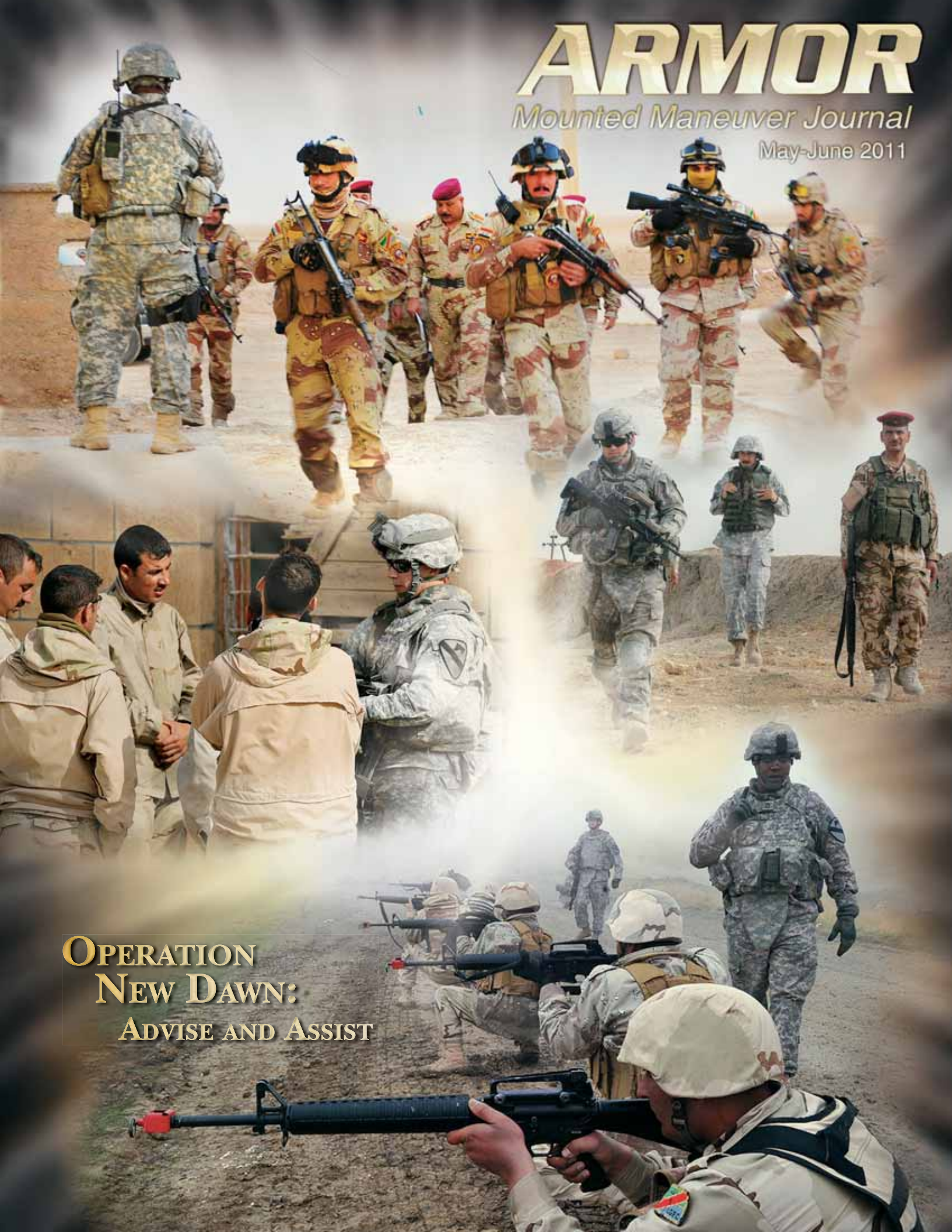


# ARMOR

*Mounted Maneuver Journal*

May-June 2011



**OPERATION  
NEW DAWN:  
ADVISE AND ASSIST**



# ARMOR

The Professional Bulletin of the Armor Branch, Headquarters, Department of the Army, PB 17-11-3

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Commandant  
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# LETTERS

## History of the Tanker Statue

Dear *ARMOR*,

Throughout history, many noteworthy events have been lost, which is what inspired me to make note of the considerable efforts made by armored force veterans to erect a statue of a World War II "tank soldier."

During World War I, the cavalryman lost his horse in warfare and early tankers were often mortally abused by engine heat, gas fumes, and claustrophobic enclosure. During World War II, the cavalryman had his spirit and tradition transferred to the jeep and armored car. The new tank soldier (U.S., German, British, Russian, etc.) was an entirely different breed, epitomizing modern mobile land warfare and earning every ounce of the glorification he received. The tanker shortened the war in Europe by a year.

In 1972, at the conclusion of the "Main Battle Tank Task Force" at Fort Knox, the ode to a tanker resurfaced in the anticipation of the new M1 tank. Lieutenant Colonel John Campbell, a member of the task force, retired and became the director of the Patton Museum. He quickly learned that the Patton Museum Foundation was not interested in sponsoring or providing funds for a World War II tanker statue; its priority was getting funds to build a new wing for the museum.

For some years, John Campbell and others lobbied for a sponsor. The statue was to be larger-than-life at 10 to 12 feet in height. The "Buffalo soldier" statue, which sits at the front gate of Fort Huachuca, Arizona, is a superb piece of work. It was this style of work that was desired, but the effort was abandoned in 1985. The sad part of the story is that the armored force should not be solely represented by the cavalryman, "Old Bill," but also by a tank crewman, who was usually dirty and greasy, wearing a coveted tanker jacket and a football helmet with goggles.

This armor soldier deserved better recognition than he received. He was the backbone of the combat arm of decision. I think that some of the young fellows may not be aware of the tank crews' contribution to the success of the U.S. Army's Armored Force in combat during World War II.

In 1992, after many years of anticipation, the city of Radcliff, Kentucky, next to Fort Knox, erected a monument at Radcliff City Hall — an 18-foot, gold-toned, tri-pointed Armor Branch patch-shaped design — as a tribute to the armor soldier.

BURTON S. BOUDINOT  
LTC, U.S. Army, Retired  
(Born in the 8th U.S. Horse Cavalry)

## A Horse by Any Other Name Dismisses Critical Historical Facts

Dear *ARMOR*,

I read with interest Major Eric Duckworth's letter to the editor, "Focus on the Mission Not Platform: A Horse by Any Other Name is a

Tank," in the March-April 2011 edition of *ARMOR*. Major Duckworth seems to brashly make the misinformed claim that, "it is difficult to find an effective medium tank after 1960, as they evolved into heavier main battle tanks." I am afraid that this statement is indicative of (mostly) younger folks who do not know or understand recent past history and are sadly often doomed to repeat it.

During the Vietnam War (from roughly 1965 to 1970), both the U.S. Army and Marine Corps sported the M48 Patton medium gun tank. This (for its time) amazing tank performed admirably as both an offensive and defensive (putting it in the modern day terminology) "weapons platform." Not only did the M48 rule the battlefield for several decades on both sides of 1960, but its brother medium gun tank, the M60 Patton, was deployed up to and during Operation Desert Storm. Why the American military decided to use these wonderful tanks as filler in the offshore artificial reef system is beyond my comprehension. Semper Fidelis!

JOHN WEAR  
U.S. Marine Corps, Retired

Dear *ARMOR*,

With technology available in the fields of automation, optics, video, and electromechanical servers, and the engineering wizards that apply this technology to feed and process material, I have yet to see slave/fixed firing position (FFP) remotely controlled weapons station (RCWS) used on U.S. military vehicles. To clarify, a slave RCWS is designed to follow the remote gunner's movement; a FFP is similar to the 30mm cannon on an Apache helicopter, but capable of 360-degree fire.

Both of these weapons stations have much to offer: they can be designed and mass produced to drop into any size vehicle; they can have multiple gunners; the gunner's remote location is protected from exploding ordnance and fire; turrets would have smaller, less vulnerable configurations; turrets have the capability to mount larger, as well as a variety of, weapons, including aiming, vision, and detection devices; and heavy weapons (20-40mm

cannon, main gun, grenade launchers, etc.) can be fired more accurately from fixed position, power-assisted mounts. Keep in mind, however, that cannon and heavy main guns should not compete for targets, and between the slave FFP and RCWS designs, the FFP offers the less complicated option.

Naturally, there are some problems, which include a requirement for the guns to have features, such as the "chain" and "Gatling," to clear failed rounds; some protected access for vehicle crew members; the possibility of the RCWS having complicated weapons loading features that may make reloading by hand difficult in a field environment; and establishing if a person in a fixed position can orient themselves to fire in a 360-degree arc.

To address some of these concerns, possible configurations include a normal box or cupola-type turret designed to elevate or depress internally or externally mounted weapons; an oscillating turret with internally or externally mounted weapons; an oscillating pylon on the top of the turret, which is level with the top of the vehicle and equipped with externally mounted weapons; and an oscillating turret with a fixed pylon with externally mounted weapons. Note that all ammo supply would be internal from spindle/spool or tub/bin storage configurations.

With the speed of today's attacking aircraft, the value of gun-type weapons for anti-aircraft defense is both tactically and economically questionable. "Seeing" hand- or vehicle-launched missiles are more promising; however, at least one automatic weapon needs a high angle of fire for urban combat.

There is a need in armor's inventory for a simple, mass-produced, air-portable (16-18 feet), 3-crewed, tracked, heavily armored (30-35 ton) vehicle on which a RCWS is most suited. An engine front, crew center, or RCWS rear design seems practical. To give this design "tank" value, it requires a bustle of select-mode, vertically launched, fire-and-forget antitank/bunker-buster/antihelicopter missiles in the 2,500-3,000 yard range, which have yet to be developed.

JEROME E. RANDA

## ARMOR "MOVES OUT"

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# COMMANDANT'S HATCH

BG Ted Martin  
Commandant  
U.S. Army Armor School



## Reconnaissance Summit Update

*“Army forces capable of combined-arms maneuver and wide-area security operations are an essential component of the joint force’s ability to achieve or facilitate the achievement of strategic and policy goals.”*

— General Martin E. Dempsey

The Armor School hosted its first annual Maneuver Center of Excellence (MCoE) Reconnaissance Summit at Fort Benning, Georgia, from 6 to 8 April 2011. The conference focused on examining current reconnaissance organizations in our modular brigade combat teams (BCTs) and the battlefield surveillance brigade (BfSB) within the framework of the Army Operating Concept (AOC), which guides revisions in Army doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF). As AOC seeks to implement operational adaptability, the key component is the Army’s ability to simultaneously execute multiple variations of operations, such as conducting combined arms maneuver (CAM) and wide-area security (WAS), within the context of full-spectrum operations.

During the conference, we immersed reconnaissance stakeholders in a series of blended training vignettes executed in live and gaming domains, which was accomplished through four reconnaissance-focused tactical vignettes, using Virtual Battle Space 2 (VBS2) and live role-players. These interactive and immersive blended training events were further enabled by thought-provoking updates from AOC authors, as well as updates from the National Training Center (NTC) and Joint Readiness Training Center (JRTC), on the implementation of full-spectrum rotations. These updates provided the conceptual framework to understand how the Army expects to operate in the multiplayer environment of 2016-2028.

To further expand the focus of the discussion, Reconnaissance Summit participants were organized into four small groups and aligned with specific modular BCT recon-

naissance organizations and the BfSB. Each distinct small group executed selected WAS and CAM tactical vignettes. At completion of each tactical vignette, a senior leader from MCoE led a short facilitated discussion on DOTMLPF implications on current reconnaissance organizations while conducting both CAM and WAS missions. This subject naturally generated focused, professional discussion on how to best adapt current reconnaissance organizations to fully enable WAS and CAM on future battlefields.

The summit produced invaluable ideas that will collectively work together to provide a basis for continued institutional adaptation across our Army. The functions of DOTMLPF will greatly aid in how Army forces conduct operations to deter conflict, prevail in war, and succeed in a wide range of contingencies in future operational environments (OE). The Reconnaissance Summit identified several gaps in current capabilities required to ensure armor and cavalry forces are capable of CAM and WAS operations, as well as maintaining preparedness for future hybrid threats:

**Doctrine.** Current reconnaissance doctrine fails to address the increased requirement for air-ground integration, the role of mission command, and the evolving role of traditional security operations (screen, cover, guard) within the framework of WAS and CAM.

**Organization.** Reconnaissance squadrons require more dismounted scouts, which will provide the ability to extend the network down to dismounted scout teams and add more organic mortar capability to support distributed WAS operations.

**Training.** Training for WAS and CAM is more complex than conventional training; a higher level of proficiency is required with digital systems and air-ground integration at troop level and below. Similarly, our combined arms training strategies require revision to ensure that we are fully leveraging the entire live, virtual, constructive, and gaming (L-V-C-G) training

domain to fully replicate the complexities of future operational environments.

**Materiel.** There is a great deal of concern about our scouts riding in up-armored HMMWVs; therefore, during the summit, our working groups realized the need for a dedicated light reconnaissance vehicle. The group further identified the need to continue developing L-V-C-G capabilities, which uses avatars in an immersive training situation to train complexities of future battlefields.

**Leadership and education.** There is a need to expand leader development to better prepare leaders for the moral and ethical challenges associated with reconnaissance during CAM and WAS. We must adapt leader development models to more effectively train junior reconnaissance leaders by building a base of experience necessary to transition seamlessly between WAS and CAM. We must integrate and train mission command and operational adaptability as a function of leader development.

**Personnel and facilities.** Although not the focus of discussion during the reconnaissance summit, an important emerging insight is the interdependence between skilled and qualified Soldiers and a scalable and immersive integrated training environment (ITE) that replicates the ambiguity and complexity of the future OE. More than ever, a network of distributed facilities and L-V-C-G training capabilities is required to ensure the availability of qualified Soldiers for future contingency operations.

We know the way ahead and will ensure that our scouts are ready to tackle whatever threats the future holds.

Driver, move out!

## From the Boresight Line:

# Heavy Brigade Combat Team Gunnery and the Future of Armor

by Sergeant First Class Beau W. Barker

The U.S. Army's Field Manual (FM) 3-20.21, *Heavy Brigade Combat Team (HBCT) Gunnery*, provides commanders the flexibility to tailor gunnery training programs based on the unit's current mission-essential task lists (METL) and future missions. Keeping this in mind, the master gunner is, and should be, the commander's right-hand man, advising and identifying correct and incorrect applications regarding minimum proficiency levels (MPLs), scenario difficulty, and logical layout of the gunnery table.

There have been numerous questions and comments about how the new HBCT gunnery manual differs from FM 3-20.12, *Tank Gunnery (Abrams)*, including likes and dislikes, pros and cons, and threat-based gunnery versus performance gunnery. Despite how anyone might feel about the manual and its methodologies, it will only improve through constructive input. Below are some examples of questions and comments raised:

*Gunner announces range to target.* FM 3-20.21, *HBCT Gunnery*, requires the gunner to announce the range to target, which is identified or applied to an engagement prior to the command of execution. "We've never done that before," is not the correct answer. Announcing the range was specifically added to the conduct of fire for several reasons:

- It allows the vehicle commander (VC) to exercise the "fire and adjust" command and maintain situational awareness during the gunner's engagement.
- It ensures the gunner verifies the range to target prior to firing, which is crucial for both experienced and inexperienced gunners. Although a figure of speech, too many gunners take the adage "lase and blaze" literally, thereby failing to proof their ranges prior to firing, which results in numerous first and subsequent misses.
- It eliminates the requirement for the VC to constantly look through his extension optic to validate a range to target prior to giving the command to execute.

*Timing of offensive engagements.* The main issue is between performance-based gunnery (FM 3-20.12) and threat-based



gunnery (FM 3-20.21). Performance-based gunnery allots the crew a designated amount of time to engage all targets presented and results in either qualification or nonqualification. Within threat-based gunnery, the crew is allotted a certain amount of time for each individual target, based on its capabilities, to hit and destroy the platform that the crew is manipulating.

To better prepare inexperienced (due to current operational tempo) armored crewmen, they have been given the toughest and fairest training to date. Threat-based gunnery takes into consideration our capabilities of firepower and protection versus those of current top-of-the-line threat armor, infantry fighting vehicles, unstabilized antitank guided missiles (ATGM), and dismounted personnel. The T-90U, BMP-3, and most advanced ATGMs were chosen as models on which to base scoring matrices.

*Mk 19 versus M240 versus M2HB timing standards.* This methodology, selected by the Maneuver Center of Excellence (MCoE), was threat based and not performance based. Master gunners must be attentive of the weapons systems employed when developing gunnery scenarios. Time of flight, range to target, probability of hit and kill, firing vehicle posture, and other MPLs must be taken into account during development. This issue can be resolved with additional master gunner training, resourcing, development, and mentorship throughout all levels. If issues persist, request doctrinal assistance through MCoE's doctrine division.

*Vehicle crew evaluator (VCE) support.* VCE support should be taken seriously. To properly evaluate tank crew qualifica-

tion and remove any biases from sister organizations, maximum efforts should be made to seek external VCE support. Establishing any level of unit VCE scoring standard, other than the Army standard, is counterproductive to doctrinal requirements. All 'interpretation issues' should be directed to the MCoE doctrine office subject-matter experts for all doctrine-related gunnery issues.

To sustain and maintain the knowledge passed on by our forebears, commanders and master gunners should focus on the current readiness of the armored force. When we are gone who will pick up where we left off? Does the soldier understand the operation of the fire-control system as he lases and pulls the trigger to achieve a first round target hit; or will the soldier who has no experience with the fire-control system wonder why he keeps missing targets? Do we increase our levels of proficiency through tough, *realistic* training; or do we stay within our comfort zone and toe the line with older standards? There are always minor issues with any new publication, but all it takes is input and collective thought to achieve a better and more refined gunnery training program.

There is much the commander and master gunner can do with FM 3-20.21; however, the first step is to ensure that published doctrine provides the most effective and realistic gunnery training program for tank crews. Commanders and master gunners can create their own scenarios, which can be as difficult or as simple as they desire. From the crew practice course to the crew qualification course, we mold our crews into the most lethal armored fighting force in the world.



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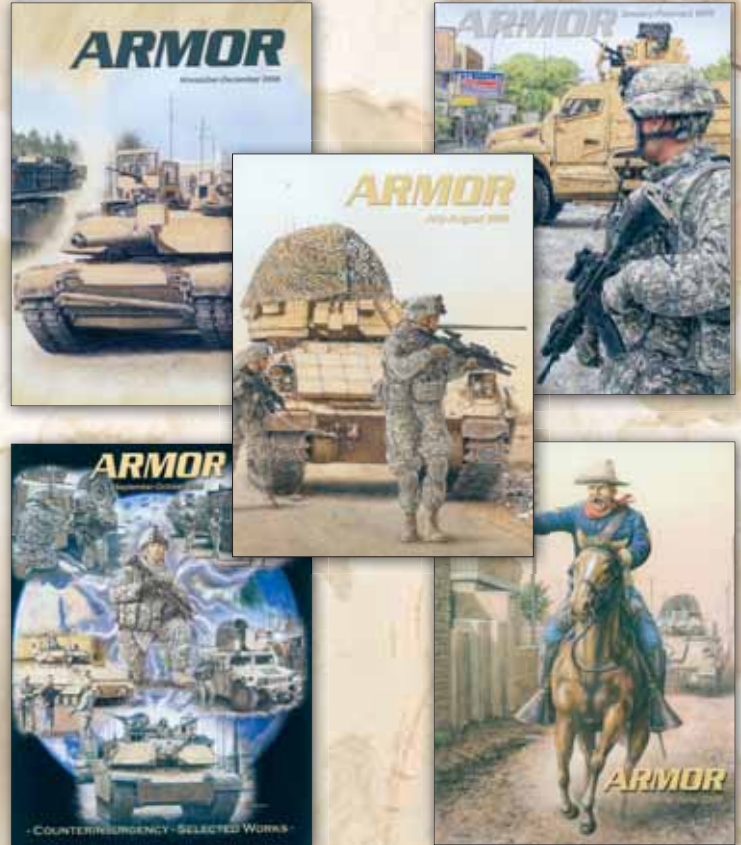
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# INNOVATIVE APPROACHES

by Major Thomas Sills and First Lieutenant James Langlois

On 1 September 2010, United States Forces-Iraq (USF-I) transitioned to Operation New Dawn (New Dawn), which officially marked the end of Operation Iraqi Freedom and combat operations by U.S. forces.<sup>1</sup> As a part of New Dawn, approximately 50,000 U.S. troops remain in an advise, train, and assist (ATA) role to provide support for Iraqi security forces (ISF). To support transition to stability operations, the U.S. Army developed advise and assist brigades (AABs), which are built around the modular design of traditional brigade combat teams.<sup>2</sup> However, they focus training on stability operations and are augmented with stability transition teams (STTs). Consisting of more than 40 senior and experienced field grade officers and noncommissioned officers (NCOs), STTs establish direct partnerships with Iraqi division-level organizations.<sup>3</sup>

On 18 October 2010, 4th Advise and Assist Brigade, 1st Cavalry Division (4/1 AAB), known as the “Long Knife Brigade,” completed a relief in place/transition of authority with 2d Brigade Combat Team, 3d Infantry Division, in Mosul, Iraq. The brigade assumed an area of operations (AO) encompassing the Iraqi Provinces





of Ninewa, Dahuk, and Erbil, which covers more than 93,000 square kilometers, to include 11 major cities with more than 50,000 residents. Mosul is the largest city in the brigade's AO, the capital of Ninewa province, and Iraq's third largest city of approximately two-million inhabitants.<sup>4</sup> Mosul is 400 kilometers north of Baghdad and is divided by the Tigris River.<sup>5</sup> The Ninewa operations center, an Iraqi corps-level command equivalent, serves as a provincial command and coordination facility between the Iraqi army (IA), Iraqi police (IP), federal police, and Kurdish security forces (KSF). The operations center's major subordinate organizations include the 2d and 3d IA Divisions, the 3d Federal Police Division, and Ninewa directorate of police. The 2d IA Division's AO includes the eastern half of Mosul and extends into the provincial rural areas north, east, and south of the city. The 3d IA's AO extends from sections of western Mosul to the Syrian border; the 3d Federal Police Division and Ninewa directorate of police control western Mosul.

Arguably, the most demanding mission facing the AAB on its arrival was oversight of the combined security mechanism in the Ninewa Province. This mechanism serves as an arbitration method to ease Arab-Kurd tensions, prevent violence to minority groups, and create transparency between ISF and KSF in specific disputed areas of northern Iraq.<sup>6</sup> To execute the combined security mechanism mission, U.S. Division-North (USD-N) built 22 combined checkpoints (CCPs) in early 2010 throughout the disputed areas of northern Iraq. The 4/1 AAB assumed eleven CCPs when it arrived in October. These positions combine elements from the IP, IA, KSF, and U.S. Army platoons/companies to form a combined security force (CSF), collectively known as the "Golden Lions." The 4/1 AAB was required to devote a significant quantity of personnel and resources to operate these CCPs. Given the significant sustainment and operational requirements and other responsibilities, how could the brigade best maximize its training capacity to conduct meaningful ATA activities?

#### **Al Ghuzlani Warrior Training Center and ATA Efforts with the 3d IA Division**

For the past 7 years, the ISF concentrated its efforts on conducting counterterrorism operations. As the IP began to assume responsibility for securing more areas across the country, Iraqi leaders began to realize the need to prepare the IA for the traditional/primary mission of defending the country against external threats. From 2003 to 2005, U.S. efforts to rebuild the IA placed more emphasis on developing large numbers of formations to halt a burgeoning insurgency than on developing effective junior leaders. By 2006, U.S. and Iraqi military leaders implemented significant measures to professionalize the IA.<sup>7</sup> These efforts included improved officer and NCO professional development courses, specialty training, and increased unit training.

By 2010, few (if any) Iraqi commanders had the resources, time, or ability to release their forces to conduct substantial collective training on conventional offensive and defensive military tasks. To address this issue, in late 2010, the Iraqi ground force command (IGFC) issued an official order directing select divisions to immediately conduct battalion-level collective training. The

#### **Traditional Iraqi Training Center**

- Maintenance
- Basic marksmanship
- First aid techniques
- Drill and ceremony
- Room clearance procedures
- Traffic checkpoint procedures

#### **Ghuzlani Warrior Training Center**

- Fundamentals of the offense
- Fundamentals of the defense
- Platoon, company, and battalion battle drills
- Principles of patrol
- Establish an aid station
- Scout/sniper techniques
- Mortar/ground integration
- Battalion staff development
- Concurrent field sustainment activities

new efforts became known as "Operation Al Tadreeb Al Shamil" (all inclusive training). The new IGFC directive incorporates basic skills with more complex maneuver training. Further, the order directs that IA battalion exercises include additional training for its support elements. This new approach represents a significant shift from past training events that focused on basic maneuver and marksmanship skills.

The 4/1 AAB commander and brigade operations officer began developing a training program consistent with ATA goals weeks before the IGFC's order was issued. However, a program focused on core squad- and platoon-level maneuvers was the initial intent. In November 2010, the brigade held discussions with ISF leaders to determine how the brigade could best assist the 3d IA with Op-

eration Al Tadreeb Al Shamil. When the 4/1 AAB commander presented his concepts to the Ninewa operations center, the Iraqi general immediately became interested in the idea and inquired about the possibility of expanding the training to include company-level training lanes, a technique for training companies, platoons, and sections in selected soldier, leader, and collective tasks using a specific situational training exercise. Soon thereafter, construction began at an abandoned training area adjacent to Contingency Operating Site (COS) Marez, which would later become the Al Ghuzlani warrior training center.

The 4/1 AAB expanded its area and created challenging light infantry training lanes. The training area is textbook terrain for executing this type of mission; the area has rolling hills, unimproved road networks, abandoned buildings, and concrete bunkers carved into various hills. Tasked with operating the warrior training center, 1st Squadron, 9th (1-9) Cavalry, refitted the old bunkers with light sets, chairs, and sand tables to serve as briefing and planning bays. During training scenarios, Iraqi formations maneuver to an objective while encountering various unknown scenarios and facing opposing forces. Blank ammunition and pyrotechnics provide a greater degree of realism to the training and the exercises are designed to be physically and mentally demanding. This type of training has been used throughout the U.S. Army to build soldier confidence and form cohesive units. Ironically, the training site, originally intended to train only platoons and squads, has evolved to accommodate an entire battalion live-fire exercise.

