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JOINT LOGISTICS 2010: ARE WE ON THE RIGHT TRACK?

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 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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15.Abstract:

This paper discusses joint doctrine, as relates to logistics and the operational level of war. The author examines the declining budget, its impact on force structure, and the resultant impact on joint and Service doctrine.

Joint Vision 2010 and emerging joint logistics information management systems are reviewed from the perspective of lessons learned in Operations Desert Shield and Desert Storm, and Operation Uphold Democracy.

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ABSTRACT

Since 1986, the Department of Defense (DOD) budget authority has steadily declined from a peak of $410 billion in fiscal year 1985, to $250 billion in fiscal year 1998, a 39% decrease. The precipitous decline in defense spending, coupled with revised U.S. National and Military strategies, wherein focus has shifted from the Cold War's forward deployed, bipolar orientation on Europe and the Soviet Union, to a crisis response, Continental U.S. (CONUS)-based, power projection force, has resulted in the largest military force reduction since World War II. The fundamental reversal of operational doctrine combined with force reductions has caused a significant shift in strategic vision and direction throughout the DOD.

With the shrinking DOD budget and radical changes in doctrine, this paper will examine joint doctrinal issues and emerging "joint" logistics system to ascertain whether, or not, a CINC/JFC will have the right tools to control logistics from an operational level of war perspective when contrasted with recent joint force operations.

INTRODUCTION

History knows many more armies ruined by want and disorder than by the efforts of their enemies.
Cardinal de Richelieu

Since 1986, the Department of Defense (DOD) budget authority has steadily declined from a peak of $410 billion in fiscal year 1985, to $250 billion in fiscal year 1998, a 39% decrease. Viewed in broader terms, defense spending as a percentage of total Federal spending has decreased from 28% to 15% during the same period.[1] Further, DOD budgets in the future will continue to be squeezed by the steep growth in mandatory expenditures (e.g., entitlements and debt interest), which will account for 72% of the Federal budget by the year 2003.[2]

The precipitous decline in defense spending, coupled with revised U.S. National and Military strategies, wherein focus has shifted from the Cold War's forward deployed, bipolar orientation on Europe and the Soviet Union, to a crisis response, Continental U.S. (CONUS)-based, power projection force, has resulted in the largest military force reduction since World War II.[3] Concomitantly, a fundamental reversal

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[1] U.S. Marine Corps Hq., United States Marine Corps Concepts & Issues 97 (Washington: 1997), 131.
[2] Paul G. Kaminski, "Defense Industry Challenges and Opportunities," Address, 2d Annual Silicon Valley Defense Acquisition Conference, Santa Clara, CA: 11 July 1996.
[3] U.S. Army Dept., Army Strategic Logistics Plan (Washington: 1995), 6.

of operational doctrine combined with force reductions has caused a significant shift in strategic vision and direction throughout the DOD.[4]

Another derivative of the shrinking DOD budget and attendant cost reduction efforts, is recognition within the DOD leadership, including the Chairman of the Joint Chiefs of Staff, that the Services must embrace joint warfighting. Whether, or not, the DOD establishment is adequately translating "jointness" into doctrine, training, equipment, supporting information systems, and culture will be examined in this paper, especially with regards to emerging joint logistics command and control information systems that will be used at the operational level of war.

DOCTRINE AND THE OPERATIONAL LEVEL OF WAR

According to current joint doctrine, the operational level of war links the tactical employment of forces to strategic objectives[5]. Also, at the operational level of war, the warfighting combatant commanders (CINCs), or subordinate joint force commanders (JFCs), will employ the tenets of operational art to ascertain the ends, ways and means to achieve operational and strategic objectives. Narrowing the

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[4] Ibid.

[5] Joint Warfighting Center, Doctrine for Joint Operations, Joint Pub 3-0. (Washington: 1995), II-2.

scope to a logistics perspective, a CINC's/JFC's logistics staff (J-4) must have the ways and means to plan and execute the movement and sustainment of operating forces in the execution of campaigns and operations[6].

