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**Are Joint Deployment Distribution Operations Centers (JDDOCs) an Effective
Instrument for Overcoming Combatant Commanders' Intra-Theater Logistical
Challenges?**

By

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**A paper submitted to the faculty of the Naval War College in partial satisfaction
of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily
endorsed by the Naval War College or the Department of the Navy.**

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17 May 2005

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Abstract

During Operation Desert Storm (ODS) and Operation Enduring Freedom (OEF)/Iraqi Freedom (OIF) (Phase I), the Combatant Commander ' s logistical management organizational structure proved to be inadequate both in its organizational structure and subject matter expert manning level to execute an efficient logistical support effort. With the waning of Cold War era symmetrical warfare and the emergence of adversaries who attempt to exploit the United States ' military strength by employing asymmetrical warfare, the Department of Defense (DOD) must develop a logistics organization that is dynamic, mobile, adaptable and able to keep pace with the needs of deployable forces employed by Combatant Commanders. In order to improve joint logistics efforts, the in theater logistics structural organization must be transformed and linked to the strategic level organization to provide the best possible support to Combatant Commanders. Increased logistical support will permit Combatant Commanders an increased freedom of action enabling them to achieve operational objective(s) within their area of responsibility (AOR). Following the establishment of U.S. Transportation Command as the single distribution process owner (DPO) and the establishment of the U.S. Central Command Deployment Distribution Operations Center (CDDOC), the logistics organization was capable of bridging the gap ” between strategic and theater logistics to establish a more efficient logistics organization.

Due to the overwhelming success of the newly established U.S. Central Command Deployment Distribution Operations Center (CDDOC), in 2004, it should be used as a model to develop tailored Joint Deployment Distribution Operations Centers (JDDOCs) for the four remaining Combatant Commands.

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Introduction

Logistics is the foundation of combat power.ⁱ In the words of General Dwight D. Eisenhower, “you will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics”.ⁱⁱ Due to the critical function of logistical support during both peacetime and combat operations, it is essential for the United States Department of Defense (DOD) to develop an integrated, adaptable, efficient, and effective logistics organization capable of supporting Combatant Commanders in the achievement of operational objective(s) within their area of responsibility (AOR).

The DOD and Combatant Command (COCOM) levels of logistical management organizational structures have remained, with the exception of a few minor and insignificant changes, virtually unchanged from the first Gulf War in 1991 until January of 2004.ⁱⁱⁱ Yet, during the first Gulf War and the initial phase (Phase I) of Operation Iraqi Freedom, the Combatant Commander’s logistical management organizational structure proved to be inadequate both in its organizational structure and subject matter expert manning level to execute an efficient logistical support effort.^{iv} Although logistical processes and organizational improvements have improved slightly over the last decade, the implementation of the U.S. Central Command (USCENTCOM) Deployment Distribution Operations Center (CDDOC), in January 2004, has significantly transformed intra-theater logistical efficiencies. The CDDOC is a Joint Deployment Distribution Operations Center (JDDOC) but is referred to as the USCENTCOM Deployment Distribution Operations Center (CDDOC) since the Combatant Commander maintains tactical control (TACON) of

the organization.¹ Due to the overwhelming success of the USCENTCOM DDOC, it should be used as a model to develop tailored Joint Deployment Distribution Operation Centers (JDDOCs) for the remaining four COCOMs. The establishment of a JDDOC for each COCOM would significantly improve the operational level logistics management organizational structure by reducing the number of divisions, centralizing the unity of effort, and providing adequate logistics subject matter experts in the theater with the capability of “reaching back” to their strategic counter-parts and “reaching forward” to the war fighters.^v The changes to organizational structure and manning level by subject matter experts, coupled with the establishment of a distribution process owner (DPO), will enable Combatant Commanders to improve intra-theater logistics by bridging the gap between strategic and theater logistics.

This paper will focus on establishing an organizational structure, utilizing the USCENTCOM JDDOC as a model, that is needed to improve logistical efficiency, effectiveness, adaptability, and communications rather than the necessary information technology (IT) required to advance the “real time” capabilities of the organization once it is established. Although IT transformation is briefly discussed and is a critical component in improving logistical efficiency, a complete discussion of the topic is better suited for a separate essay.

¹ JDDOC is a generic term that defines a DDOC as a joint organization. Under the current system, a Combatant Commander maintains tactical control of their respective DDOC and therefore the first letter of the DDOC acronym is used to identify a specific AOR (i.e. EDDOC refers to the U.S. European Command DDOC). JDDOC or XDDOC are interchangeable acronyms that refer to either a generic joint DDOC organization or a non-specified AOR DDOC organization. For simplicity, JDDOC will be utilized for the remainder of the paper.

Logistical Lessons Learned from Previous Wars What did We do Wrong?

Contained in the title of a book written by the mastermind of the first Gulf War logistical effort, LTG William Pagonis, USA (Ret), are several words that best summarize the logistical process undertaken by the operation - “moving mountains”.^{vi} The “moving mountains” theory was characterized by moving large stockpiles of material to established points within the theater of operations for further distribution to tactical units. The size of the “mountain” to be transported was dependent on estimates of both the size of the force and projected consumption rates, which would be significantly effected by mission requirements. During Operation Desert Storm, USCENTCOM received much larger stockpiles of material in the theater than was required to execute the war “just in case” the material² would be needed.^{vii} However, the “moving mountains” practice was extremely inefficient, placed unnecessary stress on the finite number of inter-theater and intra-theater transportation assets, and increased the number of in theater logistics personnel required to effectively prioritize, sort, and prepare such large stockpiles of material for either storage or further transfer within the theater.

Despite its shortfalls, the logistical effort in Operation Desert Storm was truly amazing. The sheer volume of material, 3.5 million short tons^{viii}, and personnel moved over a short period of time was a significant accomplishment. However, the “moving mountains” logistical system, lacking the requisite organizational structure, unity of effort, subject matter expert manning level, and strategic level logistics support to efficiently accomplish the operational objective(s), had several inherent flaws that proved troublesome to U.S. military leadership.

² In this essay, material is a generic term used for simplification. It may be used, when appropriate, interchangeably with “personnel”, “troops”, and/or “services” to indicate the functional requirements of a logistics organization.

In Theater Logistics Manning Level and Organizational Structure. The core of USCENTCOM's intra-theater logistics effort, which reported to the J4 staff, was the Joint Movement Center (JMC). Although authorized 33 personnel, the JMC was never manned by more than 28 personnel and consisted of an air element, an administrative element, and a surface element (figure 1).^{ix} Due to the limited number of Service representatives and logistics subject matter experts within the JMC, the J4 staff had an extremely limited capability to cross inter-Service boundaries and establish priorities between Service requirements and joint requirements (figure 2). In addition, the in theater JMC/J4 staff lacked adequate representation from national partners (DLA) and major contractors to bridge inter-agency boundaries between the theater representatives and partners at the strategic level.^x Although DLA provides 85-90 percent of all consumable material to the DOD, it was not until 1999 that a single DLA representative

