Tying It Together: The Battle Damage Assessment Challenge

by First Lieutenant Ashton Wolf

Photo by U.S. Air Force 2nd Lt. Samuel Eckholm

A U.S. Air Force F-22 Raptor flies over a wall of fire during the Mission Over Malmstrom open house event in Great Falls, MT, July 14, 2019.

Introduction

There are no secrets to success. It is the result of preparation, hard work, and learning from failure.

—GEN Colin Powell

A lack of resources and time are a U.S. Army division's two worst enemies during a warfighter exercise. A shortage of resources necessitates prioritization, while the absence of time increases risk. It is the responsibility of the division staff to develop strategies and methods to mitigate this risk and to provide the division commander the most precise and predictive intelligence possible to drive a timely and effective decision-making process. The battle damage assessment (BDA) challenge during Warfighter Exercise 19-1 (WFX 19-1) provided another opportunity for a division staff to work through the challenges of limited time and resources. 25th Infantry Division (25th ID) appropriated most of its full motion video assets to target development and acquisition missions, but the division commander and staff still required fast and accurate BDA for planning purposes. Despite resource and time constraints, 25th ID successfully delivered BDA within 10 percent of the ground truth throughout WFX 19-1 by adopting a multi-intelligence approach.

Multi-Intelligence Approach

Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity.

—GEN George S. Patton

FM 2-0, Intelligence, states, "Commanders and staffs need timely, accurate, relevant, and predictive intelligence to understand threat characteristics, goals and objectives, and courses of action to successfully execute offensive and defensive tasks in large-scale combat operations."[1] Along this vein, ATP 3-60, *Targeting*, asserts, "The degree of reliability and credibility of the assessment relies largely upon collection resources. The quantity and quality of collection assets influence whether the assessment is highly reliable (concrete, quantifiable, and precise) or has low reliability (best guess)."[2] Initially, the 25th ID G-2 targeting team planned to rely heavily on full motion video, imagery, and subordinate unit operational reporting because of their high-confidence intelligence output. These collection platforms would provide the most accurate and relevant intelligence for the division planners, division fires, and division current operations. As a combat division in a resource-constrained environment, focused on closing with and killing the enemy and

maintaining speed and tempo, BDA fell lower on the list of intelligence priorities during WFX 19-1. This reality required analysts to combine assets with varying degrees of fidelity to achieve greater BDA accuracy.

The 25th ID G-2 targeting BDA analysts developed assessments leveraging communications intelligence; human intelligence; electronic intelligence; and ground moving target indicator (GMTI), target acquisition radar, and post-fire mission data. Separate, these assets are low-confidence information collection resources, but when effectively layered, these information collection assets created a solid multi-intelligence foundation for a division-level common intelligence picture. For example, one battle drill implemented in the analysis and control element involved terrain, GMTI, communications intelligence, and electronic intelligence analysts sharing indications of BDA after the joint air-ground integration center reported a fire mission through chat. Augmented with subordinate input and I Corps shaping efforts, targeting analysts made precise assessments for planning and reattack purposes. Implementing this method, the targeting team contributed to multiple important division commander decisions, ensuring mission success.

Improving the Baseline

We don't rise to the level of our expectations, we fall to the level of our training.

—Archilochus (Ancient Greek lyric poet)

There is an inherent responsibility of staffs to identify the gaps and shortcomings in their practices. Staffs ought to strive to improve practices before, during, and after training exercises and military operations. Even though it achieved a high degree of success during WFX 19-1, 25th ID's BDA process lacked the application of munitions effectiveness and relied heavily on the subject matter experts, and the team faced challenges in receiving timely BDA reports from subordinate units and joint partners. Providing analysts with more training, integrating all elements of combat assessment, and developing and enforcing a combat assessment standard operating procedure for future operations will ensure a more lethal and effective targeting system.

Current Training Limitations. In 1992, a Congressional report on the Persian Gulf War claimed, "BDA in the Gulf War, as a whole, has been criticized as too slow and inadequate…There still is no [Department of Defense] DOD-wide, formalized BDA training or needed organizational structure, doctrine, methodology, or procedures."[3] In 2005, COL James G. Diehl, then joint test director at the Joint Battle Damage Assessment Joint Test and Evaluation Center, and Mr. Charles E. Sloan, senior military analyst, wrote an article titled "Battle Damage Assessment: The Ground Truth." In their article, they echoed this concern by pointing to a "documented…chronic problem with untrained or unqualified augmentees arriving…[to perform] BDA cell functions during…exercises."[4] Most intelligence analysts are not equipped to conduct effective BDA analysis with the training they currently receive as 35Fs (Intelligence Analyst). The 25th ID's intelligence analysts received training to identify enemy capabilities based on terrain, equipment, and order of battle. They could ascertain the "so what" behind the results of BDA fed to them but received little training to properly assess the results of an indirect fire engagement. This placed even more pressure on the already tight time constraints. Analysts had to either reach out to division staff elements and subject matter experts, who did not always have time to support the BDA effort, or rely on their own limited knowledge and training to develop assessments.

