

Transforming Joint Operational-level Logistics

By MARK W. AKIN *and* GEORGE L. TOPIC

31st Communications Squadron (Nathan Dozza)



Airmen unload cargo from C-17 at Balad Air Base, Iraq

Our nation is engaged in a broad array of military operations that is driving significant changes in the way we train, fight, and execute missions—from humanitarian assistance to major combat. In turn, those changes require a fundamental reevaluation of the way we deploy, support, and sustain those operations. There is a pressing need to develop a framework for joint logistics management at the operational level to enhance the synchronization and effectiveness of logistics support. This framework must be based on a set of imperatives and enablers that, when considered and properly established and used, offers the greatest possible freedom of action for the joint force commander (JFC) as well as our interagency and multinational partners.

Military logistics support extends from the strategic level in the national industrial base to the tactical level, where “beans, bullets, and black oil” are delivered on time, at the right place, and in the right quantity. Operational-level logistics links strategic resources with tactical units, enabling force

Colonel Mark W. Akin, USA, is Director, Joint Logistics, J9 (Joint Innovation and Experimentation Directorate), U.S. Joint Forces Command. George L. Topic is Deputy Director for Strategic Logistics, Directorate for Logistics, Joint Staff J4.

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 2007		2. REPORT TYPE		3. DATES COVERED 00-00-2007 to 00-00-2007	
4. TITLE AND SUBTITLE Transforming Joint Operational-Level Logistics				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, Institute for National Strategic Studies, 260 5th Avenue SW Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

closure, sustainment, reconstitution, and redeployment of forces. The challenge of moving operating forces in the war on terror requires extensive integration of strategic and operational deployment and distribution efforts to provide effective operational and tactical sustainment. These complex processes are increasingly intertwined, combining Services, national providers, coalition partners, and a wide range of commercial capabilities (from domestic to international sources). Operations *Enduring Freedom* and *Iraqi Freedom*, along with past campaigns, highlight logistics efforts fraught with inefficiency, redundancy, and process gaps. Our success was often dependent on heroic efforts and battlefield ingenuity by military logisticians and the overwhelming capacity of our industrial base to provide virtually limitless support. We cannot depend on this in the future, nor should we.

This article highlights a set of joint logistics imperatives and enablers that would facilitate the integration of joint operational-level logistics management. It also presents several joint (operational-level) logistics management options and briefly covers Department of Defense (DOD) actions now under way to enhance joint logistics capabilities. We focus on the operational level because we believe this is where enhancements to joint logistics offer the greatest opportunity for the JFC; choosing the best management structure for a given mission is a critical component of the

overall logistics effort. We have intentionally avoided use of the term *theater* because it suggests geographic boundaries that do not seem appropriate for modern logistics management. The operational level can span multiple, diverse joint operation areas, each distinct in its concept of support requirements and corresponding strategic support base.

future operations are likely to be globally distributed and conducted rapidly and simultaneously across multiple joint operation areas

Imperatives and Enablers

Current logistics operations are executed to a large extent through a combination of various capabilities in stovepiped processes that offer significant room for improvement. We believe that future operations are likely to be globally distributed and conducted rapidly and simultaneously across multiple joint operation areas within a single theater, or across the boundaries of more than one geographic combatant commander. It is also becoming clear that the stovepiped processes in use today are not optimizing the delivery of logistics capabilities in accordance with the priorities of the geographic combatant commander and do not embed economy as an element of execution. Consequently, logisticians must establish and execute a global distribution concept of



III Marine Expeditionary Force Combat Camera (Ricardo Morales)

support that responds with speed, precision, and economy to the changing needs of the joint force. Today's warfighter must view future-oriented concepts with new, more integrated transformational ideas.

As stated by Lieutenant General C.V. Christianson, USA, the Joint Staff J4, "Joint logistics is the deliberate or improvised sharing of resources by reducing or eliminating constraints and restraints and developing ways to facilitate this process."¹ In order to best allocate, deliver, and manage resources that support our military operations on a global scale, it is important to understand some of the key imperatives and enablers that can improve the delivery of joint logistics.

In his paper, "Joint Logistics in the Future," General Christianson identified three joint logistics imperatives for the development of future support capabilities. They apply across all geographic and structural boundaries, to include all levels. They are guiding principles for system developers, military planners, process managers, and logisticians to guide the formulation of objectives and decisionmaking.

