
OMB Report on the Leadership, Management, and Organization of the Department of Defense's Space Activities



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Introduction

Space is critical to the nation's warfighting capability and the American way of life. From precision guided munitions and car navigation systems enabled by the Global Positioning System (GPS) to overhead imaging that can pinpoint fleeting targets and also direct disaster response, space enhances the effectiveness of nearly every aspect of military operations and civil society. The U.S. military is configured for fighting space-enabled battles, which enables greater lethality, quicker decisions, and reduced force size. Little of this is possible without space capabilities, especially in the austere and dispersed environments in which the U.S. military operates. This dependency has not gone unnoticed, and China, Russia, and others are undertaking concerted efforts to limit the extent to which the United States (U.S.) can use space to achieve its tactical and strategic objectives. As the Director of National Intelligence recently stated, "We assess that Russia and China perceive a need to offset any U.S. military advantage derived from military, civil, or commercial space systems and are increasingly considering attacks against satellite systems as part of their future warfare doctrine."¹

Despite repeated warnings from the Intelligence Community (IC) and seminal events like the 2007 successful destructive Chinese anti-satellite (ASAT) test, the Government Accountability Office (GAO) argues that little has changed in the past 20 years to improve the Department of Defense's (DOD) space posture.² According to GAO, DOD has begun the process of adjusting its acquisition portfolio to deal with the emerging threats though it has taken only modest steps in addressing how it organizes its space forces and manages a cadre capable of responding to these threats.³ Numerous studies have called for significant organizational reforms since the end of the Cold War.⁴ Now that space is increasingly recognized as a warfighting domain, there is a growing appreciation that DOD's organization and management should be updated accordingly. Ensuring that DOD is effectively organized to manage this technical area is critical to future success in terrestrial conflicts and protecting vital capabilities on which our citizens and economy depend.

The Office of Management and Budget (OMB) approaches DOD space organization and management with a distinct perspective. First, as an Executive Branch authority on management issues, OMB is continuously working with departments and agencies to improve the effectiveness and efficiency of federal functions.⁵ OMB appreciates that meaningful changes to management and organizational structures, either within DOD or government writ large, are complex and sometimes encounter

¹ The Honorable Daniel R. Coats' Statement for the Record, "Worldwide Threat Assessment" Hearing before the Senate Select Committee on Intelligence, May 11, 2017.

² The Government Accountability Office's 2016 "Defense Space Acquisitions: Too Early to Determine If Recent Changes Will Resolve Persistent Fragmentation in Management and Oversight" study (GAO-16-592R) concluded "DOD has generally not made significant changes to space leadership over the past two decades."

³ "Defense Space Acquisitions: Too Early to Determine If Recent Changes Will Resolve Persistent Fragmentation in Management and Oversight," GAO, 2016.

⁴ The most consequential of the independent studies of DOD space organization are the 2001 "Report of the Commission to Assess United States National Security Space Management and Organization" (a.k.a. the Space Commission or Rumsfeld Commission), GAO's 2003 "Defense Space Activities: Organizational Changes Initiated, but Further Management Actions Needed," the 2008 "Leadership, Management, and Organization for National Security Space" Study (the Allard Commission), and GAO's 2016 "Defense Space Acquisitions: Too Early to Determine If Recent Changes Will Resolve Persistent Fragmentation in Management and Oversight."

⁵ The most relevant current initiative is the Presidential initiative on "Creating an Efficient, Effective and Accountable Federal Government," which OMB is leading, signed on March 13, 2017."

institutional resistance. OMB also understands that strategic changes are often necessary to adapt to a changing environment and to properly execute authorized and appropriated funding. We know these types of changes are difficult, and DOD space organization and management is no different. In this case, OMB acknowledges the clear and consistent chorus of independent studies and is mindful of their warnings of further inaction. One Allard Commission finding concisely summed up the stakes: "without significant improvements to the leadership and management of national security space programs, U.S. space preeminence will erode to the extent that space ceases to provide a competitive space security advantage."

In accordance with Section 1616 of the National Defense Authorization Act for FY 2017, this assessment is focused on the leadership, management, and organization of DOD space, not national security space writ large, which includes IC space activities. Nonetheless, there is a clear need to present a coherent set of national security capabilities to national decision makers, warfighters, and our allies and partners who are less concerned with which U.S. government entity owns the supporting space capabilities or where critical information originates. Therefore, once the longstanding DOD organizational concerns are addressed, it would be prudent for the Executive and Legislative Branches to evaluate options to better integrate DOD and IC space. This objective originated with the Space Commission, which in 2001 recommended "the [National Reconnaissance Office] and Air Force activities be fully merged, creating a single organization responsible for the development, acquisition and operation of the nation's space-based defense and intelligence systems." As such, in implementing near-term reforms to DOD space organization and management, decision makers should remain mindful of the strategic utility in better unifying national security space.

Reporting Requirement

Section 1616 of the National Defense Authorization Act for FY 2017 requires the Director of OMB to provide recommendations to-

- (1) strengthen the leadership, management, and organization of DOD with respect to the national security space activities of the Department; and
- (2) address the findings covered in the report of the Comptroller General of the United States numbered GAO-16-592R regarding space acquisition and oversight of DOD.

Framing the Problem

Concerns with DOD space organization and management began to accumulate soon after the end of the Cold War. In 1994, the first of several GAO reports examined the issue and noted the "fragmented responsibilities" and conflict of interest present in DOD's organization of space capabilities.⁶ Since this report was issued, nearly a dozen other GAO reports have followed as well as several prominent

⁶ "National Space issues: Observations on Defense Space Programs and Activities," General Accounting Office, August 1994.

independent studies.⁷ Collectively, these assessments point to three consistent underlying deficiencies in DOD's space organization: scattered authorities, conflicts of interest, and a lack of a consolidated space cadre.

Scattered Authorities

Unlike the IC and other DOD mission areas, no one agency or individual is responsible for DOD space. The 2001 Space Commission concluded "a number of disparate space activities should promptly be merged, chains of command adjusted...to achieve greater responsibility and accountability." While some claim that the Space Commission's findings have been largely implemented, nearly seven years later, the Allard Commission bluntly observed "no one's in charge." This study further elaborated, "Space is being managed as a decentralized supporting capability, and the result is a diffuse structure that is not serving the nation well." In 2016, the GAO study of DOD space organization and management identified over a dozen organizations with significant space responsibility.

