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14. ABSTRACT

In its return to great power competition, the United States must create a Joint All-Domain Distributed Operations (JADDO) concept to counter Chinese and Russian A2/D2's capabilities by guiding the Services towards a similar vision of distributed operations. The JADDO concept aims to enhance the JFC's ability to deter peer adversaries and rapidly respond to crises more effectively by improving command structure, C2, logistics, and basing. Presence, posture, and readiness are significant in today's complex and uncertain security environment, where a fast and decisive response can often make the difference between success and failure. Ultimately, the JADDO concept enhances the overall capabilities of the JFC and ensures that the military is well-organized, trained, and equipped to meet the challenges of modern warfare.

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INTRODUCTION

Two decades after the Cold War, no country emerged as a significant rival to the United States military in challenging its ability to deploy forces and safeguard American interests. In this era of warfare, the United States military defined the character of war by its air and sea superiority at the beginning of operations. This dominance enabled ground soldiers to operate without threat from those domains.

In the 1990s and 2000s, the military focused on efficient force structure to counter smaller adversaries vice the large force-on-force actions and distributed basing survival strategies required in the Cold War. By the mid-1990s, the Department of Defense (DoD) economized its worldwide posture by consolidating weapon platforms, command and control (C2) nodes, logistics hubs, and non-kinetic capabilities into large main operating bases, thus capitalizing on the cost-saving closures of smaller bases and the security benefits of co-location against threats.[1] Furthermore, during the 21st Century, the United States fought a terrorist and insurgent-based enemy that easily blended into its environment and human surroundings. As a result, the Joint Force Commander (JFC) needed constant intelligence, reconnaissance, surveillance, and C2 systems to find, fix, target, and kill an enemy within precise kill chain parameters to ensure minor collateral damage.[2] This insurgent-style character of war taught the JFC the value of operational centers where centralized command, centralized control, and centralized execution could be fused at one location to optimize and exploit operational functions to kill the enemy effectively and efficiently.

In contrast, while American great power competition skills atrophied, its traditional adversaries, such as China, used this same period to observe, learn, and develop strategies and operational capabilities to counter the United States forces. From the shock-and-awe campaigns in

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[1] Examples of large main operating bases include Okinawa, Japan, the Kaiserslautern Military Community, Al Udied AB, Qatar; "2005 Defense Base Closure & Realignment Commission," Report to the President, (Washington D.C, September 8, 2005).

[2] CQ Brown Jr., "Ready to Meet the Moment," Æther: A Journal of Strategic Airpower & Spacepower, Vol. 1, No. 1 (Spring 2022), pp. 8-12, https://www.jstor.org/stable/48651801.

Afghanistan and Iraq, China witnessed America's superior operational capabilities and C2 that an enemy could not begin an attempt to counter.[3] The Chinese assessed that in a conflict, American centers of gravity would form around the United States' ability to project power forward through its carrier strike groups, amphibious assault groups, and air expeditionary wings. Today, China's rocket, cyber, and conventional forces can contest joint domain operations in the first and second island chains through coordinated fires at United States bases, operations centers, capital forces, and C2 systems.[4]

In response to the return of great power competition and the threat posed to the US centralized way of war, each United States military service developed domain-oriented concepts for distributed operations. These concepts aim to enable an individual distributed operations against a peer adversary, such as China, but the services developed their concepts with little consideration for overall jointness resulting in disorganization. The Joint Chief of Staff (JCS) must shape these solutions towards employment as a total joint force by providing standardization on distributed operational functions to compete and win in great power competition with a peer adversary. A new overarching concept called Joint All-Domain Distributed Operations (JADDO) would ensure that the joint force competes more effectively against a peer adversary by forming a common definition, creating a command structure, developing command and control, optimizing logistics, and pursuing basing and access.

COMMON DEFINITION

First, the JCS must create a standard definition from which all service components understand how their respective operations play into JADDO. Military leaders and theorists have recognized the importance of common guiding principles throughout history. Carl von Clausewitz

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[3] "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022," U.S. Department of Defense, (Washington D.C., 2022).