■ Unity of effort is the coordinated application of all logistics capabilities focused on the JFC's intent.² It means that coordinated and synchronized actions must be driven by the right authorities and capabilities, shared awareness and processes, and common performance metrics. It requires an understanding



Marines load 900-gallon water tank onto truck at Camp Fallujah, Iraq

2¹ Marine Logistics Group (Michael J. O'Brien)

Marines jump at Fort Magsaysay, Philippines, during Talon Vision and Amphibious Landing Exercise 2007



of how the joint process works, how members of the force access the process (to include interagency and multinational partners), and how the JFC measures success. Unity of effort requires an atmosphere of inclusiveness.³

- Enterprise-wide visibility refers to the ability to see requirements, resources, and capabilities across the joint operational environment, including achieving constant connectivity using data architecture with an enterprise view and having a focus that enables effective resource allocation across the entire system. The logistics community is currently engaged in a comprehensive review of visibility requirements across the joint logistics environment with Service, U.S. Transportation Command (USTRANSCOM), and Defense Logistics Agency (DLA) participation.

- Rapid and precise response is the ability of joint logistics capabilities to effectively meet the constantly changing needs of the joint force. Our collective efforts must focus on speed, adaptability, reliability, visibility, and efficiency.

In assessing the framework of joint logistics, it is important to identify and frame a common set of core functions that resides across the operational level. U.S. Joint Forces Command (USJFCOM), U.S. Pacific Command, and U.S. Forces Korea (USFK) have, over the last 2 years, identified and defined four joint processes that describe operational-level JFC support.

Joint logistics command and control is the exercise of authority and direction by a JFC over the common support required by assigned and attached forces from two or more military departments. It is the means to achieve unity of effort through the effective employment of available resources. This process includes planning for the execution of directive authority for logistics by the combatant commanders and the use of common user logistics and executive agent designation procedures to establish a JFC concept for logistics support.

Logistics collaboration involves the creation of processes that enhance the visibility of logistics resources across the components, DOD agencies, and other participating partners (interagency and multinational). Links between operations, intelligence, and logistics decisions are shared. Operations, intelligence, and logistics collaboration provide the operator and the logistician with simultaneous access to multiple perspectives of shared information within a Web-based environment.

Joint support planning refers to the effective identification of joint or coalition requirements and the planning needed to meet the requirements. The objective of joint support planning is to fully integrate support, intelligence, and operation planning considerations in all joint analytical and planning activities across the operational level. Joint support

joint support execution and tracking must monitor dynamic situations and provide accurate information to decisionmakers

planning processes should cover the three JFC decision cycle event horizons: the planning that covers current operations (what is); planning that covers future operations (what if); and planning that covers the future plans event horizon (what's next).

Joint support execution and tracking involves managing the commitment and use of resources to support joint and coalition operations. This function is essential to providing rapid and precise response; it must monitor dynamic situations and provide accurate information to decisionmakers. Logisticians must be able to rapidly compare sustainment estimates derived from the joint support planning process with actual consumption data and tactical reporting systems to prioritize resource allocation and to best support logistics operations.

Collectively, these enablers should guide the JFC in the design and implementation of organizational constructs and procedures. They form the core components of logistics management at the operational level. While staffing levels, visibility requirements, and coordination/communication conduits vary widely by type of missions, area of operations, and many other factors, the imperatives and core functions remain fairly consistent. One key issue in any complex system is to design and implement an organizational structure appropriate to the mission. At the operational level, there are multiple options being explored to provide the JFC the freedom of action necessary to effectively and efficiently accomplish his mission.

Management Options

At the operational level, the mission of logistics planners and leadership has traditionally been called command and control (C²), a term all military personnel find familiar and comfortable. In the 21st century, the environment challenges traditional military theory perhaps more fundamentally than at any time in history. For example, looking back at the imperatives above, logisticians are almost always called on to achieve unity of effort without unity of command. Thus, logisticians look broadly at how they achieve unity of effort through coordination, collaboration, and cooperation.

