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AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

BAFFLED BY DAFL:

THE HISTORY AND FUTURE OF THE DIRECTIVE AUTHORITY FOR LOGISTICS

by

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Abstract

Most observers of Operation ENDURING FREEDOM and Operation IRAQI FREEDOM agree that the conduct of major combat operations were successful. However, when experts analyze the logistical performance of U.S. Central Command and other components of the U.S. armed forces, many critiques arise. Numerous anecdotes of less-than-satisfactory support given to combat units can be found, from the lack of spare parts experienced by ground forces driving into the heart of Iraq to the inability to more effectively coordinate intratheater distribution, that clearly indicate room for improvement. The fact that some of these same criticisms were made in the aftermath of Operation DESERT STORM in 1991 suggests that, while we may have learned from our mistakes in the past, we have not effected the necessary changes in our logistics operations to avoid repeating them.

This paper explores this topic first by addressing the various sources of guidance—doctrinal and directive, joint and service—that stipulate how joint logistics is to be conducted. Then, three main areas of joint logistics operations are discussed: visibility, distribution, and communications/information technology capabilities. For these issues, a brief historical analysis of their effectiveness in Operations DESERT STORM, ENDURING FREEDOM, and IRAQI FREEDOM is provided. Lastly, conclusions for each aspect will be drawn and recommendations offered for improving these shortcomings in the future.

Part 1: Introduction

The first essential condition for an army to be able to stand the strain of battle is an adequate stock of weapons, petrol, and ammunition. In fact, the battle is fought and decided by the quartermasters before the shooting begins.

--Field Marshall Erwin Rommel

Most observers of Operation ENDURING FREEDOM (OEF) and Operation IRAQI FREEDOM (OIF) agree that the conduct of major combat operations were successful. However, when experts analyze the logistical performance of U.S. Central Command (CENTCOM) and other components of the U.S. armed forces, many critiques arise.[1] Numerous anecdotes of less-than-satisfactory support given to combat units can be found, from the lack of spare parts experienced by ground forces driving into the heart of Iraq[2] to the inability to more effectively coordinate intratheater distribution[3], that clearly indicate room for improvement. The fact that some of these same criticisms were made in the aftermath of Operation DESERT STORM (ODS) in 1991 suggests that, while we may have learned from our mistakes in the past, we have not effected the necessary changes in our logistics operations to avoid repeating them.

Discussions of late have centered on a perceived inability of the regional combatant commander (COCOM) to effectively carry out directive authority for logistics (DAFL). Critics charge that, among many things, the lack of a "single point of contact" for joint logistics theater management (JTLM) caused the inadequacies. Many of those who point to this shortfall advocate the creation of a theater logistics component commander to fulfill this role. Others disagree with this assessment and highlight problems with force flow, information capability, and other factors as key deficiencies. The key to any effort to learn from mistakes, however, is ensuring that the right problems are identified. If we do not identify the true root cause, we may correctly solve the symptom of the problem but yet further exacerbate the underlying ineffective

condition. More importantly, we will witness yet another operation in which logistics fails to live up to the warfighters' expectations.

This paper explores this topic first by addressing the various sources of guidance—doctrinal and directive, joint and service—that stipulate how joint logistics is to be conducted. Then, three main areas of joint logistics operations are discussed: visibility, distribution, and communications/information technology (IT) capabilities. For these issues, a brief historical analysis of their effectiveness in ODS, OEF, and OIF is provided. Lastly, conclusions for each aspect will be drawn and recommendations offered for improving these shortcomings in the future.

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[1] U.S. Government Accountability Office. *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom* (Washington DC: U.S. Government Printing Office, 2003), 2.

[2] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq: DUSD (L&MR) and Joint Staff (JSJ4) Sponsored Assessment to Review the Effectiveness and Efficiency of Selected Aspects of Logistics Operations During Operation Iraqi Freedom* (Washington DC: Science Applications International Corporation, 2004), 12.

[3] U.S. Government Accountability Office. *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom*, 3.

Part 2: The Problem

If the transportation system will support, or can be developed in time to support, the forces necessary to carry out the operations plan, the rest of the logistics can usually be brought into line within a reasonable time.

--Gen Carter B. Magruder, USA

The main area of dialogue that impacts this research involves the division of responsibility for logistics within the COCOM's area of responsibility (AOR). This discussion begins with a review of the responsibilities each of the Services bears with respect to joint logistics.

The Services and Title 10

First, the Services—Air Force, Army, Marine Corps, and Navy—bear the obligation to support its forces worldwide. Title 10 of the U.S. Code and subordinate guidance such as Department of Defense (DoD) Directive 5100.1 state that the Services are required to "…provide logistic support for Service forces, including procurement, distribution, supply, equipment, and maintenance, unless otherwise directed by the Secretary of Defense."[4] Then, Joint Publication (JP) 4-0 further explains that Services "…will continue to have responsibility for the logistic and administrative support of Service forces assigned or attached to joint commands"[5] consistent with legislation, DoD directives, and other guidance during peacetime. However, the COCOM can utilize all of the Services' resources assigned to the command "Under crisis action, wartime conditions, or where critical situations make diversion of the normal logistic process necessary."[6] Therefore, a natural tension exists as two separate entities are responsible for the logistics support of the forces assigned in the COCOM's AOR. Furthermore, the boundary between "peacetime" and "wartime" is difficult to identify, and shifting responsibilities once it has been identified is problematic.

The Combatant Commander

The next issue for consideration is the COCOM's Directive Authority for Logistics (DAFL). The source of this authority is also Title 10 of the United States Code, which states that the COCOM executes this by "giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command, including authoritative direction over all aspects of military operations, joint training, and logistics."[7] From this legislation, several Joint Publications further detail this authority so that it can be performed by the COCOM.

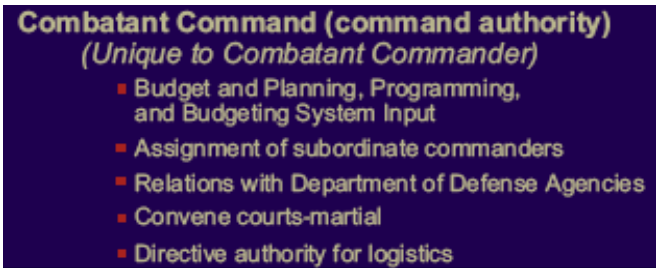

Figure 1. Combatant Command[8]

JP 0-2 also states that combatant command "…cannot be delegated or transferred"[9], and JP 4-07 further says that this authority pertains to "…assigned forces in specific joint operations."[10]

It is interesting to point out that DAFL is a doctrinal (not legal) term that at times is used as a distinct authority not already inherent within combatant command. For example, DAFL is defined in JP 1-02 as "Combatant commander authority to issue directives to subordinate commanders, including peacetime measures, necessary to ensure the effective execution of approved operation plans. Essential measures include the optimized use or reallocation of available resources and prevention or elimination of redundant facilities and/or overlapping functions among the Service component commands."[11]

The lack of reference to the previously determined "combatant command" authority seems to imply that DAFL is somehow a different power. JP 0-2 clouds the topic further because it is contradictory, stating "Commanders of combatant commands exercise directive authority for logistics and may delegate directive authority for a common support capability."[12] This implies that DAFL is somehow separate from the combatant command that cannot be delegated. Other joint publications (namely 4-0 and 4-07) further describe a separate DAFL and its applicability to joint theater logistics operations, but end up diluting or confusing the COCOM's authority.[13] As with all of the other functions for which the COCOM is responsible, there is a staff directorate that manages the logistics issues on his behalf and under his authority.

