Empowered Commanders

The Cornerstone to Agile, Flexible Command and Control

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> *We cannot solve our problems with the same thinking we used when we created them.*
>
> —Albert Einstein

One glaring lesson that the US Air Force should learn from the wars in Iraq and Afghanistan is the need to empower subordinate commanders to meet the dynamic challenges of combat. History has repeatedly shown us that to attain our goals, frontline commanders must have the flexibility to outmaneuver and defeat the enemy. The Air Force has always recognized flexibility as a tenet of airpower and has traditionally sought to achieve it through its principle of centralized control/decentralized execution (CC/DE).[1] The common practice of the theater commander, Air Force forces (COMAFFOR), who normally also serves as the theater combined force air component commander (CFACC), supported by the theater combined air operations center (CAOC), did not provide the integration and flexibility needed for the operations in either Iraq or Afghanistan. In those complex counterinsurgencies, the Air Force experienced an evolution of command and control (C2) from air component coordination cells, to empowered cells, to air expeditionary task forces with delegated control authorities.[2] In short, operational and tactical operations demanded more than the theater CFACC construct offered. They needed

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face-to-face integration between the air component and other coalition commanders to build trust, understanding, synergy, and resiliency.[3] Above all, combat required commanders at all levels to be empowered to support the joint fight and defeat the enemy.

As the United States shifts its focus from the Middle East and rebalances towards the Pacific and its antiaccess/area-denial (A2/AD) challenges, we realize that "the simplicity of centralized control and decentralized execution renders it incomplete when applied to modern contested and denied operations."[4] Whether due to the complexity of a counterinsurgency mission or a large force-on-force operation in a contested, degraded environment (CDE), the result is the same—airpower innately requires delegated control if it is to become part of the C2 solution. That is not to say that delegated control *is* the solution, but it definitely must be *part* of the calculus. For Pacific Air Forces (PACAF), that delegated control would be dispersed across multiple C2 nodes separated by vast distances but would remain unified under one commander. Herein lies PACAF's C2 strategy of *centralized command, distributed control, and decentralized execution*.[5] This article addresses the necessity of this paradigm shift, the common challenges of C2, PACAF's six critical capabilities of C2, and the requirement to properly empower subordinate commanders to execute the CFACC's operational design.

The joint community has long embraced the notion of empowering tactical commanders with operational responsibilities, as evidenced by joint doctrine and practices (e.g., mission command, command by negation, and mission-type orders).[6] Airpower and the Air Force, however, are different. Airpower's range, speed, mass, and ability to simultaneously affect the tactical, operational, theater, and strategic levels of war have led the Air Force to rely more heavily on centralized control to better balance "tactical needs with strategic requirements."[7] That reliance on centralized control and cyberspace superiority, though, has led to complacency and atrophy. Nonconventional warfare, counterinsurgency, and operations in a CDE all demonstrate that Airmen

must not only operate from centralized control or distributed control but also *flex* back and forth between the two—and do so while maintaining momentum, preserving efficiency, and honoring the CFACC's intent. This daunting requirement is obtainable when subordinate commanders are properly empowered.

Defining the Problem

Although C2 issues regarding airpower are not unique to PACAF, some characteristics of US Pacific Command's area of responsibility exacerbate PACAF's C2 efforts. Specifically, the tyranny of distance leads to extended air, land, sea, space, and cyberspace lines of communication; vast spaces call for larger force protection and sustainment; greater areas necessitate more intelligence, surveillance, and reconnaissance requirements—all of which drive C2 demands higher and higher. Regardless, PACAF's C2 problems are fundamentally the same as those faced by every command today. That is, we all have become gluttons of information; we all have become reliant upon cyberspace superiority; we all are challenged with turning terabytes of information into usable intelligence; and we all have grown complacent by regarding centralized control at the theater level as the "one size fits all" answer to C2 airpower.[8] To complicate matters even more, C2 is a topic so broad and interconnected that it is difficult to define and build consensus on how best to manage it. Airpower advocates often fail to capture its complexities and intricacies, assuming that mission success is synonymous with sound C2 practices.[9] Rarely is that the case. Collectively, these issues lead to the tendency to talk about C2 as a science of control wherein human actions are predictable and controllable, rather than an art of command—the "skillful use of authority, instincts, intuition, and experience in decision-making and leadership."[10] Consequently, how do we discuss a subject so ubiquitous and undefined—one that has different meanings to different people and that changes, depending upon the level, phase, and type of conflict under discussion?

