



THE LIMITS OF AIRPOWER IN INFORMATION-DOMINANT WARFARE

School of Advanced Air and Space Studies

A paper submitted to the faculty of the
School of Advanced Air and Space Studies
in partial satisfaction of graduation requirements for
School of Advanced Air and Space Studies

Lt Col Bryan Callahan

Chairman: Doctor James Forsyth

Maxwell Air Force Base, Alabama

May 2013

CHAPTER 1

INTRODUCTION

This thesis orbits around a simple question: Is the existing U.S. Air Force (USAF) command and control (C²) structure appropriate for conducting air operations within the Information-Dominant campaigns of the future? Laying my cards on the table, I argue here that it is not. The existing C² processes employed by the Air Force are insufficient to fully exploit the multi-role capabilities of airpower and may actually work to undermine its effectiveness. In particular, information-centric operations are undermined by processes and procedures that differ from their kinetic counterpart.¹ Intelligence, Surveillance, and Reconnaissance (ISR) operations are limited by unnecessary constraints, while highly effective C² procedures for kinetic operations are applied to strike missions only. Many USAF assets are equally capable in performing both ISR and kinetic operations. These assets could be performing both roles simultaneously, but the USAF's C² constraints limit their flexibility. In short, USAF self-limits its information-centric airpower by unnecessary constraints, procedural boundaries, and a shortsighted C² structure.

Command and control processes rather than capability constrain theater information-centric assets. An ISR asset may swing from one collection discipline to another but likely will not be employed outside the intelligence command and control scheme. In contrast, kinetic assets will be tasked and employed through operations channels but will not be

integrated into the collections plan. The situation is most pronounced in the tasking and employment of armed reconnaissance where a shortsighted C² structure limits the capabilities of Remotely Piloted Aircraft (RPA). RPAs tend to ‘drone’ for an entire tasking cycle regardless of what is happening around them. The USAF’s newest RPAs, as well as emerging 5th generation aircraft, are equally capable on either side of the intelligence/operations firewall but an effective means of employing them across both disciplines has yet to be devised.

Why Optimizing CFACC Airpower is Critical to the Joint Community

The existing USAF C² process can be characterized as a series of firewalls. Once an asset is assigned and tasked to a particular discipline, whether it is gathering intelligence or on a kinetic mission, it remains in that tasking for the duration of its sortie. The trouble is, aircraft can be equally effective in other roles and across multiple disciplines on both sides of the intel/ops firewall. Highly effective platforms are limited by employment schemes because the USAF’s C² processes have not evolved at a commensurate rate with the aircraft the system is trying to control.²

Obviously, the USAF should not be launching multiple aircraft when one asset is capable of doing many things simultaneously. As the force draws down in Afghanistan, and airpower is presumably charged with providing force protection over a smaller and more vulnerable

ground force, we must manage assets wisely.³ Every airborne asset will need to deliver the full measure of its capabilities throughout the sortie.⁴

Maximizing the effectiveness of CFACC airpower is not just a USAF concern; this effort is a matter of vital importance to the joint community.⁵ Even in this age of sequestration, the USAF will still be flying missions that the joint community has assumed will always be there.⁶ These include air superiority over the Arabian Gulf, theater-wide ISR over our fielded forces in Afghanistan, and rapid response Close Air Support for any ground forces in need. The difference going forward is the availability of assets to provide these effects at any given time.

The USAF is going to be a smaller force in the coming years. Some projections suggest the USAF will be the smallest force it has been since its inception.⁷ Fiscal constraints are relevant because, starting immediately, there will be a decreasing number of aircraft available to perform ever increasing requirements for CFACC airpower.⁸ Herein lies the link to the joint community. It is in everyone's interest to ensure the USAF is getting the most out of the assets it is able to deploy in support of joint objectives. The current C² system inhibits the optimization of airpower and undermines effectiveness. The missions the joint community assumes will always be there hangs in the balance. For the joint reader of this paper, I encourage you to internalize this discussion and read on.

This is not just a problem in Afghanistan or the current fight. If critically short resources are going to be spent acquiring aircraft like the F-35, it is the USAF's responsibility to get the most out of these platforms. An F-35 can collect intelligence, deliver air-to-ground ordnance, and defend a sector of airspace in its air-to-air capacity. The F-35 can do all three tasks in a single sortie, but will our C² apparatus be able to exploit these capabilities with equal simultaneity? What if the aircraft is defending a sector of airspace when a high-value strike target emerges, whilst at the same time critical intelligence is being collected? Can prioritization questions such as these be resolved in the compressed time of a high threat environment? These are questions of paramount importance and will be dealt with later in the thesis.

Scope

This paper focuses on resolving some complex command and control problems in order to ensure airpower's effectiveness. In short, the argument here is a pragmatic one and focuses on getting the most out of the airpower we have, not the airpower we might desire. This paper is not a fiscal study of the costs and benefits of one system over another. Nor is this paper a justification for budgetary requirements or advocacy for a particular technology. The central claim advanced here is: We should be doing more with what we have been given and the only reason why we cannot is because we have organized ourselves

improperly. There is no dollar sign attached to the recommendations found in this paper.

Methodology

The research for this project is the result of experiences, interviews, and observations. While doctrine and various military professional publications provide some of the evidentiary base, the literature on this topic is not well developed. In part, this is due to the operational nature of the subject, and in part to the fact that the processes in question are still active each and every day. Therefore, the large majority of the research for this paper was derived from talking to the people doing the mission. During the course of my research, I interviewed over 120 key personnel. Some of the more significant leaders I interviewed are: Lieutenant General David Goldfein, Commander of US Air Forces Central Command. I also interviewed General Mark Welsh, Chief of Staff of the USAF, Major General H.D. Polumbo Jr, Deputy Chief of Staff for Air, International Security Assistance Force Afghanistan, Major General Charles Lyon, Director of Operations for Air Combat Command, and Colonel David Sullivan, member of the National Security Counsel, White House. Additionally, I have visited and observed weeks of operations at the Air Operations Center in Al Udeid, Qatar. Through both being assigned to and subsequently visiting Creech AFB, I have participated in and observed thousands of hours of CFACC direct

support sorties to the joint commanders. Lastly, I have operated for over 10 years on both sides of the intel/ops firewall. I have also seen the synergistic effects of well-integrated airpower pitted against the USAF Warfare Center's most difficult of problems.⁹ All of this effort supports the central claim that airpower can achieve greater effectiveness than our C² limitations currently allow.

Way Ahead

This paper answers the question: Is the existing command and control structure (C²) appropriate for conducting air operations within the Information-Dominant campaigns of the future? The roadmap found at figure 1 illustrates how the paper will proceed. Chapter 2 provides the context by describing the nature of the problem, giving a glimpse into current operational inefficiencies, and providing examples of where effectiveness has suffered. The chapter examines the context in which the USAF's command and control processes exist and outlines the environment that any potential solution must be able to thrive in. Chapter 3 focuses on the USAF's centralized control concept. The chapter describes the Combined Air Operations Center (CAOC) as doctrine intended it to be and compares it with what exists in the Air Force Central Command (AFCENT) CAOC located at Al Udeid, Qatar.¹⁰ The doctrine-to-reality comparison is explored, in light of the context established in chapter 2, to illustrate that neither model is adequate to

maximize theater airpower. Chapter 4 focuses on the USAF's decentralized execution concept. The chapter describes the Air Support Operations Center (ASOC), its doctrinal role, and its best practices in supporting the joint warfighter. I will argue here that the ASOC is highly effective at performing its kinetic role; however, it falls short of meeting the entirety of the supported commander's needs and intent. Chapter 5 concerns itself with solutions. These solutions are focused on transforming USAF C² to enable multi-role platforms to move freely between tasking disciplines. Ultimately, the paper should inspire a discussion amongst airmen on how best to prepare the USAF to fight in a world where optimizing theater airpower resources may mean the difference between success and failure.

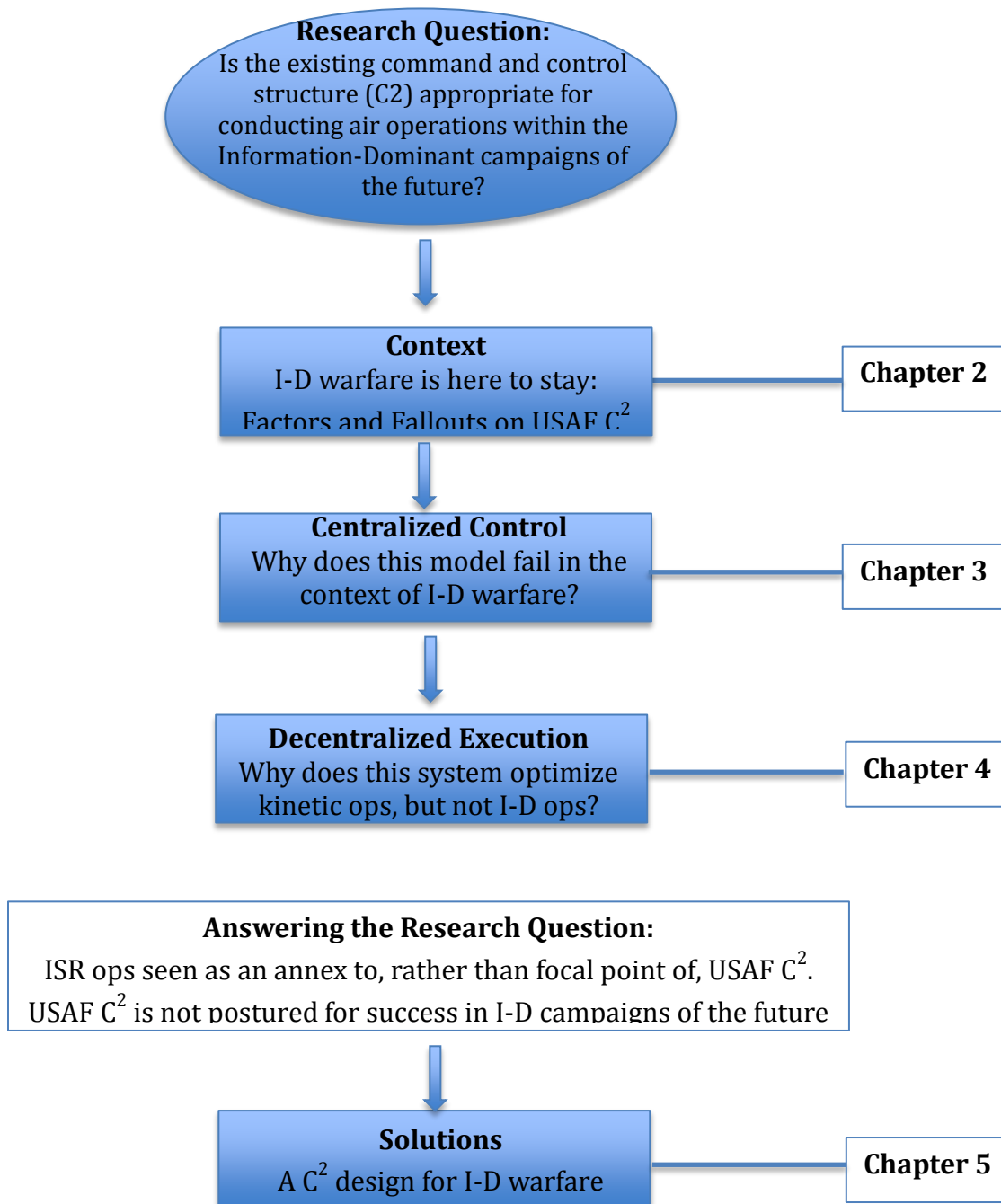


Figure 1: Thesis Roadmap
Source: author

¹ The term kinetic will be used throughout the paper to describe armed assets charged with strike responsibilities. ISR assets will be used to describe non-kinetic assets. The terms lethal and non-lethal are deliberately avoided, despite their joint acceptance, because some ISR assets provide effects that directly result in lethal engagements, while some kinetic assets provide non-lethal effects that are just as effective to the supported commander as a weapons impact. The term 'multi-role' is reserved for assets that can have effects on either side of the kinetic/ISR divide.

² Lieutenant Colonel Joe Campo (Commander, 26th Weapons Squadron, Nellie AFB, NV), interview by author, 12 April 2013.

³ Lieutenant General David Goldfein, AFCENT/CC, Al Udeid, Qatar, interview by author, 19 February 2013

⁴ Lieutenant General David Goldfein, AFCENT/CC, Al Udeid, Qatar, interview by author, 18 November 2011

⁵ CFACC will be used for both JFACC and CFACC discussions. The author submits that there is a doctrinal difference between the two entities; however, this point is not germane to the discussion.

⁶ General Mark Welsh (USAF Chief of Staff), interview by author, 10 April 2013

⁷ House Armed Services Committee, What Sequestration Really Means, page 1. Accessed at:

http://armedservices.house.gov/index.cfm/files/serve?File_id=b276f1fe-4529-4f63-bf10-d26d0444797c

⁸ Mr. Pete Romeo (Air Combat Command/A8Q, Langley AFB, VA), interview by author, 16 January 2013.

⁹ Lessons learned from participation in numerous Red Flag, Green Flag, and Weapons School syllabus sorties while assigned to Creech AFB and the USAF Weapons School, 2006-2010.

¹⁰ For simplicity, this paper will use the term CAOC for both the doctrinal CAOC and the AFCENT CAOC. See note 5 for rationale.

Chapter 2

The Problem and Its Setting: How Did We Get Here?

Before examining the existing C² system, it is important to understand the context by which that system evolved. There are two reasons for this evolution. First, unpacking a problem like the interwoven C² process requires some sense of the operating environment. The AFCENT CAOC, for example, underwent a series of adaptations that were necessary to meet its warfighting requirements. To a large extent, the operating environment influenced this metamorphosis.

Understanding the context by which the AFCENT CAOC became what it is today informs our awareness of why the USAF has come to accept the present C² model and how this affects theater airpower. Second, if the USAF is to overcome its deficiencies, any potential solutions must be able to thrive within the context of the problem that warranted it. Therefore, an accurate depiction of the operating environment is required to understand the nature of the problem and to offer realistic solutions.

Inside AFCENT's CAOC, the Senior Intelligence Duty Officer (SIDO), and the Senior Operations Duty Officer (SODO), sit within 30 feet of one another.¹ One would expect that they could work together to develop solutions to real-time problems. And in fact, when conditions allow, that is exactly what they do. But there are five factors that complicate their efforts: the character of Information-Dominant warfare,

the mismatch between the US Army and the USAF, the lack of USAF allocation authority, the obscure character of mission priority, and the practice of tasking theater assets before organic capabilities are tasked. Together, these five factors have shaped the CAOC's ability to provide centralized control and decentralized execution. As such, these factors will be a common thread throughout this paper and not surprisingly, will be the target of follow-on solutions. Figure 2 provides a roadmap to this chapter, and outlines the discussion on how each of the five factors challenges the USAF C² model.

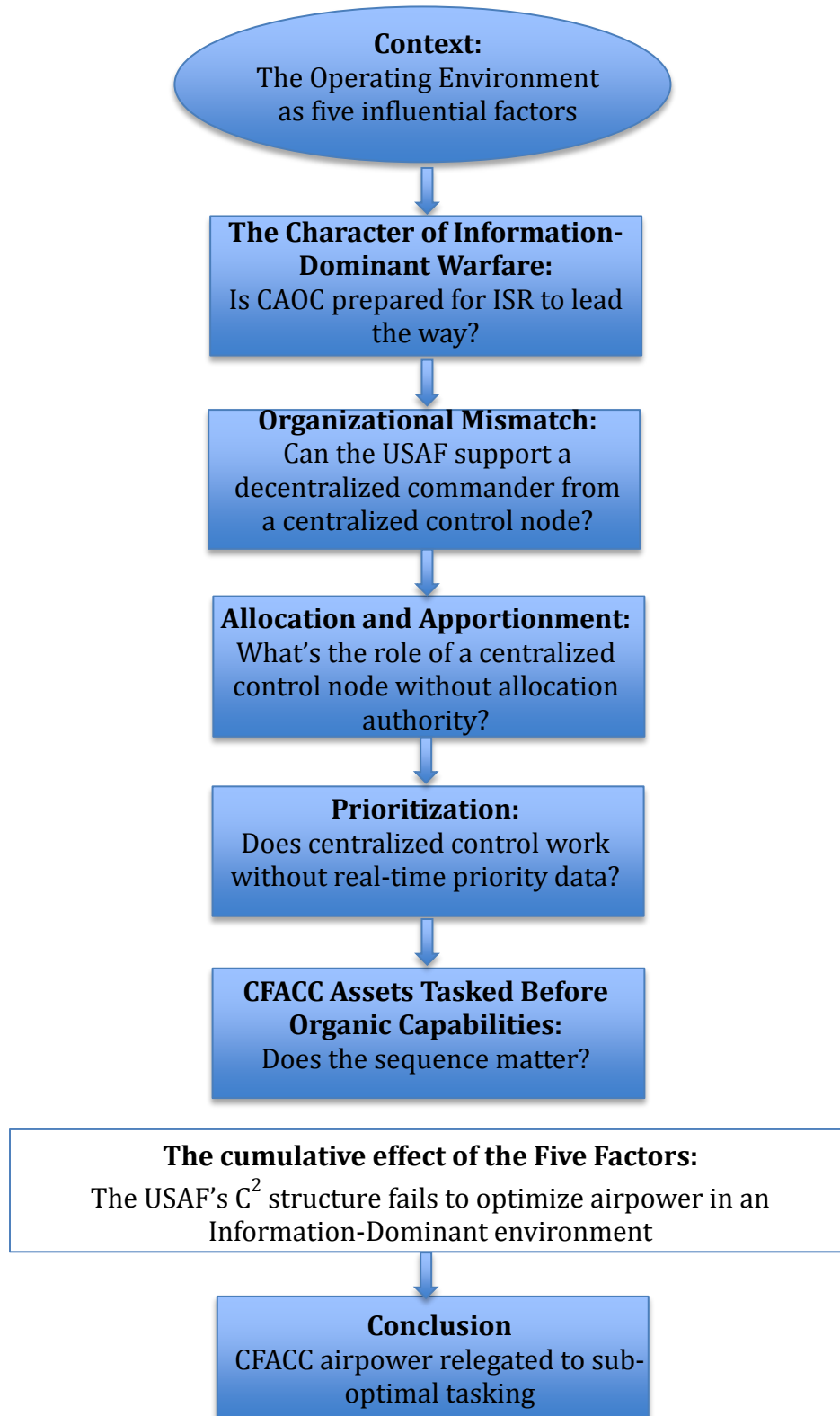


Figure 2, Roadmap to Chapter 2

Source: Author

The Character of Information Dominant Warfare

As a result of the current counter-insurgency fight, the military has experienced a shift in its relationship between operations and intelligence. Today, information superiority has become as important as, if not more important than firepower.² Real-time collection and analysis is the key enabler for mission success.³ The attributes of modern intelligence have permeated all levels of warfare. Airborne ISR has delivered real-time situational awareness required to prosecute the wars in Iraq and Afghanistan. Once considered a support function,⁴ intelligence drives operations.⁵

Yet in a peculiar way, ISR has become a victim of its own success. In 2008 the USAF surged its unmanned ISR availability.⁶ The surge was just one step in a series of similar efforts, all of which contributed to the USAF increasing CENTCOM ISR coverage by over 1,400 percent between 2001 and 2008.⁷ The numbers clearly highlight the character of the current fight. There exists no such demand for CAS, interdiction, or any other kinetic effect. The requirement for ISR is relentless, as figure 3 makes clear.