To aid CINCs in their ability to ensure maximum effectiveness and efficiency of logistics operations, they can "exercise directive authority for logistics (or delegate directive authority for a common support capability)."[7] A CINC's directive authority for logistics is not intended to prevent the Military Departments and Services from carrying out their statutory responsibilities for the logistic and administrative support of Service forces assigned or attached to joint commands. However, during a crisis, "the logistic and administrative authority of combatant commanders enable them to use all facilities and supplies of all forces assigned to their commands as necessary for the accomplishment of their missions."[8] Further, although a CINC's directive authority for logistics is not automatically vested in a subordinate JFC that has been given operational control (OPCON) of assigned or

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[6] Joint Warfighting Center, Doctrine for Logistics Support of Joint Operations, Joint Pub 4-0. (Washington: 1995), v

[7] ibid., I-6.

[8] Joint Warfighting Center, Unified Action Armed Forces (UNAAF), Joint Pub 0-2. (Washington: 1995), III-8.

attached forces, such authority can be delegated to a JFC by a CINC.[9]

Viewed logically, it makes sense that a CINC or JFC should have the ability to "control" logistics resources within a theater of war. The question is, given current joint and Service doctrine, and available command, control, communications and computerized information management systems (C4), does a CINC's J-4 have the necessary tools to do so? Before answering this question, it is first necessary to examine logistics control experiences in recent joint operations and review current efforts to improve logistics command and control.

LEARNING FROM THE PAST

Operations Desert Shield and Desert Storm. Operations Desert Shield and Desert Storm provided the U.S. with a timely opportunity to test the Nation's ability to respond to a major regional contingency. In their recollections of the logistics effort involved in those operations, the senior commanders of the U.S. Army and U.S. Marine Corps logistics components outlined their respective thoughts on operational-level logistics issues they had to contend with: (1) Preparing the

[9] ibid.

logistics battlefield, (2) Organizing the logistics force, (3) Sourcing the resources, (4) Creating logistics flexibility, (5) Providing the commander's intent and, (6) Defining the logistics focus of effort. Both leaders reflect on the fact that, in spite of the complexities of the deployment, reception, staging, onward movement, integration, and sustainment of such a large force along extended lines of communications, they were successful through effective coordination and cooperation between Service and multi-national components.[10] It is doubtful that any reasonable scholar would deny that logisticians in Saudi Arabia performed admirably. However, there were some extremely valuable lessons learned in the desert.

The Commander in Chief, U.S Central Command (CINCUSCENTCOM) tasked the 22d Support Command (SUPCOM) with the mission of providing reception, forward movement and sustainment of all forces in Saudi Arabia.[11] Although 22d SUPCOM successfully introduced approximately 320,000 troops and in excess of 1,000,000 short tons of materiel into the theater, there were challenges experienced in the time-phasing

[10] Pagonis, William G. and Harold E. Raugh Jr. "Logistic Sustainment of Operation Desert Storm," Military Review, September 1991, 28-39; Brabham, James A. "Operational Logistics: Defining the Art of the Possible," Marine Corps Gazette, April 1994, 26-31.
[11] Pagonis and Raugh, 30.

of arriving forces and materiel, and centralized visibility of in-theater and inbound resources did not exist, hindering efficient materiel management.

The U.S Army's VII Corps experienced bottlenecks at the Ports of Dammam and Jubail. At one point, "37,000 VII Corps soldiers still awaited transportation to the TAA or the arrival of key pieces of equipment on another ship."[12]

Service components used their Service-unique, "stove-piped" systems to requisition, receive, store and issue the massive amounts of materiel that were shipped from CONUS. Unfortunately, there was no system in place to provide centralized visibility of theater-wide requirements, assets on-hand, and assets in-transit from external sources, thereby precluding optimal resource management. Further, there were large quantities of materiel stored in containers that could not be located. Aggregate inefficiencies in materiel management resulted in redundant requisitions for materiel already on-hand, thereby straining resources at supporting depots in CONUS, and choking transportation channels already reeling from scheduled force deployments.

