Defending the Edge: Forging a Joint Point Defense Doctrine for Agile Combat Employment

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The first warning is a flicker—the GPS signal to a C-17 on approach to a remote Pacific airstrip suddenly blinks out. Moments later, the low, buzzing whine of an incoming drone swarm, too small for theater-level radar, is picked up by a Marine Corps ground sensor. This threat of cheap, effective, and easily proliferated small unmanned aircraft systems (sUAS) represents a fundamental challenge to airbase security.[1] The on-scene Air Force commander of the small, dispersed team has seconds to act, but the Army air defense battery in range belongs to a different task force, and the authority to engage rests with a commander hundreds of miles away. This scenario is not a future hypothetical; it is the central vulnerability of the U.S. Air Force's modern operational concepts. In the face of multi-domain threats that have erased the notion of a secure rear area, the Air Force cannot rely on a siloed, organic approach to point defense. Therefore, this essay argues that the Air Force must champion a deeply integrated joint force approach, making it the cornerstone of a new point defense doctrine. This joint paradigm is the indispensable enabler for Agile Combat Employment (ACE), yet its full potential is shackled by doctrinal ambiguities. To unleash this potential, specific, actionable revisions are required to key service and joint publications, including AFDP 3-01, JP 3-01, and JP 3-30, to clarify command relationships, delegate authorities to the tactical edge, and build a theoretical foundation for decentralized defense.

Lessons from the Contested Edge: The New Character of War

The conflicts of the 21st century, from the Global War on Terror (GWOT) to the battlefields of Ukraine, have provided stark and often brutal lessons on the vulnerability of ground-based assets to air and missile threats. During the GWOT, forward operating bases faced persistent, though technologically unsophisticated, indirect fire attacks. The response, Counter-Rocket, Artillery, and Mortar (C-RAM), was an early, successful example of joint point defense, integrating Army systems to protect joint and coalition personnel.[2] This experience underscored a critical lesson:

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[1] U.S. Army, *Field Manual 3-01.15, Multi-Service Tactics, Techniques, and Procedures for Counter-Rocket, Artillery, and Mortar Operations*, April 2010.

[2] Seth G. Jones, "The Future of Warfare Is Here: Ukraine, and the Changing Character of Conflict," Center for Strategic and International Studies (CSIS), April 13, 2023.

point defense is a specialized, full-time mission that cannot be an ancillary duty. However, these threats were limited in scope.

The war in Ukraine has provided a far more alarming preview of a peer conflict. The widespread and effective use of cheap, commercially-derived sUAS for reconnaissance and direct attack, loitering munitions, and precision-guided missiles has turned the entire depth of the battlefield into a lethal, contested space.[3] Videos of single drones destroying high-value assets like tanks, air defense systems, and supply depots have become commonplace. This demonstrates that even the most advanced forces can be attrited by low-cost threats if they lack a comprehensive, layered, and mobile point defense capability.[4] The key takeaway is that the threat is no longer just about sophisticated ballistic missiles requiring theater-level assets; it is also about a high volume of low-tier threats that demand a localized, immediate, and integrated response. The Air Force must internalize these lessons; its dispersed ACE locations will be prime targets for exactly these kinds of attacks.

The Obsolete Sanctuary: Adversary Doctrine and the Failure of a Service-Only Approach

The notion that the Air Force can independently provide its own point defense is a fallacy rooted in an outdated division of labor. Historically, the U.S. Army held the primary mission for ground-based air defense, while the Air Force focused on achieving air superiority miles from friendly assets.[5] This model is dangerously insufficient against the doctrine of our primary strategic competitors. China's People's Liberation Army (PLA) has developed its "Multi-Domain Precision Warfare" (MDPW) concept, designed to leverage a networked system-of-systems to identify and strike key vulnerabilities in the U.S. operational architecture.[6] This includes not just high-profile targets, but also the logistical and command-and-control nodes that enable airpower—precisely the kinds of targets that ACE creates.[7] A peer adversary can now saturate a target with a simultaneous assault of hypersonic missiles, low-observable cruise missiles, and autonomous drone swarms, a concept known as a complex integrated attack.[8]