Battle Damage Assessment: Only One-Third of the Picture. "Combat assessment is composed of three related elements: battle damage assessment, munitions effectiveness assessment, and reattack recommendations or future targeting. Assessment of tactical results helps commanders determine progress at the operational and strategic levels and can affect operational and strategic targeting and engagement decisions."[5] Although 25th ID used all three components of combat assessment during WFX 19-1, they

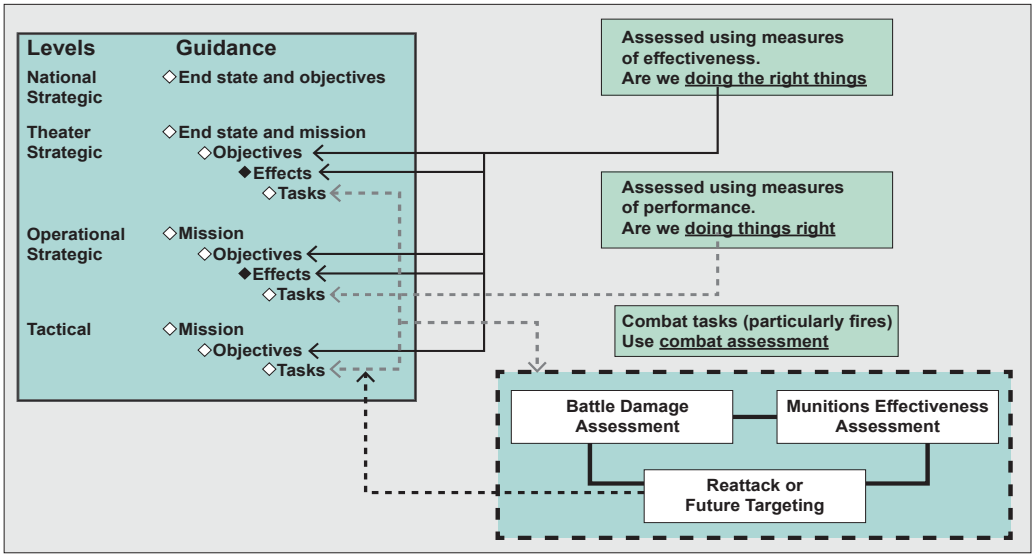

Figure 1. Assessment Levels and Measures[6]

did not always use them together to enhance the common intelligence picture. Viewing BDA, munitions effectiveness, and reattack guidance as a unified effort provides a baseline for measures of effectiveness and measures of performance, while also eliminating the diffusion of responsibility currently plaguing BDA analysis and tracking.

ATP 3-60, *Targeting*, states, "Producing BDA is primarily an intelligence responsibility, but requires coordination with operational elements to be effective."[7] The intelligence warfighting function collects BDA-specific data; however, without combined staff input, the division cannot competently detect adversary assets or assess friendly effects on the enemy. Two graphics in chapter 2 of ATP 3-60 depict the importance of staff collaboration for the targeting process. The first graphic (Figure 1 on the previous page) portrays the role combat assessment plays in measures of effectiveness and measures of performance assessments and how if implemented correctly it "properly focuses assessment and collection at each level, reduces redundancy, and enhances the efficiency of the overall assessment process."[8] The second graphic (Figure 2) emphasizes the many assets from different staff sections involved in the decide, detect, deliver, assess targeting methodology. When combined, the images tell a simple truth—without bringing the entire staff together to implement combat assessment, an accurate picture of the enemy cannot exist.

The coordination between the entire staff is invaluable. Intelligence analysts cannot replicate the knowledge, experience, education, and training of other staff members. An intelligence analyst does not receive training on the type, quantity, capability, and effects of friendly joint fires platforms. The division intelligence section also does not receive real-time information on each fire and counter-fire mission. In their 2005 article, COL Diehl and Mr. Sloan wrote, "BDA is not just an 'intel thing.' The BDA mission, if it is going to integrate into an effects-based operations culture, must become an integrated operations/intelligence function that begins with and continuously feeds back to support the commanders' strategy."[9] Multiple sections are involved with the combat assessment and targeting processes. If the staff acknowledges their defined roles and responsibilities in an approved standard operating procedure, they can provide the most accurate analysis available to help inform decision makers.