[12] William L. Brame, "From Garrison to Desert Offensive in 97 Days," Army, February 1992, 34.

Operation Uphold Democracy. Operation Uphold Democracy, although initially planned as a forced-entry mission, evolved into a military operation other than war (MOOTW). A Joint Task was supported by elements of the XVIII Airborne Corps' 1st Corps Support Command (COSCOM), acting as Joint Logistics Support Command (JLSC) in the JOA.

The prior planning and coordination effected by the COSCOM Commander and Staff impressively reflected an understanding of the lessons learned in Saudi Arabia. An effective C2 system was established to control resources introduced in-country, to include establishment of a system enabling in-transit visibility of all inbound resources. Operational and sustaining support packages were tailored and arrived in the JOA in a timely manner. The only challenge identified by the commander was the need for logistics commands to have dedicated satellite communications connectivity.[13]

THE FUTURE

Change in our national and military strategies, lessons learned in Operations Desert Shield and Desert Storm, and the revolution in military affairs, when coupled with the

[13] John M. McDuffie, "Force XXI Corps Support," Army Logistician, July-August 1995, 26-30.

declining Department of Defense (DOD) budget and resultant efforts to look for more effective and efficient methods of fulfilling our nation's military strategy, have resulted in dramatic revisions in the Department's plans and strategies.[14] Throughout the DOD establishment, significant changes are being made in the way we will conduct joint operations in the future. The scope of change includes Joint and Service doctrine, research and development of high-technology command and control (C2) capabilities and weapons systems, reengineering of key corporate information management systems, to name a few.

One of the driving forces behind much of this activity is *Joint Vision 2010*[15], the Chairman of the Joint Chiefs of Staff's proposition on how the Services will operate jointly in the 21st century. Examination of various other DOD and Service strategic planning documents quickly reveals *Joint Vision 2010* as the basis for many of the desired changes contained therein.

One of the four operational concepts contained in *Joint Vision 2010* is *focused logistics*--"the fusion of information,

[14] Paul G. Kaminski, "The Revolution in Defense Logistics," Address, 12th National Logistics Symposium and Exhibition, Alexandria, VA: 31 October 1995.
[15] Chairman of the Joint Chiefs of Staff, Joint Vision 2010 (Washington: 1995), 1-34.

logistics and transportation technologies to provide rapid crisis response, to track and shift assets even while enroute, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical levels of operations."[16] Examination of ongoing efforts directly related to bringing the vision of *focused logistics* to fruition reveals the future for logistics professionals and, perhaps, the ways and means for a CINC/JFC J-4 to prepare and truly control the logistics battlefield.

Focused Logistics Overview. Focused logistics, if realized as envisioned, will radically change how logisticians view and accomplish their mission. Joint and combined operations will be the focus, as opposed to maintaining functional/Service "stovepipes." Logistics elements and the processes used will become lean, bolstered by new information management and decision-enhancing systems. Focused logistics is not just oriented towards the Services either. Rather, the entire DOD logistics structure will be affected. Logistics organizational structures will be streamlined as we right-size the logistics footprint and make genuine progress in such vital areas as logistics command and control and theater

[16] ibid., 24.

distribution. The days of multiple requisitioning of an item in hopes that at least one will arrive when needed will become a thing of the past. The logistics footprint of the future will be a more precise balance between "just-in-time" and "just-in-case."[17] The real issue is, how do we define the "right size" for a logistics footprint? Only through war-gaming, that includes true modeling and simulation of logistics throughput, can such estimates be properly made. In past war games, logistics prohibitions of desired courses of action have, more often than not, been brushed aside.