[4] David Gompert, Astrid Cevallos, and Cristina Garafola, "War with China: Thinking Through the Unthinkable," RAND Corporation. 2016.

famously said, "Principles and rules are intended to provide a thinking man with a frame of reference."[5] Currently, the JCS strategy centers around integrated deterrence which uses all domains and the whole government to deter great power competition. However, this concept lacks *how* the military will deter and defend against a peer adversary.[6] The Services recognize that distributed operations are the answer to peer adversaries since these types of operations address critical United States vulnerabilities and their distributed nature complicates the battlefield. However, each military service calls and defines distributed operations differently; Table 1 compares each service's related concept. While different, each concept follows a common thread: rapid, agile, dispersed, technology-enabled, all-domain, deceptive, and destroy the enemy.

Service	Term	Definition
US Army	Multi-Domain Operations (MDO)	"Army forces penetrating and disintegrating enemy anti-access and area denial systems and exploiting the resultant freedom of maneuver to achieve strategic objectives (win) and force a return to competition on favorable terms."
USAF	Agile Combat Employment (ACE)	"A proactive and reactive operational scheme of maneuver executed within threat timelines to increase survivability while generating combat power."
USMC	Expeditionary Advance Basing Operations (EABO)	"A form of expeditionary warfare that involves the employment of mobile, low-signature, operationally relevant, and relatively easy to maintain and sustain naval expeditionary forces from a series of austere, temporary locations ashore or inshore within a contested or potentially contested maritime area in order to conduct sea denial, support sea control, or enable fleet sustainment."
USN	Distributed Maritime Operations (DMO)	"Aims to increase combat effectiveness by dispersing fleet forces over large areas to deceive and confuse an adversary, thus reducing detection. In turn, naval units will be hard to locate and thus hard to kill, greatly increasing naval lethality through multidirectional, coordinated attacks."

Table 1 – Service's Definition of Distributed Operations[7]

A common term and definition across the four branches could be: Joint All-Domain Distributed Operations *is a military concept that involves the synchronized planning, assessment,*

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[5] Carl von Clausewitz. On War. Translated and edited by Michael Howard and Peter Paret. (Princeton University Press, 1976).

[6] David Vergun, "Officials Say Integrated Deterrence Key to National Defense Strategy," DoD News, Department of the Defense, published December 6, 2022, accessed May 1, 2023, https://www.defense.gov/News/News-Stories/Article/Article/3237769/official-says-integrated-deterrence-key-to-national-defense-strategy/.

[7] "The US Army in Multi-Domain Operations 2028," TRADOC Pamphlet 525-3-1, December 6, 2018, pg V; Air Force Doctrine Note 1-21, "Agile Combat Employment," (United States Air Force, 23 August 2022); "Expeditionary Advance Base Operations (EABO)," Headquarters Marine Corps, published August 2, 2021, accessed 4 April 2023, https://www.marines.mil/News/News-Display/Article/2708120/expeditionary-advanced-base-operations-eabo/.; Harlan Ullman, "Commentary: Are There Flaws in the US Navy's Distributed Maritime Operations?" Defense News, published January 23, 2023, access 4 April 2023, https://www.defensenews.com/opinion/commentary/2023/01/23/are-there-flaws-in-the-us-navys-distributed-maritime-operations/.

and execution of operations across all domains, using advanced technologies and collaborative battle networks to enable the rapid and effective integration of joint functions to achieve military objectives from distributed locations operating under a Joint Task Force Commander. This definition captures the main aspects of each service definition and provides enough standardization across the forces while leaving room for the Services to train and equip their forces toward service-specific concepts. This JADDO concept also shows how the Service will task-organize under a JTF.

COMMAND STRUCTURE

Next, for JADDO to succeed, the JCS must scale down the current conflict force organization from Geographic Combatant Commander (GCC) to an individual Joint Task Force (JTF) responsible for coordinating all-domain operational functions and effects across sub-regions or against a specific threat. First, the complexity, vastness, and scope of time-space-force will be too complex for a GCC at the theater-operational level against a peer adversary.[8] This problem becomes severe with the high likelihood of delay, disruption, degradation, or destruction of communication systems.[9] To mitigate these vulnerabilities, the JCS or GCC can dissect the region into smaller areas by establishing a JTF that focuses operationally on the threat and mission, while the GCC focuses on the strategic theater level. The key is creating the JTFs before conflict since the traditional approach of establishing a JTF after a crisis is too slow to respond to a threat. A standing JTF would act as the first responder to a crisis before follow-on forces arrive by organizing, training, and exercising as a team before the fight occurs.

