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Needing to replace its legacy crash-and-alarm system, Hurlburt Air Force Base chose new teleconferencing technology.

Hurlburt Air Force Base in Florida is the first of many U.S. defense locations needing to replace primary aircraft crash-and-alarm systems (PCAS) and secondary crash networks. Like many other Department of Defense locations, it was using a highly functional legacy system that required extensive maintenance–and was ready for replacement.

"The equipment was not supportable, parts were not available and it was unreliable," says Don Larson, senior engineer at Hill Air Force Base in Utah. As the engineer responsible for creating objectives and project needs for telephone upgrades for the Air Force and Marine Corps, he was under the gun to find a workable solution.

"We started getting requests for crash alarm systems that our team had never done before," Larson explains. "Our people thought it was outside of our range. It was causing maintenance problems at many bases. We figured we needed to find out what was available."

"Having a system that is operational any time and every time we need it is most important," says Richard Jones, project manager for Hurlburt AFB critical response communications. "Command-and-control capability is paramount in our business."

"As far as crash alarms, there hasn't been any new technology until now," according to Larson. "One of our Air Force locations was looking at a crash alarm system costing over $100,000. You don't want to pay that kind of money, but there are not a lot of viable alternatives out there. We had to find something now."

The primary goal of any emergency collaboration system is to instantly connect key personnel. Emergency communication technology has made quantum leaps from the Civil Defense sirens and programs of more than 50 years ago. Today, governments are focusing more dollars on convergence and next-generation networks for their communications infrastructure, as they replace old technology with reliable, expandable and supportable solutions.

LIMITATIONS PROVE CRITICAL

If a system has limitations, those become even more critical as an emergency situation becomes more critical, explains Larson. With disruptive sounds and distractions at the hot site, sound clarity on emergency calls is essential for accurate communications, as are ease of use and reliability.

At all Air Force and Department of Defense bases, the PCAS is used to instantly connect operations, management and first responders in the event of any emergency watch or warning. Emergency communication solutions come under many names, like find-me function, blast dDial, instant conferencing, alarm system, immediate teleconferencing, red phones, firebar, crash system or alert system.

Larson began his search for an updated conferencing system online. The search spread through personal contacts at the Air Force Flight Safety Agency and through Air Force system integra-

tors, including General Dynamics.

Larson connected with Forum Communications International at a General Dynamics partnership conference last year. He found that Forum was developing its own crash system, the CONFER ECS (Emergency Collaboration System) and the CONFER A.L.E.R.T. (Advanced Localized Emergency Response Teleconferencing) system.

Charles Townsend of General Dynamics, and a special projects engineer at Hill AFB, assisted Larson in understanding the Air Force technical requirements and translated them into specifications and test requirements, for the new PCAS solution. His priorities included: space limitations, ease of use, touch screen commands, remote viewing status, superior sound quality and durability.

With additional research, and detailed review and testing of new technology and prototypes, Townsend recommended the CONFER A.L.E.R.T. with the CONFER ECS for the Air Force needs. Integrated logistics support, reliability and minimal dependence on PBX/networks systems were high priorities.

Other technologies provided some of the requirements but needed multiple computer systems, or had limitations about how many phones could ring at one time. Another solution utilized ring-back circuits but could not eliminate ongoing ringing, and those distractions cost precious seconds on every call. Townsend specifically recommended the conferencing solution because it is self-contained and not dependent on PBX/network systems.

REDUNDANCY FEATURE ESSENTIAL

The Forum system integrates independent ring generators, touch screen control and a space-saving graphical user interface (GUI)–for system status, station selection and dial-out initiation–with the ECS platform. When officials determined that the system met all Air Force instructions and contract specifications, Ogden Air Logistics in Utah approved the technical functionality and authorized installation. Airfield management personnel were able to adapt immediately to the cutover and maintain critical emergency communications.

An essential benefit of the new system, according to Larson, is its multiple levels of redundancy. Should an issue occur with the tower/base operations primary phone connection, the system has three levels of immediate redundancy:

Level 1: Blast from backup phone. Upon realizing the main phone is not working properly, command personnel can go to the backup phone and initiate the call.

