STRATEGY RESEARCH PROJECT

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THE INTEGRATION OF SPACE FORCES IN THE UNIFIED COMMAND STRUCTURE

BY

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The Integration of Space Forces in the Unified Command Structure

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ABSTRACT

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Thesis Statement: This SRP will first establish the case that the integration of Space Forces into the Unified/Joint Command structure has been identified in doctrine (JP 3-14 draft v1.4), but has not been properly defined to the point where specific doctrine (to include Tactics, Techniques, & Procedures), resources, and training can be applied to meet this doctrinal requirement. The study will address three models to determine best fit:

1. The functional component model
2. The SOCOM model
3. The "invisible integration" model

This paper will be researched and written to provide a specific argument to support a policy decision. Possible outcomes are changes to joint and service doctrines, and considerations for supported commanders when task organizing provided space forces. A secondary goal (if SOCOM model is selected) could result in changes to the US Space Command mission as described in the Unified Command Plan (UCP).

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PREFACE

Few projects of value are the work of a single mind working alone. Although the value of this Strategic Research Project is always open to the judgement of the reader, the help provided by friends and colleagues is not. Fellow student and co-worker at Space Command, COL William Bayles provided valuable help in focusing my arguments, and polishing my prose. And of course, thanks to the project advisor, COL Dave Spaulding of the U.S. Army War College.

There is limited discussion within the doctrine available as research for this paper. Much of the information presented in this paper is from my three years working in U.S. Space Command's Operations Center (SPOC) as the Chief of the SPOC. This position likewise required the role of being USSPACECOM's command and control subject matter expert in regards to the conduct of operations. The integration of space forces into a supported commander's structure is one of two major doctrinal issues that still need solving. The other subject needing significant work is our preparations for the day when U.S. Space Forces will fight and win the first battle in space. I hope that we will have a few years to also discuss and prepare for that event.

Although this paper may not have the answer exactly right, nor certainly complete, it is hoped that sufficient discussion will be stimulated that other space officers will finish the effort to integrate space forces with terrestrial forces. One geographic CINC has already asked for his "Space Component Commander." Our answer was as silent as sound in the region of space. The simple truth is, we did not know what to say. Those of us in USSPACECOM, as officers of the United States Space Force, failed the call once...we must not fail again.

NEW TERMS USED IN THIS WORK

1. Joint Forces Space Component Commander (JFSCC): A proposed functional component commander consisting of Space Forces from one or more services.
2. Regional Space Operations Command (RSPOC): A proposed sub-unified command established by a geographic Commander in Chief (CINC), supported by the Commander in Chief, U.S. Space Command (USCINCSPACE). The RSPOC is modeled on and has a similar function to the Special Operations Commands (SOC) established by the geographic CINCs.

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The Integration of Space Forces in the Unified Command Structure

The committee knows, every military operation from humanitarian relief to punitive strikes to full-scale combat depends upon space systems. Space capabilities are so integral to successful operations that we will never again execute a contingency operation or war plan without the benefit of our space-based systems providing weather, warning, navigation, communication, and intelligence information.

Simply put, U.S. military power and agility are directly reflected in U.S. Space power.[1]

—General Richard B. Myers, USCINCSPACE
Written Testimony Presented to the Senate Armed Services Committee Strategic Forces Subcommittee, March 22nd, 1999

EXECUTIVE SUMMARY:

Today, the nations of the world are settling the last frontier...space. Starting in the 1950's, Russia and the United States prepared this new frontier with state-run national programs that developed the necessary science and in turn the military capabilities that allowed commercial interests to follow. The year 1996 was a watershed for the Space paradigm. It was the beginning of an era when commercial investment and launches into space outpaced the government. From 1996 onward, there has been an explosive commercial rush to use the high ground of space to accomplish missions and activities far more effectively than could be done from the surface of the earth or even the atmosphere. At this time, there does not appear to be any near or far-term limitations to this process. Space-based capabilities are an integral, and critical, part of our economy. In the same manner, our military Space Forces are a center of gravity for conducting the American way of war.

The United States' military space forces are under the combatant command (COCOM) of the Commander-in-Chief (CINC), U.S. Space Command (CINCUSSPACECOM). Other civil and commercial agencies also have space platforms that support military operations. A CINC conducting military operations should not have to worry about the multiple organizations that provide space support to his operations, but instead should only need to know two things...CINCSPACE is the supporting CINC, and there will be a responsible Space Officer in his command to ensure that space-based capabilities are properly synchronized and integrated into operations. CINCSPACE as a supporting CINC is an established fact. Although there are still doctrinal and procedural issues to resolve, the hard work is done, with education and training most of the required solutions. This is not the case with the integration of Space Forces in the unified command structure.

Today, only a few Space Officers are assigned to the regional CINC's staffs as Liaison Officers (LNO) or subject matter experts. There is no established commander responsible for integrating allocated Space Forces and synchronizing their capabilities into operations. Space Forces are provided in a piecemeal manner, and attached to other units or headquarters as seems appropriate. The result is an ill-conceived solution that does not parallel the employment of air, land, sea, or special operations forces. This paper will address this issue and recommend solutions.

Three models will be examined in search of a solution:

1. The functional model. This model would provide a functional component commander to employ Space Forces, the Joint Forces Space Component Command (JFSCC), similar in function to the Joint Forces Air Component Command (JFACC) or the Joint Forces Land Component Command (JFLCC).

2. The U.S. Special Operations Command (USSOCOM) model. Following the procedures used by USSOCOM, this model argues for a permanent subunified command established with each of the regional CINCs, a Regional Space Operations Command (RSPOC), with the ability to establish JFSCCs if needed. This model will also briefly address the "head of agency" authority assigned to USCINCSOCOM and its applicability to USCINCSPACE.

3. The Invisible Integration model. Proposed by General Myers, the current USCINCSPACE, this model would integrate Space Forces into the fabric of the joint force, ensuring that all forces receive an appropriate degree of space support.

These three models will be discussed and compared, and a recommendation provided along with a discussion for implementation.

This analysis demonstrates that there is merit to all three models, each with its own strengths and weaknesses. The SOCOM model was a modest winner, with the Functional model a close second, and the invisible integration model a slightly more distant third. It will be up to the CINCs of our unified commands to decide upon and to implement the Functional and SOCOM models. The services will be the implementer of invisible integration, through changes to force structure and tables of organization and effectiveness (TOE) and distribution and allowances (TDA). The choice of any one of these models does not necessarily rule out later choice of the others. Efficiency may be the only loser, with further effectiveness on the gain side.

Finally, discussions of the SOCOM model also bring in the issue of CINCSOC's head of agency authority. This aspect of the SOCOM model was mentioned in part, to stimulate further discussion on the future of the Space Forces of the United States. There is a constant and growing diatribe on the formation of another service, the U.S. Space Force. Building upon a clear and logically defendable precedent of the creation of the U.S. Air Force in the 1947 National Security Act, advocates for the Space Force both in uniform and in Congress continue to state the obvious...that operations in space are not a

continuation of operations on the ground, sea, or in the air. The only alternative to the trauma of creating another service, with all the ills that go with our current services, is to give CINCSPACE the same authority as given to CINCSOCOM. This will be a difficult decision, in no small part because of the huge budgets that the Space Forces require.

The discussion of maintaining the status quo of Space Forces, creation of the U.S. Space Force, or giving CINCSPACE head of agency authority, is worthy of its own complete analysis. This paper only attempts to solve one problem, the integration of space forces into the unified command structure. The reader should not accept or deny the SOCOM model because of peripheral issues concerning CINCSPACE and the future organization of U.S. Space Forces.

BACKGROUND:

The year 1996 was important for the space community in a variety of ways. It was a year of landmark change in this nation's, and the world's approach to the region of space. For the first time, commercial investment in space outpaced government and military investment,[2] setting a trend for the importance of space to this nation, and further responsibilities to our military. Also in 1996, a new Commander in Chief (CINC) came to US Space Command (USSPACECOM). General Howell Estes III, coming from a tour as the Joint Staff J3, brought a clear vision of the future of space and its importance to our nation's warfighters. He directed Space Command on a pathway of operationalizing space... moving it from the world of science, and research and development, to the world of military operations.

Using the words "operationalize" and "normalize" General Estes directed the command to apply standard joint doctrine and paradigms we use with other military forces to our Space Forces[3] (e.g. assigned COCOM to USCINCSPACE and that operate from the region of space). Simply, those words meant to start conducting military operations and follow the same doctrine as other military forces. Capstone doctrine for the command and control of space forces was written. Within that doctrine, organizational responsibilities within the command and control structure were delineated. Standard command and control tools, such as campaign plans, operations orders, tasking orders, and fragmentary orders, were all institutionalized in the command and control of Space Forces.

As part of this process, the USSPACECOM Space Operations Center (SPOC) developed a briefing that described space operations and doctrine. This briefing was routinely given to visiting senior officers and other visitors to the command. One part of this briefing discussed the common methods of task organizing forces used by joint force commanders (figure 1).

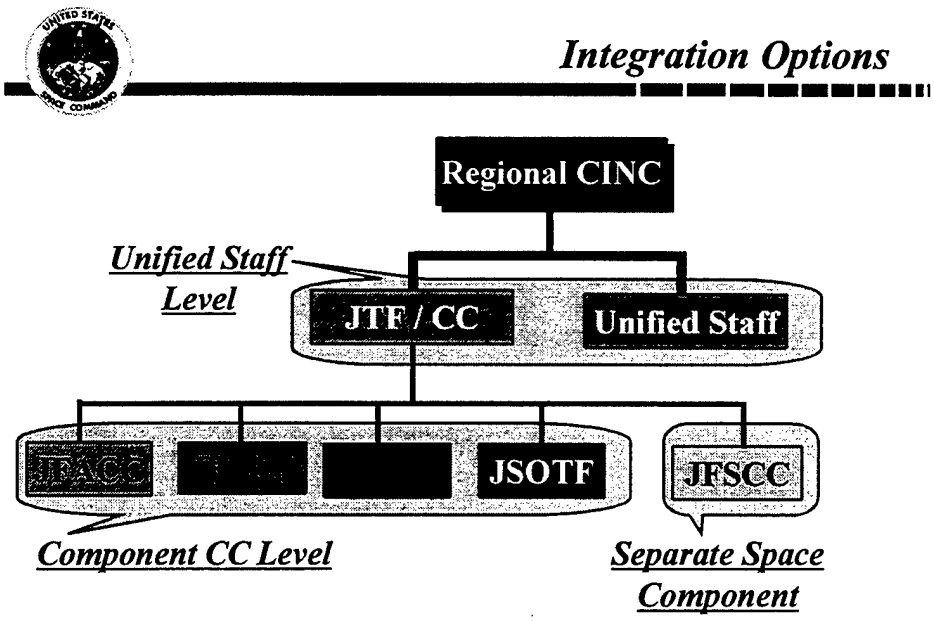

FIGURE 1: TASK ORGANIZATION OPTIONS

As briefed, commanders may task organize forces, specifically Space Forces, (1) as part of the headquarters troops (that is part of their headquarters staff), (2) into one or more of the other service or functional components, or (3) as a separate command-- a Joint Forces Space Component Command (JFSCC).