Furthermore, the Services have different command organization structures and command relationships under their distributed operation concepts that the GCC must standardize. For

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[8] Currently, a GCC is responsible for first actions until a JTF is established that can focus on a threat or mission.
[9] Christopher Lynch, Rachel Costello, Jacob L. Heim, Andrew Karode, Patrick Mills, Robert S. Tripp, and Alan J. Wick, "*Operational Imperative: Investing Wisely to Bolster U.S. Air Bases Against Chinese and Russian Attacks*," (RAND Project AIR FORCE January 2023) Pg 16.

example, in a recent exercise, the United States Air Force (USAF) deployed fighter and mobility aircraft to a region representing the Pacific First Island Chain. When the Wing Commander (Wg/CC) lost communications with the simulated Joint Air Operations Center (AOC), he executed his mission without knowledge or coordination with the other joint forces and aircraft in the battle area. At the same time, outside the USAF exercise, the United States Army (USA) was conducting airborne insertion exercises and close air support in the region, which neither side knew. The Wg/CC received battlefield reports of possible enemy operations in the region, causing him to consider a "simulated" strike against the perceived enemy, which were actual friendly forces.[10] While this example may seem like a mundane exercise mistake, the lack of battlefield coordination in the past resulted in fratricide.[11] A Global War on Terrorism study found that approximately 14% of battlefield causalities resulted from fratricide primarily due to lack of C2, communication/information, and misidentification.[12] In the Joint AOC, service liaison officers, and ground force elements typically coordinate and de-conflict air and ground operations across the GCC's area of responsibility. However, the Wg/CC lost communication with that critical GCC level C2 node in the above scenario. A standing JTF can mitigate these issues by delegating OPCON and TACON over sub-regional assets, enabling JTF Commanders to prioritize, de-conflict, and synchronize missions and forces on the battlefield.

Fortunately, the United States military already has JTF and sub-unified commands worldwide and plenty of lessons learned from history that JADDO could replicate. In Indo-Pacific Command (INDOPACOM), there are US Force Korea, US Forces Japan, and various task forces from WWII history. The INDOPACOM Commander should establish a JTF Central Island Chain

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[10] Anonmyous. Interview by XXXXX XXXXX: "Interview with Director of Agile Combat Employment, 4th Fighter Wing on ACE Lessons Learned," March 12, 2023. Unpublished interview conducted via e-mail.
[11] Kenneth K. Steinweg, "Dealing Realistically With Fratricide," *The US Army War College Quarterly: Parameters*, Volume 25, No. 1, 1995, pg 13.
[12] Kate J. Hewett, and Catherine J. Webb, "An Analysis of U.S. Army Fratricide Incidents during the Global War on Terror (11 September 2001 to 31 March 2008)," United States Army Aeromedical Research Laboratory: Warfighter Performance and Health Division, August 2010, pg 3-4.

(Taiwan) and JTF South China Sea to have OPCON/TACON on joint forces that focus on, prepare and exercise for the defense against Chinese threats and aggression in their region. A standing JTF would lead to better preparedness than creating a JTF after a crisis occurs because an established JTF's staff and forces would work daily to plan, prepare, train, and exercise for the mission, allowing them to respond promptly with forces under a proper joint C2 system.