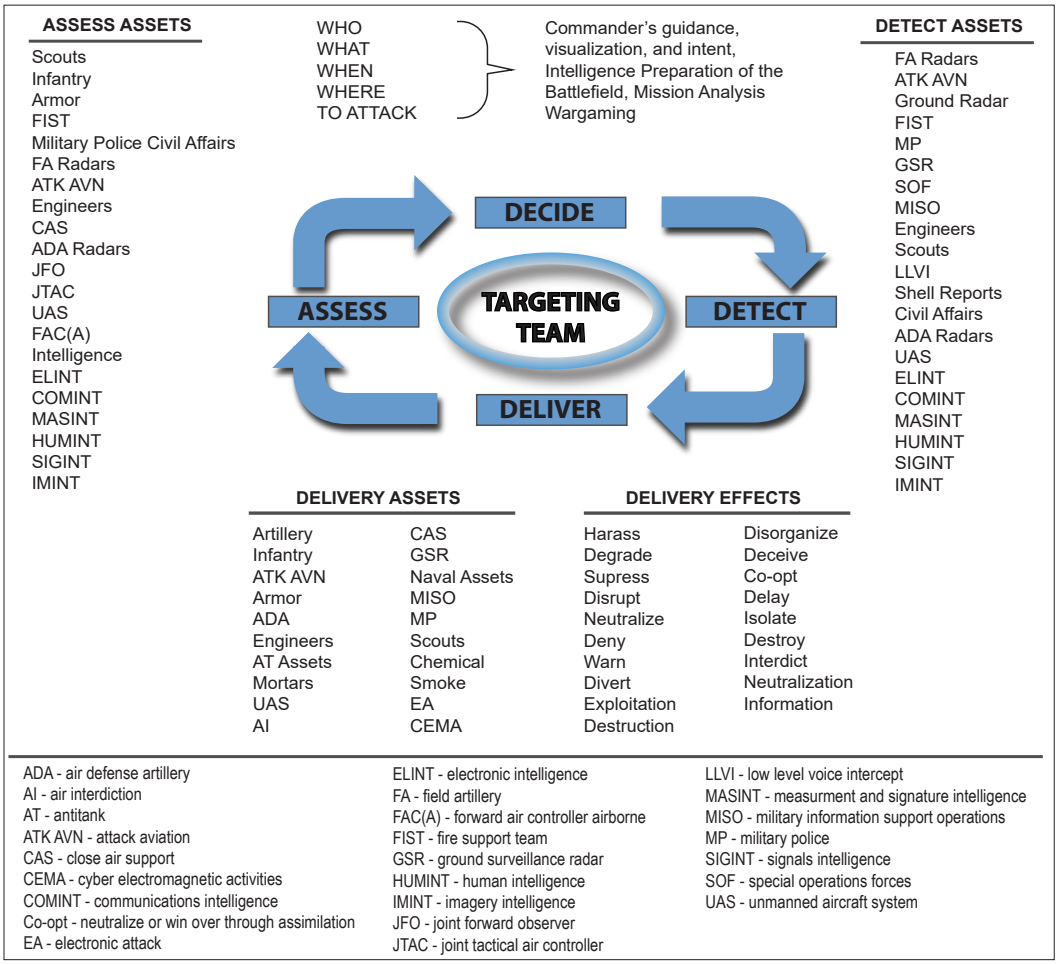

Figure 2. Decide, Detect, Deliver, Assess Methodology and Assets[10]

The Tower of Babel Paradigm: Getting Everyone on the Same Page. Combat assessment and BDA require good communication, commander emphasis, and universal ownership. Different assets within the division collect information to create a concise and accurate assessment. These assets currently fail to share this information holistically. To create BDA assessments, the division G-2 receives reports from numerous sources:

- Division artillery.
- Combat aviation brigade.
- Joint air-ground integration center.
- Joint information collection.
- Corps.
- Adjacent units.
- Subordinate brigade combat teams.