Six Critical Capabilities

PACAF's approach to this dynamic, complex problem involves analyzing and managing C2 by six (PACAF identified) critical capabilities: battlespace awareness, resilient architecture, defensive cyberspace operations, combat support C2 (CSC2), C2 execution, and war-fighter integration. Such capabilities remain consistent regardless of the level, phase, or type of war under discussion. (For example, commanders at both the operational and tactical levels require battlespace awareness; they just have different parameters.) These six capabilities allow PACAF to develop C2 policies and address issues and opportunities for commanders throughout the command.

Battlespace Awareness

We refer to the degree to which a commander can keep situational awareness over his or her operational area as "battlespace awareness." Given the speed, range, and mass that airpower brings to the joint fight, the speed and accuracy of information are absolutely vital to the successful command of airpower. However, unlike today's practice of flooding commanders with every piece of information, battlespace awareness seeks to supply the commander with tailored information. Undoubtedly, what constitutes battlespace awareness for the theater CFACC differs from that for other commanders and/or tactical battle management C2 assets. Clearly, not everyone needs to know everything, everywhere, all the time. Commanders, therefore, must determine their information priorities, articulate them to their staffs, and develop information-management procedures that support C2 requirements. This guidance is especially critical for operations in a CDE where real-time guidance may not be available.

These battlespace awareness efforts, though, do not address *how* that information is collected, managed, or transferred to C2 nodes throughout an A2/AD environment. PACAF's power-projection team is addressing that matter. From a distributed control perspective, each subordinate node must assume, to some degree, intelligence functions

traditionally performed by the CAOC to support the commander in executing air and space operations. This additional workload drives a new set of organize, train, and equip requirements for the commander, PACAF (COMPACAF).

Resilient Architecture

Along with defensive cyberspace operations, resilient architecture seeks to raise the overall mission assurance of PACAF—hopefully, to avoid a communications-denied environment. It concentrates on defensive measures such as dispersed, duplicate, and redundant circuits and processes, as well as the manpower to execute cyberspace functions. These efforts complement the line-of-operations defensive measures of PACAF's integrated air and missile defense to improve the command's overall resiliency—specifically, hardening of facilities, dispersing and flexing of basing operations, establishing continuity of operations plans, and so forth. Resilient architecture's purpose is to support the communication requirements for commanders at all levels. Towards that end, PACAF has begun mapping mission-essential functions to the area of responsibility's cyberspace lines of communications. This cyberspace key terrain will allow commanders at all levels to maintain situational awareness of critical infrastructure and appropriately direct cyberspace measures. Recognizing that each region will likely have varying degrees of cyberspace capabilities, PACAF is developing tactics, techniques, and procedures for commanding and controlling these disparate nodes.

In part, these complex endeavors have led to advocacy for providing cyberspace support to disconnected war fighters throughout the command. According to Gen Michael Hostage and Larry Broadwell, "While never a panacea, technical solutions can certainly aid in the implementation of distributed control."[11] These developmental efforts by the Department of Defense include the combat cloud, joint information environment, and joint aerial layered network initiatives. These C2 systems not only offer greater cyberspace resiliency and support to

centralized command but also empower subordinate commanders by giving them access to shared data and a common operating picture—an urgent necessity for operating in a CDE. These multiple, distributed data centers limit the vulnerability of a central node and offer the trusted data needed for effective C2. The joint aerial layered network supplies the added advantage of extending cyberspace's range through the medium of air—a vital requirement for a maritime environment with limited terrestrial lines of communications. These collaborative efforts will create a living, reactive cyberspace domain and dramatically increase the overall resiliency of the theater's cyberspace architecture.

Defensive Cyberspace Operations

Complementing resilient architecture's *physical* efforts with *virtual* ones, defensive cyberspace operations include updated configurations, patches, firewalls, routing programs, sound information assurance practices, and encryption—in short, basic cyberspace hygiene. These operations also prioritize C2 systems and information requirements—PACAF's "Thin Blue Line." Simply put, defensive cyberspace operations are the C2 of C2 systems. Of course, in terms of a global commons, these efforts must be coordinated throughout the theater and with other Department of Defense and governmental agencies.