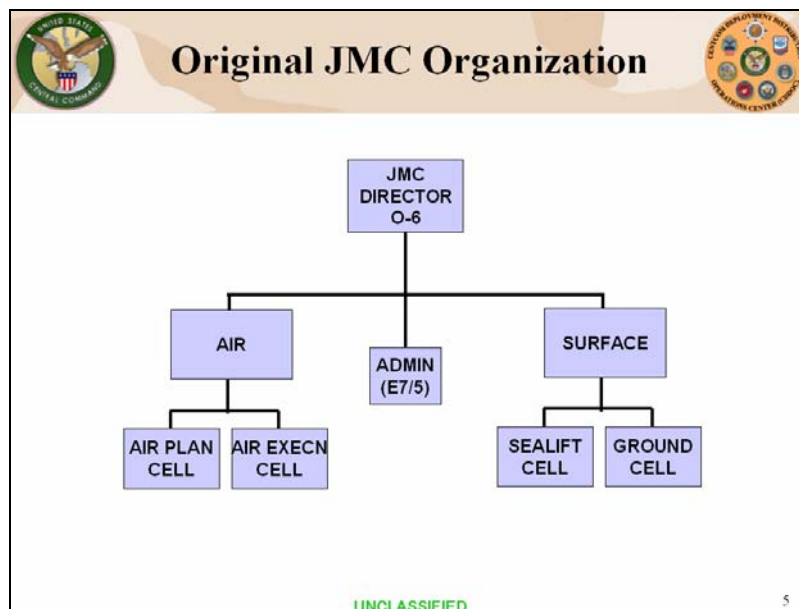


Figure 1 – Joint Movement Center Organization^{xi}

was provided to each COCOM staff for liaison.^{xii} In addition, each Combatant Commander was expected to develop logistical plans for operation(s) within their AOR, but did not

possess adequate numbers of logistical subject matter experts on their staffs that were capable of coordinating operational logistics requirements with their strategic counterparts.^{xiii} This lack of coordination or “reach back” resulted in limited support from USTRANSCOM and other national partners. Once the material was dropped off in theater by inter-theater transportation assets, it was no longer the responsibility of the delivering unit. There was no formal link between strategic and theater logistics.

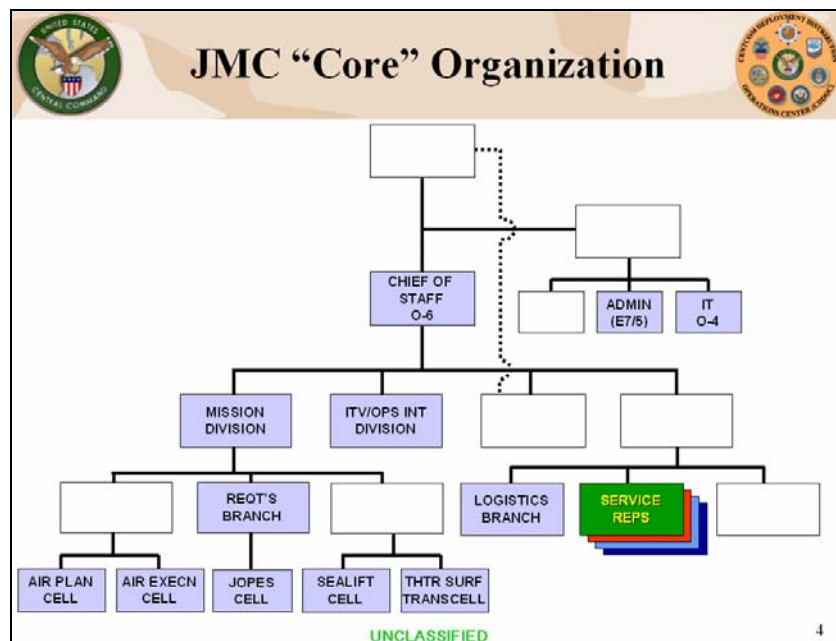


Figure 2- JMC functions as incorporated into the CDDOC organization (blanks are J4 functions that were incorporated into the CDDOC) (see figure 5 for details).^{xiv}

Prioritizing Transportation Assets. The number of surface vessels and aircraft required to transport such large quantities of material and personnel over such large distances would place a tremendous burden on the finite number of available transportation assets. Due to changes in the timeline requirements to have certain amounts of troops and equipment in theater by the 30th-day, 60th-day, and 90th-day of the operation, the revised plan placed a large burden on the already strained air lift assets – the fastest means of transportation.^{xv} The transfer of material was rapid compared to previous wars but called for 35 percent of all

material to be transported by air lift compared to the 9 percent that was airlifted through the first year of Operation Iraqi Freedom.^{xvi} A large portion of the available sealift assets sat idle and unused in the first four months of the operation.^{xvii} In addition, by using a large percentage of Air Mobility Command (AMC) assets to accomplish inter-theater transport, it severely limited the number of air assets available to accomplish intra-theater lift requirements.^{xviii} Planners were forced to re-estimate war fighter requirements, much of which was not adequately prioritized due to the limited number of available planners on the USCENTCOM J4 staff to complete such a task in such a short period of time.^{xix}

Oversight of Logistical Costs. The cost to transfer such large amounts of materiel was enormous. Since time was a factor in the plan, and air lift was the preferred method of transportation, air lift would end up costing the United States ten times that of surface vessel transfer.^{xx} When lives are at stake, the cost of transporting material/personnel seems rather insignificant; however, in today's world of limited defense budgets, every dollar saved may be recapitalized for other uses. A logistics organization not only needs to be effective but efficient. The potential to save cost by properly estimating the material required in the theater and choosing the proper mode of transportation, while still meeting the timeline requirements of the Combatant Commander, is an attainable task if adequate planning is completed. In addition to the cost savings, comprehensive planning would enable a more efficient use of transportation assets. The lack of coordination between the JMC/J4 planners in theater and strategic lift managers in the U.S. (USTRANSCOM), in conjunction with last minute changes to the execution timeline of the plan by the Combatant Commander, overstressed the air lift capability and resulted in the poor management of inter-theater and intra-theater lift asset utilization.

Prioritization and Inter-Service Logistics. With only 28 personnel on the JMC staff and “mountains of material” flowing into the theater, the staff was unable to prioritize and manage material in a timely manner.^{xxi} Historically, the Services managed their own supply lines for Service specific items, such as weapons systems and spare parts, and DLA oversaw the movement of common items such as fuel and medical supplies.^{xxii} Because many Service logistics requirements were handled separately from joint requirements, the Services often were forced to fight for the use of the limited joint- controlled transportation assets within the theater.^{xxiii} In addition, with the J4 staff focused on joint logistics requirements, and only a four Service representatives on the JMC staff to track large quantities of single-Service material, the Services often lacked the proper in-transit visibility (ITV) of material and did not know what equipment they would receive until it actually arrived.^{xxiv} Although the USCENTCOM J4 staff was often involved in assisting in the delivery of material to the Services through Service agreements, the manning level of the staff was inadequate and the chains of command prioritizing joint logistic requirements and Service logistic requirements was often disjointed, which created large seams between the two efforts.^{xxv} With a fractured organizational structure that did not include adequate representation by large supply coordinators (DLA), civilian contractors and Service representatives, there was no centralized joint priority mechanism that was capable of synchronizing the logistical efforts at an operational level.^{xxvi} In addition, the lack of national partner representatives in theater severely restricted the lines of communications between the J4 operational level staff and national partners on the strategic level.

Distribution Management. Once the material arrived in the theater, staging areas had to be established for further distribution to the tactical units. The logistical challenges of receiving,

staging, preparing for onward movement, and integration (JRSOI) of large amounts of material often required material to be re-packaged prior to transfer within the theater, and was further complicated by a lack of identification and tracking tools. Without a clear prioritization system, there was no process available to establish delivery order, which in turn, affected the ability to proactively schedule limited intra-theater transportation assets.^{xxvii} Processors at these logistical distribution points often had no means of determining who the material belonged to, where it needed to go, when it needed to get there, and how it should get there.^{xxviii} During Operation Desert Storm, it was estimated that over 28,000 of 41,000 arriving containers had to be opened on the docks to determine the contents since documentation on the ship's manifest did not match the actual content of the containers.^{xxix} The lack of accurate manifestation forced the in theater logistics personnel to re-inventory all containers and quite often they were required to re-package the material for further distribution to differing destinations within the theater.^{xxx} Prior to establishing the labor intensive re-inventory procedure, a large number of containers were hauled 2,000 miles across the desert only to find that 10 percent of its contents were intended for the front-line troops, whereas 90 percent belonged to the units back at the port where it just came from.^{xxxi} The additional requirement for in theater personnel to validate the content of shipments, in a hostile environment, not only increased the work load but also posed significant security challenges.