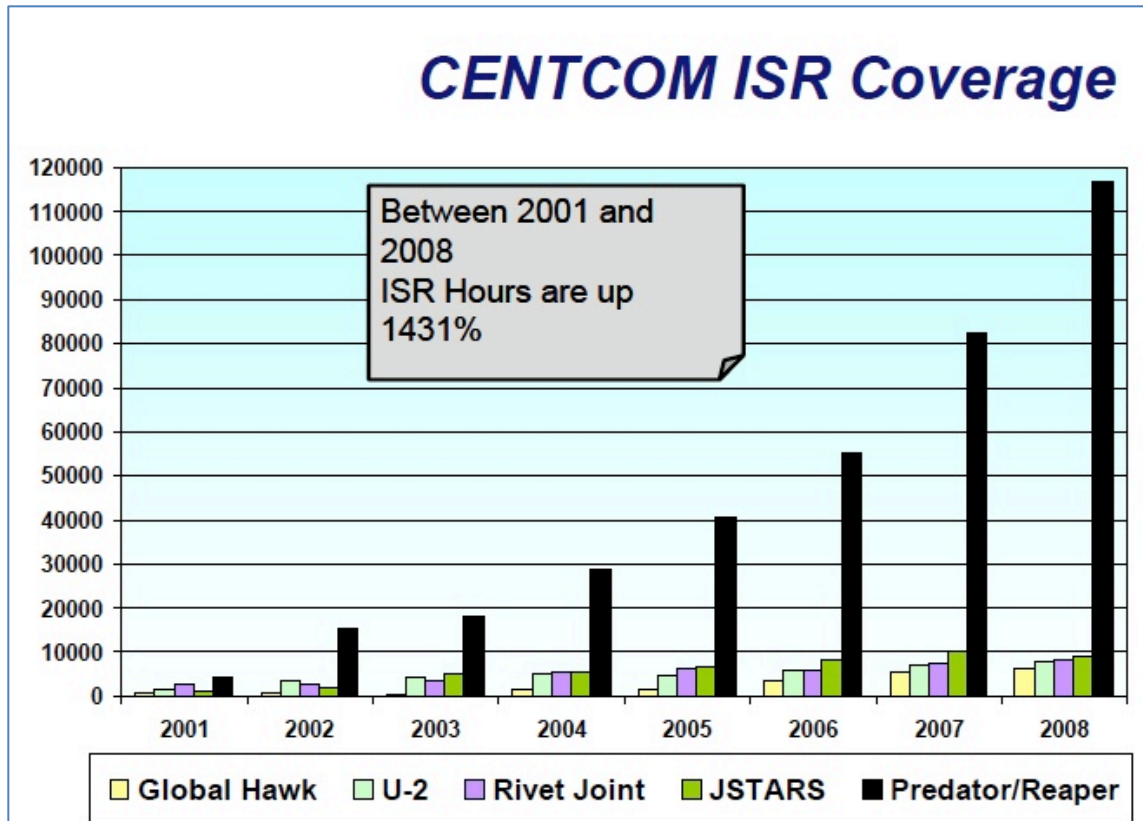


Figure 3, The ISR Surge

Source: UAS Task Force Briefing, 2008

Commensurate with success are certain growing pains, such as new procedures, alternate command relationships, and changes to traditional authorities. As figure 3 indicates, the USAF expended great effort to field more of what the supported commander wanted, but in doing so it had to change the character of its own C² processes.⁸ Intelligence operations are not informing and enabling the mission, as figure 3 suggests, instead intelligence operations *are* the mission.⁹ To respond to the emerging requirement, a traditionally supporting entity within the CAOC, the intelligence division, grew in scope and scale.¹⁰ As the demand for ISR increased, so did the responsibilities of the

intelligence division. Eventually the intelligence division's efforts rivaled the traditional functions of the CAOC.¹¹ In a sense the world has turned upside down for the Air Force. Intelligence operations went from informing and enabling the mission to becoming an entity unto itself.¹² The efforts of the two spheres within the CAOC were never integrated and a firewall between intelligence and kinetic operations was born.¹³ The impact of this condition on CFACC airpower is profound—today scarce resources are relegated to one side or the other of the intel/kinetic firewall. The USAF's most flexible platforms are not being optimized simultaneously across multiple tasking disciplines as a result of the fragmented C² system.

Organizational Mismatch

The USAF deploys the CAOC to provide operational-level C² to an entire theater from one location. In essence, the CAOC is the command and control equivalent of a US Army corps, and as such, the CAOC's subcomponents were optimized to coordinate with the divisions under the Army's corps.¹⁴ However, in 2005 the US Army introduced the Brigade Combat Team (BCT).¹⁵ BCTs are organized for autonomous operations and are equipped to deliver tailorable effects depending on the needs of the combatant commander. The reorganization allowed the Army to decentralize their basic fighting unit, and in so doing, spawned smaller, more adaptive units. Today's BCTs have more latitude to

accomplish their mission because they are more in tune with their immediate operating environment than the Corps. BCT's drive intelligence collections, set the mission requirements, and develop their own priorities.¹⁶ In summary, BCTs run their individual slice of the operation, as if chieftains over individual fiefdoms.¹⁷ The arrangement is appropriate for the counter-insurgency fight but at the same time it has been difficult for the USAF's current C2 architecture to stay in step.¹⁸ The CAOC-to-Army touch point was designed to be at a higher echelon than that of the BCT, and at a much more deliberate pace (up to 72 hours from planning to execution) than the dynamic characteristics of intelligence-dominant operations.¹⁹ This is the essence of the organizational mismatch.

Today the Air Force finds itself in the awkward position of applying a centralized control apparatus to the challenges of a decentralized operation. On the kinetic side, the Air Force met with some success. The ASOC adapted to the new structure relatively easily and Close Air Support missions performed both effectively and efficiently.²⁰ On the ISR side, however, the USAF has no ASOC equivalent.²¹ As a result, CFACC airpower flying ISR missions are not able to be used to the maximum extent possible because their planning and tasking processes lack the decentralized execution expertise enjoyed by the kinetic side of the CAOC. The organizational mismatch problem will not go away when the current conflict draws down.²² The current conditions serve as a

warning sign that similar scenarios will transpire whenever the CAOC is tasked to support a decentralized commander, whether that entity is a BCT or a surface fleet.

Apportionment and Allocation

In the CENTCOM Area of Responsibility, the Combatant Commander (COCOM) retains both apportionment and allocation authority for CFACC ISR assets. By holding onto these, the COCOM is undermining the CFACC’s ability to interject efficiency and effectiveness into the air campaign.²³ How? Under the current construct, the COCOM controls and issues the Monthly Allocation Directive (MAD) from his headquarters in Tampa.²⁴ The MAD process supplants Joint Publication 3-30 by going beyond apportionment and directly allocating all available sorties to each of the supported units (see figure 4).²⁵ The MAD provides supported units with some predictability for planning, but supported commanders interpret allocation decisions as an entitlement rather than a planning tool.²⁶

Asset	Supported Unit A	Supported Unit B	Supported Unit C	Total Available Sorties	JFC’s Monthly Allocation
RC-135	15	7	8	30	30
MQ-1	80	60	40	180	180
MQ-9	30	45	15	90	90
MC-12	50	10	30	90	90

Figure 4, Notional (UNCLASSIFIED) Example of the MAD (author)

In CENTCOM's defense, the rationale that established the MAD in May 2004 was sound. The doctrine that governs airpower assumes the CFACC is in a position of equality with the other component commanders.²⁷ The simultaneous execution of OIF and OEF, however, put the CFACC at a disadvantage. A single three star CFACC was charged with satisfying two distinct Areas of Responsibility (AOR), each with a separate four-star Joint Task Force commander who had unique objectives and requirements.²⁸ The CFACC was in an untenable position given the shortage of ISR. Out ranked and out numbered, the CFACC needed top cover and the authority that comes with allocation.²⁹ The MAD was the answer.³⁰

The CFACC can influence the MAD during quarterly planning meetings. Additionally, the CFACC has an opportunity to submit requests at monthly coordination sessions; however, by this point in the process the mechanism to implement a change goes through the Combatant Commander - a fundamentally inflexible prospect.³¹ For example, during a monthly coordination session, the ISR Division of the CAOC requested two RC-135 sorties be diverted from the MAD assignment to support an alternate mission within the AOR. The request for two sorties was denied.³² The CENTCOM action officers were unwilling to bring a MAD change to the CENTCOM Commander over two sorties. The CFACC can and does deviate from the MAD on a real-time basis and when conditions warrant. However, the repercussions of such

an action can result in the supported unit lodging complaints against the CAOC for failing to support the war fighter.³³ The perception being that the CFACC took an asset that ‘belongs to them’ as promised by a higher command authority.³⁴ The adjudication process described above is unresponsive to the fluid character of an Information-Dominant fight and particularly constrictive when one considers many of the platforms on the MAD have capabilities on both sides of intelligence and kinetic disciplines.

Prioritization

Prioritization is a key element in all airpower operations and “during execution, the CFACC is responsible for redirecting joint air assets to respond to moving targets or changing priorities.”³⁵ Likewise, “Priority Intelligence Requirements must be articulated clearly by the (supported) commander to ensure limited assets are employed against the right efforts...”³⁶ The CFACC’s command and control system cannot function without a clear understanding of priorities.³⁷

The prioritization process in the CENTCOM Area of Responsibility, however, falls short of its intent and inhibits the effectiveness of airpower. For example, all ISR assets must be tasked against a Secretary of Defense approved and prioritized operation.³⁸ International Joint Command (the US Army Corps equivalent in Kabul) subsequently issues ‘Top-20’ operations that align with the SECDEF’s mandate, however, the

Top-20 are macro-level named operations. The Top-20 is essentially an umbrella that covers hundreds of sub operations with a multitude of priorities.³⁹ Battalions submit their ISR priorities to brigade, which submits an amalgamated list of priorities to division, until all priorities end up at International Joint Command for submission to the CAOC.⁴⁰ Ultimately, International Joint Command does not filter, combine, and eliminate any requests, and the result is a 1 through X list of priorities.⁴¹ Furthermore, the same priority is often assigned to numerous disparate requests in an effort to ensure each regional commander is given an equitable amount of air support.⁴²

The masking of mission priority allows supported units to move CFACC assets to lower priority tasks once they have checked in and are on target. Aircrews call this the 'bait and switch,' whereby they check in with the supported unit in the pursuit of the initial high priority tasking, only to find they will be employed in an entirely different manner.⁴³ The supported unit's command and control process is the sole authority on the retasking, and excludes the CAOC in the decision.⁴⁴ The result is a CAOC with no idea what their assets are actually supporting and a command and control process that has been short-circuited.⁴⁵ Figure 5 is an example of bait and switch tactics.

Operation ENDURING FREEDOM

MQ-1 ISR mission, Kandahar, Afghanistan, Spring 2011:

“We continually get assigned to the same operation, and typically will work with the same ground party, but the daily tasks seem to be random and unrelated to what we did in the past, and completely out of sync with what we were sent up there to do. Although we are working under the auspices of a high priority operation, these cover a wide area with no continuity and no concentration of effort. This continues for weeks on end. The operations we actually executed, compared to what we were tasked on paper to do were never related. The (Top-20) operations are a huge umbrella to roll everything into that the RC asks for.”

- Major Ronnie Hawkins, Weapons Officer, 15th Reconnaissance Squadron, Creech AFB, NV

Figure 5, Bait and Switch (Interview by author)

Because of the prioritization methodology, the CFACC is unable to flexibly apply integrated effects against the highest priority targets because his execution arm is unaware of what priorities their assets are actively working. The duplication of priorities, the inability to generate a single, theater-wide priority list, and the re-tasking of CFACC assets are all evidence of a system that has lost its integrity and is causal in the CAOC's inability to optimize airpower. It stands to reason that if the CFACC does not know where the need is, the C² system cannot put the most capable assets on the highest priority requirements.

Tasking Sequence

Joint doctrine is set-aside in another manner within the CENTCOM AOR, much to the detriment of the CFACC's C² process. Organic support assets (capabilities indigenous to the ground commander) are tasked *after* the CFACC has expended his assets on daily requirements.⁴⁶ This may seem like a small point but it is not. The concept called 'organic first' is an elementary component of joint doctrine. The reason why CFACC assets need to be tasked after organic air has been expended is because CFACC air is a limited entity that has to cover an entire theater of operations.⁴⁷ If organic assets are tasked against requirements first, it becomes easier to determine where the ground commander's needs are met and where there are shortfalls. Then, CFACC airpower can be applied in an optimal manner after the shortfalls have been identified. Additionally, CFACC air is typically more capable against a wide-array of applications.⁴⁸ As such, CFACC airpower should be reserved for the areas of greatest need. Doctrine bears this out with respect to Close Air Support. Commanders are to use CAS assets to 'augment' organic surface fires.⁴⁹ CAS requests are approved only 'after considering whether organic assets are available to fulfill the request.'⁵⁰ The rationale for organic first is just as valid for ISR as it is for CAS. CFACC ISR assets are limited resources and need to be applied to the area of greatest uncovered need.

Bringing it All Together

The five factors outlined above contribute to how and why the AFCENT CAOC operates the way it does. However, when the factors are considered comprehensively, they provide the context by which the USAF's C² processes have failed to exploit the full capabilities of its aircraft and crews. Figure 6 shows each factor, its effect on the AFCENT CAOC, and the subsequent impact on CFACC airpower.

Factor	Effect on AFCENT CAOC	Impact on CFACC Airpower
Information-Dominant Warfare	CAOC not prepared to C ² an ISR-centric fight	ISR builds a firewall, Cross-discipline assets become segregated from planning through execution
Organizational Mismatch	Centralized control out of step with decentralized customer	Cross-discipline assets become static because, once assigned to ISR, no decentralized execution authority exists to retask it
Allocation or Apportionment?	CFACC lacks ISR allocation authority, CAOC reluctant to retask missions	Both kinetic missions and ISR missions are sub-optimized because the CFACC cannot package capabilities or exploit multi-role attributes
Prioritization	CAOC is not aware of real-time mission priority	CFACC assets may or may not be on the theater's highest priority, cross-discipline assets are inefficiently applied to poorly matched taskings
CFACC Airpower Before Organic	CFACC airpower expended before requirement gaps identified	Flexibility lost, and theater's most capable airpower marginalized on mundane taskings

Figure 6, The Cumulative Effects of the Five Factors (author)

The context of the operating environment, brought about by the five factors, exposes weaknesses in the current command and control

structure at AFCENT. The CAOC was ill suited to support information dominant operations through the BCT's decentralized command model.⁵¹ In an effort to gain Joint Force Commander support for allocation decisions, the USAF surrendered allocation authority for ISR to the Combatant Commander.⁵² This, coupled with an obscure picture of priorities, leaves the CAOC staff with little authority or awareness to effectively manage airpower ISR assets. The five factors' combined effects result in a series of CAOC adaptations that relegate CFACC ISR assets to an organic tasking process, whereby scarce resources are consigned to direct tasking by the supported unit, and not under the centralized control of the lead airman. Most egregious in all this misapplication is the realization that platforms are trapped on one side of the intel/kinetic firewall and this ensures a percentage of the aircraft's capability goes unexploited.

Conclusion

The five factors result in a sub-optimized tasking system. The CAOC cannot discern priorities, it does not possess a decentralized execution authority for ISR, and does not have the allocation authority to shift assets. The next chapter will delve into the doctrinal intent of the CAOC and compare it to AFCENT's CAOC.

¹ Author's observations and measurements while at the 609th AOC, Al Udeid, Qatar, 17 Feb 2013

-
- ² Lieutenant General David Deptula and Major Gregory Brown, "A House Divided: The Indivisibility of Intelligence, Surveillance, and Reconnaissance," *Air & Space Power Journal*, (Summer 2008): 8-9.
- ³ Joint Publication (JP) 3-24, Counterinsurgency Operations, 5 October 2009, 3-24.
- ⁴ Colonel Philip Meilinger, "Ten Propositions Regarding Airpower," (Air Force History and Museums Program: Washington DC, 1995). Accessed at <http://www.airpower.au.af.mil/airchronicles/cc/meil.html>
- ⁵ Scribed on the CAOC entrance wall until 2010. Supported by Lt Gen Deptula's comments in "A House Divided": 8.
- ⁶ Mr. Greg Kern (Chief, Airborne ISR Programs Office, Headquarters Air Force, Pentagon, VA), interview by author, 30 March 2012.
- ⁷ Colonel Eric Mathewson, "Air Force Unmanned Aircraft System Update" (briefing, USAF UAS Task Force, 2009): slide 13
- ⁸ Squadron Leader David Richards (C2ISR Branch, Air Combat Command, Langley AFB, VA), interview by author, 16 January 2013.
- ⁹ Lieutenant General David Deptula, "ISR - Precision Strike Capabilities & Technology Improvements" (briefing, Headquarters Air Force, 2008): slide 10.
- ¹⁰ Mr. Michael Rollison (C2ISR Branch, Air Combat Command, Langley AFB, VA), interview by author, 16 January 2013.
- ¹¹ Colonel Thomas Kunkel (609th Air Operations Center Commander, Al Udeid, Qatar), interview by author, 18 Feb 2013
- ¹² Lieutenant General David Deptula, "ISR - Precision Strike Capabilities & Technology Improvements" (briefing, Headquarters Air Force, 2008): slide 10.
- ¹³ Colonel Michael Kometer, email correspondence with author, 16 February 2013
- ¹⁴ Air Force Instruction 13-1CAOCV3, Operating Procedures-Air Operations Center (AOC), 2 Nov 2011, 11
- ¹⁵ Major Steven Price, "Close ISR Support: Re-Organizing the Combined Forces Air Component Commander's Intelligence Surveillance, and Reconnaissance Processes and Agencies" (master's thesis, Naval Post Graduate School, Monterrey, CA), 26-27.
- ¹⁶ Captain Chris Collins (Task Force 4-64, 4th BCT, 3rd Infantry Division, US Army), interview by author, 9 December 2011
- ¹⁷ Colonel James Cluff (Deputy Chief of Staff – Air, 9th Air Expeditionary Task Force, Kabul, Afghanistan), interview by author, 20 January 2012.
- ¹⁸ Colonel Thomas Kunkel, interview by author, 18 February 2013
- ¹⁹ Price, "Close ISR Support," 41.
- ²⁰ Colonel Robert Nelson (609th Air Operations Center Deputy Director, Al Udeid, Qatar), interview by author, 6 November 2011.
- ²¹ Colonel Jason Brown (Student, Air War College), interview by author, 18 January 2013.
- ²² Lieutenant Colonel Jeff Burdett (NAVCENT LNO, 6th Fleet, Bahrain), interview by author, 20 February 2013. LtCol Burdett demonstrated the decentralized nature of CFACC supporting operations to 6th Fleet in the Arabian Gulf.
- ²³ Lieutenant Colonel Richard Bell (609th Air Operations Center, Deputy Chief of Combat Plans Division, Al Udeid, Qatar), interview by author, 6 November 2011.
- ²⁴ Captain Tyler Wintermote (609th Air Operations Center, Chief PED Management, ISRD, Al Udeid, Qatar), interview by author, 6 November 2011.

-
- ²⁵ Captain Tyler Wintermote (609th Air Operations Center, Chief PED Management, ISRD, Al Udeid, Qatar), email correspondence with author, 28 March 2012.
- ²⁶ Cluff, interview, 20 January 2012
- ²⁷ U.S Department of Defense, “Joint Publication 3-30, Command and Control of Joint Air Operations,” 12 January 2010, II-1-2.
- ²⁸ Kometer, email, 16 February 2013
- ²⁹ Kometer, email, 16 February 2013
- ³⁰ Lieutenant Colonel Keith Marlowe, CENTCOM J2, interview by author, 30 November 2011.
- ³¹ Squadron Leader Sally Courtnage (CENTCOM J-2 Directorate, Tampa, FL), interview by author, 9 December 2011.
- ³² Author’s observations while attending MAD coordination VTC at AFCENT CAOC, Al Udeid Air Base, Qatar, 7 November 2011.
- ³³ Colonel Robert Nelson, interview, 6 November 2011.
- ³⁴ Captain Tyler Wintermote, interview, 6 November 2011.
- ³⁵ Joint Publication 3-30, III-27.
- ³⁶ U.S. Department of Defense, “Joint Publication 3-24, Counter-Insurgency Operations, 5 October 2009,” V-4
- ³⁷ Colonel Thomas Kunkel, interview, 18 February 2013.
- ³⁸ US Department of Defense, “Joint Staff (J31) FY14 Global Force Management Planning Order,” Section 9.
- ³⁹ Major Peter Halsey (Collection Manager, IJC-ISRD, Kabul, Afghanistan), email correspondence with author, 13 April 2012.
- ⁴⁰ 609th Air Operations Center, “ISR Bid Sheet,” (spreadsheet, 27 April 2012, SECRET), information extracted is unclassified.
- ⁴¹ Cluff, interview, 20 January 2012
- ⁴² International Joint Command ISRD, “ISR Sync Matrix,” (spreadsheet, 9 April 2012, SECRET), Information extracted is unclassified.
- ⁴³ Lieutenant Colonel Joe Simile (Deputy Director, 432 AEW Operations Center, Creech AFB, NV), interview by author, 10 January 2012.
- ⁴⁴ Major Tony Muir (609th AOC SIDO), interview by author, 20 February 2013.
- ⁴⁵ Lieutenant Colonel Mike Ballek (609th AOC Deputy Chief of Combat Operations), interview by author, 20 February 2013.
- ⁴⁶ Colonel John Bunnell (ACCE Deputy Commander, Kabul, Afghanistan), interview by author, 18 February 2013
- ⁴⁷ Bunnell, interview, 18 February 2013
- ⁴⁸ Major Andrew Beitz (Assistant Director of Operations, 26th Weapons Squadron, Nellis AFB, NV), interview by author, 12 April 2013.
- ⁴⁹ U.S. Department of Defense, “Joint Publication 3-09.3, Close Air Support, 8 July 2009,” III-13
- ⁵⁰ Joint Publication 3-09.3, III-36
- ⁵¹ Price, “Close ISR Support,” 82-83.
- ⁵² Kometer, interview by author, 10 September 2012

CHAPTER 3

Centralized Control: Doctrine Versus the Real World

This chapter focuses on the USAF's concept of centralized control, and, more specifically, the arbiter of centralized control - the CAOC. It attempts to answer the question, "why does centralized control fail in the context of Information-Dominant warfare?" To answer this question, I will first describe the ideal or doctrinal model and then turn my attention to the 'real world' as exemplified by the existing AFCENT system. The contrast between the two CAOC systems highlights that neither one fully exploits the capabilities of CFACC airpower.

