

# GROUND SUPPORT

Worldwide

## Can You Hear Me Now?

Many airport operators are learning how innovative communications software can drive significant safety and business benefits.

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**I**t was everyone's worst nightmare. A wide body jet with more than a hundred passengers on board loses all engine power and crashes just short of the runway at one of the world's busiest international airports. Fortunately nobody was seriously injured, thanks in part to crews' professional handling of the emergency and because the aircraft was close enough to the airfield to avoid falling on surrounding houses. What might have happened if the events had unraveled a few minutes earlier is shocking to contemplate.

Airport operators and their emergency services teams constantly plan and train for events such as these, helped in the most part by modern communications and rescue equipment. Yet a significant portion of airports in the US and abroad are unable to guarantee the required response due to outdated communications equipment.

Innovative communications software is now helping to solve the problem of aging and unreliable crash phone systems, as well as providing new and exciting ways of unifying disparate communications technologies to achieve operational and financial benefit.

### GUARANTEED RESPONSE

Although the crash phone is just one of many airport communications systems, it is perhaps its most important piece of emergency equipment. In the event of an emergency, air traffic control personnel in the tower simply pick up the phone and are connected instantly with a combination of first responders and airport operations staff. A crash phone operates like a conference call, but in

reverse. Instead of different parties calling in to a single point, a single call simultaneously goes out to a number of recipients.

Shocking as it might sound, many airports in the US still rely on old, analog systems built around aging hardware, leased telephone lines and third-party providers. These systems are prone to faults and service suspensions and little can be done to improve the availability of spares for almost obsolete technology.

When Orlando's Sanford International Airport was confronted with recurring failures of its own crash phone system they chose to replace it with one that leveraged unified communications software running over a redundant fiber network. By re-using much of its existing network system, the airport was able to dispense with its expensive leased line and third-party services and bring online a state-of-the-art IP crash phone system that delivered advanced capabilities and guaranteed availability.

### WORKING SMARTER

Although airport safety is a major consideration for operators, unified communications software that allows disparate devices to work seamlessly together is also delivering benefit to airport operators in many other ways. Mumbai International Airport, India's busi-





est airport with 22.2 million passengers and 470,000 tons of cargo in 2006 has recognized the benefit of making communications pervasive. A major infrastructure overhaul project at the airport will provide extensive network coverage throughout the airport's terminal buildings and outside maintenance areas. It will also allow the consolidation of the majority of its data, telephony and video systems onto a converged wired and wireless IP-based network.

A key element of the project is unified communications software that enables desktop IP telephones to work as push-to-talk radios. This capability removes a traditional incompatibility barrier, allowing real-time interaction between fixed and mobile workers without the need for radios on office worker's desktops. New business practices built around a wider and more open communications capability will improve business efficiency and provide a better traveling experience for passengers.

Other major airports and airlines are doing similar things — creating centralized dispatch services for below-the-wing service providers who operate their own, and typically incompatible, communications infrastructures.

### THE WIDER COMMUNICATIONS ADVANTAGE

With this type of advanced software technology, communications interoperability is not limited to radios and IP telephones. Using industry standard IP networks as the unifying medium, a

multitude of traditionally disparate communications systems such as radios, traditional analog phone systems, and new IP phone systems, PCs, PDAs and industry-specific proprietary devices can all interoperate in a seamlessly coherent manner. Using a standard Windows PC, a dispatcher can manage communications between any number and type of devices. Talk groups can be defined by function or team structure rather than physical location or device type. Mobile phone users can talk with radio or analog phone users and vice versa. Different talk groups can be patched together with a few clicks of a mouse and everything can be recorded for instant playback or archiving.

This same technology is used extensively throughout the US military to ensure effective command and control in demanding environments, delivering pervasive communications by connecting users regardless of device, network or application. Its non-proprietary, standards-based and device-independent architecture works equally well with new or existing hardware infrastructure, delivering a fully redundant architecture for proven reliability and maximum uptime. It is easily scalable, supporting interoperability with an unlimited number of users and communications devices, and by leveraging existing systems, eliminates the need for expensive hardware-only upgrades.

Although the technology itself is compelling enough, the financial advantages of unified communications software is readily apparent to financial directors. An example of this is the recent decision by Air Evac Lifeteam, the largest independently owned and operated membership-supported air medical service in the United States, to deploy a radio-over-IP solution to enhance radio system capabilities for its air ambulance operations across a 12-state region. Unified communications software forms the core of the enhanced system and will support an 80-plus tower radio network across 12 Midwest states with two fully redundant emergency dispatch centers. With such a large operational footprint, traditional hardware-based upgrades using proprietary vendor systems would have been prohibitively expensive, delaying or even postponing Air Evac's upgrade project. Only a software-based solution could deliver the necessary capabilities at the right price.

Unified communications software, built to open standards, can solve a multitude of communications issues commonly faced by airport operators and their customer, most of which arise from the fundamental incompatibility between disparate systems. Proven and trusted, the technology continues to drive business benefits in the air and on the ground. ■



Mumbai International Airport is a Nortel IP Telephony and WAVE Software Deployment Managed by Nortel Networks.

[www.nortel.com](http://www.nortel.com)



Orlando Sanford International Airport is a WAVE-powered Crash Phone Deployment Developed and Installed by Voice Interop of Boca Raton, FL.

[www.voiceinterop.com](http://www.voiceinterop.com)



Twisted Pair Solution's award-winning WAVE software technology enables partners and customers to build and operate secure, highly scalable communications solutions in the world's most demanding IT environments. Recognizing that the best approach to solving the complexities of communications interoperability is to use software to unify multiple, diverse communications technologies, WAVE is trusted when communications is absolutely indispensable.