Combat Support Command and Control

Commanders at all levels can prioritize and direct resources between competing demands by means of CSC2, which implements combat plans in support of the C2 function and the agility to modify those plans as necessary to meet evolving operational requirements.[12] This important capability synergizes battlespace awareness with C2 processes to meet commanders' sustainment requirements. CSC2 enables a commander to concentrate mass as well as achieve unity of effort, efficiency, and the other principles of war and operations to meet his or her objectives.[13] To enable this capability, PACAF has developed a

logistical common operating picture for the theater. Again, sustainment and other AFFOR duties have been traditionally carried out through centralized control at the theater level. In a CDE, these processes must be assumed by lower-command echelons that have to coordinate with other distributed control nodes throughout the theater to ensure that resources are provided in accordance with the COMPACAF's priorities. As before, this mission set drives new organize, train, and equip requirements for subordinate commanders and their staffs.

Execution of Command and Control

The "main effort" of the six critical capabilities, C2 execution takes the genius of the commander and transforms his or her operational design into executable plans and orders. Over the last three decades, the theater air and space operations center has conducted this effort. Today's fight, however, calls for all commanders, to some degree, to plan and execute operations to meet their commander's intent.[14] The CFACC's intent, purpose, and expectations from subordinate command echelons are published in two ways: first, with broad, theater-wide guidance such as the joint air operations plan and the air operations directive; and second, with daily orders such as the air tasking order. In a CDE, these daily orders will likely not be available. Therefore, the CFACC's standing guidance must thoroughly articulate his or her design and purpose yet still allow subordinate commanders the flexibility to capitalize on fleeting enemy mistakes. Additionally, these documents must account for varying degrees of degradation throughout the command and offer simple, clear guidance to minimize the fog and friction of war during distributed control operations.

Due to the countless number of operational scenarios, the majority of PACAF's C2 efforts have concentrated on countering a communications *denied* environment, with subordinate C2 nodes working autonomously. In this denied environment, PACAF has addressed the following questions:

1. How does distributed control affect the COMAFFOR and all of the other operational command responsibilities (CFACC, area air defense commander, airspace control authority, space coordinating authority)?
2. How does the COMPACAF as the CFACC ensure that the operational plan is comprehensively understood throughout the area of responsibility?
3. Are subordinate commanders properly resourced and empowered to execute this plan?
4. What are the command relationships for a denied communications environment?
5. What are the "triggers" and tactics, techniques, and procedures for transitioning between centralized control and distributed control?
6. What missions should subordinate commands expect and for how long?

These questions and many more must be thoroughly articulated in standing COMPACAF guidance to enable distributed control, decentralized execution. For distributed control responsibilities, subordinate nodes must be properly organized, trained, and equipped to execute this new mission set.

War-Fighter Integration

Synchronizing the CFACC's operational design with the joint and coalition force produces war-fighter integration. PACAF actively engages with its sister components to maximize joint training exercises and opportunities. Furthermore, it has created the theater security cooperation line of operation to help foster the capability and understanding of partner nations. Ultimately, twenty-first-century conflicts require a whole-of-government approach, maximizing the capabilities from each component and partner nation to offset shortfalls caused by today's fiscal realities. All branches and partner countries have constrained re-

sources, and each party brings a unique perspective and capability to the joint team. Simply put, the United States does not have the resources to go it alone, nor does the world's political landscape support unilateral military actions. Therefore, any discussion of PACAF strategy must include war-fighter integration, and that begins with sound C2. Every critical capability addressed above must have joint/coalition considerations integrated throughout its efforts—information sharing, multinational cyberspace systems, common operational pictures, bilateral/multilateral operational plans, multinational sustainment processes, and so forth.