Understanding the workings of the ideal CAOC is essential in understanding why the CAOC was designed the way it was and, more importantly, how this design fails to optimize airpower in Information-Dominant operations. The AFCENT CAOC provides a real-world example of a C² system adapting itself to meet the demands of an Information-Dominant campaign. However, the analysis will show that, because of the aforementioned five factors, the AFCENT structure fails to match critical capability to the highest priority taskings. The chapter concludes with an analysis of the five factors and their impact on CFACC airpower. Figure 7 is a roadmap to the chapter and provides questions the discussion will attempt to answer along the way.

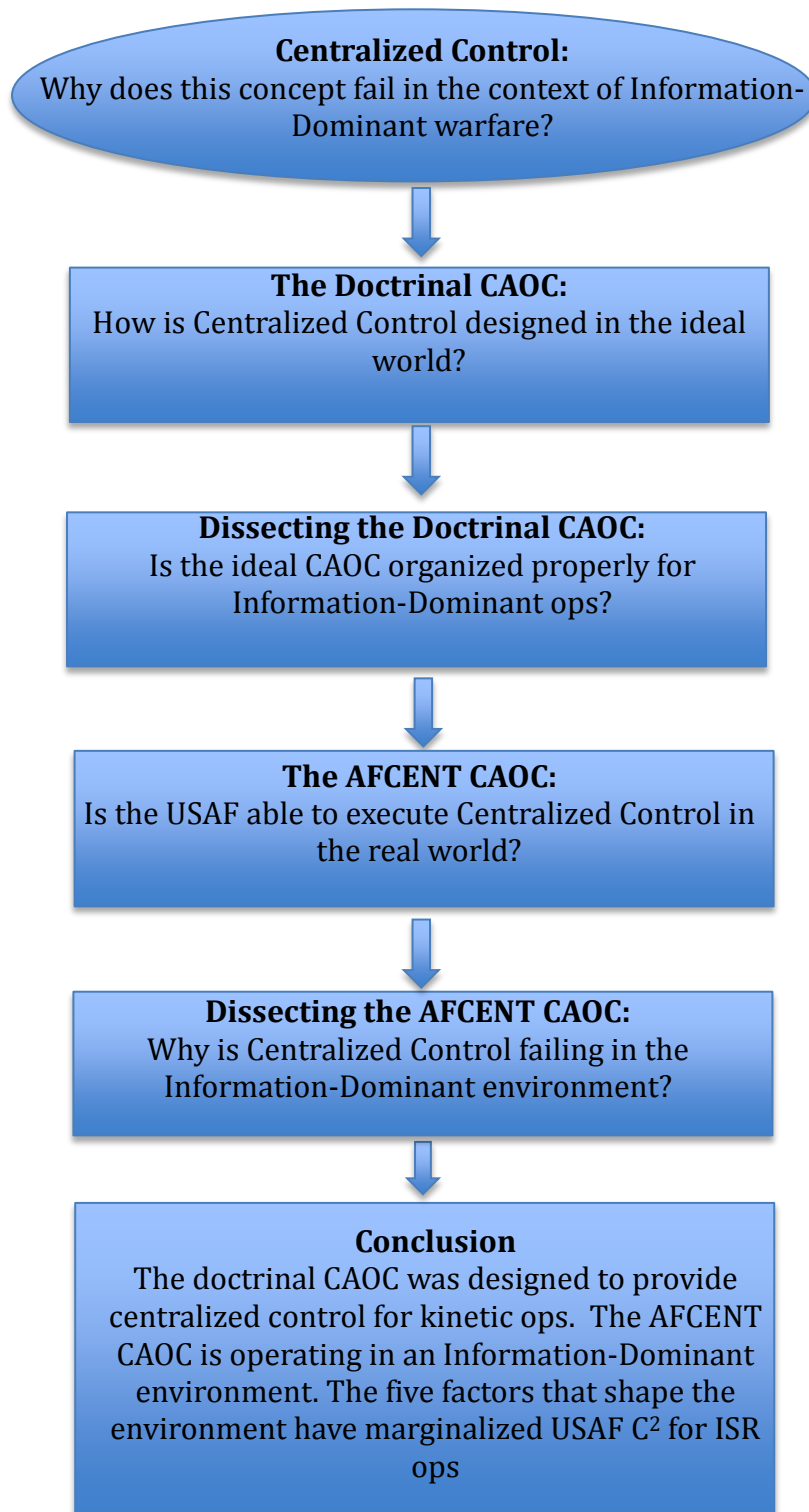


Figure 7, Chapter 3 Roadmap (author)

The Doctrinal CAOC

The discussion on centralized control begins with an analysis of the CAOC as doctrine intended it to be. The analysis will dissect the doctrinal CAOC and determine why the USAF's C² system is designed the way it is. This section will illustrate why the doctrinal CAOC is not well suited for Information-Dominant warfare.

Centralized Command in the Ideal World

The Combined Air Operations Center was designed to deliver airpower solutions for operational problems, particularly under conditions of major combat operations.¹ The CAOC's mission statement is to provide operational-level C² of air, space, and cyberspace operations. It is the focal point for planning, directing, and assessing air, space, and cyberspace operations to meet CFACC operational objectives and guidance.²

The CAOC consists of five divisions.³ These are the Strategy Division (SD), Combat Planning Division (CPD), Combat Operations Division (COD), ISR Division (ISRD), and Air Mobility Division (AMD). This section will focus on the interaction between the CPD, COD, and ISRD because within these are the elements in which the root of the problem lies.

The Combat Plans Division's role is to translate CFACC guidance into an executable plan and then publish that plan in 24-hour slices in

an Air Tasking Order (ATO).⁴ The CPD's Target Effects Team (TET) uses the guidance found in the Joint Integrated Prioritized Target List (JIPTL) to determine which targets will achieve the CFACC's desired effects, and then passes their determinations to the Master Air Attack Planning (MAAP) team.⁵ The MAAP team turns guidance into packages of airpower effects.⁶ For example, the MAAP ensures the JIPTL's highest priority targets are serviced by integrating a certain mix of assets with the greatest probability of success. The MAAP team's product, when formed correctly, ensures the optimal combination of targets, assets, and weapons to achieve the CFACC's desired effects.⁷ The ATO production team then enters the packages into tasking software and publishes the ATO. The ATO production team also inputs missions from the Reconnaissance and Surveillance and Target Acquisition (RSTA) annex so they can be included on the ATO.⁸

The ISR Division (ISRD) works in parallel with the CPD and has the primary role of synchronizing the CFACC's ISR operations with the rest of the air strategy.⁹ In addition, the ISRD has a functionally focused planning team embedded within its division. The ISR Operations team is a miniature CPD in that it serves a similar function, but limits its focus to ISR planning and tasking.¹⁰ The collections management cell, residing within ISR Operations, compiles all relevant inputs to include requirements, processing availability, asset capabilities, etc., to develop the RSTA annex.¹¹ The RSTA annex is then delivered to ATO production,

as previously discussed, as a supplement to the main planning and tasking process (MAAP process).¹²

The COD manages execution. The COD is led by the Chief of Combat Operations (CCO) who is responsible for making real-time adjustments to the ATO in response to emerging opportunities, or equally significant, emerging problems.¹³ Three key personnel assist the CCO in his duties. The Senior Offensive Duty Officer (SODO) is responsible for strike missions such as CAS, and as such, the SODO is the primary interacting agent with the Air Support Operations Center (ASOC).¹⁴ The Senior Air Defense Officer (SADO) is responsible for maintaining air superiority and coordinates with other air defense assets like surface-to-air missile batteries.¹⁵ A Senior Intelligence Duty Officer (SIDO) is responsible for advising on intelligence matters. SIDO ensures the RSTA annex is executed, and if required, SIDO exercises Collections Operations Management (COM) authority to re-task assets.¹⁶ Additionally, there are dozens of liaison officers who provide subject matter expertise on a wide range of issues.

Two critical elements to the COD's success are awareness of mission priority and the centralized command authorities needed to re-task CFACC assets throughout the theater.¹⁷ Without accurate real-time mission priority data, the CCO is unable to determine which asset can afford to be pulled from its current tasking, and which asset must stay on target. Likewise, without allocation authority, the CCO can have all

the priority data he or she wants, but nothing will be re-tasked without higher echelon approval. This mother-may-I process can severely affect flexibility when the CFACC team has to work reallocation issues in real time.

Dissecting the Ideal CAOC

The USAF's CAOC is designed to support CFACC's objectives and is the focal point for the command and control of CFACC airpower.¹⁸ The mission statement validates the notion that the CAOC was designed to operate in an environment where the air component is given responsibility to accomplish operational level objectives.¹⁹ This is not to say the CFACC cannot provide support; the Close Air Support C² process is evidence to the contrary. Nonetheless, even if the CAOC is supporting another commander's objectives, the CFACC has an optimized C² organization to pursue airpower specific objectives.

The roles and responsibilities of the CAOC's sub-organizations bear this out. The CPD relies on the JIPTL to build integrated packages of effects-based airpower.²⁰ The key attribute of the JIPTL process is prioritization.²¹ If the CFACC is the lead agent, and a conflict is in an airpower-centric phase, then generating a JIPTL is a relatively straightforward exercise. Targets are going to be vulnerable to airpower because airpower experts chose them, and airmen are going to hold sway on prioritization. Likewise, the COD has proven to be an effective

manager of airpower when an airman is the lead agent.²² This is because priority is clear and allocation authority is delegated to the CCO.²³ However, what becomes of the JIPTL, or for that matter, the entirety of the COD process, when the CFACC is out of the prioritization loop? The CPD and COD processes were designed for operations whereby airmen have the ability to set priorities, exercise independent tasking authority, and prosecute targets with their CFACC's objectives as their guide.

This brings the analysis to the ISRD. It would appear that the ISRD is the only organization in the CAOC that is fully functional as a supporting organization. The ISRD is the only team within the CAOC that sends personnel to the other divisions to ensure coordination and provide mission support.²⁴ Even the ISRD's tasking product, the RSTA, is an annex to the ATO and is only 'integrated' by the tasking software in a shoehorn manner, and as the last step in the planning process.²⁵

The ISRD's operations were envisioned as supporting the CFACC's airpower objectives.²⁶ For example, the ISRD's operations team is responsible for "supporting the AMD, Strategy, Combat Plans, and Combat Operations Divisions to ensure synchronization of all ISR operations," and "overseeing ISR operations processes in support of JFC and CFACC objectives throughout the ATO cycle."²⁷ There is little guidance, however, on how the CFACC would support other commanders with ISR first and foremost. The ISRD is doctrinally well postured for

this effort, but the CAOC is not equally well postured to put the ISRD on point.²⁸ Herein lies the shortfall in the USAF's doctrinal C² model. The CAOC is not well situated to run an Information-Dominant campaign because its embedded ISR agency (the ISRD) was not postured to lead the air effort.

In summary, the CAOC was not designed for Information-Dominant operations. It was built on the concept that airpower would be pursuing airpower centric objectives, or would be supporting with kinetic missions. ISR operations were designed to synchronize with and support airpower's other functions, but not be the preeminent effort. So, what becomes of the CAOC when the CFACC is in a largely supporting role? The next section explores that question.

The AFCENT CAOC

The previous section illustrated how the CAOC was not designed to have Information-Dominant operations as the focal point of operations. This section will analyze the AFCENT real-world CAOC to determine how centralized control is working in an Information-Dominant operating environment. The analysis will attempt to determine how well the design is working and to what degree real-world conditions have forced the doctrinal CAOC to be modified. Ultimately, this section will conclude that not only is the doctrinal design inadequate for Information-

Dominant operations but the real-world CAOC has not transformed itself properly to optimize CFACC airpower either.

Centralized Control in the Real-World CAOC

AFCENT's CAOC plans, tasks, and executes the ATO, for the most part, in accordance with joint doctrine and USAF instructions (the most prominent exception to be discussed momentarily). In the CPD, strike, C², and aerial refueling sorties are all tasked via the MAAP process and are commonly referred to as 'ops' missions.²⁹ Just like their intelligence counterparts, these missions are slated to support the ground commander, or support other air assets who in turn are directly supporting the ground commander. Unlike the ISR process, however, the CFACC is able to exercise centralized control because of a sound decentralized execution structure. Decentralized execution of these assets is made possible through the TACS, with the whole process underwritten by the ASOC.³⁰

The tasking of ISR missions versus the tasking of 'ops' missions, however, is as far as the east is from the west, and represents a striking departure from the doctrinal model. As discussed in chapter one, International Joint Command (IJC) in Kabul sends their daily requirements and associated priorities to the CAOC for processing.³¹ The ISRD's Operations Cell receives the requirements list and tasks assets against it through the RSTA annex.³² ISRD has no responsibility, nor

authority, to allocate how many assets go to each supported unit or mission requirement.³³ CENTCOM provides the allocation decision through the previously discussed Monthly Allocation Directive (MAD). Once ISRD applies the COCOM's MAD guidance, they build the RSTA annex and transmit it to the CPD's ATO production team.³⁴

Once the sorties launch and are in the hands of IJC, the assets are dispersed throughout Afghanistan on the basis of equity between the Regional Commands or in Army parlance, between each division.³⁵ This is not to say that each division gets the same amount of assets per day. Some weight of effort is applied to the dispersion; however, IJC ensures all commanders get some level of support.³⁶ Each division delegates the asset down the chain until it reaches an echelon that has internal priority to keep it. The asset may remain at the division level but can also be passed all the way down to a battalion.³⁷ As the ground force commander passes the asset to lower and lower echelons, the COD has equally lower awareness of what priority the asset is working.³⁸ The mission may have started out on a Top-20 operation, but as to what priority it is working at any one moment is beyond the purview of anyone in the CAOC.³⁹ Only the intelligence collection managers in Kabul have awareness on actual priority, and even from that echelon the clarity of prioritization can be somewhat obscured by the real-time actions of unit level operators.⁴⁰

The ISR asset typically remains within the supported unit's span of control for the duration of the sortie. This can be anywhere between a few hours and up to 24 hours depending on the aircraft. Although the asset will likely be applied to the unit's highest priorities, these are the priorities of the BCT and not necessarily those for the entire theater.⁴¹ This practice is a questionable means of employing a limited resource. The system becomes even more spurious when one considers the type of asset that has been sent away into the catacombs of the tactical, organic tasking process. Bottom line, unlike the ideal or doctrinal model, the 'real world' COD lacks the requisite fidelity to manage CFACC ISR assets.

Centralized control was designed to ensure limited assets, like CFACC airpower, would be optimally employed against the theater's highest priorities. To execute a theater-wide prioritized employment scheme, the CAOC needs both allocation authority and real-time priority data to ensure the most critical requirements are met in a timely manner. In short, centralized control fails when allocation authority and prioritization data is denied to the C² node.

"The biggest issue I see is over reliance on centralized control at the COCOM level. CENTCOM is the reason why we are systematically paralyzed from allocating. COCOM control, combined with over reliance on circular decentralized tasking authority at the supported commander level, means that the airman is not in the loop anywhere."

- Lieutenant Colonel Richard Bell, Deputy Director, Combat Plans Division, 609th AOC, Al Udeid, Qatar. 2011-2012. Interview by author.

Dissecting the Real-World CAOC

Up until now, the ‘asset’ in these examples has been described as an ISR asset. This was an error of commission. Switch the term from ISR asset to multi-role CFACC airpower and the misappropriation of critically short takes on a whole new light. When a single asset can bring variable strike options, multi-discipline ISR options, C² capability, overlapping sensor suites, numerous communication nodes, etc., it is no longer just one airplane that has been resigned to direct tasking. When a CFACC airpower is tasked in an organic manner, the entire theater losses the use of a multitude of effects. Figure 8 summarizes the differences between the doctrinal model and the AFCENT CAOC.

	Doctrinal Model	AFCENT Model
CPD	<ul style="list-style-type: none"> • Builds ATO to achieve CFACC objectives. • Plans air support missions to cover unfilled requests 	<ul style="list-style-type: none"> • ATO is built without deference to ISR requirements. • Assets on kinetic taskings enter the SODO side of the firewall
ISRD	<ul style="list-style-type: none"> • Builds RSTA to synchronize ISR ops to support CFACC objectives 	<ul style="list-style-type: none"> • Ops cell plans and tasks ISR sorties through a segregated process from CPD’s. • CFACC ISR sorties are tasked to requirements before the support unit’s organic capabilities • ISR taskings enter the SIDO side of the firewall
COD	<ul style="list-style-type: none"> • Manage execution to ensure objectives are met. • Does so through possessing allocation authority and maintaining high SA on priority 	<ul style="list-style-type: none"> • Executes doctrinal role for kinetic missions only • Lacks allocation authority and priority data for ISR taskings, unable to effectively manage ISR from centralized command node

Figure 8, Doctrine Versus Reality (author)

Chapter one laid out five factors that have influenced AFCENT's digression from the doctrinal CAOC model. These were the character of Information-Dominant warfare, the USAF-to-US Army organizational mismatch, the apportionment versus allocation situation, the lack of clarity on prioritization, and the tasking sequence. Each of these factors was evident in the preceding description of the AFCENT CAOC. If CFACC airpower is to be exercised to its full potential, then it is important to understand how and where these factors have undermined the USAF's command and control process. Building a better future CAOC requires a thorough debrief of the past.

First, the character of Information-Dominant operations exposes a fundamental weakness in the USAF's CAOC model and it caught the AFCENT CAOC ill prepared to meet ISR needs. The ISRD would have to lead the fight, not simply support operations and conduct its 'supplemental' ISR operations. At present, ISR C² processes still seem more like an annex to the rest of the air effort, as opposed to a leading and cohesive element of the air strategy. The kinetic and ISR plans are entered into the same computer system to generate an ATO, but are never truly integrated.⁴² If it were not for the need to appear on the ATO, the RSTA annex could bypass the CPD entirely for want of the level of integration taking place.

When I was at Al Udeid as Strategy Division Chief, I didn't even know what the RSTA was, until I saw the Deputy ISRD Chief meeting with the CAOC Director every day to approve it.

It was just the two of them--no Plans Division person or Strategy Division person. The rest of our products were approved at large briefings to the DCFACC.

Colonel Michael Kometer, 609th AOC Strategy Division Chief
Al Udeid, Qatar, June 2008-January 2009. Interview by author.

Second, the CAOC was out of step with the supported unit because there was little coordination between CFACC ISR and the supported commander. One Army officer stated, "Integration should be IJC's call. If they want it, they'll ask for it. Don't try to educate the ground commander."⁴³ Too often individual aircrews are educating their supported units on the full potential of their weapon system on the radio over the target.⁴⁴ This is too late in the process for full exploitation of the capabilities of CFACC airpower. The organizational mismatch coupled with a segregated CAOC results in requirements being levied on the USAF without the USAF having participated in building said requirements. By the time these 'outsourced' taskings reach the COD floor, an organic process has already supplanted optimization and effectiveness. For example, if the BCT's ISR requirements were for a SIGINT platform, a Full Motion Video (FMV) platform, a Ground Moving Target Indicator (GMTI) platform, and a strike platform, then the requirement will not be filled until four aircraft show up to perform each

of those duties. The ISRD would have to task an RC-135 to provide SIGINT, an MQ-9 for the FMV, an E-8 JSTARS for GMTI, and the CPD would be sending a pair of A-10s for strike coverage. Meanwhile, a single MQ-9 was capable of providing all the BCT's required capabilities, thus returning to the CAOC four theater assets for other tasking. That is 12 engines worth of burnt gas, dozens of deployed aircrew's time, and countless hours of maintenance costs – not to mention the risk exposure of the manned aircraft's personnel.

The COD team faces an unsolvable problem because, third, they do not have allocation authority, and fourth, they do not have true awareness of priority. The SIDO retains allocation authority over ISR assets; however, it is allocation authority in name only.⁴⁵ While the COD officially has allocation authority in accordance with joint doctrine, the SIDO becomes uneasy with pulling an asset and reassigning it to someone else.⁴⁶ The CFACC's boss has already assigned that asset to the supported unit through the MAD. Pulling it would be tantamount to violating the Combatant Commander's directive.

The AFCENT CAOC's blurred picture of priority further complicates the COD's ability to do its job. It takes a well-informed COD team to ensure limited assets are working the highest priority targets, and CFACC airpower is being used to the full extent of its capabilities. However, due to bait and switch tactics, no one in the CAOC has awareness on what priority the asset is flying at any given moment.⁴⁷

Lastly, the tasking of CFACC airpower before that of organic assets represents the fifth aspect of the operating environment that is undermining centralized control. As previously discussed, IJC in Kabul sends the daily ISR requirements to the CAOC, who in turn tasks CFACC assets to support the ground commanders in accordance with the requirements list.⁴⁸ However, the list is generated before the ground commander's assets have been expended.⁴⁹ The trouble with this arrangement is that there may be a high-priority mission that will go uncovered because the only assets capable of covering the entire theater, that of CFACC airpower, have already been accounted for. Should there be a requirement in one area of the theater that does not possess enough organic capability to indigenously meet their needs, there will not be theater-capable airpower available to support them.

