

JOINT BATTLE DAMAGE ASSESSMENT (JBDA)



Joint Test and Evaluation Program

Authorized Manning:	32
Total JT&E Budget:	\$15.9M
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Completion Date:	4QFY04

Lead Service

Army

JT&E DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The charter of the Joint Battle Damage Assessment (JBDA) Joint Test & Evaluation (JT&E) is to investigate, evaluate, and improve BDA support to the joint force commander in order to facilitate operational decision-making. Potential improvements will be identified, prioritized, and coordinated with the appropriate commands. JBDA will contribute to the *Joint Vision 2020* operational concept of *precision engagement*.

The JBDA JT&E will establish a baseline case by evaluating and documenting current BDA processes and procedures in operational scenarios. Potential deficiencies and opportunities for improvements will be identified. The selected improvements will then be installed and tested in environments as closely aligned with baseline measurements as possible. Analysis of the collected data will be used to evaluate the effectiveness and suitability of the proposed enhancements. For the JBDA JT&E, the Army, Navy, Air Force, Marine Corps and Unified Commands are designated as participating Services/Commands, with the Army designated as the lead Service and executive agent.

BACKGROUND INFORMATION

At the conclusion of *Desert Storm*, BDA was identified as one of the four major intelligence shortcomings. "The BDA process was difficult especially for restrike decisions. BDA doctrine and organization must be determined" (Department of Defense [DoD] Final Report to Congress, *Conduct of the Persian Gulf War*, 1992). "The core analysis problem...centers on tactical battlefield damage assessment, the count of Iraqi tanks, armored personnel carriers and artillery pieces knocked out by the air campaign before the ground offensive kicked off. This was the greatest intelligence failure of the intelligence community during Desert Storm." (Congress, House Oversight and Investigations Subcommittee of the Committee on Armed Services, Intelligence Successes and Failures in Operations Desert Shield/Storm 103 Congress, 1st session, 1993). From Desert Storm lessons learned, it was determined that "The BDA process was difficult especially for restrike decisions. BDA doctrine and organization must be determined. DIA, the Services and the unified and specified commands have begun to institutionalize a BDA structure that will satisfy combatant commanders' requirements." (Department of Defense, *Final Report to Congress of the Persian Gulf War*, April 1992)

Desert Storm outstripped intelligence collection and analysis capabilities, sharply reducing BDA effectiveness. This was further exacerbated by the lack of trained analysts and doctrine that specified BDA production responsibilities. Beginning immediately after the war, DoD addressed the BDA problems in *Desert Storm* by reorganizing targeting activities within DIA. DIA created the Deputy Directorate for Targets (J2-T) as the single national level point of contact for targeting matters, and formed a BDA Working Group under the existing Military Targets Intelligence Committee.

The BDA improvements and changes following *Desert Storm* have been incorporated – at least in part – in subsequent contingencies and operations. The first operation that included enough targets to effectively exercise BDA was *Desert Fox*. With its scripted nature, short duration, and very limited target development, *Desert Fox* was not a vehicle for determining whether or not *Desert Storm* BDA problems were fixed. For example, while *Desert Storm* found that there was a critical need to develop a process for maneuver force BDA, *Desert Fox* emphasized infrastructure and not ground force equipment. CINCCENT stated that he had "seen no seams in the intelligence community in terms of differences of opinion," and that BDA had been rapid, responsive, and well analyzed. BDA worked in *Desert Fox*. The CINC was satisfied, and it appears that members of the intelligence community worked well together. However, *Desert Fox* did not answer the question of whether or not *Desert Storm* BDA problems were fixed; the operations were simply too dissimilar.

The second significant combat operation subsequent to *Desert Storm* was *Allied Force*. This was a North Atlantic Treaty Organization (NATO) air operation against the Federal Republic of Yugoslavia, running from 24 March through 20 June 1999. Federated BDA was used during *Allied Force*. The target sets were federated between USEUCOM (the USEUCOM-established Joint Task Force was designated as the BDA authority) and the NMJIC. As in *Desert Fox*, Federated BDA mitigated some of the coordination problems and appeared to increase BDA responsiveness.

Allied Force and *Desert Storm* shared some common characteristics including some pre-conflict buildup and training; coalition forces; sanctuaries; aircraft and cruise missile strikes; and target development throughout the operation. One of the major differences in the two operations was scale – the numbers of strike aircraft, numbers of sorties, numbers of bases, and geographical area. *Desert Storm* was larger in almost every category. There was also a vast difference in the BDA focus for the two operations. *Desert Storm* emphasized ground force targets, while the same targets were fourth on the *Allied Force* target list. Finally, the tempo of operations was continuous in *Desert Storm* and intermittent in *Allied Force*.

Desert Fox and *Allied Force* illustrated that advances have been made in BDA since Desert Storm. At the same time, these two operations highlight the need for further improvement. Training of analysts is still problematic. Processes and procedures are in place for conducting BDA on fixed targets, but these processes can and should be enhanced to provide BDA in a more timely and accurate fashion to meet the commander's decision cycle. Finally, there has been little focus or effort on improving mobile target BDA since *Desert Storm*.