Coordination, collaboration, and cooperation during the execution of logistics management activities are obviously not mutually exclusive and, in fact, are always employed in some combination. What has changed in the recent past and can be anticipated in the future is the extent to which collaborative processes will be needed to supplement or reinforce traditional notions of C². Working with other government entities through the interagency process is not only a challenge and a fact of life, but also in some ways a significant enhancement to the tools logisticians use to accomplish assigned missions. The mandate in DOD Directive 3000.05, "Military Support for Stability, Security, Transition, and Reconstruction Operations," that stabilization and reconstruction have equal priority to major combat operations certainly directs—at

least implicitly—a level of coordination across government entities not previously seen.⁴

In a similar vein, the realization that logisticians will almost certainly be working in a coalition/multinational environment in the majority of future military operations implies the need to reassess the design and implementation of combined logistics support. Current International Security Assistance Force (ISAF) operations in Afghanistan are serving to offer insights—and urgent requirements—for new structures, processes, and tools to support the multinational force. Logisticians must design the future management capability to take advantage of the lessons from ISAF and have the ability to operate effectively in this environment. Logisticians must be agile and flexible enough to be comfortable working with and around the United Nations, nongovernmental organizations, old and new North Atlantic Treaty Organization (NATO) partners, and nations that have not been traditional partners in the past. They also must be able to integrate efforts with commercial entities in ways for which, until recently, there has been little experience.

To respond to these challenges, DOD is experimenting with, testing, and assessing a number of options for organizing a logistics management capability at the operational level. USTRANSCOM, with the Army and many other partners, is leading a DOD effort to create a Joint Deployment Distribution Enterprise (JDDE), which is designed to enable effective force deployment, unit movement, and sustainment support to the joint warfighter. Also, there are multiple joint logistics management options now being explored whose products and processes may eventually nest under the JDDE construct. USJFCOM



NECC Combat Camera Detachment (Kitt Amarnanth)

Sailors aboard USNS Supply replenish Pakistani frigate

has developed a Joint (experimental) Deployment and Support (JxDS) architecture with multiple geographic combatant commander sponsors, whose products can be used to help shape the JDDE.

The JxDS concept is a family of organizational options designed to enhance the coordination, integration, and synchronization of operational logistics in order to increase force employment opportunities and alternatives. JxDS is a building-block, scalable approach that allows combatant commanders to tailor their organizations. These organizations would include the required authority, appropriate personnel, and necessary equipment and technology to effectively manage and execute operational-level logistics.

As shown in figure 1, the JxDS concept depicts the scalability that can be used for logistics operations depending on intensity and workload. Scalability is “the ability for the staff or commander to continue work when the complexity of the problem increases. Also, this quality includes the ability for staff and commander to increase or decrease in capacity to meet increasing/decreasing workloads over a period of time.”⁵

The four primary organizational structures currently being assessed under JxDS are the Deployment Distribution Operations Center (DDOC), the Enabled J4 (EJ4), the Joint Force Support Component Command (JFSCC), and the Combined Logistics Command and/or Center (CLC). These structures are described below in order of complexity and effort required to implement. However, they are not necessarily mutually exclusive, as many of the components and functions of one construct can be integrated into other options.

Deployment Distribution Operations Center. The DDOC, a USTRANSCOM initiative, is vested with the authority to make decisions in the field concerning execution of distribution (movement and transportation). Its integration function provides the geographic combatant commander a single point for coordination, collaboration, and knowledge of the flow of forces, equipment, and materiel across all components and, potentially, those of coalition partners (see figure 2). In doing so, the DDOC enhances situational awareness and improves information technology and liaison office support. The proliferation of DDOCs across many of the geographic combatant commands attests to the recognition of

