U.S. Army photo by PFC Rosio Najera, Operations Group, NTC

A U.S. Army Soldier assigned to 1st Battalion, 2nd Stryker Brigade Combat Team, 7th Infantry Division, Joint Base Lewis-McChord, WA, tactically maneuvers during Decisive Action Rotation 20-05 at the National Training Center, Fort Irwin, CA, March 10, 2020.

The Intelligence Warfighting Function in the Division Cavalry Concept

by Captain Jonathan Guelzo

Introduction

In the fall of 2020, I had the privilege of serving as the S-2 of a reconnaissance squadron during a rotation at the National Training Center. The purpose of this exercise, distinct from a typical brigade combat team rotation, was to test the ability of the division staff to rapidly deploy and control the fight from an expeditionary headquarters. In this construct, the division headquarters, division artillery, and combat aviation brigade all physically deployed to the National Training Center. The cavalry squadron received augmentation to replicate the role of a division cavalry squadron and also deployed to the National Training Center. The remaining maneuver battalions of the division's armor brigade combat teams replicated their effects in a constructive environment at home station. This permitted the live execution of a division staff exercise and the opportunity to test the division cavalry concept in real time. This article will discuss the experience of operations using new and old equipment within the structure of a reinforced cavalry squadron from the perspective of the intelligence warfighting function.

Task Organization of the Division Cavalry

Organically, the reconnaissance troops included Bradley Fighting Vehicles and M1A2 Abrams main battle tanks. These elements typically fight in a half-troop concept, providing the troop commander with multiple options during ground reconnaissance. The tank troop kept two platoons and remained in a "reconnaissance in-depth" posture to maneuver on friction points. Additionally, the squadron maintained rotary-wing support of AH-64 Apache helicopters

from the combat aviation brigade as well as an element of M109A6 howitzers in direct support from the brigade field artillery battalion. Lastly, the squadron made use of a dismounted scout platoon. The division's frontage represented the squadron's area of operations, with natural gaps between the troops because of terrain and speed of movement. The squadron commander retained two perpetual decision points related to the enemy's exploitation of these gaps. First, commitment of the tank troop to close a gap, and second, commitment of the aerial reconnaissance troop to close another. If direct fires could not achieve coverage of these gaps, targeted indirect fire and artillery-delivered obstacles provided an additional option.

Task Organization of the Intelligence Warfighting Function

Beyond the augmentation of the squadron's combat power, the intelligence warfighting function received support from across the brigade as well. The squadron is authorized multiple officers, noncommissioned officers, and enlisted personnel to support its intelligence efforts. An additional complement of intelligence Soldiers provided the necessary expertise to support both an expanded mission set and the shift requirements necessary to a larger formation. This support element was tailored to directly address anticipated needs prior to the activation of the task force and with oversight from both the brigade and division intelligence sections. The initial plan was to provide a primary cell of intelligence analysts at the tactical operations center (TOC) for both a day and night shift, a team at the combat trains command post to control operations during TOC movements, and one or more officers free to move with the tactical command post (TAC).

At the G-2 level, the entire division staff deployed forward, with the exception of the support area command post, which remained at home station and was responsible for the largely constructive rear fight. The G-2 divided an intelligence package between the division main and the division TAC. The division main, being the larger, fused the bulk of the intelligence reporting from the squadron with that from the other outstations and largely controlled the deep fight. The division TAC took over when the main jumped or during major operational muscle movements and controlled the close fight.

Intelligence Augmentation

Besides the extra personnel for the S-2 section, the intelligence warfighting function received support from the brigade Shadow platoon equipped with the JUMP 20 future tactical unmanned aircraft system for operational evaluation. This aircraft mirrors the capability of the Shadow with several important improvements. First, the system uses a vertical takeoff and landing capability that permits both launch and recovery without an airstrip or a launcher. Second, the system transports in a box on the back of a light medium tactical vehicle. Third, the motor is significantly quieter than that of the Shadow, to the point that we leveraged this as a deception method in conjunction with the Shadow unmanned aircraft system of the aerial reconnaissance troop. Prior to deployment, the squadron's plans incorporated the use of the JUMP 20 forward with launch sites in the vicinity of the TOC and layered with Shadow coverage from the aerial reconnaissance troop.

