

K-12 and Higher Education:

Improve collaboration, safety, operational efficiency and the learning environment with Motorola's TEAM VoWLAN solution

The challenge: the cost-effective improvement of on-campus communications

The majority of the staff in both K-12 and higher educational institutions spends the greater part of each day away from a desk and the tools required to remain efficient and accessible throughout the educational work day — the desk phone and computer. Administrators, maintenance and support staff, faculty and security guards move throughout the campus environment — in classrooms, hallways, traveling between buildings or in outdoor recreational areas such as a playground, stadium or track — unable to place or receive calls, monitor email for important messages or check schedules and task lists. The result is a negative impact on personal productivity as well as the overall efficiency and responsiveness of the educational institution.

Improving communications in the educational environment however, is a challenge. Running phone and computer cabling throughout the campus to classrooms and more is cost-prohibitive, and does not address the issue — providing communications to workers who are on the move or who spend the bulk of their workday away from a desk. Cordless phones are an alternative, but the limited range can be an issue. In addition, cordless phones do not support data applications, forcing schools to provide a second device for data access — driving the complexity and the cost of a communication solution up. The high cost of cellular plans prevents virtually all schools from issuing cell phones or cell phone stipends. And while a personal cell phone may be an option in emergencies, lack of access to the school directory and in-building coverage issues could delay the ability to place a call, wasting seconds that could impact student safety. How can today's learning institutions keep mobile workers connected to the voice and data they need — within the strict constraints of the typical educational budget?

With Motorola's TEAM VoWLAN solution, support staff, administrators and faculty and more can access the many voice and data services required to stay productive while on the move, all through a single Windows Mobile® device:

PBX telephony: Extends the features and functionality of a desk phone to a mobile device, including toll-quality voice, the simplicity of one phone number reach, one voicemail box and convenient desk phone features like abbreviated dialing, call forwarding, call transfer and call waiting.

Push-to-Talk services: Empower users with robust, instant communications — including the ability to call an individual or a group (with up to 255 definable groups).

Corporate email, calendar, contacts and other personal information management (PIM) tools: Keep your workers in touch and on top of their schedule, task list and more.

Text messaging: Enables fast and efficient communications between workers over the WLAN — improving response times to student and staff needs.

Internet/intranet access: Provides on-the-spot easy access to web-based applications and information as needed throughout the day.

Line of business applications: Support for the latest industry standard mobile operating system, Windows Mobile® 6.1, simplifies mobile access to student transcripts, attendance, grading or other administrative applications.

Interoperability with two-way radios: The optional TEAM RLS module creates PTT interoperability between TEAM devices and existing two-way radios, enabling institutions to provide the right device for each work group while maintaining communications between the different groups.



Motorola's TEAM VoWLAN smartphones (EWP1000/2000) are small, pocketable and packed with business features, allowing your workers to carry many of the features of a desktop computer and deskphone in their palm of their hands.



More features, more benefits — and a payback in less than a year

A large university with a 5,000 acre campus issues over \$200,000 annually in cellular stipends to provide 300 staff members with campus-only mobility. With Motorola's TEAM VoWLAN solution, this educational institution can provide staff with highly cost-effective VoWLAN devices that deliver an expected payback in less than a year. Built for all-day business use, the devices offer a much longer lifecycle than the typical consumer-style cell phone, with enterprise-class features that improve productivity, the learning environment and campus security.



The solution: **pocketable mobile voice and data**

Motorola's Total Enterprise Access and Mobility (TEAM) Voice over WLAN (VoWLAN) solution allows educational institutions of all sizes to provide staff and faculty with highly cost-effective voice and data connectivity over a wireless LAN (WLAN). A Windows Mobile® VoWLAN smartphone provides mobile access to the services required to improve personal productivity, the quality of education, the safety of the educational facility and overall operational efficiency — all in a single compact, durable and pocketable device designed for all-day business-class use. In addition, services are available anywhere you have WLAN coverage — inside buildings as well as in the outdoor spaces of the most expansive campus environments. And since the WLAN is a private network that you control, coverage issues can be eliminated to ensure robust connectivity in nearly every inch of your facility — without monthly recurring cellular charges.