In-Transit Visibility (ITV) and Total Asset Visibility (TAV). The lack of visibility on incoming material posed significant planning problems for intra-theater logistic planners. Lacking systems capable of processing and accessing accurate information on what material was coming in, the JMC was unable to prioritize transportation assets and plan for further

transfer until the material physically arrived in the theater. During Operation Desert Storm, there was essentially no means of tracking material which was in-transit.^{xxxii} The lack of visibility also prohibited the Combatant Commander from having a “clear picture” of what assets were in theater and what assets were enroute to the theater. Without a “clear vision” of the total asset visibility (TAV), it severely hampered the operational planning capabilities of the Combatant Commander’s staff. Just as the Combatant Commander did not have visibility of in-transit material, the consumer (war fighters), likewise, did not have visibility of needed materials. The lack of visibility, which inhibited feedback to the consumer, reduced the user’s confidence in the system and often resulted in units ordering items multiple times to ensure the order was received.^{xxxiii} This placed unnecessary strains on the logistical system and often increased the amount of requisitions in the system by 200-300 percent.^{xxxiv} Had the USCENTCOM staff been manned properly and given the proper asset visibility tools, they could have acted as an intermediary between the tactical units and suppliers, reduced the administrative burden on the tactical units and enabled them to focus on their job of war fighting.

As highlighted in the U.S. General Accounting Office (USGAO) Report, Defense Logistics: Preliminary Observations on the Effectiveness of Defense Logistics Activities During Operation Iraqi Freedom, a large number of the lessons learned from Operation Desert Storm/Shield were repeated in the initial phase of Operation Iraqi Freedom.^{xxxv} Two areas that received the most attention after Operation Desert Storm were in-transit visibility (ITV) and information sharing standardization. These identified shortfalls were addressed prior to OEF/OIF, however, the scope and magnitude of the effort to correct the deficiencies would prove to be inadequate, as validated by the USGAO Report.^{xxxvi}

In-Transit Visibility (ITV) and Total Asset Visibility (TAV). In-transit visibility (ITV) and total asset visibility (TAV) were areas identified as needing significant improvement. Several initiatives were embarked upon; including Radio Frequency Identification (RFID) tags and commercial computer-based tracking systems, however, the resources allocated (both manpower and financing) were inadequate to standardize the DOD logistical system.^{xxxvii} With the lack of standardized IT tracking systems and no increase in the number of in theater J4 staff members to track material with ad hoc spreadsheet programs, much of the material was not visible while in transport.^{xxxviii}

Lack of Standardization/A Common System/A Common Owner. Although a limited number of new technologies and systems were employed, there was no common interface between the multiple systems that enabled the Combatant Commander to have a clear vision of the logistical picture.^{xxxix} In addition, many of these individual systems were newly introduced and a large number of logistics personnel had never received training on the use of the new technologically advanced identification and tracking systems.^{xl} Marine Corps logistics planners noted that the supply system was inadequate, lacked standardization for requisitioning supplies, and had too many computer systems.^{xli}

Despite the effort, the logistical system had not made significant strides in correcting the glaring seams between strategic logistics and theater logistics that were exposed as a result of Operation Desert Storm/Shield.^{xlii}

Developing an Organization to Meet Logistical Challenges Is the CDDOC Model a Viable Solution?

An inhibitor to the unity of command/effort shortfalls during previous wars was the lack of a single “owner” of the logistical system from “factory-to-foxhole”.³ COCOM’s did not have a single point of contact at the strategic level to address logistical concerns and the deployment/redeployment of forces.

To alleviate this shortfall, on 16 September 2003, the Secretary of Defense designated USTRANSCOM as the Department of Defense’s (DOD’s) single Distribution Process Owner (DPO).^{xlvi} As the DPO, USTRANSCOM was the single point of contact for all logistics operations. Following the designation as the DPO, USTRANSCOM was faced with significant challenges to organize and transform an extremely large, complex, and splintered system into a standardized, adaptable, effective, and efficient logistical system to meet the vision of the President and the Secretary of Defense.^{xlv} From the numerous documented lessons learned in Operation Desert Storm/Shield and Operation Enduring Freedom/Iraqi Freedom (Phase I), USTRANSCOM identified a significant number of logistical shortfalls that were a result of a logistical organization incapable of “bridging the gap” between strategic logistics and theater logistics.^{xlv}

With a DPO established at the logistics strategic level, the current in theater J4 organizational structure needed to change in order to improve the link between strategic logistics and theater logistics. As a result, in January 2004, USTRANSCOM launched a 100-day test of the newly established U.S. Central Command Deployment Distribution Operations Center (CDDOC).^{xlvi} The organization was manned by sixty-three personnel from USTRANSCOM, the Defense Logistics Agency (DLA), the Services, and various other logistical agencies (figure 3).^{xlvii} Since the CDDOC was a 100-day test organization,

³ “Factory to foxhole” is a term that was developed to encompass logistical accountability from beginning to end. It is also commonly referred to as “end-to-end” or the “single ticket” program.

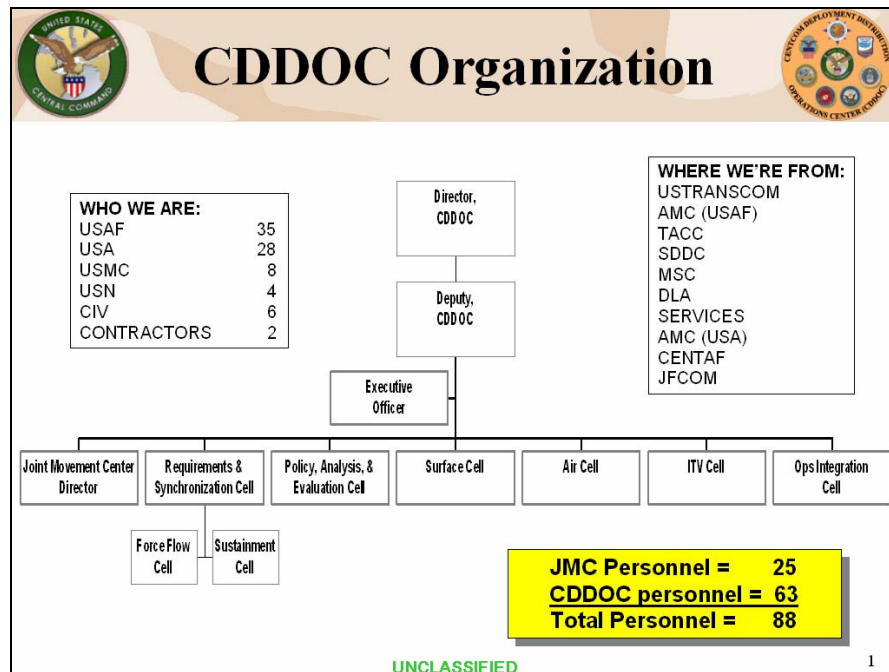


Figure 3 – Initial CDDOC organizational chart (working in unison with the JMC)^{xlvi}

the JMC was not eliminated, but rather encompassed within the CDDOC (figures 3). This would permit the Combatant Commander to disestablish the CDDOC and seamlessly transition back to a JMC if the test organization was deemed ineffective. For the first 100-days of its operation the CDDOC was manned by 88 personnel (63 CDDOC personnel and 25 USCENTCOM JMC/J4 personnel) (figure 3). The 63 CDDOC personnel were selected from a small list of subject matter experts that had proven logistics skill sets required for the particular billet.^{xli} Prior to the establishment of the CDDOC, many of the J4 billets were filled, but not always by a military member or civilian who possessed a good working knowledge of the DOD logistics system.¹