The brigade developed a 4-week training plan through a series of consultations with the 3d IA Division commander. The first week of squad training consists of warrior tasks skills and squad fundamentals, which serve as a foundation for follow-on weeks. Specific tasks include camouflage techniques, movement under fire, principles of patrolling, fundamentals of reconnaissance, and battle drills during urban conditions. While IA enlisted soldiers attend individual classes, IA platoon leaders and company commanders conduct concurrent leader training and preparations for upcoming collective events. The second training week focuses on platoon-level exercises and battle drill proficiencies. This training prepares company commanders and the battalion commander for company-level training. Simultaneously, the battalion staff begins planning the fourth week of training.



*“U.S. Army soldiers train Iraqi and Kurdish enlisted soldiers on small unit and basic individual tasks. U.S. Army company grade officers oversee mission planning, coordination activities, and other leadership responsibilities. Within a short time, these leaders began to mentor Iraqi counterparts on these duties. By December 2010, Iraqi and Kurdish junior officers began executing combined patrols and conducting various leaders tasks.”*

The third week involves various company-level exercises. Concurrent with maneuver and leader training, the training center exercises the IA's support elements. The food service sections prepare and deliver hot meals to units inside the training lanes. Iraqi radio operators also exercise their equipment and solve communications problems. Concurrent classes include small arms repair, field tactical questioning, wheeled vehicle maintenance, communications systems, and battle staff tracking. During the last week of training, Iraqi companies train as one battalion and training culminates with a final battalion-level exercise, known as “Operation Spotted Leopard.” This live-fire exercise incorporates indirect fire from the battalion's mortar battery with a battalion assault on a fortified position.

The brigade shifted substantial resources and personnel to ensure the success of the warrior training center. First, the brigade reassigned 1-9 Cavalry headquarters, along with its Apache and Crazy Troops, to operate the center. The brigade also reassigned six field grade officers and one senior NCO (from the STTs) to serve as trainer/mentors, and shifted linguists throughout the brigade. The 1-9 Cavalry, with brigade assistance, created light infantry maneuver lanes, command post areas, mock buildings for room clearance exercises, patrol briefing rooms, and a logistics support area (LSA).

The warrior training center challenges IA leaders in many new ways by placing responsibility on Iraqi commanders to deploy their forces using their own equipment and supply systems. Traditionally, Iraqi units deploy to established facilities that have infrastructure and services established; in this case, the Iraqis de-

ploy and operate under field conditions for one month. They exercise sustainment, communications, and administrative functions in new ways; for the IA, this training is a deployment. Further, warrior training center rotations provide IA battalion commanders with their first opportunity to address all members of the unit as one formation.<sup>8</sup> The overall purpose of the training is not only to improve the conventional capacity of IA battalions, but also to educate Iraqi leaders on sustainment training management for their units. When asked his opinion about the warrior training center training, the commander of the 1/11th IA Battalion remarked: “I am very open to new kinds of training as it makes my battalion better. Initially, we did not understand the U.S. [Army] lane training exercise concept, as we have never done that method. Now, we embrace it as a very effective way to train. My battalion has been manning checkpoints and performing searches since 2007. Most of our training is directed by the 3d Division or the IFGC headquarters. ...If training is a priority, we will continue collective, performance oriented training.”<sup>9</sup>

Ideally, IA commanders will prepare their units for an upcoming warrior training center rotation much like U.S. Army commanders prepare for a training event at their combat training centers (CTCs). When the U.S. Army introduced CTCs in the 1980s, many units struggled to accomplish basic collective tasks; however, over time, U.S. Army leaders learned how to conduct complex, multilevel operations. In many ways, the warrior training center could have a similar impact on the professionalization of the Iraqi army. After the first graduation on 27 January 2011, senior ISF and U.S. military leaders remained very upbeat about the program. By January, senior IA officials were even consid-



ering converting the warrior training center into a permanent national training center.<sup>10</sup>

Ironically, the warrior training center was not the first training center 1-9 Cavalry converted from an abandoned structure. At the al-Kisik IA base (headquarters to the 3d IA Division), Bandit Troop, 1-9 Cavalry developed a training center to improve the basic soldier skills of the 3d IA Division's commando battalion. The U.S. troop commander began his deployment by meeting various IA commanders. During a meeting with the Iraqi commando battalion commander, the U.S. troop commander explained his ATA mission and offered his unit's help with training the commandos. The Iraqi commando battalion commander took up the offer and provided the U.S. troop commander with a series of training tasks. From this point, the unit transformed a vacant barracks facility into a training site called the "Joint Forces Security Training Center (JFSTC)." The new training site requires a minimal staff of instructors and few resources. Initial training focuses on first aid, room-clearing procedures, air assault operations, reflexive fire procedures, and tactical site exploitation. Daily classes are held for only 3 hours (0900-1200 hours) and most classes have 10 students, which include one officer, one NCO, and eight soldiers. The initial course encompassed only one week (six training days) and concluded with a culmination exercise that used all the skills trained at the JFSTC.

In November 2010, the unit received the commando battalion commander's approval to extend the course to 4-weeks, which

includes more advanced individual skills and small unit tactics. By identifying his soldiers as trainers for the commando battalion, the U.S. troop commander built credibility for himself and the training program.<sup>11</sup> In December, he gained concurrence from nearby IA and Kurdish brigades to rotate their enlisted soldiers through a similar 4-week program at a nearby CCP.

### CCPs — Golden Lions and Small Unit Training

As previously mentioned, 22 CCPs span the U.S. Division-North AO, 11 of which fall into the 4/1 AAB's sector. The commander of the U.S. Army contingent at each CCP serves as the senior ranking officer (SRO) for the entire combined team. U.S. Army soldiers train Iraqi and Kurdish enlisted soldiers on small unit and basic individual tasks. U.S. Army company grade officers oversee mission planning, coordination activities, and other leadership responsibilities. Within a short time, these leaders began to mentor Iraqi counterparts on these duties. By December 2010, Iraqi and Kurdish junior officers began executing combined patrols and conducting various leader tasks. However, maintaining security on the perimeter and other operational requirements hindered the ability to conduct an extensive amount of collective training.<sup>12</sup>

Ideally, to maximize ATA efforts, U.S. Army soldiers partner with an Iraqi battalion or brigade; however, CCP ATA activity occurs at a one-to-one ratio. Nevertheless, CCP ATA activities are unique. When the Golden Lions conduct a patrol within a com-



*"For many of these IA enlisted soldiers, this training provides one of the few opportunities in their careers to execute a mission with little guidance or supervision. By the end of the week, the students overcome their initial mistakes and refine their abilities to lead and train. The course provides the added benefit of additional patrols, which creates a safer environment for the CSA residents."*



*“During Phase IV, the Iraqis execute a simple, but effective, buddy team live-fire exercise. Essentially, the training event is a culminating exercise for tasks covered during the previous weeks. Each soldier in training receives 60 rounds and one partner, and moves through a simple range made up of a few Hesco barriers and wooden walls. The partners cover each other’s movements and engage targets that range from 50 to 200 meters.”*

bined security area (CSA), they perform an actual mission in a real environment. After patrolling, the unit conducts an after-action review and identifies areas of improvement. Not only do the ISF and KSF learn how to conduct small unit activities, they learn intangibles that cannot be measured or easily identified. Primarily, soldier and junior leader learning/development do not occur in a classroom. They learn through observing how U.S. Army soldiers conduct missions. They observe the professionalism and discipline of U.S. Army soldiers and adopt those qualities.

### **Lion Leader Forge — Building 2d IA Division’s Training Cadre**

The 2d IA Division committed a substantial portion of its combat power to static checkpoints, fixed force protection sites, and daily searches. The division does not have the flexibility to shift units from operational assignments to conduct collective, complex training that enables the development of confident and experienced junior leaders. The 2d Battalion, 7th Cavalry Regiment (2-7 Cavalry), has 700 soldiers spread across eleven positions (eight of which are CCPs) and more than 6,000 square kilometers of battlespace.<sup>13</sup> The 2-7 Cavalry chose to increase its partnership efforts with the 2d IA by building a sustainable leader and instructor development program, which will optimistically lead to significant improvement within the echelons of the 2d IA Division. The major concerns included how to create a training model, which tasks would be conducted, and who would teach the material, given the squadron’s operational requirements.

With input and concurrence from the 2d IA Division and assistance from its STT, 2-7 Cavalry developed a light infantry combat leader’s course that focuses on traditional individual and small unit tactics. The modularity aspect of the course is one of many innovative approaches, which the unit describes as “scalable and exportable.” For example, during phase II, marksmanship is taught; at any point, an Iraqi instructor can use the teaching material from phase II to produce a marksmanship class. The first Lion Leader cycle consisted of four phases and 22 training days, which began on 1 December 2010 with 20 students.

The 2-7 Cavalry developed a mobile training team from one infantry platoon to serve as primary instructors. The majority of the training materials use U.S. Army tactics. During actual class instruction, there are occasional “under the shelter ranger school” sessions on whiteboards; primarily, however, practical application methods are used. Although 2-7 Cavalry teaches U.S. Army doctrine, instructors are quick to point out that they are showing 2d IA leaders a method, not necessarily a precise method.

During phase III, patrol classes incorporate many qualities found in the U.S. Army Ranger School and other small unit leadership courses. The students begin patrolling exercises within a CSA around 0600 hours and extend into the evening hours of limited visibility. They conduct two combat patrols within the CSAs every 24 hours (one day and one night), which consist of simulated ambush and reconnaissance scenarios. Each student serves in at least one leadership position — patrol leader, platoon sergeant, or squad leader — during one day and one night patrol. For many of these IA enlisted soldiers, this training provides one of the few opportunities in their careers to execute a mission with little guidance or supervision. By the end of the week, the students overcome their initial mistakes and refine their abilities to lead and train. The course provides the added benefit of additional patrols, which creates a safer environment for the CSA residents.

During phase IV, the Iraqis execute a simple, but effective, buddy team live-fire exercise. Essentially, the training event is a culminating exercise for tasks covered during the previous weeks. Each soldier in training receives 60 rounds and one partner, and moves through a simple range made up of a few Hesco barriers and wooden walls. The partners cover each other’s movements and engage targets that range from 50 to 200 meters.

During the 4-week course, students are also required to maneuver through a challenging course, developing the foundation to instruct other members of their division. Clearly, this type of training was conducted in Iraq prior to the 2-7 Cavalry’s arrival; however, 2-7 Cavalry commendably developed an initiative that not only improves the junior leadership within the 2d IA, but further leads to enduring improvements if the Iraqis choose to continue the training model. Had the battalion limited training activities to CCPs and nearby division-level units, such as the 2d IA Division commando battalion (located adjacent to the battalion at an Iraqi base), the battalion could easily argue that they made the most of their available soldiers. Instead, 2-7 Cavalry asked how they could best improve formations with the 2d IA Division’s subordinate brigades and responded with a targeted program that facilitated the development of cadre within those brigades.

### **Micro Training and Micro Partnerships**

The 4/1 AAB created three distinct STTs from its advisor augmentation, which worked to match ISF training needs with a brigade training capability.<sup>14</sup> Task Force Sword partnered with the 2d and 3d IA Divisions, the Ninewa operations center, and combined coordination center; Task Force Shield partnered with the Ninewa directorate of police, the Rabiyah port of entry, and the Erbil Department of Border Enforcement; and Task Force Spear partnered with the 3d Federal Police Division. These STTs became critical components in coordinating training; they quickly



established trust with their ISF counterparts and developed a training plan. Often, the training consisted of small classes on a very specific subject, which was appropriately designated “micro training.” Another ATA approach, known as micro partnerships, pairs ISF and U.S. Army soldiers to conduct on-the-job training, but goes beyond classroom or simple exercises as a joint exercise with Iraqi and U.S. Army soldiers. For example, the 3d Federal Police Division and the U.S. Army’s 47th Explosive Ordnance Detachment combined training events on various methods of bomb disposal. To support micro training and micro partnership events, 4/1 AAB’s organic sustainment battalion, the 27th Brigade Support Battalion (BSB) established a logistics train and assist team. The focus of this four-person team is to predominately coordinate medical and maintenance training. In the first 100 days, the 27th BSB conducted 57 meetings with various ISF leaders and conducted 18 different training events.<sup>15</sup>

Task Force Spear faced significant challenges as it began aggressively pursuing ATA options. In October 2010, the 3d Federal Police Division’s leaders expressed reluctance to commit their Iraqi police for training. The division did not have sufficient numbers of available personnel and the operational requirements to secure western Mosul proved too daunting a task to shift any forces to collective training events.<sup>16</sup> To overcome its reluctance, Task Force Spear coordinated brigade elements to conduct classes for small ISF groups and found that reduced

class sizes allowed for a better training environment, customized training topics, and increased instructor-student interaction.

The U.S. Army’s operations center transition team combined the micro training and micro partnership models when conducting military intelligence ATA activities with the operations center intelligence officer (G2) section. In December 2010, the operations center assumed control of an Iraqi reconnaissance platoon. The transition team and two instructors from Bravo Company, 141st Military Intelligence Battalion, conducted a 20-day basic intelligence course for the IA enlisted soldiers who were assigned to this new platoon. During the course, U.S. Army instructors identified students who displayed an intellectual capacity to analyze data and develop useful staff products. The U.S. advisors mentored the IA enlisted soldiers, which helped the soldiers feel included and accepted as valuable elements within the operations center G2 section. This new development represented a significant mindset shift for Iraqi officers who traditionally view their enlisted soldiers as incompetent and unimportant.<sup>17</sup>

In some parts of Iraq, the local police assume security responsibilities from the IA or federal police. This provision, transition of responsibility of internal security to police (TRISP), has not been completely achieved in Mosul.<sup>18</sup> The Ninewa directorate of police controls only small swaths on the west side of the city (18 total neighborhoods). To assist the government of Iraq and ISF in achieving TRISP, Task Force Shield partnered with



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the directorate of police and eight police district headquarters. Each district officer supervises between five and twelve local police stations.<sup>19</sup> Task Force Shield has 22 civil police advisors assigned to mentor the Mosul IP on detention/human rights, community policing, law enforcement tactics, forensics, and investigative procedures; and five police advisors tasked to conduct ATA activity at the Mosul police services academy. Additional U.S. Army support comes from members of the brigade staff, a military police company, and a rule of law cell from the Ninewa provincial reconstruction team.

Historically, U.S. military police advisory methods involved discussions with a district headquarters commander, which were followed by structured U.S.-led classes on very basic law enforcement tasks. However, Task Force Shield elects to engage other key leaders at district offices in addition to meeting with district commanders. They meet with training officers, logistics officers, and executive officers at the district headquarters to identify weak areas and possible training opportunities. After determining the goals and objectives of the IP leaders and assessing the proficiency level of the police district, Task Force Shield develops and implements an individualized training program for each district. Other brigade IP ATA activities include 4-week crime scene investigation courses at COS Marez; information dissemination operation courses to develop wanted posters; intelligence advising/mentoring activity; and first aid courses.

The days of focusing instruction on basic police tasks, such as handcuffing techniques or vehicle searches, are winding down at this point. Today, Task Force Shield places greater emphasis on more advanced law enforcement skills and, by doing so, seeks to improve knowledge and proficiency in IP intelligence officers, detectives, training officers, and critical incident managers. Mentoring Iraqi district headquarters training or logistics officers may not make for compelling newspaper stories, but these are the types of activities that will enable the IP to assume more responsibility from other ISF organizations.

The 4/1 AAB conducts a tremendous amount of ATA activity; brigade leaders and STT advisors shape ATA efforts to best match their partnered units. Some forms of ATA activity include

class and practical exercises, and other activities include more direct approaches such as on-the-job training. However, all ATA activity begins with U.S. advisors and leaders building relationships with ISF counterparts to identify critical training needs within ISF formations.

Complicating the training plan is the fact that the brigade departs in fall of 2011 and all U.S. forces must depart Iraq by the end of that year. The leaders of Long Knife Brigade realized they had a limited amount of time to impact ISF partners; therefore, they quickly analyzed their mission, searched for training opportunities that led to enduring improvements, and finally, cajoled ISF partners to shift IP and IA enlisted soldiers from active counterinsurgency activities to U.S.-led training events. The ATA initiatives and training ideas arose from junior leaders at CCPs to senior officers at brigade level. Although this article captures a great deal of those initiatives, other ATA activities occur each day. Considering the operational and time challenges, the Long Knife Brigade implemented an amazing number of ATA projects in its first 100 days. Many of these training initiatives and partnership activities will continue for the rest of the year, ultimately ensuring long-term stability and freedom for the Iraqi people.



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## Notes

<sup>1</sup>United States Forces-Iraq, "USF-I Mission Statement/USF-I Commander's Guidance (U)," more information available online at <http://www.usf-iraq.com>.

<sup>2</sup>Sergeant Benjamin Kibbey, "Advise and Assist Brigade: A familiar unit with a new mission in Iraq," [www.army.mil](http://www.army.mil), The Official Homepage of the United States Army, available online at <http://www.army.mil/news/2010/08/25/44206-advise-and-assist-brigade-a-familiar-unit-with-a-new-mission-in-iraq>, 25 August 2010.

<sup>3</sup>Unlike previous advisor teams in Iraq, STTs conduct predeployment training and participate in a mission rehearsal exercise at a U.S. Army combat training center with the brigade. The early integration of the STTs gives the advisors more time to understand the commander's intent, form important relationships, and develop ideas to meet this intent. NCOs are not allocated positions; however, 4/1 AAB reassigned NCOs (from its own organization) to assist the STTs to be more effective. The transition team serving at the Ninewa operations center has assigned NCOs from U.S. Forces-Iraq.

<sup>4</sup>An accurate census has not been taken since 1997, which is a highly sensitive political subject in the country.

<sup>5</sup>Steven Lannen, "Mosul, the next major test for the military in Iraq," McClatchy, available online at <http://www.mcclatchydc.com/103/story/26032.html>, 31 January 2008.

<sup>6</sup>Major Matthew Konz, "Primer (U), 10-02 Disputed Internal Boundaries," discussion document during Operational Keith L. Ware, 4 December 2010, p. 1.

<sup>7</sup>Executive Summary (U), "Iraqi Army Training: A Historical Perspective (S)," Human Terrain System Cultural Report, November 2011, p. 8.

<sup>8</sup>Under normal circumstances, most IA units are spread throughout a large AO, with many units rotating through leave regularly. This hinders the commander's ability to not only train, but exercise traditional command and control authority.

<sup>9</sup>Human Terrain Cultural Report, p. 8.

<sup>10</sup>Lieutenant Langlois' notes are based on unclassified comments by ISF leadership.

<sup>11</sup>Notes based on a conversation on Joint Forces Security Training Center (JFSTC) between Major Tom Sills, 1SG Fernandez, and CPT John Nimmons at al-Kisik base, November 2010.

<sup>12</sup>The desire of the IA to imitate U.S. soldiers is an enduring quality that trainers at multiple training venues have observed.

<sup>13</sup>Headquarters, 2d Battalion, 7th Cavalry, "Unit Historical Summary (U)," October-December 2011.

<sup>14</sup>The Ninewa operations center transition team is a 13-person augmentation from U.S. Forces-Iraq, which is filled on a joint manning document. They were already in Iraq when the 4th Advise and Assist Brigade, 1st Cavalry Division, arrived in Mosul.

<sup>15</sup>Memorandum for commander, 4th Advise and Assist Brigade, Operational Summary and Assessment, 27th Brigade Support Battalion, 21 January 2011.

<sup>16</sup>Headquarters, 4th Advise and Assist Brigade, 1st Cavalry Division, "Task Force Spear Historical Summary (U)," October-December 2011, p. 1.

<sup>17</sup>Oral Interview (U), Group Interview with Ninewa operations center intelligence trainers by Major Tom Sills, 1 February 2011.

<sup>18</sup>The strategy behind transition of responsibility of internal security to police (TRISP) envisions that as the IA transitions into its traditional military role, and as U.S. Forces reposturing is complete, the IP will assume responsibility for securing Iraq's major cities. The federal police is an organization that has a closer parallel to the Italian Carabinieri. Both are national police organizations that serve as a separate armed force (alongside the Army, Navy, and Air Force). The Iraqi federal police was never intended to be a permanent security force in Mosul.

<sup>19</sup>Headquarters, 4th Advise and Assist Brigade, 1st Cavalry Division, "Task Force Shield Historical Summary (U)," October-December 2011.



# ORGANIZING A TANK BATTALION FOR THE COUNTERINSURGENCY FIGHT

## A Study in Organization Design

by Lieutenant Colonel David L. Raugh

*In late 2008, as Task Force (TF) 1st Battalion, 35th Armor Regiment (TF 1-35 Armor), prepared for Operation Iraqi Freedom (OIF) 08-09, it faced a most daunting challenge — taking a tank battalion, organized for mobile, rapid, and short duration mechanized combat, and reorganizing its personnel and staff functions to an outfit capable of executing a 12- to 15-month combat rotation in the unique counterinsurgency (COIN) environment of Iraq. The battalion developed its plan based on experience gained from previous rotations downrange and through studying current operations from units engaged in COIN operations in Iraq. Not an end unto itself, staff modifications continued after arrival to theater.*



### Previous Task Force Experiences

Although massive personnel changes occurred when the battalion returned from its previous rotation, the TF executive officer (XO) and several key members of the staff remained to provide insight into the process of reorganizing personnel and staff, which added strength of stability and value of experience to this analysis.

TF 1-35 Armor participated in OIF 05-06 in Ramadi, Iraq, as part of “Ready First,” 1st Brigade Combat Team (BCT), 1st Armored Division, Multinational Force-West. These operations, though success-

ful, were focused almost primarily on kinetic combat operations. During this deployment, before the “surge” and establishment of Sons of Iraq (SOI), al Qaeda and other Sunni insurgent groups intimidated the local populace, providing little opportunities to achieve local national buy-in initiatives, such as commander’s emergency response fund (CERP) projects. Though we had an officer nominally titled as the S9, or TF civil military officer (CMO), his actions were minimized due to a less-than-accommodating environment. He was, however, extremely successful in synchronizing key leader engagements (KLE), including those with

Sheik Abdul Sittar Abu Risha, the eventual leader of the Al-Anbar Awakening Committee. Of note, Sheik Abu Risha’s actions set the stage for the eventual implementation of the SOI program throughout much of Iraq.

The task force was nominally “partnered” with the Iraqi Army (IA) 3d Battalion, 3d Brigade, 1st Division (3/3-1), a motorized infantry battalion that owned a small piece of battlespace within the TF’s battlespace. Fortunately, TF 1-35 Armor had a top-rate U.S. Marine Corps military transition team (MTT) that provided advisor support to 3/3-1 and effec-



*“Compared to the hyper-violent Iraq of 2005-2007, the 2008 Iraq required greater application of nonlethal efforts to provide essential services, engage local leaders, and influence the population using information operations. We quickly determined that this effort must be resourced with competent personnel capable of ingenuity and critical thinking.”*

tive liaison to the TF’s S3 operations cell, as well as its commander. The Iraqi police (IP) contingent within our battlespace was small, poorly equipped, and basically combat ineffective. We had no single officer dedicated to purely Iraqi security force (ISF)-related duties. Nor did we use TF self-improvement construction projects or unit purchases from operation and maintenance, army (OMA) monetary bulk funds via purchase request and commitment (PRnC) contracts. This was primarily due to the dearth of local Iraqi contractors available; most were not willing to cooperate with U.S. forces because of terrorist intimidation.

For a portion of the rotation, the TF deployed while the remainder of the BCT remained in Kuwait as part of the Multinational Corps-Iraq (MNC-I) theater reserve. To assist forward deployed TFs, the BCT assigned the majority of its S2 intelligence analysts to TF control, enabling us to augment our TF S2 shop, as well as attach intelligence analysts at the company level. This action greatly increased our ability to manage massive amounts of raw intelligence data available in theater and assisted the companies in generating company fusion cells capable of developing and tracking company area specific lethal targets.

### Examination of Current Operations

We next examined current operations in Iraq. From information gleaned during our TF commander’s predeployment site survey (PDSS), SIPR-email correspondence, open-source documents, and the latest lessons learned from observer con-

trollers at the Joint Maneuver Readiness Center (JMRC), we ascertained the following:

First, the fight had transitioned from an almost purely kinetic to a full-spectrum mix of kinetic and nonkinetic operations. Nonlethal operations, such as CERP-funded projects to improve local infrastructure, increased key local leader engagements and dramatically increased information operations (IO) campaigns to influence the population. In time, nonlethal operations assumed primacy over lethal operations, which required a significant change to our approach during the upcoming deployment. Our institutional focus and organizational structure centered on lethal kinetic operations; however, the environment in Iraq called for a more nonlethal approach. Our challenge was to simultaneously build appropriate capacity, manpower, and command and control to enable lethal and nonlethal operations to the same level of success.

Second, coordination and tracking requirements for ISF had increased dramatically due to implementation of the SOI program and increased size and capability of the IA, national police (NP), and IP forces. Additionally, battalion-level transition teams previously partnered with ISF battalions would be pulled to augment under-resourced division-level transition teams.

Third, instead of operating from one large forward operating base, our unit would operate from at least three different locations, greatly increasing support requirements. Also, based on improve-

ments in security, local Iraqi contractors were available to provide contracting capability for life-support improvements and construction.

Finally, we determined that for our counterinsurgency effort to be successful, we needed to continue to augment our TF intelligence shop with additional intelligence analysts. This conclusion prompted the decision to resource our companies with the ability to successfully establish a “fusion cell,” a small staff-like entity capable of processing lethal and nonlethal raw data into refined information, which could be used to drive company-level operations, as well as feedback into our TF headquarters to enable targeting efforts.

### Modifications to Existing Staff Structure

The U.S. Army has recently modularized most combat units, specifically by permanently assigning capabilities such as indirect fire support observers, joint tactical air control (JTAC), additional staff officers, and infantry and armor forces; unfortunately, TF 1-35 had not modularized. As a result, our ability to reorganize staff positions was limited and to free up needed staff officers, we combined some staff officer duties or left select staff officer positions vacant. Based on proven ability and potential of our professional noncommissioned officers (NCOs), we exercised our options to use them to fill positions normally occupied by commissioned officers.