Figure 1. Joint (experimental) Deployment and Support Building Blocks

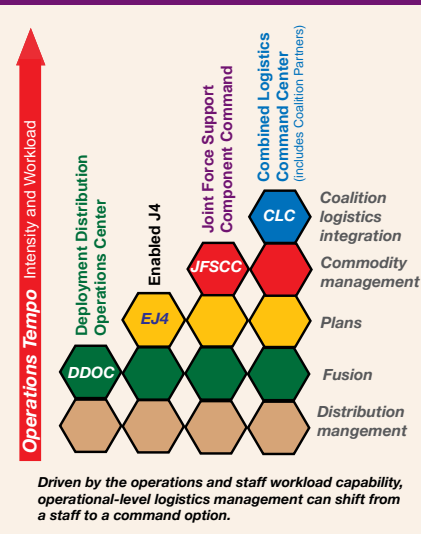
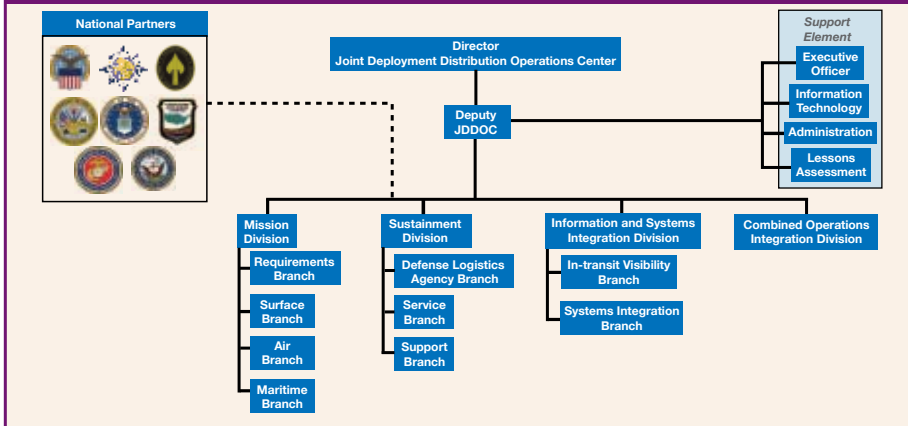


Figure 2. Deployment Distribution Operations Center (Generic Organization)



the need for this capability and the effectiveness of this concept.

Enabled J4 Construct. USPACOM is experimenting with an EJ4 organization during exercises scheduled for fiscal year 2007/2008. The EJ4 option synchronizes operational-level joint logistics management through the establishment of a fusion cell, growth of its plans cell, and distribution management capability (see figure 3). The EJ4 is built around three logistics processes discussed earlier: logistics collaboration, joint support planning, and joint support execution and tracking. Logistics collaboration provides better command and control through connectivity and visibility and enhanced coordination between J3 and J4, improving the visibility of the JFC's priorities. The organization provides a broader reach to USTRANSCOM, DLA, and components to engage all stakeholders. Specific areas of focus include:

- accelerating the decisionmaking tempo of the JFC and subordinate staffs
- developing templates and automated capabilities to improve contingency response planning and execution (time and quality)
- providing an advanced common operating environment architecture.

