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Reserve component IT installations
set precedents for efficiency

by LTC Jeffrey T. Yon and Mr. Jeffrey C. Faulkner

What began as a mission to improve information technology (IT) infrastructure, equipment and networks on Army reserve component installations has evolved into a potential model for military construction (MILCON) IT projects across the Army Reserve.

The Reserve Component Automation Systems (RCAS) MILCON IT team, in conjunction with the U.S. Army Reserve (USAR), created a standardized solution that became known as USAR's "golden configuration" for voice and data implementation.

The MILCON IT team also established streamlined processes and a

firm-fixed-price (FFP) procurement approach for network installations that included equipment, labor, travel and materials. The team assessed the first two years of site installations using a cost-plus model to establish metrics and to identify potential future cost and schedule savings. Team members then devised a by-site FFP model that made it unnecessary to process site proposal changes with every modification in equipment or travel requirements.

By standardizing all new-construction facilities in this manner, the USAR is well-positioned to move all of its voice traffic across the Army Reserve Network (ARNet) to Voice over Internet Protocol (VoIP) in the future.

THE RCAS MISSION

The RCAS project provides integrated Web-based software solutions and support services that enable the USAR and Army National Guard (ARNG) to manage mobilization, safety, personnel and force authorization more efficiently. In addition, RCAS supports hardware integration. Since 1989, it has established the IT standard baseline and configuration for all ARNG units; now it provides the equipment to maintain database support for all USAR commands and ARNG activities in the 50 states, three U.S. territories and the District of Columbia.

RCAS continues to support basic IT infrastructure needs with the refresh of



CONNECTING USERS

Brian Harris, a MILCON IT project network engineer, connects a fiber-optic link to a user data switch at a USACAPOC facility in Prince George's County, MD. (Photo by Brian Blankenship, RCAS MILCON IT team)

equipment tailored to specific requirements reviewed and validated by the ARNG and USAR G-6.

In October 2009, the USARC G-2 and G-6 requested that RCAS provide contractual oversight of the IT infrastructure design, equipment procurement and network implementation on all Base Realignment and Closure (BRAC) Commission MILCON projects for which the USARC was responsible. Previously, compatibility issues had prevented the seamless integration of VoIP solutions.

The variety of models of phones, call managers and phone capabilities dictated a move to a standard configuration, which was vetted and subsequently

received an authority to operate (ATO). This USAR golden-configuration solution for voice and data implementation brought true configuration management to the situation.

The initial emphasis of the project was on providing IT integration at BRAC installations. However, the USARC requested expansion of the MILCON IT project to include network installations within all MILCON categories. The project also began serving BRAC sites that had ARNG oversight.

From December 2009 through June 2013, the team planned, designed and installed 78 USAR-led BRAC data and VoIP network installations;

58 USAR-led data and VoIP network installations; and 24 ARNG-led BRAC data and VoIP network installations.

The team established a Cisco Unified CallManager and Tandberg 8000 MXP integration and installation at a Pennsylvania ARNG facility. With this unique solution, the team was able to integrate VoIP, which incorporated the data and voice requirement for much of the Pennsylvania ARNG.

The USAR asked the MILCON IT team to work on two other initiatives as well. One involved the U.S. Army Civil Affairs and Psychological Operations Command (USACAPOC) Secure Internet Protocol Router (SIPR) Holocom Protected



Distribution System (PDS) and Non-secure Internet Protocol Router (NIPR) infrastructure upgrades. A critical challenge for the team was to implement the upgrade in an operational environment without disrupting network operations. After identifying requirements, the team used new military standards, IT best business practices and innovative technologies to engineer a viable solution. This provided a clear road map to implement more than 1,125 PDS drops that included full power and telecommunications room upgrades.