We removed the battalion maintenance officer, leaving day-to-day maintenance operations under the control of our capable battalion motor sergeant and maintenance technician. Our outstanding and experienced signal officer assumed responsibility of both the battalion signal shop and S1 personnel shop, freeing up another staff officer to go elsewhere. We also placed professional and battle-tested former platoon sergeants in BCT liaison officer and TF battle captain positions. These NCOs proved invaluable as their expertise, composure, and experience added focus to the complex battle-tracking and command and control processes of the TF and BCT tactical operations center (TOC). Over time, we received several newly commissioned officers to fill other additional requirements.

### Nonlethal Capabilities

Compared to the hyper-violent Iraq of 2005-2007, the 2008 Iraq required greater application of nonlethal efforts to pro-



vide essential services, engage local leaders, and influence the population using information operations. We quickly determined that this effort must be resourced with competent personnel capable of ingenuity and critical thinking.

We began by establishing the fires and effects coordination center (FECC) to manage all nonlethal efforts within the TF. To staff the center, we appointed a S9 CMO, who oversaw execution of TF operations in support of efforts to improve local infrastructure and economic viability. Specifically, he tracked the status of essential services and recommended projects, and managed execution. He also served as the overall CERP project purchasing officer (PPO) responsible for submitting all CERP projects and tracking payment for services, which were paid by CERP pay agents from the TF and company headquarters. The CMO also provided oversight and tasking authority for day-to-day operations of the attached civil affairs team (CAT-A).

A position for a S9 governance officer was also established to manage TF operations in support of local government development, track Government of Iraq (GOI) election efforts, and serve as KLE master. A KLE master tracks the complex hierarchy of GOI, tribal, and de facto powerbrokers within the TF operational environment (OE). The governance officer continually updated known facts about these individuals and how they fit within BCT, TF, and company spheres of influence.

The TF fire support officer (FSO) rounded out the FECC cell. His primary duties included developing and disseminating TF and BCT IO messages and themes, as well as publishing and disseminating public affairs (PA) stories. The TF FSO's final duty was TF targeting officer, capturing and consolidating all efforts of lethal and nonlethal activities into a discernable targeting product. To assist in his duties, he was given oversight and tasking authority for day-to-day operations by the tactical psychological operations (PSYOP) team (TPT) and the BCT PA specialist when attached to the TF.

### Iraqi Security Force Synchronization

A position for a S3-ISF officer was established to enable synchronization operations with our partnered ISF brigade, oversee TF transition lines of operation (LOO), and handle the large volume of details required for managing the complex SOI program in our area. The S3-ISF of-

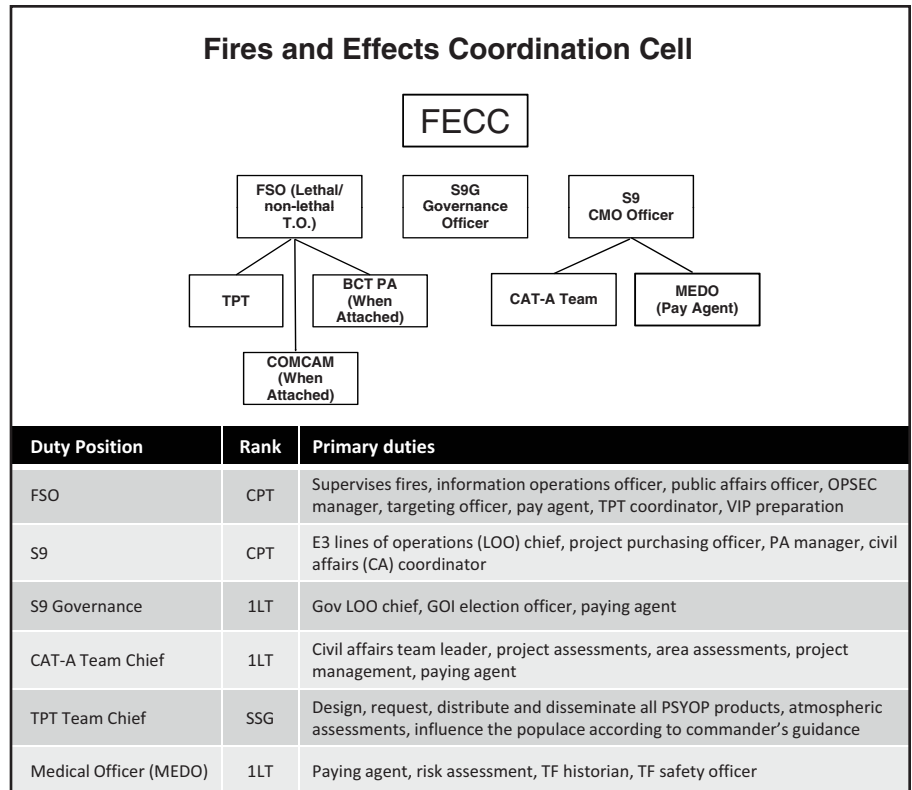


Figure 1. The Task Force 1-35 fires and effects coordination cell organization was the center of all non-lethal operations.

ficer served as a liaison between our partnered ISF brigade officers and U.S. transition team, coordinating with police transition teams (PTT) and managing complex and ever-changing SOI programs. Similar to the S9 governance officer, the S3-ISF officer also managed KLEs between TF and ISF leaders.

Shortly on our arrival in theater, the three NP battalion transition teams (NPPT), previously working with our partnered NP brigade, were reassigned to augment division transition teams. We subsequently established partnered relationships between our TF companies and NP battalions. The S3-ISF officer proved to be a valuable link in deconflicting and synchronizing events between U.S. company/NP battalion and U.S. TF/NP brigade operations.

### Project Management

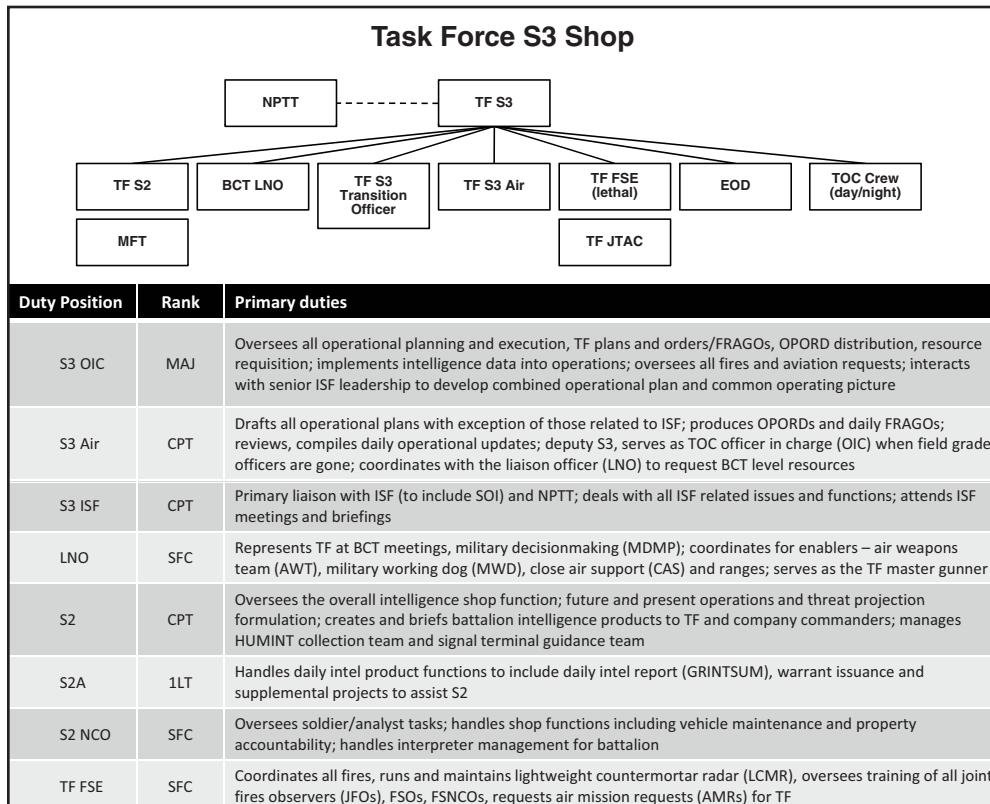
A deployed TF S4 is extremely busy conducting normal supply and transportation duties. Due to the large number of patrol bases and combat outposts (COPs), lack of engineer vertical construction expertise and limited carpentry and electrical construction capability within our task force, we outsourced much of this work to local national contractors. We appointed an assistant S4 officer whose daily duties consisted almost exclusively of managing force protection, life improvement, and life-support contracts for our area.

In this capacity, the assistant S4 managed more than 30 separate PRnC requests in various stages of submission, approval, and implementation. Dollar amounts for these contracts averaged upward of \$50 million. Most of these projects also included a 6 month to 1 year service or maintenance contract, requiring detailed oversight to ensure contractors met service obligations.

### Enabling Intelligence Management and Fusion

We identified the requirement for additional intelligence analysts to manage the sheer volume of collected intelligence and daily interactions with the local populace. Unfortunately, fills for this low-density military occupational specialty (MOS) were slow coming. We made up this shortfall by identifying promising MOS 19K armor crewmen soldiers, who showed a propensity for intelligence management, to fill intelligence analyst gaps. These soldiers received analysis, sensitive-site exploitation, and data management training from TF and BCT S2 subject-matter experts, allowing them to rapidly integrate into daily intelligence operations.

To assist company headquarters, we provided newly commissioned officers to company headquarters, rather than the TF staff. This enabled them to assist in command, control, and company fusion cell operations prior to subsequent move-



**Figure 2.** The task force S3 shop served as the home of the S3-ISF coordinator.

ment to platoon leader positions. These new officers, company fire support (FIST) officers, and company headquarters personnel received additional training from TF S2, S3-ISF, S9 governance, and S9 officers to enable understanding and analysis of company-level lethal and nonlethal operations.

After arriving in theater, companies quickly established internal expertise, creating capabilities at the company-level normally relegated to TF or above headquarters. Company project NCOs, intelligence NCOs, and FIST targeting officers established relationships and lines of communication with TF counterparts,



*“We identified the requirement for additional intelligence analysts to manage the sheer volume of collected intelligence and daily interactions with the local populace. Unfortunately, fills for this low-density military occupational specialty (MOS) were slow coming. We made up this shortfall by identifying promising MOS 19K armor crewmen soldiers, who showed a propensity for intelligence management, to fill intelligence analyst gaps.”*

leading to daily interaction and rapid transit of critical information, which is invaluable in a COIN environment.

### Synchronizing Task Force-Level Lethal and Nonlethal Operations

With conditions set, we identified appropriate methods to fuse all operations to allow seamless execution of our campaign plan. Based on difficulties at our JMRC mission rehearsal exercise (MRE) with effectively dividing areas of responsibility and providing seamless synchronization, we divided our operations into lethal, nonlethal, and administrative duties.

Lethal operations, including intelligence, lethal fires, joint tactical air control, explosive ordnance disposal (EOD), and the multifunctional team (MFT) containing human collection and interrogation capability fell under the purview of the TF S3. Nonlethal FECC operations and administrative duties (personnel, sustainment, and signal) fell under the immediate purview of the TF XO, who provided overall synchronization of the entire staff. Liaison with the attached ISF brigade transition team was conducted primarily through the TF S3. The TF engineer officer (ENGO) received direction from the TF XO, as the majority of his efforts focused on force protection and construction efforts.

To synchronize operations, the TF established four LOO or efforts applied to achieve unit objectives. We developed the genesis of this LOO campaign plan, a skeleton framework, which laid out tasks for 6 months following transition of authority (TOA) in Kuwait while conducting reception and staging operations. Following TOA, we continued to develop the LOO campaign plan, adding detailed milestones determined by targeting efforts and BCT/multinational division-level directives and campaign plans. These LOOs included security, which focused on reduction of threats and development of Iraqi judicial capability; transitions, which focused on developing capability of ISF forces; governance, which focused on developing government capabilities within our battlespace; and economics, essential services, and education (E3), which focused on projects to develop essential services within the battlespace.

LOO owners were summarily appointed to provide oversight and management within their areas of expertise: S3/S2



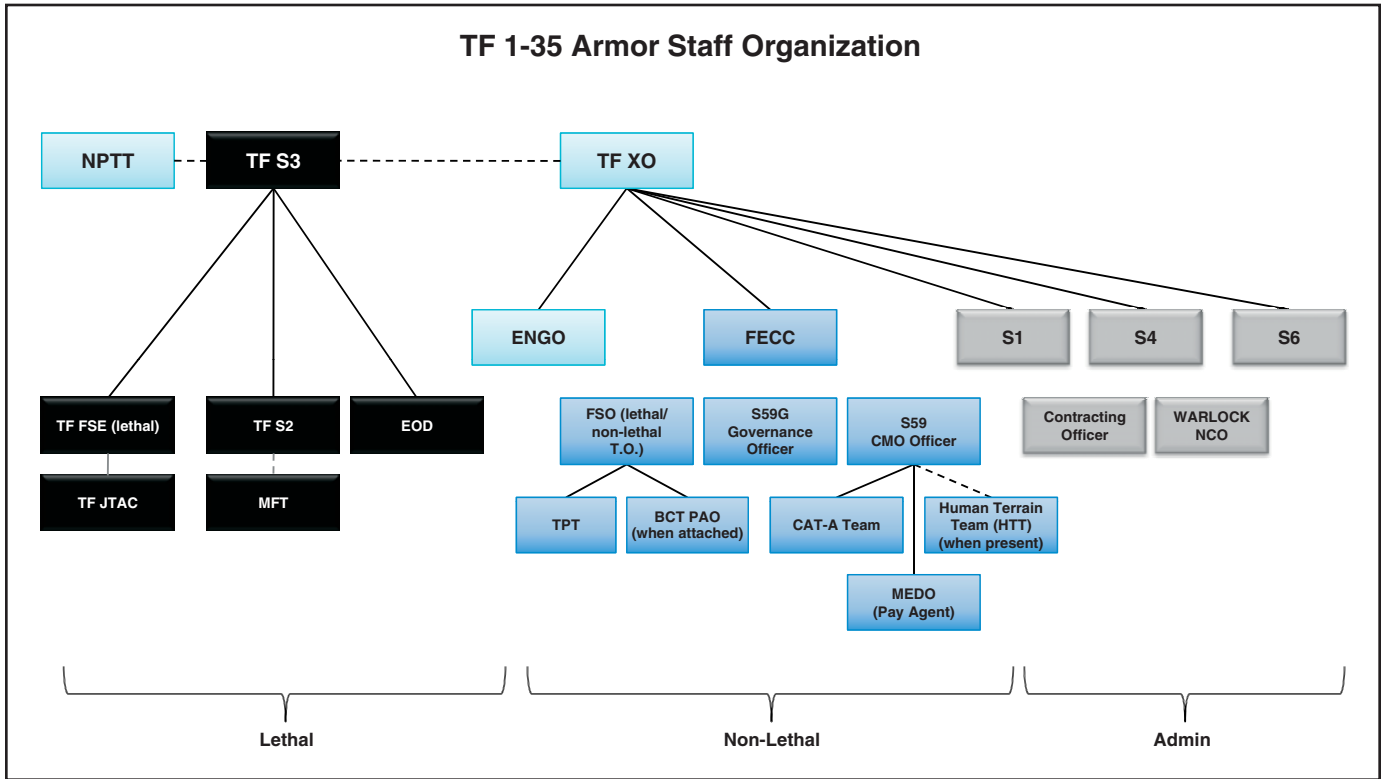


Figure 3

owned security, S3-ISF owned transition, S9 owned E3, and S9 governance owned governance. Overall synchronization was managed by the TF executive officer, and the FSO targeting officer assembled all efforts into discernable and organized products.

Targeting efforts focused not only on meeting milestones identified in our campaign plan, but applying both lethal and nonlethal efforts as a means to those ends.

To do this, we identified targets not as individual or isolated events, but as problem sets. This enabled a more pragmatic application of resources to simultaneously achieve appropriate effects and serve as nonprescriptive guidance for company commanders to exercise initiative in developing their own solutions. We reviewed the effectiveness of our actions at biweekly targeting meetings to determine if problem sets were being addressed appropriately. The results of these events ar-

rived in the form of feedback via the aforementioned TF to company staff interaction. Also, all TF staff officers reviewed the TF intelligence summary and patrol debriefs daily to ensure shared awareness.

#### Analysis

Thus far, the efforts of TF 1-35 Armor to prepare its staff and unit organization for the COIN fight through experience, lessons learned, ingenuity, and some trial and error, have proven successful. By


DESIRED EFFECT	TARGET	ACTIVITY / TASK / METHOD	RESOURCE	MOE
Reduce Insurgent Cell	1. Joe Smith street cell 2. Al-Tepletskyawi cell	T1: Emphasize rewards to gain informants. T2: Utilize ISR to confirm or deny insurgent movement. T3: Capture Ahmed Wagner. T4: Engage Sheik Adil Pearla to establish dialogue on his current activities with the Joe Smith cell. T5: Engage sources to gain information on personalities associated with Joe Smith street cell. T6: TPT conduct HUMINT elicitation to ascertain effective media venues for introduction of IO products. T7: Focus microgrants on Joe Smith street to build rapport with local populace. T8: Influence Nahia Council to initiate construction of Joe Smith street sewage project.	R1: S2 R2: S3 R3: B/1-6 IN R4: TF CDR R5: HCT R6: FECC, TPT R7: S9 R8: S9G, TF XO	 HUMINT reporting on insurgency in Jisr Diyala increases.  Informants provide actionable intel regarding Joe Smith cell.  Increase in Intel identifying personalities associated with Al-Tepletskyawi cell

Figure 4. Targets organized by problem sets.

adding additional capability to its staff and companies, TF 1-35 enabled successful missions and efforts not habitually associated with a heavy tank battalion, which is built for fighting massed mechanized forces, on the modern battlefield.

Separate from organizational structure modifications were our TF “attitude” modifications. Despite all planning to prepare for COIN operations, not all contingencies can be foreseen. TF leaders repeatedly stressed the use of critical thinking and ingenious solutions to staff officers, company commanders, and each soldier within the organization. We also ensured successful (and unsuccessful) tactics, techniques, and procedures (TTP) were shared immediately, we applauded original thought, and demanded personal ownership for areas of responsibility.

Staff sections cross-trained skill sets internally to not only cover soldiers on mid-tour leave, but to enable collaborative discussion and find the most viable solutions. When the TF executed Operation Knight Pursuit, an out of sector mission that deployed the majority of the TF headquarters and a 450-man strike force to a non-contiguous area 100 kilometers to the northeast to conduct a 25-day clearing operation to disrupt al Qaeda activity in the Diyala Province, the results of these modifications proved effective. This operation, including two TF air assaults, was

conducted while the remainder of the TF continued operations in its normal TF battlespace. Both operations were conducted successfully; we cleared the area of al Qaeda presence and introduced ISF forces to hold the cleared ground while continuing framework operations in our normal battlespace without serious injuries and no loss of command and control.

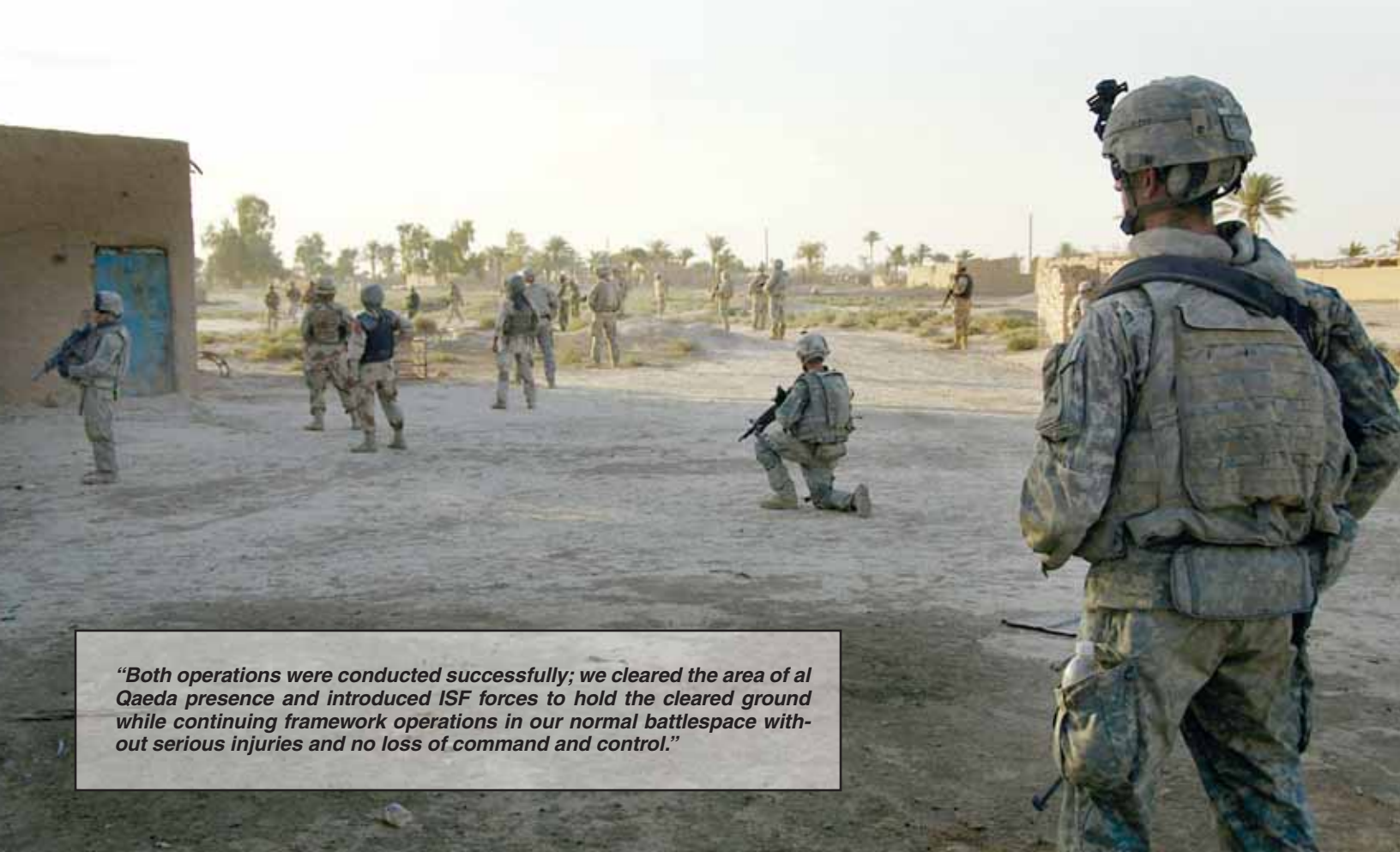
Additionally, evident from efforts to modify our staff in preparation for 12- to 15-month deployments to Iraq and Afghanistan, was the realization that all of our sister units were conducting the same ad hoc process. Technology advances, socioeconomic change, and mission requirements have enabled and required task force headquarters to conduct tasks that were executed solely by division headquarters 10 years ago. Now, nonlethal reconstruction and tactical engagements fall squarely in the task force and company areas of responsibility. Institutional transformations, including equipment and personnel adjustments, to resource nonlethal cells and indigenous security force liaisons must be made.

All institutional training schools, including those for junior leaders, must focus beyond kinetic operations to train problemsolving skills, critical-thinking skills, and initiatives required for the ambiguous and uncertain scenarios faced by deploying units. Combined training centers

should simulate these ambiguous scenarios and train responsive targeting processes at company and platoon levels. Only by preparing for the full spectrum of combat operations, from the initial attack to withdrawal of forces, can we be successful in fighting and winning our Nation’s wars.



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***“Both operations were conducted successfully; we cleared the area of al Qaeda presence and introduced ISF forces to hold the cleared ground while continuing framework operations in our normal battlespace without serious injuries and no loss of command and control.”***



# INSPIRING QUALITY SOLUTIONS

by Retired Lieutenant Colonel Thomas P. Hanlon

Military life is an assortment of decisions, many of which are trivial, such as what route to take to work, which exercises to perform in the morning, or what to eat for lunch; however, others are more serious when conducting operations planning, mission preparation, branch selection, and execution.<sup>1</sup> Trivial decisions can be decided from intuition and experience; whereas, more serious decisions argue for a more analytic approach. Studies have shown that decisionmakers who regularly use a systematic methodology have consistently produced superior results above those who rely on intuition and analogy.<sup>2</sup>

Perhaps at no other time is an analytic approach more appropriate than in the writing of a military operations order (OP-

ORD). The situation is complex, stakes are high, and the outcome is far from certain. In planning these operations, the U.S. Army recommends the military decision-making process (MDMP), which comprises seven steps:

- Step 1 – Receipt of mission.
- Step 2 – Mission analysis.
- Step 3 – Courses of action (COA) development.
- Step 4 – Courses of action analysis.
- Step 5 – Courses of action comparison.
- Step 6 – Courses of action approval.
- Step 7 – Orders production.<sup>3</sup>

During steps 1 and 2, the mission is received and analyzed, and COA are developed in step 3. Using steps 4, 5, and 6, COA are analyzed, compared, and the best COA selected. Finally, step 7 results in an OPOD.

The MDMP is conducted not by a single individual, but by a group of seasoned officers that make up an Army staff. The role of the staff is advisory; they are there to assist the commander in analyzing a situation and making a reasoned judgment thereof.

One of the key features of MDMP is collaborative planning, which the Army defines as: “Commanders, subordinate commanders, staff, and other partners shar-



ing information, knowledge, perceptions, ideas, and concepts regardless of physical location throughout the planning process.”<sup>4</sup> Hence, collaboration in the form of staff members sharing information toward the production of the OPORD is at the forefront of MDMP.

Collaboration enhances decisionmaking by incorporating a wide range of skills and talents that staff members possess. No individual soldier possesses all of the knowledge and skills necessary to plan today’s military operations. What is misunderstood is apt to be missed; a novice is prone to overlook fine points. A critical detail might fail to be recognized by someone who lacks skills and training in a particular field of expertise. He glosses over what he does not understand and fails to discern meaning and import.