Shortly after General Henry H. Shelton, previous commander of United States Special Operations Command (USSOCOM), became the Chairman of the Joint Chiefs of Staff, he visited US Space Command and the Space Operations Center (SPOC), and received the briefing previously discussed. When briefed on the options for task organizing Space Forces (figure 1 above), he commented, "General Estes, you should give serious consideration to the model used by United States Special Operations Command. There is a lot of applicability to your Space Forces." These comments suggested another model other than the functional component commander that should be addressed...that is the Special Operations Command model used by our nation's Special Forces.

As correctly addressed by General Estes on numerous occasions, "it is the responsibility of the supported regional CINCs to decide how to task organize his forces." However, it is the responsibility of USSPACECOM to provide guidance and considerations for those CINCs to help guide their decision on how they organize Space Forces. For instance, the Air Force delivers air platforms neatly bundled together into squadrons, wings, and Air Expeditionary Forces (AEF), and puts the senior airman in charge as a Joint Forces Air Component Commander (JFACC). They do not send over a bunch of air platforms and advise the CINC, "Here's the generic rules for task-organizing forces. You figure it out!" But in fact, that is what USSPACECOM is currently doing. This paper will address those considerations and provide a recommendation for joint doctrine for our CINCs to use in task organizing assigned and attached space forces. Three models will be presented as possible solutions. The first model will be the standard

functional component model used by air, land, and sea forces. The second model will be the USSOCOM model recommended by General Shelton.

The third model that will be examined, one called by the author, "Invisible Integration" is a result of comments made by the current CINC, General Richard Myers. At the May 1999 USSPACECOM Commander's Conference, during the aforementioned operations briefing and the discussion of the task organization slide, General Myers opined to the audience that there was another option; Space Forces could be totally integrated throughout the command structure and not operate distinctly, but only as a supporting part of the joint force. This will be the third model examined in this paper.

This paper will also lay the foundation for the necessary work required by the space community in establishing doctrine, organization, resources, and training required to implement this policy. The ultimate goal is the effective and efficient integration of space forces with air, land, sea, and special operations forces in the unified command structure.

USSPACECOM's Current Policy:

The requirement for a "JFSCC" is currently articulated in the USSPACECOM Long Range Plan and in the current draft of Joint Pub 3-14. These documents recommend a JFSCC based on facts and discussions presented later.

Joint Pub 3-14, Joint Doctrine; Tactics, Techniques, and Procedures (TTP) for Space Operations (First Draft V 1.4 January 1999) presents several different references concerning the need for a single point of contact for space support in a regional CINC's organization. This discussion first appears in the executive summary[4] and presents the same basic information as discussed above on methods of task organization, but with one important difference. In this discussion, JP 3-14 clearly recommends that the JFACC is the preferred organization to integrate space forces.[5] This recommendation derives from the fact that the U.S. Air Force is attempting to become the "Air and Space Force,"[6] and that USSPACECOM is heavily influenced by Air Force money and officers. The simple fact is that the JFACC, and the Air Force *as a whole*, knows little more about Space than does any one else. This passage also makes it clear that USSPACECOM is not trying to "tell" the supported CINC how he should organize his forces.[7]

Later in chapter 3, it spells out the delineation of responsibilities between SPACECOM's support and the requirements of the supported commander to integrate space products into his operations.[8] As a means of help, USSPACECOM currently offers a single available officer, the USSPACECOM Liaison Officer (LNO), and during times of crisis, an austere (2 – 10 person) task organized Joint Space Support Team (JSST), as well as Space Component Space Support Teams (ARSST, AFSST, NSST). Added to this limited space expertise, the Unified Commands have from zero up to four assigned Space Officers. By any argument, a supported CINCs ability to understand and integrate critical space support is very limited when measured by on-hand capabilities.

Finally, when discussing CINCSPACE responsibilities as a supporting CINC,[9] JP 3-14 again

presents the same information as discussed on page vii of the executive summary, stressing it is the supported CINC's decision, and that the JFACC/JAOC is a possible solution. Importantly, this discussion on page 4-5 notes that USCINCSPACE can designate a "space force commander" to support another CINC. Nowhere in USSPACECOM doctrine or regulations, or anywhere in U.S. space doctrine, does it discuss the training, resources, or mission of a space force commander. This mission is alive in name only. It is a mission that has not been quantified in doctrine, trained in exercises, nor conducted in operations. As a final note, Joint Pub 3-14 is still in draft as of January 26, 2000, without any firm implementing date established. It is an unfortunate comment on the military space community that after at least 10 years of having a draft joint space publication, they are still incapable of reaching even the most basic of agreement or understanding concerning the role of space forces in joint operations.

The other major document produced under General Estes is the U. S. Space Command, *Long Range plan/implementing USSPACECOM vision for 2020*, published in 1998. This landmark work gives a clear and concise pathway for U.S. Space Forces through the year 2020. It addresses all aspects of the USSPACECOM mission, as well as areas "outside our lane." From the standpoint of support to the warfighting CINC, the Long Range Plan (LRP) spends an equivalent amount of time on space support to the warfighter as it does on the missions of Space Control and Force Application, as well as the conduct of Space Operations. This implies that CINCSPACE views his responsibility for support to terrestrial operations with the same priority as his other assigned missions.

Early in the LRP document, the importance of synchronization of space capabilities with terrestrial operations is stressed under *Space Support to Dominant Maneuver,* [10] and also notes the importance of integration of space capabilities to the lowest level. *Space Support to Precision Engagement* [11] further points out the importance of space-based communications, surveillance, and GPS navigational support to making precision engagement a reality. It also advances the option for fires from Space, if allowed by national command authority decision-makers. Finally, for *Space Support to Full-Dimensional Protection,* [12] USCINCSPACE makes it clear that Space Forces are a critical enabler in both national and theater missile defense, as well as support to battlespace awareness and in turn force protection.

In another discussion of the importance of "full force integration," the LRP states that USSPACECOM considers Space Forces and their support as integral to the fight:

> ***Full Force Integration.*** **Full force integration (FFI) seamlessly joins space-derived information and space forces with information and forces from the land, sea, and air. Space power will be instrumental in getting the right military capability to the right forces, at the right time. Space forces must integrate with all our fighting forces -- from the joint task force's headquarters down to warfighters in the land, sea, and air components. Innovative organizations and operational concepts, tailored flows of information, and trained, dedicated professionals are all keys to FFI.** [13]

Having advanced a strong position for the full integration of Space Forces into the supported command's structure, the LRP then advances the idea of an option of an in-theater Space Commander to provide centralized command and control and planning. On page 36, it offers, "in addition, a joint space force component commander - like position will help determine how to protect forces. We don't intend to prescribe how a regional CINC should organize their space forces; we are merely *stating a need to organize for space.*"[14] (Emphasis added by author).

The LRP remains consistent in the options provided for integration of Space Forces in a terrestrial unified command and the support provided by CINCSPACE. [15] [16] [17] [18] The options are straightforward doctrinal methods of task organization taught in our combat arms schools for decades. The reason that there are no additional recommendations on the considerations for choosing one of these options is also simple—*no one knows how to do it.*

Assumptions:

In order to frame this discussion, the author assumes several issues that must be clear to the reader.

1. The reader has a general knowledge of U.S. Space Forces, their mode of operation, and the environmental constraints of the region of space. Many of the military schools' monographs and papers often devolved into presentations of basic facts on Space, adding little to the more important doctrinal issues facing our Space Forces today. If basic space knowledge is needed, there are several excellent works on basic space information listed in the bibliography.

2. The reader accepts that space is an emerging vital interest for this nation, and a center of gravity for our military operations. These statements are found in the National Security Strategy, the National Military Strategy, and the Quadrennial Defense Review, as well as all current USSPACECOM publications. General Colin L. Powell clearly reinforced this importance as the CJCS in the NMS (June 92, page 6) "Satellites were the single most important factor that enabled [U.S. Central Command] to build the command, control, and communications network of DESERT STORM."[19] This assumption eliminates the need to digress into convincing the reader that there is a need to integrate, in some form, our Space Forces with terrestrial forces. To put it bluntly, as did Richard R. McPhee, in his SRP *Space, Little Round Top 2063* (1999) "To not take advantage of space-based capabilities would be similar to ignoring the relevance of rifled artillery and the telegraph during the Civil War."[20] However, to better frame our discussion of integration options, the next section will give examples of space support to the warfighter.

3. Size does not matter. The quantity or footprint of provided forces does not determine the validity of establishing a separate functional command. The Joint Special Operations Task Force (JSOTF), the Joint Psychological Operations Task Force (JPOTF), and the Joint Civil-Military Operations Task Force (JCMOTF) are all examples of organizations that, when

compared to a JFACC, JFLCC, or JFMCC, are very small in size and footprint, but fill a very important function. Joint doctrine has no specifications nor guidance on size of forces, but only that "forces of two or more Military Departments which may be established across the range of military operations to perform particular operational missions..."[21]

4. That the reader accepts the current models of military services and joint task forces as a viable model of task-organizing military forces. This is a very important assumption, as it guides us toward the application of these paradigms to Space Forces. The author did not consider it advisable to look for a "better way." For now, if it is good enough for air, land, sea, and special forces, its good enough for space forces. This assumption is also consistent with the "operationalize" and "normalize" guidance that USSPACECOM is using.

5. That the reader accepts that the unique model of USSOCOM is a viable commonly accepted model today. This author could find no indications that the 1987 decision to form USSOCOM and to give it "service-like" head of agency authorities and responsibilities was under review or in danger of revocation. In a recent conversation with CINCSOCOM, he voiced overall satisfaction with this model of organization.

6. That CINCSPACE's new responsibilities for Computer Network Defense and Attack (with possibly greater information operations responsibilities to follow) will also require deployable forces to support regional operations. This paper will not discuss information operations forces directly, but it is further assumed that as is true with most forces, there are both direct support and general support forces. Direct support forces are usually forward deployed, and under the control (to varying degrees) of the supported commander.

7. Is familiar with U.S. joint doctrine. The discussions concerning functional components are well established in publications available to U.S. military personnel, and are taught in most U.S. military schools.

Why we need a better solution:

The majority of the publications and research papers available today, and done over the last few decades, discuss primarily two issues:

a. The pros and cons of weaponizing space
b. The importance of Space Support to terrestrial operations

There remain limited discussions[22] concerning the nature of the problems facing U.S. Space Forces today.[23] Without the institutional support available in the Army, Air Force, or Navy regarding ground, air, and naval forces, our space forces are left to write their own doctrine, while actively conducting continuous operations. The author had espoused the problem of integration of space forces for the last two years. Our pace of daily operations focused the available personnel in USSPACECOM and its components to operations rather than doctrine... they generally were watching the wake at the back of

the ship rather than the bow wave at the front.

Today, USSPACECOM provides the majority of its support without the SECDEF authorized transfer of forces. Most of the communications receivers are already organic to communications units, and limited additional support is needed. Space-based surveillance and reconnaissance capabilities supporting intelligence, battlespace characterization, and missile defense can provide their products through the communications links space and terrestrial circuits provide. Additional teams or downlinks provide only marginal gain. The military services have integrated GPS receivers into many weapons systems and vehicles, and personnel. Weather is also a relatively "one size fits all" proposition in its availability. What then is the need for additional "in-theater" space resources and personnel?