The Deputy Secretary of Defense (DSD) is the lowest level defense official who has the authority to move resources and responsibilities across the DOD space enterprise. Given the immense responsibilities as effectively Chief Operating Officer for a \$600 billion agency, the DSD does not have the capacity to synthesize the broad array of space activities and build a coherent space portfolio for the warfighter and the nation. With the rapid pace of innovation in the space domain, it will become increasingly critical to respond quickly to changing threats and opportunities, and this requires someone with the time and attention to focus exclusively on space. It is also important to have one individual accountable to the Secretary of Defense and DSD for developing and executing a strategy for DOD space forces. These features have long been in place in the Intelligence Community. The Director of the National Reconnaissance Office (NRO) has the responsibility and authority to set policies, devise strategy, develop the workforce, change budget priorities, manage acquisitions, and execute operations for intelligence space forces.

The consequences of scattered space authorities are not theoretical. This fragmentation undermines DOD's ability to adeptly manage its space enterprise, which according to GAO's assessment has led to poor outcomes, including delays, cost increases, lack of accountability, inefficient resource allocation, and insufficient coordination.⁸ The net effect is delayed and diminished capabilities for combatant commanders, warfighters, and others. One of the perennial examples of the consequences of scattered authorities is the poor synchronization between satellites and their associated ground equipment. No single DOD individual or organization below the DSD can compel the various Services and DOD agencies to maintain their scheduled buys of satellite terminal equipment. As a result, satellites, which typically have design lives of 7-10 years, can go dramatically underutilized while wasting valuable orbit life. GAO's 2016 study highlighted one example: "fragmented leadership contributed to a 10-year gap

⁷ The most renowned studies include the 2001 Space Commission, the 2003 GAO space organization and management study, the 2008 Allard Commission, and the 2016 GAO space organization and management study.

⁸ "Defense Space Acquisitions: Too Early to Determine If Recent Changes Will Resolve Persistent Fragmentation in Management and Oversight," GAO, 2016.

between the delivery of GPS satellites and user equipment.” This amounts to meaningful warfighting capability that is delayed due to scattered authorities.⁹

Conflicts of Interest

While the lack of consolidated authorities is a fundamental issue, there is also a paramount need to mitigate the existing structural conflicts of interest. Currently, the Secretary of the Air Force serves as the Principal DOD Space Advisor (PDSA). Under this construct, the Secretary of Defense and the DSD rely on the PDSA to identify and elevate space-related issues for their consideration. Because the Secretary of the Air Force owns nearly 90 percent of all DOD space activities, the PDSA's advocacy for space activities will at times require tradeoffs in other Air Force programs, which could disincentivize advocacy for space.¹⁰ Further, space must compete with traditional Air Force missions, specifically fixed-wing aviation. Conflicts of interest predated the PDSA and Executive Agent for Space (EA4S) constructs—both the 1994 GAO study and the 2001 Commission to Assess United States National Security Space Management and Organization (Space Commission) expressed these concerns.¹¹ Specifically, the Space Commission described the conflict of interest this way:

Nor was there confidence that the Air Force will fully address the requirement to provide space capabilities for the other Services. Many believe the Air Force treats space solely as a supporting capability that enhances the primary mission of the Air Force to conduct offensive and defensive air operations. Despite official doctrine that calls for the integration of space and air capabilities, the Air Force does not treat the two equally.

The concern over institutional conflicts is primarily at the leadership level, but it is a factor at all levels of the workforce.¹²

Every senior space leader or organization with space responsibilities has conflicting or collateral authorities (e.g., nuclear, cyber) that detract from their potential advocacy for the domain. This is particularly true of those individuals who participate in key decisions. A domain steward is usually not a formal role but one that is inherent in certain senior leader positions (e.g., Secretary of the Army, Chief of Naval Operations). A domain steward is critical because he or she can make passionate arguments for domain-centric forces and proselytize about the unique capabilities of a given domain and consequently compete well for limited resources. A dedicated senior space position would resolve the conflict of interest and serve as an independent steward for space.

Lack of a Consolidated Space Cadre

The final fundamental issue is the lack of a consolidated cadre of space professionals. The Space Commission noted the need to “create and sustain a cadre of space professionals” as one of its five

⁹ Other recent examples of this disconnect in authorities include the Navy's Mobile User Objective System and the Air Force's Advanced Extremely High Frequency system.

¹⁰ For example, the Secretary of the Air Force, as the PDSA, could have to make the determination whether to mandate jam-resistant position, navigation, and timing and satellite communication receivers, but that would generate a bill for nearly every major Air Force weapon system.

¹¹ The existence of this conflict is not an indictment of the individuals who held these positions. The concern is structural. Several individuals who held the EA4S or PDSA roles embraced their space responsibilities. Nevertheless, they were saddled with competing responsibilities that presented disincentives for space advocacy.

¹² The potential conflicts of the workforce are discussed under the “Defense Space Agency” option.

objectives. The Allard Commission recommended the creation of a “National Security Space Organization,” which would have consolidated the space personnel of the various Services as well as the NRO. Each of the domain-centric military Services understands and appreciates the importance of clustering individuals with similar skills, training, and objectives. This allows each Service to develop domain-centric strategy, doctrine, and policies that enable it to support the goals of DOD and the nation. Organizing a workforce around a domain enables esprit de corps and a well-defined culture, both critical to domain warfighting and mission accomplishment.

DOD does not have a construct today that brings together all of its space personnel. The Army, Navy, Marine Corps, and the Air Force all have dedicated space professionals though they largely operate independently, typically supporting Service-centric objectives.¹³ Some of the Services have well defined space career fields, in which a Service’s space personnel are grouped and managed, but even those are not comprehensive. For example, the Air Force, which has DOD’s largest space workforce, has a “space operations” career field but not one for its space acquisition professionals, a critical skillset in this technical field with complex and expensive development programs. Until DOD brings together all of its space expertise and manages it like other areas, the DOD space workforce will be suboptimally configured to meet the emerging challenges associated with the space domain.