The Logistics Staff

The COCOM's Logistics Directorate (J-4) is charged with "the formulation of logistic plans and with the coordination and supervision of supply, maintenance, repair, evacuation, transportation, engineering, salvage, procurement, health services, mortuary affairs, security assistance, host-nation support, and related logistic activities."[14] The staff of the J-4 performs the following key functions:

1. Monitor current and evolving theater logistic capabilities
2. Coordinate logistic support with upcoming operations
3. Advise the CINC [COCOM] on the supportability of proposed operations or COAs [courses of action]
4. Act as the CINC's agent and advocate to non-theater logistic organizations[15]

As with all other staff directorates, the J-4 takes the actions necessary to ensure unity of effort and accomplishment of the command's assigned mission[16], and "The degree of authority to act in the name of and for the commander is a matter to be specifically prescribed by the commander."[17]

While the COCOM is ultimately responsible to effectively apply logistics toward his operations, how it is achieved is somewhat muddled. For example, JP 4-07 says that "The

combatant commander's directive authority does not discontinue Service responsibility for logistic support even if it is being executed by another Service or agency."[18] What is clear, however, is the desire for effective command and control (C2) of theater logistics to successfully support combat operations. In the end, how does the execution of DAFL impact the logistics support of combat forces? An analysis of theater logistics in ODS and OEF/OIF is appropriate to answer this question.

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[4] Department of Defense. *DoD Directive 5100.1: Functions of the Department of Defense and Its Major Components* (Washington DC: U.S. Government Printing Office, 2002), 15.

[5] Joint Chiefs of Staff. *Joint Publication 4-0: Doctrine for Logistic Support of Joint Operations* (Washington DC: U.S. Government Printing Office, 2000), I-6, 7.

[6] Ibid.

[7] Title 10, Subtitle A, Part I, Chapter 6, § 164. *Commanders of combatant commands: assignment; powers and duties* (2005), http://www.law.cornell.edu/uscode/search/display.html?terms=combatant%20command&url=/uscode/html/uscode10/usc_sec_10_00000164----000-.html

[8] Joint Chiefs of Staff. *Joint Publication 0-2: Unified Action Armed Forces (UNAAF)* (Washington DC: U.S. Government Printing Office, 2001), III-2.

[9] Ibid, xi.

[10] Joint Chiefs of Staff. *Joint Publication 4-07*: Joint Tactics, Techniques, and Procedures for Common-User Logistics During Joint Operations (Washington DC: U.S. Government Printing Office, 2001), I-3.

[11] Joint Chiefs of Staff. *Joint Publication 1-02: Department of Defense Dictionary of Military and Associated Terms* (Washington DC, U.S. Government Printing Office, 2005), 162.

[12] Ibid, III-6.

[13] Christopher R. Paparone, COL, USA. "Who Rules Logistics? Service Versus COCOM Authority." *Army Logistician* (Nov-Dec 2005), 54.

[14] Joint Chiefs of Staff. *Joint Publication 0-2: Unified Action Armed Forces (UNAAF)* (Washington DC: U.S. Government Printing Office, 2001), V-15.

[15] Joint Chiefs of Staff. *Joint Publication 4-0*, B-2, 3.

[16] Joint Chiefs of Staff. *Joint Publication 0-2*, V-12, 13.

[17] Ibid., V-13.

[18] Joint Chiefs of Staff. *Joint Publication 4-07*, II-5.

Part 3: Discussion

Before any plans can be made to provide an army, logistics must be provided first. History has changed a lot, but logistics has been the crux of every one of these changes; the nail that was missing which lead to the loss of country lead to a lot of those decisions.

--Maj Gen Hugh Knerr, USAAF

The first aspect of theater logistics to discuss is the organization of the headquarters staff and subordinate units. The J-4 staff, which manages the overall logistics operation in the AOR, is typically organized as shown in Figure 2.

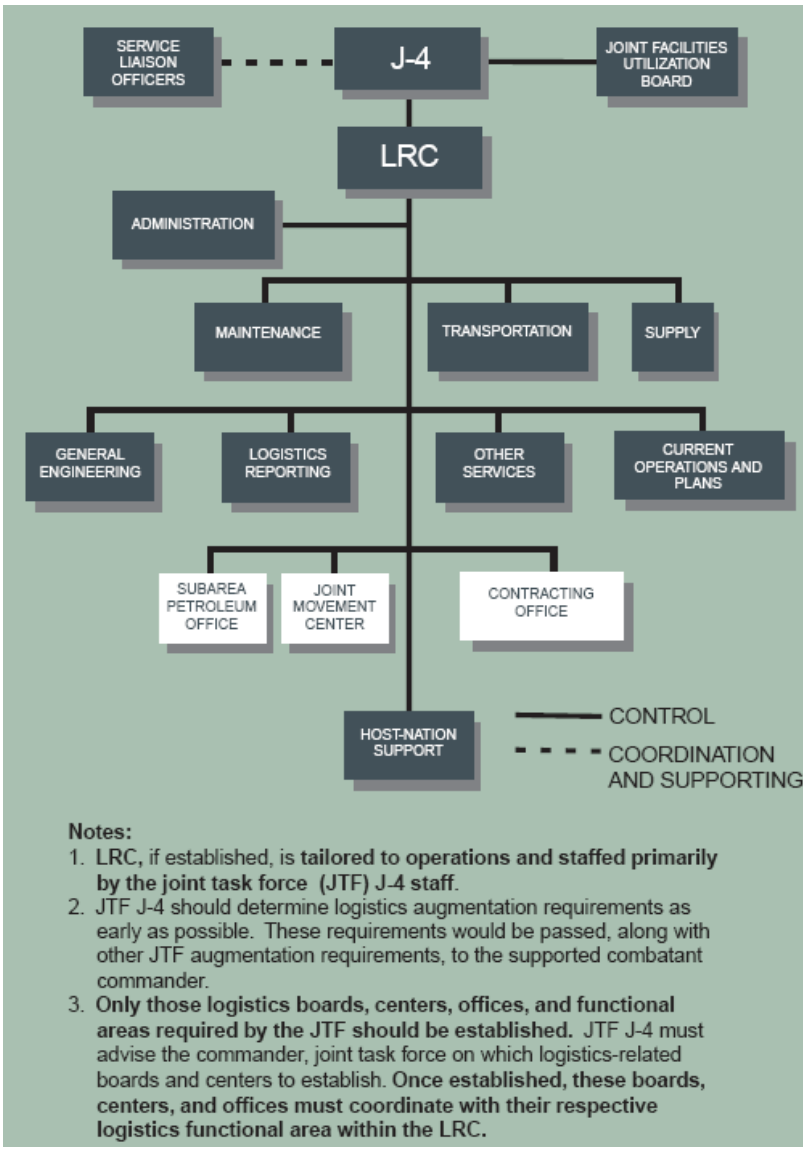

Figure 2. Typical J-4 Organization With Logistics Readiness Center (LRC)

