The Joint Targeting Enterprise and the DOD Digital Transformation

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Joint targeting is central to every aspect of operational planning. When the Joint Warfighting Concept and digital initiatives are viewed through the lens of the Joint targeting enterprise, it is clear Joint targeting is the best way to achieve the Department of Defense's digital transformation.

Most modernization initiatives and programs are focused on finding, fixing, finishing, exploiting, and analyzing moving or dynamic targets in the operational battlespace. These initiatives overlook the critical operational importance of having enough vetted, predetermined targets on the shelf.[1] Joint targeting, therefore, is integral to every aspect of operational planning. When the new Joint warfighting concept (JWC) and digital initiatives are viewed more holistically through the entire Joint targeting enterprise (JTE) lens instead of focusing on one aspect of it—improving dynamic targeting—it is evident that Joint targeting is ideally suited to achieve the digital transformation sought by the Department.

Michael Mazarr recommends being prepared to "deliver . . . firepower onto attacking forces in the first weeks of a conflict" to prevent an adversary from achieving regional hegemony or conquest.[2] This action would serve as a conventional deterrent and suggests the JTE should prepare for the fight-tonight, worst-case scenario. Many JTE modernization initiatives and programs currently in development under the Joint warfighting concept and the digital modernization umbrellas will improve readiness if successfully developed and integrated.

Joint targeting is intrinsic to every phase of military planning and operations—from steady-state strategy development and campaign planning, to the commencement of hostilities, to assessment—utilizing data and information from across many networks and domains including the defense intelligence enterprise.[3] According to Joint Publication 3-60, "Targeting is the process of selecting and prioritizing targets and matching the appropriate response to them, considering operational requirements and capabilities. Targeting requires a continuous, analytic process to identify, develop, and affect targets to meet commander objectives."[4]

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1. James Kitfield, "Hard Lessons from America's Longest Wars," Breaking Defense, December 14, 2017, https://breakingdefense.com/.

2. Michael J. Mazarr, "Time for a New Approach to Defense Strategy," War on the Rocks, July 29, 2021, https://warontherocks.com/.

3. Chairman of the Joint Chiefs of Staff (CJCS), Joint Targeting, Joint Publication 3-60 (Washington, DC: CJCS, 28 September 2018), I-1; and US European Command (USEUCOM), "Target Strategy Intelligence Planning Team Overview," briefing to Military Targeting Committee, slide 3, October 7, 2021.

4. CJCS, Joint Targeting, I-1.

As differentiated from human intelligence or collections targeting,

> Joint targeting provides planners with access to detailed information on the targets, supported by the nominating component's analytical reasoning that links the targets with the desired effects. . . . A target is an entity or object that performs a function for the adversary considered for possible engagement or action. A target's importance derives from its potential contribution to achieving a commander's objective(s) or otherwise accomplishing assigned tasks.[5]

Joint targeteers assist planners in planning for a worst-case scenario if diplomacy fails and a major conflict erupts against a near-peer or great power competitor.[6] A targeteer is "an individual who has completed requisite training and guides the joint targeting cycle in their current duties."[7] Joint targeteers work with intelligence analysts and are responsible for developing all-source intelligence to understand target sets, identify vulnerabilities, and help planners select viable Joint targets for military operations.[8]

Tasks Joint targeteers perform are complex and demanding, requiring attention to consequential details. The lives and livelihoods of Americans and citizens of our Ally and partners nations are possibly at stake if a detail is overlooked.[9] These targeteers ensure selected Joint targets meet the objectives and intent of war plans and meet the Laws of War requirements to mitigate civilian harm and suffering.

Executing the various tasks well requires enough trained and experienced Joint targeteers and intelligence analysts to begin Joint target development. It takes time to discover, develop, and produce all-source intelligence and target system analyses and select appropriate Joint targets—ideally well before hostilities commence.[10] Target system analysis is "an all-source examination of potential target systems to determine relevance to stated objectives, military importance, and priority of attack."[11] This analysis includes fixed facilities and intelligence on military organizations, including their command and control structures, personnel, and supporting infrastructure.

According to the *DOD Dictionary*, order of battle is "the identification, strength, command structure, and disposition of the personnel, units, and equipment of any military

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5. CJCS, *Joint Targeting*, I-1.
6. Mazarr, "New Approach."
7. CJCS, *DOD Dictionary of Military and Associated Terms*, November 2021, s.v. "targeteer," https://www.jcs.mil/.
8. Eric Washabaugh, "The Robot, the Targeter and the Future of U.S. National Security," The Cipher Brief, March 8, 2021, https://thecipherbrief.com/.
9. Mike Nagata, "Focus on the Enablers for Long Range Precision Fires," Breaking Defense, July 28, 2021, https://breakingdefense.com/.
10. CJCS, *Joint Targeting*, GL-9.
11. CJCS, *DOD Dictionary of Military and Associated Terms*, November 2021, s.v. "target system analysis," https://www.jcs.mil/.

force."[12] During steady-state operations, when units are out of garrison, terrain and deployment locations are also placed in a database that is used to more efficiently find and fix them if hostilities commence.[13] History has shown this can take years, depending on the complexity, magnitude of adversary infrastructure and military organizations, available data, availability of collection assets, and numbers of dedicated intelligence analysts.