COMMAND & CONTROL

The high likelihood of the destruction or denial of C2 during a conflict in the INDOPACOM theater and the complexity of JADDO tactics requires the Joint Force to develop and implement new command and control capabilities to succeed against China. Over the past 30 years, China has studied the American way of war and its use of centralized command and control to synchronize and sequence forces on an enemy. This realization caused China to develop "a new core operational concept, called Multi-Domain Precision Warfare [which] is intended to leverage a C4ISR network… that incorporates advances in big data and artificial intelligence to identify key vulnerabilities in the United States operational system rapidly and then combine joint forces across domains to launch precision strikes against those vulnerabilities."[13] To enable JADDO C2 further and protect against Chinese targeting, the JCS must 1) field a joint C2 "battle network" of common operating pictures across the joint operation environment, 2) move away from large joint operations centers to small mobile C2 platforms, and 3) must enable operational and tactical commanders to execute mission command through commander's intent.[14]

First, for JADDO concepts to succeed, the JTF Commander must have a battle network of cross-domain operating pictures that provide real-time updates of friendly and enemy forces, orders, and intelligence. This system must be survivable and accessible across the coalition and

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[13] U.S. Office of the Secretary of Defense. Military and Security Developments Involving the People's Republic of China, 2022. (Washington D.C.: Department of Defense, November 29, 2022) pg V.
[14] Sea-Air-Space Symposium 2023, "Command and Control for Distributed Maritime Operations," Navy League of the United States, April 19, 2023.

joint operations environment. Fortunately, the Services are building service-specific systems that can be modified, upgraded, or integrated to provide a joint operating picture over system-of-systems or *battle networks*. The USAF has created a secure cloud-based Advanced Battle Management System (ABMS) that "can collect vast amounts of data from air, land, sea, space and cyber domains, [analyze] that information and share it in a way that allows for faster and better decisions" in the cockpit and at the air operation center.[15] For years, the United States Navy (USN) used the Cooperative Engagement Capability (CEC), which "shares raw sensor data directly off a sensor's buffers, unprocessed, and with such speed and volume that it appears to each every participating unit as if any netted sensor is an actual element of every other unit's own Combat Management System."[16] These Service developed C2 systems can be taken further by connecting them to the JTF Commander's field operations center to provide an all-domain operating picture.

Another necessary C2 measure to enable JADDO and guard against Chinese kinetic targeting of fixed operation centers is the Joint Force shifting from large joint operations centers to multiple smaller, flexible, and mobile C2 platforms spread across the air-sea-land domains. The purpose is to create redundant operations centers on land, sea, and air that can "transmit and then move" before being targeted by attacks while concurrently allowing operational and tactical commanders to keep situational awareness and control of the battlefield. Again, the Services have developed platforms capable of conducting service-specific C2. While the USAF has traditionally used the E-3 AWACs in small quantities as airborne AOC, the air service has successfully experimented with AOC C2 operations from the cargo hold of the more numerous C-17s.[17]

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[15] Charles Pope, "With Its Promise and Performance Confirmed, ABMS Moves to a New Phase," Air Force: Secretary of the Air Force Public Affairs, published May 21, 2021, access April 14, 2023, https://www.af.mil/News/Article-Display/Article/2627008/.
with-its-promise-and-performance-confirmed-abms-moves-to-a-new-phase/.

[16] Kevin Eyer and Steve McJessy, "Operationalizing Distributed Maritime Operations," Center for International Maritime Security, published March 5, 2019, accessed 14 April 2023, https://cimsec.org/operationalizing-distributed-maritime-operations/.

[17] Michael J. Hall, "Operating Distributed Command & Control and Logistics Networks with Agile Combat Employment," Air University Library Digital Collects, (Air University, Maxwell AFB, AL 29 March 2021).

Likewise, the USN has employed Maritime Operations Centers (MOCs) from various sea-borne platforms, including large-deck aircraft carriers, amphibious assault ships, and destroyers;[18] however, the emphasis in JADDO is to stay away from high-value aircraft assets and focus on operating from destroyers, or frigates. These platforms, when combined, could enable the JTF Commander to enhance the protection of the C2 nodes against Chinese attacks through mobility and multi-domain redundancy in the sense that there should be a JFC operation center on the ground, in the air, and at sea simultaneously sharing a common operating picture. The trick is creating the software that links these service platforms to conduct cross-domain C2 while still being mobile and easily transportable.