What is worse is when highly capable CFACC assets are expended on mundane tasking that less capable and less flexible assets should have handled. For example, an Army Shadow unmanned system can provide the same Full Motion Video coverage as a USAF Predator. If force protection is all the ground force commander needs, then the Shadow can accomplish the objective just as well as the CFACC's asset. Unlike the Shadow, however, the Predator can collect SIGINT, can employ precision weapons, and can disseminate its real-time intelligence globally to whatever exploitation cell can weigh into the fight. Furthermore, Predators are flown by Mission Commanders well versed in strike, ISR,

and C² processes. No doubt a ground commander would want all these capabilities, however, another significant difference between Predator and Shadow is availability. There are 89 Predators in the USAF inventory;⁵⁰ there are over 4,000 unmanned aircraft available to the US Army.⁵¹ The CFACC asset is far more capable than its organic counterpart but is also scarcer, and should be reserved for the highest priority missions. Figure 9 is an MQ-9 mission excerpt that typifies the problem.⁵² The CFACC tasked an MQ-9, with full strike capability, a complete SIGINT package, on-board Ground Moving Target Radar, as well as countless man-hours of aircrew and intelligence analysts time, and for three weeks searched for a good place to land a helicopter. This tasking would never have seen a CFACC asset if organic platforms had been tasked to this ‘high-priority’ mission in the first place.

“Between November and December of 2011, an MQ-9 was tasked to support a Top-20 named operation. For three weeks we were launched on the same tasking and checked in with the same ground party. Upon check in, the ground party would inform us that the mission’s ‘triggers’ were not yet met, but the FMV would be employed otherwise. Eventually I ascertained exactly what the collections manager was looking for. I was informed to search for an appropriate place to land a helicopter. I responded with “the terrain is flat for a hundred miles,” to which the collections manager, unfazed, responded with the next set of haphazard search instructions. We continued to support the ground unit for several more days before IJC reassigned the mission.”

- Captain Robert Moors, 42nd Attack Squadron, Mission Commander

Figure 9, Capabilities Supporting Organic Taskings (interview by author)

The concept of the CAOC is invalidated if centralized control does not equate to decision advantage. In the crucible of the COD floor, at the moment of decision, blurred vision and difficulties in discernment indicate an underperforming C² structure.⁵³ Figure 10 expands on the previously introduced “cumulative effects of the five factors” (figure 6). Figure 10 demonstrates how the doctrinal CAOC, influenced by the operating environment, morphed into the AFCENT model, and subsequently, how the operating environment impacts CFACC airpower.

Tasking paralysis starts subtly, but ultimately it is the supported unit that bears the full brunt of being denied responsive airpower where it is needed most.⁵⁴ These factors conspire to stifle the CFACC’s ability to bring to bear some of the aircraft’s greatest characteristics – *flexibility* to respond with *precision* to the supported commander’s greatest need and at the decisive moment. CFACC airpower possesses all the capability the supported commander needs, but due to the aforementioned constraints, these capabilities cannot be brought to bear in an effective manner.

	Deviation from doctrinal CAOC	Effect on AFCENT CAOC	Impact on CFACC Airpower
Information-Dominant Warfare	<ul style="list-style-type: none"> ISR no longer just a 'supplement' to kinetic ops 	<ul style="list-style-type: none"> ISR ops still treated as an annex to ops Kinetic and ISR ops not integrated due to separate tasking processes 	<ul style="list-style-type: none"> Multi-role platforms can't swing between disciplines because they are planned and tasked on one side of the firewall Airpower sub-optimized because supported unit doesn't understand capabilities. Multiple assets on same target instead of utilizing multi-role capabilities CFACC airpower becomes stagnated on superseded or mundane taskings
Organizational Mismatch	<ul style="list-style-type: none"> ISR doesn't have same level of coordination w/supported units as kinetic ops 	<ul style="list-style-type: none"> ISR requirements poorly formed Duplicative requirements for similar effects 	
Allocation or Apportionment?	<ul style="list-style-type: none"> Retained by Combatant Commander Allocation decision seen as a directive 	<ul style="list-style-type: none"> SIDO isn't free to re-task assets like SODO can 	
Prioritization	<ul style="list-style-type: none"> IJC holds real-time priority data Absence of data on COD floor inhibits retasking opportunities 	<ul style="list-style-type: none"> SIDO loses initiative, can't tell what ISR asset to move 	
Tasking Sequence	<ul style="list-style-type: none"> CFACC assets tasked before supported commander's organic capabilities 	<ul style="list-style-type: none"> ISR assets tasked to requirements before shortfalls have been identified 	

Figure 10, Influence of the Five Factors on Centralized Control
(author)

Conclusion

The doctrinal CAOC model will never be a perfect solution for several reasons, some by design. The doctrinal CAOC is intended to be flexible because no two operational C² problems are the same.⁵⁵ The CAOC is well organized to execute an effective air campaign when the CFACC is lead agent. When the CFACC is supporting other

commanders, the CAOC utilizes its subordinate agency, the ASOC, to coordinate for requirements and assist with centralized control.⁵⁶ In the past, most conflicts have fallen somewhere in between these two ends of the supported/supporting spectrum and the CAOC was able to adjust adequately to meet the demand.⁵⁷ In an Information-Dominant campaign, however, these provisions are not enough, and claiming the legitimacy of centralized control for ISR is a dubious proposition.

The need for information-dominance in the future is likely to be the rule rather than the exception.⁵⁸ This chapter has illustrated how the doctrinal CAOC was ill prepared to manage Information-Dominant operations whereby ISR requirements are not supplementing the air strategy, but are often the key element to the strategy. The chapter then described how the AFCENT CAOC adapted to the operating environment, but was unable to overcome the cumulative effects of the five factors. The AFCENT CAOC is meeting requirements, but is doing so at the expense of optimized airpower. Lastly, the chapter highlighted how each of the five factors undermines the effectiveness of the USAF's centralized control concept. The next chapter will introduce the decentralized execution aspect of the USAF's C² construct. Like the CAOC, the decentralized execution element is performing well for kinetic operations, but falling short in optimizing ISR. By the end of the next chapter it will be clear that CFACC airpower is not getting relief from its tasking firewalls at either the central or decentralized echelon.

¹ Mr. Ernest Howard (LeMay Center, Air University, Maxwell AFB, AL), interview by author, 18 January 2013.

² Air Combat Command, AFI 13-1CAOCV3, page 10.

³ Air Combat Command, AFI 13-1CAOCV3, page 12.

⁴ Lieutenant Colonel Richard Bell (609th Air Operations Center, Deputy Chief of Combat Plans Division, Al Udeid, Qatar), interview by author, 6 November 2011.

The ATO, or Air Tasking Order is a method used to task and disseminate to components, subordinate units, and command and control agencies projected sorties, capabilities and/or forces to targets and specific missions. Normally provides specific instructions to include callsigns, targets, controlling agencies, etc., as well as general instruction. Department of Defense, Joint Publication 1-02, Dictionary of Military and Associated Terms, 15 February 2012, 16.

⁵ Air Combat Command, AFI 13-1CAOCV3, page 31-32.

⁶ Major Darren Rappaport (609th AOC, Deputy Chief, CPD), interview by author, 20 February 2013.

⁷ Air Combat Command, AFI 13-1CAOCV3, page 29.

⁸ Air Combat Command, AFI 13-1CAOCV3, page 66.

⁹ Air Combat Command, AFI 13-1CAOCV3, page 49.

¹⁰ Captain Patrick White (609th AOC ISR Operations Team Chief), interview by author, 19 February 2013

¹¹ Air Combat Command, AFI 13-1CAOCV3, page 58.

¹² Air Combat Command, AFI 13-1CAOCV3, page 57.

¹³ Lieutenant Colonel Mike Ballek (609th AOC Deputy Chief of Combat Operations), interview by author, 20 February 2013.

¹⁴ Air Combat Command, AFI 13-1CAOCV3, page 40-42.

¹⁵ Air Combat Command, AFI 13-1CAOCV3, page 42-44.

¹⁶ Air Combat Command, AFI 13-1CAOCV3, page 44.

¹⁷ Ballek, interview, 20 February 2013.

¹⁸ Mr. Michael Rollison (C2ISR Branch, Air Combat Command, Langley AFB, VA), interview by author, 16 January 2013.

¹⁹ Colonel Michael Kometer, email correspondence with author, 16 February 2013

²⁰ Air Combat Command, AFI 13-1CAOCV3, page 29.

²¹ Rappaport, interview, 20 February 2013.

²² Operation Unified Protector featured only two MQ-1 Predators to meet the entirety of the FMV requirement. Despite the slight numbers, the two aircraft were optimally tasked by a dynamic retasking process energized by high awareness of the most immediate need (priority). Maj Al Scaperotto and Captain Erin Hayde, interview by author, 13 March 2011.

²³ Colonel Thomas Kunkel (609th Air Operations Center Commander, Al Udeid, Qatar), interview by author, 18 February 2013.

²⁴ Kunkel, interview, 18 February 2013.

²⁵ Rappaport, interview, 20 February 2013.

²⁶ White, interview, 19 February 2013

²⁷ Air Combat Command, AFI 13-1CAOCV3, page 57.

²⁸ Kometer, email, 16 February 2013

²⁹ Rappaport, interview, 20 February 2013

³⁰ Major Adam Palmer (609th AOC SODO), interview by author, 20 February 2013,

³¹ Major Peter Halsey (Collection Manager, IJC-ISR, Kabul, Afghanistan), email correspondence with author, 13 April 2012.

³² White, interview, 19 February 2013

-
- ³³ Captain Johnson (609th AOC, ISRD Operations Cell), interview by author, 18 February 2013.
- ³⁴ Johnson, interview, 18 February 2013.
- ³⁵ Colonel James Cluff (Deputy Chief of Staff – Air, 9th Air Expeditionary Task Force, Kabul, Afghanistan), interview by author, 20 January 2012.
- ³⁶ Colonel Allen Kimball (Chief, IJC-ISRD, Dec 2010-Dec 2011, Kabul, Afghanistan), interview by author, 19 April 2012.
- ³⁷ Captain Chris Collins (Task Force 4-64, 4th BCT, 3rd Infantry Division, US Army), interview by author, 9 December 2011
- ³⁸ Captain Jane Hernandez (609th AOC ISARC), interview by author, 18 February 2013.
- ³⁹ Hernandez, interview, 18 February 2013.
- ⁴⁰ Cluff, interview, 20 January 2012.
- ⁴¹ Cluff, interview, 20 January 2012.
- ⁴² The ATO production team uses the Theater Battle Management Core System (TBMCS) to generate flight authorizations for all CFACC assets flying in theater. Sorties need to be on the ATO to legally operate in the theater.
- ⁴³ Lieutenant Colonel Lloyd (609th Air Operations Center, Battlefield Coordination Detachment, Al Udeid Air Base, Qatar), interview by author, 7 November 2011.
- ⁴⁴ Major Preston Rhymer (26th Weapons Squadron, Nellis AFB, NV), interview by author, 17 March 2013.
- ⁴⁵ Major Tony Muir (609th AOC SIDO), interview by author, 20 February 2013.
- ⁴⁶ Colonel Robert Nelson (609th Air Operations Center Deputy Director, Al Udeid, Qatar), interview by author, 6 November 2011.
- ⁴⁷ Hernandez, interview, 18 February 2013.
- ⁴⁸ Halsey, email, 13 April 2012.
- ⁴⁹ Captain Edward England (609th AOC Battlefield Coordination Detachment, Al Udeid, Qatar, - Army liaison officer), interview by author, 18 November 2011. Sortie figures and tasking trend data analyzed from BCD's "Daily FMV log" worksheets and individual BCT CONOPs (SECRET).
- ⁵⁰ USAF Predator inventory data from Mr. Gary Sambuchi (Air Combat Command HQ, Unmanned Aircraft Branch, Langley AFB, VA), interview by author, 15 January 2013.
- ⁵¹ US Army unmanned aircraft inventory from US Army Center for Excellence, "US Army Roadmap for UAS 2010-2035," Fort Rucker, Alabama, 2010.
- ⁵² Captain Robert Moors (Weapons Officer, 42nd Attack Squadron, Creech AFB, NV), interview by author, Dec 2012.
- ⁵³ Kunkel, interview, 18 February 2013.
- ⁵⁴ Nelson, interview, 6 November 2011.
- ⁵⁵ Howard, interview, 18 January 2013.
- ⁵⁶ Lieutenant Colonel Stephen McNamara, *Airpower's Gordian Knot: Centralized Versus Organic Control* (Maxwell AFB, AL: Air University Press, 1994), 89.
- ⁵⁷ Kometer, interview, 10 September 2012
- ⁵⁸ Lieutenant General David Deptula, "ISR - Precision Strike Capabilities & Technology Improvements" (briefing, Headquarters Air Force, 2008): slide 7-8.

Chapter 4

Decentralized Execution: Doctrine versus the Real World

This chapter shifts the focus from centralized control to decentralized execution and attempts to answer the question, “Why does decentralized execution work well for optimizing kinetic operations, but not well for Information-Dominant operations?” To do so, the chapter will follow a similar path as in previous ones in that it will first describe the doctrinal model for an ASOC and will dissect the two critical components to successful decentralized execution. These are the well-defined command relationship between the CAOC, the ASOC, and the supported unit, and secondly, the existence of a coordinating element that is embedded within the supported commander’s organization.

Then the discussion will describe how the AFCENT ASOC is performing decentralized execution in the real world, and upon comparison, will determine that the differences between the doctrinal model and the AFCENT ASOC are not very great. The chapter assesses the AFCENT ASOC’s performance, and highlights the critical role of the Tactical Air Control Party (TACP) in ensuring success. However, upon dissection it will be shown that the ASOC’s effectiveness is limited to kinetic missions and excludes Information-Dominant operations. The chapter will draw comparisons between ISR operations and Close Air Support (CAS) and demonstrate that, while the characteristics of the

missions are different, the need for detailed coordination between the supported commander and USAF expertise is equally valid for both.

I close with an analysis of the operating environment. The discussion is focused on where and how the five factors (chapter 2) shaped the AFCENT ASOC, or more importantly, failed to influence the ASOC adequately enough to identify shortfalls for Information-Dominant operations. CFACC airpower is not being optimized on either side of the intel/kinetic firewall. As this chapter illustrates, the ASOC's lack of an Information-Dominant mandate contributes to the problem. Figure 11 is a graphical depiction of the chapter's discussion.

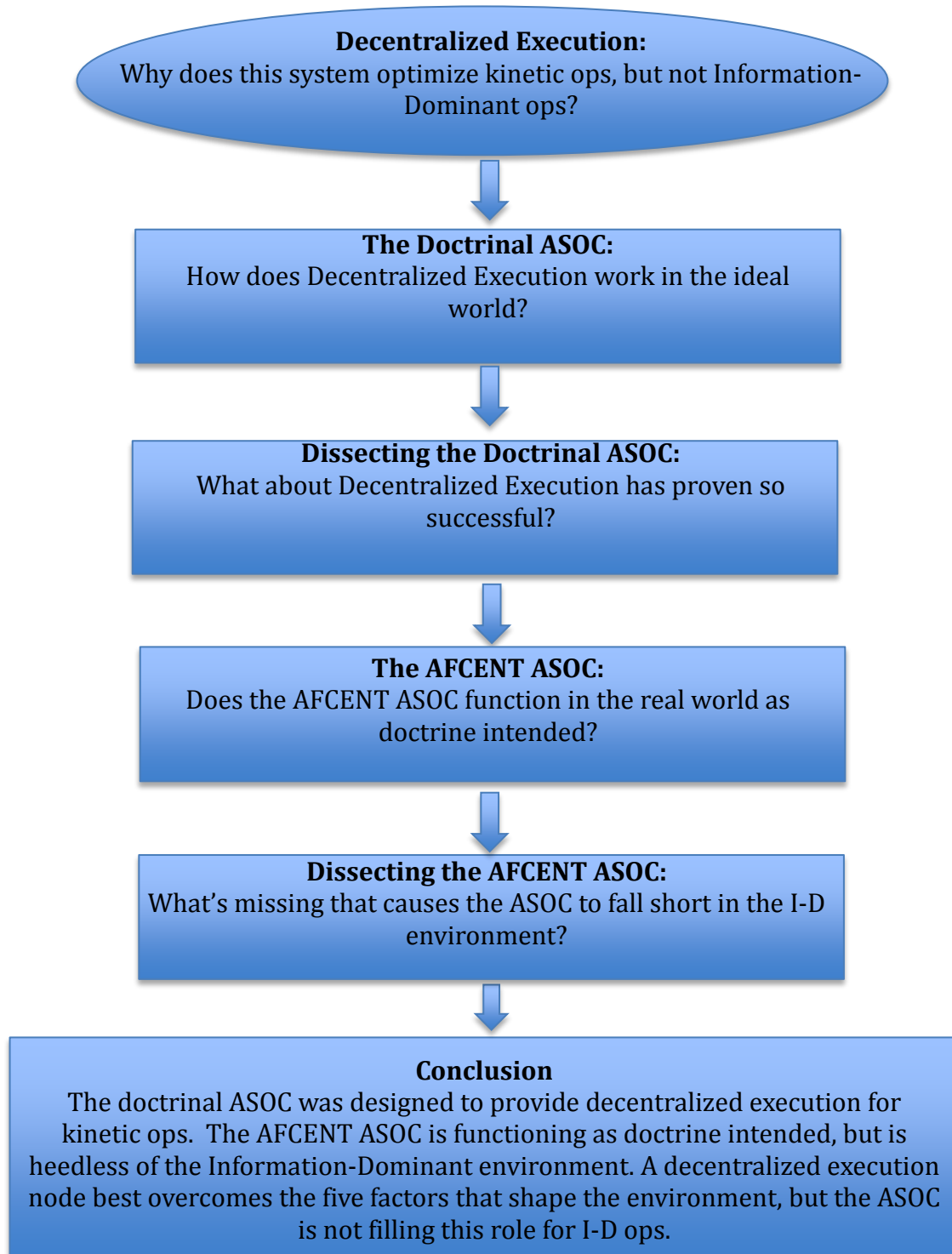


Figure11, Roadmap to Chapter 4 (author)

The Doctrinal ASOC

This section of the chapter will focus on how the ASOC functions in accordance with joint doctrine. The purpose of studying the doctrinal model is to highlight the roles and responsibilities of the ASOC and describe the relationship between the decentralized execution node and the supported commander. This section will go on to dissect the USAF's decentralized execution concept and will argue that the critical element to the ASOC's success is the network of empowered airpower experts embedded with the supported commander. By the end of this section, it will be clear that the doctrinal ASOC is a well-designed decentralized execution system that ties the supported commander to effective CFACC airpower through the Tactical Air Control Party.

Decentralized Execution in the Ideal World

The Air Support Operations Center (ASOC) is the Air Force's command and control focal point with its assigned supported ground commander.¹ The ASOC's mission is to provide direction and control of CFACC airpower that is directly supporting Army ground forces.² The ASOC is particularly concerned with CAS and serves as the conduit between the CAOC and the supported ground commander. CAS is often the ground commander's most sought after USAF capability and as such, it has become synonymous with the meaning of airpower itself. Therefore, it can be said that the ASOC was designed from inception for

the sole purpose of supplying airpower solutions to supported commanders.

While the CAOC is the senior C² element in theater,³ the ASOC is the senior USAF Theater Air Control System (TACS) element to the Army.⁴ By design, the ASOC is collocated with the senior Army tactical echelon. It maintains ties with subordinate echelons through Air Liaison Officers (part of the TACP).⁵ Figure 12 depicts the TACS and shows the relationship between lower echelon liaisons, represented by TACPs, and the next higher echelon in the system. Eventually the coordination line runs through the ASOC, currently collocated with the Army Corps headquarters (ASOCs will begin aligning at the division level beginning in 2014).⁶ The figure depicts a command relationship (evidenced by the solid red line) between the ASOC and the CAOC and more specifically, the Combat Operations Division. The TACS links the lowest echelon liaisons with the ASOC, and then links the ASOC with the CAOC. The network allows ground force requests for CAS to be expeditiously routed to the ASOC. If the ASOC does not have the proper mix of assets to fill the request, the Combat Operations Division can intercede through the same TACS network. In short, CFACC airpower flying CAS missions are being optimally employed because there is a robust means of rapidly and effectively coordinating with the supported commander.