All the services staff members need

Now, employees are connected, no matter where they are in your campus environment. Robust voice functionality allows users to place and receive one-to-one phone calls through the PBX as well as place and receive individual and group push-to-talk (PTT) calls — complete with wired and wireless headset, speakerphone and handset modes. Users have access to email, contacts, calendars and other personal information management (PIM) applications, while text messaging within the WLAN enables better task management — for example, supervisors can send a task that requires immediate attention to administrative or maintenance staff. Finally, the low power devices and optional high capacity batteries combine to ensure operation throughout the longest school day.

Applications — and the benefits of the connected workforce

With the TEAM VoWLAN solution in hand, staff can now act on the spot, improving productivity, availability, response times, student safety and campus security.

Faculty

In K-12, regardless of whether teachers are in the classroom, out on the playground or walking through the hallways, they can instantly call 911. In addition, access to the school directory enables faculty to also alert appropriate school personnel of a developing situation at the press of a few buttons.

In higher education, the same emergency communications enable faculty to alert local authorities promptly and spread the word throughout an expansive campus in minutes, improving the safety of employees and students. In addition, in universities and colleges where faculty time is split between teaching in the classroom and meeting with students and other faculty members, telephony, texting and access to email and calendars helps professors and others remain reachable and on top of meeting requests and last minute meeting changes throughout the day.

Maintenance staff

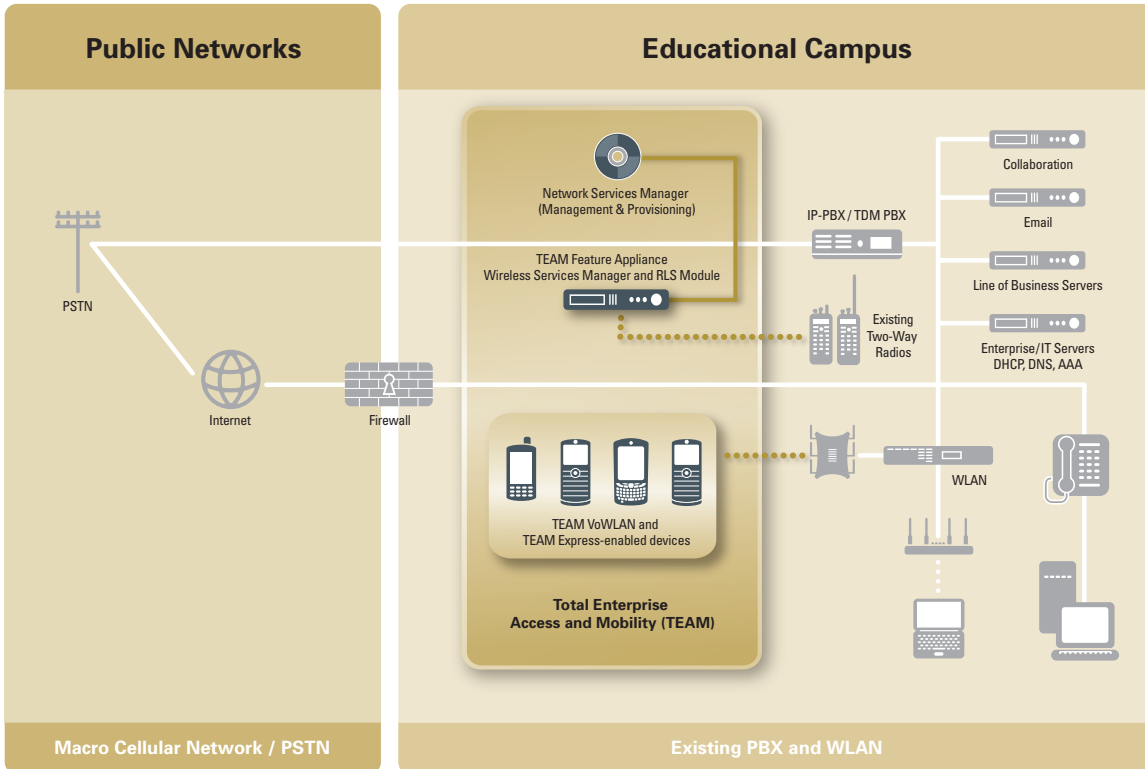
The maintenance staff typically utilizes a two-way radio — and until today, those radios operated on a separate network, unable to directly communicate with other devices in your environment. The TEAM Radio Link Solution (RLS) eliminates this 'voice island', enabling instant push-to-talk (PTT) communications between two-way radio users, TEAM VoWLAN smartphones and TEAM Express-enabled Motorola mobile computers (requires the TEAM Express client). The result? Supervisors and faculty can reach maintenance staff in seconds, improving response times.