These units often prioritize and share the intelligence that assists in the completion of their own mission, unintentionally withholding information of value to others. This created the Tower of Babel Paradigm—every unit responsible for developing and contributing to the common intelligence picture spoke a slightly different dialect. This problem was only propagated with the limited time and competing priorities of WFX 19-1. 25th ID also had many connectivity and communication issues during WFX 19-1. 25th ID G-2 targeting received BDA via chat, email, radio, runner, Share drive, and the portal. Reporting methods that worked for one unit did not work for another unit. As a result, G-2 BDA analysts devoted countless hours to pulling BDA reports from myriad units, reducing the amount of time available to develop tailored targeting analysis products.

Fighting Products

Critical to making and executing decisions rapidly and effectively are complete, common, and timely *fighting products*. These can consist of the intelligence collection matrix, decision-support matrix, synchronization matrix, fire-support execution matrix, maneuver graphics, and target-list worksheet.[11]

Time Constraints. Throughout a collection cycle, G-2 targeting analysts process BDA reporting, verify intelligence sources (to prevent duplicate reporting), input data into "fighting products," and examine the enemy order of battle to adjust task organization. Added to these tasks are the sporadic battle drills, special products, and battle rhythm briefing requirements. When streamlined, it is possible to accomplish all these tasks. However, during WFX 19-1, unit reporting created a significant chokepoint. The fast pace of operations and the large influx of intelligence reports received at all echelons regularly caused units to miss reporting timelines. This required G-2 targeting analysts to assume risk by stopping targeting-specific production to search for reporting. They effectively refined the gaps in the BDA picture by searching for BDA reporting in unit chat rooms, hunting down fire mission trackers, making numerous phone calls, and rechecking GMTI and signals intelligence reporting. Although effective for BDA development, the additional tasking constrained analysts' time to prepare for important briefings, leaving gaps in parts of the common intelligence picture. Ultimately, an incomplete common intelligence picture limits the division commander and staff's battlefield visualization and understanding of the fight.

Recommendations: Adopting the Combat Assessment Model

If you find yourself in a fair fight, you didn't plan your mission properly.
—David Hackworth (military journalist and retired Army colonel)

Implement a Combat Assessment Working Group. In *The Art and Science of Battle Damage Assessment in Large-Scale Combat Operations*, CW3 Michael Franklin and CW3 Stephen Barber remarked, "With a lack of a defined standard, training audience units use different tools for tracking the status of destroyed enemy equipment." They also stated, "The synchronization of intelligence and fires professionals is paramount to effective targeting against peer and near-peer adversaries in small windows of opportunity."[12] 25th ID's WFX 19-1 final after action review comments mirror CW3 Franklin and CW3 Barber's remarks. During the exercise, creating a common intelligence picture for the combat assessment and BDA fight was a common challenge. Joint fires, division artillery, combat aviation brigade, joint air-ground integration center, G-9, and subordinate brigades reported BDA differently, not always sharing information with division. This created confusion and misunderstanding when commanders briefed BDA or reattack guidance. As a result, 25th ID G-2 targeting analysts spent more time tracking down BDA reporting than conducting analysis and developing detailed targeting products. Implementing a combat assessment working group would mitigate this issue by establishing a regular touchpoint that brings together all pertinent resources and information, saving time and creating efficiencies in the targeting process.

The success of the combat assessment working group depends on the participation of more than just the G-2 targeting analysts. All warfighting functions and subordinate brigades need to provide a liaison. To be effective, the combat assessment working group needs to occur multiple times a day but does not need to last longer than 15 to 20 minutes. Adding another event to the 25th ID's already packed battle rhythm might not be an easy feat, but it has value. With those 15 minutes before a targeting working group or a commander's update brief, subordinate units and division staff can discuss fire missions, out-of-contact attacks (i.e., deep or interdiction attacks),[13] current intelligence, and operational reporting to confirm or deny combat assessment staff estimates. Successfully integrating the combat assessment working group into the battle rhythm will lead to a more complete common intelligence picture, reduce duplicate BDA reporting, and ensure that decision makers receive comprehensive feedback on their measures of performance and effectiveness.

Reserve Combat Assessment Training Slots for Intelligence Analysts. In their article, COL Diehl and Mr. Sloan observed, "Although there have been several technical and process improvements, assessment still receives failing grades

regardless of whether people even understand the mission. In defense of BDA, however, there is also little historical evidence of any formal attempt to fix it or to simply agree what it is."[14] The best way to improve BDA is to create subject matter experts in the intelligence warfighting function with formalized training to help them understand how to conduct a combat assessment. As such, divisions need to reserve slots for their intelligence analysts to attend targeting, munitions, and weaponeering training. By leveraging these training opportunities, intelligence analysts gain a better understanding of friendly operations and can better integrate with the field artillery intelligence officer and joint air-ground integration center to turn raw data into actionable intelligence. More combat assessment training for military intelligence professionals will develop a cadre of combat assessment subject matter experts in the intelligence warfighting function, greatly increasing the intelligence warfighting function's skill and sense of ownership with regard to the BDA problem set.