Current State of DOD Space Organization and Management

In the wake of renewed national interest in space security, Congress, the Executive Office of the President, and DOD have initiated several changes to DOD’s space organization and management.

- In 2015, DOD established the Joint Interagency Combined Space Operations Center, recently renamed the National Space Defense Center, to conduct integrated wargaming and quantitative analyses.
- DOD recast the Executive Agent for Space role as the Principal DOD Space Advisor in 2015.
- A 2016 National Defense Authorization Act (NDAA) provision required DOD to establish a traditional Major Force Program, a categorization of similar defense activities, for space. This enables DOD space funding to be more easily tracked.
- Modifying a proposal in the President’s Budget, Congress established the first dedicated space appropriations account, which consolidates Air Force space procurement funding, in FY 2016.¹⁴
- In August 2017, the Air Force established a new Deputy Chief of Staff for Space Operations (A-11) as a separate headquarters element.¹⁵
- Most recently, U.S. Strategic Command announced that the Commander of Air Force Space Command will soon assume the role of the Joint Functional Component Command for Space (JFCC Space), which will be renamed the Joint Force Space Component Commander (JFSCC).

¹³ Some theater-centric operations and joint space organizations may be exceptions.

¹⁴ The original proposal in the President’s Budget for FY 2016 broke out space funding from the Air Force’s “Missile Procurement” account. Congress expanded upon the Executive Branch’s proposal by consolidating all Air Force space procurement funding in the new appropriation.

¹⁵ The A-11 realigns some staff from the existing Air Force headquarters space offices, some of whom had been intermingled with the PDSA staff.

These changes allude to the fundamental deficiencies (described in the previous section) but do not sufficiently address them. For example, the GAO notes "the [PDSA] does not incorporate new budgetary or organizational authorities that DOD officials and experts say may prove necessary to overcome a history of insufficient centralized space leadership" (disparate authorities).¹⁶ Further, the PDSA construct does not separate DOD's space principal from the military Service that she leads (conflict of interest). Finally, the PDSA model does not bring together the various space personnel across the Services (lack of consolidated cadre).

The existence of the deficiencies and the ineffectiveness of the recent changes should not be construed as a veiled criticism of the Air Force, as it cannot solely affect change within the broader department in which it operates. For example, DOD leadership, the Executive Office of the President, and Congress must consent to consolidating the authorities currently scattered across the entire Department. Further, the structural conflict of interest cannot be solved by the Air Force alone—it requires intervention at the highest levels of DOD. Lastly, any steps toward consolidating DOD space cadre require consultation with Army, Navy, and Marine Corps leadership.

GAO's Recent Findings

The 2017 NDAA requires OMB to address GAO's most recent report on space organization and management. GAO documented findings related to DOD space organization and management beginning in 1994, and nine times in the past eight years. The conclusions from its most recent study (2016) remain consistent with its previous observations, and the recurring nature of the studies indicates the ongoing and persistent nature of the problems. OMB concurs with GAO's most recent high-level findings, which are also consistent with the numerous previous independent assessments, namely:

- DOD space acquisitions management and oversight are fragmented with many organizations having significant responsibilities.
- DOD has generally not made significant changes to space leadership over the past two decades.
- Fragmented leadership has contributed to poor coordination and lengthy decision-making.

GAO's 2016 analysis explored four organization proposals: a Space Force, a Defense Space Agency, a space acquisition agency, and status quo. GAO's tasking included a particular interest in acquisition, which likely influenced its development of these options. OMB concurs with GAO that a Space Force and a Defense Space Agency are potential candidates worthy of further analysis. The latter two are not.

First, a space acquisition agency is not a judicious alternative for several reasons. DOD's space acquisition performance has been problematic, according to GAO and others, and is in need of improvement. However, it is not prudent to address only this subsector of the DOD space enterprise. Reforming just the acquisition elements would not address the fundamental deficiencies. For example, a space acquisition agency could consolidate acquisition authorities but would not address the many other authorities that the independent studies identified (e.g., budgetary, operations, policy). Further, the GAO 2016 study documented the 28 recommendations of the independent assessments and

¹⁶ "Defense Space Acquisitions: Too Early to Determine If Recent Changes Will Resolve Persistent Fragmentation in Management and Oversight," GAO, 2016.

grouped these into six categories—only one of which was acquisition.¹⁷ GAO’s study notes, “The officials and experts also stated that DOD space acquisitions generally take too long due to fragmented leadership, a redundant oversight bureaucracy, and difficulty coordinating among numerous stakeholders.” Therefore, DOD’s space acquisition track record is a symptom of deeper problems (i.e., fragmented leadership/scattered authorities, conflict of interest) and not a first order problem itself. Attempting to correct just space acquisition shortfalls via an acquisition agency could not only fail to improve space acquisition performance but also possibly make the space governance situation worse. For example, improving the speed at which space acquisitions can proceed—a common proposal to remedy DOD’s poor space acquisition performance—without addressing institutional conflicts could create new challenges in terms of what is procured, how it is done, and how well it is done. Accordingly, each prospective option should address all of the fundamental deficiencies.

In a similar vein, OMB does not assess “status quo” as a viable alternative as it cannot address the fundamental deficiencies. Most notably, the status quo is centered on an “advisory” model, which is inconsistent with the need to consolidate disparate authorities across the DOD. Our adversaries have made national priorities out of negating our advantages in space, and the independent assessments underscore the consequences of maintaining the status quo and deferring action to a later time.

Finally, OMB disagrees with GAO’s finding that it is too soon to tell if DOD’s recent reorganizations of DOD space will be effective.¹⁸ The centerpiece of the recent actions was the PDSA, which GAO notes, “does not incorporate new budgetary and organizational authorities that DOD officials and experts say may prove necessary to overcome a history of insufficient centralized space leadership.” The GAO report released nearly a year after the establishment of the PDSA notes, “Many DOD officials and experts expressed skepticism, stating that the PDSA change is merely a cosmetic one.” Because the PDSA model does not consolidate authorities (or address the other two fundamental deficiencies for that matter), the PDSA model’s effectiveness is unlikely to improve with the passage of time.

