**Motorola**

www.motorola.com/wirelessbroadband

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