Logistics Readiness Center (LRC)

The LRC, when established, normally "Manages the combatant commander's directive authority over logistics and provides the coordination required to resolve logistics issues and problems"[19] with representatives from each of the Services who are functional experts in the areas shown in Figure 4. The LRC may include the following boards or centers:

- Joint Movement Center (JMC)
- Joint Petroleum Office (JPO)/Sub Area Petroleum Office (SAPO)
- Joint Civil-Military Engineering Board (JCMEB)
- Joint Facilities Utilization Board (JFUB)
- CINC Logistic Procurement Support Board (CLPSB)
- Theater Patient Movement Requirements Center (TPMRC)
- Joint Blood Program Office (JBPO)
- Joint Mortuary Affairs Office (JMAO)
- Joint Medical Surveillance Team (JMST)
- Joint Materiel Priorities and Allocation Board (JMPAB)
- Joint Transportation Board (JTB)[20]

The COCOM also has the option to utilize these or any other organization to manage logistics when a LRC is not utilized.

Joint Theater Logistics Management

While the COCOM is ultimately responsible for the theater logistics operation, joint doctrine offers a variety of options with regard to the logistics organizational structure used to attain Joint Theater Logistics Management (JTLM).

> JTLM integrates the logistic capabilities of the forces in-theater to fulfill the common-user and cross-Service support mission. When applied to the other challenges and desired operational capabilities of focused logistics, JTLM facilitates support to the warfighter while achieving economies and reducing the logistic footprint. JTLM optimizes resources by synchronizing all logistic support efforts in-theater. The objective is to provide rapid, timely delivery of forces, materiel, and sustainment to the combatant commander. JTLM provides to the combatant commander the ability to synchronize, prioritize, direct, integrate, and coordinate common-user and cross-Service logistic functions necessary to accomplish the joint theater mission.[21]

The primary decision the COCOM must make is how to align responsibilities for providing logistics support to subordinate units in the theater. The first choice is to retain the duty of supporting subordinate units with each Service, while the responsibility for common-user logistics (CUL), or the support of items or services used by more than one Service, is limited to pre-existing agreements between the Services or coordinated by the COCOM's J-4.[22] Some advantages and disadvantages of this construct are:

- **Advantages of single-Service logistic support**
  - •• Does not require new command relationships
  - •• Allows each Service component to retain control of its own logistic assets
  - •• Does not require major adjustments to standard operating procedures
- **Disadvantages of single-Service logistic support**
  - •• May require significantly more strategic lift requirements to properly execute
  - •• May increase operation costs
  - •• May increase deployment time
  - •• Will increase logistic footprint in theater
  - •• May require the use of J-4 lead boards and centers to manage specific CUL functions[23]

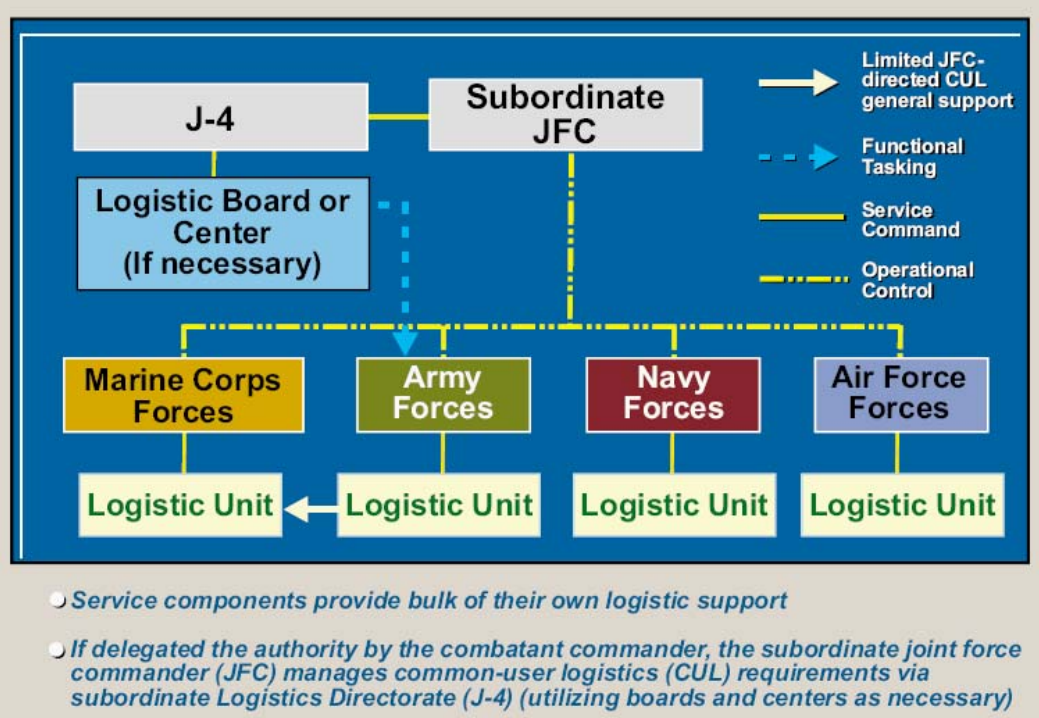

Figure 3. Single-Service Logistic Command & Control and Management Option[24]

With the structure shown in Figure 3, the COCOM's J-4 would manage the assignment of CUL responsibilities and cross-leveling (reassigning resources from one service to another), while the determination of logistic priorities for assigned forces remains with each respective Service.[25]

Another option available to the COCOM is to assign a Service or other DoD organization to be the lead agency for CUL support. In this scenario (shown in Figure 4), the COCOM will normally assign the Service that is the most dominant user or the Service most capable of managing the particular commodity or service this responsibility.[26] Also, the use of J-4 boards and centers would only be used to "…coordinate or resolve issues above and beyond the capability of the lead Service or agency."[27] Some of the advantages and disadvantages of assigning a lead Service or Agency include:

- **Advantages of lead Service or agency option**
  - •• Reduces logistic redundancies
  - •• May significantly reduce the overall logistic footprint in theater
  - •• May reduce strategic lift requirements and deployment time
  - •• May significantly reduce overall cost
  - •• Allows each Service component to retain control of its own logistic organizations (without OPCON or TACON option)[28]
  - •• Requires very little joint staff, board, or center involvement to properly execute
- **Disadvantages of lead Service or agency option**
  - •• May be less responsive than dedicated Service support
  - •• Requires new support relationships and adjustments to standard operating procedures
  - •• Requires new C2 relationships (if OPCON or TACON option is utilized)[29]