Options

To develop a slate of viable options, OMB first reviewed independent assessments, including those that the recent GAO report deemed “most relevant” to DOD space organization and management. OMB sought not to repeat the work of these assessments but rather synthesize the robust available information and create realistic options. We have focused on enterprise-level governance. We recognize any course of action will require detailed implementation planning but the question facing decision makers within the Executive and Legislative Branches is: “How should DOD space forces be organized to best support the nation’s needs?” During the course of our assessment, we considered many detailed aspects but have kept this report at an executive level. Strategic reform efforts can stall if stakeholders become preoccupied with minute details.

¹⁷ The other categories were space as a national security priority, unified leadership and authority, improved coordination between defense space entities, budget issues, and planning.

¹⁸ In fairness to the study’s authors, their assessment was completed in July 2016, about a year after the PDSA was established. OMB has the benefit of an additional year of observations on effectiveness of the PDSA model. It is unclear if the GAO report’s authors still assess that more time is necessary to assess the recent reforms.

OMB grouped similar organizational models considered by these studies and eliminated those that do not have a path to satisfy the fundamental deficiencies (as described in the previous sections). Two macro themes are present in these various independent analyses. First, DOD should empower one individual with the responsibility for DOD space to address the fragmentation of authorities. A senior official outside of the Services would be appropriate because, as the 2016 GAO study notes, "space programs are inherently joint and have a large set of stakeholders." A joint organization without dual-hatted Service leadership would also mitigate the conflict of interest concerns. Second, DOD should seek to create a construct analogous to what is in place within the IC for space programs. Doing so could flatten the DOD space bureaucracy, improve agility, accelerate the rate of decision, and create a dedicated DOD space cadre. The options presented below reflect these themes and are consistent with many of the recommendations of the independent assessments.

The three primary candidates, each with pros and cons, that address the fundamental deficiencies are a Space Force, a special operations model, and a Defense Space Agency.¹⁹

Space Force

Just as other domains—land, sea, and air—have their own departments, studies have made a strong argument that space, as the fourth warfighting domain, should be similarly organized.²⁰ The venerable 2001 Space Commission most prominently introduced and evaluated proposals for both a new space department (on par with the Department of the Air Force) and new space Service, which would have reported to the Secretary of the Air Force.

The Space Commission and many assessments since then noted the parallels between space in the current environment and the birth of the military's youngest Service, the Air Force. Beginning nearly 100 years ago, U.S. Army aviation assets were repeatedly realigned (by both the Department of War and the Congress) and made increasingly autonomous until ultimately an independent Air Force was created. This was done not only in response to the threats but also to better incubate warfighting, including the amassing of aviation related personnel, in this newly exploited domain. Space is in its nascent warfighting stages but the rapid pace of innovation and proliferation of asymmetric capabilities may bring conflict to the space domain in the near future, and the U.S. must be properly organized for this eventuality.

The distinction between a new department and a new Service is undoubtedly important but not critical for this assessment. A space Service would report to an existing military department. While in theory that could be any department, the Air Force is the most likely candidate. Even though a new space Service would report to the Department of the Air Force, it would need to incorporate personnel from the Army, Navy, and Marine Corps to address the third underlying deficiency, a consolidated space

¹⁹ A federated option consisting of individual reforms could achieve similar levels of effectiveness (assuming they addressed the fundamental deficiencies) as the more comprehensive constructs. However, such an approach is riskier due to the potential that only a subset of the elements is chosen for implementation. This was the case with the Space Commission findings. Mindful of the history, OMB does not carry this as a preferred option.

²⁰ While cyber is not a domain, it too has recently warranted its own organizational construct: United States Cyber Command. U.S. Cyber Command was elevated to a full Combatant Command in August 2017.

cadre.²¹ Consistent with standard practice, a military officer would lead this new Service whereas a civilian policy official would lead a new Space Department. A new department would eliminate all structural conflicts of interest though this would come at the cost of replicating many bureaucratic functions. The Service model is less bureaucratic but not fully independent.²² Both of these alternatives could satisfactorily address the fundamental deficiencies. The distinctions are explored in the Recommendations and Resource Considerations sections of this report.

The primary benefit of a dedicated military Space Force is that one organization would be responsible and accountable for protecting DOD's interests in space across the range of military operations. The Space Force would be able to prioritize its investments, ensuring the most critical space needs are addressed. In addition, this option best establishes the framework for an eventual migration to a more unified national security space force with closely integrated defense and intelligence components.

Another benefit of this model is a chance to develop a culture most conducive to this unique domain. To a large extent, current space culture has been heavily influenced by the broader Air Force, specifically the aviation community. While Air Force doctrine and organization models are very effective for air operations, they are not an optimal fit for space.²³ There are many key differences between the air and space domains that raise doubts that the organization models should be the same. Not only are the physics of the two domains different, but satellites are not crewed and cannot be physically serviced once they enter operations, unlike other Air Force assets.²⁴ A clean organizational slate would allow a DOD space culture to germinate in a way best fitting these unique features and likely speed the integration of non-Air Force space forces.

Such a bold reform comes with a variety of considerations. First, while there is general agreement that a Space Force will be needed at some point, there is a vigorous debate over the timing of implementation. Despite an endorsement from the Space Commission nearly 17 years ago, some argue that a Space Force is still not necessary because we have not yet lost a satellite in combat and the perceived lack of a critical mass of personnel.²⁵ The argument that space lacks a critical mass of personnel is particularly worth analyzing. Because a standalone space Service, sometimes referred to as a Space Corps, would report to the Department of the Air Force, quick parallels are drawn to the Marine Corps, which uniquely does not have its own civilian secretary but rather reports to the Secretary of the Navy.²⁶ Those most opposed to these types of organizational reforms note that the Marine Corps

²¹ Bringing together elements from each military Service makes this proposal different from the "Space Corps" proposal currently under debate in Congress.

²² The 2001 Space Commission summarized the conflicts of interest associated with a Service subsumed under the Air Force this way: "a Corps within the Air Force would not eliminate the competition for resources between air and space platforms that exists within the Air Force today. Nor would it by itself alleviate the concerns of other Services and agencies over Air Force space resource allocations."