The answer is two-fold. First, the argument that adequate levels of support can be provided via "reachback" to a far part of a theater of operations, or even from the United States, is not consistent with U.S. doctrine and practice. Our "American Way of War" is distinctly human in nature. Battlefield commanders have consistently and persuasively argued that they must have the necessary resources needed to fight and win directly under their control. They have also argued for unity of command of those assets under a designated commander. Having clear chains of command and ensuing responsibility is a clearly recognized organizational principle both in the military and civilian communities.

If this were not the case, then we could eliminate Forward Air Controllers, Liaison Officers, Forward Observers, JFACCs, etc. The Joint Staff could maintain control of all additional resources needed for a supported CINC, and provide these assets based upon the plans and requests of the supported CINC. This is obviously a ludicrous argument. The correct answer is that battlefield commanders want answers to two very simple questions, "Who's in charge?" and "What's the plan?" The same is true for provided Space Forces. Regardless of number of forces provided, the importance of space support makes it clear that a designated Space Commander is needed.[24]

Second, Space Forces are provided in theater, and do provide a value added. Today, CINCSPACE provides Joint Tactical Ground Stations (JTAGS) that are both forward-stationed and deployable during crisis, providing more robust and responsive missile warning support. BIG CROW, an Army Space Electronic Warfare platform, is also deployable, as are Space Support Teams (SST). In the future, new space systems, such as the Space-based Infrared Radar (SBIRS) and Discoverer II,[25] [26] will provide systems that are tailorable and controllable by the supported CINC.

There is a good reason why Space Forces are not well integrated into operational and tactical forces. Space Forces were originally developed and deployed to support strategic requirements. DESERT STORM[27] is often considered the first operation where Space Forces actively supported the operational level of war.[28] Our Space Forces continue to "push the envelope" to provide space capabilities to the lowest level of tactical operations. This will inevitably lead to increased in-theater resources to use space products.

Today, the space forces provided to the geographic CINCs are scattered throughout the supported force. The only person who is "in charge" of these assets is, arguably, the USSPACECOM

Liaison Officer (LNO), an officer in the rank of Colonel/Captain (USN). However, this officer has no command authority, and functions as a staff officer, normally for the J3. None of the currently deployed LNOs appear to fulfill normal command responsibilities such as general welfare of their troops, force protection, and proper utilization by supported commanders. Of course, the other officers in charge are CINCSPACE and his component commanders, none of whom deploy in-theater, and also routinely support numerous CINCs and other customers on a day-to-day basis. Thus, the answer to the question "Who's in Charge?" of in-theater space forces and a supported CINC's space support can not be answered today. CINCSPACE in Colorado Springs is the only Space Officer in charge.

The importance of space-based capabilities for today's operations can not be measured solely in terms of "forces in theater," but must rather be measured by effects provided.[29] Today, unlike the majority of the air, land, and sea forces, Space Forces (and also information capabilities) are often provided from well outside the supported CINC's Area of Responsibility (AOR).[30] Thus, in one aspect, they challenge the traditional paradigm of how we task organize on the battlefield.[31] Traditionally, we determine the forces needed to accomplish a mission, task organize those forces under a commander, and they accomplish the mission. As a rule, the supported commander has a "finger in the chest" relationship with those forces. This will not be true for the majority of space and information capabilities.

This, of course, merely reinforces the importance of having an in-theater commander that is responsible for both OPCON forces provided by CINCSPACE, but also for insuring space capabilities are fully integrated into terrestrial operations. Today, supported commanders must work directly with CINCSPACE to get this support. CINCSPACE, in his role as a supporting CINC, conducts operations in a manner consistent with other CINCs. He maintains a Theater Engagement Plan for the region of space, a full-time operations center (the SPOC), activates battlestaffs as required to support crisis operations, and routinely develops campaign plans,[32] and operations orders for the command and control of his forces. Although the Unified Command Plan[33] designates CINCSPACE as the "single point of contact" for military space, too often supported CINCs must also work with various defense agencies and the Joint Staff, to ensure they get adequate space support. This is inconsistent with how other forces are organized and used. This is one aspect of the problem that must now be fixed.

Now is the time to address this problem and a solution. Currently this is not a pressing problem (despite the importance of space capabilities to our military operations) due to the nature of their interface with terrestrial forces and the limited number of Space Forces deployed into an AOR. However, the future is clear. As articulated in the Long Range Plan and numerous other sources, space-based capabilities will continue to expand.[34] We can anticipate more responsive ground stations, made available to supported commanders.[35] Army doctrine calls for "horizontal and vertical integration of embedded space technology with terrestrial systems"[36] clearly implying an increased role of space capabilities in the Army's Force XXI. Ground and Space capabilities to attack space platforms[37] will require detailed synchronization with supported operations and clearance of fires.[38] The fielding of

space-to-ground attack systems in the next few decades will again require both synchronization and clearance of fires. The solutions offered in the paper will take years to produce. If started now, USSPACECOM will likely be able to begin implementation two to three years hence.

Today, CINCSPACE supports a multitude of regional CINCs, national, and civil/commercial customers on a continuous basis. In the words of the current USCINCSPACE:

> **During 1998, the soldiers, sailors, and airmen of USSPACECOM supported 18 military operations and exercises, optimizing navigation support, infrared data, missile warning collection and dissemination, and communications capabilities for our troops. Operation Desert Fox, the mission to force Iraqi compliance with United Nations resolutions, offers some typical examples. Reconnaissance satellites helped identify targets before and assess effectiveness after it strikes. Navigation satellites guided our ships to their deployment areas and Tomahawk missiles to their targets. Communication satellites relate information to our leaders and the strike force as well as news to a worldwide audience. In short, the successes of Desert Fox and, for that matter all future military operations, are directly linked to on-orbit assets that are operated by my component commanders. They have become the great integrators for the way we execute our military missions.**[39]

The competing demands suggested in this statement are met largely because space assets are designed as general support systems, allowing customers to get what they want with little tailoring of the product.[40] This model provides less than best results. Many feel that an in-theater space commander is the solution, as argued by Henry G. Frank in *An Evolving Joint Space Campaign Concept And The Army's Role* (1992):

> **Because of this global span of operations, USCINCSPACE serves as a supporting CINC and conducts the expeditionary theater supporting campaign. This campaign includes both independent and supporting space operations that ultimately support theater of war campaign objectives. An original approach to command and control would be U.S. CINCSPACE designating a joint space component commander (JSCC) to support the regional CINC in theater. USCINCSPACE would retain day-to-day control of independent operations and manage the appropriate space operating systems. The in-theater JSCC would be the regional CINC's direct interface with supporting space forces, as well a ready link between other theater of operations commanders and space forces. As tasked, this would include the coordination of supporting major operations and the integration of space assets in direct support of terrestrial operating systems. The role of the JSCC would be particularly important if significant space forces are employed in theater. Service space component commanders designate representatives to serve respective regional component commanders, as well. In any case, space data cells should be assigned to theater, operational, and appropriate tactical headquarters lacking this organic capability.**
>
> **A major function of the JSCC should be coordinating and deconflicting friendly access to and use of the space medium, to include suborbital missile defense and the fire systems. The JSCC's effectiveness rest in unity of command, the synchronized application of space power, and integration of space and terrestrial operating systems.**[41]

This argument was right on the mark as presented in 1992. However, in 1992, the understanding of

space forces and their impact on operations was too poorly understood for implementation. Neither terrestrial nor space forces were ready to have meaningful discussions on this issue. Since then the assignment of "space data cells" in the form of both assigned Space Officers, USSPACECOM LNOs, and Space Support Teams to unified commands and within service structures, has occurred to integrate space capabilities. What is clear is that U.S. Space Forces must follow the same doctrinal[42] paths as air, land, sea, and special operations forces. In the words of General John L. Piotrowski, USAF, (1989),[43] then CINCSPACE, "future military space operations must be treated with the same 'developed for war' approach that today is applied to operations on the land, sea, and in the air."

Thus far, the following points have been advanced:

a. USSPACECOM has advocated a Joint Force Space Component Commander, without defining doctrine, training, or resources required.

b. There is a requirement for an in-theater commander to integrate space capabilities

c. Through the use of assumptions, the argument has been framed to allow solving this problem.

Overview of the three models:

The case has been presented that when the supported Joint Forces Commander asks, "Who's in charge of my Space Forces?" that his answer will be "no one!" Three paradigms can provide the answer to this question. All three are documented in joint and service doctrine.

1. The functional model. The functional model is the manner in which we organize air, land, and sea forces on a routine basis. Although Special Operations Forces also can be discussed here (the JSOTF), because of the other unique attributes of SOF, as well as the unique attributes of CINCSOCOM and his relationship with deployed SOF forces, they will be discussed in the next model. Functional components consist of two or more services that work together as part of a joint force to accomplish a common mission.

2. The Special Operations Command model. Special Operations Forces follow a different model than do air, land, and sea forces. In a distinctly more "joint" configuration, SOF represents all three of the services, but operates in a "hybrid" organization under CINCSOCOM. Additionally, each of the regional CINCs have established a subunified command, designated as a joint Special Operations Command, in their organizations. These commands ensure CINCSOC's forces and support are fully integrated into the supported CINC's daily operations, and are often the basis of an expanded SOF presence during crisis operations.

3. The "invisible integration" model. This model is usually applied to supporting forces or functions that operate seamlessly across all forces in all warfighting mediums. Communications troops and equipment are an example of functional forces that are "invisibly

integrated" into virtually all force structures. Logistics and military intelligence are other functional forces that are common to all aspects of warfare.

Functional model:

Characteristics of the land, air, and sea components used today:

The functional /service component command has been used for many years, and is commonly accepted as successful. This model of organization continues to be applied to other battlefield functions, such as the JSOTF, the Joint Psychological Operations Task Force (JPOTF), and the Joint Civil Military Operations Task Force (JCMOTF). Joint pub 0 -- 2, UNAAF (24 February 95) provides the following guidance:

> **The JFC can establish functional component commands to conduct operations. Functional component commands can be appropriate when forces from two or more military departments must operate in the same dimension or media or there is a need to accomplish a distinct aspect of the assigned mission.**[44]
>
> **FUNCTIONAL COMPONENT COMMANDS. JTF's have the authority to establish functional component commands to control military operations.**
>
> **The JFC establishing a functional component command has the authority to designate its commander.**
>
> **The responsibilities and authority of a functional component command must be assigned by the establishing JFC.**
>
> **The JFC must designate the military capability that will be made available for tasking by the functional component commander and the appropriate command relationship(s). The functional component commander will exercise (e.g.. A joint force special operations component commander probably has OPCON of assigned forces and a joint force air component commander is only delegated TACON of the sorties of other military capability made available).**
>
> **The commander of a functional component command is responsible for making recommendations to the establishing commander on the proper employment of the military capability made available to accomplish the assigned responsibilities.**[45]

The functional component model is a commonly used method for task organizing joint forces.