Photo by Sarah Tate

A U.S. Army Soldier assigned to 1st Engineer Battalion, 1st Infantry Division, conducts an engine start on the JUMP 20 prior to a launch during the future tactical unmanned aircraft system capabilities assessment at Fort Riley, KS, April 8, 2020.

The intelligence warfighting function also received support from the brigade electronic warfare (EW) team, equipped with vehicle-mounted and manpack systems to provide both detection and limited jamming capabilities to the dismounted force during movement. Additionally, the brigade engineer battalion provided vehicle-mounted systems for further signals intelligence (SIGINT). The predeployment plan placed the vehicle systems on the flanks for immediate detection alerts over the next intervisibility line.

The manpack system would dismount with the scout platoon, provide priority intelligence requirement confirmation or denial, and serve to queue information collection assets.

Organic Architecture

The squadron has on its modified table of organization and equipment (MTOE) several Command Post of the Future workstations, One Station Remote Viewer Terminals (OSRVTs), and Capability Drop 1 (CD1) laptops. We planned to use all OSRVTs for processing, exploitation, and dissemination of the live streams from the Shadow, JUMP 20, and any Gray Eagle assets available. We provided additional legacy OSRVT systems to each troop to pull video feeds. We also cross-signed additional systems from an adjacent battalion to include Portable Multifunction Workstations and Geospatial Intelligence Workstations for our geospatial intelligence imagery analysts. My intent at the outset was to distribute multiple OSRVTs and CD1 laptops among the TAC, the combat trains command post, and the TOC to provide a baseline intelligence processing capacity at all outstations and retain the Geospatial Intelligence Workstations at the TOC.

Employment of the Intelligence Warfighting Function by Asset

Details about employment of the following assets are described below:

- Battle tracking.
- JUMP 20 unmanned aircraft system.
- EW/SIGINT.
- U.S. Army Intelligence and Security Command (INSCOM) Cloud Initiative (ICI).
- CD1.
- Sensor to shooter (fusion).

Battle Tracking. Given the mission of the squadron to test an experimental concept, use of enablers evolved over time. Because of the coronavirus disease 2019 (COVID-19) precautions, the squadron conducted expeditionary reception, staging, onward movement, and integration and moved to an initial tactical assembly area within the first 5 days. Despite this rapid schedule, the actual training days would not start for some time, so some integration tasks continued on-site. The squadron successfully executed a TOC jump on the first day, demonstrating the ability to set up a fully functional TOC considerably faster than comparable units with the same MTOE strength.

The squadron TOC consisted of four standardized integrated command post tents with workstations along the walls, a battle table in the center, and the squadron commander's analog battle map displayed on a flat surface. The S-2 occupied a generous portion of the tent to accommodate the number of systems required. Our location gave us close proximity to both the fires cell and the analog map, so data transmissions received on one system could either transmit digitally over the network to another system or pass verbally to the adjacent warfighting function. Analysts managed reports from the higher headquarters via CD1 and the ICI and maintained the Microsoft Excel spreadsheet significant activities log. Numbered entries with corresponding numbered and color-coded icons represented significant activities on the analog battle map, permitting us to quickly identify the decay time of a given report. This process is similar to that described by 1LT Counihan in the April–June 2020 issue of the *Military Intelligence Professional Bulletin*.[1] To man the systems, the intelligence force split across a day and night shift with an officer in charge of each and leaving the squadron S-2 free to support planning efforts with the staff. Finally, the additional personnel offered an opportunity to embed company intelligence support teams with each reconnaissance troop to refine organic reporting.

Photo by Sarah Tate

A U.S. Army Soldier assigned to 1st Engineer Battalion, 1st Infantry Division, conducts flight operations through a laptop-based ground control station during the future tactical unmanned aircraft system capabilities assessment at Fort Riley, KS, April 8, 2020.