Operational Art and the Distributed Control Challenge

No discussion of *command* and control is complete unless it addresses operational art—the commander's ability to assess the political, military, informational, social, and economic landscape and then manipulate the factors of space, time, and force to harmonize tactical actions to meet national and theater-strategic military objectives.[15] The commander's operational design is the core purpose of C2; all efforts are aimed at executing and supporting that design. Battlespace awareness, cyberspace superiority, CSC2, and war-fighter integration do nothing of strategic value if tactical actions lie outside the commander's operational design or if the design itself is flawed.

In distributed control operations, the responsibility of executing this operational design is delegated to tactical commanders. They are expected to execute operational functions to some degree—C2, intelligence, movement and maneuver, logistics, operational fires, and force protection—in addition to carrying out their tactical responsibilities. How do we expect that? The tactical level of war is ugly, personal. It demands that commanders turn chaos into logic and military victories.[16] Battle requires total immersion and commitment as well as a feel for both the battlespace and the enemy—knowledge normally gained by contact. Conversely, the operational level of war requires that commanders be thoroughly immersed in national and theater

strategy; moreover, they must maintain both an awareness of the enemy's order of battle and a long-term vision that harmonizes tactical actions with operational objectives—leadership normally acquired by years of experience, study, and reflection.

Distributed control, however, presumes that tactical commanders have the capability and capacity to execute these operational responsibilities—that they can plan and execute operations beyond their tactical scope of responsibility. Executing the CFACC's operational art is the fundamental challenge to PACAF commanders and to distributed control. How will subordinate commanders plan and execute both tactical and operational operations simultaneously? Is staff augmentation sufficient, or is an entirely separate chain of command necessary? In either case, how do we expect subordinate commanders to execute and—more importantly—think operationally when it takes a CFACC years to develop that wisdom? Answering this question will call for deliberate efforts by the CFACC to groom, train, and exercise subordinate commanders to develop this skill set. Ultimately, the CFACC must trust those individuals to execute his or her operations in any environment. Building that trust and understanding, especially for operations in a CDE, will take practice, patience, and time.

Centralized Control, Decentralized Execution

Advocates for CC/DE argue that *distributed control* is already embodied in *decentralized execution*—that every echelon has a single commander who should have C2 processes that enable subordinate forces to execute their mission, regardless of connectivity. The concept of centralized command, distributed control, and decentralized execution embraces those same beliefs. *Centralized command/distributed control*, however, offers the recognition that command authorities are not only different than control responsibilities but they are also delegated differently. For example, a subordinate commander who is delegated tactical control would exercise it over his or her forces only—not on the forces above. Delegated control, on the other hand, does task tactical

commanders to execute both tactical- *and* operational-level control responsibilities. Delegated control requires commanders to look beyond their sphere of influence and coordinate across other Air Force, joint, and coalition nodes to achieve theater-wide effects. Collectively, these distributed operations equate to the COMPACAF's operational execution—summarized by Gen Hawk Carlisle's statement "the AOR [area of responsibility] will become a CAOC."[17] CC/DE fails to capture either this delegation or the nuances between operational- and tactical-level control. In short, CC/DE confines control within their tactical command borders whereas distributed *control* charges subordinate commanders with operational responsibilities and purpose. Distributed control directs commanders to plan and execute the CFACC's operation design with other command nodes. This empowerment of networked distributed commanders, which differs fundamentally from CC/DE, is necessary to command and control joint/coalition airpower effectively in an A2/AD environment.

Conclusion

No doubt, the asymmetric power of PACAF is its Airmen.[18] They are smart, creative professionals who routinely reach their objectives by adapting operations to their environment. This innate flexibility and resiliency at the tactical level must transcend into operational C2. In an A2/AD fight in which cyberspace superiority is not assured, C2 of airpower necessitates *centralized command, distributed control, and decentralized execution*. The status quo is not an option. In modern warfare, tactical commanders must plan and execute both tactical and operational operations. To do so, PACAF recognizes that commanders must have six critical capabilities: battlespace awareness, resilient architecture, defensive cyberspace operations, CSC2 processes, C2 execution, and war-fighter integration, all of which drive new requirements for organizing, training, and equipping—the primary C2 effort for PACAF. In the end, though, the decisive factor in PACAF's success will be its empowered commanders and their ability to execute the COMPACAF's

intent—possibly in complete isolation and in a situation that no one planned for. That is, after all, the nature of war. ✪

Notes

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