



Maj. Rabi Singh, a mentor for the Regional Logistics Support Command–Southeast, programs a Blue Force Tracking system shortly before a convoy to validate the command’s abilities. (Photo by Sgt. Jacob Marlin)

Optimizing C4ISR Field Support for Today’s Army

A new field support concept for network and mission command systems makes Soldiers the first line of defense for troubleshooting command, control, communications, computers, intelligence, surveillance, and reconnaissance systems.

■ By Richard J. Licata Jr.

During the past 12 years of war, the push to give Soldiers the state-of-the-art command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) technology they needed to complete their missions often meant relying on civilian field support personnel for systems maintenance and troubleshooting.

When it came time to reduce field support during the drawdown from Afghanistan, the Army’s mandate to reduce expenses quickly turned into an opportunity to transform an outdated network and mission command system into one that aligns with a leaner, more agile future force.

The new field support concept for

network and mission command systems embraces Soldiers as the first line of defense for troubleshooting.

Pioneered by the C4ISR field support integrated product team (IPT), consisting of the Army’s Program Executive Office (PEO) for Command, Control and Communications–Tactical, the Communications–Electronics Command, Tobyhanna Army Depot,

and PEO Intelligence, Electronic Warfare and Sensors, the model addresses the need to provide a baseline of support instead of a one-size-fits-all solution.

The realignment builds on a Soldier-tested and validated model that introduces a four-tiered field support process tailored to do more with less while avoiding across-the-board cuts.

Already Soldiers are embracing an expanded role in managing and supporting their network systems. The realignment motivates Soldiers to take ownership of their equipment and develop their own sustainment training.

This new model could save the Army \$65 million over the next six years. When implemented in all Army garrisons within the continental United States (CONUS), the new model could save more than \$450 million during the same time frame.

Changing the System

The new field support model enables Soldiers to be at the forefront of weapon system maintenance and issue resolution. The plan, developed by the C4ISR field support IPT, consists of a multilevel support structure. Technical issues are resolved at the lowest level possible and escalated vertically through the tiers as additional, more system-specific support is needed.

The new C4ISR field support model addresses the need to provide a baseline of support instead of a one-size-fits-all solution. It realigns approximately 95 percent of the field support workload to Soldiers and multifunctional organic support units.

Under the new plan, Soldiers are the first to troubleshoot issues. If unsuccessful, they can escalate a trouble ticket to tier 1, which is a team of multifunctional logistics assistance representatives, digital

system engineers (DSEs), or select field service representatives (FSRs) for mission-critical or high-density systems.

This multifunctional team has the capability to service all C4ISR systems in the field, and each member is aligned to a specific system (or group of systems) based on required skill sets. The individuals assigned to the escalated ticket not only will

work to resolve the issue but also will be required to share the resolution with the requesting Soldier through over-the-shoulder training.

If a resolution is unattainable, the appropriate system-specific subject matter experts at tier 2 will attempt to resolve the issue remotely or by telephone and, if needed, pass to tier 3 engineers to determine if a hardware or software modification is needed.

The Need for an Overhaul

The new tiered system comes in response to urgent capability needs for recent deployment operations. Mission command and network systems were brought to theater at a rapid pace, equipping Soldiers with the technology needed to effectively complete their missions.

However, the quick delivery of new systems to Soldiers who were continuously engaged in deployment preparation meant that they often lacked the time to train on, operate, and maintain C4ISR equipment.

To ensure mission critical capabilities were in constant working order, the Army used the expertise of FSRs and DSEs who were embedded with Soldiers. The FSRs and DSEs worked side by side with the

Soldiers to maintain the equipment and provide technical assistance.

The lack of sustained C4ISR equipment training was a major contributor to Soldiers' reliance on civilian field support. During the train/ready phase of their Army Force Generation cycle, units often sent Soldiers to weeklong equipment operator courses. However, once deployed, those Soldiers were either engaged in other duties or not assigned to the same system.

To overcome this gap, the C4ISR organizations designed mission command system integration training to augment operator and maintainer courses. This training occurred early in the Army Force Generation cycle rather than during the unit's intensive predeployment training.

The field support model worked well, providing Soldiers with timely support during two wars. FSRs and DSEs, many of whom were former Soldiers, were embedded with units and served as a dependable first line of defense for troubleshooting and repairs in theater.

However, as troop levels continue to draw down and military spending decreases, the current C4ISR field support construct needs an overhaul to support the leaner Army of 2015.

Validated Approach

In reevaluating how the Army provides field support to more than 150 systems, the C4ISR Field Support IPT focused on greater affordability and sustainability.

During the summer of 2013, the IPT conducted two pilot programs: one at the National Training Center at Fort Irwin, California, and one at the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana.

The information from the pilots was combined with an extensive data review of more than 15,000 historical combat training center (CTC) trouble tickets. This provided insight into the types of incidents occurring and the level of support required to resolve the issues.

Results indicated that approximately 95 percent of the workload could have been resolved by Soldiers or multifunctional personnel and that over 75 percent of incidents recorded at CTC rotations were training-related.

To ensure the viability of the new approach to field support, the IPT also completed a controlled exercise at JRTC in August 2013. During the exercise, the IPT monitored the implementation of the tiered model of field support and collected data in the background.

The JRTC Operations Group took full ownership of the model and successfully implemented the lessons learned from the pilot exercises, requiring minimal tier 1 and tier 2 support (or minor intervention by FSRs) and no tier 3 support (or major intervention by FSRs). The event provided evidence that the tiered system can deliver rapid and effective C4ISR field support with a reduced footprint.

By reducing the total number of field support personnel on the ground at CTC rotations from roughly 39 individuals to approximately 13 tier 1 personnel, and by realigning assets regionally to provide reach-back support, the IPT expects a savings of more than \$9 million per year for a total savings of approximately \$65 million between fiscal years 2014 and 2020.

Already Soldiers are embracing an expanded role in managing and supporting their network systems. The realignment motivates Soldiers to take ownership of their equipment and develop their own sustainment training. It also empowers industry to cross-train FSRs to be subject matter experts across the mission command portfolio.

Implementing the Concept

Fielding of the new structure to posts, camps, and stations within CONUS has already begun. Implementation will begin at installations in CONUS Central and will continue through installations in CONUS



A member of Product Manager Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance checks dismount equipment that is being tested by Soldiers during a Communications-Electronics Research, Development and Engineering Center exercise. (Photo by Edric V. Thompson)

West and CONUS East, supplementing the brigade combat team reorganization.

The implementation plan follows a phased regionalization strategy that will realign approximately 900 field support personnel and build division and brigade field support teams, paralleling the teams implemented at CTCs.

The staggered implementation includes a comprehensive solution set that does not hinder capability or readiness. The strategy is also structured to ensure Soldier readiness through access to industry standard training and resources through the signal universities and mission training complexes.

To support the changing field support construct and streamline the trouble ticketing process, the Army has introduced a virtual reporting system, the Unified Trouble Ticketing System, to connect Soldiers with logistics assistance representatives, DSEs, and FSRs.

The new capability integrates three existing trouble ticketing sys-

tems, allowing Soldiers to resolve field support issues by creating a single automated trouble ticket, monitoring the investigation, posting a diagnosis, and recording the resolution of a service incident.

As the Army continues to simplify the tactical network and its capabilities for the end user, fewer FSRs will be required to train Soldiers and troubleshoot systems. This realignment also places the technical expertise back into the hands of Soldiers, better preparing them for future missions.

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