In addition, higher educational institutions often have more infrastructure and a larger physical campus area to maintain, increasing the complexity of the maintenance function. The fully featured Motorola MC55* mobile computer can put more intensive data applications that can improve the efficiency and accuracy of the maintenance function in the hands of your engineers — such as automated work orders and preventative maintenance records — yet still enable communications with two-way radios** and TEAM VoWLAN smartphones. The result is the flexibility to give each worker the device that is best suited for the job, with the integration required to truly maximize the value of your communications investments.

* Requires the TEAM Express client software
** Requires TEAM RLS

Security

The TEAM VoWLAN solution improves security by enabling a crucial connection between mission critical two-way radios, TEAM VoWLAN smartphones and TEAM Express-enabled Motorola mobile computers — despite the fact that these disparate devices are operating on completely different networks. Now, administrators, teachers and other staff can easily execute a PTT call to rapidly reach the security staff, ensuring the most prompt response possible to potentially dangerous



The Motorola TEAM VoWLAN solution enables cost-effective voice and data communications over the WLAN for many different types of workers as well as PTT voice interoperability with workers with different device types. Instant push-to-talk capability between two-way radios, TEAM VoWLAN smartphones and TEAM Express-enabled Motorola mobile computers improves the productivity and effectiveness for individual workers as well as the educational institution's overall efficiency and security.

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situations. Similarly, security staff can initiate a PTT call to all teachers in event of an emergency to ensure the swift response required to better protect students and faculty.

Administrative staff

Administrative staff frequently needs to roam the campus to execute a myriad of tasks. Now, even when these staff members must step away from their desk, they remain connected, able to monitor and respond to urgent calls, emails and text messages.

IT technicians

IT administrators spend the majority of the day on the move around the campus, resolving various technology issues. With a TEAM VoWLAN smartphone in hand, IT supervisors can easily issue properly prioritized tasks via email, text message or push-to-talk communications. In addition, technicians can text or email co-workers as well as access internal knowledge bases, Internet-based message boards and more to help troubleshoot and resolve issues.

Roaming administrative and support staff

Nurses, social workers, media and event support specialists and more often support an entire school district. These workers roam in and out of various schools throughout the day, and

typically do not have an office — or easy access to voice or data communications while on campus. With a TEAM VoWLAN smartphone in hand, these workers are instantly connected from the moment they step onto a campus, easy to reach and able to reach co-workers and others as needed through PTT, private voice calls, text messaging and email. Contact directory access simplifies communications, while calendar support allows workers to stay on top of meeting requests and changes, all in real time. Finally, access to databases on the school Intranet and the Internet also improves on-the-job effectiveness. For example, applications can be integrated that allow a school nurse to quickly check student records for known medical issues and medication allergies to provide paramedics in an emergency, as well as check medical databases for the information required to make better decisions about interim care.

Athletic staff

In both K-12 and higher education, the athletic staff spends the bulk of the day in expansive outdoor areas. A TEAM VoWLAN smartphone keeps these staff members connected, able to receive and place phone calls; instantly reach security and health personnel in the event of emergency, illness or injury; and monitor email for urgent messages — regardless of whether they are out on the track, at the pool or in a sports arena.