To address these recurring shortcomings, the Deputy Director, Test and Evaluation (DDT&E), under the Director, Test, Systems Engineering and Evaluation (DTSE&E), Office of the Secretary of Defense (OSD), directed the Joint Battle Damage Assessment (JBDA) Joint Feasibility Study (JFS) in June 1999. The Army was designated as the lead Service, and responded quickly to the SAC's guidance, moving the JFS sponsorship to the Training and Doctrine Command (TRADOC) and assembling the initial staff.

TEST & EVALUATION ACTIVITY

The JFS team began by modeling the current 'perceived as-is' BDA process and documenting known problems. The feasibility study team conducted a thorough problem characterization of BDA. The characterization was conducted through research, polling of subject matter experts (SMEs) from all of the Services, the Joint Staff, and the unified commands, and the efforts of a joint working group (JWG). After compiling inputs and reviewing the JBDA characterizations, the JWG adopted a revised problem statement as the basis for the JBDA JT&E approach. A series of briefings began to the Joint Staff, the combatant commands, the Services, and the Test and Evaluation (T&E) agencies from the action officer through the director, and, in some cases, the Commander in Chief (CINC). These briefings obtained guidance and support, ensured all parties that the JBDA effort was on track, and provided a venue for the JFS team to raise the awareness level of current BDA processes and identified problems.

As the JFS team progressed through the study, a detailed analysis methodology was developed and potential test venues were reviewed. Issues and measures were selected to focus on areas requiring the most urgent attention. Under the guidance of the Technical Advisory Board (TAB) and General Officer Steering Committee (GOSC), the Test Approach, Schedule and Venues were selected.

TEST & EVALUATION ASSESSMENT

The 'perceived as-is' generic BDA process has been documented in IDEF0 format. This model has been providing the basis for the construction of the test dendrite and for framing our structured analysis, as well as for the Integrated Data Requirements List (IDRL) and Data Management and Analysis Plan (DMAP). The IDRL and DMAP will form the backbone for all future test activity. In addition, three JBDA analysts deployed to Osan Air Base, CP Tango and Camp Humphreys to participate in the 26th Ulchi Focus Lens (UFL 00) Command Post Exercise in the Republic of Korea. They used this opportunity to observe the BDA process, and to gather information necessary to build a draft IDEF0 model for Korea. US Forces Korea is currently reviewing this JBDA-developed draft IDEF0 model. The draft was eagerly received, and is already being used by the USFK Ground Component Command BDA Cell as an aid in visualizing their BDA processes.

CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

Potential recommendations based on JBDA problem characterization and research include:

- ***TTP Development.*** Documentation of the BDA process will provide the necessary basis for determining what TTPs currently exist, how the process works, and what is needed. This “snapshot” of the current BDA process supports the evaluation of current TTPs and refinements to existing doctrine. JBDA will prepare a compendium of data that supports JT&E findings and outcomes concerning the operational concepts and TTPs for both fixed and mobile target BDA as well as a combat effectiveness model that fulfills the JFC’s requirements. The documentation will address problem areas identified during the JT&E and will recommend changes to enhance combat effectiveness. The users of these data will be the Joint Staff, combatant command staffs, JTFs, the Service and component staffs, and the commanders and staffs of operational units at all echelons.
- ***Training.*** The JT&E team will identify and document potential enhancements to BDA training. This will cover the training of individuals, units, component commands and Service staffs in BDA and BDA-related collection management and coordination. The team’s findings and recommendations will be documented and provided to J2-T for the combatant commands, the Services, and other OSD and joint organizations for inclusion in the Universal Joint Task List (UJTL) CJCSM 3500.04. Curriculum enhancements will be recommended to DIA, joint and service schools.
- ***Systems.*** JBDA results will be the basis for providing recommendations to J2-T, Combatant Commands, and the Services for developing or modifying systems to enhance BDA. JBDA will also investigate the use of COTS/GOTS systems (primarily interactive software programs with imagery) such as that used in industry training to improve analyst training. The test team will identify problems in areas such as the interoperability of communications and data systems and the commonality and effectiveness of tactical situation displays. The test team will prepare inputs that document such problems and provide recommendations to correct them. The test team will provide these inputs to J2-T for the Joint Staff, OSD agencies, and the Services. These inputs will provide a basis for preparing requirement documents such as Mission Need Statements (MNS) and Operational Requirements Documents (ORD).
- ***Documentation of Operational Concepts and Tactics, Techniques, and Procedures.*** The documentation of the BDA process baselines will be of explicit value. JBDA will prepare a compendium of data that supports JT&E findings and outcomes concerning the operational concepts and TTP to effectively conduct BDA. The documentation will address problem areas and will recommend changes to enhance combat effectiveness. The users of this data will be the Joint Staff, combatant command staffs, the Service staffs, and the commanders and staffs of operational units. This data may also serve as a benchmark baseline of targeting transactions to support future improvement efforts.