No single service possesses the complete sensor and effector toolkit to counter this. An Air Force-only solution would lack the Army's Patriot and Maneuver-SHORAD interceptors, the

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[3] Jack Watling and Nick Reynolds, "The War in Ukraine: A Military Analysis," Royal United Services Institute (RUSI), November 2022.
[4] Benjamin S. Lambeth, *The Transformation of American Air Power* (Ithaca, NY: Cornell University Press, 2000), 45-49.
[5] Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2023*, Annual Report to Congress (Washington, DC: The Pentagon, 2023), 55-57.
[6] Edmund J. Burke et al., *The Chinese People's Liberation Army in 2025* (Santa Monica, CA: RAND Corporation, 2016).
[7] Tom Karako, "Complex Air Defense: Countering the Full Spectrum of Aerial Threats," CSIS, December 2021.

[8] U.S. Army, *ADP 3-01, Air and Missile Defense*, July 2019.

Navy's Aegis combat system for maritime and coastal defense, and the Space Force's global early warning capabilities.[9] Attempting to organically replicate these capabilities would be fiscally prohibitive and strategically inefficient. The modern threat demands a networked, layered defense that leverages the best capabilities from every service, rendering a siloed approach obsolete.

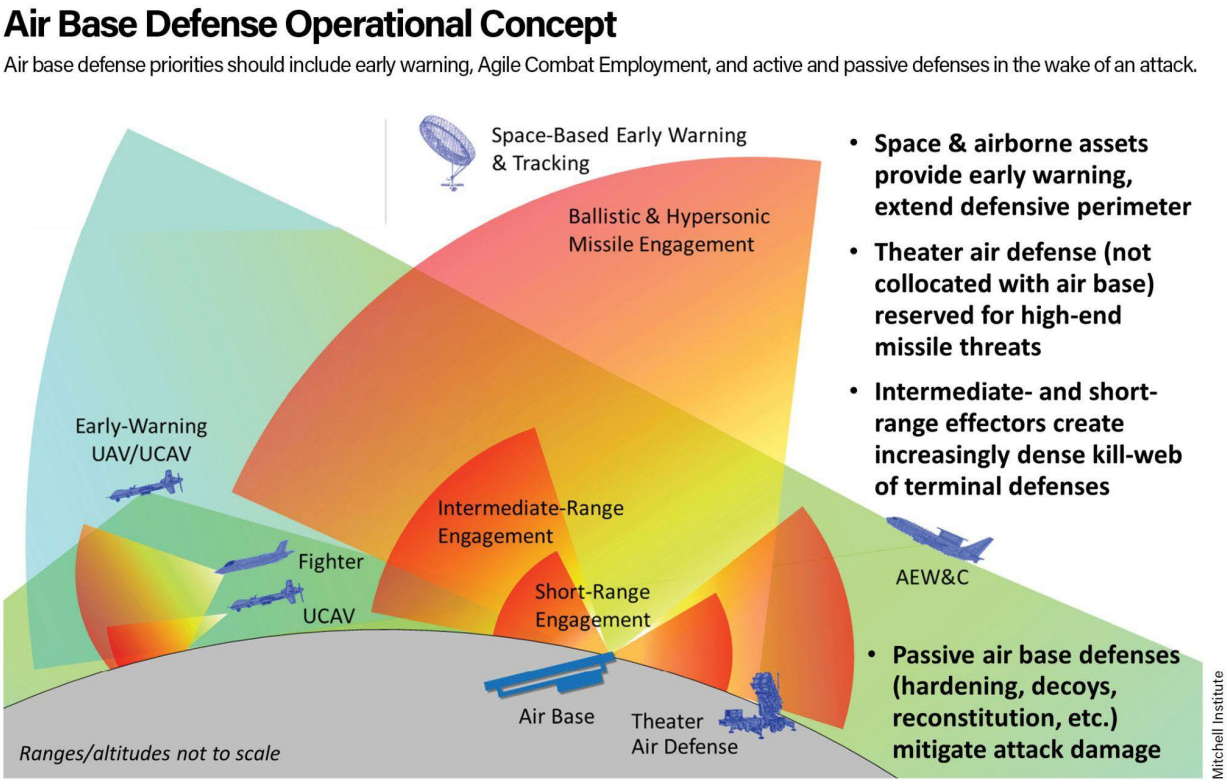

Figure 1. A Layered, Integrated Air Base Defense. An effective defense requires integrating multiple layers, from space-based early warning to joint intermediate- and short-range effectors that create a dense kill-web. Source: Adapted from the Mitchell Institute for Aerospace Studies.[10]

The ACE Conundrum: Agility's Unseen Anchor