Due to the CDDOC's tremendous results during the initial 100-day test period, the organization became a permanent fixture in the CENTCOM AOR. Once it was decided that the CDDOC was a more efficient organization, the old JMC was fully encompassed within the CDDOC organization and its 25 original billets were eliminated, leaving the CDDOC

with 64 authorized billets (figure 4).^{li} The CDDOC successfully validated the proof of concept that a fully integrated and simplified logistical command organization

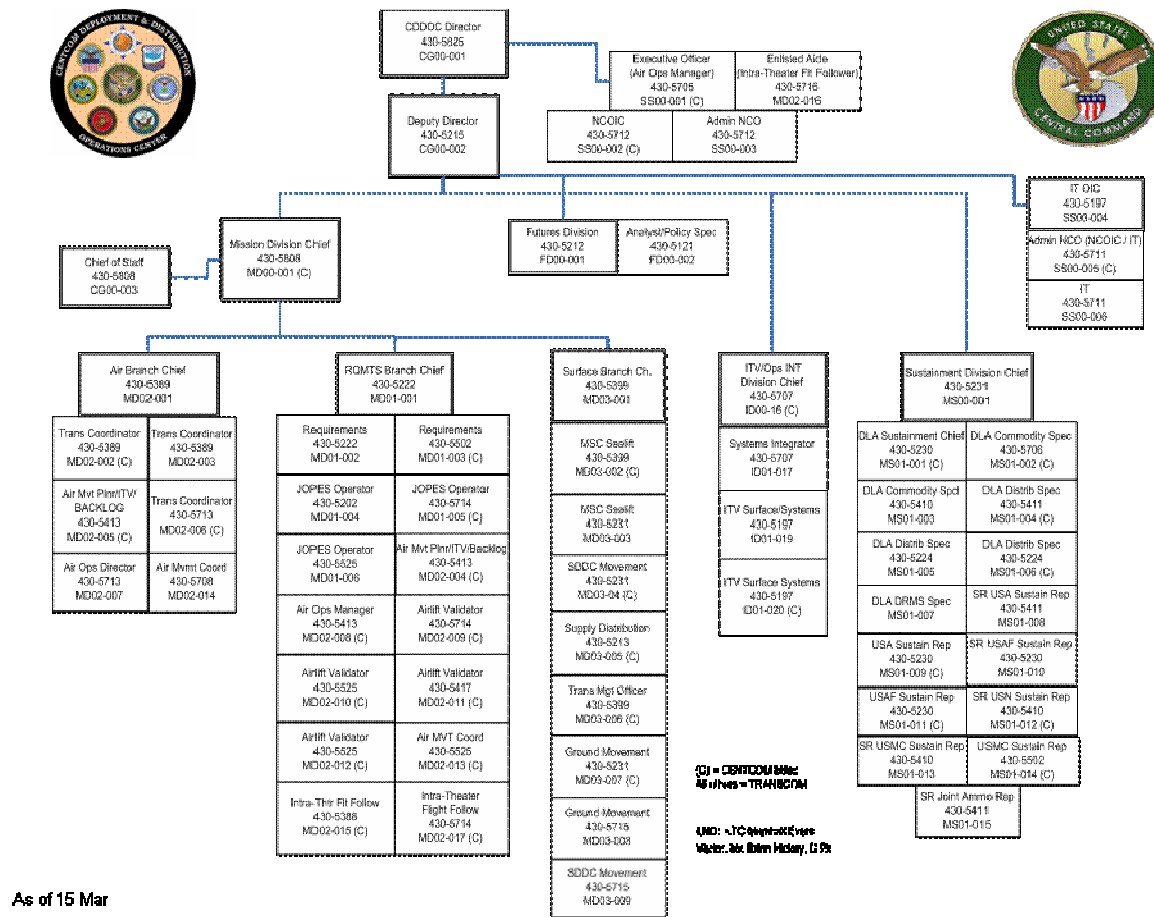


Figure 4 – Billets assigned to the CDDOC as of 15 March 2005.^{lii}

structure, manned by subject matter experts within a theater, was capable of bridging the gap between strategic logistics and theater logistics. The CDDOC built upon the existing organizational structure of the JMC staff and added a Futures Division, a Sustainment Division, an Air Branch, a Surface Branch, and a Munitions Branch (former J4 functions). By reorganizing the number of J4 divisions actively involved in logistics planning and execution from four to two (Movement Division and Sustainment Division) and placing the organization under a single Director who was able to communicate with the J4 in Tampa and USTRANSCOM as the DPO, the changes reduced the organization's lines of communication

and increased the unity of command/effort (figures 4 and 5). In addition, by establishing a fully integrated team within the theater of operations, the Combatant Commander would have access to subject matters experts from all fields, agencies, and Services to “reach forward” to establish the needs of the

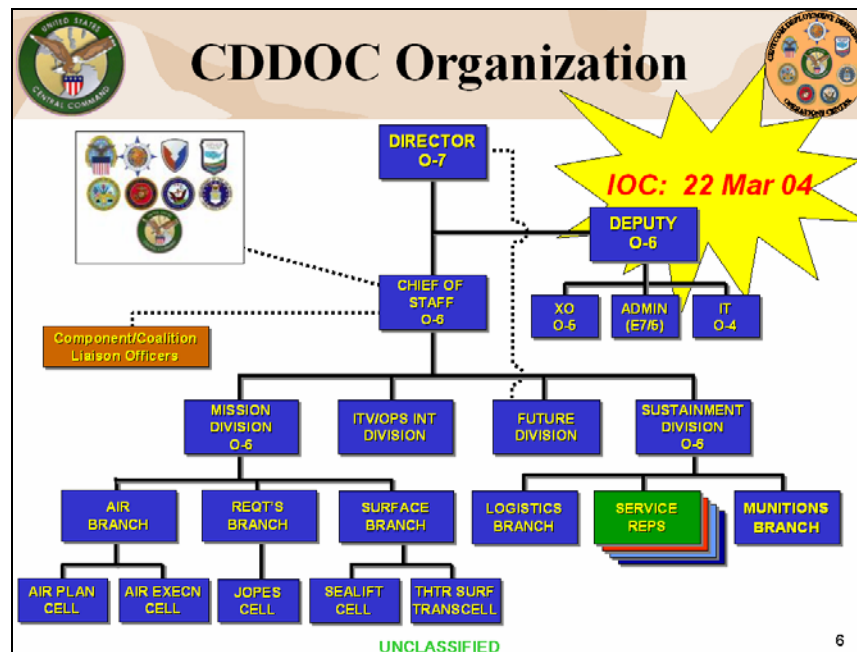


Figure 5 – CDDOC with JMC and J4 functions incorporated under one Director who reports to the USCENTCOM J4.^{liii}

war fighters and “reach back” to coordinate with their counterparts at the strategic level. The relationship between the strategic and operational logistical staffs would prove to be of significant benefit in improving intra-theater distribution. Several examples highlight this new relationship. First, was the delivery of four additional C-130s by USTRANSCOM, upon request from USCENTCOM, when the CDDOC determined, via metrics, that the tempo of the operations warranted additional intra-theater air lift.^{liv} The second was the establishment of the “pure pallet” program. The “pure pallet” program created teams in Charleston, SC to package air lift pallets, to the maximum extent possible, destined for individual units vice multiple units.^{lv} By eliminating the need to repackage the pallets in theater for further

transfer, it not only reduced the workload for in theater logistics personnel but permitted a smoother flow of material into the theater.