Finally, JADDO can only work if the JTF Commander enables lower commanders to execute mission command according to the commander's intent. While these concepts may seem intuitive, the past 30 years of centralizing processes and C4ISR systems reduced lower-level commanders' initiative and control over their forces.[19] At the heart of distributed operations is mission command, a military philosophy and approach to command and control that emphasizes trust, mutual understanding, and decentralized decision-making in the chain of command through the commander's intent.[20] The core idea of mission command is that the leaders closest to the action understand the situation best and positioned to make tactical decisions.[21] Hence, mission command creates a more agile and responsive organization that can better adapt to changing circumstances and achieve its objectives by empowering leaders to make decisions and act independently.

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[18]Aaron Sick, "The Case for Dispersed Basing," Over the Horizon: Multi-Domain Operations & Strategy, published 27 July 2017 https://overthehorizonmdos.wpcomstaging.com/2017/07/27/dispersed-basing-1/.
[19] Gary Luck, "Mission Command and Cross-Domain Synergy," Deployable Training Division, Suffolk, VA: Joint Staff J7, January 2020, pg 8.
[20] Ibid., pg 3.
[21] GEN Martin E. Dempsey, USA, A White Paper: Mission Command, Office of the Chairman of the Joint Chiefs of Staff, (Washington, D.C., April 2012).

Commanders operating under mission command, an all-domain battle network, and mobile C2 platforms can control the operations in their area of responsibility more effectively. These three ideas create a C2 structure that enables the JADDO concepts, which is highly advantageous in peer conflicts compared to traditional centralized fixed operation centers or large surface ships, such as aircraft carriers, that can be more easily destroyed or degraded. Once created, the C2 structure should be capable of handling movement and maneuver, fires, intelligence, and logistics.

JOINT & COALITION LOGISTICS

Joint All-Domain Distributed Operations will further test the capacity and capabilities of an already stressed logistic and sustainment function by extending and dispersing operations away from intermediate staging bases. The current logistics system centralizes forces at main operating bases to create an efficient and effective system that provides bulk supply at the base of operations typically co-located with high-value C2 nodes.[22] Distributed operations will spread joint forces across several forward operation locations (FOBs) and numerous smaller contingency locations (CLs), thus requiring an even heavier air- and sea-lift requirement.[23] To mitigate these challenges, the Joint Force must integrate cross-service and coalition sustainment and logistics for JADDO tactics to be useable against a peer adversary by 1) synchronizing joint requirements, 2) leveraging coalition partners, and 3) pre-positioning assets.

First, the JFC must synchronize and de-conflict logistic requirements across the Services to ensure that distributed operations succeed against a peer adversary. Historically, the Services planned logistic requirements independently, often resulting in duplication and overabundance. For example, when re-establishing operations at Prince Sultan Air Base (PSAB), Kingdom of Saudi Arabia, in 2019, the USAF and USA failed to coordinate regarding requirements and capabilities. Both Services planned for their individual operations and force sustainment. As a

[22] For example, Joint Base Pearl Harbor, US forces in Okinawa, and Guam
[23] Air Force Doctrine Note 1-21, "Agile Combat Employment," (United States Air Force, 23 August 2022).

result of functional-only planning, there was a near duplication of facilities–two dining facilities, two petroleum yards, two munition sites, and two tent cities.[24] Behind those duplicative requirements were the ground, air, and sea logistics trains required to move war reserve materiel (WRM) and supplies to PSAB to establish those double facilities. Logistics during distributed operations cannot operate in such a matter and succeed because of the scarcity of sea and air logistics trains due to the increased distance and number of locations they must sustain. Every pound and cubic inch will count; therefore, the joint logistic planner must coordinate and consolidate like requirements across the Services and the disbursed locations.

Second, the Joint Forces must leverage coalition partners for common-use items and, if possible, munitions and maintenance parts because of the increased logistic requirements created by spreading out the forces and the limited transportation capacity. For 30 years, the Joint Force successfully used host nations and coalition partners to provide common-use items such as food, water, fuel, construction materials, and service contracts.[25] These partners significantly decreased the load requirements on transportation as well as kept the overall costs down. Furthermore, by leveraging key Allies such as Japan, South Korea, or Australia to manufacture weapon system parts and munition, the military would significantly reduce munition movements and requisition of spare parts from stateside resulting in much quicker reaction time.