Global Combat Support System (GCSS). GCSS will be a logistics-oriented counterpart system to the Global Command and Control System (GCCS) that is being fielded to replace the Worldwide Military Command and Control System (WWMCCS) and the Joint Operations Planning and Execution System (JOPES).

GCSS will provide commanders total visibility of unit personnel and equipment, sustainment inventory, logistics resources, health service resources, and materiel requisitions. These views will be provided by data received from subordinate capabilities in various stages of development, such as total asset visibility. The commander

[17] Deputy Under Secretary of Defense (Logistics), Focused Logistics Roadmap (draft) (Washington, n.d.), 2-7.

will be able to model and simulate the logistics battlefield to perform course of action feasibility estimates, plan and prioritize.[18]

Joint Total Asset Visibility (JTAV). JTAV is a cornerstone capability of *focused logistics*, providing a CINC/JFC, as well as all subordinate forces, the ability to see and track all requisitions processed in-theater; visibility of assets in-storage, in-process, and in-transit; and timely and accurate information on the location, movement, status, and identity of units, personnel, equipment and supplies.[19] Commanders would use information accessible in JTAV to enhance planning for deployment, reception and onward movement of forces and materiel; the diversion of forces and materiel in-transit, if required, to meet changing contingency requirements; the management of in-theater assets to improve their utilization, cross-leveling, and distribution; and the redeployment of forces and retrograde of materiel.[20]

JTAV is a subset of the Defense Total Asset Visibility (DTAV) Implementation Plan, which is a much broader effort in

[18] ibid., 18.
[19] Undersecretary of Defense for Acquisition and Technology, Defense Total Asset Visibility Implementation Plan (Washington, 1996), 6-2.
[20] ibid., 2-4.

terms of its scope. The U.S. Army is the DOD's Executive Agent for development and implementation of JTAV.[21]

Put simply, JTAV is comprised of visibility of all resources in-theater, plus all requirements in-process, plus all requirements in-transit. Development of the system is based on the premise that all necessary information already exists in current logistics data bases. Knowing the location of the information and making it accessible to the JTF staff and others in a user friendly manner are at the heart of the JTAV concept. CONUS-based, functionally oriented, central database repositories, such as the Global Transportation Network (GTN), Defense Manpower Data Center (DMDC), and supply Inventory Control Points (ICPs) will be linked to the JTAV database. JTAV users will not have to be concerned with any transactions. The system will provide a standard set of information retrieval queries and reports that will provide total visibility orientations along functional lines.

Integral to the JTAV architecture will be the availability of high quality communications connectivity to CONUS-based and in-theater data repositories. In effect, JTAV, as with other systems being developed, will be based on

[21] Undersecretary of Defense for Acquisition and Technology, Department of Defense Logistics Strategic Plan, 1996/1997 ed., (Washington, 1996), 10.

a graphical user interface, in a windows-based environment, accessed in the same manner as the INTERNET.

Final Operating Capability (FOC) is ambitiously targeted for FY 99, depending on successful FOC of the GTN and systems selection to track assets in-process, in-storage, and in-theater.[22]

In-transit Visibility (ITV). As previously indicated, ITV is a critical element of JTAV. ITV is not a system, it is a capability embedded within the GTN.[23] The U.S. Transportation Command (USTRANSCOM) is the Executive Agent for development of an ITV capability with the Defense Transportation System, a component of the GTN. Initial Operating capability (IOC) is scheduled for mid-1997, with Full Operating Capability in 2000.

Put simply, ITV is the capability to trace, from origin (e.g., a depot or commercial vendor) to destination, the identity, status, and location of DOD unit and non-unit cargo. The capability to track passengers and medical patients is also provided. Basically, ITV will be realized by associating items in a box, to a larger box (multi-pack), then with a

[22] Focused Logistics Roadmap, 20.
[23] Thomas Manzagol and Eleni Brown, "Intransit Visibility or Where's My Stuff?," Defense Transportation Journal, April 1996, 18.

pallet/container, then recording the associated information on laser cards and/or radio frequency tags that will be scanned at each transportation node passed-through enroute to a destination. The data read by radio frequency interrogators at each node is passed on a near real-time basis to the GTN database at Scott Air Force Base, Illinois.[24]

One of the key benefits to be derived from the capability offered by ITV is visibility of cargo inbound to ports of debarkation, thereby enabling planners to predict throughput requirements and plan for follow-on distribution.