Forces provided to CINCs are transferred to the gaining commander by the Secretary of Defense either in a long term manner using Combatant Command (COCOM), and assigned through the **"Forces**

For Unified Commands" memorandum and apportioned by the Joint Strategic Capabilities Plan (JSCP), or for temporary use and provided only with Operational Control (OPCON) in support of a designated operation. The services maintain responsibilities for logistic support and administrative control. As stated earlier, this model has much to offer, and is not an issue in today's joint doctrine.

The functional model applied to space forces:

All service space forces are assigned COCOM to USCINCSPACE. Arguably, those Space Forces under the oversight of Director, National Reconnaissance Organization[46] may be placed under CINCSPACE OPCON during war, and as directed by the NCA. Therefore, U.S. Space Forces would appear more like a "service" force than a functional force. But from another view, as seen within USSPACECOM, because Army, Navy, and Air Force space assets all make up U.S. Space Forces, they are a standing functional component command.

Whereas the mediums of air, land, and sea all have a service dedicated to military operations in that medium, the region of space does not. Only a joint commander, USCINCSPACE, fills the role of advocate. This issue points out that the JFLCC, JFMCC, and JFACC versus the JFSCC have much in common, but are not exactly the same. Space Forces could be task organized under a JFSCC and presented to a CINC in a manner consistent with joint doctrine.

The drawback to this approach is the temporary nature of a functional component. Although there are cases where the relationship between a CINC and functional component appears to be permanent, it is often not the case. Space support, on the other hand, is a continuous process. U.S. military forces use GPS, weather, communications, and intelligence products continuously.[47] Additional need for more space support during heightened crisis is also expected. Therefore, this would suggest a position of a permanently assigned Space Commander, and to a different model.

Likewise, U.S. Space Forces appear to have the capability to execute this mission. SPACECOM's service component commanders could each prepare a capability to function as a supporting space commander,[48] bring their unique service and space doctrine to the mission, allowing for a better fit with supported forces. Although the headquarters and commander of the JFSCC might come from one service, all supporting Space Forces would be under some degree of control of the JFSCC. Conducting support in this manner would likewise free USSPACECOM headquarters from direct support missions, allowing for a continued emphasis on general support space missions, and a global perspective for applying space power.

Pros and cons of this model:

Pros

a. Provides unity of command for a common mission. It is clear that in regards to Space Forces, that when a JFC asks, "Who's in charge?" that the answer would be the JFSCC.

b. Good joint doctrine is available and widely understood. Because this model is used routinely for air, land, and sea forces, there is broad knowledge on the doctrine.

Cons

a. Generally temporary in nature, available primarily for specified operations. Functional components are formed as part of a JTF, and are usually temporary. However, it is common today that CINCs have designated their senior service representative as their standing functional component commander.

b. Logistics and administrative support provided by different services with differing policies. These are service responsibilities, with the joint responsibility to coordinate the efforts. The SPACECOM J4 is currently the joint force integrator and coordinator for Space Forces.

c. Due to the ad hoc nature, differing levels of readiness and training create internal friction between the service components of a functional component. These task organizations change almost constantly depending upon the mission. This leads to a continuous need to evaluate training and readiness postures.

USSOCOM model

Characteristics of the USSOCOM model:

USSOCOM represents a unique organization within DoD. It has both the warfighting responsibilities of a CINC and the head of agency authorities of a service. Because the implications of this model are more than just how forces are integrated, both the foundations of the decisions that formed USSOCOM, as well as the method it uses to integrate SOF with the warfighting CINCs will be discussed.

The history of USSOCOM began with failure. Special Operations Forces, formed distinctly in the early 60's, were underresourced and misunderstood by the services that owned them. The close working nature required of special operations was not fostered with the services owning the forces, and no significant forcing function was available to ensure interoperability.[49] Following on the heels of Goldwater-Nichols Act of 1986, Congress took another significant step forward in joint warfare by creating a new model for organizing military forces...that of USSOCOM. Congress created a unique "hybrid" organization that brought together the strengths of the CINC and service chief in one commander.[50]

Today, USSOCOM is a proven performer. USSOCOM currently is assigned the following unclassified missions:

> **Prepare assigned forces to carry out special operations, psychological operations, and civil affairs missions as required and, if directed by the President or Secretary of Defense, plan for the conduct of special operations**[51]
>
> **Develop doctrine, tactics, techniques, and procedures for special operations forces.**

Conduct specialized courses of instruction for all special operations forces.

Train assigned forces and ensures interoperability of equipment and forces.

Monitor the preparedness of special operations forces assigned to other unified commands.

Develop and acquire unique special operations forces equipment, material, supplies, and services.[52]

Consolidate and submit program and budget proposals for major force program 11.

Monitor the promotions, assignments, retention, training and professional development of all special operations forces personnel. [53]

It is clear from the above that, by legislation USSOCOM has the budget and acquisition authority of a military department, and the warfighting authority of a CINC. This provides USSOCOM leverage in using service budgeted programs with great benefit to SOF. It also has oversight authority to monitor service-controlled promotions, assignments, retention, training, and professional development of SOF personnel.

The other unique aspect of USSOCOM is the manner in which it integrates SOF with the regional CINCs. First, a review of USSOCOM's supporting CINC responsibilities from UNITED STATES SPECIAL OPERATIONS COMMAND/*USCINCSOC OPERATIONAL CONCEPT* (EFFECTIVE 28 JULY 1989):

a. In support of Unified Commanders.

USCINCSOC will prepare and provide forces as apportioned in the Joint Strategic Capabilities Plan (JSCP).

USCINCSOC will provide advice and assistance to the other unified commanders concerning the employment of SO, PSYOP, CA forces in support of theater operations and contingency plans.

USCINCSOC will validate SO, PSYOPS, and CA forces requirements and recommend force apportionment for input to the joint strategic capabilities plan (JSCP).

USCINCSOC will monitor the readiness of SO, PSYOPS, and CA forces assigned to other unified and specified commands.

USCINCSOC will provide support and interface for the JCS exercise program.[54]

b. In Support of Other Commands. USCINCSOC will provide advice and recommendation to other U.S. commands, as required, concerning specific SO, PSYOPS, and CA forces capabilities and roles in support of national objectives.[55]

c. Services.

USCINCSOC will establish priorities in coordination with each service for resourcing, organizing, training, equipping, and supporting SO, PSYOPS, and CA forces.

USCINCSOC will coordinate with each service concerning the establishment of personnel management policies for SO, PSYOPS, and CA officers and enlisted personnel and for SO, PSYOPS, and CA support personnel.

USCINCSOC will enter into agreements at the head of agency level to delegate procurement functions, and assign responsibilities and relationships for acquisition (research, development, testing, evaluation, and procurement) of SO -- peculiar equipment.[56]

USSOCOM's forces conduct a continuous mission that occurs regularly at all levels of conflict. That is, there are normally SOF personnel scattered throughout the world conducting operations for the NCA, CINCSOCOM, or one of the regional CINCs. Because of this need for continuous support, USSOCOM advocated that the CINCs establish subunified commands[57] for the organizations of their SOF.

Since 1988, "each other theater unified command has established a separate special operations command (SOC) to meet its theater -- unique special operations requirement. As subordinate unified commands, SOCs may include general-purpose forces, and will normally exercise OPCON of SOF (except PSYOPS and CA)."[58] PSYOPS forces will be placed under the OPCON of the JPOTF and Civil Affairs forces under the JCMOTF. Both the JPOTF and the JCMOTF follow the functional component model and are temporary organizations.

This SOC arrangement provides a full-time flexible SOF structure under the control of the supported CINC, but maintaining unique "reachback" capabilities to CINCSOCOM for needed personnel and equipment. Day-to-day manning of SOCs, commanded by a Brigadier General, is generally 30 – 100 personnel. USCINCSOC provides funding and personnel for the SOCs, and each SOC reports directly to the geographic CINC. "SOCs, established as sub-unified commands of the combatant unified commands, are the geographic CINC's sources of expertise in all areas of special operations, providing the CINCs with a separate element for planning the control and employment of joint SOF in military operations. There are six SOCs supporting geographic CINC's worldwide."[59] Additionally, SOCs provide the nucleus for the establishment of the Joint Special Operations Task Force (JSOTF), when a joint task force is formed.

The other aspect of the SOF model of force integration is the JSOTF. When a contingency develops in an AOR, the SOC can continue to provide C2 for SOF, or it can, working with USSOCOM,

establish a separate functional component, the JSOTF. The Special Forces Reference Manual states:

> **The establishment of a JSOTF is appropriate when SOF C2 requirements exceed the capabilities of the theater SOC staff. JSOTF headquarters are normally formed around elements from the theater SOC or an existing SOF unit with augmentation from other service SOF. Also, a JSOTF may be deployed as a complete package from outside the theater. This can be done to provide additional JSOTF for the regional CINC or to relieve the SOC from the responsibility of organizing a JSOTF.**
>
> **When subordinate to a joint task force commander, other than the theater SOC, the JSOTF commander serves the Joint Forces Special Operations Component Commander (JFSOCC). Normally the JFSOCC exercises day-to-day C2 of assigned or attached SOF. The JFSOCC allocate forces against strategic or operational tasks, and supports other JTF component commanders based on guidance from the Commander, Joint Task Force (CJTF). Additionally, other responsibilities of the JFSOCC are to:**
>
> **-- Make recommendations of the proper employment of special operations forces in assets**
>
> **-- Planning coordinate special operations**
>
> **-- Synchronize the conduct of special operations with other component commanders**[60]

Finally, when SOF deploys from CONUS into a theater for a specific short duration mission, these forces are normally attached to the theater combatant commander and may be placed OPCON to the Joint Forces Special Operations Component Commander (JFSOCC).[61]

The SOCOM model applied to space forces:

As recommended by General Shelton, there is much that the SOCOM model has to offer when applied to SPACECOM. The one aspect concerning the history of USSOCOM and the basis of its establishment that is different than USSPACECOM is that the catalytic event for USSOCOM was the DESERT ONE failure. It is an imprudent argument to suggest that a failure is required in space operations before necessary changes are made. What is obviously common is that both Space Forces and Special Forces are relatively small in numbers, provide an important contribution to operations, have no inherent advocate or coordinator in the command structure, and were poorly understood and used by conventional forces. In both cases of SOF and Space Forces, they are a relatively small part of operations in regards to footprint, and direct actions accomplished. From the standpoint of a force enabler or enhancement, both forces accomplish missions that allows overall mission accomplishment more efficiently and effectively.

USCINCSPACE and USSOCOM share very similar mission responsibilities. CINCSPACE's mission statement reads:

USSPACECOM will plan for and employ space forces to execute continuos military space operations (space control, force enhancement, force application, and space forces support) during peace, crisis and war, in support of the National Command Authority, the Chairman, Joint Chiefs of Staff, Combatant Commands, Component Commands, and other agencies while denying like capabilities to adversaries.[62]

Referring back to CINCSOC's missions given above, CINCSPACE's common missions are

Prepare assigned forces to carry out space operations, as required and, if directed by the President or Secretary of Defense, plan for the conduct of space operations

Develop doctrine, tactics, techniques, and procedures for Space Forces (limited: shared with services).

Conduct specialized courses of instruction for Space Forces (limited: shared with services).

Train assigned forces and ensures interoperability of equipment and forces (very limited: done by services).