²³ For example, one weapon system per Air Force squadron works well for air forces but is inefficient and potentially counterproductive for satellite systems. Recently, a few space units have deviated from this model.

²⁴ Other notable differences include the quantity of weapon systems (a difference of two orders of magnitude), the required skill sets of operators, the average cost of assets, and the procurement life cycle.

²⁵ In 2001, the Space Commission concluded, "Once the realignment in the Air Force is complete, a logical step toward a Space Department could be to transition from the new Air Force Space Command to a Space Corps within the Air Force."

²⁶ The Space Commission, recent congressional action, and other proposals have used the "Space Corps" nomenclature though they entailed different organizational constructs, ranging from an Air Force-centric Service

currently consists of more than 180,000 active duty and almost 40,000 reservists. A more impartial comparison is the Marine Corps at its founding, which initially consisted of about 1,000 personnel and was led by a field grade officer.²⁷ Regardless of the epoch used and for a variety of reasons, the Marine Corps is not a strong analogy for DOD's collective space forces.²⁸

Since comparisons with other Services appear unavoidable, the United States Coast Guard is a more useful analog. The Coast Guard, a branch of the Armed Forces, currently has about 40,000 active duty personnel and about 7,000 civilians, an amount comparable to DOD's space cadre.²⁹ Similar to DOD space organizations, the Coast Guard operates several expensive, low-density assets (e.g., National Security Cutters and other large patrol craft) largely focused in one domain. While the "corps" verbiage immediately welcomes comparisons to the Marine Corps, the Coast Guard shows that a niche Armed Service of modest size is feasible and prudent under the right circumstances.³⁰ Further, it demonstrates that there are no policy or statutory thresholds, such as a minimum number of uniformed personnel, for a new military Service.

Another recent argument is that separating space into its own Service would make it harder to integrate its capabilities into the joint fight. This argument is not consistent with DOD's domain-centric approach to its organizational construct (i.e., each of the three military departments is focused on a domain). In addition, concerns about operational integration are only voiced by a few organize, train, and equip (OTE) officials, not combatant commanders, who are the biggest stakeholders in joint operations integration. The status quo organizational construct with Service-centric space forces impedes cross-Service space support to the warfighter. Therefore, bringing together joint space forces in a separate Service could improve the integration of space capabilities in the joint fight.

At the end of the day, establishing a new department or Service would be the most significant defense reform since those precipitated by the landmark Goldwater-Nichols Act. Such a change would not be quick or easy.³¹ However, as China's successful destructive ASAT test and recent creation of its own "Space Force" clearly signaled, our adversaries do not intend to relent in their preparations to negate space capabilities.³² In the immediate aftermath of the 2007 ASAT test, the Allard Commission stated, "Fundamental change is needed...the panel advocates top-to-bottom reform to bring stronger leadership and improved management for National Security Space." DOD pursued changes in the

reporting to the Department of the Air Force to a separate personnel structure for space professionals, much like that for the medical "corps." This latter construct is briefly discussed under the Defense Space Agency option.

²⁷ Smith, Charles Richard, "Marines in the Revolution," 1975.

²⁸ The Marine Corps operates a variety of diverse combat equipment (fixed-wing aircraft, helicopters, amphibious craft, artillery, and armored vehicles) and tends to perform personnel-intensive missions.

²⁹ At the time of its founding in 1915, the United States Coast Guard consisted of just over 4,000 personnel (per the U.S. Coast Guard Chief Historian).

³⁰ For context, the U.S. Coast Guard only has one four-star officer, the military leader of the Service.

³¹ While the Department has broad authorities to reorganize itself, this option would require several statutory modifications. As such, it would take time to implement. Using the Special Operations reorganization in the mid-1980s and the creation of the Department of Homeland Security in the early 2000s as a guide, it would take 1-3 years to establish a Space Force.

³² Gerz, Bill, "China preps for space warfare," The Washington Times, December 30, 2015, <http://www.washingtontimes.com/news/2015/dec/30/inside-the-ring-china-prep-for-space-warfare/>.

aftermath of this watershed event but did not address the central organizational constructs so now it is not only prudent but also necessary to consider significant organizational options, like a Space Force.

Special Operations Model

By the mid-1980s, the military Services were not investing sufficiently in the emerging mission of irregular warfare.³³ There was a conflict of interest and lack of stewardship within the Services, which had been increasingly reallocating special operations funding to enhance conventional forces.³⁴ There was also a lack of focus on developing a special operations cadre.³⁵ As a result, Congress created Special Operations Command (SOCOM) and the Assistant Secretary of Defense (ASD) for Special Operations and Low Intensity Conflict (SOLIC). Through two rounds of legislation, Congress empowered the ASD (SOLIC) and the SOCOM Commander with all authorities over special operations forces.³⁶

At its core, this reorganization consolidated authorities for special operations into two individuals: a civilian official within the Office of the Secretary of Defense (OSD) and a military commander. The civilian is charged with oversight of special operations' policy, resources, related capabilities, and force transformation.³⁷ The ASD (SOLIC) is the senior official ensuring that special operations are appropriately considered in resourcing decisions and integrated into operational planning. The military commander is charged with OTE, operational matters, budget development, and career management.³⁸ The Secretary of Defense and the DSD retain full authority to reprioritize across the entire defense portfolio, including special operations. This model can be credited with enabling the nation to evolve its special operations from an ancillary capability within the Services to a core and distinguishing capability of the U.S. military.

The SOCOM-model could be applied to the space domain in several ways but, at a minimum, it should empower a senior OSD official and a military commander. Regarding the former, just as special operations did not warrant a dedicated Under Secretary of Defense (USD), neither would space. Instead, an existing USD would be empowered and a dedicated ASD created, as was done in the case of SOLIC. The Space Commission endorsed this OSD construct but it was never implemented. Several ASDs and Deputy ASDs in OSD currently have space responsibilities so consolidating their responsibilities into a single principal staff assistant is central to addressing the underlying problem of scattered authorities.

Of the already authorized USDs, both USD (Intelligence) and the soon-to-be USD (Research & Engineering) are good candidates given their related enabling capabilities. In the case of the USD (Intelligence), it would allow better integration between the Title 10 and Title 50 organizations, and enable progress towards a more unified national security space enterprise. For USD (Research &

³³ "United States Special Operations Command History, 15th Anniversary," April 2002, <http://www.dtic.mil/dtic/tr/fulltext/u2/a441686.pdf>.