Joint targeting is also a function of urgency. If such targeting is deemed a priority, the time to develop enough quality Joint targets might be reduced to months. Yet this is a best-case scenario when supporting intelligence organizations are all-in on production. Tensions, indications, warnings, posture, and current situation will always dictate urgency, but it is critically important to have enough appropriate, valid Joint targets on the shelf should there be a fight-tonight contingency. Having no Joint targets prepared for operations against a relatively low-threat adversary may unnecessarily prolong a fight. In a conflict with a great power competitor—a fight-tonight scenario—the opening salvos could be lost if we do not have enough vetted Joint targets to engage.

A good strategy and plan usually translate into viable Joint targets. Joint targeting converts strategy into discrete actions against Joint targets by linking ends, ways, and means.[14] The selection of Joint targets is one of the last tasks of a detailed plan in preparation for D-Day. As events escalate to the point hostilities are imminent, the questions of who, what, where, and how many Joint targets will be answered and refined by targeteers and planners. These targeteers and planners are located within all echelons of higher command.[15]

The process of developing and selecting Joint targets is agnostic to the capabilities to be delivered, which will be assigned depending on desired effects.[16] Desired effects are dependent on the intent of the strategy and the assumptions and progress of the campaign plan. As the plan evolves or is executed, desired effects also depend on the current situation, including the conventional weapons and delivery platforms available and non-kinetic capabilities ready to be delivered or initiated.

All desired effects depend on access to Joint targets—limited by factors such as geography, range, electromagnetic spectrum, network firewalls, passwords, and vulnerability to attack and opportunity. Joint targeteers are instrumental in estimating desired effects, based on these limitations, that commanders and operators use to make engagement decisions.

Joint targeteers, analysts, and planners are responsible for assessing delivered effects. Joint targeteers assess effects delivered on individual Joint targets and contribute critical assessments of the overall effects delivered to various Joint target sets. Planners and ana-

12. JCS, *DOD Dictionary of Military and Associated Terms*, November 2021, s.v. "order of battle," https://www.jcs.mil/.

13. Nagata, "Precision Fires."

14. US Air Force (USAF), *Targeting*, Air Force Doctrine Publication 3-60 (Washington, DC: Department of the Air Force, November 12, 2021), 3, https://www.doctrine.af.mil/.

15. USEUCOM, "Planning Team Overview."

16. Kathryn Bailey, "Jointly Planning to Ensure Sensor, Shooter Technology Dominance," US Army News, March 18, 2020, https://www.army.mil/.

lysts use these assessments to determine if the Joint force is achieving the campaign plan objectives. When effects are delivered to dynamic Joint targets, making good assessments is exponentially more complex. Historically, this part of Joint targeting is not usually done well since it is not frequently rehearsed and accomplished at scale. When a major conflict occurs, assessments of effects delivered against dynamic Joint targets require dedicated collection and many intelligence analysts.

The current perilous global strategic security environment requires us to reassess the necessary resources that enable Joint targeting to line up with the *2018 National Defense Strategy* priorities. Much work remains to scale Joint targeting capabilities for conflict against adversaries identified in the Strategy.

In the last five years, the Department of Defense has increased the numbers of personnel by 50 percent in most commands and services dedicated to Joint targeting. But there is still a shortage of sufficiently trained and experienced personnel that cannot be compensated with the current state of the automation tools at their disposal.[17] Indeed, the current stovepiped networks and automation tools make Joint targeting tasks unnecessarily tedious even if there were enough personnel.[18]

Therefore, since Joint targeting is intrinsic to every phase of military operations, it can help evaluate digital modernization programs and initiatives in development. For example, Joint targeting is dependent on multiple "authoritative data sources" entered into databases and characterized as sufficient enough to be developed into valid Joint targets.[19] Data is dependent on collection.

Collection is dependent on collection assets and analysts' access to what is collected. Likewise, postattack assessments are also dependent on collection and timeliness. Collection data and information could come from any domain and platform and should be agnostic to the platform or the receiving integrating network and architecture. What is important is to have access to timely collected data that can be analyzed inside the decision cycles of our competitors, or if conflict erupts, our adversaries.

In this regard, a measured approach to improve the overall automation efficiencies required for reach-back presents use case opportunities to digitally transform the Joint warfighting concept and the defense intelligence enterprise that will have cross-functional multiplying effects. This includes empowering the Joint targeting enterprise with machine learning and artificial intelligence (AI) that could vastly improve Joint target analysis—including target system analysis and target selection, prioritization, and assessment at scale—especially in a time-compressed scenario.[20]

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17. Office of the Undersecretary of Defense for Intelligence & Security (OUSDI&S) Combatant Command Joint Targeting Manpower Statistics, June 24, 2021.