ARE WE ON THE RIGHT TRACK?

Romantically heroic politicians and gung-ho generals notwithstanding, the aim of a military organization is not to make do with the smallest number of supporting troops but to produce the greatest possible fighting power.

Martin L. Van Creveld

The broad range and depth of ongoing change within the DOD is mind boggling. If there are those who do not believe we are experiencing a revolution in military affairs, I doubt seriously that they would deny that we must be going through a military technical revolution. The U.S. Army's Force XXI, and digitized battlefield; the U.S. Air Force's Global Reach-Global Power; the Marine Corps' Sea Dragon; all focused on broad-minded pursuit of new doctrine that embraces high

[24] Larry D. Johnson, "User's Guide to ITV," Army Logistician, September-October 1996, 24-25.

technology ways and means to meet Joint Vision 2010's emerging operational concepts. In the functional area of logistics there is no less a penchant for change. Literally every facet of our logistics business processes and associated automated information systems are either being reengineered, or replaced, with the single-minded purpose of maximizing cost and efficiency, and reducing logistics infrastructure. Therein lies reason for caution. The Under Secretary of Defense for Acquisition and Technology recently stated, "Within the Department, the warfighters have come to clearly realize it is a zero-sum game, that every logistics dollar expended on outdated systems, inefficient organic capability and unneeded inventory is a dollar not available to build warfighting capability."[25] While I agree with Dr. Kaminski's premise that there is a lot of fat that can be trimmed from cold war inventory stockpiles and outdated business processes, I worry about cutting too deep to augment scarce procurement dollars at the expense of readiness.

Global Combat Support System and its subordinate, data feeding sub-systems, such as JTAV, are being developed with good intent and for the right reasons. They promise to remedy

[25] Kaminski, "LMI and DOD-Sponsored FFRDCs: Critical to National Security," 4.

the challenges experienced in Desert Shield and Desert Storm. Although I am a proponent of the focused logistics systems and believe they will lessen the potential for repeating mistakes made in the past, I have several concerns.

1) Some of these capabilities are being developed on a phased approach using prototyping methods. In other words, they are not fully funded, full-scale acquisitions.

2) When these systems come to maturity and are fielded, the volume of data that will be required to be transmitted via satellite communications channels will be incredible. There are plans to ensure that adequate bandwidth is dedicated to supporting "focused logistics" efforts. However, these systems will be connectivity dependent and, should connectivity be lost, there would be chaos on the battlefield while the system-dependent logisticians try to remember "how we used to do it in the old days."

3) With the fielding of these new total asset visibility systems, the CINC/JFC will truly have the ability to direct cross-support between Service components. In order to keep the peace on the financial front, the systems had better have a robust inter-Service billing capability, no small matter in times of diminishing Operations and Maintenance budgets.

In closing, much has been written regarding whether, or not, a CINC/JFC should employ a standing JTF Logistics Commander to ensure the joint logistics battlefield is properly directed. The Focused Logistics Roadmap addresses the issue as follows: "Under the Joint Logistics Command and Control (JtLogC2) concept, the Services retain their Title 10 responsibilities but as joint force operations commence, theater distribution and allocation decisions will be handled by an in-theater Joint Logistics organization comprised of a multi-service group of senior logistics advisors to the Joint Force Commander (JFC)."[26] It will be interesting to see if the spirit of jointness will accommodate this noble approach to a historically thorny issue.

[26] Focused Logistics Roadmap, 23.

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