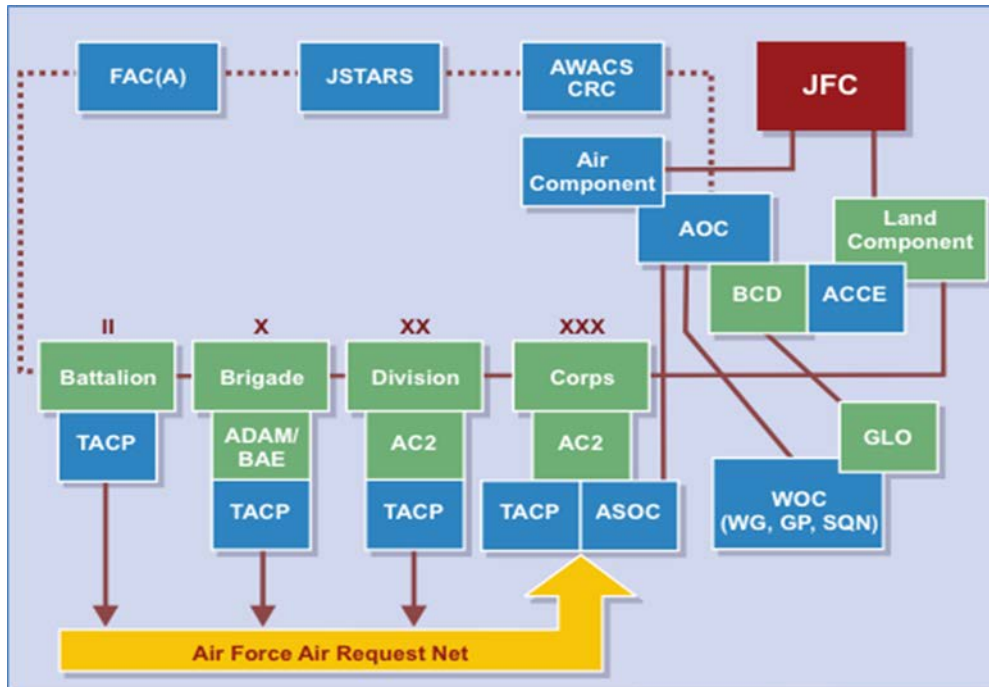


Figure 12, TACS Relationship to AOC

Source: JP 3-30

The ASOC is able to assume this level of C² because the CAOC delegates Tactical Control (TACON) for all ASOC assigned missions.⁷ Nonetheless, the ASOC retains ties to the CAOC despite the C² autonomy stipulated with TACON. Throughout ATO execution, the Senior Offensive Duty Officer (within the COD) remains informed as to the progress of the CAS fight to be aware of any shortfalls and backfills that may be necessary.⁸ The inter-relationship between the rearward situated CAOC and the forward deployed ASOC allows the best of both centralized control and decentralized execution.⁹

Dissecting the Ideal ASOC

The most important aspect of the ASOC system and the accompanying TACS network is not a series of high end radios or slick organizational relationships – it is having the right people in the right place who have built interpersonal relationships with the commanders they are supporting.¹⁰ Building interpersonal relationships founded on trust and credibility might be an elusive idea, but the USAF and the US Army seem to have developed a highly effective and time-tested model through the ALO system.¹¹ The Army Air Service first assigned Air Service Liaison Officers to infantry divisions during World War I.¹² The fledgling ALOs were considered indispensable, and a long standing requirement to have rated officers embedded with the ground force commander’s headquarters has been in effect ever since.¹³

Today, the USAF fields ALOs within various echelons of the Army’s organization, but the most basic touch point is the Battalion ALO (BALO).¹⁴ The BALO is the principle airpower expert to the supported commander at the lowest echelon.¹⁵ While the BALO maintains familiarity with several USAF missions, their primary responsibility is “planning, preparing, and executing airpower within the Army’s scheme of maneuver.”¹⁶ The BALO is the CAS expert to the ground force commander and is in the precise position to ensure CAS support is ingrained, from inception, into the Army’s plans. This tight knit planning-through-execution relationship, culminating with the ASOC’s

C² oversight, has proven ever more effective with each successive campaign. For example, continual refinement of CAS procedures has reduced USAF reaction time from over thirty minutes during the Korean War,¹⁷ to twenty two minutes in Vietnam,¹⁸ and less than fifteen minutes during Desert Storm.¹⁹ The ASOC's touch points with the supported commander allows centralized control/decentralized execution to remain the most effective means of providing supporting CAS fires. This relationship did not evolve by chance, but was a deliberate effort to build trust, and impart the supported commander's intent.²⁰

Auftragstaktik is a German word that translates to 'order tactics.' The full meaning of the term, however, goes far beyond a literal translation. *Auftragstaktik* is a philosophy.²¹ The idea behind *Auftragstaktik* is to empower subordinate decision makers with not only the commander's intent, but more importantly, the commander's mindset. This outlook provides a substantially different standard than simply having liaison officers coordinate on over-arching concepts. *Auftragstaktik*-inspired leadership imparts the commander's decision-making philosophy on subordinates, which in turn, empowers the subordinate to act as a decentralized extension of the commander. The model affords maximum flexibility and responsiveness to any battlefield scenario.

The USAF's ALO structure is designed around the *auftragstaktik* ethos.²² ALOs are collocated with their supported units in both

peacetime and war.²³ The process of building teamwork and fostering inter-personal relationships starts at home station through common training opportunities and field exercises. Ground force commanders are able to impart their mindset on the ALOs, while ALOs are exposed to the ground force commander's decision-making processes through a full spectrum of scenarios. The bonds formed in peacetime are transferable to war, as the commander-ALO pairing remains constant through the ground force's deployment cycle. ALOs apply *auftragstaktik* when they exercise the commander's sense of judgment.²⁴

If the ALO team enjoys its commander's trust, then CAS fires will be responsive, effective, efficient, and can even be the decisive factor in an engagement.²⁵ General George Patton enjoyed such a relationship with his air commander, General Otto Weyland, during the European campaign in 1944. Patton made it clear that no operation would be conceived or planned without General Weyland's team being involved.²⁶ For General Weyland's part, he said "our success is built on mutual respect and comradeship between air and ground."²⁷ The relationship was so seamless that during an operation where no opportunity was available for extensive planning, Weyland's CAS efforts were attributed with breaking the enemy attack.²⁸ No assignment system is able to guarantee the development of personal trust between teammates, but the USAF ALO program seems to afford the highest probability of success.

The ideal ASOC delivers effective airpower because empowered and imparted liaison teams underpin the system.

The AFCENT ASOC

The previous section described the doctrinal ASOC and how, in the ideal world, decentralized execution is made effective through empowered ALOs. This section will show how the real world ASOC is functioning closely to the doctrinal model and will draw conclusions as to why this is so. However, the analysis will also show what the ASOC is failing to do – provide the same C² effectiveness for Information-Dominant operations. Upon dissecting the real world ASOC, it becomes clear that the five factors have not been addressed by the USAF's decentralized execution node, much to the detriment of the effectiveness of CFACC airpower.

Decentralized execution in the Real-World ASOC

The AFCENT ASOC is both efficiently managing the CFACC's CAS efforts and effectively meeting the ground force commander's requirements.²⁹ CENTCOM uses CAS response times as a measurement of effectiveness, and at present, CFACC airpower is over the target in less than ten minutes from the initial call for support.³⁰ The ASOC is enjoying success because it is an organization designed to optimize CAS operations.³¹ In this regard, the AFCENT ASOC closely resembles its doctrinal model in both form and intent. The real world model is

performing as expected because it is executing the exact roles and responsibilities for which it was organized. In a sense, there is not much to discuss concerning the differences between the AFCENT ASOC and the doctrinal model.

Perhaps therein lies the point. The AFCENT ASOC is doing the mission it was intended to do, however, the current operating environment demands more of decentralized execution than just CAS support. As previously stated, the ASOC's mission is to provide direction and control of CFACC airpower that is directly supporting Army ground forces.³² The mission statement is inclusive of all CFACC supporting airpower, not just that of CAS. The previous chapter highlighted where the CAOC adapted poorly to Information-Dominant operations, and in doing so, created firewalls between its most flexible assets. The ASOC is well positioned to assuage the effects of the CAOC's firewalls by leveraging its decentralized execution characteristics and TACP network. Unfortunately, the ASOC was never charged with, not took the initiative to integrate into Information-Dominant operations. As such, the effectiveness and efficiency of ASOC administered C² excludes ISR missions. The five factors again come into play with respect to the ASOC and will be discussed next.

Dissecting the Real World ASOC

Like the CAOC, the AFCENT ASOC has been influenced by the five factors that define the operating environment, the first being the character of Information-Dominant warfare. Like the CAOC, the ASOC was ill equipped to manage ISR operations.³³ Unlike the CAOC, however, the ASOC was never in the ISR business. The AFCENT ASOC does not handle ISR requirements, does not contribute to ISR integration and planning, and does not provide command and control or decentralized execution for ISR missions.³⁴ The AFCENT ASOC is out of the ISR business because they lack the manning and expertise,³⁵ functionality, and most importantly, the mandate to support ISR missions.³⁶ While the ASOC “may coordinate in other areas” such as ISR, unit manning levels clearly indicate the ASOC’s unpreparedness to integrate into Information-Dominant operations.³⁷ Figure 13 is the current ASOC manning composition for deployment. On any given shift there is only one ISR professional compared to seven operations team personnel that work CAS execution.³⁸ The manning composition is indicative of the ASOC’s unpreparedness to manage ISR missions. If the ASOC is to provide its decentralized execution capabilities to Information-Dominant operations, then structural change is required.

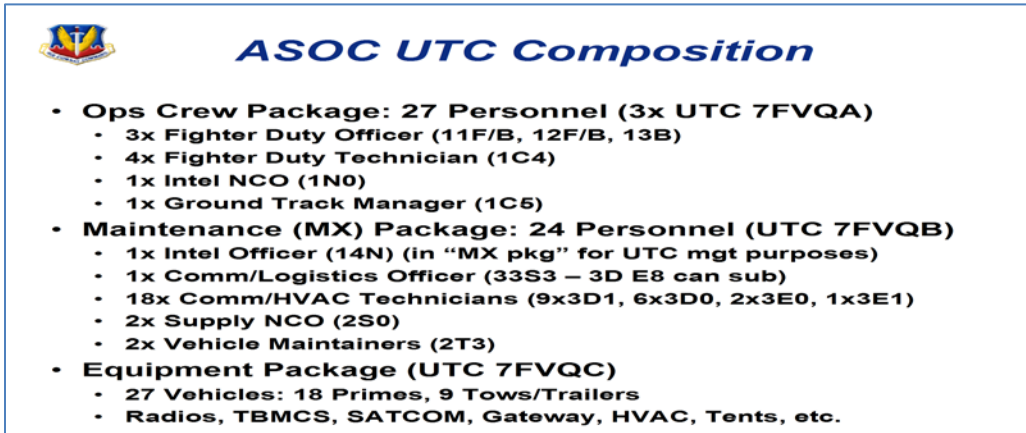


Figure 13, Corps-Aligned ASOC Manning Composition (ACC Brief)

The decentralized control model adopted by the supported commander is representative of organizational mismatch.³⁹ The ASOC, however, is optimized for decentralized execution. What is more, the ASOC was designed from its inception to integrate with the very decentralized supported units that characterize Information-Dominant operations.⁴⁰ By definition, the two entities should be operating seamlessly, and for the most part the system is effective, but only for CAS operations. The critical touch point between the USAF's decentralized execution node (the ASOC) and the supported commander are the TACP teams and the embedded ALOs. However, USAF ALOs do not manage ISR missions, and the network of empowered airmen expertise does no good for Information-Dominant operations. The very element that makes the concept of USAF decentralized execution effective is at the same time oblivious to Information-Dominant operations.

The idea of mimicking the ALO program within the intelligence world is underway. In 2007, Air Combat Command sent a small

contingent of ISR LOs to embed with divisions in Iraq and Afghanistan.⁴¹ The program met with success and the ISR LOs are lauded as ‘combat multipliers.’⁴² The ISR LO program has since expanded. By the end of 2010, the USAF had 15 LOs between the two theaters.⁴³ As of February 2013, there were 14 ISR LOs in Afghanistan between the division and brigade echelons.⁴⁴

There is, however, a significant problem with the current ISR LO program. It is a matter of coverage. There are far more battalions and brigades than there are ISR LOs.⁴⁵ While having an ISR LO at the division level is good for coordination and education, integrated planning takes place at the brigade’s Effects Working Group.⁴⁶ Execution is typically at the battalion level, and as such, ISR LO coverage in the battalion Tactical Operations Center (TOC) is key to making real-time adjustments to the plan. With only 14 ISR LOs in all of Afghanistan, ground force exposure to USAF ISR expertise is limited; much less have the opportunity to build the same rapport as enjoyed by ALOs (see figure 14).⁴⁷ At present, there are not enough ISR LOs to cover all the places they need to be.⁴⁸ In sum, the ASOC suffers from an organizational mismatch, not because it is improperly aligned with the supported unit, but because it does not utilize its advantageous position for Information-Dominant operations.

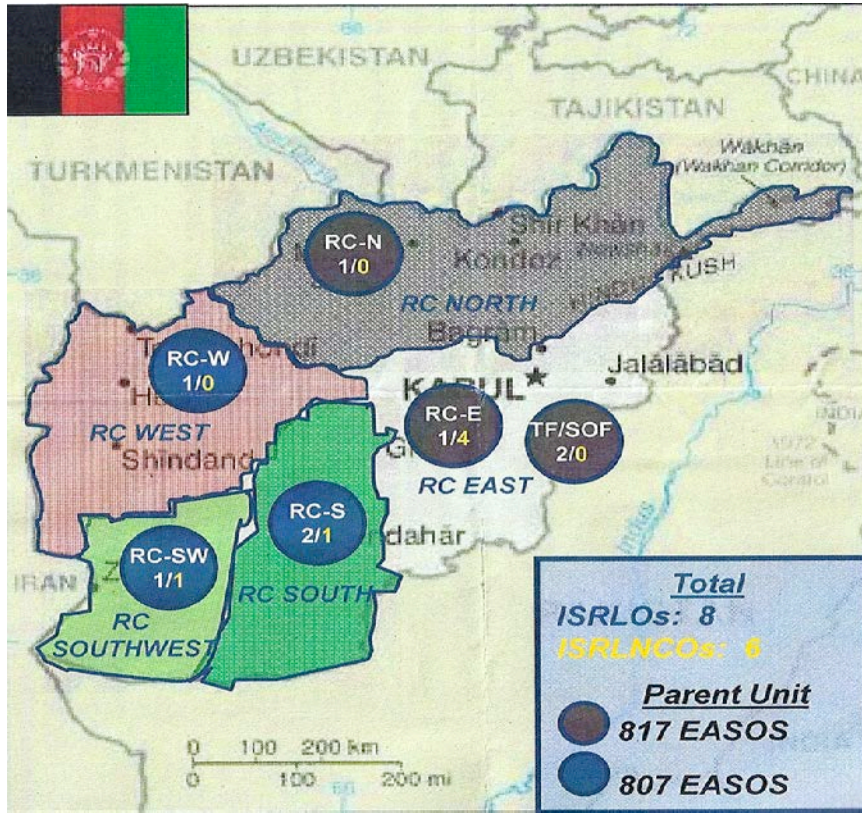


Figure 14, ISR LO Coverage in Afghanistan (AFCENT ISRD)

The ASOC has no more allocation authority over ISR sorties than does the CAOC. This brings the analysis to the third factor, the Monthly Allocation Directive and COCOM allocation of CFACC ISR assets. CAS sorties are allocated by the CFACC, with decentralized execution authority residing with the ASOC. As described during the doctrinal model discussion, the ASOC's operations team efficiently and effectively tasks and retasks CFACC airpower to the areas where it will achieve the greatest good and satisfy the greatest need. Contrast this with ISR. The CAOC has no equivalent decentralized execution capability because it is a centralized control node. Yet the CAOC is the only aspect of USAF C²

engaged in the ISR business. The absence of ASOC oversight on CFACC Information-Dominant operations results in inefficiencies that would otherwise be avoidable.

The following operational example highlights the difference between CAS and ISR execution. Figure 15 depicts the ground tracks of two MQ-1 Predator multi-role platforms as they proceeded enroute to their targets.⁴⁹ The analysis lasted for 5 days. Over that period, two separate airfields launched their missions to service a supported commander on the opposite side of the country. The assets were assigned to specific supported commanders through the MAD. Each day the two Predators passed each other to get to their assigned target locations. Over the course of 5 days, this bypass in flight paths amounted to a total of 26 hours of unproductive enroute time.



Figure 15, Actual Flight Paths (609th AOC RPA LNO)

The RPA liaison officer in the AFCENT CAOC suggested an alternate tasking scheme that would have had the northern airfield service the northern target and the southern airfield service the southern target. Figure 16 shows the proposed ground tracks and subsequent savings of enroute time. Instead of spending 4 hours and 45 minutes droning toward distant targets, the alternate tasking would have put both aircraft on target in just over an hour. The proposal was denied because the supported commander was assigned a certain callsign as a function of the MAD and centralized control shortfalls. The ground commander 'owned' that aircraft, and therefore, that is the aircraft that would respond.⁵⁰ The example only covers 5 days and 26 hours of

enroute time. However, the scenario has repeated itself many times over the previous decade of organic tasking, and continues through the present.⁵¹



Figure 16, Actual Flight Paths (609th AOC RPA LNO)

Had this been a CAS mission, the ASOC would have had the responsibility and authority to intercede with the supported ground commanders to adjudicate these tasking discrepancies. The Monthly Allocation Directive created the conditions highlighted by this example. However, the absence of a decentralized execution authority allows the problem to continue where the ASOC could be intervening. Had the ASOC been involved in the ISR plan, or an ISR LO been at the BCT level, perhaps these assets would have been re-vectorred to their respective

local area target and saved hours of 'droning.' Ultimately, this process denied both supported commanders hours of precious air support through this inefficient tasking scheme.

The fourth factor of the operating environment is the suppression of ISR mission priority data, specifically real-time priority status. The ASOC enjoys high fidelity mission priority data for CAS operations. Priority data is transparent for CAS sorties because it is part of the CAS request process. Additionally, through the TACP system the ASOC maintains a real-time picture of emerging priorities.⁵² However, the ASOC has no better sense of priority for ISR requirements than that of the CAOC.⁵³ This is despite the fact that the ASOC is collocated with the ground commander's corps headquarters, as well as the command node that holds ISR priorities – the IJC.⁵⁴ The ASOC, by nature of their decentralized posture and high-fidelity operating picture, is in a more advantageous position to retask sub-optimized sorties than the CAOC. This is illustrated daily by the SODO deferring retasking authority to the ASOC for CAS sorties.⁵⁵ But like the allocation issue discussed previously, the ASOC's strengths are not brought to bear for Information-Dominant operations. The efficacy of decentralized execution again fails to optimize CFACC airpower.

The final factor, tasking sequence, is a problem in waiting. At present, the ASOC is not impeded by this problem because it is not providing C² for ISR missions, a point well established previously in this

chapter. However, as will be argued in Chapter 5, the ASOC needs to bring decentralized execution expertise to CFACC ISR support sorties. When this happens, the tasking sequence issue will be a factor. Unless organic assets are tasked prior to CFACC airpower, then ISR missions will continue to be expended before the ASOC is able to exercise decentralized execution and maximize their effectiveness.⁵⁶ With CFACC ISR support being committed first, the only remaining ISR assets are those that belong to the ground commander. The ASOC does not provide C² for these assets, as they are not USAF's to control. In short, even if the ASOC transforms into an Information-Dominant C² node, there will not be any CFACC assets to control if the tasking sequence issue is not resolved.⁵⁷

The CAOC adapted poorly to the changing operating environment, as argued in chapter 3. Instead of fostering integration and cohesiveness, the CAOC built a firewall between ISR and kinetic operations. However, in defense of the CAOC, adapt they did and as inefficient as it may be, the system does manage to get ISR requirements filled. The same cannot be said for the ASOC. The ASOC has yet to acknowledge and adequately adapt to the Information-Dominant operating environment. A CFACC engaged in Information-Dominant warfare has more to support than just CAS operations. The ASOC is responsible for *all* CFACC assets assigned to support the ground commander, not just CAS.⁵⁸ The operating environment dictated that

the ASOC adapt, as did the CAOC, and assist in the C² of both ISR and CAS. Figure 17 is a synopsis of the five factors of the operating environment, and their impact on CFACC airpower's effectiveness.