Third, Joint Force logisticians must focus on preparing WRM stockpiles, munition storage, and fuel yards at distributed locations to ensure they are ready to receive forces from all services. This pre-positioning will allow the Joint Force to use air and sea mobility forces to move people, munitions, perishable supplies, weapon systems, and maintenance parts across the distributed

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[24] Anonymous. Interview by XXXXX XXXXX "CENTCOM/J44 Engineer Lessons Learned on Opening the PSAB," April 13, 2023, Unpublished interview conducted in person.

[25] Michael Trimble and Jobie Turner, "Asymmetric Advantage or Achilles Heel: Logistics in the U.S. Military," Strategy Bridge, published June 14, 2022, accessed March 13, 2023, https://thestrategybridge.org/the-bridge/2022/6/14/asymmetric-advantage-or-achilles-heel-logistics-in-the-us-military.

operations area just in time.[26] Of course, these pre-position actions will require agreements and coordination with locals and Host Nations, which can take time and needs to be worked on now.

POSTURE & PRESENCE

Finally, distributed operations, command and control, and logistics operations require ports, airfields, airspace, and sea from which to operate. Before a conflict, the Joint Forces must work with Allies and Partners to gain forward basing at various locations to implement and exercise JADDO. First, the Joint Forces can start planning for posture and presence today by identifying potential bases based upon a priority tier system. Table 2 provides a proposed tiered system that identifies desired operating locations, characteristics, and recommended actions. The system will allow joint planners to coordinate between Services, Allies, and Partners on potential operating areas.[27] As identified in the table below, the Joint Force should focus on identifying locations to perform exercise and contingency operations out of Tiers 2 and 3 since those locations complicate Chinese decision-making by potentially involving a third country in hostilities.

Tier	Name	Characteristics	Recommended Actions
1	Main Operating Bases	Established US C2, operations, logistics, facilities	- Harden infrastructure and disperse critical forces and capabilities
2	Ally Locations	Established C2, operations, logistics, facilities	- Work with Allys and then partners to gain access and rotational basing. - Regularly conduct exercises from - Pre-position WRM and munitions - Establish service contracts
3	US, Ally, or Partner locations with limitations	Small military footprint lacking C2, communications, logistics, or facilities	
4	Regional airfields or ports	No military footprint	- Identify and work to gain access

Table 2 - Basing and Access Tier System[28]

Lastly, the United States must work with Allies and Partners to gain basing and access through agreements for JADDO to be successful. The United States should continue working with Allies that have shared interests to deter a peer adversary. For example, in INDOPACOM, the United States can approach Japan and Australia for basing, access, and overflight to Tier 2 and 3

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[26] Aaron Sick, "The Essential Elements of Dispersed Basing," Over the Horizon: Multi-Domain Operations & Strategy, published 14 August 2017.
[27] Ibid.
[28] Patrick Mills, et al. "Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts," RAND Project AIR FORCE January 2020. Pg 50.

locations, such as the Southern Ryoko Islands or Northern Territories. Fortunately, the Philippines set a precedent in the region which can help the United States open the door with other regional countries. In April 2023, the Philippines "identified the locations of four military bases the United States will gain access to, as part of an expanded defense agreement..."[29] This access agreement with the Philippines is significant because, until recently, the Philippine government was closer diplomatically and economically to China.[30] However, Sino-Filipino joint territorial exploration of disputed islands and economic and infrastructure investments never materialized; thus, leaving the Filipino government jilted.[31] Many potential United States Partners in the region, such as Vietnam and Malaysia, are experiencing empty Chinese promises and debt traps with China's Belt and Road Initiative.[32] The United States can approach Vietnam or Malaysia for port or airfield access and overflight to significantly increase the locations from which it can conduct distributed operations.