Yet, collaboration is not an effortless process. While most collaborative sessions generate solutions, few do so optimally. As staff members analyze a mission, they may be stultified by the immense body of information they are required to digest. They may miss major points or focus on an isolated segment of the problem domain. Important, specialized knowledge from certain members may be omitted out of apprehension or laziness. What results is a solution set that features a small collection of related ideas, rather than a more widely spaced array of choices.

In an effort to overcome these problems and achieve better collaboration, computer software has been developed toward its facilitation. For example, group support system (GSS) is a networked computer system that facilitates collaboration. GSS group participants can jointly enter into a project and members can contribute ideas synchronously or asynchronously and with complete anonymity.<sup>5</sup>

This study examined methods of enhancing the quality of COA generated as part of the MDMP. Of particular interest was whether the use of a GSS could obviate some of the problems that plague collaboration. Our goal was to develop a collaborative procedure that eliminates difficulties and contributes to higher quality products. By so doing, we expected to generate better solutions, and improve a key feature of the MDMP.



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### Information Overload and Cognitive Limit

Mission analysis is often identified as the most important step of the MDMP. Accurate and timely information is vital to making good decisions, which is how a situational estimate and understanding is developed. Facts and assumptions are detailed, resources are tallied, and the environment of the mission is discerned. Yet, as valuable as information can be, it sometimes hinders, as much as facilitates, the generation of a solution. Too much information can stand in the way of good decisionmaking.

Back in the 1950s, we realized that human beings have a limit to their cognitive abilities. People cannot assimilate ideas infinitely, they need time to consider and construe each of the concepts with which they are presented. In a seminal study in 1956, George Miller demonstrated that the cognitive limit is about seven ideas (plus or minus two).<sup>6</sup> That is, people can consider seven individual ideas at a given time. The balance may shift, depending on the complexity of the concepts, as well as the abilities of the individual.<sup>7</sup>

When people are presented with more ideas than they construe, they do not simply drop some of them from consideration; rather, they drop all of the ideas. Overloaded decisionmakers enter into a state of confusion in which they are unable to deal with any of the concepts presented.<sup>8</sup> The problems of information overload and cognitive limit, though related, are not the same. The former involves being inundated with more information than can be assembled; often, the cause is poor organization and synthesis of what is known.<sup>9</sup> The latter involves a

psychological state, which is caused by a person being required to consider more ideas, all at once, than the mind can manage. Complexity of the ideas may influence this limit, not all concepts are equal. Several aspects of ideas can exacerbate the cognitive load. That which has a high degree of interactivity between the elements is inherently more difficult to grasp.<sup>10</sup>

Interactivity is something that is unfortunately characteristic of military operations. Military maneuvers have many facets to consider. Each of these is highly interactive with

other elements of a mission. Thus, a military operation typically involves movement, which involves consideration of transportation, maintenance, fuel, and routes. Not only are the sub-elements of transportation highly interactive, but are also interactive with other facets of the mission, such as personnel. Depending on which assets are selected, it can influence the number of soldiers required and their skill sets, which can further influence operational considerations such as route, speed, and weaponry. This interactivity raises the complexity of the ideas and increases the cognitive resources demanded of the planner.

### Techniques to Avoid Information and Cognitive Overload

Several techniques have been developed for reducing information overload. The first and most obvious technique is coherence, which reduces the information load by eliminating anything extraneous. What is not central to planning the mission is removed; only the most important points receive focus.<sup>11</sup>

Additional techniques for reducing information overload include organizing and summarizing. The technique of organization categorizes and collates material into topics and subtopics, so classes and relationships are readily apparent. The technique of summary condenses and refines material, culling themes while removing redundancies.

For dealing with cognitive limit, other methods are available. One of these is segmenting, which involves breaking material into small chunks, or “segments,” and presenting each piece, one at a time, rather than in a continuous stream. Thus,



a long lecture is broken into topics; a book is divided into chapters; and a curriculum of instruction is divided into lessons. Each topic is received and digested individually, while gradually being integrated into a coherent whole.<sup>12</sup>

Still another technique for expanding the cognitive limit is chunking, a method by which individual ideas are associated with one another, making them easier to remember. (Hence, related parts of a tree are easier to retain than a random list of names.) Under this technique, correspondences are drawn between related items; gradually, the thinker is able to carry the various topics in the mind as a united body. The relationships between the items reduce cognitive load and help the individual grasp more ideas simultaneously.<sup>13</sup>

The Army has in place several methods for dealing with information overload. Foremost is the mission analysis, which when conducted properly, sorts, categorizes, and collates related information. It packages material into a ready format for the commander's understanding. The commander's guidance is another technique for managing information overload and coherence is one of its foremost purposes. By providing guidance, the commander alerts the staff to specific points that are critical to accomplishing the mission. By focusing the staff's attention on key details, he thereby reduces the amount of information necessary to consider.

Yet, given the assiduous efforts of even the most accomplished commander, the amount of information that a staff is required to assimilate is vast. It includes the mission statement, commander's intent, an assessment of relative combat power, and the commander's guidance. This information is highly interactive, increasing its complexity, and making the material harder to grasp. It's little wonder that staff members approach subsequent steps of the MDMP feeling beleaguered and confused. The problem of cognitive overload has not been adequately addressed.

#### Ideation

COA development follows mission analysis in

the MDMP. Chief among its sub-steps is the generation of solutions; under contemporary parlance, the process is described as "ideation." The Army recommends a traditional style of ideation, called "brainstorming," which is "the preferred technique for generating options. It requires time, imagination, and creativity, but produces the widest range of choices"<sup>14</sup>

Brainstorming was first described as an ideation technique in 1953 by A.F. Osborn.<sup>15</sup> Using this procedure, Osborn had members of a group submit ideas freely, without criticism, as led by a facilitator. His stress was on quantity and not quality. The goal was to advance as many ideas, unrestrained, as occurred to group members. Osborn hoped that by increasing idea quantity, he would adjunctively increase idea quality.

Brainstorming attempted to harness the creative synergy of the group; ideas submitted by one member were visible to all. It was hoped that the shared imagination of members would thereby stir the group to a whole that was greater than the sum of its parts.<sup>16</sup>

In the decades since, brainstorming has become the model for ideation in America. It is synonymous with what most people think of when they consider idea generation. Yet, the method is not without criticism. In spite of its widespread use, brainstorming has never lived up to its promise. Numerous studies have dem-

onstrated that brainstorming commands no greater success in generating ideas than a group of individuals working in isolation.<sup>17</sup>

The lack of success of traditional or "free" brainstorming has been attributed to a number of factors. Among these are: productivity bottleneck, which is a brainstorming session led by a facilitator who may serve as an impediment to idea generation; evaluative apprehension, which may make some group members feel nervous about the possible reaction of other members and neglect to offer ideas that might not be well-received; and social loafing, which may cause certain members to refrain from fully participating out of inattention or laziness.<sup>18</sup>

#### Modified Brain Writing

In response to the problems associated with traditional free brainstorming, alternate ideation techniques have been devised. One of these is brain writing. Seminal work was done on brain writing as an ideation technique by Bernd Rohrbach in the 1960s. Unlike brainstorming, brain writing is a silent, written procedure. Techniques vary, but it generally involves participants writing solutions to a problem statement, which is written at the top of a sheet of paper. After recording their solution, participants pass the sheet, in turn, to other member for their input. Participants may freely use the input of other participants as a stimulus to their own ideas. The end product is a sheet that contains a variety of solutions as elaborated by each group member.<sup>19</sup>

Brain writing offers some advantages over traditional brainstorming. First, brain writing can reduce evaluative apprehension; assuming comments are kept anonymous, participants are less likely to feel ill at ease to the reaction of others over traditional brainstorming. Second, social loafing is reduced; each participant is given a seed sheet and must offer at least one solution to the problem under consideration. Third, production blocking is eliminated; there is no need to capture the attention of a facilitator and participants are free to offer ideas when they



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occur, either as a solution or as an adjunct to the solutions of others.

However, brain writing, in its original form, does little to address the dilemma of cognitive load. By presenting each participant with the problem statement, all facets of the problem must be dealt with. Further, brain writing is centered on the quantity of ideas, not their quality. To compensate for these deficiencies, we have modified brain writing to address the additional problems of cognitive overload and solution quality.<sup>20</sup> Under our modified brain writing (MBW) procedure, multiple seed sheets are devised. In most cases, these can be borrowed from different points of the commander's guidance. Each seed captures a single specification of that guidance. One seed is recorded at the top of each sheet and then multiple sheets are passed to staff members, in turn, for each of their comments.

The first staff member is directed to write a COA anonymously on the seed sheet, addressing the issue solely in consideration of that facet of the guidance. Sheets are then deposited in a central tray. Staff members are then directed to select a sheet from the tray, as submitted by one of their colleagues. They are to comment on the COA listed on the sheet with the aim of enhancing the solution. Members may make additions, modification, or excisions with the goal of improving the COA listed on that sheet. After doing so, they return the sheet to the tray, and select another. When all staff members have had an opportunity to comment on each sheet, the session ends. The result is a set of COA, which represents the seminal ideas of each of the staff members, as supplemented and elaborated by the other staff members. It represents a qualitative rather than a quantitative approach to ideation.<sup>21</sup>

### Hypothesis

To test the use of MBW as a means of enhancing idea generation during decision-making, we conducted an experiment. The experiment focused on COA development, step 3 of MDMP. We examined the quality of solutions produced by the newly devised ideation method, MBW, as opposed to manual free brainstorming (MFB). Thus, the first research question was obvious: Does MBW lead to higher quality solutions than MFB?

MBW can be implemented manually or electronically. It can be conducted by a "hard copy" distribution of seed sheets or by an electronic "soft copy" distribution via a GSS. Current literature supports the use of GSS as a tool that improves ideation.

A study by Bordia concluded that computer mediated collaboration discussions "take longer, produce more ideas, and have greater equality of participation."<sup>22</sup> McLeod found that GSS "increased decision quality, time to reach decisions, equality of participation, and degree of task focus."<sup>23</sup> We suspected that electronic, person-to-machine mediated interactions might reduce some of the tensions and distractions that occur when interactions are on a person-to-person level. It might thereby increase attention to the task at hand and support greater participation by group members.

During the MBW process, as implemented by a GSS, each participant is again assigned an initial point of the commander's guidance to consider in devising a COA. After submitting a solution to a central database, the participant then selects a COA in the database as offered by a fellow participant and seeks to enhance it. The process continues until all staff members have commented on each of the COA offered by the other members. Hence, the second research question examined if MBW under a GSS leads to higher quality solutions than MBW implemented manually. In summary, we hypothesized that manual MBW would yield higher quality COA than MFB, and that electronic MBW, or electronic brain writing (EBW), would yield still higher quality COA than manual MBW.

### Experimental Methodology

Our experiment consisted of three classes of participants, which included two treatment groups and a control group. The first treatment group used manual MBW without a GSS and the second treatment group used EBW with a GSS.<sup>24</sup> The control group used MFB also without a GSS. For each test, we employed a group size of five members to each session. Cadets from the Army Reserve Officer Training

Corps (ROTC) participated in the experiment. These cadets receive exposure to MDMP during the senior year of their military science curriculum. In most cases, we conducted our tests just after cadets had received MDMP instruction. Data was collected from 113 ROTC cadets, located at eight different universities in the Midwest, and was conducted on site at each participating ROTC battalion. The experiment was comprised of 21 groups in total, developing 112 COA.<sup>25</sup>

The proposed mission was a hypothetical task, which provided hurricane disaster relief in the form of a standard OPOD. Cadets were directed to play roles of staff members in an Army Reserve battalion located in the Midwest. The OPOD directed the unit to Gulf Port, Mississippi, with a follow-on mission of providing support to the Federal Emergency Management Agency (FEMA). Evaluating quality of the solutions was based on the Likert scale, ranging from 1 (least) to 4 (highest), and judged by a panel of 12 Army officers.<sup>26</sup>

The U.S. Army measures the quality of a COA in terms of five features called the "FADS" test. There are five attributes that describe high-quality solutions, which must be feasible, acceptable, distinguishable, suitable, and complete.<sup>27</sup> Given its convenience, and its wide applicability, we employed the FADS test to measure the quality of a COA.<sup>28</sup> We rated a COA in terms of each component and used the average of those ratings to measure overall COA quality.

### Results of the Experiment

Based on our Likert scale, the resulting means from the experiment indicated that MBW (mean = 2.5892) > EBW (mean = 2.255) > MFB (mean = 1.6571), with respect to overall COA quality. Dispersion of the data was tighter for MBW and EBW, with standard deviations of .6514 and

Newman-Keuls Multiple Comp.	Difference	P	Q	Critical q (.05)
Mean(2)-Mean(1) =	0.932	3	7.473	3.364 *
Mean(2)-Mean(3) =	0.3342	2	2.77	2.805
Mean(3)-Mean(1) =	0.5979	2	4.883	2.805 *
Approximate P: < .001				
*Indicates significant difference				

Note: Mean (1) represents MFB; Mean (2) represents MBW; and Mean (3) represents EBW

Figure 1. Newman-Keuls Multiple Comparison<sup>29</sup>

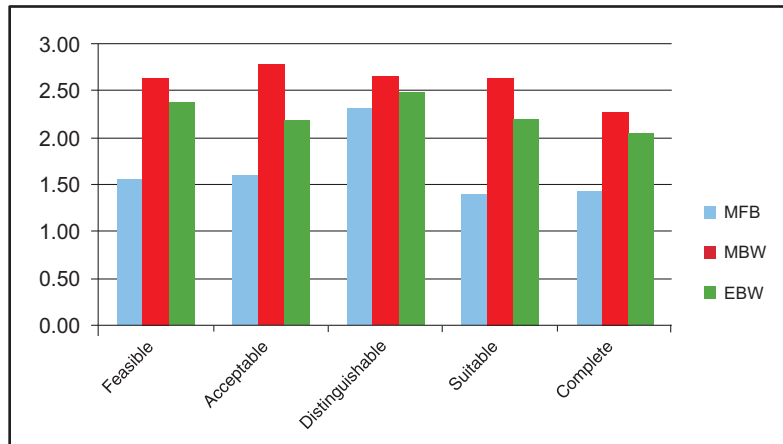


### FADS Test Rankings

Ideation Technique	Feasible	Acceptable	Distinguishable	Suitable	Complete
Manual Free Brainstorming	1.54*	1.60*	2.31	1.40*	1.43*
Modified Brain Writing (Manual)	2.62	2.78*	2.65	2.62*	2.27*
Electronic Modified Brain Writing	2.38	2.18*	2.48	2.20*	2.05*

Note: \* indicates a statistically significant difference.<sup>30</sup>

#### Rankings with Respect to FADS Test



MFB = manual free brainstorming  
 MBW = modified brain writing (manual)  
 EBW = electronic modified brain writing

### FADS Test

Figure 2

.7103, respectively. Scores for MFB were more widely dispersed, having a standard deviation of .8752.

A Newman-Keuls multiple comparison was conducted of the resulting means from the three test groups: MFB, MBW, and EBW. It showed that observed differences between manual MBW and MFB scores, and between EBW and MFB, were not likely due to error and were significant. The small approximate P-value ( $P < .001$ ) confirmed a significant difference between the groups and provided the figure at which this would no longer be the case. (Figure 1)

The results of the analysis of variance (ANOVA) and multiple comparisons warranted a re-evaluation of our results. The difference between MBW (mean of 2.59) and EBW (mean of 2.26) was not statistically significant. It was within the margin of error ( $\pm .56$ ). However, the differences between MBW and MFB, and between EBW and MFB, were significant. Based on the above, we can confirm by a comparison of the means, combined with the tests for significance, that  $MBW > MFB$  is valid. Similarly, we can confirm that  $EBW > MFB$  is also valid. But the conclusion that  $MBW > EBW$  is unsupported. The final relationship therefore is:  $(MBW = EBW) > MFB$ .

In addition to overall quality, we also compared the COA with respect to the individual FADS components. The highest score was obtained by manual MBW, which scored significantly higher in four measures of quality: feasible, acceptable, suitable, and complete. It also scored highly with respect to distinguishable. However, differences concerning the former components were statistically significant, whereas differences concerning distinguishable were not. (Figure 2)

EBW (under GSS) also fared well, scoring better than MFB in all five measures of the FADS test. However, like the manual version, EBW did not fare as well in the case of distinguishable. Whereas, the other four measures differed in a statistically significant fashion, the latter measure was not statistically significant. Overall, of the five components of the FADS test, distinguishable was least improved. In none of the cases were the differences statistically significant. The reason may have been due to the methodology. The other components were improved by repeated enhancements of COA at each review of the seed sheets, which occurred when the first participant devised a COA, and each time it was enhanced by a fellow participant. The mechanism of chunking added to the previous COA and increased the quality of the COA. Distinguishable, how-

ever, was improved only once, when the first participant formulated the COA.

However, the MFB varied more widely than MBW or EBW with respect to overall quality [as indicated by the standard deviations (above)]. The raw data bears out these differences. Under MFB, participants produced a wide range of COA solutions. Although distinguishable, many of the ideas were farfetched and seemed to have been offered merely to startle and amuse rather than present realistic solutions. They were also terse and lacked detail.

Under MBW and EBW, the COA had more serious character. Although they were no more distinguishable than MFB, all the COA offered represented realistic possibilities. Absent were the facetious solutions. MBW and EBW also produced COA that contained much greater elaboration and detail. These attributes are particularly important in the military domain, where practicality is key. Thus, MBW and EBW produced COA that were higher in overall effectiveness and would consequently be more useful to military commanders.

#### Analysis

Hypothesis 1 assumed that the ideation technique, MBW, would produce higher

quality ideas than MFB, which was substantiated by the data. There was a statistically significant improvement in the quality of COA produced by MBW, as opposed to MFB, which was true of four out of the five FADS components. Although distinguishable was improved, the amount was insufficient to gain statistical significance; hence, hypothesis 1 was partially confirmed.

Hypothesis 2 assumed that EBW (under GSS) would produce higher quality ideas than MBW (without the use of a GSS), which was not substantiated by the data. There was no significant improvement in the quality of COA produced by EBW, as opposed to MBW. Hypothesis 2 was rejected; the results failed to endorse using GSS for specific study objectives. It showed that the effect of higher quality solutions was obtained by the procedure itself and not by the medium. Both MBW and EBW used segmenting to enhance the quality of MDMP, but using a GSS did not alone lead to an improvement in COA quality.

### Discussion

During each session, MFB, MBW, and EBW, participants were presented with the same information, which consisted of the mission statement and the commander's guidance. However, in the case of the MFB, the information was presented prior to the ideation session. Under MBW (manual and electronic), the OPORD was presented prior to the session. The commander's guidance was withheld and presented later (individually on seed sheets), which resulted in an improvement in the quality of COA, as indicated by a higher evaluation in terms of the FADS test. This improvement was due to cognitive load. The combination of the OPORD, combined with all of the commander's guidance, breached the cognitive capacity limits of most participants. Accordingly, adding the commander's guidance did not produce more qualitative solutions. Miller demonstrated that when cognitive capacity is exceeded, the response is confusion.<sup>31</sup> The participant is disoriented and is unable to come to terms with any of the information. The result was that under MFB,



*"What benefits decisionmaking benefits military operations. If leaders could use collaborative decisionmaking to formulate better COA, better OPORDs would result. Enhancing ideation would enhance the use of MDMP and ultimately improve operations."*

when the commander's guidance was presented together with the OPORD, it failed to inspire high-quality COA.

Under MBW, on the other hand, the commander's guidance was presented one point at a time. Participants were directed to consider a single point in relation to the mission statement, which made cognitive overload less likely. When they considered the next point of guidance, having already derived their own COA, the new information complemented what they had already considered — it was chunked with their previous ideas. With each new round of review, participants continued to add a new point of guidance to their previous understanding. By segmenting the information, each new point of guidance was chunked with the previous, allowing participants to arrive at a higher level of understanding — resulting in more qualitative solutions.

We postulated that MBW would enhance the quality of COA. This method of ideation was designed to avoid the deficiencies of MFB, such as production

blocking, evaluative apprehension, and social loafing, and draw maximum effect from segmentation and idea chunking so participants did not exceed cognitive capacity. Whereas, the procedure led to COA that were more feasible, acceptable, suitable, and complete, it did not lead to COA significantly more distinguishable. The outcome was a partial validation of hypothesis 1.

However, although MBW did not produce ideas more distinguishable than MFB, the higher quality COA of MBW made up the difference. The solutions offered under MFB were high in quantity, but varied in quality. On the other hand, MBW produced COA, which were as distinguishable, but of a much more uniformly high quality. We argue that a group of consistently high quality COA is more useful to a commander than a mixed bag of poorly formulated and, at times, frivolous ideas.

Hypothesis 2 drew on current theory, demonstrating that the use of GSS can further enhance an ideation procedure. We hypothesized that by substituting person-to-machine mediated interactions for person-to-person interactions we would eliminate certain distractions and increase participation by group members. Thus, the use of a GSS would further improve the quality of the COA solutions.<sup>32</sup> It did not.

The reason for failure was a testament to the efforts we made to eliminate differences between the procedures. We took great pains to ensure the manual and electronic procedures matched in every way. The differences that remained between MBW and EBW did not influence the outcome. The conclusion indicated that (in this case at least) similar procedures produce similar results, regardless of the medium.

Several studies in the use of GSS to support MDMP were conducted by the U.S. Army Research Laboratory (ARL) during the 1980s. These studies focused on step 2 of the MDMP, mission analysis, and had partial success in organizing and assembling high-level information.<sup>33</sup>



We, on the other hand, focused on step 3, COA development. We investigated the use of GSS as an ideation technique to enhance the quality of COA generated. The results of our study demonstrate that the quality of COA produced during MDMP would be improved if the ideation techniques were revised. Rather than employ traditional brainstorming, MBW should be adopted. MBW (either manual or electronic) produces higher quality COA than traditional "free" brainstorming (MFB).

MBW produces COA that are more feasible than those of MFB. MBW creates COA that can better be accomplished given resources of people, money, time, and materiel. MBW produces COA that are more acceptable than those of MFB; the benefit justifies the costs. MBW produces COA that are more suitable; each COA agrees with the guidance received from the commander. MBW also produces COA that are more complete; they accomplish the mission.

Using MBW would significantly enhance the quality of COA available to commanders to meet mission requirements. With a superior tool in hand, rather than relying on intuition, commanders would be more inclined to use the analytic decisionmaking methodology that MDMP affords. MBW enhances MDMP, producing a tool of much greater facility to the commander of a military unit.

What benefits decisionmaking, benefits military operations. If leaders could use collaborative decisionmaking to formulate better COA, better OPORDs would result. Enhancing ideation would enhance the use of MDMP and ultimately improve operations.



## Notes

<sup>1</sup>Adapted from Thomas P. Hanlon, *Inspiring Creative Solutions: an Experimental Investigation of Three Ideation Methods in Generating Creative Product*, doctoral dissertation, De Paul University, Chicago, IL, 2010. The dissertation attempted a broader scope than is reported here. Although the domain of the experiment was the military, we tried to generalize to a broader audience. The goal was creativity. A problem limiting creativity, *cognitive inertia*, was the focus. In this article, we have tailored back the scope. Rather than interpret FADS in terms of creativity, we have employed it as a measure of quality. Discussions of creativity (and *cognitive inertia*) have been omitted.

<sup>2</sup>Chi M. Babcock, P. Reimann, and R. Glaser, "Self Explanation: How Students Study and Use Examples in Learning to Solve Problems," *Cognitive Science*, Vol. 13, 1989, pp. 145-182.

<sup>3</sup>Headquarters, Department of the Army, U.S. Army Field Manual (FM) 5-0, *The Operations Process*, U.S. Government Printing Office (GPO), Washington, DC, 2010, p. B-3.

<sup>4</sup>*Ibid.*, p. 2-12.

<sup>5</sup>Morgan M. Sheperd, Robert O. Briggs, Bruce Renig, Jerome Yen, and Jay F. Nunamaker Jr., "Invoking Social Comparison to Improve Electronic Brainstorming: Beyond Anonymity" *Journal of Management Information Systems*, Vol. 12, No. 3, 1995-1996, p. 156.

<sup>6</sup>George A. Miller, "The Magical Number Seven, Plus or Minus Two: Some Limits on our Capacity for Processing Information," *The Psychological Review*, Vol. 63, No. 2, March 1956, pp. 81-97.

<sup>7</sup>*Ibid.*

<sup>8</sup>*Ibid.*

<sup>9</sup>David Schwartz, "Aristotelian View of Knowledge Management," *Encyclopedia of Knowledge Management*, Idea Group Publishing, 2006.

<sup>10</sup>Gary R. Morrison, Steven M. Ross, Howard K. Kalman, and Jerrold E. Kemp, *Designing Effective Instruction*, 6th ed., John Wiley & Sons, Inc., Hoboken, New Jersey, 2011, p. 213.

<sup>11</sup>*Ibid.*, p. 257.

<sup>12</sup>*Ibid.*, p. 258.

<sup>13</sup>Miller, pp. 92-93.

<sup>14</sup>FM 5-0, p. B-16.

<sup>15</sup>A. F. Osborn, *Applied Imagination: Principles and Procedures of Creative Thinking*, 2d ed., Scribner, New York, 1957.

<sup>16</sup>*Ibid.*, pp. 1-397.

<sup>17</sup>Michael Diehl and Wolfgang Stroebe, "Productivity Loss in Idea-Generating Groups Tracking Down the Blocking Effect," *Journal of Psychology and Social Psychology*, Vol. 61, No. 3, 1991, pp. 392-403.

<sup>18</sup>*Ibid.*, pp. 392-403; and Michael Diehl and Wolfgang Stroebe, "Productivity Loss in Brainstorming Groups: Towards the Solution of a Riddle," *Journal of Psychology and Social Psychology*, Vol. 53, No. 3, 1987, pp. 497-509.