This imperative for joint integration is magnified exponentially by the Air Force's adoption of Agile Combat Employment. ACE mitigates the vulnerability of large, consolidated airbases by dispersing airpower across a network of smaller, austere "spoke" locations.[11] While this

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[9] U.S. Air Force, *Air Force Doctrine Note 1-21, Agile Combat Employment*, August 30, 2022, 1-2, https://www.doctrine.af.mil/.

[10] Image adapted from Heather Penney, "Deep in the Heart of Taxes: The Challenge of Air Base Defense," Mitchell Institute for Aerospace Studies, Policy Paper Vol. 43, January 2024.

[11] Maximilian K. Bremer and Kelly A. Grieco, "Getting ACEs High: What Will It Take for Agile Combat Employment to Work?" *War on the Rocks*, October 26, 2022.

complicates an adversary's targeting, it creates an enormous point defense challenge. Instead of defending one major base, the joint force must now protect a multitude of temporary locations, each of which presents a tempting target.[12] An ACE element—a small, multi-capable team—cannot be expected to also operate the complex systems required to defend their location. Their survival depends on a joint shield. The core friction point is not technology, but authorities. The "agile" component of ACE is predicated on speed and decentralized execution, yet a centralized and ambiguous command and control (C2) structure for point defense cripples this agility. When an Air Force officer on a remote airstrip needs immediate defensive fire from a nearby Army asset, the delay in securing permission from a distant theater-level commander could be fatal. Without a doctrinally sound and jointly executed approach to point defense, ACE locations become liabilities rather than assets, undermining the entire operational concept.