Level 2: Blast from GUI screen. Upon realizing the main (or backup) phone is not working properly, "call initiator" can touch the "manual blast" button on the GUI and initiate the call.

Level 3: Auto reset status. In the event the GUI connection is lost, the system will "re-arm" itself automatically within two minutes to blast all and be ready for either the main or backup phone to initiate the call.

"Speed, reliability and user friendliness are most important to

> Integrated logistics support, reliability and minimal dependence on PBX/networks systems were a high priority for the Hurlburt AFB conferencing network.

us," says Lt. Nicholas Anderson, responsible for Air Force Reserve Command and Special Operations. "The interface is really easy. You can see all calls as they are being made. You can see exactly who's picking up and who's not. The most important thing is the speed of the response."

The A.L.E.R.T. technology enhances command-control functions by increasing communication and control, according to Anderson. "The Forum crash system is more reliable and faster because of that. You have a lot of things going on at the flight line and in the tower, plus other functions, like programming support and telecommunications."

"This system supports Hurlburt's airfield operations with two-way telephones to the control tower, base operations, fire depart-
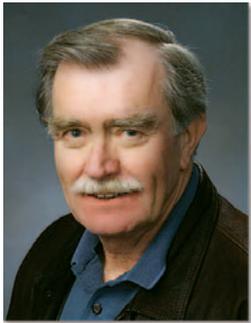
> "The response-management teams cannot afford to be without immediate conferencing, ever."
> —Don Larson

ment and the medical center, as well as other critical components. We needed a system that was more reliable, one with an uptime rate of 100%," concurs Jones.

Adds Larson, "The people at Hurlburt are quite happy with the new system. With a little screen (7") and the small (miniature) computer that fits under the desk, it's non-intrusive. The system takes less space and the touch screen makes it more efficient. It

provides the same functions, so it makes for an easy transition. People don't have to be trained. We now have a solution that is supportable and reliable."

Air Force personnel and Forum Communications management are working with the Air Force Flight Safety Agency to document the system standards and keep up with changing requirements. "Bases are asking for this solution," Larson says.

Turnkey installation of the system involved connecting to existing analog phone lines, providing the same functionality and dependability essential to flight safety communications. The control screen provides line status at a glance for all remote sites, or to select specific locations. Real-time status of all stations is readily visible. Color-coded GUI indicators emulate LEDs to convey status to the operator to identify active participants, and inactive, ringing or disconnected lines.

The system integrates modified ring-down circuits to assure rapid response time (200 milliseconds from touch on the GUI interface to ring all phones) up to five miles. Ring tones stop immediately when the first party answers, so clear, uninterrupted communication can begin without delay.

With no menus to navigate, the GUI requires zero learning curve and touch response is immediate. The crash call can also be initiated by taking the primary crash phone off-hook or with a simple touchtone code sequence from any phone on the system. The versatility of the A.L.E.R.T. allows it to be either a primary or secondary crash system.

"Whether planning and reviewing technology for business continuity, disaster recovery, contingency planning or damage control, the communications/IT team needs to safeguard high-level emergency calls and guarantee immediacy, redundancy and reliability," Larson explains. "The response-management teams cannot afford to be without immediate conferencing, ever."

About Forum Communications

Forum Communications International is a provider of audio conference bridges, supplying emergency communications solutions and conferencing technology for business and government since 1991. Founders Raj Natarajan and Gayne Ek developed and marketed the original CONFER C and CONFER M bridges through DSP Technology Corp. in the 1980s before founding Forum. Natarajan developed his original DSP-driven systems for the small-to-medium business user, bringing teleconferencing in-house.

The CONFER products have been redesigned, with additional expandability, the latest digital processors, remote administrative option packages, Web or GUI controls, and robust emergency response functions. With additional emphasis on instant collaboration, the product family has been expanded to include the Emergency Collaboration System and the A.L.E.R.T. The Windows-based Consortium Conference Server provides instant conferencing with blast dial and blast e-mail, text messaging, real-time reporting and recording. Each provides Forum's enhanced sound clarity and durability.

Thousands of Forum teleconferencing ports have been installed in government installations in the United States and overseas for operations calls, training and "crash" network needs, with more than 7,500 systems in place in governments and businesses worldwide.

Raj Natarajan