<sup>19</sup>Arthur B. Van Gundy, "Brain Writing for New Product Ideas: An Alternative to Brainstorming," *Journal of Consumer Marketing*, Vol. 1, Issue 2, 1984, pp. 67-74; also Knut Holt, "Brainstorming — from Classics to Electronics," *Journal of Engineering Design*, Vol. 7, Issue 1, 1966, pp. 77-82.

<sup>20</sup>In the dissertation, this procedure was labeled "carousel brainstorming," and the commander's guidance was described as "specification requirements." The latter was used as a means of stimulating creativity. We now believe that it is more effective as a means of segmenting the information.

<sup>21</sup>We conducted the procedure synchronously; that is, all participants responded at the same time (and in the same place). But the procedure could as easily have been conducted asynchronously and from remote locations.

<sup>22</sup>Prashant Bordia, "Face-to-face versus Computer-mediated Communication: A Synthesis of the Experimental Literature," *Journal of Business Communication*, Vol. 34, No. 1, January 1997, pp. 99-102.

<sup>23</sup>Poppy Laretta McLeod, "An Assessment of the Experimental Literature on Electronic Support of Group Work: Results of Meta-analysis," *Human-Computer Interaction*, Vol. 7, 1992, pp. 257-280.

<sup>24</sup>The GSS we chose for this study is the web-based software "ThinkTank @," produced and marketed by Groups Systems, Inc., Denver, Colorado.

<sup>25</sup>The majority of participants (76%) were undergraduate students in their fourth year of studies. Average age was 22. Seventy-eight percent were male and 22 percent female. Most (96%) had average to above average knowledge of computers. Ninety-two percent rated their knowledge of military tactics as average to above average. Their

knowledge of decisionmaking, the majority rated as average to above average (88%). Collaboration techniques, on the other hand, they rated as only average (52%). Most (78%) rated their knowledge of group support systems as less than average.

<sup>26</sup>All evaluators were volunteer members of U.S. Army Reserve unit 3-75th Division (Training Support). One of the missions of the 3/75th Division is to train Army Reserve units in MDMP. Every officer of the panel had more than 6 years of service in the Army, and at least 1 year of service as a member of the 3/75th Division (Training Support). Accordingly, every panel member was an expert in the structure and use of MDMP.

<sup>27</sup>FM 5-0, p. 3-30.

<sup>28</sup>The FADS test is not used by the military as evaluation criteria for COA (that determination is left to later stages of the decisionmaking process and is specific to the mission at hand). The FADS test, rather, is an initial screening device that can be used during idea generation. For that reason, the military does not weigh FADS components as actual evaluation criteria would be so weighted. The test merely assays initial ideas to determine where to focus efforts.

<sup>29</sup>Statistical computations were done using Kwikstat for Windows®, made by TaxaSoft, Cedar Hill, Texas.

<sup>30</sup>However, analysis of statistical significance is convoluted. *Feasible*, two statistically significant differences emerge: MBW differs from MFB and EBW differs from MFB, but MBW differs not from EBW. *Acceptable*, three statistically significant differences: MBW differs from MFB, EBW differs from MFB, and MBW differs from EBW. *Distinguishable*, no significant differences. *Suitable*, three statistically significant differences emerge: MBW differs from MFB, EBW differs from MFB, and MBW differs from EBW. *Complete*, three statistically significant differences: MBW differs from MFB, EBW differs from MFB, and MBW differs from EBW.

<sup>31</sup>Miller, pp. 83-84.

<sup>32</sup>Bordia, pp. 99-102; and McLeod, pp. 257-280.

<sup>33</sup>Howard C. Higley and Robert J. Harder, "Tailoring an Electronic Meeting System to Military Planning and Operations. A Case Study," *Proceedings of Hawaii International Conference on System Sciences*, January 2003.

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# NATIONAL TRAINING CENTER

by Lieutenant Colonel Thomas Mackey and Major Ernest Tornabell IV

## **Part I: Command, Control, Communications, Computers, Information, Surveillance, and Reconnaissance (C4ISR)**

Commanders at all levels desire the capability to command and control instantaneously from anywhere within their battlespace. This has become a reality as communications systems and capabilities have changed significantly during the U.S. Army's transformation. Brigade combat teams (BCT) transitioned from old school mobile subscriber equipment to an interim solution joint network transport capability-spiral (JNTC-S) and will eventually field the long-awaited war-fighter information network-tactical (WIN-T) system. These newer systems are designed for reliable, secure, and seamless video, data, imagery, and voice services, which enable full-spectrum operations (FSO).

Communications does not happen magically. Commanders at troop/company/battery level up to BCT level must be knowledgeable and involved in running the "network" that exists in their organizations. Leaders cannot rely solely on their signal military occupation specialty (MOS) soldiers to solve every problem and ensure entire network systems function effectively. Commanders must now be knowledgeable and involved as lines of manning, training, and equip-





# BEST PRACTICES

ping, outlined in the Army Forces Generation (ARFORGEN) model, do not necessarily line up to establish a glide path for units on the ground as they prepare for future deployments. Oftentimes, BCTs field personnel and equipment late in the model and have limited experience setting up and running networks. Most BCTs arrive at the National Training Center (NTC) without functional training on communications systems at home station, forcing them to struggle with operating these systems for the first time during final collective training events prior to deployment.

With adding essential computer networks to communications within our formation, commanders need to know what they have plugging into that network and that their antivirus and windows system update servers (WSUS) are functioning and protecting the entire network from attack. The company intelligence support team (referred to as CoIST) has the capability to access nonsecure internet protocol router



# The Changing Battlefield

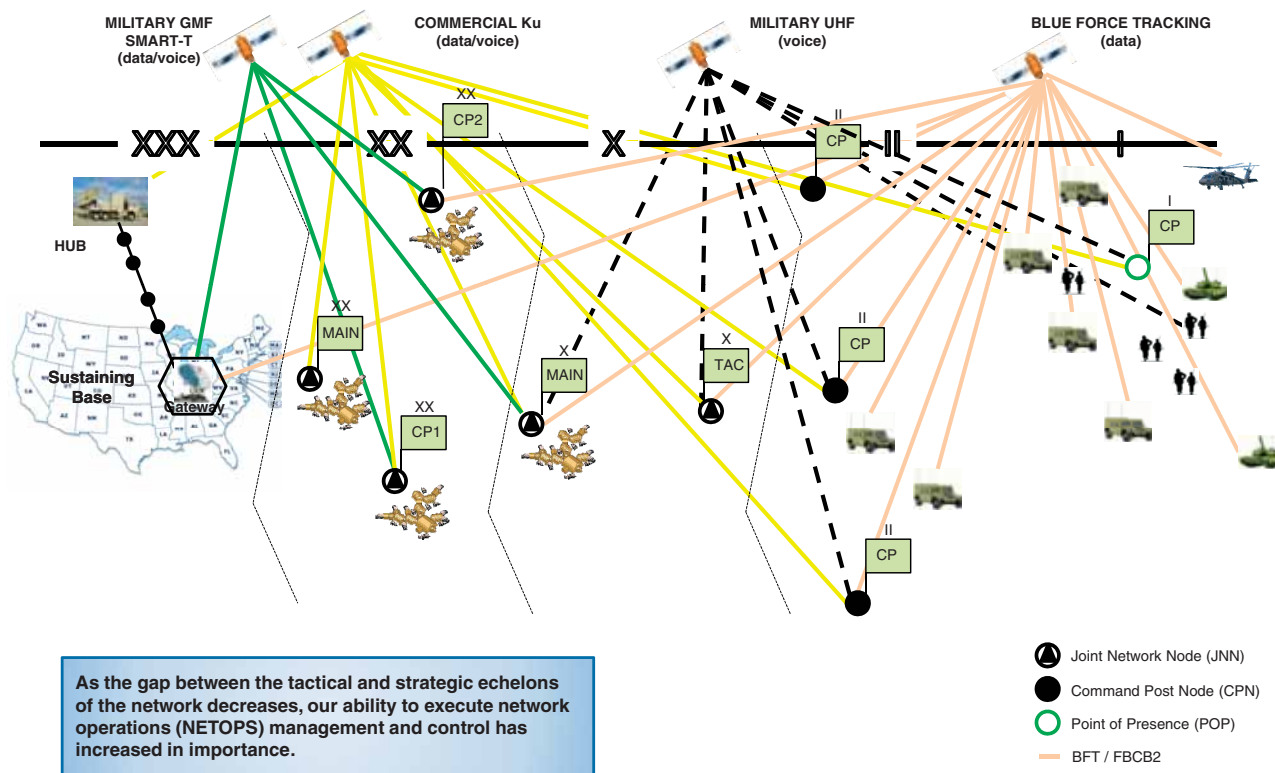


Figure 1. Network operations ISO G6/S6

network (NIPRNet) and secure internet protocol router network (SIPRNet) systems. Poor business practices, or a lack of training and understanding, could easily result in information assurance violations, at a minimum through spillage from a SIPRNet to a NIPRNet, or the CoIST team inadvertently infecting the SIPRNet with a virus, thus crippling the entire network. Business rules and training are now paramount across the BCT to protect our networks as access to the SIPRNet is now at an all-time low.

Leader checks of these “business rules” are critical to protecting the entire network as the SIPRNet is available at the troop/company/battery level. At the BCT and below levels, the statuses of our command, control, communications, computers, information, surveillance, and reconnaissance (C4ISR) systems now drive friendly forces information requirements (FFIR) drafting to keep commanders informed of issues within their network. Brigade/battalion commander signal tactics, techniques, and procedures (TTP) include:

- Understanding command and control (C2) structure:
  - Relationships between brigade special troops battalion (BSTB) commander, brigade S6, signal company commander, network operations (NETOPS).
- Information assurance:
  - All systems managed; server updates over the network.
  - SIPRNet/NIPRNet access point (SNAP) integration into CoIST/stability and transition teams (STT).
- Communications and technical support requirements.
- Type of communications/Army battle command systems (ABCS) assets inherent to the unit.

- Spectrum requirements:
  - Frequency modulation (FM), organic/nonorganic units.
  - Unmanned aircraft systems retransmission (RETRANS) capabilities.
- SharePoint:
  - Enables knowledge management and collaboration.
- Network registration:
  - Must be checked for any changes; if not correct, will not connect to outside unit network.
- Digital/NET training.
- Communications security (COMSEC) requirements.
- Network/signal commander’s critical intelligence requirements (CCIR) and wake-up criteria.

Units now have the ability to communicate further, faster, and with greater data throughput than ever before with robust voice communications platforms, full-motion video capabilities, and Blue Force Tracking systems. Commanders also have the ability to conduct face-to-face meetings with subordinate commanders through video teleconferencing (VTC), which enables immediate feedback during ongoing operations. These systems being integrated into a single network has increased the importance of the signal community’s role in ensuring the commander’s ability to command and control all units across full-spectrum operations. As newer C4I systems are fielded, the BCT’s challenges, although numerous, can easily be mitigated through proper planning and training during home station operations. To ensure signal teams are successful during full-spectrum oper-



ations, the NTC has identified five 'best practices,' outlined below.

**1. Signal team and systems training.** First and foremost, each signal team must conduct tough, realistic, and relevant training prior to arriving at the NTC. Signal training and maintenance should be incorporated into every training schedule for a BCT at home station. Weekly command maintenance should include pushing out retransmission (RTX) systems and conducting radio checks, such as single channel and frequency-hopping tactical satellite (TACSAT), with all vehicles and tactical operations center (TOC) kits. Units should also conduct communications and electronic maintenance with all joint network node and command post node (JNN/CPN) crews, standing up their respective systems for training and testing with the BCT NETOPS cell, while a network tech leads training and maintenance efforts. Quarterly signal team crew drill certifications (similar to Bradley/tank table 8) should also be integrated into collective training plans.

It is important to note that commanders will not completely realize the weak links in their networks until they place a "load" on the systems. BCT leaders at echelon can assist in this process by implementing communications exercises (COMMEXs) as part of regularly scheduled maintenance periods and collective training events to "stress test" networks and gain proficiency over repetitions. It is good practice to tactically execute the load on these systems to avoid becoming reliant on something that may be unavailable, such as fiber network, in a tactical environment. Roll outs from the motor pool should not occur without a digital C2 exercise rehearsal (DC2R), which will enable the unit to begin training with a functional network that can be stretched out in training.

The BCT must stand up its entire "enterprise network" to validate network registration, advertisement, functionality, and information security posture prior to arriving at the NTC. This should not be accomplished during the unit's final field training exercise (FTX), but rather in progressive phases. Dismounting NIPR/SIPR stacks from shelters while conducting cable and data exercises is a huge benefit to units unfamiliar with systems or lacking skill sets.

The S6 should be involved with the TOC design, alongside the S3 team, to develop a cable plan for wiring the TOC. This effort helps reduce the time required to wire the TOC during subsequent setups and helps the S6 team estimate the amount of cable needed for future FTXs. Units are encouraged to conduct full-scale staff integration exercises (STAFFEX) where all ABCS systems are integrated into an exercise, regardless of how small or seemingly insignificant. Soldiers become more proficient on ABCS when they are "put in play," as opposed to an afterthought.

Information assurance (IA) has become a major hurdle that affects a rotational unit's ability to transition from reception, staging, onward-movement, and integration (RSOI) to situational training exercises (STX)/full-spectrum operations. The focus on warfighter planning and training is disrupted when BCT S6 teams do not take proper precautions regarding information assurance; meeting regulatory compliance for all systems prior to



*"Leaders cannot rely solely on their signal military occupation specialty (MOS) soldiers to solve every problem and ensure entire network systems function effectively. Commanders must now be knowledgeable and involved as lines of manning, training, and equipping, outlined in the Army Forces Generation (ARFORGEN) model, do not necessarily line up to establish a glide path for units on the ground as they prepare for future deployments."*

movement from the logistics support areas (LSA) is not negotiable. Rotational units (RTU) that fail to meet compliance standards lose valuable training time in the box. This is an area in which commanders must be actively involved; failure to establish information assurance for the BCT and below network could cause the network to fail when needed most for battle command.

Trained and disciplined signal teams include FM RTXs, JNNs, and CPNs that can react successfully to "time sensitive operations" and adjust effectively to contingency missions. The key to successfully trained signal teams and systems requires extensive planning at the BCT S6 level, as well as support from the network signal company and greater command emphasis. If command teams are not supportive of signal team training, failure is imminent.

**2. Network tools and bandwidth management.** Every commander feels the need to have massive amounts of bandwidth to push/pull products and C2 subordinate units in their battlespace. Commanders at echelon and below must have the ability to effectively monitor the status of all links/systems higher and lower in their network; for example, Simple Network Management Protocol c (SNMPC) with all systems in your network. Commanders must have the ability to know/understand the health of their links in terms of data loss, such as which links are losing packets and why/where. Typical systems, such as Network MRI and Solar Winds, are used to monitor network health at the brigade level and reside in the brigade S6 shop. Commanders must be aware of their network at all times due to its importance in providing essential battle command.

The NETOPS section is the digital quick reaction force (QRF) for the network and typically monitors the health of the brigade network. It is important for the NETOPS team to baseline the network, which enables it to track all computer/ABCS systems on the brigade network. The NETOPS team should be verifying if network tools are set up to ascertain how much bandwidth is being used on any given link at any given moment, and what type of activity is consuming the bandwidth such as the staff section emailing operations reports 30MB and higher instead of 3MB or lower. These large files adversely impact a network and slow down the transfer of critical information between higher, lower, and adjacent units.

More than likely, units will need to implement procedures to control bandwidth usage, especially at critical times, such as during commanders update assessments (CUA), battle update briefs (BUB), and concept of operations (CONOP) briefs. During certain events, decisions will have to be made regarding when to shut down the portal and email exchange systems, possibly placing them on the battle rhythm to provide commanders and staffs situational awareness. All staff sections should be made aware of network limitations and have the ability to train the brigade staff, as well as be given the proper tools to effectively use the network. Properly managing the network enables all users to have effective, efficient C2 capabilities. Key tasks for installing the BCT enterprise network include:

- BCT S6:
  - ✓ Establish administrative control of all BCT network assets.
  - ✓ Establish BCT network registration with Network Enterprise and Technical Command (NETCOM).
  - ✓ Certify all BCT signal crews in BCT (CPN/JNN/RTX).
  - ✓ Certify BCT network servers and service.
  - ✓ Plan the network based on operational requirements.
  - ✓ Submit satellite access/TACSAT requests for operation/training.
  - ✓ Conduct BCT switch exercises based on planned operational network.
  - ✓ Conduct/validate BCT enterprise network testing/load testing prior to exercise.
- BCT NETOPS:
  - ✓ Configure JNN/CPN wide area network based on operational network plan.
  - ✓ Plan, brief, and issues team packets for all CPN/JNN crews.
  - ✓ Conduct training and certification of all BCT JNN/CPNs.
  - ✓ Install, configure, and manage BCT wide area network monitoring tools.
  - ✓ Provide C2 and systematic troubleshooting of BCT wide area network.

- BCT Systems Administration:
  - ✓ Establish domain network registration with NETCOM.
  - ✓ Build and certify all BCT network servers and services (domain, portal, etc).
  - ✓ Build and certify all BCT IA network servers and services (windows, antivirus updates).
  - ✓ Ensure IA compliance through managed updates for all BCT systems.
  - ✓ Establish and manage BCT helpdesk operations.
  - ✓ Install local area network/TOC internal network infrastructure (helpdesk, NETOPS).
- BSTB Signal Company Commander:
  - ✓ Train and sustain BCT JNN/RTX/NETOPS crews.
  - ✓ Conduct joint communications planning with BCT S6.
  - ✓ Employ/sustain BCT JNN/RTX/NETOPS assets per BCT communications plan.
  - ✓ Attend daily S6 sync meetings.

**3. Battle tracking.** “Seeing ourselves” and understanding system statuses within the brigade at all times is crucial. Unfortunately, seeing ourselves tends to be the last priority when it should be the first, which affects commanders and signal soldiers at every echelon. When considering how we should see ourselves, four important questions arise: what systems do we have; what systems can we use for missions; when is each system full mission capable, vice nonmission capable; and how quickly can we get systems back into the fight?

All S6 teams should have a tracking board, with a by-unit list of all C2 systems, displayed in the S6 shop to manage network priorities based on the commander’s C2 intent. This board, which is prominently displayed in open view of everyone in the S6 shop, enables the team to quickly ascertain the status of any system and its inherent capabilities. Tracking systems that include critical information at both brigade and battalion TOC levels provide the commander a visual representation of the network and its functionality.

The next step is posting this ‘live update’ to the unit’s Share-Point portal, which enables battle captains to routinely visit the tracker when operations are forthcoming (proper battle tracking also focuses on S6 shop priorities). Other important battle tracking tools include a “horse blanket tracker” and a communications prescribed load list (PLL) tracker, which displays the brigade’s digital C2 assets and status. Considering the statuses of our 30/60/90-day load for communications PLL, it is imperative to keep systems full mission capable or have the ability to quickly repair any non-mission capable system.

Digital C2 systems are critical assets that enable BCT staffs to C2 formations across full-spectrum operations. To ensure situational awareness and information flow, several key concerns should be addressed; for example, is the late shift aware of our status/priorities; what are our next priorities; and is there a separate tracking board in the S6 shop for internal briefings that lists by-section work priorities? Commanders who understand their network will require the BCT/battalion S6 to brief this information daily at various update briefs. Daily shift-change briefs that cover battle tracking ensure smooth transitions during any shift change and build confidence in subordinates and other staff sections.



*“Weekly command maintenance should include pushing out retransmission (RTX) systems and conducting radio checks, such as single channel and frequency-hopping tactical satellite (TACSAT), with all vehicles and tactical operations center (TOC) kits.”*



**4. Military decisionmaking process (MDMP)/troop leading procedures (TLP).** The participation of signal officers in MDMP/TLP critical tasks training appears to be deficient. “Staying glued to the S3” and understanding C2 requirements and the commander’s intent for C2 of the battlespace is an absolute necessity. Falling behind in the planning process and not fully understanding the commander’s digital C2 requirements adversely impacts operations.

To minimize adverse impact on operations, a product that allows rapid communication of a simple signal support plan to the brigade is a ‘must have.’ Keeping the signal support plan concept simple is always important; for example, it can be illustrated in a format similar to a one-page annex H on a PowerPoint slide or command post of the future (CPOF) pasteboard that clearly and concisely articulates the support plan for any mission. The plan should also include all pertinent information (verbalized clearly and concisely) and identify all pertinent C2 node locations, such as RTX locations/frequencies; field artillery gun locations/frequencies; air weapons team locations/frequencies; TACSAT frequencies; primary, alternate, contingency, and emergency (PACE) plan; RTX team task and purpose; and frequencies information. The S6 should ensure the plan is simple and passed on to the future/current operations staff timely, which expedites any necessary adjustments. If the mission is conducted on a compressed timeline, follow up the fragmentary order (FRAGO) with phone calls, teleconferences, and other means with other S6 elements. Always ensure that the concept of signal support is understood at the lowest levels and could be considered an enhanced vehicle drivers communications card.

**5. Synchronization between the brigade and battalion S6 signal teams and signal company (SICO).** Synchronization between the brigade and battalion S6 signal teams and the SICO must occur frequently. A fundamental flaw within the signal community is its inability to communicate a clear and concise concept of signal support. Brigade and battalion S6 teams, along with the SICO, should communicate daily through a synchronization meeting, which is ideally published on the BCT’s battle rhythm. Communications and synchronizing signal support planning does not begin 24 hours prior to an operation; it begins much earlier based on the BCT S6 staff understanding the current mission and providing its plans on supporting the mission while incorporating the brigade’s full signal capability package. Brigade and battalion S6 teams and SICO elements must synchronize efforts to ensure seamless communications for all warfighters. The BCT S6 concept of signal support should incorporate battalion S6 concepts and vice versa.

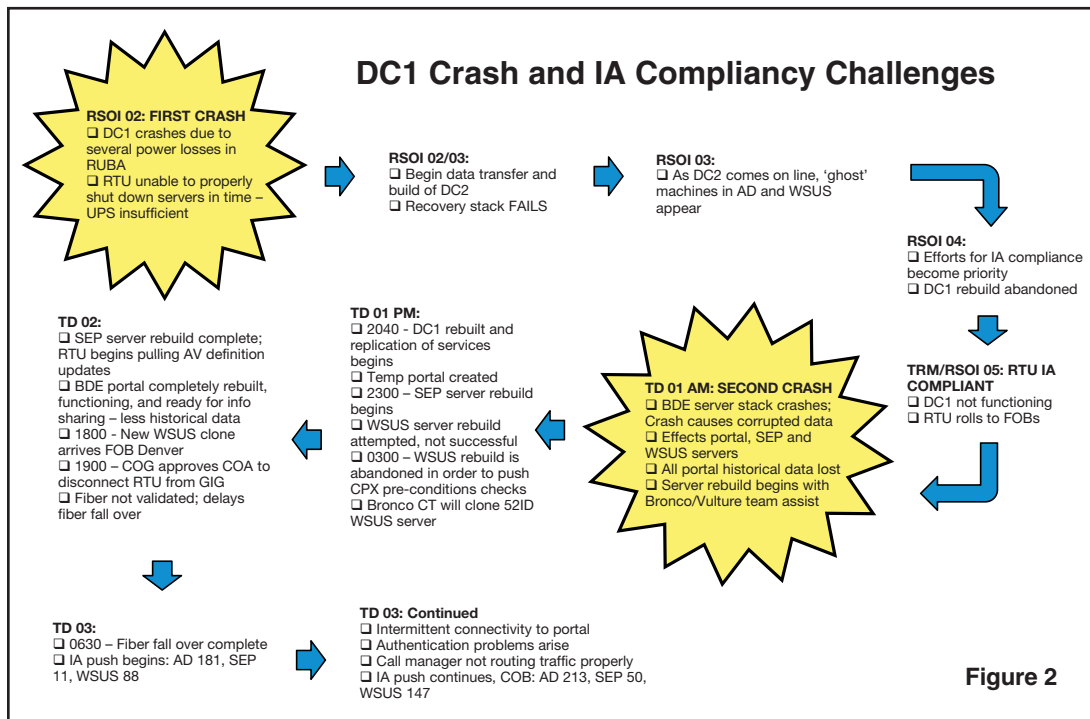
During sustainment operations, the BCT battalion S6 teams and SICO should arrange at least one conference, telephonic or web, biweekly to share critical information and exchange ideas. At echelon and below, all teams should understand signal concepts and have the ability to react to shortcomings and friction points to meet the commander’s C2 intent. With the number of multiple subordinate headquarters continually increasing due to the amount of C2 systems in formations, both in garrison and deployed environments, there exists an amplified need for BCT-



*“Trained and disciplined signal teams include FM RTXs, JNNs, and CPNs that can react successfully to ‘time sensitive operations’ and adjust effectively to contingency missions. The key to successfully trained signal teams and systems requires extensive planning at the BCT S6 level, as well as support from the network signal company and greater command emphasis. If command teams are not supportive of signal team training, failure is imminent.”*

level oversight. The BCT S6 team is in charge of ensuring that all C2 systems have the ability to provide the brigade commander ready and reliable battle command. The misconception that the signal company or battalion owns the JNN/CPN is untrue. The brigade commander owns all signal systems and it is the responsibility of the BCT S6 to properly manage those assets to meet the commander’s intent and guidance for digital C2 communications. This brigade commander and BCT S6 relationship also exists at the echelon level.

Depending on how the SICO is arrayed and its location on the battlefield, it plays a vital role in supporting the brigade staff with wide-area network (WAN) connectivity, as well as VTC suites and full-motion video support. The SICO must know and understand what missions the brigade needs to accomplish to fully support full-spectrum operations. Having the ability to plan



without formal orders is a key component for conducting synchronization meetings. With all teams on the same sheet of music, signal assets can be surged or redirected to support the BCT. The signal company executes all signal missions as dictated by the BCT S6; therefore, it is imperative they understand all signal concepts of support. Synchronization between higher and lower signal teams is a key function that ensures concepts of signal support are capable of providing reliable communications. A few critical questions that should be addressed to limit friction points include: what issues do the battalions have; what resources do they have (if there are shortcomings); what can the brigade commo team provide; and how can we better support our subordinate warfighters with digital C2 systems?