As well as reducing the number of divisions and branches (without reducing the overall manning numbers), the CDDOC added billets to the newly established divisions within the organizational structure in order to increase its capabilities (figure 4). The functions of the CDDOC were established to; (1) confirm the COCOM's deployment and distribution priorities; (2) validate and direct intra-theater airlift requirement support; (3) monitor and direct intra-theater surface distribution support; (4) adjudicate and identify USCENTCOM distribution and intra-theater shortfalls; (5) coordinate for additional USTRANSCOM support; (6) provide total asset visibility (TAV) and in-transit visibility (ITV) for inter and intra-theater forces and material, and (7) ensure effective retrograde of material from the theater.^{lvi}

The CDDOC made significant strides in overcoming previously identified logistics shortfalls that were identified in previous war efforts.

Unity of Command (Effort)/Single Logistics Command Organization: By creating a simplified and integrated logistical center organization within a Combatant Commander's AOR, the logistical efforts of all Services, agencies, and suppliers is focused, under one Director, on the goal of attaining the COCOM's objective(s). The CDDOC established a "bridge" for the COCOM linking strategic logistics to theater logistics. By retaining tactical control (TACON) of the CDDOC (figure 6), the COCOM was able to establish joint (including Service) priorities and utilize the most effective use of transportation assets within the theater to achieve operational objective(s). In the pre-CDDOC organization, the chain of command for prioritizing requirements between the Services, civilian providers

(DLA/contractors) and the air, sea, and ground transportation elements was extremely complex and often disjointed.^{lvii} The most efficient and effective modes of transportation were often not utilized.^{lviii} In the first two months of its establishment, the CDDOC was able to prioritize joint requirements and use alternate intra-theater transportation assets, surface assets, to expedite over 1738 pallets of material intended for Balad but delivered to Kuwait due to military airlift limitations. In addition, since the

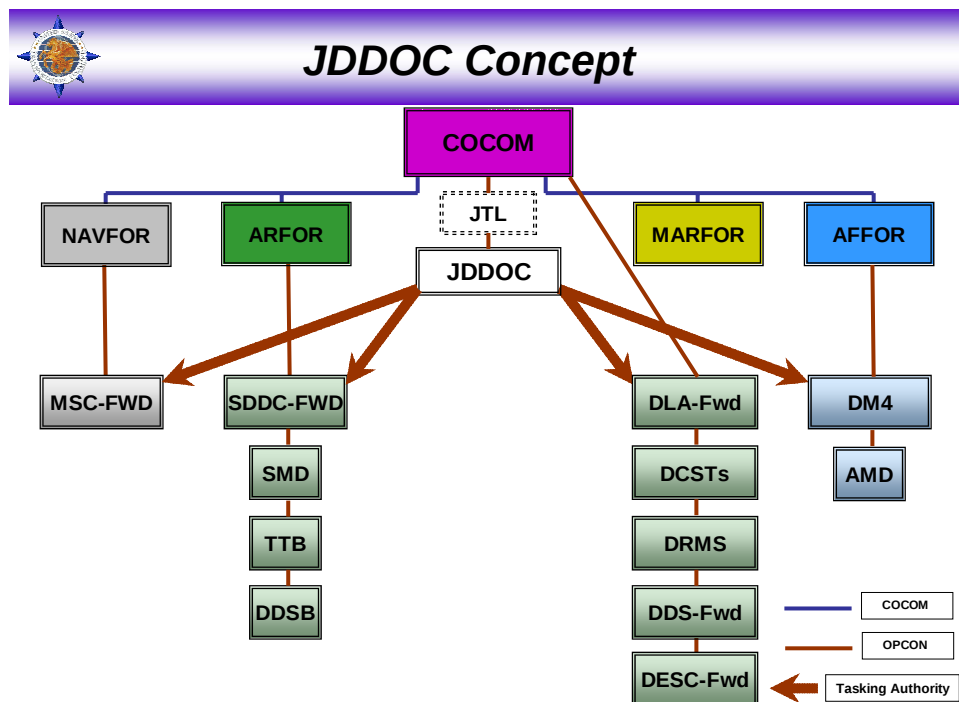


Figure 6 – JDDOC lines of communication and TACON chart.^{lix}

inception of the CDDOC in January 2004, USCENTCOM has achieved a 98-99 percent on-time delivery of supplies and a 92-93 percent on-time delivery of forces.^{lx}

Although the CDDOC was under the tactical control of the Combatant Commander and the CDDOC Director had “unofficial” directive authority for intra-theater airlift, it never received directive authority over theater surface transportation resources and assets.^{lxi} The directive authority for these assets rested with the Combined Force Land Component

Commander (CFLCC) C-4, and the 143rd Transportation Command (TC).^{lxii} By not having control of the surface transportation assets, the CDDOC had daily, weekly, and monthly prioritized movement lists but was often forced to change those priorities when the CFLCC C-4 and/or 143rd TC had a differing priority list for the utilization of intra-theater surface transportation assets.^{lxiii} The lack of directive authority for surface assets by the CDDOC hindered the capability of maintaining a logistical joint unity of effort.

Flexibility in Planning/Execution: An effective logistical organization needs to be flexible as operations do not often occur as planned. This flexibility requires the correct number of planners to accomplish the changes. An example of the CDDOC's flexibility was demonstrated during the planned rotation of forces in Iraq between January and May 2004. The redeployment would result in the largest movement of forces since World War II.^{lxiv} As the TFPDD⁴ matured, the movement requirement grew from 250,000 to over 304,000 personnel.^{lxv} Despite the growth in the requirement, the CDDOC, by validating the process for troop movements, did not only successfully complete the movement of troops from intermediate staging locations to final destinations, but did so while reducing the average wait time for a soldier from 72 hours to just 27 hours.^{lxvi}

Although pre-planning is the preferred method to streamline the effort, a logistical organization must also be capable of adapting to unforeseen operations. With an adequately sized team of specialized experts, the COCOM is a much more capable organization for developing a crisis plan (CP). With the ability to “reach back” to their counterparts, the CDDOC saves precious time in developing a comprehensive crisis plan. The most successful example of crisis planning was the activation of the PDDOC (U.S. Pacific Command

⁴ Time Phased Force Deployment Data (TFPDD) is an operational plan used by Combatant Commanders to establish the sequence of arriving material, personnel, and services into the theater of operations.