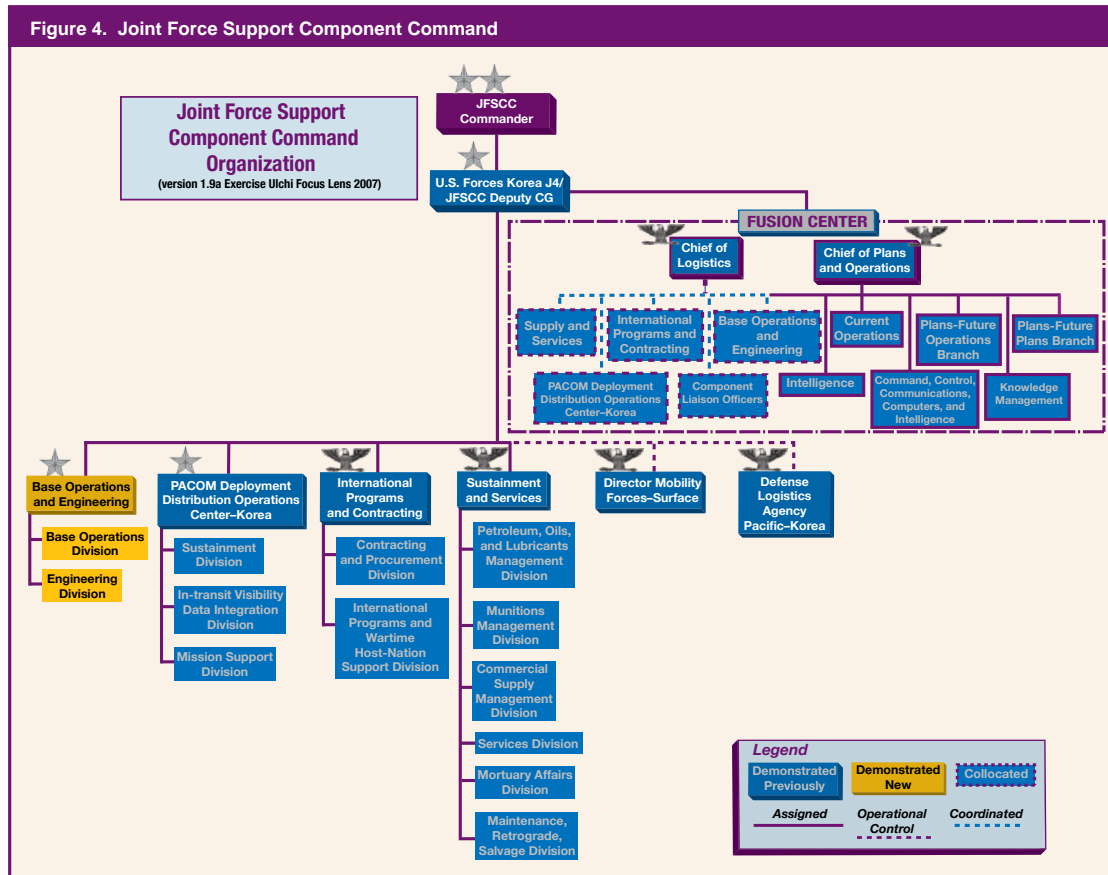
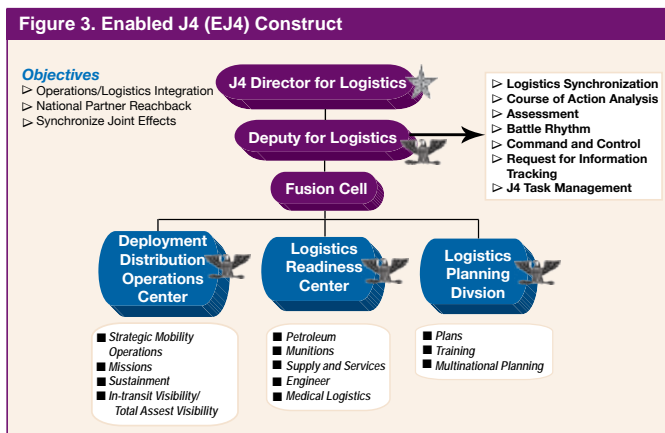
Joint Force Support Component Command. This option synchronizes operational-level joint logistics management through the establishment of a fusion center, integration of diverse strategic enablers (such as a DDOC and DLA cell), a robust plans cell, and a distribution and commodity management capability. In essence, this type of command provides the JFC a single point C² joint logistics capability within the joint operational area. This capability engages the Service components and coalition partners, who have their own clearly defined staff roles, functions, and processes to maximize logistics planning and execution through collaboration.

The JFSCC has proven adept at assuring operations and logistics connectivity and at leveraging its capabilities to ensure agility and responsiveness to changing conditions. This C² logistics capability provides the commander with total asset and in-transit visibility through logistical reports, enabling quick responses to mission requirements.

In 2005, the commander, U.S. Forces Korea, elected to implement JxDS via the command-based option, JFSCC, which provides the commander a single point of contact for support. Its primary building block in USFK is the Army's 19th Expeditionary Sustainment Command. This command has a two-fold mission: to provide its habitual Army support to all USFK, and to be the single logistics command with enhanced joint capabilities to coordinate, integrate, and synchronize USFK logistics functions, processes, and assets in support of commander require-

ments. In the areas in which the JFSCC exercises control, it directs support activities for Service, functional, and national components of the task organization. It coordinates and maintains contact with supporting unified commands, Service and national military support agencies and commands, regional host nations, and national and international interagency participants as directed. See figure 4 for the organization used by USFK during Exercise Ulchi Focus Lens 06/07.

Combined Logistics Command and/or Center (CLC). The CLC option expands the types of functions found in a JFSCC and adds



in the capability to manage coalition logistics. This concept focuses on operations and logistics integration that synchronizes support for combined military missions—the way most of our efforts will be executed in the years ahead. It aids in the development of a strategic/operational logistical course of action in support of assigned tasks by conducting logistical analysis of the area of operations. The organization chart shown was developed as a proposed configuration of a Combined Joint Force Support Component Command (CJFSCC) used during the Unified Quest '05 war game (see figure 5). In U.S. Forces Korea, a Combined Logistics Center is still under development but could mirror many of the functions found in a CJFSCC.