³⁴ Ibid.

³⁵ Ibid.

³⁶ These authorities include (in part) command of operational activities; development of strategy, doctrine, policy, and tactics; authority over peculiar administrative matters; budget development and program planning; oversight, control, and execution of resources; specialized training; validating and prioritizing requirements; ensuring the interoperability of force; ensuring combat readiness of assigned forces; and development and acquisition of peculiar equipment.

³⁷ 10 United States Code § 138(b)(4)

³⁸ 10 United States Code § 167

Engineering), space's inherent dependence on technology and historical ties to the research and development communities offer clear synergies. In either case, space represents a logical and synergistic extension of these two USD portfolios and would bring together similar cultures accustomed to working across the Services to support the warfighter.

Under either USD, a new ASD with only space-related responsibilities would be created to support the USD. This new ASD would inherit the remaining PDSA staff, some of whom were recently realigned to the new A-11 organization, as well as the smaller OSD space functions located in USD (Policy), USD (Chief Information Officer), USD (Acquisition, Technology, and Logistics), and USD (Intelligence). Consolidating OSD authorities is an acknowledged shortfall and overdue for improvement.³⁹

Regarding the military commander aspect, currently the authorities are scattered across several organizations. Space operations currently fall under U.S. Strategic Command (STRATCOM), specifically the JFCC Space (soon to be the JFSCC). OTE is done by Service-specific organizations, the largest being Air Force Space Command with nearly 40,000 personnel. There is no one DOD organization charged with developing doctrine and strategy.

Just as SOCOM required a new joint military organization led by a four-star officer (to provide the proper clout), so would space.⁴⁰ A new U.S. Space Command would consolidate both operational and OTE functions; it could be either a sub-unified command within STRATCOM or a new unified combatant command.

A new sub-unified or unified command would address the fundamental deficiencies inherent in the current organizations. While the disparate authorities deficiency is readily apparent in the current arrangements, the other fundamental deficiencies may be less so. For example, STRATCOM has too many collateral responsibilities to focus on space as this critical juncture. The current STRATCOM Commander concisely summarized this conflict of interest, "Space is not my top priority...it can't be my top priority because I'm the commander of U.S. Strategic Command."⁴¹ On the surface, the recent JFCC-Space/JFSCC reorganization announcement may signal progress in addressing this flaw. It would integrate the operational responsibility for joint space forces with OTE of the Air Force's space units. However, while it provides four-star clout, it actually creates a new conflict of interest, where one did not previously exist. Specifically, JFCC-Space is currently a joint organization. Under this proposed construct, it would now be led by a dual-hatted commander with significant Service-specific OTE functions, the same flaw inherent in the PDSA model. Specifically, the sub-unified command could be less likely to advocate for warfighting capabilities if it is led by the same individual who would have to provide those capabilities as the owner of 90% of DOD space OTE activities.

Just as existing OSD personnel would be consolidated into USD (Intelligence) or USD(Research & Engineering), the new military command element could be staffed with existing resources from JFCC-

³⁹ Some of the major studies that recommended more centralized management within the Office of the Secretary of Defense include the 1994 GAO study, the 2001 Space Commission, and the 2008 Allard Commission.

⁴⁰ "United States Special Operations Command History, 15th Anniversary," April 2002, <http://www.dtic.mil/dtic/tr/fulltext/u2/a441686.pdf>.

⁴¹ General John E. Hyten, Speech before the 33rd Space Symposium, April 6, 2017.

Space/JFSCC, the STRATCOM headquarters elements working space issues, Air Force Space Command, and the other Service elements performing organize, train, and equipping functions.⁴²

The Allard Commission highlighted the importance of adopting “tested and proven management practices” for space programs. The special operations model has been refined and proven over the past 30 years.⁴³ It clearly addresses two of the current fundamental deficiencies in DOD’s space organization and management (disparate authorities and conflict of interest) and could consolidate space personnel if enacted authorities related to personnel mirrored those provided to SOCOM. This approach would create two joint organizations, which would mitigate long-standing concerns over single Service dominance over the space domain.⁴⁴ While this construct could result in an increase in the number of combatant commands (by one), it does streamline the OSD space functions, likely resulting in modest efficiencies. While this model was not specifically evaluated by the major space assessments, its major components have been reviewed. For example, the Space Commission recommended a USD for Space, Intelligence, and Information with a dedicated ASD for space and related matters. In addition, the Allard Commission recommended consolidating OTE, operational, and research and development activities into a joint organization, as would be done in the proposed U.S. Space Command.

Defense Space Agency (DSA)

The final model that OMB examined is a dedicated defense space agency. The Allard Commission explored this concept as a “National Security Space Organization,” which would have combined the functions of the NRO, the Air Force’s Space and Missile Systems Center, and the operational functions of the Air Force and other Services. In the Allard Commission’s findings, this organization reported to a consolidated OSD function for policy, requirements, and acquisition.⁴⁵ Consolidating and streamlining both DOD and IC space activities into a much smaller leadership cadre was the Allard Commission’s attempt to address the prime problem it described as “No one’s in charge.”

Since the benefits of a centralized OSD function were covered in the previous option, this section will focus on the agency portion. While the Allard Commission envisioned this organization would cover both DOD and IC space, we have limited the scope of this report to only DOD space.⁴⁶ This is due to the DOD-centric nature of the reporting requirement and for consistency with the option evaluated by the most recent GAO study.

On the surface, a DSA is not materially different from the special operations model. In both models space functions are consolidated in one OSD official and one joint implementation-focused official. In the case of the special operations model, the execution-level official is the commander of U.S. Space

⁴² Air Force Space Command would constitute a significant portion of U.S. Space Command. Mindful of potential conflicts of interest and span of control, Air Force Space Command’s current cyber responsibilities would need to be transferred to another Air Force major command.

⁴³ While this model was created for SOCOM, there is nothing inherently mission-specific about this model, which could be extended to the space mission area.

⁴⁴ “National Space Issues: Observations on Defense Space Programs and Activities,” General Accounting Office, August 1994.

