

Creating a European Network to Connect Multinational Formations

The 21st TSC's efforts to implement logistics systems and web-based applications on a common network led to the creation of a new dedicated mission network.

■ By Capt. Christopher O. Dorsey

Providing a centralized sustainment mission command structure to support the multinational effort known as Atlantic Resolve presents multiple challenges. Disparities in the various allied forces' structures, planning processes, operating procedures, communications systems, and military lexicons highlight a need to establish interoperability at every echelon, from the theater sustainment command (TSC) headquarters to forward deployed movement control teams.

Employing interoperable communications and mission command systems is critical to strengthening relationships with our allies. One of the 21st TSC's biggest challenges in supporting Atlantic Resolve was the development of a logistics common operational picture that allowed multinational commanders and staffs to visualize and understand capabilities and requirements in real time.

To overcome this challenge, the 21st TSC focused on implementing logistics systems and web-based applications on a common network that all stakeholders could easily access and use for collaborative sessions. After implementing several logistics systems, the 21st TSC used a new network: the Eastern European Mission Network (EEMN).

The Right Operating System

To facilitate mission command, the 21st TSC implemented several different systems, including the Battle Command Sustainment Support System (BCS3), Glob-

al Combat Support System-Joint (GCSS-Joint), Logistics Functional Area Services (LOGFAS), and Battlefield Information Collection and Exploitation Systems (BICES).

BCS3. The 21st TSC initially relied on BCS3, but the system quickly demonstrated that it was obsolete in today's multinational operational environment. The system could be used only by U.S. forces and attached allied partners. Because of that and because the Army discontinued its use after March 2016, BCS3 was dropped as a platform option.

GCSS-Joint. The 21st TSC developed working groups internal to U.S. Army Europe (USAREUR) and reached out to strategic partners, including the Army Materiel Command and the Defense Information Systems Agency. One system, GCSS-Joint, quickly took center stage.

GCSS-Joint offers an in-depth look at logistics and movements. It also provides real-time visibility of Soldiers across the battlefield. The system synchronizes the power of multiple pre-existing sources, including the Logistics Information Warehouse (LIW), while collating data from nine different fields: health readiness, deployment and distribution, supply, maintenance, logistics services, operational contract support, engineering, base and installation support, and planning.

GCSS-Joint fuses data sources to create a common operational picture for logistics, operations, and intelligence. It produces reports while

simultaneously viewing battlefield conditions in real time.

The most important feature of GCSS-Joint is the system's availability through either the nonsecure internet protocol router network (NIPRNET) or the secret internet protocol router network (SIPRNET). However, the interoperability of this system ends at the joint level and does not carry over to a combined environment. NATO allies and partner nations cannot access the system.

Because integrating NATO communication and mission command structures were imperative for success in the European theater, GCSS-Joint's limited user network proved to be unsuitable. This forced the 21st TSC to continue its search for a mission command platform.

LOGFAS and BICES. LOGFAS became the next mission command option. It is a tool comprising three major subsystems: movement and transportation, logistics reporting, and a subcomponent that assists with resource planning. This system was specially developed to plan, coordinate, and monitor sustainment activities supporting military operations.

LOGFAS is accessible through both the NIPRNET and the SIPRNET. However, through a cross-domain solution, NATO allies can access the system and tie it into the NATO infrastructure through BICES.

BICES is an Office of the Under Secretary of Defense for Intelligence system that provides U.S. forces, NATO personnel, and other allied

military organizations with near real-time correlated, situational, and order of battle information.

As a standalone application, LOGFAS is a logistics tool designed by NATO for use with U.S. and other allied partners. When coupled with BICES, information can easily be shared with other NATO allies and partners.

While testing LOGFAS and BICES, the 21st TSC discovered that the BICES server infrastructure was only operational during approved NATO exercises. Therefore, information was only attainable when NATO exercises were underway.

However, a mitigating solution was developed to allow for cross-domain information dissemination. That solution was to email LOGFAS data from the NIPRNET to the SIPRNET and from the SIPRNET to BICES. This can be done without decreasing classification levels or creating information spillage.

The Initial Interoperability Test

Last year, the 21st TSC participated in exercise Trident Juncture, a NATO-led exercise that involved 36,000 service members from more than 30 allied and partner nations. This is where LOGFAS received its most extensive use. However, the interoperability of LOGFAS with partner nations' systems was challenging.

System architecture is the most important function when designing a network. If system architecture is not fully coordinated and configured to support logistics requirements and capabilities prior to operations, the result is predictable: degradation of initial capabilities, development of nonstandard solutions, and less efficient support to operations.

Allies used several networks to access data, but interoperability between those networks did not exist. A lack of system interoperability affected readiness and posed a significant risk to mission success.

The solution required a single champion with the ability to bring together all of the players. In antic-



Sgt. Andre Richardson from the 51st Transportation Company, 39th Transportation Battalion (Movement Control), 16th Sustainment Brigade, 21st Theater Sustainment Command, directs the loading of an M1A2 Abrams tank in Marijampole, Lithuania, on August 13, 2015. (Photo by Sgt. Bridget Cantu)

ipation of future NATO and allied partner exercises, such as Anakonda 16, USAREUR filled that single champion role by developing one network to communicate with all players involved.

The EEMN

Department of Defense network-based infrastructures, primarily the NIPRNET and SIPRNET, have long empowered allied forces attached to U.S. formations to communicate with U.S. forces globally.

However, USAREUR developed the EEMN, a dedicated mission network, to enable allies to communicate through a single, specified network. This ensured interoperability and functionality of applications in support of host nations. This network is also tied into the 21st TSC's infrastructure, enabling the TSC to communicate in a combined environment.

The EEMN is a forcing function for mission command. This network encompasses a server-based application to ensure Army elements are displayed accurately on the battlefield while providing near real-time

messaging for all allied forces. The network is available only during exercises and periods of real-world contingency support, but it allows organizations to continually test the network's capacity and capability to communicate with allies and partners.

The 21st TSC, USAREUR, and NATO have taken steps to enable mission command throughout the USAREUR area of responsibility through both hardware and web-based application research. The 21st TSC will continue to pursue options that improve interoperability and communication with NATO allies and partner nations.

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