Monitor the preparedness of Space Forces assigned to other unified commands (limited: few Space Forces are assigned to other commands).

Develop and acquire unique Space Forces equipment, material, supplies and services (limited: strong guidance, but not directive).

Additionally, the responsibilities listed above for support to other unified commands, other commands, and services are extremely similar between the two commands.

As mentioned earlier, both SOF and Space Forces have a continuous mission providing support to the regional CINCs. Unlike air, land, and sea forces, there are not large numbers of officers on a joint staff that have general knowledge about the capabilities of the force. Therefore, it requires imbedding an appropriate number of specialists on a joint staff to ensure integration. It also requires the presence of an officer(s) of sufficient rank and visibility to participate in operations and the decision-making process. In the final analysis, it is the human element that is the most persuasive argument for having senior SOF and Space Force representatives in the unified/joint staff. Simply, "if you don't have a seat at the table, you won't have a vote in the plan."

The question of reachback is also important. The regional SOCs are austere organizations that rely upon support from SOCOM to accomplish their missions. Although they work for the regional CINC, it is understood that they are the forward representatives of CINCSOCOM in his role as a supporting CINC. In the same manner, a Regional Space Operations Command (RSPOC) would have direct control over a very small portion of the supporting Space Forces, but would serve as the advocate for the regional CINC they work for, as well as represent CINCSPACE in his role as a supporting CINC.

CINCSPACE already has, or is currently establishing, a support element with the supported regional CINCs. The Regional SATCOM Support Centers (RSSC) are established in Stuttgart (for EUCOM), Hawaii (for PACOM), and in Tampa for CENTCOM, SOCOM, and SOUTHCOM. The purpose of the RSSC is to ensure integration of space-based communication support into the Defense Information Support Network (DISN) that supports operations. Without some form of integrating space function in the regional command structure, the RSSC will work under the control of the Global SATCOM Support Center (GSSC), a CINCSPACE asset, and provide direct support to the supported CINC's J6. The RSSC is a likely basis for a permanent Regional Space Operations Command in a manner similar to the Special Operations Command.

Finally, it would not be possible to address the SOCOM model without discussing, in passing, the other unique characteristics of SOCOM. SOCOM was given head of agency authority and a budget line. This allows CINCSOCOM to function like a service without creating another service. Today, it is a common argument that an U.S. Space Force should be created from assets of the Army, Navy, and Air Force as a fourth service. In fact, in this years National Defense Act[63] Congress authorized a commission on the nation's use of space and directed a review of the need to establish a Space Force. Remembering that Secretary of Defense Cohen was instrumental in creating SOCOM, it may well be an advantageous time to address U.S. Space Command's organizational structure.

Like SOCOM's assigned SOF, SPACECOM has COCOM of all military space forces. Army, Navy, and Air Force Space Forces must work together to accomplish assigned missions. They operate more like branches in the Army, forming a combined arms team, than they do like joint forces. Juxtaposed into this reality of daily operations are service parochialisms and budget priorities. Giving CINCSPACE similar authorities as listed above for CINCSOCOM will solve this problem, and prevent a costly and emotional battle to establish a new service. More division between forces is exactly the wrong direction for today's U.S. military. As the current CINCSPACE, General Myers, strongly argues, "The last thing we need today is another 'stovepipe' solution" which is possible with the creation of a space service."

Pros and cons of this model:

Pros:

a. Builds on strengths of service doctrine and training. USSOCOM has already proven this model. The regional SOCs have proven themselves during the last decade

b. Provides a full time Space Commander to integrate and coordinate space support on a daily basis, with the capability to expand and to form JFSCCs in support of forming JTFs. The Regional SATCOM Support Centers are already in place, providing a smooth transition to the Regional Space Operation Commands (RSPOC).

c. Resources only SOF specific equipment and activities, leveraging service acquisition programs. CINCSPACE would also most efficiently be able to spend money on core space programs, thus ensuring Space Forces obtain their just portion of the budget by allowing them to compete at the joint level, rather than against other service programs.

d. Brings joint doctrine and view with authority to enforce compliance. The alternatives are no advocate, or more "stovepipe" solutions from a service headquarters. USSOCOM represents a unique solution to our service/CINC structure.

e. Avoids additional bureaucracy by creating another military department. However, the meager USSPACECOM staff (about 500 joint billets) is insufficient to manage both space and information operations, as well as head of agency service-like responsibilities as well.

f. Provides four-star visibility over a relatively small but important force. This was an important aspect in the creation of USSOCOM, and allowed expanded upward mobility to a community that routinely did not progress beyond the rank of Colonel. U.S. Space Forces would also benefit from a similar solution.

g. Ensures required close integration of service-provided forces. When you have only one command making the decisions on operations, training, acquisition, and resourcing...you will get one sure outcome: unity of effort and command.

Cons:

a. Creates "we versus them" by allowing a different model for a small part of the force. Carving out a part of the services will cause disruptions to established procedures, and some degree of resentment for fellow servicemembers that get additional support. However, this seems less painful than the creation of another service.

b. Husbands resources that could be applied to service wide requirements. Funds allocated today to space programs are part of the overall service budget. Within congressional mandates, services have greater leeway to move money to other programs that may have a correctly higher priority for that service. With USCINCSPACE controlling funding, this would no longer be possible.

c. The head of agency responsibilities might overwhelm the USSPACECOM staff, degrading their operational focus.

The "Invisible Integration" model:

Characteristics of the model:

This model is commonly used by the services to build integrated, relatively self-sufficient organizations for the purposes of conducting operations. The current USCINCSPACE, General Richard Myers, has suggested this as another option. The Army intends to use this model as its method of

integrating space into its warfighting structure. From TRADOC PAM 525-60: Space Support to Land Operations, the commander of Space and Missile Defense Command is tasked for:

"...establishing and organizing structure for space development, and identifying space positions within tables of organization and equipment (TOE), modified tables of organization and equipment (MTOE), and tables of distribution allowances (TDA) to support Army requirements at all echelons of command." [64] This argument presents the idea that the function in question, space in this case, is so critical to the function of an organization that it must be imbedded in the force. Communications, intelligence, and logistics are examples of battlefield functions that are imbedded throughout the force. Both trained specialists and peculiar equipment are part of the unit's structure, thereby integrating the function. Notice in the cases given, it does not mean that every unit, at every echelon of command requires integrating forces. Intelligence functions are rarely found "distinctly" below battalion/squadron level. Communications capabilities are found at virtually every level of organization, as is logistics.

These functions also have "champions" at the highest levels of both service and joint forces. Defense Intelligence Agency, Defense Logistics Agency, and Defense Communications Agency are joint examples, and each of the services have a similar proponent for the function at the two or three-star level.

Although these functions or capabilities are integrated into the force, there also separate units that provide additional supporting capabilities in a general support role. For example, in an Army division, we find a signal battalion, a military intelligence battalion, and a logistics brigade.

Invisible Integration model applied to space forces

There already exist several examples of successful service integration of space capabilities. Downlinks from space-based reconnaissance and surveillance assets are imbedded throughout the intelligence assets in our forces. SATCOM receivers are also prevalent throughout our forces, and of course, GPS is rapidly becoming completely integrated in our military forces, and increasingly in our society. The Air Force and Army are both assigning space officers to the staffs of two-star and higher commands, but in limited numbers (generally one per organization). Missile warning is likewise another space-based capability that becomes increasingly common to our military forces. The Army is currently working to use "pagers" issued to our troops to ensure rapid distribution of a missile attack. From the standpoint of the receipt of space-based capabilities, this is a commonly used mode.

Additional space officers could be assigned to operational units in all services to provide a more robust capability than currently provided. If combined with information operations, this could be a justifiable allocation of personnel resources. One problem with integrating Space Forces into terrestrial force structures is that the footprint of a space asset is so large that the most efficient method of integration is generally one downlink from the space platform that then feeds the data into a terrestrial communications architecture. With the foreseeable capabilities of our Space Forces, it is unlikely that Space Officers and assets will be found below flag-level commands.

Pros and cons of this model:

PROs

1. Integration and responsiveness at all required levels. Having a space officer at any level of command will assuredly improve understanding, integration, and synchronization of space capabilities with terrestrial operations. The only drawback is the current limitations of our Space Forces to provide space support to tactical operations.

2. Good model for information operations. Because of the widespread applicability of information operations, this may be an even better fit than for Space Forces. It might be appropriate at brigade/wing level and battalion/squadron level to have a single officer, a functional area 30 for Information Operations, also represent Space Forces.

3. Least likely to produce "stovepipes." This unofficial term is used to describe a system that is vertical without any horizontal connections to other systems. This concern of CINCSPACE is often encountered in our services today, where service programs are often duplicative and nonintegrative. The creation of a separate Space Force would be the solution most likely to create stovepipes.

CONs

1. No military education currently available to educate the force.[65] Space Command has initiated with all services efforts to increase or add periods of instruction in service schools from Senior Service College to the NCO schools. This program is slowly making improvements. Without this base of education, space advocates integrated into the force structure are critical to ensuring proper integration and synchronization of space-based capabilities.
2. Uneven distribution of space capabilities would occur due to differing service priorities. If everyone has their "own piece of the pie" as this model suggests, then the Air Force would control the majority of space capabilities, and the Army would get the least. There is no plausible argument that suggests any one of our services use space support any more than the other services, nor that space support is more critical to the success of their operations. Space Force capabilities are inherently joint by design, and must be integrated and synchronized to support the entire joint force according to the mission.
3. Limited surge capability due to "parceling" of space capabilities. Although only personnel were discussed earlier, space capabilities and forces, such as JTAGS, exist only in extremely low numbers. Due to the high cost, they are best organized in a "high-demand/low-density" model as is done with many other critical assets.

4. Still requires a champion at various levels of command. To provide surge capability, and ensure integration at all levels, space officers and space commanders must be assigned at all levels of command consistent and proportional, but not equivalent, with Army, Navy, and Air forces.

5. SPACECOM would be continuously and directly supporting numerous CINCs. In this model, CINCSPACE would be the supporting CINC for all regional operations. Today, this happens without too great a problem, in part due to the nature of space forces, and in part because we have not had sufficient high-end operations to stress our capabilities. This will become increasingly difficult to maintain as responsibilities and capabilities in both space and information operations grow. Each CINC has different requirements and issues that must be met distinctly. A "one size fits all" approach is inappropriate. Each year USSPACECOM has one exercise that has multiple theaters in conflict, highlighting these challenges of a single battlestaff supporting several complex operations simultaneously.