Lastly, joint doctrine also describes situations in which the COCOM may mix features of the two previous options. The spectrum of alternatives for the COCOM's single point of contact for logistical issues includes:

- using a service organization as its nucleus, for instance the Army Theater Support Command organizational concept
- augmenting the J-4
- delegating to a Joint Task Force (JTF) commander
- establishing a stand alone logistic agency
- expanding the logistics readiness center (LRC)[30]

JTLM in Previous Operations

The difficulties in establishing the theater logistics organization in ODS is well documented by LTG (ret) Gus Pagonis in his book *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War*. He described a series of improvisational decisions that led to him, coming from a command outside of CENTCOM, being chosen after the deployment commenced to be the lead logistician in the AOR. "Almost as soon as we arrived in Saudi Arabia, Generals Schwarzkopf and Yeosock came to the shared conclusion that the only way

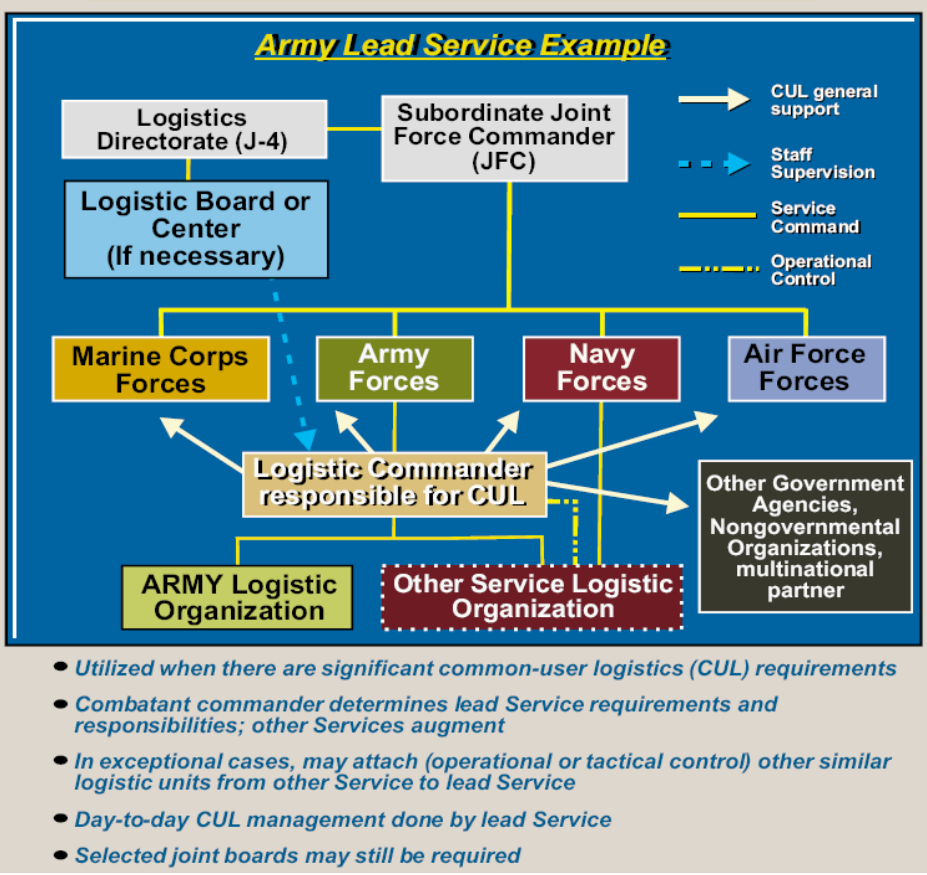

Figure 4. Lead Service Common-User Logistics Command and Control and Management Option[31]

they could operate successfully in the theater would be to establish a single point of contact for all logistical needs. I was it: the Deputy Commanding General for Logistics. Responsibility for

fuel, water, food, vehicles, ammunition, all classes of supply (except equipment repair parts) for the Marines, Air Force, and the Army, as well as items common to all the services (T-shirts, socks, and such), was entirely mine."[32] Then, Pagonis had to pick from among deploying personnel as they entered the theater to become his staff in the Logistics Operations Center (LOC). As more forces arrived, the LOC eventually grew into a more robust organization that included "clusters of transportation experts on one side of the room, fuel people on the other, and nodes of food procurement specialists, airport, and port operations people".[33] Eventually, the 22d Support Command, with Pagonis at the helm, was established to direct the theater logistics operation. In the end, General Schwarzkopf chose to use a lead service organization, an Army theater support command, to execute theater management of CUL.

In OEF, the deployment and employment of U.S. forces was much more rapid than as had been seen previously. The era of expeditionary warfare was upon us and each of the services faced a "come as you are" situation. Therefore, the initial logistics C2 rested with each of the services' forces in the Afghanistan AOR, and COCOM-level issues were handled back at CENTCOM headquarters at MacDill Air Force Base in Tampa, Florida.[34] A Logistics Operations Center (LOC) was established under the auspices of the CENTCOM/J4 to coordinate CUL and obtain materiel and services that the services could not. In addition, a number of joint boards and centers were utilized in the AOR to orchestrate support for in-country forces. For example, the Joint Movement Center (JMC) took on the responsibility to coordinate the use of transportation resources available in Afghanistan. This function was placed under the direction of the Combined Forces Air Component Commander (CFACC), located at the Combined Air Operations Center at Prince Sultan Air Base, Saudi Arabia, rather than under the Combined Forces Land Component Commander (CFLCC) or a subordinate Army unit. Because the

movement and use of organic land transportation assets was not viable, airlift became the main mode used for most cargo or personnel transport requirements at the outset of combat operations. There was a small Movement Control Center (MCC) that controlled a limited number of military trucks for Coalition Joint Task Force 180 (CJTF-180), the in-country headquarters for OEF.[35]

As more forces, namely Army personnel, flowed into the country, many of the functions managed back in Tampa moved forward and were assigned to the Joint Logistics Command (JLC) of CJTF-180 in Afghanistan. Over time, the JLC assumed more CUL functions and operates currently as the single-manager for in-country logistics for CJTF-76 (the successor to CJTF-180).

The operational logistics structure was not much different in OIF. Most of the logistics operation was controlled from CENTCOM headquarters until late in 2002. At that point, a large number of personnel from the J4 staff moved forward to the AOR. The CENTCOM/J4 staff operated the various joint boards and centers, such as the LRC, JPO, and JCMEB. In the mean time, the services controlled their respective logistics functions and CUL responsibilities. In fact, the U.S. Marine Corps created a Marine Logistics Command to control all Marine logistics operations in the Iraqi AOR, mainly the offloading and movement of combat equipment from cargo ships to their units in the field.[36] A clear example of the less-than-optimal arrangement of logistics responsibilities in OIF involves the JMC.