	Effect on CAS operations	Effect on ISR operations	Impact on CFACC Airpower
Information-Dominant Warfare	<ul style="list-style-type: none"> CAS no longer the preeminent air support requirement CAS and ISR share importance with supported unit 	<ul style="list-style-type: none"> ISR sharing importance with CAS ISR's C² process unprepared to meet demand from a centralized control node ASOC not offering decentralized execution support 	<ul style="list-style-type: none"> Multi-role assets are sub-optimized Can either fly ISR, or CAS, but not both Supported unit denied integrated effects, CFACC denied efficient employment of scarce resources
Organizational Mismatch	<ul style="list-style-type: none"> TACP team decentralized with supported unit Coordination and trust maintained 	<ul style="list-style-type: none"> No representation at BCT level Limited coverage at division level Limited coordination between supported unit and ISR expertise 	
Allocation or Apportionment	<ul style="list-style-type: none"> CAS missions are allocated by CFACC ASOC has full and uninhibited re-tasking authority 	<ul style="list-style-type: none"> ASOC inhibited by combatant commander's ISR allocation Complicates retasking process 	
Prioritization	<ul style="list-style-type: none"> Joint process for conveying priority ASOC has real-time transparency to optimize CAS 	<ul style="list-style-type: none"> No process to share priority data ASOC unaware of status of ISR taskings 	
Tasking Sequence	<ul style="list-style-type: none"> Organic capabilities expended first CAS missions fill gaps in coverage Preserves airpower's strength - flexibility 	<ul style="list-style-type: none"> CFACC airpower expended first Airpower expended before Decentralized Execution efficiencies can take effect Airpower stagnated 	

Figure 17, Influence of the Five Factors on Decentralized Execution
(author)

Conclusion

This chapter focused on the decentralized execution arm of the USAF C² system. The analysis attempted to illuminate why decentralized execution works well for kinetic operations, but is not working well for Information-Dominant operations. In pursuit of this goal the chapter first described the doctrinal ASOC and determined that the two critical elements of the doctrinal model. These were the command linkages between the CAOC, ASOC, and supported commander, and the presence on kinetic airpower expertise resident in the supported commander's organization. The chapter then transitioned to the AFCENT ASOC to describe how decentralized execution takes place in the real world. The conclusion drawn is the doctrinal model and the real world system is very similar. This is so because the AFCENT ASOC is performing the duties from within the context that doctrine intended. However, the analysis also concluded that the ASOC is only effective for kinetic operations. Information-Dominant operations are not within the purview of the ASOC, despite the need for decentralized execution for *all* CFACC sorties. The ASOC failed to recognize and respond to the five factors shaping the operating environment. The ASOC is not in the Information-Dominant fight, and as such, both the CFACC and his joint partners are denied optimized airpower through the effectiveness and efficiency of decentralized execution.

In summary, the ASOC performs well for kinetic operations because that is what it was designed to do. However, the character of the present and future conflicts dictate the ASOC transform into a decentralized execution element for all CFACC supporting sorties. The next chapter focuses on evolving both the CAOC and ASOC and offers an innovative look at optimizing CFACC airpower in an Information-Dominant environment.

¹ U.S Department of Defense, “Joint Publication 3-30, Command and Control of Joint Air Operations,” 12 January 2010, II-10.

² Joint Publication 3-30, II-10

³ Air Combat Command, AFI 13-114V3, June 2009, page 3

⁴ Major Landon Root, Director of Operations, 10th ASOS, email correspondence with author, 29 Jan 2013

⁵ Joint Publication 3-30, II-10

⁶ Major Ike Williams, ASOC Growth Implementation Update, (Briefing, Air Combat Command, 28 Jan 2011): Slide 4

⁷ Air Combat Command, AFI 13-114V3, page 10

⁸ Major Adam Palmer (609th AOC SODO), interview by author, 20 February 2013.

⁹ Colonel Robert Nelson (609th Air Operations Center Deputy Director, Al Udeid, Qatar), interview by author, 6 November 2011.

¹⁰ Major Landon Root, Director of Operations, 10th ASOS, email correspondence with author, 15 March 2013

¹¹ Major John Sherinian (Joint Operations Center ALO, 18th Airborne Corps, Afghanistan, 2010-2011), interview by author, 1 February 2013.

¹² John Schlight, *Help From Above: Air Force Close Air Support of the Army, 1946-1973* (Air Force History and Museums Program: Washington DC, 2003), 9.

-
- ¹³ Schlight, Help From Above, 365-379.
- ¹⁴ Root, interview, 15 November 2012
- ¹⁵ Air Combat Command, AFI 13-113V1, 14 June 2012, page 33.
- ¹⁶ Air Combat Command, AFI 13-113V1, page 33.
- ¹⁷ Allen Millet, "Korea, 1950-1953," in Case Studies in the Development of Close Air Support, ed. B Franklin Coolidge (Office of Air Force History: Washington DC, 1990), p372.
- ¹⁸ John Sbrega, "Vietnam," in Case Studies in the Development of Close Air Support, ed. B Franklin Coolidge (Office of Air Force History: Washington DC, 1990), p470.
- ¹⁹ Peter Costello, "A Matter of Trust: Close Air Support Apportionment and Allocation for Operational Level Effects" (Master's thesis, School of Advanced Airpower Studies: Maxwell AFB, AL, 1997), 28.
- ²⁰ Lieutenant Colonel Francisco Gallei (Commander, 505th Training Squadron, Hubert Field, FL), interview by author, 15 January 2013.
- ²¹ Tom Ricks, An Elusive Command Philosophy and a Different Command Culture, Foreign Policy, 9 Sept 2011, accessed at: http://ricks.foreignpolicy.com/posts/2011/09/09/an_elusive_command_philosophy_and_a_different_command_culture
- ²² Colonel Stephen Waller (Commander, 57th Operations Group, Nellis AFB, NV), interview by author, 18 March 2013.
- ²³ Williams, briefing, slide 9.
- ²⁴ Root, email, 15 March 2013
- ²⁵ Root, email, 15 March 2013
- ²⁶ David Spires, "Patton and Weyland: A Model for Air-Ground Cooperation," in Airpower and Ground Armies: Essays on the Evolution of Anglo-American Air Doctrine 1940-1943, ed. Dan Mortenson (Air University Press: Maxwell AFB, AL, 1998), 153.
- ²⁷ Spires, "Patton and Weyland", 153.
- ²⁸ Spires, "Patton and Weyland," 154. During the Ardennes campaign, Weyland's tactical air force was assigned to the counter-attack. Weyland's fighter and bombers thwarted the enemy advance, bought time for Patton's forces to engage, and then spearheaded the counter-attack with Close Air Support fires.
- ²⁹ Colonel Keith Teister (Commander 504th Expeditionary Air Support Operations Group, Kabul, Afghanistan, 2012-2013), interview by author, 20 February 2013.
- ³⁰ Nelson, interview, 6 November 2011.
- ³¹ Teister, interview, 20 February 2013.
- ³² Joint Publication 3-30, II-10
- ³³ Waller, interview, 18 March 2013.
- ³⁴ Lieutenant Colonel Francisco Gallei (Commander, 505th Training Squadron, Hubert Field, FL), email correspondence with author, 23 January 2013.
- ³⁵ Waller, interview, 18 March 2013.
- ³⁶ Joint Publication 3-30, GL-6
- ³⁷ Air Combat Command, AFI 13-114V3, page 7-9
- ³⁸ Williams, briefing, slide 12.
- ³⁹ Major Steven Price, "Close ISR Support: Re-Organizing the Combined Forces Air Component Commander's Intelligence Surveillance, and Reconnaissance Processes and Agencies" (master's thesis, Naval Post Graduate School, Monterrey, CA), 26-27.
- ⁴⁰ Air Combat Command, AFI 13-113V1, page 33.
- ⁴¹ Major Michael Grunwald, "Transforming Air Force ISR for the Long War and Beyond," (master's thesis, Air Command and Staff College, Air University, AL, 2008), 10.

-
- ⁴² Lt General Raymond Odierno, "ISR Evolution in the Iraqi Theater, Joint Forces Quarterly," Joint Forces Quarterly, Vol 50, 3rd Quarter, 2008, 55.
- ⁴³ McCaffrey, "Reciprocally Embedding ISR Liaisons to Build Unity of Effort," 15.
- ⁴⁴ Captain Steve Johnson, "CFACC ISR Liaison Locations Afghanistan", (briefing, 609th AOC ISRD, 15 February 2013): slide 1.
- ⁴⁵ Captain Ya-Ting Leaf (Author, ISR LO CONOP), email correspondence with author, 4 March 2013.
- ⁴⁶ Price, "Close ISR Support, 70-71.
- ⁴⁷ Johnson, "CFACC ISR Liaison Locations Afghanistan", Slide 1.
- ⁴⁸ Root, interview, 15 November 2012
- ⁴⁹ Major Micheal Navicky (609th AOC RPA LNO, Al Udeid, Qatar), email correspondence with author, November 2011. Actual launch locations and targets are classified, along with the callsigns. The ground tracks depicted are identical in length and orientation to the actual classified flight paths. Therefore, the enroute times, alternate enroute times, and overall orientation is identical and unclassified.
- ⁵⁰ Major Micheal Navicky (609th AOC RPA LNO, Al Udeid, Qatar), interview by author, 10 March 2012.
- ⁵¹ LtCol Joe Readingham (609th AOC RPA LNO, Al Udeid, Qatar), interview by author, 19 February 2013.
- ⁵² U.S. Department of Defense, "Joint Publication 3-09.3, Close Air Support, 8 July 2009," A-6. Priority categorization is a key element to CAS requests, and as such, priority assignment is one of the first items conveyed on the joint CAS request form (form 1972, field 2).
- ⁵³ Gallei, interview, 23 January 2013.
- ⁵⁴ Teister, interview, 20 February 2013.
- ⁵⁵ Palmer, interview, 20 February 2013.
- ⁵⁶ Captain Ryan Bone (712th Air Support Operations Squadron, Kabul, Afghanistan), interview by author, 19 February 2013.
- ⁵⁷ Colonel John Bunnell (ACCE Deputy Commander, Kabul, Afghanistan), interview by author, 18 February 2013
- ⁵⁸ Joint Publication 3-30, II-10.

Chapter 5

In Every Challenge, an Opportunity

This chapter sets out to answer the question, “can the USAF’s command and control structure be repaired to remain viable in the future?” Before answering that question, it is important to briefly review what has been previously established. Therefore, this chapter begins with a concise summary of the major elements of the C² shortfall. The chapter then discusses how the operating environment has changed, and why transforming the system is necessary. The chapter will then suggest two objectives for a transformed C² system. The heart of this chapter, however, is concerned with the three-phase approach to transformation. The phases are designed to incrementally alter CAOC and ASOC processes while not derailing ongoing combat operations. Figure 18 provides a road map for the chapter. Ultimately, the centralized control/decentralized execution concept is still relevant and necessary but it needs to be adjusted so it can be efficient and effective for the future.

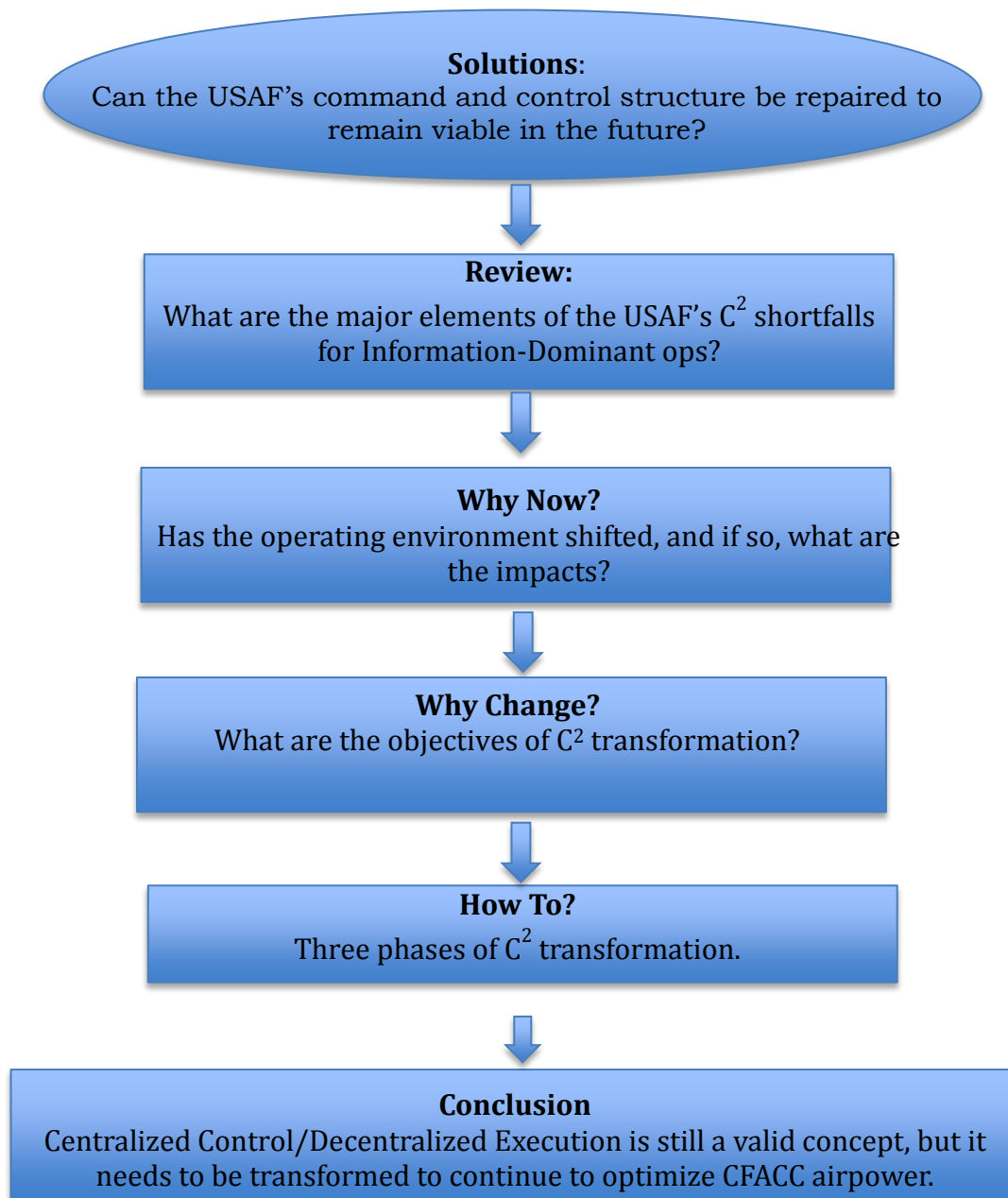


Figure 18, Chapter 5 Roadmap (author)

How Did We Get Here, Again?

With respect to the CAOC, doctrine simply does not square with reality. The doctrinal CAOC is designed for employing airpower in kinetic roles.¹ ISR functions are embedded within the CAOC to support the kinetic mission.² When the doctrinal model was cast into an information-centric campaign, it had trouble dealing with the nuances of the current fight.³ The AFCENT CAOC adapted as best it could. The ISRD took a more prominent role in tasking ISR sorties but it lacked the decentralized support mechanisms enjoyed by its kinetic counterparts.⁴ Furthermore, the practice of tasking CFACC airpower prior to organic capabilities resulted in theater assets being unnecessarily used to deliver effects that a basic supported unit could provide.⁵ Ultimately, the doctrinal model of the CAOC failed to adapt to the character of Information-Dominant operations. The AFCENT ASOC, however, seems to be performing as it should. CAS fires are delivered reliably, in a timely manner, and with tremendous effectiveness.⁶ However, the ASOC is charged with providing for the decentralized execution of *all* CFACC missions assigned to supporting the ground commander.⁷ The supported commander requires ISR just as much as, and sometimes more than, that of CAS.⁸ Yet, the ASOC is oblivious to Information-Dominant operations, and as a result, ISR sorties are excluded from the effectiveness of decentralized execution.⁹

In summary, the major shortfalls of the USAF's C² system are characterized in two ways. Centralized control has been marginalized through a loss of allocation authority and the masking of priority data. Decentralized execution is removed from the Information-Dominant equation because of a failure to include ISR operations in the Theater Air Control System's process. The remainder of this chapter will focus on providing solutions to these complex problems.

The Changing Landscape

It is important to remember that operating environments are not static, they change. CENTCOM's is changing in three distinct ways, but they all come down to a question of scarcity. First, the CFACC has a growing number of theater wide responsibilities that go beyond the counter-insurgency fight in Afghanistan. Operations are ongoing in places like Yemen and the Arabian Gulf, not to mention the potential for armed response to conditions in Syria.¹⁰ These operations span from major combat operations to counter-terrorism efforts.¹¹ The wide range of responsibilities, from supporting surface warfare groups to the integration of Gulf State partners, further complicates the changing operating environment.¹² This results in nothing more than a math problem. Even if the CFACC retains current force levels, the expanding host of requirements results in fewer assets available to any one

commander. The diversity of requirements and the scattering of supported units result in a condition of *virtual* scarcity.

The second elemental change is the character of the war in Afghanistan. The US and coalition ground presence is drawing down, and with this comes a shift in CFACC requirements.¹³ Providing cover over a retrograding ground force is a different problem set than supporting counter-insurgency operations.¹⁴ Both ISR and kinetic capabilities are still of preeminent importance, however, the emphasis will shift from target development and target prosecution to armed over-watch of more vulnerable ground forces.¹⁵ Further complicating the Afghanistan scenario is that CFACC assets will be drawing down along with the ground forces. In short, there will be far less airpower to call upon than has been available in the past. This results in a *physical* scarcity of resources.

Starting immediately, operations will have to be managed in an era of tighter budgets and reduced resources.¹⁶ The USAF is being reduced to the smallest tactical force it has ever been.¹⁷ In addition, the joint community can expect limitations on the numbers of aircraft that can forward deploy for sustained operations, such as those that characterize the CENTCOM theater.¹⁸ The unfolding budget scenario results in a *fiscal* scarcity; the depths of which remain to be seen.

At one time, it could be argued that an empowered CFACC was superfluous because all air effort was directed at one supported

commander executing a singularly focused mission.¹⁹ Today that argument is invalid because airpower is supporting a wider range of theater operations with fewer assets than ever.²⁰ The future of the CENTCOM AOR is going to be more dynamic and more diverse,²¹ yet scarcer in terms of men and material.²² These conditions precipitate the need to transform the USAF C² system to afford greater effectiveness despite decreased resources. This is in the best interest of the USAF, and more importantly, the entirety of the joint community.

Towards Greater Efficiency and Effectiveness

The AFCENT CAOC commander was once asked “if you were king for a day and could rebuild the CAOC anyway you wanted, what would it look like?” He responded, “I don’t know... but it would definitely look different.”²³ The colonel’s response was an honest one, and is understandable coming from a man in the midst of fighting a war.²⁴ Perhaps the value of this thesis is the ability to put the individual pieces together to form an accurate picture of the problem, and from there, deliver a sequential solution. Solutions need to work toward an end, and as such, objectives need to be established. A redesigned CAOC would have to achieve two things. First, it has to provide the joint force with increased effectiveness. Secondly, the redesigned CAOC will have to optimize airpower by expertly managing scarcity.

Increased effectiveness should require no justification. Given an option between increased effectiveness and decreased effectiveness most would choose the former. The question then becomes a matter of how to go about gaining such an increase. This paper suggests that the USAF can provide the joint community with increased effectiveness by integrating airpower capabilities and delivering a complimentary mix of effects.²⁵ This concept is nothing new. The CAOC's Master Air Attack Planning team is charged with building integrated packages of airpower effects for every ATO cycle.²⁶ What is new, however, is applying these principles to Information-Dominant operations, and across CAOC firewalls.

If the CFACC's airpower capabilities are applied as a family of systems, could they bring greater effectiveness to the joint community? The USAF's core competencies,²⁷ as well as the professional opinion of the CFACC,²⁸ both declare that yes, integrated packages are more effective. Even more compelling is the combat experience of the joint community. For example, in 2006 the Improvised Explosive Devices (IED) problem in Iraq became the Joint Force Commander's top priority.²⁹ The US Army stood up Task Force ODIN to help solve the problem.³⁰ TF ODIN was designed with integration in mind. The unit possessed both manned and unmanned ISR and strike capabilities, and employed these assets as a family of systems.³¹ TF ODIN's integrated effects were responsible for over 2,500 killed or captured insurgents in

2008 alone.³² A mirror image of the unit was established in Afghanistan the following year as a result of ODIN's success.³³ The TF ODIN experience lends credence to the USAF position that airpower is most effective when integrated with complimentary capabilities. Employing CFACC airpower as an integrated family of systems will provide greater effectiveness, and is ultimately in the best interest of the joint community.

Efficiency is a combat force multiplier, and in an age when available forces are decreasing, efficiency becomes of preeminent importance. Through judiciously applied efficiencies, a centralized control node can extract the maximum utilization of a limited resource. The Air Force is steeped in efficiencies because the airman's means of warfare is limited in quantity and duration.³⁴ However, the joint community does not share the same view of efficiency as the USAF.³⁵ The ground commander understandably scoffs at efficiency because, when troops are engaged in active operations in the face of the enemy, minutiae like efficiency can take a back seat. Until recently the joint force could afford to set efficiency aside because CFACC airpower was relatively abundant.³⁶ However, times have changed. CFACC airpower is getting scarcer, and with scarcity comes the need to make the most of what remains. This is precisely what the CAOC is designed to do – manage scarcity to optimize CFACC airpower.³⁷

Increased efficiency becomes a primary objective because of an assumption; ISR, CAS, and C² are going to remain of preeminent importance to the joint warfighter as he extracts himself from Afghanistan. If this is true, then it will be imperative to make full use of every available capability of the aircraft that remain. Achieving this goal requires dual, perhaps triple, use of a single asset, simultaneously. CFACC assets possess these traits, but to unlock the potential of multi-role aircraft, they cannot belong to a Senior Intelligence Duty Officer, or Senior Offensive Duty Officer, or any other entity within the CAOC structure. Keeping these assets on one side of a tasking firewall restricts flexibility and is counter to efficiency. These assets need to be employed as free agents, simultaneously providing effects across multiple disciplines. Assuming the joint force will still rely on CFACC support, then tearing down firewalls and pursuing increases in efficiency is of vital importance to both airman and joint partner.