18. USDI&S Joint Targeting Intelligence Modernization briefing, August 2021.

19. Brad D. Williams, "JADC2 Implementation Plan 'Weeks Away': J6's Parker," Breaking Defense, September 8, 2021, https://breakingdefensenews.com/; and Nagata, "Precision Fires."

20. Williams, "JADC2 Implementation Plan"; and Nagata, "Precision Fires."

But this will require determining how many Joint warfighting concept and defense intelligence enterprise AI initiatives exist and understanding their purpose. Although these initiatives seem to be driving toward the same singularity—vastly improved war-fighting capabilities appropriate for the digital age—most initiatives are being developed in ignorance of others and are primarily focused on sensor-to-shooter capabilities against dynamic targets.

The underlying assumption for these capabilities is that persistent theater and tactical intelligence, surveillance, and reconnaissance platforms, adequate national technical means, communications access and connectivity, and precision, navigation, and timing assets will be available to deliver precision weapons accurately on target. These assets may not be available or accessible in the degraded communications environments expected in conflicts with China and Russia—one critical reason commanders need on-the-shelf Joint targets.[21]

Moreover, even if US forces had sufficient collection and connectivity to put iron on target, collectors and weapons operators need to know generally where to look to find and finish dynamic units and equipment. This information only comes by preconflict Joint target and target system analysis development, which can be vastly improved with machine-assisted analysis and AI. During Operation Desert Storm, when coalition forces had air superiority over Iraq and dedicated intelligence, surveillance, and reconnaissance collection platforms, they could not effectively locate and finish the Scud launchers being moved between hiding sites in western Iraq. Iraqi forces could periodically launch Scud missiles into Israel and Saudi Arabia throughout the campaign.[22] Artificial intelligence could smartly assist these fires missions.

There is also the conundrum of how to integrate legacy programs of record (PoRs) with AI. Should the Department improve current legacy PoRs by making them more interoperable as it transitions to new networks and architectures and attempts to add algorithms to assist Joint targeteers and analysts smartly? Or should the military scrap ill-performing or unused PoRs and move toward the potential of algorithmic warfare? Considering the perilous global strategic security environment for the Joint targeting enterprise, it should be a combination of both.[23] The Department of Defense cannot afford to lose the current PoRs' albeit limited interoperable connectivity in order to reap the windfall of its resources and develop new architectures, networks, and software tools to enable AI.

For a short time, sustainment funding for and some improvement of prioritized legacy PoRs should be continued in parallel with the funding of new networks and architectures that have the data-centric properties to be platform agnostic and can enable the use of algorithms to meet war-fighting needs. The military can then sunset legacy Joint targeting PoRs if the new capabilities, enabled by AI, vastly enhance the current production capacity

21. Andrew Eversden, "Army Futures Command Outlines next Five Years of AI Needs," *C4ISRNET*, August 12, 2021, https://www.c4isrnet.com/.

22. Stewart M. Powell, "Scud War, Round Three," *Air Force Magazine*, October 1, 1992, https://www.airforcemag.com/.

23. Nathan Strout, "Palantir: "With Joint All-Domain Command and Control, the Pentagon Is Finally Catching Up," *C4ISRNET*, August 12, 2021, https://www.c4isrnet.com/.

of the enterprise. This is also a way to gradually acclimatize the operational and intelligence support communities—steeped in the mindset of legacy PoRs—to accept and train AI and develop new analytical techniques and procedures that will come with the use of AI.[24]

In conclusion, the development of new data-centric Joint Warfighting Concept and defense intelligence enterprise initiatives cannot be done in a vacuum. In the near future, all can provide elements of data, empowered by algorithms, which can transform the efficiency and effectiveness of the Joint targeting enterprise. Prioritizing Joint targeting will probably not address all the missions inherent in the JWC's functional battles. Yet the process of providing access to data from all domains and platforms through the holistic lens of Joint targeting will facilitate improvement in most of them.[25]

The functional battles are Joint All-Domain Command and Control, Joint fires, contested logistics, and information advantage. The mantra should be, "how does an initiative eventually help to put a bomb or a nonlethal capability on target, and will it enhance timely assessments for decision making?"

As Congressman Mike Gallagher recently wrote, "What we actually need to integrate is more conventional hard power. . . . Giving Chinese forces certainty that we are targeting them is the most important task for restoring our conventional deterrence posture."[26] If and when violent conflict erupts, American military operations will finally reap the rewards of American ingenuity that ushered in the Digital Age, transforming the so-called American way of war. ✈✷

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24. Brad D. Williams, " 'If We Don't Change, We're Going to Lose': Air Force Strategy Dep. Chief Hinote," *Breaking Defense,* September 20, 2021, https://breakingdefense.com/.

25. Theresa Hitchens, "The Joint Warfighting Concept Failed, until It Focused on Space and Cyber," *Breaking Defense,* July 26, 2021, https://breakingdefense.com/.

26. Mike Gallagher, "The Pentagon's 'Deterrence' Strategy Ignores Hard-Earned Lessons about the Balance of Power," *Washington Post,* September 29, 2021, www.washingtonpost.com/.