34ID Transformation in Contact Deployed
Operation Spartan Shield

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From April to August 2024, the 34th Infantry Division (ID) Headquarters became the first Army National Guard division to undergo transformation in contact while deployed as the Task Force Spartan Headquarters under United States Army Central (USARCENT) in support of Operation Spartan Shield (OSS).

From its initial notification from the chief of staff of the Army (CSA) in November 2023, until fielding started in April 2024, the scope and understanding of the equipment and its functionality fluctuated, both internally and amongst higher level organizations that were involved in the planning and execution. Only upon receipt of the equipment and undergoing both the New Equipment Fielding/New Equipment Training (NEF/NET) and the additional month-long Capability Set Integration (CSI) training throughout May-August 2024 were the equipment's purpose, capabilities and limitations understood – specifically as it relates to a division headquarters. Having recently completed our transformation in contact experience, there are four primary lessons learned I would like to share with the field.

The equipment. While not the primary focus of this article, it is important to understand the equipment sets we were fielded to better set the stage and understanding for the lessons learned.

The 34th ID was fielded Capability Set 23 (CS23) equipment, receiving over 300 pieces of new communications equipment and over 20,000 hours of training. CS23 was comprised of three primary groups of fieldings: Integrated Tactical Network (ITN), Network Modernization (NETMOD), and Nett Warrior. The following is a brief summary of each:

ITN is a tactical radio set that operates at the Sensitive but Unclassified-Encrypted (SBU-E) level. It also provides the multiple paths and means for transmission of the Nett Warrior Tactical Assault Kit (TAK) software. In addition to the ITN equipment, 34th ID was fielded Ruggedized Applications Platform-Tactical Radios (RAP-TR) laptops, which have a suite of software applications and are the systems used to program the ITN equipment.

Nett Warrior's hardware consists of ATAKs (Samsung device to the Soldier level) and WINTAKs (PC software version for command posts, or CPs), which provide the SBU-E common operational picture (COP) and multiple means of communication and media sharing between devices.

NETMOD consisted of Terrestrial Transmission Line of Sight Radio (TRILOS), an upgrade from the existing High-Capacity Line of Sight (HCLOS) shelters used with WIN-T equipment; Commercial Coalition Equipment v4 (CCEv4), hardware that supports the Mission Partner Environment (MPE) enclave; Variable Height Antennas (VHAs), tethered drones for radio communications extension; Tactical Radio Integration Kits (TRIKs); and Mobile Broadband Kits (MBKs). The MBKs are ruggedized Cradlepoints used for cellular transmission, and the TRIKs act as voice and data gateways for the ITN equipment. In addition to the NETMOD equipment, 34th ID was also fielded four proliferated low Earth orbit (pLEO) Starshield terminals.

Lesson 1: 34th ID's transformation in contact provided unique insight into Total Army benefits of conducting modernization NEF/NETs while deployed in support of a Theater Security Cooperation-focused mission and the flexibility the command may have to leverage time, personnel, and resources to modernize the force.

The NEF/NETs and CSI training, which was extremely beneficial, would have taken two Annual Training cycles and several additional weeks on orders to complete. The time used deployed on Title 10 orders to conduct these NEF/NETs completed the job in a relatively short period and provided a cost savings of approximately $3 million that would have been required for orders and sustainment of Soldiers conducting similar training in a Title 32 status at home station.

When not deployed, the allocated seats for training are typically filled by those Soldiers that are available and raise their hands, resulting in lower availability of Soldiers to attend training and a mismatch in target MOSs that do attend. Conducting these while deployed resulted in max participation with the right people that possessed the right MOSs filling these training seats.

Additionally, NEF/NET while deployed provided minimal disruption to families, employers, and schools for the Soldiers that would have had to conduct significant additional training time back at home station outside of their statutory 15-day annual training periods and monthly drill weekends. For signal Soldiers that are already consistently asked more of than most due to the nature of setup, operation, and teardown of communications equipment in support of training exercises, this time back to the Soldiers and those that support them is a big win.

Soldiers from 34th ID participate in Variable Height Antenna training as part of Task Force Spartan. (Photo by Staff Sgt. Mahsima Alkamooneh, 34th ID)

Lesson 2: ITN and Net Warrior do not support distributed CPs and staff operations at the division level.

As C2 Fix aims to make the brigade combat teams (BCTs) more maneuverable and survivable, certain capabilities and staff functions are pulled up to the division level. ITN supports this effort at the brigade level and below, providing the SBU-E enclave for unclassified lower Tactical Internet (Lower TI) communications and pulling the more complex Upper Tactical Internet (Upper TI) networks and staff processes up to the division level. Divisions must continue to operate at the Secret level, as we unencumber the BCTs of most of this requirement.