Summary: a technology solution that meets your strategic needs — and your financial requirements

Many strategic benefits help justify this technology solution, including the ability to enrich communications between administrators, support staff and faculty. The improved collaboration improves productivity, the general quality of the educational experience and the overall efficiency, safety and security of the educational facility.

In addition, a number of other factors help provide a rapid return on investment (ROI) and low total cost of ownership (TCO):

- **The ability to leverage your existing PBX:** Designed to integrate with existing enterprise infrastructure, the TEAM VoWLAN solution works with a broad range of PBX and IP-PBXs and virtually any wireless LAN designed to accommodate voice. As a result, educational institutions can extend the functionality of existing technology to virtually every inch of a facility, improving the return on existing investments.
- **Superior device durability and functionality:** TEAM VoWLAN smartphones are built for business, offering a more durable design and a more robust feature list than consumer style Voice over Wi-Fi devices, providing more value for your investment dollars.
- **Future-proofing:** The architecture of this extensible solution can easily support a growing staff and changing enterprise requirements through:
 - Support for up to 4,500 users per server. Educational institutions can easily add additional devices and calling capacity as needed, providing the scalability required to meet the needs of even the fastest growing educational facility.
 - Future support for dual mode WLAN/cellular services. Educational facilities can provide employees who work inside and outside

the four walls with always-on connectivity seamless mobile voice and data services.

- Support for future TEAM Solution capabilities. The ability to easily incorporate future capabilities, including the extension of communications outside the WLAN to the cellular network, provides schools with the confidence that the system they deploy today will meet future needs as well.

- **Cost reductions:** The TEAM VoWLAN solution eliminates numerous costs. Integrated support for mobile voice and data in a single device eliminates the need to purchase, operate and maintain multiple devices per employee, with no monthly recurring charges. Educational facilities can reduce or even eliminate the need to purchase, install and manage desk phones.
- **Superior flexibility:** The ability to assign a PBX-based extension to TEAM VoWLAN smartphones provides multiple benefits. Where a wired deskphone tethers users to the desk and a typical cordless deskphone provides limited features and a limited 'roaming range', the TEAM VoWLAN devices allow users to receive and make calls anywhere in the facility or campus — wherever there is WLAN coverage.
- **Converged Campus Communications:** Perhaps one of the most valuable aspects of the TEAM VoWLAN solution is its role in Motorola's Converged Campus Communications. The TEAM VoWLAN solution easily integrates with other Motorola mobility solutions you may have in place today or purchase tomorrow, including two-way radios, compact Enterprise Digital Assistants (EDAs) and fully rugged handheld mobile computers. Now, disparate devices operating on different voice networks can communicate with each other, providing more connections between more workers — and helping educational institutions to turn the vision of a connected campus into a reality.



With a Motorola TEAM VoWLAN business smartphone, K-12 teachers and professors in universities can call 911 and reach the two-way radios of entire security staff via push-to-talk — even though two-way radios operate on a completely different network. As a result, campus security is improved, better protecting students, faculty and support staff.

For more information on how Motorola's TEAM VoWLAN Solution can work in your educational institution, please visit our website at www.Motorola.com/education or contact us at 866.416.8545.

Maximize deployment simplicity and success with Motorola end-to-end mobility solutions

When you choose Motorola, you choose a wireless expert with a long history of proven, innovative technology. Our comprehensive product offering includes:

- Integrated voice solutions
- Rugged and enterprise class mobile computers with extensive advanced data capture and wireless communications options;
- Rugged two-way radios for always on voice communications
- Private wide area and local area wireless networks for true inside/outside wireless connectivity throughout campus environments and between multiple locations
- Comprehensive RFID infrastructure, including fixed, mobile and handheld RFID readers.
- An unmatched services portfolio and world-class partnerships provide today's educational institutions with true end-to-end solutions and the simplicity of a single accountable source



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