JUMP 20 Unmanned Aircraft System. The JUMP 20 represented multiple challenges for the squadron and division to overcome, particularly concerning airspace. On the whole, however, the system worked admirably. We planned to use it in the same manner as the Shadow, but the flexibility of the vertical takeoff and landing capability vastly increased the degree to which we could accommodate our collection plan. The JUMP 20 launched from any area with a suitably flat surface because it is not constrained by the requirement for a hardball surface or existing runway. Additionally, the compact nature of the system allows a relatively small-sized support team to easily pack up and move the system. This allowed more frequent TOC jumps that increased the operational range coverage of the airframe ahead of our forward line of troops. The JUMP 20 has eliminated another common problem—the challenges of communication with the control station without the TOC tethered by relative communication range to the nearest flight line. With the TOC established within communication range of a feasible launch site, a commander's operational map opens up dramatically without affecting the information collection capability. The bottom line is that the JUMP 20 is a highly versatile system. By the conclusion of the exercise, the JUMP 20 successfully identified the enemy main defensive belt, TOC, and bivouac area. Given that the JUMP 20 operates from any TOC location, however, it is vital that planners incorporate the development of restricted operations zones during the home station military decision-making process to have available launch points plotted across the area of operations. This provides the commander with ready options and prevents delays and interruptions to the information collection plan.

Electronic Warfare/Signals Intelligence. The dismounted EW team deployed with the scout platoon and provided reports that enabled the platoon leader to cue his observation posts for visual observation. While these did not come back to the S-2 section as EW reports, the detail of the scout platoon's reporting made them a valuable asset. Largely an afterthought in planning before deployment, the scouts quickly became a primary player in the collection role. According to the observer coach/trainers (OC/Ts), this was the first time a section had successfully dismounted and operated a manpack signal interception and jamming system with a scout team at the National Training Center. The vehicle-mounted system also provided accurate reports of enemy activity, which we used to cue the JUMP 20, positively confirming both targets. In addition to the EW systems, the squadron received information from theater-level SIGINT assets that populated reports through the ICI and the ChatSurfer app embedded within ICI. This capability provided clarity on the overall disposition of the enemy; however, exercise limitations prevented full employment of the capability, artificially limiting the results, particularly in relation to targeting.

INSCOM Cloud Initiative. ICI's collective data sourcing helped to quickly establish a picture of the enemy on the battlefield when we first got on the ground. The benefit of having live data in a system and seeing it instantly when turning on a computer cannot be overstated. The squadron was quickly able to identify the general areas of enemy concentration. Even in situations where reports did not fully reflect ground reality, the program served as an effective "heads-up display" to the intelligence planner and the commander. It also provided an excellent depiction of natural lines of drift even when using historical data.

The benefit of ICI is that, as a web-based platform, any computer can run it. As such, it remained open on our CD1 laptops, an easy point of reference when the upper tactical internet ran, and easily minimized and out of the way when it did not. If exercise refinements are possible within ICI, it will be an excellent augmentation of traditional reporting, but it should never fully replace a hardened, offline system.

Capability Drop 1. I found the CD1 system to be excellent; however, the impression I gained when speaking with leaders outside of our organization was that the momentum within the intelligence community is moving us to internet-based systems because of the difficulty experienced at every echelon in maintaining the Intelligence Fusion Server (IFS) stacks. After working with CD1 in a field environment for a month, I think this conclusion is premature for two reasons. First, and more important, is that there is no replacement at the battalion level, so if the upper tactical internet fails, the unit loses connection to web-based platforms. Second, there is not enough data to determine whether it is effective because few units have truly used CD1 in the field. We fielded ours in January 2020, and this was our first opportunity to use it in a major training event. Nevertheless, our OC/Ts told me this was the first time a unit had published an overlay to a higher unit's IFS, which we did in the first 24 hours. Our motivated warrant officer and talented junior Soldiers proved it could work. They made it talk to fires and showed what an excellent capability it is.