The JMC is "responsible for coordinating the employment of all modes of theater transportation (including that which is provided by allies, coalition partners, or the HN) to support the theater concept of operations at the operational level with the JTF JMC or component movement center."[37] It is the coordinator for all cargo and passenger movement into, through, and out of the theater and serves as the COCOM's "focal point for strategic movements and

should oversee the execution of theater transportation priorities."[38] It was noted that the JMC did not fulfill this role in OIF. "In CENTCOM, although there is a Joint Movement Center (JMC), the majority of distribution management is a component activity. At the highest level of the command, that [sic] appears not to have been the intention to execute a fully-functioning JMC. Processes used by the components were component-specific, not integrated into a single theater architecture. There were not common logistics procedures, shared communications, or joint control."[39] Furthermore,

> Given its limited capabilities, the JMC focused mainly on intratheater air movements by C-130s with the occasional C-17. Although there was some coverage of intratheater sealift by the Army's Theater Support Vessel (TSV), Logistics Support Vessels (LSV) and Landing Craft Utility (LCU) ships, the JMC did not attempt to manage the surface truck movements, delegating this function to the 377th TSC, which further delegated the responsibility to an Army Movement Control Battalion. The lack of joint visibility and management of common user ground transportation assets limited the joint access to these platforms, which became primarily an Army-centric transportation fleet. Had the JMC followed doctrinal examples for the establishment of such a body, the common user ground transportation assets may have been more accessible to all of the services and components.[40]

The last critique of the JMC worth noting here is the disunity of effort experienced in OIF because "the Director of Mobility Forces (DIRMOBFOR), the operator of the [airlift] schedule, was not colocated [sic] with the JMC at Camp Arifjan, but was based at Al Udeid Air Base in Qatar. The DIRMOBFOR would also add cargo to the existing airlift schedule [created by the JMC at Camp Arifjan]. There is little evidence that the JMC attempted to exercise comprehensive directive authority. In a complex AOR, it is essential that a fully functioning JMC be established and operated as a truly joint command with developed processes and tools. This did not occur in OIF and this dispersion of command across components led to dilution of control."[41] So while it appears that doctrine describes an integrated and effective JMC, it was not properly established nor employed in OIF.

Major Issues in Recent Operations

Both OEF and OIF experienced a combination of logistics organizational options, with the use of service-focused, lead service, and COCOM-level units and capabilities. While there were numerous examples of logistics shortfalls in these operations, those that can be attributed exclusively to doctrinal disparities are few. The main criticism found in this research was the cumbersome process by which service components must staff issues for resolution at the COCOM level. If there was a logistics requirement that could not be met by a service or lead agent, the requesting unit had to coordinate the request through the service component commander for a decision by the COCOM. By the time the issue was reviewed by the appropriate J4 staff office or agency and forwarded for decision, the matter was often overcome by events, or "OBE," in military jargon. In that time, the requesting unit had either moved on to another course of action or fulfilled its need by another means.[42] This was not a universal observation, since the Air Force seemed to be satisfied with the support they received from the COCOM under the organizational structure used in OEF and OIF.[43] However, the pace of combat will only grow faster, so perhaps a C2 structure that can support combat more quickly is needed. In fact, with the increased visibility and information/communications capabilities available through a logistics common operating picture[44], the COCOM's LRC may actually predict logistics shortfalls and proactively engage to resolve those issues before a Service needs to react.

The second main area of analysis is the conduct of theater distribution, arguably the most important joint logistics capability during war. The geographic COCOM is responsible for maintaining an effective distribution network and exercising visibility and positive control of personnel, materiel, and services in the AOR. To do this, the J-4 manages the overall theater

distribution operation by utilizing a series of boards, centers, and committees to prioritize and accomplish the management tasks.[45] The service components also play a large role in theater distribution, as they provide the units that conduct the day-to-day tasks.

Each of the services is assigned to perform various segments of the distribution process. These roles, known as Executive Agent (EA) or Single Manager (SM) tasks, are determined by Title 10, DoD directives, OPLANs, or other instructions. An example of a SM charge is the responsibility of the Department of the Army to provide common-user land transportation (CULT) in overseas areas, including rail, through the Commander, Army Forces (COMARFOR).[46] Therefore, the COMARFOR Director of Logistics (G-4) establishes the procedures and determines the requirements to execute this responsibility. Coincidentally, the CULT mission in both ODS and OIF had shortcomings and, thus, have been discussed frequently in literature.

During ODS, the U.S. Army Central Command (ARCENT) was indeed responsible for providing food, water, bulk fuel, ground munitions, port operations, inland cargo transportation, construction support for all US forces in the AOR.[47] The CULT function was inadequate for some time, however. Movement requirements outpaced the ground transportation capability throughout the operation, leading some to comment that, had ODS lasted longer, "maneuver forces would have outrun their fuel and other support."[48] One of the main reasons documented for this shortfall is the decision by CINCCENT to flow more combat forces and fewer logistics resources at the start of ODS. "The decision to sequence the deployment of the service support units later in the deployment flow severely affected the ability of the Army to provide the common-user requirements for the other services. In some cases, even those logistics forces that did arrive were unable to meet all requirements, and CENTCOM had to rely on HNS to make up

the shortages."[49] This situation had a significant ripple effect on theater logistics, especially at the sprawling ports bringing in huge amounts of materiel. "While the ports were important to the flow of personnel and materiel, the limited initial ability to move troops and equipment away from the ports to their preliminary combat positions became a weak link in the logistics chain. Inadequate numbers of US organic trucks, especially those with good off-road capability, and a limited MSR [main supply route] network became severe challenges that had to be overcome."[50] This despite the Army eventually deploying 72 percent of its truck companies to support 25 percent of its combat divisions.[51] This problem was well documented in the afterglow of ODS, so one would think that DoD would take appropriate actions to ensure this did not happen again.

Unfortunately, some of these same problems were also witnessed in OIF. According to the U.S. Government Accountability Office (GAO), "DoD did not have a sufficient distribution capability in the theater to effectively manage and transport the large amount of supplies and equipment deployed during OIF. For example, the distribution of supplies to forward units was delayed because adequate transportation assets, such as cargo trucks and materiel handling equipment, were not available within the theater of operations."[52] In addition, "The 377th Theater Support Command, responsible for logistics support in Kuwait, needed 930 light/medium and medium trucks but had only 515 trucks on hand when combat began, creating a strain on materiel movement. Available transportation assets could not meet the Marine Corps' and the 3rd Infantry Division's capacity requirements. High-priority items such as food did not always move as intended. Contractors responsible for moving meals ready-to-eat from ports to the Theater Distribution Center at times had only 50 of the 80 trucks needed. At one time 1.4 million meals ready-to-eat were stored at a port in theater, awaiting transport to customers."[53]

Why did this happen? Once again "DoD did not time the mobilization and deployment of cargo truck units so that the system could be fully prepared to meet anticipated demands from the first day of operations."[54]

> DOD's priority was for combat forces to move into the theater first. A study suggested that distribution assets were either deleted from the deployment plan or shifted back in the deployment timeline. As a result, logistics personnel could not effectively support the increasing numbers of combat troops moving into theater. A shortage of support personnel in theater prior to and during the arrival of combat forces was reported, and those who arrived were often untrained or not skilled in the duties they were asked to perform. The shortage resulted in delays in the processing (receipt, sorting, and forwarding) of supplies, and backlogs. Contractors performing distribution functions had become overwhelmed and a joint contractor military organization quickly evolved. As two divisions entered the theater, the need for a Theater Distribution Center [TDC] became apparent and an area in the desert was designated as a storage and cross-dock area.[55]

This lack of support capability again had enormous negative consequences for the combat forces in theater.