These two objectives can be achieved without abandoning the concept of centralized control and decentralized execution. Accomplishing the two objectives requires enabling the CAOC with the *information and authority* necessary to manage scarcity. Information and authority allows the CAOC to build integrated effects and to deliver it in an efficient manner. Additionally, the ASOC will need to exercise decentralized control over CFACC assets assigned to its operating area. The ASOC ensures that airpower is optimized in the process of meeting

the supported commander's requirements. Lastly, the two C² nodes will have to be tied to the supported commander through a liaison team dedicated to delivering optimizing CFACC airpower for the joint force. Improved efficiency and increased effectiveness are not diametrically opposed objectives, and by implementing the following recommendations, both can be achieved with minimal impact.

The Three Phases of Transformation

Up to this point, I have focused on description, analysis, and evaluation in order to come to a fuller sense of the problem at hand and what lies ahead. At this point, it is time to offer a solution. Transforming the USAF's C² processes is not going to be easy, even if everyone agrees to it in principle. What follows is a phased approach that gradually transforms USAF C² into a system designed for Information-Dominant operations. Phase one sets the conditions for success, highlighted by the return of allocation authority and prioritization data to the CAOC. Phase two focuses on the decentralized execution of all CFACC airpower, not just CAS. Phase three brings all the previous efforts together by transitioning the CAOC structure from firewalls to an integrated-effects based model organized by supported commander requirements, to include those of the CFACC.

This thesis began by asking the question "is the existing command and control structure appropriate for conducting air operations within

the Information-Dominant campaigns of the future? By moving in the direction that follows, I believe the Air Force can transform its C² functions to ensure centralized control and decentralized execution remain viable in the future.

Phase 1: Setting the Conditions for Success

Phase one is largely CENTCOM focused. The objective is to restore decision-making ability and authority to the CAOC in the pursuit of increased effectiveness and efficiency. Phase one achieves this by concentrating on processes. Four processes will be specifically addressed, these are: prioritization data, allocation authority, the question of tasking sequence, and the intel/kinetic firewall. These processes have been described and analyzed in the preceding chapters. Having already established how and why these processes came into being, it is time to address them in light of the shifting operating environment and our two objectives.

Priority and Allocation

Real-time priority data enables the CAOC to exercise centralized control over CFACC airpower. Real-time priority gives the CAOC situational awareness, and through awareness, the CAOC can put scarce resources on the task where it can make the most impact. Awareness begets increased efficiency. Priority data enables the centralized control

node to put airpower in the right place at the right time, and ultimately maximizes effectiveness for the joint community.

Priority data has differing levels of transparency throughout the CENTCOM AOR. In the Arabian Gulf, both the CFACC and the NAVCENT commander collaborate to develop mission priorities, and as such, both entities have high awareness of real-time mission priority.³⁸ In Afghanistan, however, the IJC's ISR division is the sole possessor of priority data.³⁹ Under the current system, Combat Operation Division personnel have to call IJC to discover what priorities its aircraft are supporting.⁴⁰ Having the COD work priority issues through the IJC-ISR is cumbersome, latent, and ultimately, not in the best interest of either the supported commander or the CFACC.⁴¹ The CFACC ends up expending scarce resources on secondary requirements while the joint community is denied highly capable airpower where it is needed most.

The real-time status of the supported commander's air requirements needs to be transparent to the Combat Operations Division. This entails full disclosure of theater wide priority for both actively supported missions as well as unfilled requirements. Having both pieces of data allows the centralized control node to cover previously unfilled requirements as theater-wide assets become available. In this regard, masking priority data inhibits the CAOC's ability to re-task assets, and is ultimately costly to the supported commander. The IJC's ISR should be sharing their sources of priority data, they should be

updating both their own awareness as well as the CAOC's, and this should be happening continuously and simultaneously.

Relinquishing priority data can be an emotional event for the supported commander as well as the IJC's ISRD. Priority data provides the situational awareness to pull assets away from IJC taskings. Coming to grips with this reality takes both trust and maturity.⁴² Trust in the fact that the CFACC is not going to pull assets unless a higher priority mission emerges, and a joint teammate requires the support. Maturity in the recognition that, while on one hand the IJC may lose assets due to having a lower priority, on the other hand they may just as easily gain assets formerly slated to another supported commander.⁴³ If our previously stated assumptions are correct, then CFACC airpower will remain a critical capability despite the fact that resources are going to become scarce. As such, the combat multiplying effects of increased efficiency is in the best interest of the entire joint force. This is a time to exercise trust and maturity because, starting immediately, we need to make the most of what airpower we have left.

Allocation authority empowers the CAOC to exercise centralized control. Real-time mission priority provides the CAOC with situational awareness, but it is allocation authority that allows the CAOC to act. Without allocation authority, the Combat Operations Division's ability to re-task assets is inhibited by a higher headquarters directive – the MAD. Removing this restriction empowers the COD to efficiently re-task assets

to the highest priority requirements. ISR allocation authority compliments priority data and allows for the more efficient application of CFACC airpower.

Furthermore, allocation authority empowers the Combat Plans Division to build integrated packages of airpower effects. Task Force ODIN met the supported commander's requirements through force packaging. The CAOC can produce similar effects, tailored on a daily basis, by packaging a family of complementary systems. This will increase effectiveness for the entire joint community just as TF ODIN did for Multi-National Force - Iraq.

The Monthly Allocation Directive is not going away overnight. Too many operational procedures are ensconced in the MAD process to cause such upheaval. For the sake of combat stability, CENTCOM should begin a gradual reduction in the use of the MAD. The gradual approach ensures there is not too great a disturbance to ongoing operations. For example, instead of 100% of all CFACC ISR sorties being allocated by the Combatant Commander, 10% could be left for CFACC allocation (see figure 19). A 10% shift from IJC control to CFACC control results in only a handful of assets removed from the MAD process, but empowers the CFACC with centralized control of scarce resources. As assets are withdrawn from Afghanistan, the CFACC's allocation authority would grow until the MAD was no longer needed. By loosening CENTCOM's grip on allocation, the CFACC would have the opportunity to build trust with

the supported commanders and demonstrate the increased effectiveness of integrated airpower.

Asset	Supported Unit A	Supported Unit B	Supported Unit C	Total Available Sorties	CAFCC Allocation
RC-135	14	6	7	30	3
MQ-1	80	50	32	180	18
MQ-9	26	45	10	90	9
MC-12	43	8	30	90	9

Figure 19, Notional MAD with 10% available for CFACC (author)

In short, real-time mission priority data *enables* centralized control, while allocation authority *empowers* centralized control. Because of this symbiotic relationship, priority data and allocation authority need to be returned to CFACC control simultaneously. One without the other is pointless. The CFACC can have complete and timely situational awareness on theater wide mission priority, but without allocation authority, cannot re-task assets to the situation. Likewise, the CAOC can have complete and uninhibited allocation authority, but without priority data, the CAOC would be guessing as to where to put scarce resources. Priority data and allocation authority goes hand in hand and both need to be transferred to the CAOC at the same time.

Reversing the Tasking Sequence

Organic capabilities are expended before requests are submitted for CFACC support for kinetic operations.⁴⁴ After organic assets are applied, unfilled requirements are validated, prioritized, and channeled to the CFACC for tasking. The CFACC only fills what cannot be handled by the requestor's own kinetic forces. The sequence is important because it preserves the CFACC's theater-capable assets until gaps in coverage have been identified. While organic assets are only going to support their immediate commander, CFACC assets are able to support multiple commanders across the Area of Responsibility. Therefore, the organic first sequence allows the CAOC to identify where their assets are needed most, and subsequently, task scarce resources to the missions of greatest impact – wherever they may be. Through this tasking sequence, kinetic operations are both efficient and effective.⁴⁵

But what of ISR? CFACC assets are tasked first for ISR requirements. One might ask why this is of such importance? Consider unmanned aircraft as an example. There are 89 Predators in the USAF inventory;⁴⁶ there are over 4,000 unmanned aircraft available to the US Army.⁴⁷ There are far more supporting requirements than there are CFACC aircraft.⁴⁸ Tasking CFACC assets first means all aircraft will be expended before the CAOC can assess and respond to theater-wide shortfalls in coverage. The tasking sequence matters because the CFACC should be sending critically short ISR capabilities to the areas where the

supported commander has an identified gap in coverage, just like with kinetic operations. The theater's most flexible, most responsive, and most capable assets should remain uncommitted until all others are expended.⁴⁹ As long as organic capabilities are withheld from the initial tasking process, there will never be opportunity to apply multi-role, theater-capable CFACC assets to the most pressing needs.⁵⁰ If the CFACC's assets are tasked after organic capabilities, then the entire joint community stands to gain responsive and effective airpower.

The tasking sequence problem is easily resolved. The Joint Force Commander needs to apply the same business rules concerning kinetic assets to the tasking methodology of equally scarce ISR platforms. This step requires no expenditure in budgetary resources. This is simply a switch in methodology. Before submitting requests for CFACC airpower, IJC should ensure all organic assets are applied to supported commander requirements. The draw down of forces in Afghanistan means we must apply airpower as effectively as possible. Tasking organic first ensures optimum employment of the CFACC assets that remain.

The Combined Air Tasking Order

Previously this chapter discussed three elemental changes to the CENTCOM operating environment, and they all came down to managing scarcity. If resources are scarce, it becomes imperative to get the most

out of what you have left. Segregating scarce resources into one side or another of a firewall restricts the full use of multi-role assets, and runs counter to efficiency. The issue of scarcity precipitates the need to remove the CAOC's firewalls and combine the ATO with the RSTA.

Intelligence drives operations, and in future Information-Dominant campaigns, intelligence gathering will be seamlessly integrated with kinetic tasks;⁵¹ so much so that the same aircraft will be performing both simultaneously.⁵² The logic behind segregating strike and ISR platforms fades when a single platform can perform the entirety of the F2T2EA cycle (Find, Fix, Target, Track, Engage, and Assess).⁵³ Today's multi-role platforms are bridging the gap between strike, C², and ISR disciplines. For example, an MQ-9 can be re-tasked from an ISR mission, to a strike mission with C² responsibilities, and reroll back to ISR many times throughout its 15-hour sortie.⁵⁴ Assets such as these are optimized when tasked through a unified system, and do not belong segregated into a RSTA or ATO. Given the enormity of importance on intelligence collection, and the preponderance of sorties dedicated to this endeavor, it would be wise to consider having the operations side and the intelligence side of the COD floor working together – as opposed to working off two firewalled tasking systems.

The COD floor should not be operating with two separate tasking orders. The separation of strike platforms tasked via ATO, and ISR platforms tasked via RSTA, has proven to be causal in marginalizing

CFACC airpower (see chapter 3). The Combined Air Tasking Order (CATO) puts the CAOC on the same sheet of music. The CATO will initially take form in the Combat Plans Division's MAAP process. MAAP team members will include the ISRD's operations team personnel. These intelligence personnel will bring with them ISR expertise and intelligence mission planning skills. The integrated MAAP team, armed with priority data being shared by IJC (or in the future, whomever is the supported commander), and equipped with a percentage of theater ISR assets (in accordance with the revised MAD process), will generate a combined tasking order that matches assets to desired effects. The number one theater target may require an ISR effect, and as such, the MAAP team would build a package tailored toward achieving the objective. Likewise, the number one target may require a kinetic effect. In that case, strike platforms would be augmented by the ISR systems necessary to optimize employment. In some cases, the platforms conducting both roles may be the same. Through the CATO, managing scarcity turns into optimized effectiveness for the joint community and maximized efficiency for the CFACC.

Upon execution, the CATO provides the Combat Operations Division floor with a unified view of all available airpower. When the Senior Offensive Duty Officer needs to know what capabilities are within proximity of an emerging requirement, the CATO provides a holistic look at what is available. The same holds true for the Senior Intelligence Duty

Officer searching for real-time sensor coverage. In this regard, the CATO helps break down the ops versus intelligence firewall. The intelligence and kinetic side of the COD floor would eliminate their proprietary list of assets, and instead, there would be a unified list of assets accessible to whoever has the greatest need. The SIDO and SODO would be responsible for managing requirements, both planned and emergent, and would be less focused on preserving their assets. CFACC airpower would be able to flow freely between one mission discipline and another without hitting bureaucratic impediments.

Phase 1 Summary:

Putting real-time priority data and allocation authority in the hands of the CAOC sets the conditions to task airpower to the theater's most critical requirements. Tasking organic assets first ensures CFACC airpower is tasked to the theater's most critical unfilled requirements. However, it is hard to provide orchestrated effects when working off separate sheets of music. The Combined Air Tasking Order brings it all together by presenting the joint community with a 1-N list of prioritized, effects-based, integrated packages that are tasked and employed to the right place at the right time.

Phase 2: Decentralized Execution for *all* Supporting Airpower

Phase two is focused on extending the benefits of decentralized execution to Information-Dominant operations. Phase two looks beyond the current fight in the CENTCOM theater, and sets our sights on future C² considerations. The objective of phase two is to transition all CFACC sorties flown in support of the ground commander to the ASOC. To enable this transition, there needs to be a significant increase in the number of ISR LOs. Trust and credibility amongst the joint community is of prime importance. The ISR LO will be responsible for developing these relationships, just as the ALO teams have for kinetic missions. Lastly, the CAOC will have to transfer execution control of ISR operations from the Senior Intelligence Duty Officer to the ASOC. Doing so removes the centralized command node from the finite details of tactical execution and empowers the ASOC to perform decentralized execution for all Information-Dominant operations.

ISR Liaison Officers

The mission requirements, C² structures, personnel expertise, career tracks, etc., between that of the CAS world and that of ISR disciplines are fundamentally different. CAS is a finite condition. CAS is driven by events, either friendly initiated events, or enemy imposed events. CAS can be preplanned, but it is also reactionary.⁵⁵ ISR, however, does not share these attributes.⁵⁶ ISR is most effective when

thoroughly integrated into the design of an operation.⁵⁷ Unlike the finite nature of CAS, intelligence collection may never end, much less end with a kinetic strike. ISR is far subtler than CAS and achieving the desired ISR effect can be elusive.⁵⁸

Employing effective ISR can be a difficult task. Sometimes this is due to the nature of the target, while at other times it is due to ignorance of the requestor. Ignorance is not being used to be inflammatory, but when the people designing the operation lack USAF ISR expertise, there is the potential for both inefficiency and ineffectiveness. Neither the joint force commander, nor the CFACC, can afford this condition. Therefore, Information-Dominant operations need to be designed from inception with USAF ISR expertise.⁵⁹

CAS is highly effective because of a well-developed liaison system.⁶⁰ Having ALOs at critical touch points ensures that the supported commander's presence has been imparted to the decentralized execution element.⁶¹ Information-Dominant operations need the same sense of *auftragstaktik* that the ALO community brings to pure kinetic missions. This effect can be achieved through integrating ISR professionals into the operational design process.⁶² This will ensure the requirements of Information-Dominant operations are built into the plan, and will provide the supported commander a clear roadmap of how to get from concept to objective. Furthermore, and perhaps most importantly, including ISR professionals in the supported commander's decision-

making organization builds the sort of trust that ALO professionals have long established.⁶³

ISR LOs have thus far been fielded in limited numbers, but despite their thin ranks, the program has proven to be effective. General Odierno's comments from Iraq in 2008 bear this out. He said, "providing these Air Force subject matter experts as advisors to division staff sections and as key members of the intelligence-operations team has been a combat multiplier."⁶⁴ However, concerning the ISR LO's limited numbers, he went on to say "it would also be extremely helpful to have these experts at (the) BCT level to provide the CAOC and related organizations with insight into the operations they support."⁶⁵ The brigade's Effects Working Group (EWG) is at the heart of the supported commander's Information-Dominant operations.⁶⁶ The EWG is where collection managers, operators, and the commander's intent all combine to develop ISR mission requirements.⁶⁷ General Odierno was offering the USAF an opportunity to enter the inner sanctum of the Army's decentralized ISR planning node. ISR would have the same access and develop the same level of trust as enjoyed by USAF ALOs. To this day, however, there are only 14 ISR LOs in all of Afghanistan, of these only 8 are officers, and all of them are assigned to the division level.^{68,69}

Fourteen ISR LOs are not going to be enough to build trust and achieve integrated ISR effectiveness. What is more, 14 liaison officers are not enough to populate each BCT's Effects Working Group. I

acknowledge that these are difficult fiscal times, and in times such as these propositions to increase personnel can fall on deaf ears. However, consider the alternative. Is it more fiscally responsible to sortie aircraft on sub-optimized missions when a small contingent of properly placed experts could have maximized effectiveness? What is the opportunity cost of flying missions that are underperforming, in exchange for saving a nominal amount of manpower billets? The ISR LO program translates USAF ATO sorties into effectiveness for the joint community. To a certain extent, the USAF's joint partners have answered the previous questions for us. The US Army has offered to give up billets for their own soldiers in exchange for more USAF ISR liaisons, because they realize the importance of maximizing effectiveness.⁷⁰ If the USAF wants to deliver increased effectiveness, there is no clearer opportunity than through the embedded ISR LO.

The Expanded ASOC

The ASOC has been admirably performing its decentralized execution role throughout the US involvement in Iraq and Afghanistan.⁷¹ CAS support sorties have been supplied in an efficient and effective manner,⁷² as evidenced by the US Army's desire to expand the program.⁷³ However, air support comes in many forms beyond that of just CAS. This paper has argued that Information-Dominant operations go beyond kinetics, and all CFACC airpower should be optimized equally.

All support sorties should be afforded the same direction and control (under the purview of an airman) that CAS sorties received through the ASOC. In short, the ASOC needs to get into the Information-Dominant operations business.

Air Combat Command, the parent organization of the ASOC, realizes the need for transition.⁷⁴ ACC's ASOC Intelligence Operations Enabling Concept is an acknowledgement that intelligence drives operations, and CAS is only as good as the ISR that informs it.⁷⁵ The enabling concept charges the ASOC to "effectively and efficiently integrate, synchronize, deconflict, and coordinate tactical, theater, and national airborne ISR assets to optimize ISR capabilities in the area of operations."⁷⁶ To achieve this level of effectiveness the ASOC is going to have to be empowered the same level of trust and credibility as it has for CAS support. While the ACC enabling concept is a significant step in the right direction, it does not call for an expansion of the ISR LO program, and does not bring the existing ISR LOs under the ASOC umbrella. As discussed many times in this paper, the ASOC's effectiveness is a direct relationship to the strength of its ALO network. It is plausible assumption to suggest that the same conditions will hold true for ISR operations. The ASOC's ability to deliver Information-Dominant effectiveness to the joint community will be a direct reflection on the proliferation of the ISR LO teams.

Phase 1 & 2 and the Impact on CFACC Airpower

The result of phase 2 is an empowered ASOC for all CFACC supporting operations. Mission priority data would reside on both the CAOC and ASOC floor, and priority adjudication will take place directly with the supported commander through the ISR LO and ALO team. As more Monthly Allocation Directive sorties are released for CFACC control, the CAOC will assume its traditional role of centralized control node.

The Combat Operations Division floor will become a force provider to the ASOC for ISR sorties much as it does for emergent CAS requirements. Since the entirety of the Combat Operations Division floor is working off a unified tasking system (the CATO), the pool of available assets to fill emergent requests is not constrained by tasking firewalls. The Combat Operations Division is free to send the best capability available while not tasking redundant systems. Lastly, organic assets would have already been applied to the supported commander's requirement, thus ensuring that CFACC assets would truly be applied to the area of greatest unfilled need. In short, following these recommendations allows the concept of centralized control and decentralized execution to provide once again both effective and efficient airpower to the supported commanders.

Phase 3: Transforming USAF C² for the Long Haul

Phases one and two, if implemented correctly, will ensure optimized and effective airpower solutions to the supported commander.

But what of the other supported commanders throughout the theater? The CFACC still needs a viable centralized control system because theater airpower needs to support more than one area of operations at any given time. Moreover, what of CFACC-centric missions like air superiority or strategic attack? The CAOC still needs to be able to execute its core missions in support of CFACC objectives. Centralized control is very much a valid C² system for these critical missions to the joint community. Phase three's objective is to transform the COAC into an organization that links centralized control to all supported commanders without losing the capability to support CFACC core missions.