The ABCS systems and capabilities will continue changing dramatically as modularity effectively extends the battlefield. For brigade signal teams, having the ability to effectively manage and meet the commander's C2 requirements are contingent on following the five "best practices" described above. Leaders must also ensure that training and guidance are provided to build the skills to enable battle command within their organization, as well as understand the capabilities of their network and what checks they need to make to ensure that the organization's C4ISR systems are available and reliable. Units with leaders who wash their hands of the details and leave it all to the signal MOS soldiers will either knowingly or unknowingly risk their ability to command their organization.

### Part II: Battle Command Common Services (BCCS) Challenges

During a recent NTC rotation, a unit arrived confident that its network architecture had been fully tested and validated during events 1 through 3 of its home-station ARFORGEN battle command system of systems integration training (BCSoSIT). However, during the RSOI stage of rotation, it became increasingly evident that the TOC fielding and home station tactical communications exercise (COMMEMX) failed to meet standard, or if standard was achieved, it was far too low. The observation was made based on problems that arose with their enterprise server suite that houses various capabilities, such as WSUS, Symantec EndPoint (SEP) antivirus server, and Microsoft Office

SharePoint portal server. A power outage in the RSOI yard proved catastrophic when stack 1 of the enterprise server suite, which houses domain controller (DC) 1, WSUS, SEP, and SharePoint virtual machines, and the brigade's disaster recovery stack, failed. Figure 2 illustrates some of the issues resulting in the crash of DC 1 and the residual effects felt by the RTU.

Normally, the RTU has the ability to 'power down' its server stacks with the assistance of a fully functioning uninterrupted power supply (UPS) that has enough 'spare' power for operators to power down systems during power loss. However, this unit did not have a properly working UPS and was unable to conduct power down battle drills to standard. The damages caused by this event were significant, which was evident several days later. These damages could have been averted if the RTU had a properly maintained UPS (10/20 standards) and servers configured to replicate the data between BCCS server stacks (see Figure 3).

The need to conduct relevant BCSoSIT events becomes increasingly important during training events 2 and 3. Typically, the NTC is aware of brigades conducting 'vanilla-type' field training exercises where units continually conduct closed network training without fully stressing the network. Until all brigade and battalion ABCS and SIPRNet/NIPRNet client systems are added to the domain, a network is not stressed. Leader oversight and influence becomes necessary in ensuring the proper enabling learning objectives reflect the true nature of the digital systems architecture. Between brigade/battalion commanders and their operations officers, these learning objectives should be nested with the brigade commander's digital C2 intent.

By fully stressing the brigade's digital C2 network, units can identify friction points with bandwidth management, knowledge management, and client user proficiency. Units that opt not to stress their networks prior to NTC rotations will no doubt experience the ramifications of connecting together all ABCS and network systems for the first time. The RTU should also be aware that these actions compete with all its other demands during RSOI training. There is not enough time to properly conduct client management and information assurance compliancy in a time-constrained environment.



The recommendation to fully stress a brigade's digital C2 network prior to actual exercises is nothing new, and recent trends at the NTC speak for themselves. Figure 4 provides the proper progression between events 1 and 3 as units conduct integration training at home station. NTC combat trainers assisted the RTU by rebuilding its BCCS server stacks because it lacked the necessary expertise to perform this operation. Prior to its rotation, the BCT was not manned with a signal systems technician warrant officer (254A) to manage its network, and the senior signal systems noncommissioned officer (NCO) simply lacked the technical ability. These personnel shortages caused a ripple effect across the BCT by impeding the RTU's ability to provide basic services, or even network connectivity, based on the brigade's failure to maintain full control of its network, which became increasingly vulnerable to viruses. The decision was made to 'close off' the network to the 'real-world' while the RTU completed the lengthy tasks of rebuilding the server and ensuring information assurance conformity prior to rolling to 'the box.'

This catastrophic event further reinforced the need for signal-specific battle drills. The human element makes it necessary to confirm an identified digital PACE plan. Had the RTU properly replicated data between its DC 1 and 2, or even its disaster

recovery server, the power outage would have been just another minor, easily recoverable incident.

Recently, a BCT arrived at the NTC without a fully registered and accredited tactical server stack, and its primary servers and services were not configured (see Figure 5). This failure resulted in increased manpower and lost training days until the unit was fully mission capable and permitted to transition from RSOI to STX/full-spectrum operations. The JNN/CPN were the only

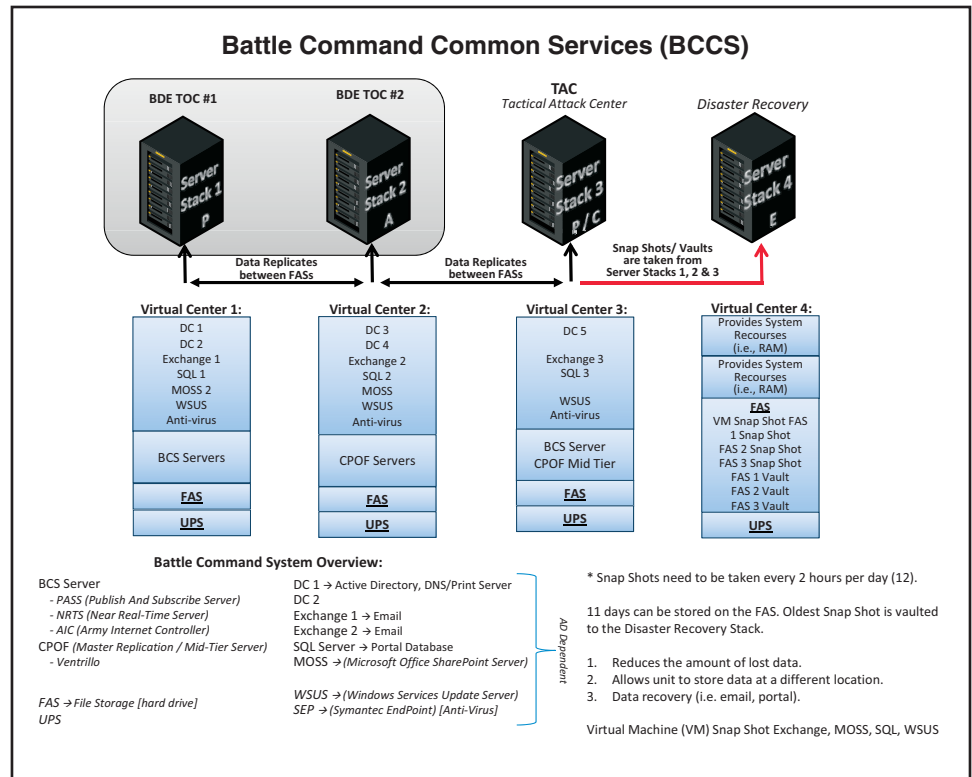


Figure 3

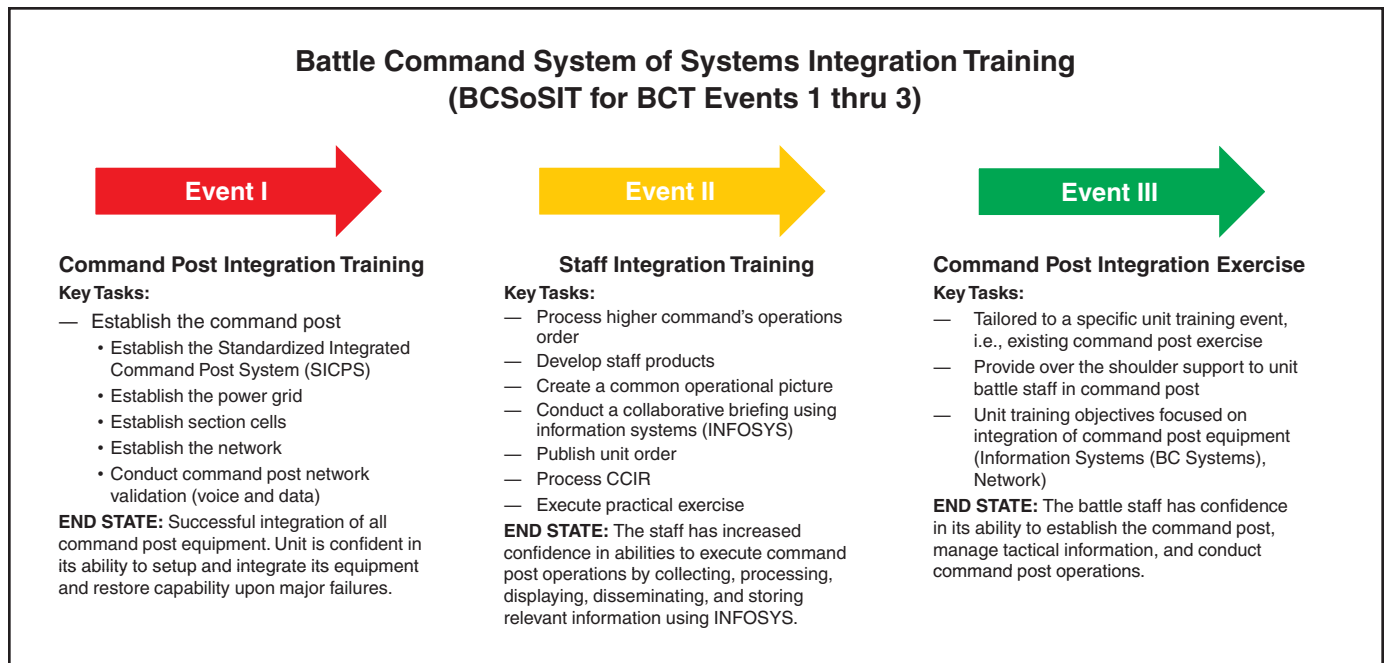


Figure 4

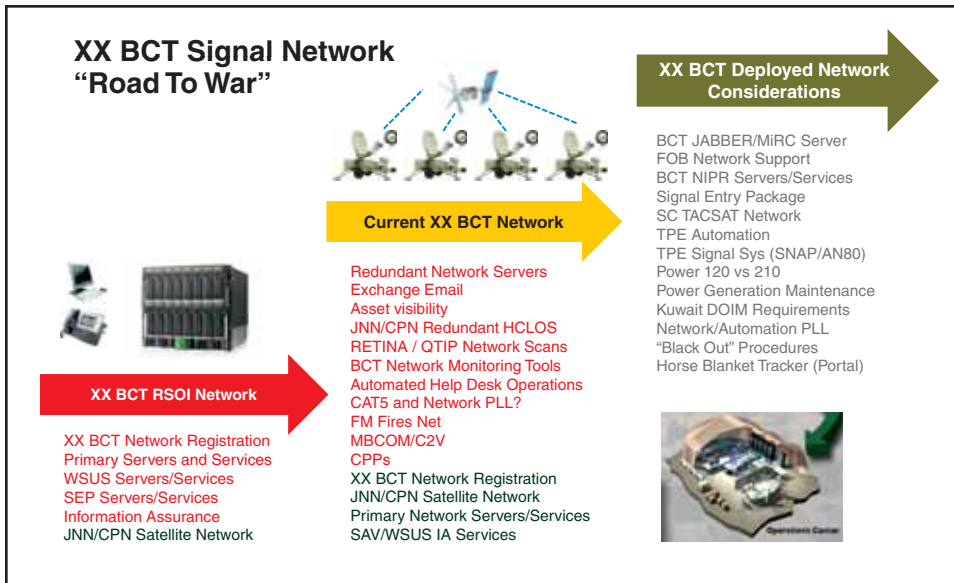


Figure 5

systems configured to Army standards; however, this brigade had just been fielded with the proper equipment a few months prior to rotation, and the RTU had the necessary warrant officer technical expertise within the brigade.

It was evident, based on a lack of registration and accreditation, that BCSoSIT events 1 through 3 were not properly trained to standard during ARFORGEN reset and prior to rotation. A lack of understanding, minimal command-level influence, and a general lack of concern within the signal team were all contributing factors. When the RTU completed its NTC rotation, its enterprise server suites were registered, accredited, and fully mission capable. There were still many areas in which the RTU was delinquent;

however, the base line had been established and validated prior to its upcoming deployment. Remaining deficiencies would have to be corrected at home station because there was no time for adjustments before the unit's signal equipment was loaded for transport to theater.

During home station training, it is imperative that units use proper procedures to ensure the enterprise server suite is fully mission capable, thus starting with registration and accreditation of that tactical server stack. For the unit to be fully advertised, server domain controllers, such as Microsoft Exchange and Microsoft Office SharePoint Services (MOSS), must be registered with NETCOM (advertising) and Defense Information Security Agency (registration) by proper server system name and internet protocol (IP) address specific to that system to allow fellow brigades outside of the domain to interact via the SIPRNet.

During BCSoSIT events 1 through 3, it is very important that brigade-level units fully 'strain' servers and replicate 'real-world' scenarios by using all capabilities battle command systems provide. This means linking/replicating all data across BCCS servers and straining network architectures by employing various ABCS 6.4 system of systems suites, such as tactical battle command suites (CPOF), Force XXI battle command-



"The BCT S6 team is in charge of ensuring that all C2 systems have the ability to provide the brigade commander ready and reliable battle command. The misconception that the signal company or battalion owns the JNN/CPN is untrue. The brigade commander owns all signal systems and it is the responsibility of the BCT S6 to properly manage those assets to meet the commander's intent and guidance for digital C2 communications."



## Balancing BCT/Battalion C2 Responsibilities

### BCT Responsibilities

- Enterprise network registration
- Information assurance compliancy
- WAN/LAN network monitoring
- Establish C2 structure
- Validate C2 network structure
- C2 node placement
- BDE RTX placement ISO battle command
- Digital /new equipment training
- Parallel planning with battalion S6s
- Signal asset visibility
- UAS RTX capabilities
- SharePoint administration
- COMSEC custodial duties
- Establish signal CCIR / wake-up criteria
- SNAP integration

### Battalion Responsibilities

- Information assurance compliancy
- LAN management support
- Understand C2 structure
- C2 node placement
- BN signal support plan
- Bottom up refinement for C2 plan
- BN RTX placement
- COMDEX with brigade elements prior deployment
- Information sharing via SharePoint
- COMSEC responsibilities
- Follow signal CCIR / wake-up criteria
- SNAP operation



Figure 6

brigade and below (FBCB2), all-source analysis system/distributed ground station-Army (DCGS-A), advanced field artillery tactical data system (AFATDS), and battle command sustainment and support systems (BCS3), into FTXs to get a realistic idea of what each unit can and cannot accomplish based on a bandwidth-constrained environment. Commanders must ensure signal teams are replicating data across the entire enterprise server suite, thus validating that TOC stacks 1 and 2, and TAC stack 3 are communicating and sharing data across the domain controllers for user authentication purposes and management of client systems on the network. Also, verifying that the disaster recovery suite (stack 4) is properly configured for “snap-mirroring” primary server stacks (usually stacks 1 and 2) and constantly backing up and storing database mirrors prevents total catastrophic data loss. Signal teams must also make time to conduct battle drills of likely incidents, such as power failure, that will most likely occur while operating and managing an enterprise server suite.

Based on recent experiences, excluding the brigade S6 team and field service representatives, most, if not all, leaders are unconcerned with enterprise server suites, C2 architectures, or overall networks. As far as most commanders are concerned, the signal team installs, operates, and maintains these systems in support of the brigade, and as long as email or portal access remains uninterrupted, there is little concern otherwise. This paradigm needs to change; commanders must be knowledgeable and involved in their organization’s networks, they cannot solely rely on signal soldiers to manage entire network systems. It is counterproductive to assume that the blinking green light indicates that all systems are “a go;” information digits must flow across the network from system to system to be viable.

Commanders at echelon play a much greater role in distributing C2 responsibilities and managing networks, as illustrated in Figure 6. Network management is no longer solely the concern of brigade or battalion signal officers, but instead a combined effort in responsibility. Balancing responsibilities requires all vested parties to step up and ensure individual capabilities are employed, which enables full battle command. Although the brigade indicatively has greater roles and responsibilities in providing and enabling C2 across all formations, all battalions comprise a vital piece of the overall puzzle. Any failure at echelon increases the risk of units being unable to communicate both vertically and horizontally. A brief depiction of C2 responsibilities is represented in Figure 6; however, it is by no means all encompassing and can be dependent on BCT activities.

Based on current events at the NTC, full-spectrum operations commanders demand quick, responsive, reliable communications systems and capabilities throughout their battlespace. To enable best practices and overcome challenges, commanders at echelon and below must perpetrate a more active role in ARFORGEN BCSoSIT events 1 through 3. Commanders must also conduct validation checks across formations to ensure networks have been stressed appropriately in accordance with en-

abling learning objectives. Executing home-station COMDEXs must be meticulously coordinated events and, in some cases, evaluated by division G6 subject-matter experts. As there is no final “validation” conducted by the BCSoSIT team, progress made during event 3 must be approved by a brigade commander who understands the network and its clients and has confidence in the unit’s abilities to conduct battle command effectively across its formations. Fully understanding roles and responsibilities within each brigade combat team in regards to installing, operating, and managing Army networks is a combined effort at echelon.



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# NOT IN MY ARMY

by Staff Sergeant Christopher P. Wilson

*By far, discipline is the most important attribute of every U.S. Army leader and soldier; without discipline, our Army is nothing. Simply counseling soldiers does not always effectively solve the problem, nor does it always correct it. The Army has gone soft in the past few years; unfortunately, it is happening during a time of war.*

Today, the Army is experiencing a widespread decline in discipline among its ranks that was not as common 5 five years ago; thus, these concerns have now become serious problems. Our noncommissioned officers face major challenges on the subject of 'good order and discipline' based on the restrictive nature of our current 'kinder, gentler Army,' which causes soldiers, and even some leaders, to have serious discipline issues. Poor discipline has an extremely negative effect on the overall Army mission — it degrades combat effectiveness! This article does not intend to point fingers at anyone, it is meant to address serious discipline issues among the ranks of our Army during a time of war.

I am by no means the most experienced noncommissioned officer in the Army, but I am well rounded and have enough

experience, both in combat and garrison, to realize a decline in our fundamental forms of discipline will eventually lead to substantial problems. I have witnessed firsthand, on countless occasions, ill-disciplined soldiers directly violating the good order and discipline they should have learned in basic training. These soldiers and officers walk around carelessly with blatant uniform deficiencies, hands in their pockets, unbuttoned pockets, unauthorized eyewear, incorrectly wearing headgear, patches, and badges, which breed insubordination and disrespect, and distort the line between right and wrong. Noncommissioned officers are accepting these alarming behaviors, not necessarily because they are afraid to make corrections, but most likely because they are afraid of possible consequences. It is simply amazing how many programs in today's Army would rather blame the leader than hold a soldier accountable for his actions; if we intend to correct these deficiencies at lower levels, then we are obligated to start with ourselves.

During October 2010, during a rotation at the National Training Center, I actually had a soldier try to physically fight me. I was standing in line at the dining facility and two of my soldiers had just re-

turned from a mission, so I let them in front of me. The soldier behind me (who had recently been demoted, as I was unaware of at the time) began to make comments such as, "Oh, I guess I'm not even in line." I turned to the soldier and explained to him that I had let my soldiers eat before me, which is what a good leader should do. From there, the situation escalated; threats were made, even after I identified myself by rank and name. Despite the fact that I had identified myself as a staff sergeant in the United States Army, the soldier remained insubordinate, which was shocking!

The outcomes of ill-discipline in the Army have been negative, not only for leaders, but for the Army as a whole. A lack of discipline during combat can result in your death, or worse, result in the loss of one of your soldiers. The one thing a leader fears most during combat is losing a soldier. The best loss-prevention tactic is discipline. If they can't portray basic professionalism, such as obeying orders in garrison and maintaining military bearing, they will certainly and quickly become a liability on the battlefield, not only to themselves, but they will place their entire unit at risk. *So, why is it so difficult to maintain good order and discipline?*



The overall image of the Army is up for debate, which may be due to several factors. The Army has been at war for 10 years now and many citizens think it is a mistake. Most of our noncommissioned officers feel their “hands are tied behind their backs,” which is why it is vital for units to take the initiative to maintain good order and discipline. As for the incident at Fort Irwin, I contacted the soldier’s squad leader, who upheld the soldier. We discussed the issue for about 10 minutes; realizing that the conversation was wasted time, I walked away.

### Lessons Learned

The lack of discipline among our ranks should not surprise our leaders; the decline has been gradual over the past 5 to 10 years, yet appears to have been ignored. An ill-disciplined unit in combat runs great risk at becoming a dead unit in combat. The absence of discipline places every soldier on a combat patrol at dire increased risk. Disciplined soldiers have the capability to be constantly aware of their surroundings while manning observation posts for up to 72 hours, which requires tireless energy, constant loyalty, *devotion* to duty, and the ability to make personal sacrifices to secure the post and ensure it remains undetected; otherwise, the entire mission would be compromised. Without a high level of discipline, which develops the ability to remain calm during extremely stressful situations, soldiers lose lives, which is an extremely high price to pay. We should all respect the “Creed of the Noncommissioned Officer,” when we witness an act of insubordination or any instance of ill-discipline: “*My two basic responsibilities will always be uppermost in my mind, the accomplishment of my mission and the welfare of my soldiers.*”

To ignore the art of discipline in the U.S. Army is to ignore the very institution and everything it stands for. As I pondered the privileges and sense of entitlements soldiers enjoy today, I was reminded of a story I’d heard, which not only serves as a good example of our lack of discipline, but reaches the very core of the problems: “I decided to head to the PX and get a haircut and as I approached the entrance to the

PX, I saw a several privates smoking cigarettes and talking on cell phones. I looked around and noticed the drill sergeant sitting in the truck. I was shocked! I remember, just a few short years ago, when I was in basic training we weren’t allowed to smoke and it was a privilege to call home once a week; we didn’t even get a weekend pass until week 20 of training!”

Many agree that the Army today isn’t quite what it used to be. Unfortunately, this severe weakness is the *core competency* that we cannot afford to ignore and it couldn’t have happened at a worse time. “Leading by example” is the first step! Each and every leader can make a difference, especially at squad and platoon levels. Leaders have to take the initiative to maintain good order and discipline in their units; stop waiting for “further guidance,” the situation warrants immediate attention. Noncommissioned officers need the power that they once had. The ‘passive parenting’ approach to good order and discipline is failing — miserably! In my eyes, this approach has effectively stripped drill sergeants of their power base, thus removing the stern, authoritarian approach essential to instilling good order and discipline. Once upon a time, sergeants were thought to have “the power of God himself;” although this is an exaggeration, it doesn’t change the fact that we are obligated, as leaders, to not only lead by example, but infuse discipline in our soldiers, before it is too late — battle skills are useless without discipline.

As a professional noncommissioned officer, I will not tolerate a lack of disci-

pline among my soldiers, nor should any leader. I will not allow this obstacle to thwart the sacrifices that countless soldiers, including myself, have made, generation after generation, to be destroyed or taken away, nor should you. I will not accept powerlessness as a noncommissioned officer, not ever, not in my Army. I will always support my superiors and their intent; it is not my position to question why, but to ‘do or die.’ So, until I am the sergeant major of the Army, we will have to adapt and overcome, just as good leaders always do. Then again, isn’t that what discipline is all about?



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***“The outcomes of ill-discipline in the Army have been negative, not only for leaders, but for the Army as a whole. A lack of discipline during combat can result in your death, or worse, result in the loss of one of your soldiers. The one thing a leader fears most during combat is losing a soldier. The best loss-prevention tactic is discipline.”***





# Knowledge Management Integration

by Major Clint Tracy

*From July 2006 until January 2009, I was assigned to the National Training Center as an observer controller (OC). Following that assignment, I was assigned as a battle group (battalion) trainer, Canadian Maneuver Training Center, where I have observed 27 rotations of heavy, Stryker, and infantry brigade combat teams (BCTs) headed to Iraq and Afghanistan. As the wars change in each theater, the scenarios for rotational units do as well. However, one thing has not changed — the BCT's most complex fight is inside the tactical operations center (TOC) and knowledge management remains the heart of the issue.*

## Key Mistakes

Based on trends and events from data collected at various training centers, there appears to be a cyclic nature to a handful of familiar training shortfalls, to include personnel changes, lack of data (lessons learned) from previous deployments, lack

of a knowledge management plan, and inheriting bad habits from handoff units.

**Personnel changes.** “We assume risk and push everyone to the line units then fill the staff last,” is the prevailing attitude on staffing at both battalion and brigade levels. In an average of 40 months, only a few staff officers stay in position for more than 6 months. Those officers who do stay in position for 6 months or more will move to another job immediately following rotation. Reality tells us that when we constantly move key personnel, much of our capability goes with them. A staff gets about one or two collective training events during a train up. Therefore, the obvious decision is to staff your staff first; inarguably, it is the foundation of development and training. From the standpoint of complexity, lethal operations and some nonlethal operations at the company level are pretty straight forward. However, receiving, analyzing, and distributing in-

formation, as well as producing orders, on compressed timelines is considerably more complex; therefore, a well-trained staff is vital to the overall success of the unit.

**Lack of data (lessons learned) from previous deployments.** When preparing for redeployment, data and systems managers tell us we can't bring any operational data back from theater, so these data managers delete all of our information and wipe out a year's worth of data/refinement. Not only do we lose the crucial standard operating procedures (SOPs) and tactics, techniques, and procedures (TTP) we developed down range, but once we redeploy, we also fail to capture lessons learned for the unit. Again, great intentions, but it never happens; soldiers return home, take leave, and then PCS. The new leaders have to start from scratch, and always with: “Didn't these guys have a SOP?”



**Lack of knowledge management plan.** Knowledge management sounds easy; however, when you sit down and do some analysis, it is the staff's most complex task. In the BCT TOC, there are no less than 20 different sources of information that must be managed as it arrives, as it is processed, and as it exits the management process. There are Army battle command systems (ABCS), such as operations summaries, intelligence summaries, unmanned aircraft system (UAS) reports, subordinate unit patrol reports, reports from adjacent units, local media, human intelligence (HUMINT), signal intelligence (SIGINT), imagery intelligence (IMINT), reports from host nation security forces, and many others. The volume of information flowing into a TOC quickly overwhelms a staff; therefore, it is critical to establish how you will develop staff systems to enable the staff to identify what they need to know, who has a need to know, available assets, and what the information is tied to. Without a sound knowledge management plan, time-sensitive information and targets are incapable of being engaged when the opportunity arises, affecting our ability to influence our area of operations, as well as impeding mission accomplishment.