By definition, SBU-E (Sensitive but Unclassified-Encrypted) does not support staff operations at the division level, as Secret-level requirements remain, and are in fact increased by, pulling these functions up from the BCTs. ITN and Nett Warrior works well for internal unclassified comms and movements but are incompatible with the bulk of the division-level staff requirements to conduct their modified table of organization equipment (MTOE) mission and large-scale combat operations (LSCO) for which higher levels of classification inherently exist. However, ITN and Nett Warrior at the division level is an additional network enclave that needs to be maintained above and beyond the existing NIPR and SIPR enclaves that are supported by WIN-T.

Additionally, as division-enabling battalions are stood up, like the intelligence and electronic warfare battalions, and division signal battalions, SIPR continues to be the primary network requirement at the division level. To better support survivability at the division level, where upper TI networks operating at the Secret level and above are required, the fielding of additional network equipment is necessary to facilitate further dispersion beyond what the current MTOEs support. While Starshields and TRILOS support this from a transport perspective, additional network equipment (such as TACLANEs or encryption devices, routers, and switches) is required to provide connectivity to an increased number of distributed CPs, further supplemented by additional reels of Tactical Fiber Optic Cable Assembly (TFOCA) for further dispersion of these distributed CPs.

Lesson 3: With an inability to field ITN and Nett Warrior to an entire division at one time, start from the bottom up.

ITN has a strong use case at the battalion and brigade levels. The communications resiliency and shared understanding provided by ITN and Nett Warrior equipment can benefit battalions and brigades immediately, from the squad level up to the brigade level. It also directly supports operations internal to the battalion or brigade levels and provides the communication network and a COP solution at the SBU-E level that primarily (or entirely) replaces COP solutions that resided on the Secret level networks previously using WIN-T.

ITN and Nett Warrior provide the interoperability of pushing products and communicating with subordinate units, only once classified staff products are refined into information or orders able to be shared at the SBU-E level. From an interoperability standpoint, fielding the division headquarters ITN and Nett Warrior without having any subordinates also having ITN to be able to communicate with is like having one walkie-talkie with no one on the other end. Divisions also need the sensor feeds and PLI data from the lower echelons that funnel up through SBU-E to the division level to populate the Secret-level division COP and for further processing by the intelligence community at classification levels higher than SBU-E supports.

There is also the requirement for "swivel chair" operations between the Secret level systems division staff primarily work on and then pushing data over the SBU-E network. There are Tactical Cross-Domain Solutions (TACDS) that assist with this, but we were not fielded these. Regardless, focus should be taken to ensure these are in place at the proper echelons and make compatibility as user-friendly as possible. Many issues can exist with "syntax" type errors on pushing info from secret to SBU-E if not submitted precisely within the defined parameters.

Because the division staff continues to operate primarily on Secret-level systems, it is imperative that

they be able to communicate with the brigades from their primary systems across domains reaching down to the ITN/Nett Warrior SBU-E enclave without having to waste precious time rebuilding products on a separate system because of the air-gapped networks.

All this being said, I would refer back to Lesson 1 if a division headquarters is identified to receive ITN and Nett Warrior and has a Title 10 mission like OSS that provides the command flexibility to conduct NET/NET, I would definitely recommend taking advantage of the Title 10 time to field the equipment (assuming equipment availability), even if this means receiving equipment before their respective subordinate brigades.

Lesson 4: Rapid updates to security classification guides (SCGs) and supporting guidelines are required to support implementation of ITN.

While deployed in the CENTCOM area of responsibility for transformation in contact, we found conflicting guidance on the ability to use ITN in theater due to the Position Location Information (PLI) the radios and Nett Warrior systems share. ITN operates unclassified (SBU-E), but much guidance for PLI in various theaters of operation and circumstances can still classify PLI data anywhere from unclassified up to the Secret level, without further clarification, specifically as it relates to the implementation of SBU-E. To properly implement ITN, SCGs and other authoritative

Soldiers from 34th ID conduct Terrestrial Transmission Line of Sight radio system setup. (Photo by Spc. Tyler Becker, 34th ID)

guidelines need to be updated to reflect PLI as authorized at the SBU-E level.

Overall, the experience of undergoing transformation in contact, from selection by the CSA, through NEF/NET and CSI execution, and finally refining our five-year division training guidance in light of the new equipment and need for increased survivability, has provided a wide spectrum of insight, perspective, and valuable lessons learned. With many more divisions to follow, I hope these takeaways provide valuable insight back to the field and a better understanding as the Army continues its rapid modernization efforts and evolves towards the Army of 2030 and beyond!