The second initiative involved a USAR-led Intrusion Detection System (IDS) data cable extension from target locations to the nearest ARNet data closet. This was done in conjunction with the Army Reserve Installation Management Directorate, USARC G-6 and the Army Reserve Office of the Provost Marshal. The intent of the initiative was to upgrade USAR facilities to newer, more reliable and automated technologies. Since October 2012, the MILCON IT Team has completed 321 IDS extensions at USAR facilities, so that the IDS can connect to the ARNet. The MILCON IT team's expertise with IDS and the work related to the cable extensions allowed it to complete 26 more sites than initially projected over a seven-month period.

The team also created a hybrid VoIP migration solution that was implemented in conjunction with the golden configuration across all subsequent MILCON IT

projects for data and VoIP network installations. Having this standard solution allowed the MILCON IT team to realize significant cost and schedule efficiencies: a 60 percent reduction in the time required to design and develop initial cost estimates for sites, and a significant reduction in the time needed for the USAR to approve and fund the sites. The use of VoIP in the standard configuration also allowed a savings of approximately \$600 per voice primary rate interface (PRI)—the industry standard for supplying telecommunications services to offices—at each site and saved on future fees to change voice lines. Total estimated savings to date exceed \$200,000.

PROJECT IMPACT

For the data and VoIP network installations, the MILCON IT team developed

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a hybrid solution using a Joint Interoperability Test Command-approved VoIP technology and implemented those capabilities in 2010 for the first time in USAR facilities. The approach allowed for full VoIP capabilities within the Reserve's complex while still being integrated using traditional PRI circuits.

In one noteworthy success, the MILCON IT team did the installation at a new Armed Forces Reserve Center (AFRC) facility in Tuscaloosa, AL, ahead of schedule; as a result, the center was operational shortly after a series of tornadoes demolished the old AFRC facility in April 2011.

In another success, the MILCON IT team designed and installed a Holocom-certified PDS for the USACAPOC G-2 and G-6 offices at Fort Bragg, NC, allowing for relocation of the G-2 and G-6 staffs into a building that had been refurbished from a storage facility. This effort, including all labor and materials, allowed for the emplacement of more than 100 secure drops while maintaining the SIPR Network ATO. The work took three weeks, one week less than projected, and the \$393,000 cost was approximately half of what the government expected. The surge effort allowed the USACAPOC headquarters relocation to stay on schedule.

CONCLUSION

RCAS' efforts on MILCON IT, IDS and USACAPOC projects met or came

in ahead of schedule and came in at or below cost. RCAS will continue to partner with the U.S. Army Corps of Engineers (USACE) and other Army agencies to provide world-class IT installations on MILCON projects for USAR and ARNG facilities, and is positioned to assume any future BRAC MILCON IT missions.

RCAS is currently coordinating with the USAR Office of the Provost Marshal to fulfill 500-plus additional IDS cable extension installation requests for FY15. USACAPOC has identified two additional facilities that require immediate re-cabling; those projects are under consideration for the first quarter of FY15.

The model used can be adapted to more USAR and ARNG facilities that require IT and VoIP implementation. Funding will be the challenge.

For more information on this project and other RCAS efforts, contact LTC Yon at 703-325-4898 or jeffrey.t.yon.mil@mail.mil; or Mr. Faulkner at 703-325-4296 or jeffrey.c.faulkner.civ@mail.mil.

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ALIGNING COMMUNICATIONS

Army Reserve PFC Mary Tang, a network cable systems installer with the 490th Signal Company (Tactical Installation and Networking – Enhanced), checks a cable alignment during a SIPR-NIPR Access Point class June 2 at Fort Gordon, GA. (Photo by SPC Anthony Hooker, 359th Signal Brigade)



INFRASTRUCTURE NEEDS

The RCAS MILCON IT team, which supports basic IT infrastructure needs for the USAR and ARNG, created a standardized solution in conjunction with the USAR that became known as USAR's "golden configuration" for voice and data implementation. Here, CPT Kerstin Hedlund, a chaplain for the USACE Sacramento District, salutes the flag during a groundbreaking ceremony March 6 at the U.S. Army Garrison, Parks Reserve Forces Training Area in Dublin, CA, marking the largest U.S. Army Reserve real property exchange in DOD history. (U.S. Army photo by Todd Plain, USACE Sacramento District)