**Inheriting ineffective systems from handoff units.** It is a big deal when systems fail, especially when you are in theater. The key here is to develop a system that you know works; a system that your staff and units can empower. The trend all too frequently results in units wasting an entire train-up trying to isolate and fix systems issues. This may be an acceptable risk if the unit is 'deploying' to Fort Irwin or Fort Polk; however, units deploying to theater should avoid, at all cost, the risks associated with developing any type of system while in contact.

### The Plan

Knowledge management is much more than a few PowerPoint slides depicting your vision of how to receive information. The staff must have the ability to receive, analyze, and distribute information on compressed timelines. The best way to manage this process is to comprise a holistic plan that covers all aspects of knowledge management and is integrated into the unit TOC's SOP.

**Defining what is important.** Simply said, the staff must define the commander's critical information requirements (CCIR) through the military decisionmak-

ing process (MDMP). Our current doctrine defines CCIR as priority information requirements (PIR) and friendly forces information requirements (FFIR). These two requirements need to be refined based on mission and tied to a decision. Most staffs overlook this fact or provide a list of 20 or more information requirements not tied to any decisions.

CCIR is not posted at every workstation in the TOC; instead, it is either computer accessible or posted on a 'news' board across from the radio operators. Typically, this information comes in via radio operators, who not only operate radios, but also receive information from both higher and subordinate headquarters; therefore, every workstation should have a copy of the CCIR within immediate reach. As information is received, radio operators scan lists to determine if the information received is CCIR or routine information. Once CCIR are approved and distributed (to the staff and subordinate headquarters), a framework for reporting exists, which is the first big step in getting mission critical information reported rapidly and accurately.

**Developing the SOP.** Once a framework is established, all members of the brigade and battalion must understand how information is meant to flow to the

TOC. Every unit is required to submit routine reports; therefore, choosing the best format, such as PowerPoint, Excel, or Word, is critical. To offset the large amount of bandwidth required to send PowerPoint presentations, leverage the ability of ABCS systems to import and export data in Excel. Submitting reports in Excel allows staffs to directly pull information into their systems. This may not apply for some reports, but if everyone has an understanding of formats and systems [many may be available on command post of the future (CPOF)], send the report — the unit is on the right track. The largest single source of wasted time and inaccurate reporting is personnel at multiple echelons duplicating report data, or several staff personnel entering data on multiple systems. The phrase "single input multiple access" should be a 'flat ass rule' in all knowledge management SOPs, which would prevent multiple differing reports on a single event and save thousands of man hours.

Another common mistake is made when staff officers store working files or documents on their desktops. Inevitably, as soon as somebody departs the TOC, someone will need data from a file, which cannot be accessed given that it is stored on the desktop of the person who departed. To avoid a potential crisis, store all data on



*"Based on trends and events from data collected at various training centers, there appears to be a cyclic nature to a handful of familiar training shortfalls, to include personnel changes, lack of data (lessons learned) from previous deployments, lack of a knowledge management plan, and inheriting bad habits from handoff units."*

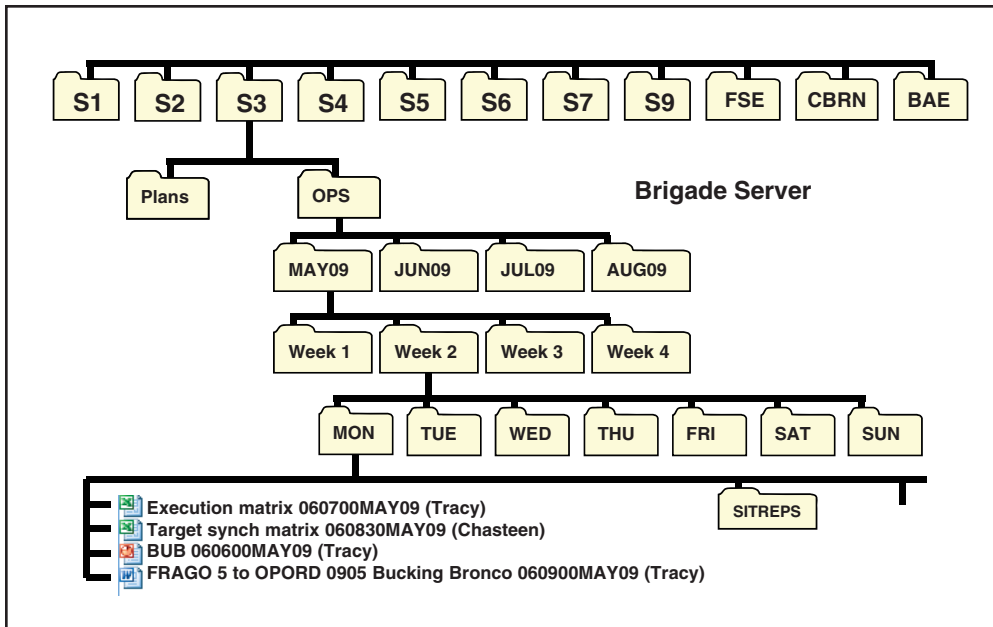


Figure 1. Shared Drive File Architecture

a shared server or drive. There are several ways to implement this type of system: SharePoint is one technique and others prefer shared drives or storing data on Army Knowledge Online (AKO).

The U.S. Army knowledge centers (AKO and AKO-SIPRNet) are effective tools that enable organizational units to store unlimited data on either system; thus,

averting the issue of unobtainable data. By simply moving data to one of these knowledge centers (AKO-S for sensitive information and AKO for nonsensitive data), it is available every time you log onto the net. AKO allows users to limit access to specific individuals or build custom groups, thus protecting data and ensuring access to only those with a need to know. Figure 1, Shared Drive File Ar-



“...the staff must define the commander’s critical information requirements (CCIR) through the military decision-making process (MDMP). Our current doctrine defines CCIR as priority information requirements (PIR) and friendly forces information requirements (FFIR). These two requirements need to be refined based on mission and tied to a decision. Most staffs overlook this fact or provide a list of 20 or more information requirements not tied to any decisions.”

chitecture, represents file architecture for a shared drive.

Data is categorized by staff section, month, week, and day, allowing the staff to search collected data by date, which is extremely helpful in searching for specific items produced during specific timeframes. This method enables the staff to generate time-based trends for various activities such as significant activities (SIGACTS). This system can also be applied to CPOF and then used by the staff for predictive analysis. Naming conventions, which will be used for files, is the final step for building network architecture. Based on my experiences, the best method is to cite the file designation, then the date, and finally the author’s name in parenthesis; for example, *Battle Update Brief 040630, May 09 (Tracy).ppt*.

This citation style allows anyone who accesses the file to immediately identify the contents of the file, establish when the data was entered, and verify the document’s point of contact. For example, if the staff needs historical data on a certain trend, or an investigation arises, these files can be accessed rather quickly, which saves a great deal of time and resources in trying to otherwise find contact information.

Once a baseline for reporting is established, the next step is analysis. In many cases, the primary staff is thought to conduct analyses; however, there are many other personnel available to analyze information and discuss conclusions with the primary staff officer. In fact, there should be a core group of personnel who review CCIR and make recommendations on collected data, to include what, if any, decisions/operations are to be executed based on collected





*“Based on the typical dispersion of units, especially in Afghanistan, it is impossible to distribute hard-copy documents daily; therefore, we had to find another method to distribute information. There are several systems, such as the Force XXI Battle Command Brigade and Below (FBCB2), and Harris 117G wideband/narrowband tactical radio, with the capability to send and receive Word and Excel documents at an acceptable rate.”*

data. On the other end of the spectrum, routine data or information requirements should be received and analyzed during the targeting process. Some information will immediately drive a decision, other information may drive the requirement to execute a concept of operation (CONOP), but key personnel should review the information and ensure an agreement, or at least a healthy debate, prior to recommending a specific course of action. In either case, it is critical to identify personnel to review data and come to a conclusion, which is briefed to the primary staff and potentially the commander, depending on the situation.

The final ingredient in the SOP is developing a distribution plan. Based on the typical dispersion of units, especially in Afghanistan, it is impossible to distribute hard-copy documents daily; therefore, we had to find another method to distribute information. There are several systems, such as the Force XXI Battle Command Brigade and Below (FBCB2), and Harris 117G wideband/narrowband tactical radio, with the capability to send and receive Word and Excel documents at an acceptable rate. There are also several other systems currently available, and more on the way with remote access.

Whichever system your unit uses, the signalers must have a full understanding of the commander's requirements to develop the system's architecture to support the distribution plan. As with any mission,

the S6 shop needs time to order, receive, and distribute cables, crypto, and other equipment to the right units to enable them to effectively send and receive data. This process may include cross-leveling large items, such as command post node (CPN) trailers and other line of sight (LOS) systems, to enable the unit to distribute information within 30 minutes across the entire formation. In many cases, units have experienced failure at the point of execution due to the 48- to 72-hour timeframe it takes to get orders out, which usually results in missed opportunity.

**Implementing the SOP.** Implementing the SOP is the most difficult part, especially if the unit develops its SOP late in the training cycle. By this point, in the absence of a system, most subordinate units have developed their own systems, and are experiencing difficulty getting them all synchronized. In most cases, synchronization requires draconian enforcement by subordinates empowered to ensure data is submitted to standard and on time. However, in the long-term, this streamlines data flow and improves the unit's effectiveness, so it is worth the investment. Obviously, the best opportunity to implement the system is at the beginning of the training cycle. Once everyone is indoctrinated and understands the benefits of the system, they will 'buy in,' making the system even more effective based on an 'investment return.' Remember, the goal of the system is to rapidly enter, analyze, and distribute data; therefore a lit-

mus test is required. For example, select junior staff members and ask them to show you how to find specific items; if the implemented system is functional, subordinate unit personnel will quickly locate information. Once the BCT staff is trained, conduct the same testing at battalion and company levels.

**Battletracking.** Battletracking is the skill most affected by constant personnel changes, which is the operations side of the knowledge management plan that is always overlooked. If data received, analyzed, and distributed is not constantly tracked for friendly units, the operating environment, and the enemy, the information is useless. Under these circumstances, a unit will struggle to meet the commander's intent based on its inability to track operations within its areas of operations, thereby failing to collect solid information to drive concrete decisions.

At a minimum, each staff should track personnel and equipment outside the wire, on forward operating bases, at command observation posts, at high readiness condition levels, as well as other available organic and nonorganic enablers. This effectively ensures that combat power charts, recon and surveillance matrices, execution matrices, target synchronization matrices, unit timelines, and aviation asset trackers, with time windows of availability and ordnance on hand, are available (at a minimum) for the battle captain or noncommissioned officer. There should



also be a priority for each of these assets as they become available to the unit. Again, if the unit is not tracking events that trigger decisions, the ability to meet the commander's intent is diminished, thereby decreasing mission success.

**Synchronizing operations.**

Operations synchronization is the final step of knowledge management, and if all previously discussed systems are in place and working, this is actually the easiest step. Synchronizing with the staff begins with the shift change brief, which outlines what happened over the past 8 to 12 hours. Many units require outgoing shift personnel to brief the incoming shift, but what methods are in place to verify all data/operational details have been handed off? The most effective method, the incoming shift briefs during shift change, is somewhat counterintuitive. However, this practice accomplishes two things: it ensures each shift reads current fragmentary orders (FRAGOs) and understands events that occurred over the past 8 to 12 hours; and that all documents for the time period have been handed over. If this is accomplished, the shift-change brief actually confirms each shift understands the current status of its area of operations. At a minimum, shift change briefs should be in the form of a checklist and include the following topics:

- Task organization changes.
- Changes to mission, FRAGOs, execution of branches/sequels.
- Current CCIR/answers to CCIR received during previous shift.
- Friendly situation one level higher.
- Subordinate unit current status (combat power, Class I, III, and IV, and ongoing operations).
- Significant activities (local government, local military, local police, enemy and friendly) during last shift.
- Current enemy situation.
- Activities scheduled during the next shift (timeline).
- Unresolved actions (by warfighting functions).
- Current communications status.
- Location of key leaders.
- Timeline for next 24 hours.
- Command post work priorities.



*“As with any mission, the S6 shop needs time to order, receive, and distribute cables, crypto, and other equipment to the right units to enable them to effectively send and receive data.”*

As an additional requirement for synchronization, the entire staff is expected to read current operational and intelligence summaries prior to coming on shift. This requirement not only fully develops the picture for the entire staff, but it aids in developing a clearer understanding of recent events and those in progress, which prevents unintentional lethal and nonlethal friendly fire situations throughout the area of operations.

Knowledge management is critical to warfighting functions; however, most units do not have effective plans or SOPs in place to handle the vast amounts of data that flow into tactical operations centers. This failure results in missed opportunities; in fact, 70 to 80 percent of the time, the brigade or battalion TOC is searching for critical information that someone in the formation has. Realistically and unfortunately, units fail to put in place the right systems, capable of rapidly and accurately pushing out critical data to the right people, which prohibits units from engaging high-value targets. This type of situation occurs within a 7- to 9-day full spectrum operations period during every

rotation; therefore, it is plausible to estimate that while deployed, units are missing 2 to 4 major opportunities per month in a typical area of operations.

Developing effective knowledge management systems is absolutely critical to mission accomplishment and is the most difficult fight that battalion- and brigade-level staffs face. In the interest of distributing good information, effective TTP, and the best practices from theater, Bronco Team (brigade trainers), National Training Center, Fort Irwin, has a website, [www.us.army.mil/suite/page/594828](http://www.us.army.mil/suite/page/594828), which is accessible through AKO and captures the best products from every unit. Spend a few minutes searching the website for unit-specific information that better suits your unit.

Similar to most other situations, there exists no single right or wrong answer; however, regardless of the type of information put in place, every soldier, right down to the lowest ranking member of the unit, has to have a good grasp on shared situational awareness and understanding. The longer a unit waits to implement systems, the more difficulty it will have integrating change into its operations, which results in missed opportunities throughout the area of operations and, ultimately, the unit's ineffectiveness.



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# BCTP FULL-SPECTRUM EXERCISES: OBSERVATIONS OF AN OBSERVER TRAINER

by Major Keith W. Wilson

*This article identifies fundamental training opportunities and keys to success when conducting a brigade-level, full-spectrum exercise with the battle command training program. While this article specifically focuses on battalion-level commanders and staffs, it applies to brigade-level commanders and staffs as well.*

In the past few years, Operations Group Charlie (OPSGRP-C), Battle Command Training Program (BCTP), shifted its focus on full-spectrum exercises (FSX) away from primarily U.S. Army National Guard units, and adopted a whole-army approach to conducting these training events with a renewed emphasis on Active Component (AC) units. These days, more than 75 percent of OPSGRP-C's annual exercises are made up of AC brigade and regimental combat teams. Although the demand for FSX, formerly known as warfighter exercises (WFX), has increased for AC units, many commanders and staffs

remain unfamiliar with available opportunities during training events.

Competing requirements, both in the field and in garrison, create challenges for commanders and staffs responsible for allocating significant time and resources to adequately prepare for FSX. Battalion commanders have limited opportunities to conduct collective training events during which the brigade headquarters is manned, passing and receiving information, and integrating all digital systems. Failing to capitalize on this training opportunity reflects negatively on leaders and is often based on a failure to understand FSX benefits.

## Training Opportunities

It is important to understand that the BCTP typically conducts FSX for brigade combat teams early in the Army Force Generation (ARFORGEN) cycle and prior to deploying to any combat training

center (CTC). Generally, a brigade conducts a FSX prior to its leader training program (LTP) and dirt rotation to the National Training Center (NTC), Joint Readiness Training Center (JRTC), or Joint Military Readiness Center (JMRC). Young staffs, working together with limited experience, typically execute the FSX. This is not to say that staffs do not have experience; on the contrary, battalion staffs typically have a significant amount of operational experience. As my boss says, "It's new people on a new team, doing new things with new stuff."

To maximize a unit's participation in a FSX, battalion commanders and staffs should focus their efforts on four fundamental areas: validate and refine the tactical standard operating procedure (TSOP), the tactical operations center standard operating procedure (TOCSOP), and plans standard operating procedure (PLAN-SOP), as applicable; establish a tactical





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operations center; conduct the military decisionmaking process (MDMP); and exercise mission command.

**Validate and refine the TSOP, TOC-SOP, and PLANSOP, as applicable.** Although somewhat self-explanatory, this is one of the greatest challenges observed at BCTP and the NTC. Oftentimes, units do not have standard operating procedures (SOPs) in place, and if they do exist, staffs are unfamiliar with the content thereof. This fact is becoming more and more understandable based on new staffs being formed, new commanders at all levels coming onboard, and tactics, techniques, and procedures (TTP) changing regularly. The best practices for validating and refining SOP begin with an initial review and observation of procedures and practices, official or unofficial, currently in place, which can be used as a basis for refinement. The staff should have at least one hard copy of this ‘work in progress’ SOP posted in its tactical operations center (TOC), which serves as a rewrite draft to which changes can be made or added throughout every training event and exercise. At the commander’s insistence, the staff identifies, validates, and/or refines the draft SOP throughout the exercise, which is an ideal opportunity to capture lessons learned and pass them on from one training event to the next.

**Establish a tactical operations center.** First and foremost, the TOC (or command post) should be set up in compliance with the unit’s SOP. If the SOP does not describe the components and ergonomics of

the operations center, then capture them in the SOP once an initial standard is established. The definition of a command post is “a unit headquarters where the commander and staff perform their activities.”<sup>1</sup> Regardless of how simple this definition may appear, a TOC is actually the nerve center of a unit. For a battalion or squadron, it is the lowest level at which a full staff exists to conduct planning and synchronization for combat operations. A company/troop staff’s capabilities and resources are much less than those of a battalion/squadron staff, which is significantly limited compared to brigade or higher headquarters.

Early in my career, I learned six functions of a command post, which include receiving information, distributing information, analyzing information, submitting recommendations, integrating resources, and synchronizing resources. While rather simplistic, they are all still very applicable. Oftentimes, executive officers (XO) and S3s mention that their TOC setup for FSX is different from their expected TOC setup for NTC, which is different from their expected TOC setup once they deploy to Iraq or Afghanistan. However, I am less interested in *how* information is displayed and more interested in *what* information will be displayed. Having a fully established and operational TOC during the FSX allows commanders to determine if the TOC is functioning as intended and if the staff is creating options, preserving options, or forfeiting options based on setup and functionality of the TOC. Commanders

must ensure that the TOC setup and configuration is exactly as it will be during deployment and while fighting.

*Integrate Army battle command systems (ABCS) across all warfighting functions (WFF).* In a training environment, seldom do units have the ability to setup and employ all ABCS that fully exercise the digital architecture. Oftentimes, the FSX is the first opportunity a brigade/regiment will have to establish ABCS connectivity across the brigade. Integrating ABCS across the brigade is the equivalent of the signal officer’s tank table XII. Do it right and do it early or the entire exercise suffers. Based on familiarity, staffs often rely on the old PowerPoint stand-by for mission analysis (MA) and course of action (COA) development. It is inefficient and adds significantly more time to planning and execution processes. While one could write an entire article on the merits of using ABCS, units typically resort to PowerPoint because they do not understand the capabilities of the ABCS. The commander must insist that the ABCS are set up, configured, can “talk to each other,” and are understood by the primary staff.

*Develop and maintain a common operational picture (COP).* As mentioned earlier, the TOC serves as the nerve center of a unit. It is a critical source of information management for the commander, higher headquarters, and subordinate units. A COP is a “single display of relevant information within a commander’s area of interest tailored to the user’s requirements and based on common data



and information shared by more than one command.”<sup>2</sup> While the definition describes a COP as a “single display,” arguably, it can be better described as a “display” of products consisting of multiple screens, maps, and printouts that allow commanders to gain situational understanding. An effective COP will differ for each individual; however, in my opinion, an ideal COP enables a commander to walk into his TOC, coffee cup in hand, look around at all the products (both digital and analog), and achieve an 85 to 90 percent understanding of everything happening in his area of responsibility. A few pointed, direct questions should get him to the 100-percent solution. If the commander wastes time interpreting information, then the COP is ineffective. The commander consistently reinforces that his staff is responsible for establishing and maintaining an effective COP throughout the exercise, as well as determining how to illustrate the COP in the unit SOP.

*Manage information horizontally and vertically (force reporting).* The FSX provides a great opportunity for commanders and staffs to develop and/or validate knowledge management plans. One of the greatest challenges battalion/squadron staffs face is determining what information is important and how to transfer information between FM radio, command post of the future (CPOF), and blue force tracker (BFT), as well as other methods of information dissemination such as email, chat, and phone calls. The commander outlines specific operating procedures for knowledge management and force reporting in a unit SOP, and rehearses these processes at every opportunity. Also, most battalions will not conduct routine reporting, such as sensitive items or personnel status reporting, during an FSX, which provides one of the easiest opportunities to conduct reporting (no sensitive items are actually issued and the computer generates the personnel numbers), yet units continue to fail to execute this standard reporting requirement. These reports further force staff and TOC personnel to “battle track” simple reporting requirements *based on an established battle rhythm* and demonstrate how to process a multitude of other reports. The commander must insist that the staff exercise its knowledge management plan and force reporting across all echelons.

*Execute battle drills according to SOP.* Battle drills are “the general and detailed methods used by troops and commanders to perform assigned missions and functions.”<sup>3</sup> For example, TOC battle drills may include counter-fire, downed aircraft (UAV), or “blue-on-green,” but they are only effective when understood and rehearsed. A technique for executing TOC battle drills is to post the drill on screen

while the battle captain or noncommissioned officer (NCO) walks the TOC personnel through the drill. The other option is to place a “battle book” that contains battle drills in each section. Again, the battle captain or NCO is responsible for leading the TOC personnel through these drills. The FSX provides a great opportunity to execute battle drills and if the commander and staff do not conduct them in conjunction with the exercise, they should conduct them as rehearsals. At a minimum, a TOC should conduct 2 to 3 battle drills per hour (either ‘real world,’ in conjunction with the exercise, or as a rehearsal). The XO or S3 should provide the results to the commander in his daily update. Another opportunity to exercise battle drills is during the “mini-ex,” which is conducted 2 days prior to actual mission execution when all systems are running (theoretically) and TOC personnel are available to make adjustments prior to conducting actual operations. The commander must insist that the TOC exercise a set number of battle drills over a specified period throughout the FSX.

**Conduct the MDMP according to *The Operations Process*.** Too often, staffs attempt to conduct the MDMP without using a reference to ensure they address all of the MDMP steps. A pilot would never fly an aircraft without conducting preflight checks using a checklist, so why would a staff plan complex combat operations without using a checklist? With the recent publication of the new U.S. Army Field Manual (FM) 5-0, *The Operation Process*, it is even more important to include this manual in all MDMP steps to ensure all new concepts and ideas are integrated throughout the process.<sup>4</sup> Regardless of how much a staff ‘knows’ about MDMP, how comfortable they are, or how much time they have, they should always use a checklist from a professional field manual or one of the many available smart books.

*Develop, update, and use running estimates.* A running estimate is “the continuous assessment of the current situation used to determine if the current operation is proceeding according to the commander’s intent and if planned future operations are supportable. The commander and each staff section maintain a running estimate.”<sup>5</sup> In running estimate assessments, commanders and staff sections continuously consider the effects of new information and update facts, assumptions, friendly force status, enemy activities and capabilities, civil considerations, and conclusions and recommendations. Although current doctrine is replete with the term “running estimate,” many staff officers have difficulty identifying what a running estimate involves or how it develops. The commander must ensure the staff devel-

ops, updates, and uses running estimates throughout the FSX, and ultimately captures running estimates in the SOP.

*Conduct staff-integrated intelligence preparation of the battlefield (IPB) integrating civil considerations.* In my opinion, IPB is *the most important* portion of the MDMP; not only does it establish who we are operating with and against, but where we are operating. The staff builds the rest of the MDMP on this fundamental framework. The IPB is a “systematic process of analyzing and visualizing the portions of the mission variables of threat, terrain, weather, and civil considerations in a specific area of interest and for a specific mission.”<sup>6</sup> IPB consists of four steps, which include define the operational environment, describe environmental effects on operations, evaluate the threat, and determine threat courses of action. While the definition of threat includes nation states, organizations, people, groups, conditions, or natural phenomena that may damage or destroy life, vital resources, or institutions, it is often relegated to just the enemy. More often than not, the S2 has sole responsibility for developing the IPB, which often results in an enemy-centric IPB that minimizes or negates all together the civil considerations that may be even more important than the enemy assessment. An incomplete IPB can derail progress within the MDMP, which suggests that the XO personally manage and supervise the IPB process. The commander must insist that the staff conduct a thorough staff-integrated IPB that fully integrates civil considerations and properly addresses all four steps of IPB.

*Conduct MA brief, COA brief, and results of COA analysis brief.* Designating the staff to conduct briefings allows commanders to assess the staff’s performance throughout MDMP and provides better situational understanding throughout the organization. Typically, all staffs conduct a MA brief. Because most commanders direct a single COA (which is generally recommended for a time-constrained FSX), many units do not conduct a complete COA brief. Thus, the commander misses an opportunity to ensure the entire staff fully understands the concept of operations and intent. Unfortunately, many staffs do not conduct adequate COA analysis (wargame), which is arguably one of the most important steps in the MDMP (possibly second only to completing a thorough IPB as part of mission analysis). Staffs must commit a significant amount of time to the wargame, which allows them to identify additional decision points that the commander may need to be aware of, including problem areas and planning gaps. Because the wargame component is so important, it requires the XO to be intimately involved. The commander must



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insist that the staff conduct these three briefings to the entire staff to ensure situational awareness and understanding throughout the organization and to allow the commander to assess the performance of his staff throughout the MDMP as well as to gauge its understanding of his intent.