> The establishment of the TDC only 2 weeks before crossing the Line of Departure (LD) meant that basic processes for support were not functioning, even while in Kuwait. Various units of the 3rd ID supplied personnel to the TDC to assist operations, but the Division Support Command (DISCOM) also routed high priority parts via FedEx to deliberately avoid the TDC. The Air Force stationed an LNO [liaison officer] at the TDC to divert cargo to Al Jabbar AB, the jumping off point from their supply convoys. The Marines went straight to the air and seaports to re-direct cargo to the Marine Logistics Command (MLC) at Camp Fox, their version of the TDC. Immediately, all services began to operate independently.[56]

It appears that, with respect to theater land distribution, "The failure to effectively apply lessons learned from Operations Desert Shield and Desert Storm and other military operations may have contributed to the logistics support problems encountered during OIF."[57]

The last area of the logistics operation to be analyzed here is the communications and information technology (IT) capability used by logistics forces. The DoD has long recognized the importance of improving logistics IT in the 21st century. In fact, a stated goal is to attain

information fusion which will provide "a secure, intranet environment allowing DoD users to access shared data and applications, regardless of location, supported by a robust information infrastructure"[58] This will create "1) near real-time command and control of the logistics pipeline, 2) one fused picture of combat support to the warfighter, and 3) a closed link between command and control and combat support during critical execution of an operation."[59] Therefore, any discussion on DAFL and how it is executed must include the information systems that enable C2 of logistics in a COCOM's theater. Unfortunately, this seems to be an area that is still ripe for significant improvement.

ODS occurred in 1990-1 at the dawn of the modern computer age. Therefore, it is understandable that IT was unable to provide capabilities such as total asset visibility (TAV) that are expected currently. These types of shortcomings in ODS are well documented; in fact, the phrase "iron mountain" is synonymous with DoD logistics in the first Gulf War. "During Operations Desert Shield and Desert Storm, asset visibility in the US wholesale system generally was adequate. However, visibility of assets while in-transit and in-theater was poor. This lack of visibility resulted in considerable confusion and reordering (sometimes multiple reordering), of the same items by field units concerned about existing or projected shortages of crucial items."[60] In essence, the forces lost their trust in the logistics system. These "iron mountains" also came about because the ports, both sea and air, could not definitively know what assets were arriving from the U.S., and so they were ill-equipped to handle the sheer volume of materials flowing in. The items were then delayed waiting to be processed, further exacerbating the problem. This problem was not limited to U.S. forces, as the British Royal Army also noted that "One of our greatest failings in the Gulf was our inability to 'track assets' and this is even more critical for the support of future operations."[61]

There were also difficulties with the communications capabilities of tactical units that made their sustainment even more tenuous. "The distance of the supply routes created communications problems within the logistical system because Army officials had difficulty communicating using their equipment, which was designed for much shorter ranges. Military doctrine called for units to be equipped to operate up to 90 miles from main supply bases. However, the Army supported military and logistics bases over 600 miles from its main supply bases."[62] Therefore, it was difficult for units in the field to input their requisitions for more supplies or equipment and to find out when they would arrive. This also motivated units to overstate their requirements when they actually could input their requests.

This behavior results in other subsequent negative consequences for the entire AOR. It further taxes an already limited lift capability that now has to move assets that are not actually needed. In addition, it makes C2 at the COCOM level that much more difficult because it forces the J4 staff and its subordinate boards and centers to play "catch up" and resolve the increased number of bottlenecks that occur. Either they or the personnel at the ports may choose to allocate lift resources to move unnecessary assets ahead of others, then not have the lift required to move more important items. "Unlike combat operators who were deluged with information, logisticians thirsted for it. Without timely and accurate requisition status, up-to-date unit location information, or sufficient ship, aircraft, and container manifest visibility, logisticians could not optimally support battlefield operations."[63] The 10-year period between ODS and OIF saw a revolution in IT and communications capabilities, but many of the same criticisms were voiced in analyses of second Iraqi war.

The situation found in Iraq was best described by the GAO when they said "During Operation Iraqi Freedom, commanders at the senior levels were not able to prioritize their needs

and make decisions in the early stages of the distribution process because they did not know what was being shipped to them. The result was an overburdened and overtasked transportation and distribution system."[64] The picture was not much better for distribution within the theater, either.

> The lack of in-transit visibility over supplies impeded distribution. Because of incomplete radio frequency identification tags on incoming shipments, logistics personnel had to spend time opening and sorting the shipments, significantly increasing processing time. According to U.S. Central Command, about 1,500 Small Arms Protective Inserts plates for body armor were lost and 17 containers of meals ready-to-eat were left at a supply base in Iraq for over a week because no one at the base knew they were there. Marine Corps officials became frustrated with their inability to "see" supplies moving towards them and lost trust and confidence in the logistics system and processes. Logistics systems used to order, track, and account for supplies were not well integrated and could not provide the essential information to effectively manage theater distribution.[65]

By and large, "The inability to…reliably, rapidly, and consistently communicate and satisfy logistics requirements limited the effectiveness of established processes during OIF."[66]

So how does this all relate to the analysis of DAFL execution in OEF and OIF? There has been much debate recently over the root causes of the logistical inefficiencies in these operations, some of them discussed earlier in this paper. Comments such as "The limited evidence of the exercise of clear directive authority for logistics during OIF is consistent with and a logical consequence of the limitations found in the logistics chain"[67] and "in the case of OIF [DAFL] was not effectively employed"[68] provide the impetus for this discussion. In the course examining this topic, some organizations recommended the creation of a single logistics commander in a COCOM's theater to alleviate the difficulties. The real problem here lies in separating the symptoms of the problem from the actual deficiency hampering theater logistics.