Develop and Codify a Combat Assessment Standard Operating Procedure. Developing a combat assessment standard operating procedure creates a common understanding of expectations and requirements for all involved staff sections. During WFX 19-1, 25th ID did not tie BDA, munitions assessment, and reattack guidance under combat assessment effectively. Creating a combat assessment standard operating procedure that ties intelligence and operations requirements together solidifies a key relationship, which will increase performance of the division targeting effort and enhance support to movement and maneuver.

Conclusion

25th ID effectively implemented a multi-intelligence approach to BDA that successfully mitigated the increased risks caused by time constraints and a lack of resources. The next step is to turn the multi-intelligence approach into a multi-discipline, cross-functional one by integrating all aspects of combat assessment and the entire division staff into the analysis process. The multi-discipline, cross-functional approach, combined with formal combat assessment training and dedicated staff touchpoints through a combat assessment working group, will make 25th ID's targeting process more lethal on the battlefield.

Endnotes

1. Department of the Army, Field Manual 2-0, *Intelligence* (Washington, DC: U.S. Government Publishing Office [GPO], 6 July 2018), vii.

2. Department of the Army, Army Techniques Publication (ATP) 3-60, *Targeting* (Washington, DC: U.S. GPO, 7 May 2015), 2-15.

3. Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, DC: April 1992), 398-399, http://www.ssi.army.mil/!Library/Desert%20Shield-Desert%20Storm%20Battle%20Analysis/Conduct%20of%20the%20Persian%20Gulf%20War%20-%20Final%20Rpt%20to%20Congress.pdf.

4. James Diehl and Charles Sloan, "Battle Damage Assessment: The Ground Truth," *Joint Force Quarterly* 37, 2nd Quarter (2005): 62.

5. Office of the Chairman of the Joint Chiefs of Staff, Joint Publication (JP) 3-0, *Joint Operations* (Washington, DC: U.S. GPO, 17 January 2017), II-11. Change 1 was issued on 22 October 2018.

6. Department of the Army, ATP 3-60, 2-14.

7. Ibid.

8. Ibid., 2-13.

9. Diehl and Sloan, "Battle Damage": 63.

10. Department of the Army, ATP 3-60, 2-17.

11. Bronco Team, National Training Center, *Brigade Commander Tactical Decision Exercises* (September 2018), 3, 27, http://companyleader.themilitaryleader.com/wp-content/uploads/2018/09/BCT-CDR-Tactical-Decision-Exercises-1st-Edition-SEP2018.pdf.

12. Michael Franklin and Stephen Barber, *The Art and Science of Battle Damage Assessment in Large-Scale Combat Operations* (Fort Leavenworth, KS: Mission Command Training Program, Combined Arms Center, September 2018), 2-3.

13. Ian Benson, *No Longer Swinging Behind the Pitch: A Historical Case Study of Doctrinal Transitions in U.S. Army Aviation* (Fort Leavenworth, KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 2018), 33, https://apps.dtic.mil/dtic/tr/fulltext/u2/1070942.pdf.

14. Diehl and Sloan, "Battle Damage": 63.

References

Office of the Chairman of the Joint Chiefs of Staff. JP-3-60, *Joint Targeting.* Washington, DC: U.S. GPO, 28 September 2018.

Serbu, Jared. "Five things you may have missed at Air, Space and Cyber Conference." *Federal News Network*, 26 September 2016. https://federalnewsnetwork.com/air-force/2016/09/five-things-may-missed-air-space-cyber-conference/.

1LT Ashton Wolf is currently the 25th Infantry Division (25th ID) G-2 targeting officer. Previous assignments include 25th ID G-2 fusion chief, 1st Battalion, 21st Infantry Regiment, Headquarters and Headquarters Company executive officer, and battalion assistant S-2. She holds a bachelor of science from the U.S. Military Academy.

Contributors:

Dr. William Rierson, Mr. Scott Pettigrew, MAJ Aaron Christian, CW4 Elliot Lopez, CW3 Sam Cude, and CW3 James Lipinski.