⁴⁵ The Allard Commission referred to the consolidated OSD entity as the National Security Space Authority, which would have had purview over both DOD and IC space activities.

⁴⁶ This is the rationale for not reusing the Allard Commission’s NSSO nomenclature and instead using “DSA.”

Command, a standalone combatant command or a sub-unified command. In the Defense Space Agency model, the agency director could have very similar responsibilities. One of the primary differences is the organizational construct itself. An agency is a more flexible construct, capable of being customized to unique requirements and mission. A modern example of the agency model is the Missile Defense Agency, which currently reports to the Under Secretary of Defense (Acquisition, Logistics, and Technology).⁴⁷ In the special operations model, space would be organized like other missions and domains, which undoubtedly has many benefits but is also susceptible to “one size fits all” pitfall.⁴⁸ In the agency model, there is no firm construct and hence it can be more efficient.⁴⁹

Another benefit of this model is the opportunity to create a DOD construct similar to the NRO. With a long-term vision of better integrating DOD and IC space, this consideration is important. It could set the table for a smoother transition to a more integrated space activity (at a later date) by creating a parallel structure to the NRO, which is widely regarded as having an efficient and effective organizational model.

There are two primary challenges with a DSA model. First, agencies are not traditionally warfighting elements. Agencies have been effective combat support agencies but not warfighters themselves. Using the Missile Defense Agency example, while it owns research, development, test, and acquisition, it relies on the Services to operate and maintain the deployed capabilities. The operation and maintenance of space assets would be a critical function of a new space entity. Just because agencies do not usually conduct warfighting does not mean that a DSA’s authorities could not be crafted to incorporate this aspect, but it is a complication.

The second challenge with the DSA model is its ability to consolidate space cadre and mitigate the related institutional conflicts of interest. Agencies usually do not own their own workforces, that is, their staff remain members of their affiliated military Service. This represents a challenge in consolidating space personnel, one of the existing fundamental deficiencies. Without mitigating arrangements, uniformed and civilian personnel would remain dependent on their Service for promotions and career management. This would be particularly problematic since DOD space personnel would likely spend the majority of their careers at the two major space organizations (i.e., DSA and NRO), which would be outside of the military Services. Such an arrangement would create additional challenges for space professionals to achieve equitable levels of advancement and opportunity (compared to their non-space colleagues).⁵⁰ Further, this disincentivizes these individuals from acting in the best interest of the DSA organization, the joint warfighter, and the domain writ large. In selecting an effective organizational model, the workforce should identify more with its assigned organization than its parent employer.

Some existing DOD personnel models, like the U.S. Navy’s Nuclear Propulsion community (with its comparable size and highly technical workforce), could be used as guides to mitigate this conflict of

⁴⁷ While MDA has an acquisition focus, a new space agency’s responsibilities can be as extensive as desired.

⁴⁸ While SOCOM has uniquely consolidated authorities, the combatant command construct is rather consistent across the geographic and functional commands.

⁴⁹ Other examples of the agency model are the NRO and National Geospatial Intelligence Agency.

⁵⁰ Analyses by DOD’s Office of Cost Assessment and Program Evaluation already show that Air Force space personnel have ranked in the bottom third when compared against career fields with a similar number of personnel in the promotion zone. This held true for each of the ranks analyzed. In addition, Air Force space field grade officers are significantly less likely to be selected for senior military education.

interest vulnerability. However, there are no perfect analogs. To best position DOD for the creation of a truly joint defense space force, it may be wise to implement some common features across the Services' space workforces while recognizing the different missions. Given the unique size of the Air Force space workforce and its importance to DOD's space mission, there would be benefits to establishing a separate cadre personnel structure within the Air Force, potentially leveraging the Nuclear Navy model.⁵¹

Options Summary

The Space Force and the special operations model are non-trivial undertakings, but they address the fundamental deficiencies in DOD's space organization. They would both establish accountability in a way that is consistent with DOD's other mission areas and domains. These options would improve the integration and synchronization of related investments, reduce program disconnects created during budget development and execution, make it easier to identify redundant investments and under-resourced areas, and improve management of a niche and sometimes fragile industrial base. As the SOCOM reform demonstrated 30 years ago, meaningful organizational changes to an emerging mission area can have transformational and lasting impacts.

The DSA could also address the fundamental deficiencies but would require several complicating enactment features to do so (i.e., warfighting authorities, special personnel systems). Given the availability of more straightforward organizational constructs, a DSA would be a suboptimal model to organize DOD space forces.

Recommendations

The Executive and Legislative Branches should seek to develop and implement a construct or a portfolio of actions that address the three fundamental deficiencies of scattered authorities, conflict of interest, and lack of a consolidated space cadre. While it would be premature for OMB to make sweeping recommendations outside of the budget process, OMB acknowledges the consistent themes of the numerous independent studies and experts; the importance of space to the nation, particularly in warfighting; and, the need for near-term action.

Therefore, in order to be responsive to the Congress' request for OMB's perspective, OMB provides the following near-term recommendations and looks forward to working with DOD and the Congress to enact judicious strategic changes to DOD space organization and management. These recommendations do not fully address all three fundamental deficiencies but represent OMB's perspective on the relative priority of reforms.

Recommendation 1: To fully address the emerging threats, changes to DOD's space governance are reasonable and appropriate, and should be initiated without further delay.

Recently, some have argued that undertaking organization changes would result in counterproductive disruption at a time when the nation should be focused on the emerging threats. Sufficiently addressing

⁵¹ The Space Corps model proposed by the House Armed Services Committee would create an independent Air Force space workforce though it would do this through the creation of a new military Service, incorporating only Air Force personnel.

the complex emerging threats requires action on many fronts. No area, from operational to organizational, should be off the table and the strategy should be holistic.