Key Enabling Capabilities

There are three capabilities that enable effective theater distribution and represent the essence of the COCOM's directive authority:

- Visibility: The ability to monitor the pipeline and obtain positive indicators that the distribution pipeline is responsive to customer needs.
- Theater Infrastructure: A system's infrastructure dictates the capacity of a distribution system and distribution pipeline flow.
- Command, Control, and Communication: The application of control is required to implement the authority of the distribution manager as the focal point of logistic distribution-related functions.[69]

Analyses of DoD's performance in recent operations—ODS, OEF, and OIF—indicate that these were deficient. In OIF, "Lacking tools, process, and structure, the operational control over logistics devolved to the supporting units. Though doctrine empowers the COCOM to exercise directive authority, existing logistics capabilities limit the COCOM's ability to exercise this power. Instead of residing with the COCOM, directive authority for logistics becomes dispersed. This lack of comprehensive focus and control meant that units and battalions were improvising and building ad hoc support systems to ensure their own wellness."[70]

OIF was not without its triumphs as innovative thinking and cooperation led to the creation of the CENTCOM Deployment and Distribution Operation Center (CDDOC). A C2 cell assigned to the CENTCOM/J4 and comprised of personnel from CENTCOM, U.S. Transportation Command (TRANSCOM), and the Defense Logistics Agency, the CDDOC was designed to "link strategic deployment and distribution processes to operational and tactical functions in support of the warfighter, thereby improving End-to-End distribution within USCENTCOM's Area of Responsibility (AOR)."[71] In order to accomplish this mission, this group was given the following tasks:

- Confirm USCENTCOM deployment and distribution priorities
- Validate and direct Combined Force Air Component Commander intra-theater airlift support to Components and Combined Joint Task Forces
- Monitor and direct the Coalition Forces Land Component Commander intra-theater surface distribution support to components and Combined Joint Task Forces
- Adjudicate identified USCENTCOM distribution and intra-theater shortfalls
- Coordinate for additional USTRANSCOM support and materiel
- Set the conditions for effective theater retrograde[72]

The CDDOC, termed by some to be a "JMC on steroids,"[73] offered "enhanced ITV, reach back and decision-making authority, logistics experts within the reach of the warfighter, and actions in force flow and sustainment, all of which assisted the theater operational commanders in the accomplishment of their missions."[74] It is clear that the Joint Deployment and Distribution Operations Center (based on the CDDOC) being implemented by each of the unified COCOMs is a step in the right direction, fusing the right capabilities into a "single point of contact for consolidation and dissemination of deployment and distribution information" that "optimizes information flow between multiple organizations, including coalition, agencies, non-governmental organizations and other private entities."[75] Thus, it addresses and helps to resolve the key constraining factor: the lack of communications and IT to enable visibility of the entire range of theater logistics. Perhaps the next evolution of this concept is to make it a permanent fixture within the J4 staff of each COCOM so the transition of the unit to contingency operations is not delayed waiting for augmenting personnel to arrive. Another possibility would be to embed the JDDOC function in the new Standing Joint Task Force Headquarters (SJTFHQ) concept. U.S. Joint Forces Command developed the SJTFHQ to provide "each COCOM with an informed and in-place command and control capability, intended to mitigate the challenges encountered as a result of the 'ad hoc' nature of joint task force headquarters formed in the past."[76] Because the SJTFHQ is assembled and maintained prior to force employment, it provides the COCOM with a significant improvement to command and control.[77] "A dedicated

logistics organization responsive to the needs and direction of the JFC should be manned full time by highly trained and professional logisticians who actively participate from the beginning in all joint operational planning evolutions involving the theater. This organization should be given the opportunity to build internal synergy and external relationships by working closely with the other staff elements and the JFC in deliberate planning and supporting joint exercises prior to the beginning of a conflict. Finally, this organization must be given the clear responsibility for performing all theater logistics command and control actions in support of a particular operation."[78]

A Joint Theater Logistics Command?

The advocates for a Joint Force Support Component Commander (JFSCC) or similar joint theater logistics command point to the need for such a "single point of contact" to direct the logistics processes with comments like "responsibilities for common support lack synchronization and are often in competition with one another and with multinational and interdepartmental agencies" and "No single entity has been given the responsibility for providing the overall command and control."[79] However, doctrine states that there are, in fact, designated points of contact that coordinate virtually every aspect of CUL through the J4's LRC and various boards/centers. In fact, joint doctrine states that "The LRC is the nucleus of all joint logistic operations and the nerve center for the supported combatant commander in providing staff direction over Service component logistic systems and requirements."[80] It appears that the JDDOC, as the successor for the JMC function, can finally fulfill the role needed by the COCOM.

Because of the Services' Title 10 responsibilities, CUL is the only facet of theater logistics that the COCOM is expected to plan to control. As situations arise, the COCOM retains

the ability to direct actions to ensure the success of the logistics operation. So the problems do not seem to arise because the proper organizational structure does not exist. Theater logistics is most affected by the factors described previously, namely a lack of visibility, inadequate distribution infrastructure, and communications limitations. "Lack of logistics communication is cited as one of the most pervasive weaknesses in OIF. In an austere theater, the necessary logistics communications infrastructure was not available, and the COCOM did not have the capability to deploy one in support of a rapidly moving combat force."[81] Other contributing causes, including pushing more combat forces earlier in the deployment and delaying combat support resources, continue to exacerbate the problem and hamper efforts to control theater logistics time after time. Therefore, the DoD is unlikely to find more effective outcomes by applying a different organizational construct without resolving these problems. "A major reorganization of logistics command and control, when the evidence suggests that logistics command and control is not a problem, will not necessarily produce more efficient organizations. Increased efficiency should be obtained by reengineering and streamlining current processes."[82]

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[19] Joint Chiefs of Staff. *Joint Publication 5-00.2: Joint Task Force Planning Guidance and Procedures* (Washington DC: U.S. Government Printing Office, 1999), VIII-13.

[20] Joint Chiefs of Staff, *Joint Publication 4-0*, B-3 to B-8.

[21] Ibid, III-7.

[22] Ibid, III-3.

[23] Ibid, III-4.

[24] Ibid.

[25] Ibid.

[26] Ibid, III-5.

[27] Ibid, III-7.

[28] The Operational Control (OPCON) or Tactical Control (TACON) options refer to the ability of the COCOM to attach forces from another Service to augment the Lead Service or Agency so that it can fulfill its responsibilities. See *Joint Publication 0-2* for definitions of OPCON and TACON.

[29] Ibid, III-6, 7.

[30] Joint Chiefs of Staff. Joint Publication 4-0. B-1, 2.

[31] Ibid, III-5.

[32] William G. Pagonis, LTG, USA (ret). *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston MA, Harvard Business School Press, 1992), 97-8.

[33] Ibid,

[34] Interview with COL (ret) Rich Lliteras, CENTCOM/J4.

[35] Robert W. Petrillo, LTC, USA, and Daniel W. Carpenter, MAJ, USA. "Movement Control on a Non-Linear Battlefield." *Army Logistician* (September-October 2003), 15.

[36] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 28.

[37] Joint Chiefs of Staff. *Joint Publication 4-01.4: Joint Tactics, Techniques, and Procedures for Joint Theater Distribution* (Washington DC: U.S. Government Printing Office, 2000), IV-7.

[38] Ibid.

[39] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 31.

[40] Ibid, 31-2.

[41] Ibid, 32-3.

[42] Interview with COL (Ret) Rich Lliteras.

[43] Interview with Brig Gen Duane Jones.