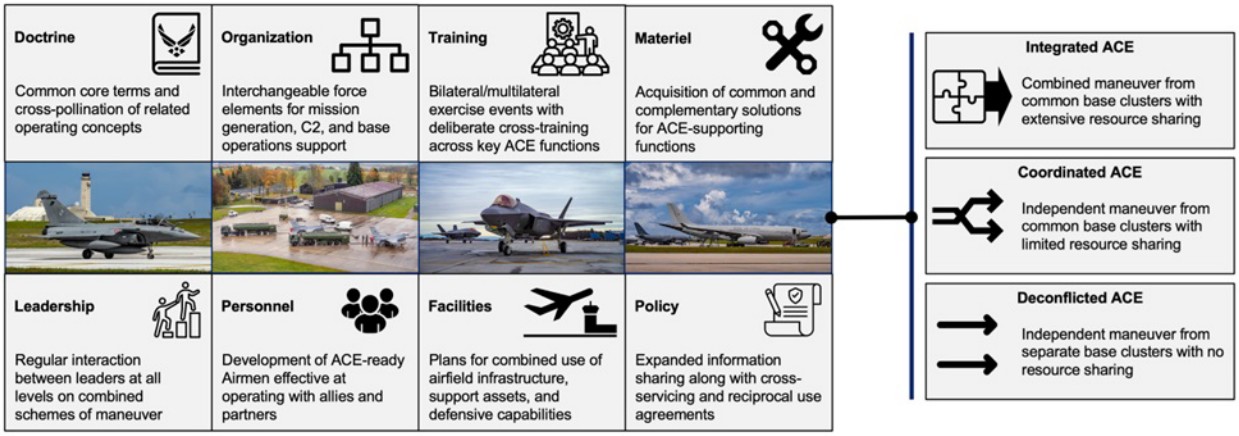

Figure 2. Agile Combat Employment (ACE) Integration Levels. Successful ACE requires a spectrum of integration, from fully combined operations to deconflicted maneuver, all of which depend on sound doctrine, training, and policy. Source: U.S. Air Force.[13]

A Theoretical Foundation for Decentralized Defense

To build the necessary doctrine, we must ground it in established military and organizational theory. The core challenge of ACE point defense is enabling disciplined initiative at the tactical edge. The U.S. Army's concept of Mission Command provides the ideal philosophical foundation. Mission command is "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders."[14] This is precisely what is needed. An ACE commander must be able

[12] This spectrum of operations is depicted in Figure 2.
[13] U.S. Air Force, "Agile Combat Employment," graphic, December 17, 2020. Publicly available graphic illustrating ACE concepts.
[14] U.S. Army, *ADP 6-0, Mission Command: Command and Control of Army Forces*, July 2019, 1-3.

to act without waiting for permission, confident they are operating within the higher commander's intent.

Furthermore, Colonel John Boyd's OODA Loop (Observe, Orient, Decide, Act) illustrates the imperative for speed in decision-making.[15] A centralized C2 structure for point defense creates a long, cumbersome OODA loop, where the on-scene observer must relay information to a distant decider, who then relays a decision back to the local actor. This is a recipe for being consistently outpaced by the threat. Delegating decision authority to the edge collapses this loop, allowing the on-scene commander to Observe, Orient, Decide, and Act faster than the adversary. Finally, Systems Theory teaches that the performance of a complex system is more than the sum of its parts; it is a function of the interactions between those parts.[16] A joint point defense is a system of systems. Its effectiveness is not determined by the quality of the individual radar or interceptor, but by how seamlessly they are integrated and controlled. This theoretical lens demands that we focus our doctrinal solutions on the *relationships and authorities* that bind the system together.

From Ambiguity to Action: A Call for Doctrinal Precision

Current joint and service doctrines acknowledge jointness but fail to provide the specific guidance needed for ACE. To remedy this, immediate revisions are required.

First, Air Force Doctrine Publication (AFDP) 3-01, *Countering Air and Missile Threats*, needs a new annex focused exclusively on "Point Defense for Disaggregated Operations."[17] This annex must formally codify that the senior commander of an ACE element on the ground is the "supported" commander for all matters of local base defense, with joint partners acting in a "supporting" role, a relationship defined in JP 1, *Doctrine for the Armed Forces of the United States*.[18] It should outline default C2 relationships for when joint forces co-locate, clarifying who reports to whom for defensive actions.

Second, Joint Publication (JP) 3-01, *Countering Air and Missile Threats*, must be updated to empower commanders at the tactical edge.[19] It should establish the concept of a pre-delegated "Expeditionary Air Defense Authority" (EADA). This authority would be granted to on-scene commanders under specific, pre-defined conditions (e.g., loss of communication, imminent

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[15] Frans P.B. Osinga, *Science, Strategy and War: The Strategic Theory of John Boyd* (New York: Routledge, 2007).
[16] Donella H. Meadows, *Thinking in Systems: A Primer* (White River Junction, VT: Chelsea Green Publishing, 2008).
[17] Based on the identified gap in U.S. Air Force, *Air Force Doctrine Publication 3-01, Countering Air and Missile Threats*, June 7, 2021.
[18] Joint Chiefs of Staff, *Joint Publication 1, Doctrine for the Armed Forces of the United States*, vol. 1, July 12, 2017, V-14.
[19] This proposed change addresses the limitations in Joint Chiefs of Staff, *Joint Publication 3-01, Countering Air and Missile Threats*, April 21, 2023.