Compare and contrast the three models:

The following criteria will be used to evaluate the three models discussed:

1. **Required Support:** The ability to meet a supported CINCs requirements for space support during day-to-day and crisis operations. CINCSPACE's mission requires a continuous conduct of space operations, and varying degrees of space support. This requires C3 systems that are also continuous in nature.
2. **Unity of Effort:** Space Forces may be dispersed within a theater under the CINC's headquarters, or one or more JTFs or functional/service components. A unifying command structure at the CINC level would be an integrating and synchronizing capability that could ensure all efforts focus toward a common overall mission.
3. **Surge Capability:** Rapidly provides additional forces as crisis occurs. As discussed, CINCSPACE provides a baseline of space support to his customers. During times of crisis, this support must rapidly build to support the flow of forces for a contingency. The surge capability must be equivalent to the surge capability of the forces that are supported. SATCOM support is the capability most affected by the buildup of forces.
4. **Stability:** Impact on the supported and supporting commands due to RSOI and deployment requirements. The more forces that must be deployed from outside the JOA, the greater will be the turbulence to the force, and the less stability.
5. **Resources:** Required manpower, material, and training time. Approximations will be used.
6. **Flexibility:** Allows for rapid and efficient transitions from peace to war, and from one crisis to another. This value will be closely linked with surge capability.
7. **Interconnectivity:** The degree to which the solution merges Space Forces with the overall joint force. Addresses CINCSPACE's concern about "stovepipes."

The decision matrix used evaluates the three COAs in a "head to head" fashion. That is, for a given criteria, the score of "1" is given to the best choice, and "3" to the worst. Therefore, lowest total score is the best COA.

CRITERIA:	COA 1 (FUNCTIONAL)	COA 2 (SOCOM)	COA 3 (INV INT)
Required SPT	3	1 (1)	2
UNITY OF EFFORT	2	1 (2)	3
SURGE CAP	2	1 (3)	3
STABILITY	3	2	1 (4)
RESOURCES	1 (5)	2	3
FLEXIBILITY	1 (6)	2	3
INTERCONNECTIVITY	2	3	1 (7)
TOTAL	14	12	16

TABLE 1: COA COMPARISON

Notes:

(1). The SOCOM model provides a continuous presence from the RSPOC, as does COA 3. If fully integrated into the force structure, COA 3 would likewise accomplish the mission as well as COA 2.

(2). Provides unity of effort within a CINC's command to ensure all Space Forces are controlled by the Commander of the Regional Space Operations Command.

(3). The SOCOM model has in-place command and control to assist with RSOI of deploying Space and information forces.

(4). Since Space Forces and capabilities are fully integrated into the force structure, there is limited, if any need for additional deployments of Space Forces to support an operation.

(5). Both the SOCOM model and especially the Invisible Integration models require the allocation of Space Forces regardless of the immediate need. This makes these forces largely or completely unavailable for use elsewhere during time of crisis, and therefore violates the principle of economy of effort.

(6). This model has CINCSPACE husband all Space Forces, and then resourcing a JFSCC when requested by a supported CINC and as directed by the SECDEF. This provides maximum flexibility since all forces are kept centralized. It should be noted that the SOCOM model also allows for the establishment of JFSCCs, but is degraded because of the commitment of forces to operate the RSPOCs.

(7). Because Space Forces are woven throughout the force structure, they are fully integrated into all forces as the need dictates. And since there are advocates throughout the force structure, new systems and doctrine are developed with the role of Space Forces integrated.

Based on this analysis, COA 2, the SOCOM model appears to be the best choice, with the Functional model second.

Recommendation:

The SOCOM model offers significant advantages to the future of the Space Forces of the United States. It builds upon the already established CINCSPACE presence in the regional CINC's command structure to merge the RSSC and the other staff space officers into an integrated subunified command structure. It allows not only for the required command structure needed for day-to-day support, but also can rapidly surge to support crisis operations, to include the establishment of one or more JFSCCs as needed. This model most clearly answers those very important questions that any commander deserves to have answered, "Who's in charge, and what's the plan?"

In addition to the answer sought by this paper, it also opens the door for another important issue to CINCSPACE...the "head of agency" authority granted to CINCSOCOM. This service-like authority would allow CINCSPACE to efficiently bring together our Space Forces for training, resourcing, personnel issues, and acquisition without leading to the creation of another service. In a similar manner, the ability to leverage service procurement and programs, focusing narrowly on those things that are truly space, will provide CINCSPACE a powerful springboard into this nation's future in space.

Implementation strategy:

Required force structure:

Initially, the RSSCs and SPACECOM LNOs should be redesignated as the Regional Space Operations Command (RSPOC). The senior officer, likely the LNO, will be redesignated as the commander, RSPOC. The remainder of the Joint and Service Space Support Teams will be forward-based to provide the requisite staff. The development of additional in-theater space and information forces may lead to the upgrading of the command position to an equivalent of the SOC...Brigadier General.

SPACECOM's components need to be tasked to prepare for duty as a JFSCC. Each component commander should prepare a deployable headquarters that can effectively command and control all Space Forces provided OPCON to a supported CINC, and to interface with TACON assets and reachback to USSPACECOM for general support. The selection of components for JFSCC duty will be based on availability, preponderance of forces, and the nature of the supported operation (air, land, or sea).

Changes to doctrine and policy:

Joint doctrine is adequate to guide CINCSPACE actions in establishing the RSPOC and JFSCCs. The details of mission capabilities and responsibilities must be added to Joint Pub 3-14, Joint Doctrine; Tactics, Techniques, and Procedures (TTP) for Space Operations. It is strongly recommended that these doctrinal changes be modeled closely on SOCOM's already established procedures. This will reduce the contentiousness of the change, and allow for rapid integration into supported commands. It is also strongly recommended that CINCSPACE's emerging responsibilities and capabilities in information

operations be "plug and play" into this structure, allowing for a seamless and rapid integration into supported command structures.

Training and manpower issues:

Training for a new style of operations is required to prepare the USSPACECOM, RSPOC, and component headquarter staffs. USSPACECOM headquarters normally interacts directly with a supported commander's staff, working through our few deployed Space Officers. The relationship between the RSPOC, the JFSCC, and the U.S. SPOC needs to be discussed, established in doctrine, and trained and tested in war games and exercises. Additionally, JFCOM's Joint Training and Support Center (JTASC) offers an excellent opportunity to train not only Space Forces but also integration into the supported commands.

Excepting for additional one-star billets to eventually fill the Commander, RSPOC positions, adequate manning is available to initially operate the RSPOCs. The key here is to bring together the manpower already allocated to this mission, in the form of Space Support Teams and the RSSCs, and provide unity of command and effort under a single space commander.

The deployment of JFSCCs will have a greater impact on SPACECOM's components. Because almost all Space Forces have GS missions, most forces have stay-at-home jobs that must continue to be accomplished. Through the extensive use of reachback to SPACECOM and space component staffs, reduced staffs can be used to meet a JFSCC requirement. Although this will require additional bandwidth and ISR all supplied through space, Space Forces are as well prepared to execute this concept as anyone. However, the role of "commander" requires a qualified Space Officer of adequate rank, and that will not be an easy position to fill.

Conclusion:

The future of our Space Forces, and our growing capability in information operations, looks extremely optimistic. It requires little stretch of the imagination to envision U.S. military forces bound together with command and control capabilities transiting through the region of space, with fires delivered from space, and fires delivered in the region of space to deny these capabilities to our opponents. Information operation capabilities will likely follow an even more rapid escalation in capabilities, due in part to their lower cost and more tangible nature. By any account, Space and Information Forces will play an increasingly more important role on the terrestrial battlespace. And these forces must be increasingly more capable, and responsive, to the operations they conduct and support.

If we start now on the recommendations provided in this paper, we should be able to field our first RSPOC and JFSCC in one to two years. Another few years after that, we should have the process just right. Just in time for the fielding of the SBIRS ground stations that for the first time allow a supported commander to directly task a Space Force. The days of sending Space Forces to a supported commander with minimal guidance on their proper use must come to an end. It is time for a Space

Officer to stand at the war table and announce, "I'm your Space Commander, and I have a plan to give you space support."

Finally, the pupose of the recommendations made in this paper are to stimulate further discussion on this important topic, to offer information for inclusion into Joint Publication 3-14, and to give CINCSPACE a position to advocate to supported CINCs on their options for task organization and integration of space forces. The final decision concerning method of space force integration belongs to the geographic CINCs and the Service Chiefs. The peripheral discussions of head of agency authority granted CINCSOCOM, and mentioned in this paper for CINCSPACECOM (with consideration for the huge budgets in mind) should not distract from the strength of the SOCOM model applied to space forces.

WORD COUNT = 11,876

ENDNOTES

[1] General Richard B. Myers, "Written Testimony Presented to the Senate Armed Services Committee Strategic Forces Subcommittee," (Peterson Air Force Base, CO March 22nd, 1999), 4.

[2] Tamar A. Mehuron, Associate Editor, Air Force Magazine, "USAF Space Almanac," August 1999, 40.

[3] Department of Defense Joint Pub 3 - 14 First Draft V 1.4, "Joint Doctrine; Tactics, Techniques, and Procedures (TTP) for Space Operations," (January 1999), GL-8: **space forces**: Systems and personnel employed to conduct military space operations. Such forces may be organic to the military, or they may be owned by civil or commercial entities and employed by the military to supplement their own capabilities in the conduct of military space operations.

[4] ibid., vii. "Space Command and Control: As a viable option, space support planning and execution of joint force-apportioned space assets can be accomplished by JFC/JTF commander's J3 or the Joint Force Air Component Commander (JFACC), through the Joint Theater Operations Center (JAOC). The JAOC coordinates with USSPACECOM's space operations center (SPOC), which directs execution down to the component commands (ARSPACE, AFSPACE, and NAVSPACE). USSPACECOM components have the option to coordinate directly with the JFACC (through the JAOC) DIRLAUTH, info USSPACECOM. Until space expertise is more fully integrated into other CINCs staffs, space support teams from USSPACECOM and its component deploy to a theater to assist the supported command to integrate space capabilities into theater operations. It is the CINC/JFC/JTF commander's decision on how he task-organizes the space forces. Space support planning and execution of joint force-apportioned space assets can be accomplished by the JFC/JTF commander's J3."

[5] Ricky B. Kelly, "Centralized Control Of Space: The Use Of Space Forces By A Joint Force Commander," (Maxwell AFB, Alabama: School of Advance Airpower Studies, 1994), 46: "The JFACC's responsibility for the air campaign also dovetails nicely with a space campaign, in particular, the space control portion. Target sets associated with the space control portion of the space campaign will be predominantly ground - based. Most of these targets are likely to be embedded in an adversary's infrastructure. Accordingly, the primary means of striking these types of targets are through air power. Therefore, it follows the JFACC's marriage to the space control mission mates well with his air responsibilities.

Additionally, Air Force doctrine supports the idea that airmen, serving as a JFACC is well suited to represent space in a theater of operations. This would appear to commit the Air Force to ensuring a JFACC is knowledgeable and experienced with the characteristics and capabilities of space. In the event the JFACC were a naval aviator, the Navy is probably the service most thoroughly familiar with space's force enhancement capabilities. Nevertheless the JFACC acting as the focal point for space support also has his drawbacks.