The four JxDS options described all have strengths and weaknesses. The DDOC option has a great capability to synchronize distribution management between strategic and operational levels, yet its joint manning and training vary across the geographic combatant commands. The EJ4 option shows much promise in its ability to plan and track joint logistics management, yet its development is still very much in its infancy. The JFSCC is proving to be a great joint synchronizer of USFK resources during events such as reception, staging, onward-movement, and integration, but its two-fold mission stretches the structure of the 19th Expeditionary Sustainment Command. Success for continued use of these types of options will be gauged by how often geographic combatant commands wish to employ them and the operational effects

each of these options provide the JFC. Consequently, these structures must be mapped back to the JDDE architecture to become a reality. Driving the continued JDDE efforts will be the work done by the geographic combatant commands, with USTRANSCOM and USJFCOM as the process owners for distribution and deployment, and our supporting partners such as the Joint Staff J4 and DLA.

the Combined Logistics Command option expands the types of functions found in a Joint Force Support Component Command and adds in the capability to manage coalition logistics

Other Initiatives

The JxDS program and various experiments within it represent an important component of joint logistics transformation. The DOD logistics community has a number of other major initiatives under way to fulfill the joint logistics imperatives and provide the best possible support to the joint warfighter. Together they will enable more effective and efficient support and facilitate the best possible decisions on the allocation of scarce resources. Some of the key activities that relate to the improvement of operational logistics management include:

Update of Joint Publication 4.0. A major rewrite of Joint Publication 4.0, *Doctrine for*

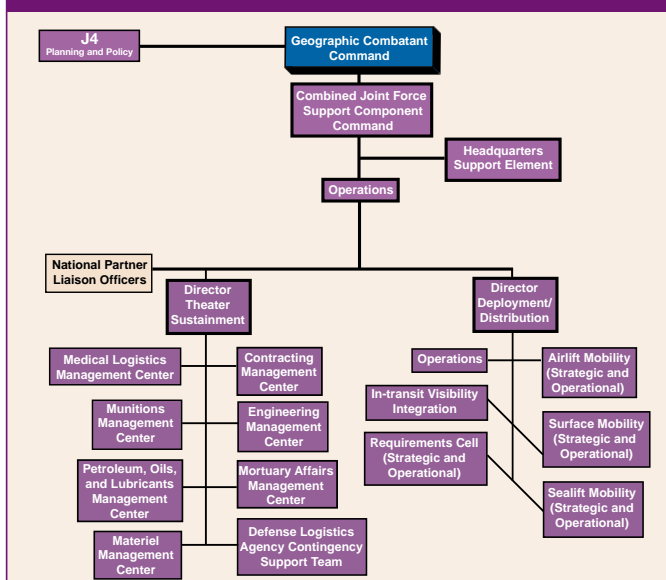
Logistic Support of Joint Operations, the capstone doctrinal publication for the community, is now under way. This update is using a collaborative approach between the Joint Staff J4 and J7 offices with critical input from the Services, USTRANSCOM, USJFCOM, and DLA. The new publication is scheduled for release in fall 2007.

The Joint Portfolio Test Case. During the fall of 2006, the Deputy Secretary of Defense directed the Deputy Under Secretary of Defense for Acquisition, Technology, and Logistics and the Joint Staff J4 to initiate a Joint Portfolio Test Case that realigns the major capability areas of joint logistics from the current Focused Logistics concept to a new suite of capability areas. The test will focus on three areas:

- how to integrate all the functions, capabilities, and processes required to project and sustain the joint force across the range of military options
- how to align the defense supply chain and optimize the supporting processes to deliver a more effective and efficient outcome to the joint force
- how to design a governance structure that, first, better integrates decisionmaking; second, invests authorities and responsibilities at the right levels; and third, ties resource decisions directly to joint logistics outcomes.

The results of this test will largely determine how the logistics community addresses our major programs, initiatives,

Figure 5. Combined Joint Force Support Component Command Structural Model—Exercise United Quest 2005



Airman prepares to fuel vehicle at Kirkuk Regional Air Base, Iraq, from station that supports five surrounding operating bases



and processes—which will have a significant impact on logistics management across the enterprise and certainly at the operational level. The effort to define high-level supply chain management processes alone will further solidify distribution management tasks and improve visibility. These efforts will need to be balanced against the information and asset/process control requirements of the JFCs—and may be different based on varying missions. Results and recommendations are scheduled to occur in fiscal year 2007.