DDOC), in conjunction with USTRANSCOM's assistance, to aid victims of the tsunami that hit Southeast Asia in December 2004. A small team of DLA personnel, in conjunction with PACOM DDOC personnel, were activated and it resulted in a much more timely deployment of initial responders and supplies into the theater than previous relief efforts.^{lxvii} In fact, Admiral Fargo, Commander of PACOM stated, "we could not have pulled this off without the assistance of the PACOM DDOC and DLA personnel".^{lxviii}

In-Transit Visibility (ITV) and Total Asset Visibility TAV). Although more work is needed in improving ITV and TAV, the CDDOC has made some significant strides. By testing numerous commercial products, the CDDOC has validated the ability to track material in "real-time". Using satellite tracking devices, the CDDOC tracked a convoy moving from Doha, Kuwait to Balad, Iraq.^{lxix} With increased improvements in tracking material, the logistics command will be positioned to react and prioritize "on the move". Although ITV/ATV will significantly enhance the "visibility" throughout the theater, the information technology element of the logistics effort has made the least progress since its identified need following Operation Desert Storm/Shield.^{lxx} To accomplish the implementation of a standardized supply system, the current splintered systems must be matured. With five million supply transactions and 9,000 customer queries occurring each day within the USCENTCOM AOR^{lxxi}, the information technology element of the ITV/TAV requirement has a tremendous amount of development to be completed. However, USTRANSCOM has identified the need for information fusion⁵ to improve the logistical process and has

⁵ Information fusion is the concept of either merging the current 129 information systems into a single system or developing systems that permit the current systems to communicate with each other and merge data. The time-phased plan addresses the budget constraints to accomplish the task and spreads the cost over several years. The information fusion is a large and complex task that will not occur rapidly.

developed a time phased funding strategy to develop a joint world-wide nodal data-collection architecture that will fuse 129 logistical information systems into an integrated system.^{lxxii}

However, in the interim, by establishing ITV Coordinators within the Air Branch and Surface Branch, CDDOC has billeted three subject matter experts to use the current ad hoc spreadsheet programs to manually track ITV/TAV of incoming cargo.^{lxxiii} The CDDOC possesses the capability to track material with current ad hoc systems; however, the capability is severely restricted by IT limitations. With technological advancements, the increased capability to manage data should reduce the workload and the manning requirement to operate such systems should decrease.

Synchronization. By following the TPFDD plan and communicating with both the strategic level and tactical level personnel, the CDDOC is capable of synchronizing the logistical evolution of an operation to meet the needs of the COCOM, and ultimately of the war fighter. The ability to synchronize and effectively utilize the available transport assets with the TFPDD not only saves money but allows the COCOM to accomplish the mission while reducing the strain on particular modes of transportation. The goal is not to efficiently use the transportation assets, but to effectively and efficiently use those assets to position the required resources in theater to achieve the operational objective(s) of the Combatant Commander. In the first three months of its establishment, from January to March 2004, by validating the time requirements of needed materials, the CDDOC was able to ship a large portion of material via sea lift vice air lift, which led to a \$268 million cost avoidance for the Department of Defense (DOD).^{lxxiv} In addition, it freed up the needed airlift assets for other priority lifts – both inter-theater and intra-theater. By “turning off” unneeded materials before it arrived and “turning on” unplanned, but needed materials, the CDDOC was able to save

money but, more importantly, minimize unneeded material in the theater. With less material in the theater, the number of in theater logistics personnel required to manage it is reduced.

Counterargument

Incorporation of the JDDOC for the remaining Combatant Commands requires transformational change. A case can be made that the CDDOC merely capitalized on existing organizational personnel (JMC and J4 staff personnel), rearranged the logistics organization billeting structure, created a few new “buzz” words, renamed the organization, and referred to the changes as logistical transformation. Did the CDDOC transform the operational logistical system or repackage an already existing capability? An organization does not have to increase in its size or scope to be considered a transformation. Although the CDDOC reorganized the existing organization’s structure and capitalized on the available USCENTCOM JMC/J4 personnel to fill a substantial portion of the new billets, the establishment of the CDDOC provided the logistics organization with three distinct and new capabilities: (1) the capability to “reach back” to strategic logistics personnel; (2) the capability of increased efficiency and effectiveness by manning the CDDOC with only logistics subject matter experts; and (3) the capability of more effective communication by reducing the number of divisions active in the daily/weekly/monthly planning and execution of intra-theater logistics.

A second case can be made that the CDDOC is too large of an organization to support and fund during peacetime operations. There is no need for such a large staff. This argument is correct, to a certain degree. Although the staffing requirements increased slightly, by capitalizing on already existing JMC and J4 staff personnel, the CDDOC only increased the entire staff by seven people. However, the need for subject matter experts that often demand

higher salaries (civilian not military) is likely. Yet in the first four months of its existence, the CDDOC saved an estimated \$375,000,000.^{lxxv} This savings alone demonstrated the cost saving capabilities of the CDDOC and has proven to be a more cost efficient organization than the previous J4 staff. Lastly, as is discussed in the recommendations, the CDDOC manning requirements may be reduced during peacetime, at the discretion of the Combatant Commander, and activated and/or augmented during combat operations to assist in achieving operational objective(s).

Recommendations

How Should the CDDOC be Changed to Establish an Effective JDDOC in the Remaining Combatant Commands?

(1) Implementation of JDDOCs in all Combatant Commands. Due to the overwhelming success of the CDDOC during Operation Iraqi Freedom, USTRANSCOM, in conjunction with training requirements supported by U.S. Joint Forces Command (USJFC), should assist the remaining four Combatant Commands in developing a tailored Joint Deployment Distribution Operations Center (JDDOC) for employment in their respective AORs. The “core” elements of the CDDOC organization (figure 2) should be used as a template for the development of the JDDOCs. However, Combatant Commanders must be afforded the authority to tailor the “non-core” DDOC elements (figure 5) to meet theater specific challenges by either augmenting or activating the Futures Division, Sustainment Division, Air Branch, Surface Branch, and Munitions Branch. The tailored elements are required to address the differing needs of a COCOM based on theater maturity, geographical conditions, host nation (HN) relations, contractor accessibility, allies in the region, and established bases of operations.

(2) Joint Doctrine Change. Change current joint doctrine (JP 4.01) to reflect the incorporation of a JDDOC in each Combatant Command.

(3) JDDOC Manning. USJFCOM should initiate manning requirement studies for each COCOM to establish the required number of logistics personnel to support both peacetime operations and combat operations. Each JDDOC should be manned at a level to conduct peacetime planning and operations. USJFCOM and USTRANSCOM should establish and maintain two teams (one per command) capable of augmenting two Combatant Commands during operational (peace or combat) periods. This will ensure the United States maintains a capability to fight two major conflicts while maintaining efficiency of force during peacetime.

(4) Test and Evaluation of the JDDOCs. USTRANSCOM, in coordination with OSD, the Joint Staff, USJFCOM, the Services, and Combatant Commanders, should test, during exercises and war games, the effectiveness of the newly established JDDOCs. Any vulnerabilities or excess capabilities should be addressed following the validation process.

(5) Future Division (Ally/Host Nation Relationship) (figure 4). The Futures Division of the proposed JDDOC template (figure 4) for use by COCOMs is identified as a “non-core” capable division⁶. With the increasing global threats posed by transnational states, failed states, and terrorist organizations, it is imperative not only for the Futures Division to maintain close relationships with Host Nations, but to develop relationships with a number of nations within an area of responsibility (AOR) to ensure the United States has increased flexibility in establishing bases of operations for future conflicts. The time to codify the relations is before a conflict arises, not once a conflict arises. Therefore, the Futures Division

⁶ In the proposed JDDOC template, a “core” branch/division refers to a capability that should be a permanent fixture in all CCOM’s JJDOCs (figure 2). A “surge” branch/division, on the other hand, refers to a capability that may be augmented or activated, if needed, based on a theaters requirements or work load (figure 7).

should be a “core” element in all COCOM’s JDDOC organizations. In addition, two personnel in the Division (figure 4) are inadequate for most theaters to maintain an acceptable level of readiness. Combatant Commanders should be permitted the latitude to man the Division based on the area of responsibility (AOR) needs/requirements.

(6) Grant Directive Authority to the JDDOC for Intra-Theater Ground Transportation. The CDDOC was granted directive authority over the intra-theater air assets yet not the ground assets. This severely hampered the ability of the CDDOC to prioritize delivery schedules. If the ground component changed asset priorities without informing the CDDOC, it often disrupted the COCOM’s transportation priority plan and fractured the COCOM’s unity of effort. The JDDOC should be granted directive authority for ground transportation assets to ensure the operational unity of command is in sync with the operational unity of effort.