The Mission Manager Model

How does a large-scale organization like the CAOC function with the intimacy of the ALO teams? How does the CFACC stay connected to the battle rhythm of multiple, geographically separated, supported commanders? The answer is to align the CAOCs supporting functions along integrated-effects based lines. This means establishing a team of airpower experts who can ensure that the needs of their assigned supported commander are met, while at the same time maintaining visibility on their peer team's requirements, and those of the CFACC. These airpower experts are organized into mission manager teams. Working together, mission manager teams can ensure limited CFACC

assets are tasked against the highest priority missions using the full spectrum of the asset's capabilities, not just the capabilities that fall within the assigned firewall. This is a marked departure from the discipline-based approach that segregates ISR from operations. The key to achieving greater effectiveness, despite fewer numbers, is in optimizing CFACC airpower across multiple disciplines simultaneously. The mission manager teams will be organized and empowered with this goal in mind.

Mission manager teams are vertically embedded at all echelons of command and control. The lowest echelon of the team is the ISR LO and ALO members of the TACP. These airmen represent the touch point between the CFACC and the supported commander. ISR and ALO personnel serve a specific decentralized execution role, as previously discussed, but also contribute to the centralized control structure. Liaison officers will coordinate with the supported commander to develop joint requirements and priorities for each operation within the supported unit's area of operation. ISR and ALOs will understand the supported commander's intent, the Collection Manager's constraints, and the CFACC's available options. Liaisons will fuse the ground perspective with an airman's awareness of CFACC capabilities, and will help shape the expectations for airpower. The close coordination between liaisons and supported commanders will ensure requirements and priorities are both optimized and realistic. These mission manager team members are the

CFACC's touch point with the supported commander, and provide the embedded expertise that the joint community has been looking for.⁷⁷

The opposite end of the mission manager team resides at the CAOC. The Combat Plans Division would redesign its Target Effects Team (TET) and Master Air Attack Planning (MAAP) Team to disassociate from platforms and realign with the mission managers. Each team would have multi-discipline representation in the TET and MAAP. The TET cell would coordinate with other mission manager teams to adjudicate theater-wide priorities and build a 1 – N list of priority missions. The MAAP team would assign the optimum mix of assets against the TET-derived list, resulting in the Combined ATO. The CATO would become more than a theater-wide priority scheme, but would embody the supported commander's intent through mission manager advocacy.

The true potential of the mission manager concept is realized on the Combat Operations Division floor. The nature of the COD would change from a firewalled consortium of intelligence, kinetic, and air defense officers, to a confluence of team members with high situational awareness on both CFACC and supported unit intentions. The mission manager team, in coordination with their peer teams, would constantly refine taskings across the spectrum of operations to maximize the effect of each airborne platform. This model extrapolates the full capability of CFACC assets, and permanently removes the effects of the intel/kinetic

firewall. Mission managers are the realization of “*auftragstaktik*” at all echelons of USAF command and control, and through the team concept, the joint community is assured the greatest degree of effectiveness.

	Increased Effectiveness	Increased Efficiency
Priority to CAOC		Enables centralized control by giving CAOC the information needed to vector scarce resources to areas of greatest need
Allocation to CAOC	Empowers Combat Plans Division to build integrated family of systems to deliver joint effectiveness	Empowers centralized control by giving CAOC uninhibited authority to vector scarce resources to areas of greatest need
CATO	CAOC unifies planning process, removes firewall, builds integrated packages of airpower	
Tasking Sequence	Organic assets tasked first, CAOC and ASOC able to ID gaps in capability and opportunities to enhance joint effects	
ISR LOs	ALO equivalent for Information-Dominant Ops. Provides integrated effectiveness through <i>auftragstaktik</i>	
ISR Execution to ASOC		All CFACC supporting assets managed by C ² node with greatest awareness of joint force commander’s needs
Mission Managers	Dedicated team to manage CFACC airpower by supported commander requirements. Constantly optimizing force mix to provide greatest possible effectiveness	Maintains continuity between supported commander and CFACC. Provides touch point between centralized control, through decentralized execution, to the joint community. Optimizes efficiency through continuous updates to priority, requirements, battle rhythm, etc.

Figure 20, Objectives Versus Solutions (author)

Conclusion

This chapter focused on potential solutions to the Information-Dominant C² needs of the future. As figure 20 indicates, this series of solutions are meant to increase both effectiveness and efficiency. The sequence is designed to minimize impact on combat operations while preparing the USAF's C² process for the immediate challenges of an operating environment characterized by scarcity. Ultimately, this chapter asked the question "can the USAF's command and control structure be repaired to remain viable in the future?" These recommendations are based on the conclusion that centralized control and decentralized execution is the most capable C² scheme for future Information-Dominant operations, and with transformation, can be effective under any conditions.

¹ Mr. Michael Rollison (C2ISR Branch, Air Combat Command, Langley AFB, VA), interview by author, 16 January 2013.

² Air Combat Command, AFI 13-114V3, June 2009, page 29

³ Colonel Michael Kometer (Chief of Strategy Division, 609th Air Operations Center, Al Udeid, Qatar, 2008-2009), email correspondence with author, 16 February 2013

⁴ Colonel Stephen Waller (Commander, 57th Operations Group, Nellis AFB, NV), interview by author, 18 March 2013.

⁵ Colonel John Bunnell (ACCE Deputy Commander, Kabul, Afghanistan), interview by author, 18 February 2013

⁶ Colonel Keith Tiester (504th Expeditionary Air Support Operations Group Commander, Kabul, Afghanistan, 2012-2013), interview by author, 20 February 2013.

⁷ U.S Department of Defense, “Joint Publication 3-30, Command and Control of Joint Air Operations,” 12 January 2010, GL-6.

⁸ Lieutenant General David Deptula and Major Gregory Brown, “A House Divided: The Indivisibility of Intelligence, Surveillance, and Reconnaissance,” *Air & Space Power Journal*, (Summer 2008): 8-9.

⁹ 1st Lieutenant Carey Coats (712th Air Support Operations Squadron, Kabul Afghanistan), interview by author, 19 February 2013.

¹⁰ Author’s observations as an attendee of the AFCENT commander’s conference, 20 February 2013, Al Udeid, Qatar.

¹¹ Observations from CENTAF commander’s conference, 20 February 2013, Al Udeid, Qatar.

¹² Lieutenant General David Goldfein (Commander, USAFCENT, Al Udeid, Qatar), interview by author, 19 February 2013.

¹³ Major General Jake Pumbo (Commander ACCE , Kabul, Afghanistan), interview by author, 20 February 2013

¹⁴ Colonel Thomas Hensley (IJC-ISRD, commander, Kabul, Afghanistan), interview by author, 18 Feb 13

¹⁵ Major Brian Cozine (593rd Sustainment Brigade, Iraq, 2010-2011), interview by author, 12 May 2013.

¹⁶ General Mark Welsh (USAF Chief of Staff), interview by author, 10 April 2013

¹⁷ House Armed Services Committee, What Sequestration Really Means, page 1. Accessed at:

http://armedservices.house.gov/index.cfm/files/serve?File_id=b276f1fe-4529-4f63-bf10-d26d0444797c

¹⁸ House Armed Services Committee, What Sequestration Really Means, page 1.

¹⁹ Lieutenant Colonel Richard Bell (609th Air Operations Center, Deputy Chief of Combat Plans Division, Al Udeid, Qatar), interview by author, 6 November 2011.

²⁰ Mr. Ernest Howard (LeMay Center, Air University, Maxwell AFB, AL), email correspondence with author, 14 February 2013

²¹ Observations from CENTAF commander’s conference, 20 February 2013, Al Udeid, Qatar.

²² Welsh, interview, 10 April 2013.

²³ Colonel Thomas Kunkel (609th Air Operations Center Commander, Al Udeid, Qatar), interview by author, 18 Feb 2013.

²⁴ No one in the CAOC, short of the CFACC himself, had a holistic view of where and why effectiveness is falling short. While most interviewed had a frustrated sense of organizational constraints, none had the time or vantage point to study the problem in depth.

²⁵ An ‘integrated package of airpower effects’ in nothing more than tasking a complimentary mix of aircraft to the requirement. A requirement to suppress enemy air defenses would call for a package of aircraft with capabilities in electronic warfare, SEAD, strike, and ISR. In the information dominant era, the ratio of one capability to another is shifting toward higher fidelity information becoming the force multiplier for fewer, but more effective strikers.

-
- ²⁶ Air Combat Command, AFI 13-114V3, page 57
- ²⁷ U.S. Air Force, "Air Force Doctrine Document -1 Air Force Basic Doctrine," September 1997, page 28.
- ²⁸ Goldfein, interview, 18 November 2011
- ²⁹ Clay Wilson, "Improvised Explosive Device in Iraq and Afghanistan: Effects and Countermeasures," CRS report for Congress (28 August 2007):1.
- ³⁰ Dr. Theierry Gongora, "The Relevance of Manned Fixed-Wing Aircraft in the Provision of ISR and C2 Support," The Royal Canadian Air Force Journal, vol 2 (Winter 2013), 36.
- ³¹ Gongora, "The Relevance of Manned Fixed-Wing Aircraft," 36.
- ³² Gongora, "The Relevance of Manned Fixed-Wing Aircraft," 37.
- ³³ JJ Sutherland, "Battle Against IEDs Spreads From Iraq to Afghanistan," National Public Radio (28 October 2009). Accessed at:
<http://www.npr.org/templates/story/story.php?storyId=114221171>
- ³⁴ Carl von Clausewitz, On War, ed and trans. Michael Howard and Peter Paret (Princeton University Press: Princeton, NJ, 1976), 205
- ³⁵ Polumbo, interview, 20 February 2013.
- ³⁶ Colonel Eric Mathewson, "Air Force Unmanned Aircraft System Update" (briefing, USAF UAS Task Force, 2009): slide 13
- ³⁷ Lieutenant General Peck, interview by author, 13 May 2013.
- ³⁸ Captain Yodel Leahy (609th Air Operations Center, Battle Director, Al Udiid, Qatar), interview by author, 19 February 2012.
- ³⁹ Captain Jane Hernandez (609th AOC ISARC), interview by author, 18 February 2013.
- ⁴⁰ Hernandez, interview, 18 February 2013
- ⁴¹ Hernandez, interview, 18 February 2013
- ⁴² Mr. Ernest Howard (LeMay Center, Air University, Maxwell AFB, AL), interview by author, 18 January 2013.
- ⁴³ Leahy, interview, 19 February 2013.
- ⁴⁴ U.S. Department of Defense, "Joint Publication 3-09.3, Close Air Support, 8 July 2009," III-13
- ⁴⁵ Bunnell, interview, 18 February 2013
- ⁴⁶ USAF Predator inventory data from Mr. Gary Sambuchi (Air Combat Command HQ, Unmanned Aircraft Branch, Langley AFB, VA), interview by author, 15 January 2013.
- ⁴⁷ US Army unmanned aircraft inventory from US Army Center for Excellence, "US Army Roadmap for UAS 2010-2035," Fort Rucker, Alabama, 2010.
- ⁴⁸ Captain Tyler Wintermote (609th Air Operations Center, Chief PED Management, ISRD, Al Udeid, Qatar), email correspondence with author, 28 March 2012.
- ⁴⁹ Bunnell, interview, 18 February 2013
- ⁵⁰ Bunnell, interview, 18 February 2013
- ⁵¹ Major Andrew Beitz (Assistant Director of Operations, 26th Weapons Squadron, Nellis AFB, NV), interview by author, 13 April 2013.
- ⁵² Major Brian Stahl (F-22 Instructor Pilot , 1st Fighter Wing), interview by author, 13 April 2013.
- ⁵³ Lieutenant General David Deptula, "ISR - Precision Strike Capabilities & Technology Improvements" (briefing, Headquarters Air Force, 2008): slide 10.
- ⁵⁴ Author's personal experience acting as an MQ-9 mission commander in dynamic scenarios in both combat operations and the USAF Weapon School's ME phase exercises.
- ⁵⁵ U.S. Department of Defense, "Joint Publication 3-09.3, Close Air Support, 8 July 2009," I-1 - I-11.

-
- ⁵⁶ Major Michael Stolley (Chief of Weapons and Tactics, 26th Weapons Squadron, Nellis AFB, NV), interview by author, 13 April 2013.
- ⁵⁷ Colonel Jason Brown (Student, Air War College), email correspondence with author, 23 January 2013.
- ⁵⁸ Brown, email, 24 January 2013
- ⁵⁹ Stolley, interview. 13 April 2013.
- ⁶⁰ Major Landon Root, Director of Operations, 10th ASOS, email correspondence with author, 29 Jan 2013
- ⁶¹ Lawrence G. Shattuck and David D. Woods, "Communication of Intent in Military Command and Control Systems," in *The Human in Command: Exploring the Modern Military Experience*, edited by C. McCann and R Pigeau, (New York: Kluwer Academic/Plenum Publishers, 2000), 280-283.
- ⁶² Major Landon Root, Director of Operations, 10th ASOS, interview by author, 15 November 2012
- ⁶³ Lieutenant Colonel Rachel McCaffrey, "Reciprocally Embedding ISR Liaisons to Build Unity of Effort," (master's thesis, US Army War College, PA), 10.
- ⁶⁴ Lieutenant General Raymond Odierno, "ISR Evolution in the Iraqi Theater," *Joint Forces Quarterly*, Vol 50, 3rd Quarter, 2008, 55.
- ⁶⁵ Odierno, "ISR Evolution in the Iraqi Theater," 55.
- ⁶⁶ Major Steven Price, "Close ISR Support: Re-Organizing the Combined Forces Air Component Commander's Intelligence Surveillance, and Reconnaissance Processes and Agencies" (master's thesis, Naval Post Graduate School, Monterrey, CA), 70-71.
- ⁶⁷ Price, "Close ISR Support," 71.
- ⁶⁸ Captain Steve Johnson, "CFACC ISR Liaison Locations Afghanistan", (briefing, 609th AOC ISRD, 15 February 2013): slide 1.
- ⁶⁹ Mr Christopher Pate, "Air Support Operations Squadron Intelligence Operations Enabling Concept," (Air Combat Command, Langley AFB, VA, 27 April 2012), 17.
- ⁷⁰ Captain Matthew Penhale (ISR-LO to Regional Command East, Bagram, Afghanistan, Oct 12 – Mar 13), email correspondence with author, 25 March 2013.
- ⁷¹ Waller, interview, 18 March 2013.
- ⁷² Colonel Robert Nelson (609th Air Operations Center Deputy Director, Al Udeid, Qatar), interview by author, 6 November 2011.
- ⁷³ Major Ike Williams, ASOC Growth Implementation Update, (Briefing, Air Combat Command, 28 Jan 2011): Slide 4
- ⁷⁴ Colonel Thomas Webster (A3F Division Chief, Air Combat Command, Langley AFB, VA), interview by author, 6 March 2013.
- ⁷⁵ Pate, "Air Support Operations Squadron Intelligence Operations Enabling Concept," 7.
- ⁷⁶ Pate, "Air Support Operations Squadron Intelligence Operations Enabling Concept," 6.
- ⁷⁷ Odierno, "ISR Evolution in the Iraqi Theater," 55.

Chapter 6

Conclusions

This paper began by asking a simple question “is the existing command and control structure (C²) appropriate for conducting air operations within the Information-Dominant campaigns of the future?” Through researching this paper it was found that the answer is no, USAF’s C² processes are not well postured for success in the future, and in an age of scarcity, airpower will continue to be managed by antiquated practices. However, as argued here, innovations can be made to increase efficiency and effectiveness. Thus the question: “can the USAF’s command and control structure be repaired to remain viable in the future?” Assuming the recommendations of the previous chapter are implemented, then yes, centralized control and decentralized execution is an effective and efficient means of optimizing CFACC airpower in the Information-Dominant campaigns of the future.

Context has a tremendous impact on this subject. Five contextual factors were discussed to define the operating environment and provide a setting for solutions. The first factor is the information-centric character of the current fight. Information-Dominant operations drove ISR to the forefront of joint warfighter needs, but at the same time put demands on the USAF’s C² structure that it was ill prepared to meet. The second factor was the organizational mismatch between the supported commander and the USAF. The supported commander is executing from

a decentralized structure while the USAF's ISR enterprise is trying to meet requirements from a centralized control node. The mismatch results in the CFACC's theater assets being relegated to direct tasking because there is little need to involve the 'middle-man' residing back at the CAOC. The third and fourth factors have to do with relinquishing of allocation authority and the lack of real-time priority data. CENTCOM has had both apportionment and allocation authority of theater ISR assets since 2004.¹ The International Joint Command in Kabul maintains ISR prioritization authority and is the sole source of real-time execution data.² No one in the CAOC has visibility on what priority the CFACC's ISR assets are servicing at any given time.³ The net effect results in a CAOC that is responsible for the centralized control of CFACC airpower, but lacks the capability and information necessary to take action.⁴ The final factor is concerned with CENTCOM's tasking sequence. In the CENTCOM theater, CFACC airpower is tasked before local organic assets are applied to the requirement. This results in the CAOC being left with no ISR assets to apply to emergent taskings, even if it had the authority and information it needed to exercise centralized control.

The character of the operating environment shaped the CAOC into a series of processes that are more about segregation than integration. Multi-role capable aircraft will remain on one side or another of the intelligence/kinetics firewall despite the price paid in both efficiency and

effectiveness. Some ISR assets have quite a lot of lethal capability, while some CAS assets can provide significant ISR effects.⁵ The same platform serving an ISR tasking can and should be servicing the collocated kinetic tasking, and vice versa. The USAF, and the joint community writ large, can no longer afford to task multiple assets to do one thing at a time, when the same asset could have been performing multiple tasks simultaneously. The firewalled character of the USAF's C² system will continue to inhibit effectiveness if these conditions are not changed.

In every challenge comes an opportunity. Changing conditions in the current fight, as well as the need to reconsider how we manage scarce resources, provides the impetus for transformation. A three-phase approach was recommended to transition from the current model to a more effective and efficient means of delivering airpower. The phased approach allows a stable transformation, continues to build joint trust, and ensures periods of reflection along the way to determine if the desired results are being achieved.

Phase one is designed to return allocation authority and real-time priority data to the CAOC. Conditions on the ground in Afghanistan, as well as throughout the rest of the CENTCOM theater have changed. The Arabian Gulf is a source of regional tension, there are security concerns in Syria, and forces in Afghanistan are in retrograde. These conditions warrant a transition of allocation authority back to the CFACC. As previously discussed, allocation authority without real-time priority data

is worthless – they must be given to the CFACC as a package deal. With allocation authority and priority awareness restored, the CFACC can provide a family of effects to the point on the battle space where it is needed most. This may not equate to the same number of aircraft overhead, but through an airman exercising his or her expertise, the supported commander will see no reduction in effectiveness.

Phase two expands the ASOC's role to all CFACC supporting airpower. The ASOC is enabled by a system of Air Liaison Officers who provide the touch point between CFACC air and supported commander requirements. Phase two is designed to replicate this relationship to afford similar effectiveness to Information-Dominant operations. The ISR liaison officer program needs to be expanded to match the coverage and performance of their kinetic counter-parts. Furthermore, the ASOC should extend its decentralized execution processes to cover ISR operations just like that of CAS. Extending ASOC oversight to all CFACC support missions allows a single decentralized execution authority to have control over all multi-role assets. This circumvents firewalls, promotes integrated effectiveness, and optimizes CFACC airpower.

Phase three ensures the validity of centralized control in the Information-Dominant campaigns of the future. Tomorrow's Information-Dominant campaigns will require that the CFACC provide supporting airpower to a wide range of commanders; commanders who will likely have differing objectives and be separated by both geography

and domain. The CFACC will have to meet these requirements with fewer, but more flexible, theater assets. The solution is to establish a link between the centralized control node and the supported commander. Mission manager teams are that link. The teams are connected to the supported commander through phase two's liaison and ASOC expansion, thus allowing unprecedented awareness of planned and emergent need. The liaisons teams also maintain trust and credibility through embedding experts with the supported commander. Furthermore, because the mission manager teams are coordinating from a centralized control node (the CAOC), they are able to share situational awareness, integrate when opportunities allow, and optimize assets throughout theater. This ensures maximum theater-wide utilization of limited resources, but also ensures the greatest level of effectiveness for our joint partners.

Parting Shots

The Air Force C² structure was designed to task theater assets to execute firewalled missions. This structure is less than optimal for the dynamic character of information-based operations and the employment of multi-role platforms. The delta between the legacy system and contemporary challenges results in the sub-optimized employment of airpower. These issues are unsustainable in an era of fiscal constraint and strategic shift. The USAF's C² process needs to transform

commensurate with the capabilities of the aircraft it attempts to control. In the future, if we launch three aircraft to do what one aircraft could have done, it will only be because we failed to evolve our C² processes to match the inherent flexibility of our multi-role aircraft.

¹ Lieutenant Colonel Keith Marlowe (CENTCOM J2, MacDill AFB, 2001-2011) interview by author, 30 November 2011.

² Captain Jane Hernandez (609th AOC ISARC), interview by author, 18 February 2013.

³ Major Tony Muir (609th AOC SIDO), interview by author, 20 February 2013.

⁴ Lieutenant Colonel Mike Ballek (609th AOC Deputy Chief of Combat Operations), interview by author, 20 February 2013.

⁵ Colonel Thomas Webster (A3F Division Chief, Air Combat Command, Langley AFB, VA), interview by author, 6 March 2013.