Joint Seabasing. This concept is defined as “the rapid deployment, assembly, command, projection, reconstitution, and reemployment of joint combat power from the sea, while providing continuous support, sustainment, and force protection to select expeditionary joint forces without reliance on land bases within the joint operational area. These capabilities expand operational maneuver options and facilitate assured access and entry from the sea.”⁶ The rules, tools, and processes, as well as the tailorable nature of JxDS, provide a near-perfect fit to the joint seabasing concept, filling gaps in logistics command and control in order to strengthen and support the ability of the JFC to project and sustain military power anywhere in the world.

Capabilities for Management of Coalition and Interagency Support. USJFCOM along with eight other coalition partners (to include NATO) has initiated a massive Multinational Experiment 5 (MNE5), the timeframe of which is 2007–2009. MNE5 will further define and shape how coalition and interagency

support can be conducted. It is well known that our coalition partners require improved methods to conduct rapid interagency and multinational planning, coordination, and execution to create and carry out a unified, comprehensive strategy. The central theme in MNE5 will be a comprehensive approach (all of the government). The MNE5 endstate is to define an agreed method by which multinational partners can plan, execute, and assess a comprehensive approach to crisis prevention and response. For MNE5, the logistics goal is to achieve effective and efficient multinational logistics support that gives the coalition force commander the freedom of action to effectively execute multinational operations. Many of the lessons emerging from past and current MNE events, along with the JxDS, will shape how DOD can utilize the types of services and equities our coalition and interagency partners bring.

This article has highlighted a fundamental set of imperatives and joint logistics enablers that are designed to help focus efforts to enhance joint operational-level logistics, discussed several organizational options for joint logistics management, and described a number of initiatives now under way across the Department of Defense. Nothing in this article replaces Service-specific logistics support and capability. Instead, it is intended to enhance those elements by providing an operational-level foundation that strengthens and integrates what has been called a “common perspective of the battlespace,

shared by maneuver, logistics, and intelligence elements.”

In assessing the future global environment, we must take into account the forces that are pushing us toward change: continued budgetary pressure; widely dispersed operations; unsecured lines of communication; increased contractor support; joint, inter- and intra-agency, multinational collaboration; and supply chain management as part of normal joint operations. In the past, all levels of planning, from campaign plans to air tasking orders, were developed by operational planners and then passed to logistics and other staff elements for coordination, validation, and implementation. Although this process has improved in the area of distribution—emphasizing better requirement determination and asset visibility—it still does not tie the tenet of centralized control/centralized execution to unified action and fully integrated support. By fostering synergy at the operational level, we will enhance support operations of all Services at the tactical level. The imperatives, enablers, and options close the gap and define the necessary framework for joint logistics management, which improves synchronization and effectiveness of support at the operational level. Putting these imperatives, enablers, and options into joint doctrine is a task that demands our strongest effort. The joint warfighters we support deserve nothing less. **JFQ**

NOTES

¹ C.V. Christianson, “Joint Logistics in the Future,” *Joint Force Quarterly* 41 (2^d Quarter, 2006), 76.

² *Ibid.*, 78.

³ Gary Luck, “Insights on Joint Operations: The Art and Science,” September 2006, 2, available at <http://asc.army.mil/docs/transformation/Insights_on_Joint_Operations_%20-The_Art_and_Science.pdf>.

⁴ DOD Directive 3000.05, “Military Support for Stability, Security, Transition, and Reconstruction Operations,” November 28, 2005, 2, available at <www.dtic.mil/doctrine/training/sstr.pdf>.

⁵ USJFCOM, Joint Warfighting Center, Joint Doctrine Series, Pamphlet 8, *Doctrinal Implications of the Joint Deployment Distribution Operations Center, February 10, 2006*, available at <www.dtic.mil/doctrine/jel/other_pubs/jwfc pam8.pdf>.

⁶ DOD, “Seabasing Joint Integrating Concept, Version 1.0,” August 1, 2005, available at <www.dtic.mil/futurejointwarfare/concepts/jic_seabasing.doc>.

Sailors load MV *American Tern* during Operation Deep Freeze to resupply National Science Foundation’s McMurdo Station, Antarctica



U.S. Navy (Jack Georges)