The Air Force's proposed space role for the JFACC is not likely to be readily accepted by the other services. First, there exists no formal interservice agreement on responsibility for space within a theater. Joint doctrine suffers from a lack of acknowledgment of space and the significance it plays in the command and control of joint operations. Second, since space has limited assets, the other services may be justifiably concerned that an inordinate amount of space support would be directed toward the air operations of a theater campaign. They may question that a JFACC would give up vital assets or his own space support priority in order to support another service. Third added to the difficulty of being a truly honest broker, the JFACC is probably not going to be a space expert, or have an in-place staff with space experience. As in the J3's case, augmentation will be necessary to accomplish the planning and employment of space forces in accordance with a concept of space operations. However, the Air Force space command's establishment of forward space support in theater (FSST) teams to support theater

JFACC's shows that the Air Force is bureaucratically and institutionally committed to ensuring that the JFACC has required space - experienced personnel to support him in this role. The FSST team's focus and expertise has been, and will probably remain, directed at supporting the JFACC's air campaign, not the land and sea campaigns. Lastly, it must be remembered that weapons systems are required to support theater CINCs requirements and that he determines their use in -- theater. Therefore space funding and personnel alone do not necessarily support the JFACC's claim to the space role. While over 90 percent of the DoD space budget and 80 percent of the experienced space personnel reside in the Air Force, the Army and Navy TENCAP Programs have spent several times more than the Air Force in fielding numerous systems utilizing national space assets. On the other hand, the Air Force has fielded only one system in 14 years. This track record undermines the JFACC's credibility as a broker for the use of space for his ability to efficiently employ it on the battlefield."

[6] Dana J. Johnson, Scott Pace, Brian C. Gabbard, "Space: Emerging Options For National Power," (Santa Monica, CA, RAND, 1998), 75: ", joint doctrine debates continue over questions such as: should there be a space JFACC, or even a joint force aerospace component commander? What is the scope of his responsibility and authority?"

[7] Department of Defense Joint Pub 0 - 2, "Unified Action Armed Forces (UNAAF)," (24 February 95), ii: "Organizing Joint Forces. A JFC has the authority to organize forces to best accomplish to the assigned mission based on the concept of organizations. The organization should be sufficiently flexible to meet the planned phases of the contemplated operations at any development that may necessitate a change in plan. The JFC will establish subordinate commands, assigned responsibilities, established or delegate appropriate command support relationships, and established coordinating instructions for the component commanders."

"Unity of effort is necessary for effectiveness and efficiency."

"Centralized planning is essential for controlling and coordinating the efforts of the forces."

[8] Department of Defense Joint Pub 3 - 14 First Draft V 1.4, "Joint Doctrine; Tactics, Techniques, and Procedures (TTP) for Space Operations", January 1999, 3 - 2: "It is usually contingent upon the supported commander to deploy ground-based equipment required to receive, process, and disseminate products provided by space forces, as well as to train personnel in the use of space systems. For example, space forces may provide missile warning information from space-based surveillance systems, but the supported commander must receive this information, integrate it with information from other warning and surveillance assets, and use the information in support of missile defense operations. Each regional CINC has a USSPACECOM LNO organic to his staff to facilitate the use of space systems as well as a joint space support team and space component commands support teams that can deploy to the regional CINCs area of operations and provide additional support needed."

[9] Ibid., 4 - 5: "USCINCSPACE As a Supporting Commander: USCINCSPACE may designate a subordinate (e.g. USSPACECOM/J3, space component commander or space force commander) to manage space operations on behalf of USCINCSPACE. A supported CINC/JFC/JTF commander may also use his USSPACECOM LNO and joint space support team to manage space operations and place them under his J3. The CINC/JFC/JTF commander decides how he will task organize for combat and where he will place space forces and capabilities within his organization. The CINC/JFC/JTF commander could task organize and establish separate air, land, and sea, space, information operations, and plans divisions, and use his J3 to integrate and synchronize the entire joint operation. As another viable option, a supported CINC/JFC/JTF commander may use his Joint Force Air Component Commander (JFACC) and Joint Air Operations Center (JAOC) to conduct space support planning, coordination, and allocations/apportionment of space forces/capabilities."

[10] U. S. Space Command, "Long Range plan/implementing USSPACECOM vision for 2020," (Peterson AFB, CO, 1998), 8: "SPACE SUPPORT TO DOMINANT MANEUVER. Military satellite

communications are key to achieving dominant maneuver on the future battlefield. It is critical to synchronize the movements and effects of widely dispersed and highly mobile units. Coupled with satellite navigation, commanders maintain precise data on the position and status differently forces in the enemy -- fundamental to battlespace awareness. Space-based surveillance, earth resource monitoring and missile warning capabilities enable warfighters to complete the common operating picture of the battlefield. Information products are dissemination directly to the point of need, even to the foxhole, bridge or cockpit. Products can be "pushed" or "pulled" depending on warfighter needs."

[11] Ibid., 8 - 9: "Space Support To Precision Engagement. Space-based surveillance assets will provide near real-time threat detection, targeting data, and damaged assessment, closing the loop between the sensor in shooter. Satellite navigation systems will allow for greater positional and timing precision in a new generation of "fire and forget" weapons systems, while denying this advantage to our adversaries. Global military satellite communications provide the backbone of responsive command and control. Should future national policy support applying force from space, USCINCSPACE will be prepared to carry out NCAA directives, neutralizing critical targets beyond a range of theater assets and eliminating threats long before they are in a position to harm allied forces."

[12] Ibid., 9: "Space Support to Full-Dimensional Protection. Space -- based surveillance and missile warning assets provide initial detection of theater and intercontinental ballistic missile, and ultimately cruise missiles and aircraft. Initial tracking information will be seamlessly integrated into defensive missile defense systems on the ground, at sea, in the air and in space. Space-based surveillance, navigation, communications, warning and weather information is essential to battlespace awareness and force protection."

[13] Ibid.,12.

[14] Ibid., 36.

[15] Ibid., 46: "A joint force space component commander - like position will integrate space operations with theater planning to coordinate negation requirements. Also, the USSPACECOM battle managers will support this organization by managing information and tasking in near real-time."

[16] Ibid., 94: "USSPACECOM must also consider the recipients' ability to command and control the resource. If they cannot, USSPACECOM may have to deploy some type of command and control element or not transfer the force. Furthermore, if the command is supporting multiple operations at the same time, we may retain direct control of the force.

Regional CINCs must resolve how to command and control space forces the SECDEF transfers to them. Joint doctrine provides the following examples (see figure 7 -- 1 6): (1) organize the space forces under a space component commander; (2) integrate the space capabilities into respective service or functional components; (3) place all space forces under one of the existing components; (4) centralize the space forces at this CINC staff level."

[17] Ibid., 95: listed under organizational directives and recommendations: "help regional CINCs carry out their plans to command and control space forces. (SP J3)"

[18] ibid., 97: "COMMAND AND CONTROL OF SPACE FORCES. Space is clearly the high ground warfighters will need to prevail. To secure that edge, we must have a clear chain of command between USCINCSPACE, the components, and the other warfighting CINCs, so they can centralize planning and tasking and decentralized execution (locally)."

[19] Ricky B. Kelly, "Centralized Control Of Space: The Use Of Space Forces By A Joint Force Commander," (Maxwell AFB, Alabama: School of Advance Airpower Studies, 1994), 27.

[20] Richard R. McPhee, "Little Round Top 2063," (U.S. Army War College, Carlisle Barracks, PA., 1999), 2.

[21] Department of Defense Joint Pub 3.0, "Doctrine for Joint Operations," 1 February 1995, GL-7.

[22] Michael M. Garrell, "There Are No Space Wars; How Do CINCs Fight Using Space Forces?" (U.S. Naval War College, Newport R.I., 1994), 2: "my thesis it is that the focus on warfare "in space" has left the unified commanders and/or joint task force commanders with an inadequate framework for employing current space assets. Thus, space is not fully integrated into the operational level of war."

[23] Ibid., 13: (On DESERT STORM) "Despite the fact space assets have been available for military operations since the 1970s the use of space was not well integrated into the operational planning process just like the airplane in World War I."

[24] Ricky B. Kelly, "Centralized Control Of Space: The Use Of Space Forces By A Joint Force Commander," (Maxwell AFB, Alabama: School of Advance Airpower Studies, 1994), 49: "therefore, space support to a theater of operations should be centrally controlled to achieve advantageous synergies, establish effective parties, capitalized on unique strategic and operational flexibilities, ensure unity of purpose, and minimize the potential for conflicting objections."

[25] Lieutenant General John Costello, "Space Plus Fires Equals Nowhere To Hide In 21st Century Land Force Operations," (Fort Sill, OK, September -- October 1999 Field Artillery Journal), 13: "Space-Based Radar -- Discoverer II. Discoverer II will provide joint forces a dedicated space-based radar with a ground moving target indicator. Additionally it'll provide synthetic aperture radar imagery and advanced product processing to supply digital terrain elevation debtor production."

"The joint force commander or a designated service component commander will task Discoverer II, and the system will downlink targeting data directly into theater in near-real time."

[26] Richard R. McPhee, "Little Round Top 2063," (U.S. Army War College, Carlisle Barracks, PA., 1999), 24: "Discoverer II (24 satellites): provides surveillance, near real-time targeting, global precision digital terrain elevation data (DTED)

-can be directly task by the theater commander

-also SAR and ground MTI "

[27] Ricky B. Kelly, "Centralized Control Of Space: The Use Of Space Forces By A Joint Force Commander," (Maxwell AFB, Alabama: School of Advance Airpower Studies, 1994), 20: "...throughout the Gulf War operations space support took on an ad hoc character because of inadequate planning for the use of space forces."

"U.S. Central Commands planning for and employment of space forces in the Gulf War can be characterized as having no single integrator."

[28] Michael M. Garrell, "There Are No Space Wars; How Do CINCs Fight Using Space Forces?" (U.S. Naval War College, Newport R.I., 1994), 4: (on desert storm)"But, behind his successes were a series of problems which point out the commanders failure in integrating space into the operational plan. This problem was described by Alex Rowland when he characterized technology as entering the military invisibly. He went on to say that technology appears with no advocates and even the participants don't seem to promote or understand it. The doctrine lags behind capabilities and commanders don't understand the consequences on military operations. This certainly describes the evolution of space capabilities in Desert Storm."

[29] Henry G. Frank, "An Evolving Joint Space Campaign Concept And The Army's Role," (1992), Page 3: "space assets are currently viewed as a force multiplier for every services field forces at every level of war and across the operational continuum. Thus every service has a vested interest in effective U.S. space power and must contribute to the fielding of military space forces. The sheer cost of space operations demands that they be the most joint of operations, supporting defense guidance which assigns space functions to each service."

[30] Department of the Army TRADOC PAMPHLET 525 – 60, "Space Support To Land Force Operations," (1 November 1994), 2, paragraph 2 - 1: "the conduct of Army operations on future battlefields is no longer limited to the traditional strategic, operational and tactical dimensions of land, sea, and air. Space now extends the boundaries, adds a new dimension, and enhances the warfighting capabilities of U.S. forces within those dimensions. Technology has progressed to the point that capabilities, reliable and responsive to the needs of Army commanders and forces, can be projected to and from space. Space capabilities, therefore represent a logical extension of the battlefield."

[31] Elwyn Harris, "Recommended Strategy For The Army's Role In Space," (Rand Corporation, Santa Monica, CA, 1993), 7: "..., the Army must think strategically about space with space systems being considered the primary choice and terrestrial systems serving in an augmentation role."