OMB assesses that there is ample information to inform decisions related to DOD space governance. The problems have been adequately studied over more than 20 years, and additional assessments are unlikely to produce new governance insights or novel organizational structures not previously considered. While changes to DOD organization and management are undoubtedly disruptive, OMB assesses:

- It is to the nation's advantage to undertake DOD space governance changes before the nation is confronted in space. While there will be growing pains associated with any option, proactively changing DOD's organization is preferable to doing so after the nation has been attacked in space. If DOD has to reactively reorganize (i.e., recover from space battle losses), the nation would likely seek a hasty realignment, which would be a significant impediment to the timely achievement of an effective organization with a coherent culture.
- This is the least capable our adversaries will be in space. They are only going to become more sophisticated and capable, and undertaking change at a later time would thus be riskier. In addition, our adversaries are already organizing around the space domain, raising concerns that they are preparing to extend conflict to space at a time and place of their choosing.
- Disruption can have advantages if given sufficient foresight. The many independent studies overwhelmingly concluded that the status quo is undesirable. We recognize that many of the incremental changes implemented in the immediate aftermath of the previous studies (e.g., dual hatting) have been quickly undone, usually when key individuals depart. With this experience, disruption is likely necessary to prevent reversion to the status quo. Further, it may be prudent to sufficiently codify the changes so that they endure through leadership turnover. Formalizing changes in regulations and legislation also has the benefit of garnering broader buy-in among elected officials. While OMB supports near-term changes, it should not be at the expense of creating an enduring, comprehensive solution with the commitment of Legislative and Executive Branch stakeholders.

OMB recognizes that decision makers will never have perfect information (even the analytic elements of studies are sometimes a year old by the time they are published) and no initial implementation will be flawless. Reform is a process and not a destination. Any implementation will require modifications over time; however, this should not prevent near-term action.⁵² The nation should remain committed to improving this functional area.

While this recommendation does not address any of the three fundamental deficiencies per se, it represents a mindset that is a prerequisite to addressing them.

Recommendation #2: A new sub-unified command would enhance the delivery of space-enabled capabilities to the warfighter.

OMB recommends elevating JFCC Space/JFSCC to a sub-unified command within STRATCOM with an eye toward elevating it in the next few years to a new unified combatant command (i.e., U.S. Space Command). This recognizes the increased importance of the space domain and chooses a deliberate

⁵² For example, SOCOM's responsibilities and authorities were enacted over two legislative cycles.

and low-risk path to mainstreaming the management of operational space forces. While a sub-unified command does not completely address conflict of interest concerns with its parent combatant command, it is a substantive and responsible step to reduce this conflict. The vision to elevate it to a standalone combatant command shows commitment to fully eliminate this concern.

Regarding the leadership of this new organization, STRATCOM recently announced its intent to transfer leadership of JFCC Space/JFSCC from a joint three-star commander to the Commander of Air Force Space Command, a four-star officer primarily responsible for OTE of Air Force space activities. Mindful of the conflict of interest concerns, OMB assesses that this transfer warrants further analysis and potential mitigation before it proceeds.

Recommendation #3: OSD space authorities and functions should be consolidated.

Considering the numerous studies of DOD space organization and management, there is a surprising amount of consistency in the proposed solutions. One of the central findings of both the Space Commission and the Allard Commission is the need to consolidate corporate DOD functions (i.e., OSD). The objective would be to consolidate most of the personnel performing space oversight duties within USD (Policy), USD (Chief Information Officer), USD (AT&L), and USD (Intelligence).⁵³ OMB does not have a strong preference as to which organization should house the consolidated functions though our assessment is that USD (Intelligence) and USD (Research and Engineering) have merit. OMB is aware that such realignments, even of a modest number of personnel, require planning before execution but these preparations should be managed and not used to delay addressing this compelling national security issue.

By consolidating OSD authorities, significant progress can be made to address two fundamental deficiencies: scattered authorities and conflict of interest. First, regarding scattered authorities, GAO's 2016 study identified seven OSD organizations with space oversight authorities. This recommendation would be a strong step toward improving the efficiency of this management construct, reducing conflicting guidance at the same time. Additional actions will be needed to fully address this deficiency, including streamlining Service-specific management of space activities. Secondly, if the consolidated OSD entity assumes the PDSA/Executive Agent role from the Secretary of the Air Force, this would address the most significant conflict of interest present in the current structure would be mitigated. The consolidated OSD entity would not have competing OTE responsibilities that could deter it from making particular decisions. The benefits of having a PDSA focused on space cannot be understated.

Resource Considerations

There is a strong and reasonable headwind against the creation of any new bureaucratic functions. However, DOD's consistent history of enacting modest reforms (in response to independent recommendations for more significant action) has not ameliorated the problems. Therefore, the general pursuit of reducing bureaucratic functions should not deter the nation from making strategic

⁵³ While there is a small but very capable space staff within the Office of Cost Assessment and Program Evaluation, it should remain independent of a consolidated OSD function for space.

and sensible decisions on the organization and management of its space forces to maintain a warfighting advantage and protect critical civil functions.

There is sufficient flexibility in the implementation of these recommendations to fit within a range of resource constraints. Even the more transformational options under consideration should not result in an expansive bureaucracy.⁵⁴ Any enacted option would take advantage of the many personnel already performing the space functions. With that said, some features of some options would invariably require additional resources; however, the precise amount is difficult to determine and largely dependent on the detailed implementation and enactment of the reforms. OMB would closely monitor the early phases of any changes to determine if resources are enabling adequate performance.

Concluding Thoughts

Space is critical to the nation's ability to respond to crises rapidly, project power globally, and strike swiftly, accurately, and decisively. Of course, it is also important to our citizens, our economy, and everyday life. It is in our national interests to take resolute steps to assure its availability—from acquisition to organization of the various forces. Such actions will clearly signal to our adversaries that confronting us in space and other domains will be a fruitless endeavor. The deterrence effect is essential.

The nation has not adequately responded to the tangible challenges to our space preeminence. The nation has used up its decision margin and the studies warn us that the consequences of continued inaction are significant. Space will only continue to increase in importance, and further delays in address long-standing problems would be irresponsible.

We commend the Congress on its leadership on this issue and look forward to working with DOD and the defense committees on meaningful and enduring reforms. If the right environment is put into place (e.g., an empowered, unconflicted steward of DOD space), the model will be able to adapt to future challenges and address remaining and future issues.

⁵⁴ For example, the special operations model would not necessitate the creation of the traditional Service support functions. Just as SOCOM does not maintain many support functions that the Services do, nor would a new ASD and Combatant Command focused on space.