*Develop a complete operations order (OPORD) and issue brief to subordinate units.* During the time-constrained FSX, many staffs analyze and work through slides and briefings (slides from MA and COA development and OPORD briefings) associated with the MDMP. Staffs typically struggle to complete a written OPORD for subordinate commanders. This requirement is easily "bypassed" when company commanders are not required to actually develop company plans and issue OPORDs due to the nature of the FSX, thus giving the staff a "freebie" when it should be required to complete this critical step regardless. While competing requirements may limit the number of company commanders available to participate in the FSX, all commanders at this level should receive the OPORD briefing. Company commanders should not pass up the opportunity to shape the staff that will guide them into the future; they should ask tough questions that force the staff to be thorough and analytical in its planning. Commanders must direct staffs to develop complete OPORDs, as well as present OPORD briefings to subordinate commanders.

**Exercise mission command.** "The Army's preferred method of exercising command and control is mission command, which is the conduct of military operations through decentralized execution based on mission orders. Successful mission command demands subordinate leaders, at all echelons, exercise disciplined initiative, acting aggressively and independently to accomplish the mission within the commander's intent."<sup>7</sup> Oftentimes, the FSX is the first opportunity a battalion/squadron commander has to deploy his entire TOC and primary staff to conduct the MDMP and exercise mission command in a tactical environment with multiple sources of information flowing both vertically and horizontally. Commanders must reinforce the importance of this training event and capitalize on this unique opportunity to train in a tactical environment with all systems established and used.

*Develop and maintain situational awareness and understanding within the TOC.* Easier said than done, this is a function of how the TOC is set up and how information is managed within the TOC. Fortunately, the FSX design is deliberately simplistic, which allows commanders and staffs the opportunity to begin establishing the functionality of the TOC during both the MDMP and mission command to ensure situational understanding is achieved early in, and throughout, the exercise. A key contributor to achieving situational awareness and understanding is the COP,

as earlier discussed. The commander must ensure that the staff has the tools and systems needed to develop and maintain situational awareness and understanding within the TOC for the duration of the FSX.

*Employing ABCS.* Critical to exercising mission command is the commander's ability to harness all available ABCS to assist in command and control of formations. As mentioned previously, ABCS design makes mission command easier and more efficient. The FSX is typically the first opportunity to employ all systems and staffs should maximize this opportunity. If a system is not working, the S6 should scramble to locate field service representatives and ensure all systems are brought on line. The XO and staff conduct briefings, such as staff and/or commander update briefs, through ABCS. Any PowerPoint briefings received should be returned to sender with notice that ABCS is the primary method for briefing inside the TOC. If the commander does not force the issue early on, the staff will continue to fall back to the ineffective and inefficient means with which they are comfortable. Commanders must ensure that all ABCS are set up, configured, have the ability to communicate as designed, are understood by the primary staff, and are employed in the exercise of mission command.

*Develop and use adequate graphic control measures via ABCS.* Graphic control measures are "graphic directives given by commanders to subordinate commanders to assign responsibilities, coordinate fire and maneuver, and control combat operations."<sup>8</sup> Generally developed during COA development, the commander uses these graphic control measures "to convey and enhance the understanding of the concept of operations, prevent fratricide, and clarify the task and purpose of the main effort."<sup>9</sup> The use of ABCS early in the MDMP allows for building, across multiple echelons, easily shared graphics. More often than not, staffs do not develop adequate graphic control measures to assist subordinate units during execution or TOC personnel in effectively directing the fight. Commanders must ensure that the staff develops and uses adequate graphic control measures via ABCS throughout the MDMP and into mission execution.

*Synchronize and effectively employ all available assets/capabilities.* There are generally two overarching challenges associated with synchronizing and employing assets and capabilities — knowing what is available and when it's available! Commanders and staffs are typically very comfortable with their organic or habitual assets and capabilities; however, they struggle with attachments or unconven-



tional assets and capabilities, such as host nation security forces, nongovernment organizations, interagency liaisons, and provincial reconstruction teams. Additionally, the battalion/squadron may have higher-level assets, such as an unmanned aerial system or air/scout weapons team, but has no method to effectively track ownership of the assets or define capabilities.

Posting a constant 'asset tracker' in the TOC, which shows all currently available assets (internal and external to the unit), is one technique. When an entity, such as an air weapons team, moves to another area of responsibility, the TOC updates the move on the asset tracker, which enables commanders to see available assets that can be employed. Oftentimes, the TOC's combat power tracker is nothing more than an outdated maintenance status of organic assets, which inadequately depicts the commander's available assets and capabilities.

Combat power is defined as "the total means of destructive, constructive, and information capabilities that a military unit/formation can apply at a given time."<sup>10</sup> Therefore, a combat power tracker should portray to the commander all immediately available assets and capabilities within the eight elements of combat power, which include leadership, information, movement and maneuver, intelligence, fires, sustainment, command and control, and protection. The commander must ensure that his staff fully understands the eight elements of combat power, as well as any and all immediately available combat assets and capabilities.

*Conduct regular TOC update, staff update, and commander's update briefs.* The FSX provides significant opportunities for commanders and staffs to share information vertically and horizontally. At a minimum, the battalion/squadron conducts regular TOC, staff, and commander updates. TOC personnel should conduct regular TOC updates (typically every 2 hours), which are simply quick 'around the horn' updates, listed by warfighting function, currently ongoing throughout the area of responsibility. The battle captain or NCO should conduct the TOC update brief for the TOC personnel. The staff update brief, which should be led by the executive officer, provides the battalion/squadron staff an opportunity to update the commander on activity throughout the area of responsibility, offering commanders an opportunity to provide feedback in the form of guidance and direction to the staff. The commander's update brief, which should also be led by the executive officer, offers the staff an opportunity to update subordinate commanders on activity throughout the area of responsibility,

subordinate commanders to update commanders on activity throughout the area of responsibility, and commanders to provide additional guidance and direction.

### Keys to Success

While the recommendations listed below are relatively intuitive and self-explanatory, they would not be on the list if a majority of units did not struggle with most, if not all, of these during FSX.

- Military decisionmaking process (MDMP):
  - ✓ Develop and stick to a timeline.
  - ✓ Use checklists to conduct the MDMP to standard.
  - ✓ Identify in a running estimate what is expected.
  - ✓ Directed COA is generally best in a time-constrained environment.
  - ✓ Wargaming is critical (integrate key players, such as operations sergeant major and battle captains).
  - ✓ Always brief civil considerations as a component of IPB.
  - ✓ Identify a staff officer to serve as the "voice of the people" to focus on civil considerations during all steps of the MDMP.
  - ✓ Ensure civil considerations are integrated into mission analysis, wargaming, rehearsals, and briefs.
- TOC operations and mission command:
  - ✓ Integrate all assets and capabilities into planning considerations.
  - ✓ Integrate consequence management into all aspects of planning.
  - ✓ Consider the "information aspect" of all activity.
  - ✓ Develop graphic control measures in ABCS from the beginning.
  - ✓ Plan for controlling the fight in urban terrain when applicable.
  - ✓ Do not neglect actions on the objective → plan for and wargame.
  - ✓ TOC ergonomics are critical to effective command and control.
  - ✓ Employ an operations schedule; synchronize and effectively employ all available assets and capabilities.
  - ✓ Ensure decision support matrix and associated priority information requirements and named areas of interest are briefed and understood by all involved parties.
  - ✓ Use graphic control measures to force subordinate units to push information.
  - ✓ Use this opportunity to exercise/rehearse TOC battle drills, such as clearance of fires, blue-on-green, mass casualty, and downed aircraft at a minimum of 2-3 per hour.



*"A running estimate is 'the continuous assessment of the current situation used to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable.'"*

- Information management/command and control:

- ✓ Use SOPs as fundamental guidelines, continually developing and updating as changes occur; keep a copy in the TOC to annotate changes/updates.
- ✓ Identify how to transfer information between radio telephone operator, CPOF, and BFT (generally will not get to BFT in FSX, but needs consideration).
- ✓ Conduct a regular (every 2 to 4 hours) TOC update for all players “fighting the fight” in the TOC.
- ✓ Identify specific reporting requirements for troops; recommend Green 2, personnel status report, logistics status report, and commander’s situational report.

Active Component and National Guard staffs, both at brigade and battalion levels, struggle with many, if not all, of these arguably fundamental components of collective training; therefore, all leaders should pause and determine how to ensure success during a FSX. Measuring success

during a FSX is simple to define — the unit’s performance either improved during the exercise or it did not. The FSX is phase one of a critically important training methodology that manages units throughout the mission rehearsal exercise and on to future deployments. The amount of knowledge earned is proportionate to the amount of preparation and commitment that go into these exercises. Commanders, staffs, and leaders, at all levels, owe it to each other and their subordinate units to maximize this critical opportunity, taking necessary steps to ensure they have a better unit, which builds confidence in the unit’s ability to function as an effective organization, which is the mark of true success in a FSX.



### Notes

<sup>1</sup>Headquarters, Department of the Army (HQDA), U.S. Army Field Manual (FM) 6-0, *Mission Command: Command and Control of Army Forces*, U.S. Government Printing Office (GPO), Washington, DC, 11 August 2003.

<sup>2</sup>HQDA, FM 3-0, *Operations*, GPO, Washington, DC, 27 February 2008.

<sup>3</sup>FM 6-0, *Mission Command: Command and Control of Army Forces*.

<sup>4</sup>HQDA, FM 5-0, *The Operations Process*, GPO, Washington, DC, 26 March 2010.

<sup>5</sup>Ibid.

<sup>6</sup>HQDA, FM 2-01.3, *Intelligence Preparation of the Battlefield*, GPO, Washington, DC, 15 October 2009.

<sup>7</sup>FM 3-0, *Operations*.

<sup>8</sup>HQDA, FM 1-02, *Operational Terms and Graphics*, GPO, Washington, DC, 21 September 2004.

<sup>9</sup>FM 5-0, *The Operations Process*.

<sup>10</sup>FM 3-0, *Operations*.

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# REHEARSALS AT THE COMPANY AND PLATOON LEVEL: OPPORTUNITIES LOST

by Major Robert A. Mahoney

*Rehearsals are practice sessions conducted to prepare units for an upcoming operation or event. They are essential in ensuring thorough preparation, coordination, and understanding of the commander's plan and intent. Company team commanders should never underestimate the value of rehearsals.<sup>1</sup>*

One of the signature events of troop leading procedures (TLP), at all levels, is the rehearsal. With the exception of the operations order (OPORD), it is the one event that maximizes participation and involves the most members of the unit. It is also the one aspect of TLP that corrects deficiencies in the plan and makes up for lost time in other parts of TLP. Yet, it is a diminishing skill at platoon and company levels, leaving units unprepared, uncoordinated, and the plan not understood.

The deployed environment does not always allow enough time for planning. The National Training Center (NTC) replicates time constraints to allow units to test systems and abilities during planning in a time-constrained environment. As time is compressed, the time allotted for rehearsal is often reduced by leaders for other aspects of TLP; however, even when units are provided enough time to adequately plan and prepare, rehearsal performance remains incomplete. Leaders fail to understand various rehearsal techniques, how to conduct a rehearsal, and requi-

site rehearsal exercises. Add enablers, combined partners, and sister services and the rehearsal degrades from a practice session to a lost opportunity. Rehearsals are often 'talked through' without emphasizing the plan and identifying areas that require adjustments or 'fixes' prior to execution.

Company commanders and platoon leaders must understand the purpose of rehearsals, which are conducted as practice sessions to prepare units for upcoming operations or events. They are essential in ensuring thorough preparation, coordination, and understanding of the higher commander's plan and intent. Company team commanders should never underestimate the value of rehearsals.<sup>2</sup> Effective rehearsals require leaders and, when time permits, other company team soldiers to *perform* required tasks, ideally under conditions that best replicate actual operations. When conducted properly, rehearsals are interactive; participants maneuver actual vehicles or use vehicle models or simulations while verbalizing detailed procedures during every event. Each rehearsal focuses on the *how* element, allowing subordinates to practice actions outlined in individual schemes of maneuver. Note: A rehearsal is different from the process of talking through what is meant to happen; for example, during rehearsal, platoon leaders should actually send spot reports (SPOTREP) when reporting enemy contact, rather than simply saying, "I would send





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a SPOTREP now."<sup>3</sup> As stated in U.S. Army Field Manual 3-90.1, *Tank and Mechanized Infantry Company Team*, "the commander uses well-planned, efficiently run rehearsals to accomplish the following:

- Reinforce training and increase proficiency in critical tasks.
- Reveal weaknesses or problems in the plan, leading to further refinement of the plan or development of additional branch plans.
- Integrate the actions of subordinate elements.
- Confirm coordination requirements between the company team and adjacent units.
- Improve each soldier's understanding of the concept of the operation, the direct fire plan, anticipated contingencies, and possible actions and reactions for various situations that may arise during the operation."<sup>4</sup>

Understanding that rehearsal should include these tasks helps leaders run better rehearsals and prepare subordinates to rehearse specific tasks. Ensuring that the rehearsal is not conducted as a 'talk through' facilitates better experiences for all participants and gets to the heart of the operation.

Rehearsal preparation begins with the first step in TLP, receive and analyze the mission. The commander (or platoon commander) immediately begins analyzing assigned tasks as soon as the mission is received. Based on an initial analysis, the leader identifies initial rehearsal guidance. Based on mission, there are standard tasks

that all subordinate units are required to rehearse, which are often safety or equipment related and should be in the unit's standard operating procedures (SOP). Occasionally, missions received specify tasks that necessitate rehearsing or, at a minimum, tasks for the unit to complete (hence, tasks that need to be rehearsed). Leaders should also review weather and light data for the mission to identify any tasks that require rehearsing. Finally, leaders should identify specific tasks that the unit performs well and tasks that require additional training, thus emphasizing the need for rehearsal to complete the mission.

When leaders move to the second step of TLP, a warning order (WARNO) is issued, which should include a by-unit task list to begin rehearsing events or skills identified in the first step of TLP. This maximizes time available by requiring subordinate units to execute task rehearsals prior to the OPORD process. It also ensures that units are trained for the tasked mission, which is an often-missed opportunity for units at the NTC. Because leaders are often focused on planning and producing their own order, they fail to issue a WARNO; if one is issued, they fail to give subordinates the guidance needed to begin rehearsing.

The focus of "mission specific" or "non-mission specific" rehearsals, issued to subordinates in a WARNO early in the planning process, maximizes the unit's use of available planning time at echelon and directly increases chances of a better mission outcome. Platoon leaders, specifically, miss an opportunity here. For example, a platoon leader will focus on

writing an OPORD, when initial guidance can easily be given to each section/squad/team to begin internal rehearsals. Using a cordon and search as an example, the raid platoon will have various tasks such as breach team, clearance team, tactical site exploitation team, and detainee team. With an effective WARNO, each team can rehearse its team-specific tasks while the platoon leader writes the OPORD, allowing more time to rehearse the full mission as a platoon.

As company commanders/platoon leaders continue through steps 3, 4, 5, and 6 of TLP, which include make a tentative plan, initiate movement, conduct a recon, and complete the plan, they begin to consider rehearsal types and techniques. Based on mission types and subordinate knowledge level, there are multiple techniques that can be used to facilitate the crawl-walk-run methodology:

- **Confirmation brief.** Used immediately following the OPORD to ensure subordinates understand the OPORD.

- **Back brief.** Company commanders require platoon leaders to back brief their plans to ensure they are nested with other subordinate units.

- **Battle drill or SOP rehearsal.** This rehearsal type is used most extensively by platoons, squads, and sections. Battle drill rehearsals can effectively be used early in the TLP once the commander identifies the company's mission type. This type of rehearsal is highly beneficial in ensuring newly attached platoons understand specific company SOP and drills, which is the most important rehearsal type when dealing with combined partners or sister services.

- **Combined arms rehearsal.** This is the preferred rehearsal type for companies and is conducted when all subordinate OPORDs are complete. This rehearsal type involves all elements of the company team, all enablers, all attachments, and combined partners, and ensures all subordinate plans are fully synchronized within the company's overall plan.

- **Support rehearsal.** Support rehearsals are normally conducted by a single or limited number of battlefield operating systems, such as combat service support (CSS) or fire support. The company team can conduct its own support rehearsal or can be incorporated into the company combined arms rehearsal.

At a minimum, company commanders should ensure a confirmation brief and a combined arms rehearsal are conducted at the company level. The confirmation



brief ensures subordinates are not wasting time by planning missions they do not understand. More time should be allotted for the combined arms rehearsal since it encompasses aspects of the support rehearsal and battle drill SOP rehearsal (if combined partners or attachments are present).

At the platoon level, platoon leaders ensure confirmation brief and battle drill/SOP rehearsals are conducted. The confirmation brief ensures section/squad leaders understand their tasks and focus preparation. The battle drill rehearsal should be conducted with attachments and/or combined partners. Platoons are primarily tasked with battle drills or SOPs; therefore, a platoon-level combined arms rehearsal is unnecessary. To further facilitate situational awareness and overall mission understanding, a majority of the platoon's noncommissioned officers (NCOs) should attend the company combined arms rehearsal.

After determining the type of rehearsal that will be used, the leader then determines which technique will be used. Each technique can be conducted using a full or reduced force; full dress rehearsals expend greater time and resources. Every soldier in the unit participates in the rehearsal, which is conducted on the same terrain, at the same time, and with the same equipment and attachments that will be used during the operation. The commander conducts reduced-force rehearsals when under time constraints or if tactical situations prohibit full-force rehearsals. During reduced-force rehearsals, participating soldiers use mock-ups, sand tables, and/or actual terrain (usually over a smaller area than in the actual operation) to train:

- **Radio/digital.** This technique is used when all elements are unable to be in the same location at the same time. It can be achieved via FM or digitally, and can be used for confirmation or back brief.

- **Map.** This is most effective technique for confirmation or back brief. The map should have all graphic control measures; it can be a hard copy or digital.

- **Sketch map.** This technique is used when a terrain model is impossible. It is an enlarged sketch of the area that depicts terrain and contains all graphic control measures.

- **Terrain model.** This is the preferred method for rehearsals. The terrain model should depict the terrain and be large enough for participants to occupy space on the model. If necessary, several ter-

rain models should be used to depict different phases, objectives, and permit maximum participation. Generally, key leaders participate in this technique; however, maximum participation should be the goal, based on the terrain model's size.

- **Reduced force.** This technique involves leaders at all levels and is conducted under conditions and on terrain similar to the operation. Often mounted, this rehearsal incorporates radio/digital rehearsal and terrain model rehearsal.

- **Full-dress.** This technique rehearses the entire operation on similar terrain with all participants and systems. It requires the most time and resources, but provides the most mission detail:

- The company team may rehearse force-on-force exercises with platoons or other team elements.
- The company team trains can portray enemy forces to prompt action from the platoons or other team elements.
- The entire team may go against another task force element.<sup>5</sup>

Based on time available, the commander determines the type and technique for the rehearsals. Commanders can dictate several different types and techniques; for example, the company conducts a combined arms rehearsal on a terrain model

for the overall operation and then moves to a building mock-up to conduct a full-dress battle drill to rehearse actions on the objective portion of the mission.

As a function of initiating movement, commanders give guidance to start preparation for rehearsals. If a map, sketch, or terrain board is used, soldiers begin preparing the site and/or products (this same map, sketch, or terrain board can be used for presenting the OPORD for the rehearsal). Regardless of the rehearsal type, each must depict terrain, enemy location, graphic control measures, and be large enough for all participants to see and use.

Once the commander or platoon leader completes the plan and determines rehearsal types and techniques, the OPORD is issued (step 7 of TLP). As a part of the coordinating instructions, the commander determines the tasks to be rehearsed (key tasks in commander's intent, paragraph 3, at a minimum) and which types and techniques will be used. In the timeline, the commander also establishes when platoons will issue OPORDs and rehearsals will be conducted, which provides the commander, executive officer, or first sergeant an opportunity to assess/inspect OPORDs. Often, at the National Training Center, leaders at higher echelon do not check or inspect the orders and rehearsals of subordinate leaders; this lack of



*"The focus of 'mission specific' or 'non-mission specific' rehearsals, issued to subordinates in a WARNO early in the planning process, maximizes the unit's use of available planning time at echelon and directly increases the chance of a better mission outcome."*

quality control leads to mixed results in execution.

Immediately following the OPORD, the commander conducts a confirmation brief with all participants present and confirms their understanding of specified and implied tasks, rehearsal guidance, coordinating instructions, and timeline. Platoon leaders are then released to continue the TLP process by first issuing a WARNO that includes guidance on battle drill/SOP rehearsal, which sections/squads/teams can immediately begin. The commander is back briefed as soon as the platoon leader completes the order. This briefing can be conducted as a one-on-one rehearsal, but the commander must intently study each platoon leader's plan to ensure it is nested and, if necessary, adjust plans based on platoon-level mission analysis and feedback. The platoon leader then issues an OPORD to the platoon; once complete, the platoon leader conducts a confirmation brief with the section/squad leaders to ensure all tasks are clearly understood. Section/squad leaders should then have time to issue the plan to their subordinates and provide guidance on mission preparations.

Once platoon-level OPORDs are complete (use the timeline to be certain), the company conducts a combined arms rehearsal. At a minimum, the rehearsal should be conducted on a terrain model (or map) large enough for section/squad leaders to "maneuver" their plans. If necessary, a blowup terrain model can be built for key events, such as the objective, to allow greater detail for the rehearsal. This is not a brief, but a performance; the rehearsal's intent is to provide leaders with a clear understanding of their positions and tasks, in time and space, on the battlefield. Leaders who brief individual portions, one right after the next, deprive the collective group of the bigger picture and how the entire operation will unfold during execution. When possible, 'players' should move themselves, or an icon, on the map/sketch/terrain board and send reports in appropriate formats. The rehearsal should address friendly actions, enemy reactions, and friendly counteractions to see if the plan addresses the plans and actions of a thinking enemy. If a full-dress technique is used, all soldiers wear the appropriate uniform and all kits, such as a tactical site exploitation kit and building marking kit, are used as they will be during the mission.

Using phased rehearsals at the company level is a very effective tactic, technique, and procedure (TTP). The commander has, at this point, described phases of the operation in the OPORD, which can be used to sequence rehearsals. Dur-

ing each phase, key tasks associated with the phase and synchronization to maneuver each element into position to start the next phase are rehearsed. To the maximum extent possible, units should maneuver simultaneously to confirm synchronization. Assign an individual, such as the company intelligence support team officer in charge (OIC)/NCO in charge (NCOIC), to play the 'enemy.' In this role, the enemy sets the enemy situation at the start of the phase and then 'reacts' to friendly actions. The enemy should first fight the most likely course of action (COA) and then rehearse once more against the most dangerous COA.

The company commander should influence the rehearsal to expose flaws in the plan and focus on coordination between subordinate units. All attachments, enablers, and combined partners should be present and participate equally. If combined partners are participating, additional time should be allotted for translations and explanations of varied TTP and national practices.

Once the company combined arms rehearsal is complete, all participants stay put while the first sergeant and platoon sergeants conduct a support rehearsal. While platoon leaders and the company commander may have limited participation, they should be present to ensure the support plan is nested with the operational plan. The first sergeant ensures the support plan meets the needs of the operational plan and that all platoon sergeants are prepared for casualty evacuation (CASEVAC) and recovery operations. This rehearsal must get into the details of support; it is not enough to say "second platoon will provide a vehicle to assist with CASEVAC." For example, an appropriate level of detail is "White 4's vehicle will maneuver from the north to link up via FM, then VS-17 panel with the first sergeant at CP 3 to assist in CASEVAC." At this point, the platoon leader is tracking; he is now without his platoon sergeant (and vehicle) and will adjust his posture as necessary.

The fires rehearsal, typically conducted at battalion level, but also a company-level combined arms rehearsal requirement, is often forgotten or not conducted to standard. At the battalion fires rehearsal, all fires discussed during the battalion combined arms rehearsal will be rehearsed with shooter and observer. This is a technical rehearsal during which shooters mark locations on the terrain model (or map) and rehearse procedures for 'no fire area' over observers and synchronizing fires (especially with aircraft), which includes units outside the priority of fires. Fires support is the most likely point for

cross-attachment, therefore, the most likely point for SOP and TTP differences. A technical rehearsal with all participants (at the lowest level) ensures timely and accurate fires. This technical rehearsal should be repeated at the company-level combined arms rehearsal, especially to deconflict use of radio nets for fire missions or air-ground integration.

Once company-level rehearsals are complete, the company commander issues a FRAGO to account for changes to the plan based on the rehearsal. If a rehearsal is properly conducted, there will definitely be changes and refinements to the original plan. Platoons then conduct their rehearsals while company commanders and first sergeants supervise to identify additional issues, ensure standards are met, and units are prepared to complete the mission.

The most effective practice is to rehearse twice. For example, company commanders hold a reduced force rehearsal on a terrain model after all platoon OPORDs are complete. Adjustments to the plan are made, as necessary, based on the rehearsal. The platoons are given time to brief changes, then a full dress rehearsal is held until start point (SP) time to rehearse the newly agreed on plan, which also ensures SP is executed on time.

If executed properly, rehearsals make up for shortcomings in any plan. As time is compressed, rehearsals are often cut first; however, in actuality, they are the most vital component of TLP — the one moment when all elements are collectively executing the plan with all necessary coordination.



## Notes

<sup>1</sup>Headquarters, Department of the Army, U.S. Army Field Manual 3-90.1, *Tank and Mechanized Infantry Company Team*, U.S. Government Printing Office, Washington, December 2002, para 3-172.

<sup>2</sup>Ibid.

<sup>3</sup>Ibid., para 3-173.

<sup>4</sup>Ibid., para 3-174.

<sup>5</sup>Ibid., para 3-175.

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# 2D CAVALRY REGIMENT



The distinctive unit insignia was originally approved for the 2d Cavalry Regiment on 16 January 1923. The insignia was amended to change the six-point star to an eight-point star to conform to the old dragoon star on 28 April 1924. The eight-point star insignia was worn by the dragoons, the 2d Cavalry having been originally formed as the Second Regiment of Dragoons in 1836. The palmetto leaf represents the regiment's first action against the Seminole Indians in Florida, where the palmetto leaf grows in abundance. The 'fleur-de-lis' is for combat service in France during both World War I and World War II. The motto "Toujours Prêt" (Always Ready) expresses the spirit and élan of the regiment.

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