[32] Henry G. Frank, "An Evolving Joint Space Campaign Concept And The Army's Role," (1992), 4: "However, the joint space campaign concept must address a number of unique issues, including the often simultaneous strategic, operational, tactical, and political impact of space operations; the unique design of both space theaters of war and operations, either of which may be global in extent; the evolution of combat operations in the space medium itself; and the role each service, the U.S. space command, and in-theater forces would play in a space campaign."

[33] Ibid., 44: "the Army should support a change in the UCP giving USCINCSPACE both geographic area and functional responsibilities in space.

The Army should require that joint and Army doctrine include a Capstone doctrinal approach to the space regime as a whole, built upon a sound military space theory. Implementing doctrine should incorporate the concepts of space campaigns, space theaters, space force operating systems and tiers, and the joint space force component commander."

[34] Lieutenant General John Costello, "Space Plus Fires Equals Nowhere To Hide In 21st Century Land Force Operations," (Fort Sill, OK, September -- October 1999 Field Artillery Journal), 13: "...space systems sense the battlespace early and continuously, a cornerstone requirement of 21st century fires."

[35] Richard R. McPhee, "Little Round Top 2063," (U.S. Army War College, Carlisle Barracks, PA., 1999), 34: "theater commander's must be given the capability to allocate space-based assets just as they do current ground and air capabilities and forces. This may require the capability to tasked space-based sensors and communication assets at the operational or even tactical levels."

[36] Department of the Army TRADOC PAMPHLET 525 – 60, "Space Support To Land Force Operations," (1 November 1994), 8.

[37] Richard R. McPhee, "Little Round Top 2063," (U.S. Army War College, Carlisle Barracks, PA., 1999), 12: "control of space will allow real-time surveillance of target's battle damage assessment."

[38] Lieutenant General John Costello, "Space Plus Fires Equals Nowhere To Hide In 21st Century Land Force Operations," (Fort Sill, OK, September -- October 1999 Field Artillery Journal), 12: "in the 21st

century, fires will be versatile and agile, demanding the support of highly capable sensors and communications.

Achieving the reach, responsiveness and precision demanded of future fires will depend on the support of space systems."

[39] General Richard B. Myers, "Written Testimony Presented to the Senate Armed Services Committee Strategic Forces Subcommittee," (Peterson Air Force Base, CO March 22nd, 1999), 2.

[40] Department of the Army TRADOC PAMPHLET 525 – 60, "Space Support To Land Force Operations," (1 November 1994), 5: "the strategy to integrate the combat multiplying effects of space capabilities into the Army must be flexible and responsive enough to support Army forces engaged in multiple operations, crisis or simultaneous regional conflicts."

[41] Henry G. Frank, "An Evolving Joint Space Campaign Concept And The Army's Role," (1992), 41 – 42.

[42] Dana J. Johnson, , Scott Pace, Brian C. Gabbard, "Space: Emerging Options For National Power," (Santa Monica, CA, RAND, 1998) , 75: "the most serious of these difficulties are not technological or even fiscal, but operational, doctrinal and organizational. For example: how should space capabilities be integrated into other military options?"

[43] Robert D. Newberry, "Space Doctrine For The 21st Century," (Maxwell AFB, AL, Air University Press,1998), 25.

[44] Department of Defense Joint Pub 0 - 2, "Unified Action Armed Forces (UNAAF)," (24 February 95), 4 – 3.

[45] Department of Defense Joint Pub 0 - 2, "Unified Action Armed Forces (UNAAF)," (24 February 95), 4 - 18:

[46] Ricky B. Kelly, "Centralized Control Of Space: The Use Of Space Forces By A Joint Force Commander," (Maxwell AFB, Alabama: School of Advance Airpower Studies, 1994), 17, table 3: access to space forces.

Satellite system	controlling organization
SHF COMSATs	Army Space Command/Defense Communications Agency
UHF COMSATs	Naval Telecommunications Command/Strategic Air Command
commercial COMSATs	Defense Communications Agency
transit NAVSATs	Navy
GPS NAVSATs	USSPACECOM
intelligence	National Reconnaissance Organization [National Reconnaissance Office]
spot MSI	Defense Mapping Agency [NIMA]
LANDSAT MSI	Defense Mapping Agency [NIMA]

DSP early warning USSPACECOM

[47] Henry D. Baird Jr., "Is It Time For A Joint Force Space Component Commander?" (U.S. Naval War College, Newport, R.I. 1992), 13: "The fact that numerous branches of the armed services and various government agencies and civilian organizations are users of the space force enhancement satellite system would tend to make one think that a JFSCC's job would be impossible. In fact, it makes it imperative that a JFSCC be appointed in the next confrontation. Rather than an ad hoc arrangement for everyone and his brother and calling up and asking for data channels, imagery, weather information, and better navigation coverage, having a single commander for satellite support and space control if that is possible makes more sense. Just like the JFACC, he would take all the requests from the other theater component commanders and coordinate with outside agencies to provide the maximum benefit with the least interruption to other services being provided."

[48] Ibid., 18: It would seem appropriate at this point to guess at whom this JFSCC might be. Of course, it is up to the CINC to set up his organization the way he wants as we've seen previously but several models to mind. One might be the Air Force component commander of USSPACECOM. This would put him at the level of the other Major subordinate commanders. A second model would put an 06 such as the second space wing/cc in charge of a unit like the special operations command had on CENTCOM's staff. The third method is that of a liaison came from USSPACECOM with various expert on the space systems. All of these could be made to work as not having any of them was forced to work but the first method is probably the best."

[49] Lawrence C. Crockett, "Joint Commanders And Budget Authority," (National Defense University, Ft. McNair, Washington D.C., 1992), 2 - 3: budget authority from section 167 2 (c) of the Defense authorization act of 1987, 3 – 2.

USSOCOM , "USSOCOM History," (September 1998), 3 – 5.

AUSA BACKGROUND BRIEF, "Special Operations Forces: An Overview," (MARCH 1999), 3.

Larry R. Sloan, "Should The Commander In Chief, United States Special Operations Command Have The Authority To Develop And Acquire Special Operations-Peculiar Equipment, Material, Supplies Or Services?" (U.S. Army War College, Carlisle Barracks, PA, 1989), 6: "...Senate amendment 2567 was offered by William S. Cohen with several scathing congressional findings that DOD, led by the military services, had among other things, failed to adequately recognize, understand, plan, allocate or emphasize activities necessary to support S. O. F.."), Page 16: USCINCSOC's budget authority is "limited to" special operations peculiar items.

Author's note: In the early '80s, military reformers in Congress focused on this problem. The history of the creation of USSOCOM follows, presented as key milestones:

a. DESERT ONE failure gets Congress involved. Starts a series of actions
    - Holloway commission
        - Retired Army Major General Richard Schultes "...explained how conventional force leaders misused SOF during the operation, not allowing them to use their unique capabilities..."

- Special Ops Advisory panel
- first SOC (1982)
- Joint Special Ops Agency (1984)

DoD directive 5100.1 (September 25 1987)-- key document to make JCS and services address CINCs concerns. [49]

- 1987 Defense Authorization Act[49]
  - Cohen - Nunn amendment to the national Defense Authorization Act for fiscal year 1987 establishes legal authority for USSOCOM.
  - USSOCOM activated 16 April 1987.[49]
  - Result of the legislation fostered interservice cooperation
  - "Use existing service acquisition systems to the maximum extent possible."
  - Designates CINCSOCOM as a "head of agency" for soft acquisition[49]

b. USSOCOM: 1 June 1987 takes charge

- 1991: first USSOCOM fully supported POM
  - It's an interesting footnote to this history that the current Secretary of Defense was the co- sponsor of the legislation that formed USSOCOM[49], and that this legislation was as a result of the military services' failure to understand a new approach to military operations.

[50] Lawrence C. Crockett, "Joint Commanders And Budget Authority," (National Defense University, Ft. McNair, Washington D.C., 1992), 10: "U.S. SOCOM has taken on the dual roles of a unified command and a service." "The program was working."

51 Lawrence C. Crockett, "Joint Commanders And Budget Authority," (National Defense University, Ft. McNair, Washington D.C., 1992), 4 - 2: "U.S. SOCOM has its forces actually assigned for force development training, a putting, as well as fighting. The other commands have forces aligned not assigned." "For a CINC to have its own budget authority the need for the Washington office is absolute."

[52] Larry R. Sloan, "Should The Commander In Chief, United States Special Operations Command Have The Authority To Develop And Acquire Special Operations-Peculiar Equipment, Material, Supplies Or Services?" (U.S. Army War College, Carlisle Barracks, PA, 1989), 28: "Special operations peculiar items are acquired and developed to support the strategy and missions. The process of planning, programming, acquiring and executing by one command represents joint unity of effort."

[53] US Special Operations Command Public Affairs Office, "Fact Sheet, United States Special Operations Command," (USSOCOM MacDill AFB, Florida, 1999), 1.

[54] UNITED STATES SPECIAL OPERATIONS COMMAND, "USCINCSOC OPERATIONAL CONCEPT," (EFFECTIVE 28 JULY 1989),3-18.

[55] Ibid.

[56] ibid.

[57] Department of Defense Joint Pub 0 - 2, "Unified Action Armed Forces (UNAAF)," (24 February 95), 4 – 8: Provides the following guidance:

Subordinate Unified Command. When authorized through the chairman of the Joint Chiefs of Staff, commanders of the unified commands may establish subordinate unified commands (also called subunified commands) to conduct operations on a continuing basis in accordance with the criteria set forth for unified commands. A subordinate unified command may be establish on a geographical or functional basis. Commanders of subordinate unified commands have functions and responsibilities similar to those of the commanders of unified commands and exercise OPCON of assigned commands and forces, and normally over attached forces within the assigned JOA or functional area. The commanders of components or service forces of subordinate unified commands have responsibilities and missions similar to those listed for component commanders within a unified command.

[58] USSOCOM, "Special Operations Forces Reference Manual," (USSOCOM, MacDill AFB,June 1997), 2 – 1.

[59] Ibid.

[60] ibid., 2 - 11:

[61] ibid., 2 - 12:

[62] Department of Defense Joint Pub 3 - 14 First Draft V 1.4, "Joint Doctrine; Tactics, Techniques, and Procedures (TTP) for Space Operations," (January 1999), I-2.

[63] One Hundred Sixth Congress of the United States of America, "National Defense Authorization Act for Fiscal Year 2000," 6 January 1999.

[64] Department of the Army TRADOC PAMPHLET 525 – 60, "Space Support To Land Force Operations," (1 November 1994), 12

[65] LtCol Richard K. Jones, " A Comparative Assessment Of The Services' Management Of Their Space Operations Personnel," (The Industrial College of The Armed Forces, National Defense University, Ft. McNair, Washington, D.C., 1992), 18: "Space education and training needs to be revitalized and reemphasized. This is especially true in the unified and specified warfighting commands. My own experience has been there are very few personnel in these commands who understand space, and what space can do for them. This is reflected in their lack of the use of space in their exercises, and their operational plans. We need to fix this... as soon as possible. If operational commanders don't understand space, don't exercise and train with space, and therefore have no confidence that space will be there when they needed, then we'll have failed in the space force enhancement commission. To this end, I recommend U. S. Space Command considers establishing operational detachment at each of the unified and specified commands. The missions of these attachments will be to enhance space support to these commands."

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