(7) Information Technology Development. USTRANSCOM/USJFCOM must continue to receive adequate funds to pursue the time-phased budget strategy in developing an integrated and standardized logistics system. The restructured logistical organizational structure, in unison with IT, will permit more timely and accurate logistical support for Combatant Commanders.

Conclusions

“Logistics is one of the most important operational functions in support of a major operation and campaign. Its ultimate purpose is to extend the operational reach for one’s forces in order to prevent the adversary from extending the operational reach for his own forces.”^{lxxvi} With the waning of Cold War era symmetrical warfare and the emergence of adversaries that attempt to exploit the United States’ military strength by employing asymmetrical warfare (terrorist organizations/failed states/transnational states), the Department of Defense must

develop a logistics organization that is dynamic, mobile, adaptable and able to keep pace with the needs of deployable forces employed by Combatant Commanders. Although the establishment of the U.S. Central Command Deployment Distribution Operations Center (CDDOC) is a large step in the right direction in managing logistical processes on an operational level, the concept must be adopted and tailored to the remaining Combatant Commands to establish an effective and standardized logistical system that “bridges” strategic, operational, and tactical logistics to ensure that war fighters are properly supported. Logistics organizational structure and information sharing are two critical elements required to “transform” the logistical system. The tailored JDDOC is the appropriate path to link strategic logistics to tactical logistics and will permit Combatant Commanders to more effectively project combat power.

Although only briefly discussed in this essay, information technologies must also be developed to establish a standardized and “real time” system to capitalize on speed and accuracy. The speed and accuracy of the logistic system is what will enable the Combatant Commander the freedom of action to seize the initiative and maintain an element of surprise on the enemy.

The CDDOC, although fairly immature in its development, is an organization that has demonstrated the capability of improving intra-theater logistical efficiencies and should be used as a model to establish tailored Joint Deployment Distribution Operation Centers (JDDOCs) for the remaining four Combatant Commands.

End Notes

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- ⁱ U.S. Joint Chiefs of Staff, Doctrine for Logistics Support of Joint Operations, Joint Pub 4-0 (Washington D.C.: 06 April 2000), ix.
- ⁱⁱ Virtual Library of Logistics, “Quotations”, Version 4, (1999), 2.
- ⁱⁱⁱ U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: February 2005), 1.
- ^{iv} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington, D.C.: 2003), 3.
- ^v U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Situation Report, (MacDill Air Force Base, FL: May 2004), 5.
- ^{vi} William G. Pagonis, Moving Mountains: Lessons in Leadership and Logistics from the Gulf War, (Boston, MA: 1992), 1.
- ^{vii} Eliot A. Cohen, Gulf War Air Power Survey, Volume III, Logistics and Support, (Washington D.C.: U.S. Air Force Department and Government Printing Office, 1993), 82.
- ^{viii} Science Applications International Corporation, Objective Assessment of Logistics in Iraq, (McLean, VA: March 2004), 8.
- ^{ix} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, Appendix E, (MacDill Air Force Base, FL: 14 May 2004), 4.
- ^x Ibid, 2.
- ^{xi} Ibid, 5.
- ^{xii} George Cahlink, “Just In-Time War”, Marine Corps Gazette, (October 2004), 2.
- ^{xiii} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 18 December 2003), 22.
- ^{xiv} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, Appendix C, (MacDill Air Force Base, FL: 14 May 2004), 4.
- ^{xv} William G. Pagonis, Moving Mountains: Lessons in Leadership and Logistics from the Gulf War, (Boston, MA: 1992), 7.
- ^{xvi} Science Application International Corporation, Objective Assessment of Logistics in Iraq, (McLean, VA: March 2004), 8.
- ^{xvii} William G. Pagonis, Moving Mountains: Lessons in Leadership and Logistics from the Gulf War, (Boston, MA: 1992), 7.
- ^{xviii} Ibid, 202.
- ^{xix} Eliot A. Cohen, Gulf War Air Power Survey, Volume III, Logistics and Support, (Washington D.C.: U.S. Air Force Department and Government Printing Office, 1993), 82.
- ^{xx} U.S. Transportation Command, “Financial Management for Distribution and Transportation Moving Forward”, (Scott AFB, IL: November 2004), 2.
- ^{xxi} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, Appendix E, (MacDill Air Force Base, FL: 14 May 2004), 2.
- ^{xxii} George Cahlink, “Just In-Time War”, Marine Corps Gazette, (October 2004), 1.
- ^{xxiii} Ibid, 3.
- ^{xxiv} Ibid, 1.
- ^{xxv} William G. Pagonis, Moving Mountains: Lessons in Leadership and Logistics from the Gulf War, (Boston, MA: 1992), 176.
- ^{xxvi} Science Application International Corporation, Objective Assessment of Logistics in Iraq (McLean, VA: March 2004), 12.
- ^{xxvii} Science Application International Corporation, Objective Assessment of Logistics in Iraq, (McLean, VA: March 2004), 9.
- ^{xxviii} Ibid, 204.
- ^{xxix} Ibid, 206
- ^{xxx} Ibid, 205.
- ^{xxxi} Ibid, 206.
- ^{xxxii} Ibid, 208.

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- ^{xxxiii} James K. Matthews and Cora J. Holt, So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic deployment for Operation Desert Shield/Storm, (Washington, DC: U.S. Government Printing Office, 1996), 27.
- ^{xxxiv} Ibid, 27.
- ^{xxxv} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 2003), 1-24.
- ^{xxxvi} Science Application International Corporation, Objective Assessment of Logistics in Iraq, (McLean, VA: March 2004), 54.
- ^{xxxvii} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 2003), 22.
- ^{xxxviii} Ibid, 23.
- ^{xxxix} Ibid, 3.
- ^{xl} Ibid, 3.
- ^{xli} John J. Broadmeadow, “Logistics Support to 1st Marine Division during Operation Iraqi Freedom”, Marine Corps Gazette, (August 2003), 44.
- ^{xlii} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 2003), 17.
- ^{xliii} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: 1 January 2005), 1.
- ^{xliv} U.S. Joint Chiefs of Staff, Joint Vision 2020, (Washington D.C.: June 2000), 16.
- ^{xlv} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, Appendix E, (MacDill Air Force Base, FL: 14 May 2004), 4.
- ^{xlvi} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: February 2005), 6.
- ^{xlvii} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, (MacDill Air Force Base, FL: 14 May 2004), 5.
- ^{xlviii} Ibid, 1.
- ^{xliv} Ibid, 3.
- ^l Ibid, 5.
- ^{li} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, Appendix E, (MacDill Air Force Base, FL: 14 May 2004), 3.
- ^{lii} Ibid, 7.
- ^{liii} Ibid, 5.
- ^{liv} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, (MacDill Air Force Base, FL: 14 May 2004), 13.
- ^{lv} Ibid, 15.
- ^{lvi} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: 1 January 2005), 6.
- ^{lvii} Ibid, 5.
- ^{lviii} Ibid, 5.
- ^{lix} U.S. Transportation Command, Joint Theater VTC, (Scott Air Force Base, IL: 14 December 2004), 3.
- ^{lx} U.S. Department of the Army, “Jointness Key to Logistics in Theater”, Army News, (Washington D.C.: 28 October 2004), 1.
- ^{lxi} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004, (MacDill Air Force Base, FL: 14 May 2004), 8.
- ^{lxii} Ibid, 1.
- ^{lxiii} Ibid, 2.
- ^{lxiv} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: 1 January 2005), 5.
- ^{lxv} Ibid, 5.
- ^{lxvi} Ibid, 7.
- ^{lxvii} U.S. Transportation Command, “DLA Assesses Third DDOC, Contributes to Tsunami Relief”, (Scott Air Force Base, IL: January 2005), 1-2.
- ^{lxviii} Ibid, 2.