threat), allowing them to control all joint defensive assets within their immediate area of operations without seeking higher approval. This concept must also be integrated into JP 3-30, *Command and Control*, which currently discusses C2 agility but lacks specific mechanisms for delegating engagement authorities in a dynamic, multi-domain environment.[20] Such a change is critical, as studies have shown that highly centralized C2 structures are brittle and ineffective in contested, high-tempo environments.[21]

Finally, AFDP 4-0, *Combat Support*, and its joint counterpart, JP 4-0, *Joint Logistics*, must be updated to integrate a joint logistics framework for point defense systems.[22] These updates should establish procedures for the pre-positioning of joint munitions, sensors, and maintenance packages at potential ACE locations, reducing the logistical burden of deploying these assets in a crisis.[23]

Overcoming the Friction: Addressing Barriers to Integration

Proposing doctrinal change is simple; implementation is fraught with hurdles. The most significant barrier is cultural. The services have deeply ingrained identities and a history of stovepiped responsibilities, often referred to as "service parochialism."[24] To overcome this, the Air Force must champion a "joint-by-design" approach to training. Exercises like Red Flag must be fundamentally redesigned to make joint point defense for ACE a core objective, not an add-on. Small, integrated teams of Airmen, Soldiers, and Marines should be forced to deploy and defend a location together, building the trust and interoperability that cannot be surged in a crisis. This approach reflects organizational theory, which posits that cultural change is best driven by altering structures and processes to compel new behaviors, rather than by simply issuing new guidance.[25]

The second barrier is technological. True integration requires more than the JADC2 concept; it requires standardized data formats and resilient networks that can function in a degraded environment. The challenge of making disparate service systems interoperable remains a primary obstacle to achieving the JADC2 vision.[26] The Air Force should lead a joint effort to field a

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[20] Joint Chiefs of Staff, *Joint Publication 3-30, Command and Control of Joint Air Operations*, February 10, 2014.
[21] David S. Alberts and Richard E. Hayes, *Power to the Edge: Command... Control... in the Information Age*, (Washington, DC: CCRP Publication Series, 2003).
[22] This proposal addresses the need to evolve the principles found in U.S. Air Force, *Air Force Doctrine Publication 4-0, Combat Support*, January 5, 2020.
[23] Joint Chiefs of Staff, *Joint Publication 4-0, Joint Logistics*, July 18, 2017.
[24] Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: Johns Hopkins University Press, 1989).
[25] John P. Kotter, "Leading Change: Why Transformation Efforts Fail," *Harvard Business Review*, January 2007.
[26] Congressional Research Service, *Joint All-Domain Command and Control (JADC2)*, IF11493, updated June 22, 2023.

common, lightweight C2 interface for point defense—a "pane of glass" that can integrate any sensor with any shooter at the tactical edge, regardless of service origin.

Conclusion: Forging the Joint Shield

The character of warfare has changed. The airbase is no longer a sanctuary, and the threats we face are too complex for any single service to defeat alone. A continued reliance on organic point defense capabilities is a path to failure. The success of Agile Combat Employment and, by extension, the future of American airpower, hinges on our ability to forge a truly integrated joint point defense. This requires more than cooperation; it requires a fundamental rewriting of our doctrinal DNA. By grounding our approach in the theories of Mission Command and the OODA Loop, making specific, actionable changes to our core doctrines, and deliberately addressing the cultural and technological barriers to integration, we can empower our commanders at the edge. By doing so, we will transform point defense from a source of friction into our greatest strength. The time to forge this joint shield is now.