[44] Harry E. Waters. "A Logistics Common Operating Picture for Millennium Challenge 2002." *Army Logistician* (July-August 2003). The benefits of a Logistics Common Operating Picture (LCOP) include: Provide visibility of all personnel and assets in the pipeline; eliminate separate logistics reporting; automatically generate and assess supply requirements; gather and manipulate information; and allocate optimal routes and carriers.

[45] Joint Chiefs of Staff. *Joint Publication 4-01.4*, IV-6.

[46] Office of the Secretary of Defense. *Department of Defense Directive 4500.9: Transportation and Traffic Management* (through Change 3) (2003), 14.

[47] Undersecretary of Defense for Policy. *Final Report to Congress: Conduct of the Persian Gulf War* (1992), 297.

[48] Ibid., 344.

[49] Ibid., 523.

[50] Ibid., 524.

[51] U.S. Government Accountability Office. *Defense Logistics: DoD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts* (Washington DC: U.S. Government Printing Office, 2005), 7.

[52] Ibid., 3.

[53] Ibid, 7.

[54] *An Army Transforming While at War: Annual Report 2004* (Santa Monica CA: Rand Arroyo Center), 34.

[55] U.S. Government Accountability Office. *Defense Logistics: DoD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, 6.

[56] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 28.

[57] U.S. General Accounting Office. *Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom*, 4.

[58] Joint Staff Director of Logistics (JS/J4). *Joint Vision 2010 Focused Logistics: A Joint Logistics Roadmap* (Washington DC: U.S. Government Printing Office, 1998), 17.

[59] Ibid, 17.

[60] Undersecretary of Defense for Policy. *Final Report to Congress: Conduct of the Persian Gulf War*, 498-9.

[61] Martin S. White, ed. *Gulf Logistics: Blackadder's War* (London, UK: Brassey's, 1995), 249.

[62] U.S. Government Accountability Office. *Defense Logistics: DoD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, 6.

[63] Scott W. Conrad. *Moving the Force: Desert Storm and Beyond* (Washington DC: National Defense University, 1994), 62.

[64] U.S. Government Accountability Office. *Defense Logistics: DoD Has Begun to Improve Supply Distribution Operations, but Further Actions Are Needed to Sustain These Efforts*, 9-10.

[65] Ibid, 8.

[66] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 5-6.

[67] Ibid, 5.

[68] Ibid, 87.

[69] Ibid, 78-9.

[70] Ibid, 5.

[71] U.S. Transportation Command. *2005 Supply Chain Innovation Award, Council of Supply Chain Management Professionals (CSCMP), USTRANSCOM Case Study Submission, CENTCOM Deployment & Distribution Operations Center: Bridging the Gap*, 4.

[72] Ibid.

[73] Interview with COL (ret) Rich Lliteras.

[74] U.S. Transportation Command. *2005 Supply Chain Innovation Award, Council of Supply Chain Management Professionals (CSCMP), USTRANSCOM Case Study Submission, CENTCOM Deployment & Distribution Operations Center: Bridging the Gap*, 18.

[75] Ibid, 48.

[76] U.S. Joint Forces Command. *Standing Joint Task Force Headquarters Core Element*.

[77] Ibid.

[78] Mark Brady. *Beans, Bullets, and Black Oil…Are We Delighting the Joint Force Commander?* (Newport RI: Naval War College, 2003), 15.

[79] U.S. Joint Forces Command. *Joint Experimental Deployment and Support (JxDS) Concept of Operations (CONOPS), Version 34* (2005), 6.

[80] Joint Chiefs of Staff. *Joint Publication 4-07*, III-10.

[81] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 38.

[82] Paul T. Inman, COL, USA. *The United States Armed Forces Do Not Need A Joint Logistics Command* (Carlisle Barracks PA: U.S. Army War College, 1997), iii.

Part 4: Conclusions

Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur.

--Guilio Douhet

Accounts of the logistics efforts in OEF and OIF show that, while combat forces were adequately supported, there still is much room for improvement. Most of the literature points out that "although the theater commander always had the authority to control logistics he never had the capability to perform that function, ad-hoc command and control and improvisation were the norm."[83] Among the many shortcomings that made supporting the fight more difficult were "Insufficient planning, lack of transportation resources, challenging logistics lines, limited logistics communications capability, and disjointed processes", and "In the end, warfighters simply lost faith in the logistician's ability to get them what they needed when they needed it on the battlefield."[84]

The History Lesson

This situation, which seems to occur in every military operation undertaken by U.S. armed forces, occurred for many reasons. These include a lack of visibility of the entire logistics chain, an inadequate distribution infrastructure, and an unreliable communications capability. While the available literature does not negate the JFSCC concept as a viable option available to a COCOM, adding another layer of bureaucracy to the joint theater logistics organization is unlikely to produce improvements unless these other problems are resolved first. In fact, the JFSCC concept may result in "a loss of flexibility and control by service components, increased service manpower costs if [it] fails to eliminate duplication of effort, and a perceived layering of logistics authority."[85]

"In OIF, essential theater logistics processes, organization, and technology were ad hoc creations in response to the exigencies of the conflict. Organizational resources for logistics at the Joint Command level were limited; theater logistics command, control, communication, and computer systems were disjointed and often ineffectual; and logistics execution devolved to the Component Commands. While the COCOM retains the responsibility for theater logistics, he has not been provided with necessary capabilities."[86] However, "Visibility is a tool to achieve specific outcomes in support of the following objectives:

- Reliably deliver the required item to the right location in the correct quantity at the time required from the most appropriate source
- Make available tools and information for decision makers to exercise effects-based management of the logistics network
- Manage end-to-end capacities and available assets across the end-to-end chain to best support warfighter requirements
- Promote the ability of the supported COCOM to effectively exercise directive authority over logistics.[87]

Recommendations

Because of these assessments, and many others, DoD should:

1. Focus its efforts and resources on improving communications and IT capabilities to finally allow the COCOMs and their logistics staffs the visibility needed to effectively control joint theater logistics operations;
2. Investigate the efficacy of taking the JDDOC concept and further enhancing by placing it within the SJTFHQ;
3. Analyze the effects of these root problems prior to directing or further codifying symptomatic corrections such as the JFSCC construct.

Until these foundational issues are fully tested and vetted, we will continue treat the symptoms of our joint logistics ills. If we do so, the same logistical failures and missed opportunities to properly support our combat forces that have plagued joint operations throughout our recent history will be observed again in the next conflict.

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[83] Charles Johnson, Lt Col, USAF. *Is It Time for a Joint Forces Logistics Component Commander?* (Carlisle Barracks PA: U.S. Army War College, 2004), 4.

[84] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 29.

[85] Randy S. Kendrick. "Joint Logistics for the EUCOM AOR." *Army Logistician* (Nov-Dec 2005), 51.
[86] Science Applications International Corporation. *Objective Assessment of Logistics in Iraq*, 76.
[87] Alan Estevez. "RFID Vision in the DoD Supply Chain." *Defense AT&L Magazine* (May-June 2005), 23.

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