^{lxi} U.S. Central Command, CENTCOM Deployment Distribution Operations Center (CDDOC) Situation Report, (MacDill Air Force Base, FL: May 2004), 1.

^{lxx} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 2003), 3.

^{lxxi} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: February 2005), 18.

^{lxxii} Ibid, 66.

^{lxxiii} U.S. General Accounting Office, Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom, Report to Congress, (Washington D.C.: 2003), 9.

^{lxxiv} U.S. Transportation Command, 2004 Annual Command Report, (Scott Air Force Base, IL: February 2005), 6.

^{lxxv} Ibid, 7.

^{lxxvi} Milan Vego, Operational Warfare, (Newport, RI, Naval War College: 2000), 187.

BIBLIOGRAPHY

- Bentz, Randall M. Leap-Ahead Logistics Management Technology: Turning the Evolution in Military Logistics into a True Revolution. Fort Leavenworth, KS: Army Command and General Staff College, May 1999.
- Broadmeadow, John J. "Logistics Support to 1st Marine Division During Operation Iraqi Freedom." Marine Corps Gazette, (August 2003).
- Cahlink, George. "Just-In-Time War". Marine Corps Gazette, (October 2004).
- Clausewitz, Carl Von. (Edited by Michael Howard and Peter Paret). On War. Princeton, NJ: 1984.
- Cohen, Eliot A. Gulf War Air Power Survey, Volume III, Logistics and Support. U.S. Air Force Department and Government Printing Office, Washington, D.C.: 1993.
- Currie, Karen W. and Newkirk, Bryan T. "Global Combat Support System: A Must for the Joint Warfighting Commander." Air Force Journal of Logistics: Volume XXVIII, Number 3, Fall 2004 (September 2004).
- Dail, Robert T. Joint Theater Logistics: CENTCOM Deployment Distribution Operations Center Brief. (Scott Air Force Base, IL; May 2004).
- Johnson, Amy. "35 Years of IT Leadership: A New Supply Chain Forged." Computerworld, 30 September 2002.
- Kiley, David. "Military Uses Private Sector Supply Tactics." USA Today. 17 April 2003. <http://www.usatoday.com/money/world/iraq/2003-04-17-logistics2_x.htm>. [19 February 2005].
- Kress, Moshe. Operational Logistics: The Art and Science of Sustaining Military Operations. Boston, MA: 2002.
- Lewandowski, Linda. "Sense and Respond Logistic Brief". Office of Force Transformation, Washington, DC: August 2003.
- Lexington Institute. From Factory to Foxhole: The Transformation of Army Logistics. Arlington, VA: 2004.
- Matthews, James K. and Holt, Cora J. So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Storm. Washington, DC: U.S. Government Printing Office, 1996.

Pagonis, William G. Moving Mountains: Lessons in Leadership and Logistics from the Gulf War. Boston, MA: Harvard Business School Press, 1992.

Science Applications International Corporation. Objective Assessment of Logistics in Iraq. McLean, VA: March 2004.

Science Applications International Corporation. The Sense and Response Logistics Capability and Operational Iraqi Freedom. McLean, VA: 2003.

U.S. Central Command. CENTCOM Deployment Distribution Operations Center (CDDOC) Situation Report. MacDill Air Force Base, FL: 2004.

U.S. Central Command. CENTCOM Deployment and Distribution Operations Center (CDDOC) Spiral 1 Report January-May 2004. MacDill Air Force Base, FL: 14 May 2004

U.S. Congress. House. Committee on Armed Services. Logistics Transformation. Hearing before the Subcommittee on Readiness. 108th Congress, 1d sess., 30 March 2004.

U.S. Defense Distribution Center. Latest RFID Tag Sharpens Asset Visibility. Defense Distribution Center Public Affairs Office; Susquehanna, PA: 15 March 2005.

U.S. Department of the Army. Intra-Theater Logistics Distribution in the CENTCOM AOR. Army Science Board FY2004 Task Force Final Report. Washington, D.C.: October 2004.

U.S. Department of the Army. "Jointness Key to Logistics In Theater". Army News. Washington D.C.: 28 October 2004.

U.S. Department of Defense. Report on Operational Sense and Respond Logistics: Co-evolution of an Adaptive Enterprise Capability. Washington, DC: 2004.

U.S. General Accounting Office. Defense Logistics: Preliminary Observations on the Effectiveness of Logistics Activities during Operation Iraqi Freedom. Report to Congress: Washington, DC: 2003.

U.S. Joint Chiefs of Staff. Focused Logistics Campaign Plan 2004 Edition. Washington, DC: February 2005.

U.S. Joint Chiefs of Staff. Joint Doctrine for Logistics Support of Joint Operations. Joint Pub 4-0. Washington, DC: 2000.

-
- U.S. Joint Forces Command/U.S. Transportation Command. Joint Lessons Learned Approach Package: Operation Iraqi Freedom (OIF) Major Combat Operations (MCO) Joint Theater Logistics (JTL) (Distribution). Scott Air Force Base, IL; Norfolk Naval Station Norfolk, VA: 28 February 2005.
- U.S. Transportation Command. 2004 Annual Command Report. Scott Air Force Base, IL: 2005.
- U.S. Transportation Command. CDDOC Has Big Job in CENTCOM's AOR. Scott Air Force Base, IL: 2004.
- U.S. Transportation Command. "CDDOC Pilot Improves Distribution Pipeline". Scott Air Force Base, IL: 30 October 2004.
- U.S. Transportation Command. Distribution Process Owner (DPO) – Joint Deployment Distribution Center (CDDOC) Template(Draft). Scott Air Force Base, IL: 23 February 2005.
- U.S. Transportation Command. "DLA, AMC DPO Team Improves Air Shipment Process". Scott Air Force Base, IL: 21 July 2004.
- U.S. Transportation Command. "DLA Assesses Third Joint DDOC, Contributes to Tsunami Relief". Scott Air Force Base, IL: 31 January 2005.
- U.S. Transportation Command. "Financial Management for Distribution and Transportation Moving Forward". Scott Air Force Base, IL: 15 November 2004.
- U.S. Transportation Command. "Flexible Distribution Plan in Iraq Reduces Risk for Truck Drivers". Scott Air Force Base, IL: 04 February 2005.
- U.S. Transportation Command. Joint Theater Logistics VTC. Scott Air Force Base, IL: 14 December 2004.
- U.S. Transportation Command. "Moving America's Military Might – Metaphorically Speaking". Scott Air Force Base, IL: 06 April 2005.
- U.S. Transportation Command. Operation Iraqi Freedom Lessons Learned. Scott Air Force base, IL: 2003.
- U.S. Transportation Command. "Services Work Together, Keep Convoys Off Streets". Scott Air Force Base, IL: 30 March 2005.
- U.S. Transportation Command. "Transforming the Deployment and Distribution Between Strategic and Operational Logistics". Scott Air Force Base, IL: 10 February 2004.

Vego, Milan. Operational Warfare. Newport, RI; Naval War College, 2000.

Virtual Library of Logistics. "Quotations". Version 4: 1999.

<www.logisticsworld.com/logistics/quotations.htm>: 1999 [14 April 2005]

Walter-Groft, Jessica. "Latest RFID Tag Sharpens Asset Visibility." Defense Distribution Center Affairs Office. Susquehanna, PA: 15 March 2005.