COUNTERARGUMENT

While the JADDO concept attempts to guide the Services and JFC in countering peer adversaries, some may argue that distributed operations will not work because JADDO does not address the critical strengths and vulnerabilities in Chinese and Russian asymmetric advantages. For example, "in Europe, [distributed operations] confront what might be called the tyranny of proximity—short threat timelines against Russian missile launches or other attacks and the expectation that any flight operations are readily observable. [Whereas] the Pacific presents the tyranny of distance—vast stretches of ocean between likely forward operating locations, with

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[29]Brad Lendon, "US Gains Military Access to Philippine Bases Close to Taiwan and South China Sea," CNN: World, published April 4, 2023, accessed 10 April 2023, https://www.cnn.com/2023/04/04/asia/us-philippines-military-base-access-intl-hnk-ml/index.html.

[30] Derek Grossman, "Duterte's Dalliance with China Is Over," Foreign Policy, published November 2, 2021, accessed April 1, 2023, https://foreignpolicy.com/2021/11/02/duterte-china-philippines-united-states-defense-military-geopolitics/.

[31] Ibid.

[32] Rob Garver, "China's Belt and Road Initiative Is About Profit, Not Development, Study Finds," Voice of America, last modified October 1, 2021, https://www.voanews.com/a/china-s-belt-and-road-initiative-is-about-profit-not-development-study-finds/6252992.html.

many of them in range of China's rapidly advancing missile capabilities. Each creates distinct C2 and [logistic] challenges."[33] The main issue is Russian and Chinese anti-access and anti-denial (A2/AD) missile strengths against USAF and USN vulnerabilities. Therefore, the primary focus of the United States military should be on capitalizing on the critical vulnerabilities of China's and Russia's rocket forces, which stem from their dependence on cyber and space technology.[34] If the United States invested further into cyber and space technologies, it might find an advantage to counter Russian and Chinese A2/AD systems, and then the United States military could use the USN and USAF in shock-and-awe campaigns to achieve victory.

REBUTTAL & CONCLUSION

Although investment in cyber and space technologies targets Chinese and Russian vulnerability, JADDO is highly adaptable and provides tools that enable JTF Commanders to operate in contested environments against several peer adversary vulnerabilities regardless domain of attack. The application of JADDO centers on enemy capabilities, United States vulnerabilities, battlefield operational factors, and the objective. JADDO counters a peer adversary's ability to strike the United States critical vulnerabilities centered around consolidated and co-located American C2 nodes, logistic hubs, and operational locations by disaggregating and distributing forces and functions away from single high-density locations. JADDO goes beyond service-oriented solutions by establishing a joint command structure, resilient joint C2 systems, sustainment, and logistics, and basing and access supporting those distributed forces, including cyber and space assets.

Finally, the asymmetric advantages in space and cyberspace are only valuable if the United States fired those weapons effectively first and protected against enemy countermeasures. Without

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[33] Sandeed Mulgund, "Command & Control for Agile Combat Employment," Wild Blue Yonder, Air University, August 30, 2021, https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2753756/command-and-control-for-agile-combat-employment/.

[34] Theresa Hitchens, "The Joint Warfighting Concept Failed, Until It Focused On Space And Cyber," All Domain: Connecting the Joint Force, Break Defense, published July 26, 2021, accessed April 9, 2023, https://breakingdefense.com/2021/07/the-joint-warfighting-concept-failed-until-it-focused-on-space-and-cyber/.

solid warnings and indications, the United States is unlikely to strike pre-emptively. The risk of failure from those advantages is too significant since it will only take a few of the hundreds of enemy missiles to get through United States defenses to have a high reward. Rather cyber and space are the backbone to enable distributed operations by providing C2 infrastructure and fires/effects in support of the Joint Forces.

In its return to great power competition, the United States must create a Joint All-Domain Distributed Operations concept to counter Chinese and Russian A2/D2's capabilities by guiding the Services towards a similar vision of distributed operations. The JADDO concept aims to enhance the JFC's ability to deter peer adversaries and rapidly respond to crises more effectively by improving command structure, C2, logistics, and basing. Presence, posture, and readiness are significant in today's complex and uncertain security environment, where a fast and decisive response can often make the difference between success and failure. Ultimately, the JADDO concept enhances the overall capabilities of the JFC and ensures that the military is well-organized, trained, equipped, and ready to meet the challenges of modern warfare.

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