The CD1 in stand-alone mode worked well when the network was down. Battle tracking still occurred, and the common intelligence picture remained up to date. The ability to use the Geospatial Intelligence Workstation and CD1 for planning was excellent. Using imagery on the Geospatial Intelligence Workstation, our geospatial intelligence imagery technician created obstacle overlays of the training

U.S. Army Photo

U.S. Army Soldiers rely on the Distributed Common Ground System-Army (DCGS–A) for timely, relevant, and accurate information to understand their operational environment, assess threats, and achieve their missions. DCGS–A consolidates the functions of multiple intelligence, surveillance, reconnaissance, geospatial, and weather systems in a secure, distributed, and collaborative environment.

box on the CD1. This allowed me to provide pre-mission updates to troop commanders and platoon leaders, giving specific information on dead space, intervisibility lines, and elevation. Providing this kind of data gives credibility to the warfighting function and increases the trust a junior officer has in their intelligence support cell. More importantly, it allowed precision targeting for the use of artillery-delivered obstacles. Observing three valleys in the north of the National Training Center box, the Geospatial Intelligence Workstation imagery gave us exact grids for the start and end points of the obstacle belt, preserving ammunition and limiting the occupation time of our guns.

Sensor to Shooter (Fusion). Improvements are always an upshot of any major training exercise, and this one is no different. Our augmented team for this National Training Center exercise, cobbled together from across the brigade, did admirable work as a team without prior operational experience, and the limited issues I encountered were primarily professional growing pains rather than systemic issues. Most of the shortcomings in data processing and transmission at the squadron level are solvable at the brigade level, in the form of the brigade intelligence support element. If the division cavalry squadron continues to be authorized the assets we received for the National Training Center, a separate fusion element must exist to translate this data for the user. Whether we call it a brigade intelligence support element or something else, it is important to process the information received into actual intelligence before dissemination. It is also important that this information make it into deliverable reports that the intelligence team provides directly to the troops.

In spite of these challenges, by the final 48 hours of the exercise, the intelligence warfighting function reached a new level of fusion. With the JUMP 20 airborne, the geospatial intelligence imagery analysts would identify a target, hold the unmanned aircraft system over it, and pass the grid to an intelligence analyst who would plot it on the CD1. With a click of a button, the analyst generated an electronic fire mission and sent it to the Advanced Field Artillery Tactical Data System (AFATDS) in the fires cell. The AFATDS operator processed the data, cleared ground with the battle captain, and sent the mission to the guns. The smoothness of the largely automated process prevented unnecessary side chatter in the TOC, reduced the chance of mistakes through manual transmissions of data, and dramatically accelerated the fires process. Key to this is the role of the CD1 as a carrier of actionable intelligence.

Conclusion

Replete with the assets provided to it, the reinforced cavalry squadron is an intimidating force on the modern battlefield. As such, it needs a practiced structure through all warfighting functions. Fortunately, equipment exists to improve this process, and improvement comes with practice and repetition. Critically, this rotation proved that the division cavalry, and specifically the intelligence warfighting function within it, is a viable, feasible, and practicable solution to a division reconnaissance problem. A small intelligence support element proved it could control an unmanned aircraft system platoon at the squadron level in an austere, expeditionary environment. We showed that CD1 is a functional, user-friendly, and fast intelligence processing system. We used EW and SIGINT to cue multiple battlefield assets and improve the enemy assessment. We demonstrated our ability to maintain a common intelligence picture during periods of communications

degradation and in tactically vulnerable locations. Most importantly, given that the squadron developed this structure without a formal written doctrine and staffed it during the COVID-19 pandemic, I am confident in the increasing success of future evolutions of the division cavalry at the National Training Center.

Endnote

1. Christopher K. Counihan, "How to Make Sense of Battlefield Reports Using Analog Methods," *Military Intelligence Professional Bulletin* 46, no. 2 (April–June 2020): 32–35.

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U.S. Army photo by SGT Russell Youmans, Operations Group, NTC

A U.S. Army Soldier assigned to 1st Infantry Division, Fort Riley, KS, performs radio operations atop an M1A2 Abrams Tank during Decisive Action Rotation 20-10 at the National Training Center, Fort Irwin, CA, September 20, 2020.