Future Logistics Enterprise

A year ago in the *Spectrum*, Mr. Alex Smirnow and I summarized the Department of Defense efforts to define a future logistics architecture, driven by operational needs and requirements. Since last June, numerous events have contributed to further shaping and refining of the Department's logistics vision, including:

- The Department completed its Quadrennial Defense Review (QDR) which emphasized the immediate need for reduced footprint and more rapid adoption of leading industrial practices.

- The Department welcomed a new Deputy Under Secretary of Defense for Logistics and Materiel Readiness, the Honorable Diane K. Morales.

- Our national security was challenged by the devastating terrorist attacks of September 11.

- We successfully launched the Global War on Terrorism, less than 30 days after the horrific events of September 11.

These events contributed to Ms. Morales prioritizing aspects of the future logistics architecture, that could be implemented in the near term to address immediate needs. Ms. Morales focused on a few specific initiatives for near-term implementation, collectively referred to as the Future Logistics Enterprise.

The Future Logistics Enterprise (FLE) is DOD's mid-term vision (2005-2010) to enhance support to the warfighter and align logistics processes with the operational demands of the 21st century. The primary objective of the FLE is to ensure consistent, reliable support that meets warfighter requirements through enterprise integration and end-to-end customer service. The FLE builds upon and accelerates specific, ongoing Service/Agency initiatives to meet the requirements of the Quadrennial Defense Review and the National Defense Strategy. The six initiatives are:

- Total Life Cycle Systems Management (TLCSM)

- Condition-Based Maintenance + (CBM+)

- Depot Maintenance Partnerships

- End-to-End Distribution

- Executive Agents (EA)

- Enterprise Integration (EI)

To fully assess the policy and implementation of those initiatives, the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) [DUSD(L&MR)] established the Joint Logistics Board (JLB). The JLB members are the commanders of the Service materiel commands, senior Service staff logisticians, the Joint Staff Director for Logistics, the Deputy CINC US Transportation Command, and the Director, Defense Logistics Agency. This paper documents the results of the JLB's initial effort to assess policy and describe the near-term way ahead to implement the six initiatives.

Total Life Cycle System Management (TLCSM)

Sustainment of DOD systems consumes approximately 80 percent of DOD logistics resources or $62B annually. End-to-end customer support for system sustainment involves the integration of logistics chains across government and industry throughout the life cycle of a system. Specific DOD challenges in this area include:

- Sporadic attention to sustainment characteristics during the early requirements process;

- Distinct break in systems responsibility between the acquisition and sustainment phases of the life cycle; and

- Sustainment processes focused on functional optimization versus customer service.

To address these challenges, the Services and DLA tested innovative sustainment strategies on pilot programs. DOD directed application of promising strategies and established the program managers as responsible for the total life cycle (acquisition and sustainment) for new systems. Subsequently, the QDR directed application of life cycle management and performance-based logistics (PBL) for new and fielded major systems.

The primary intent of Total Life Cycle System Management is to improve weapon system sustainment by establishing clear responsibility and accountability for meeting specified warfighter performance requirements within the program management office, as shown in Figure 1.
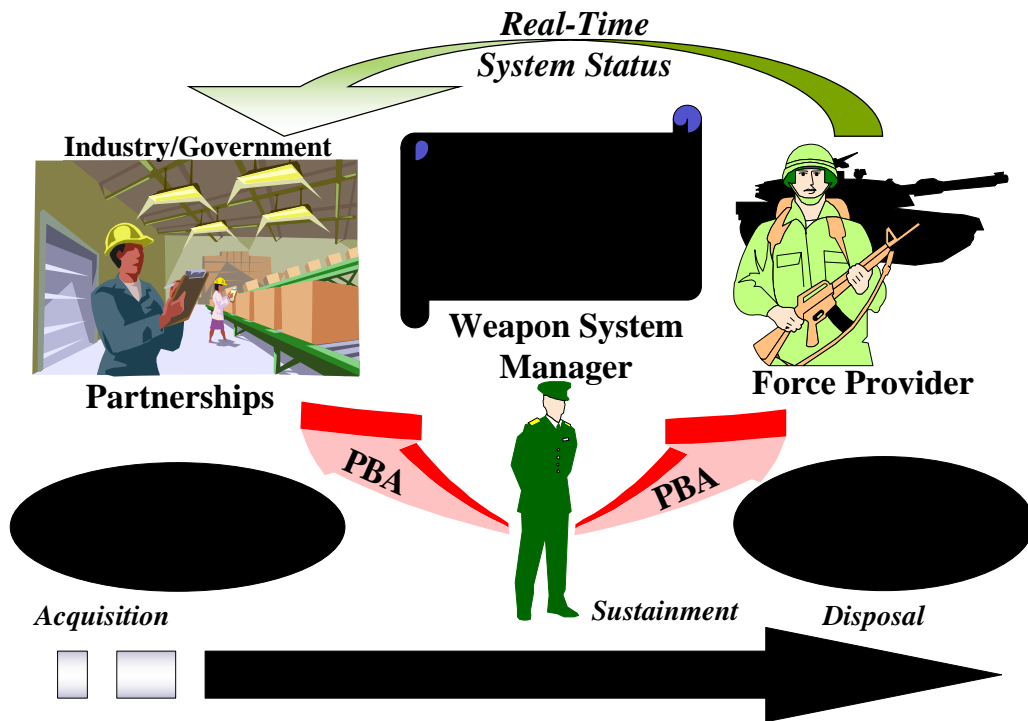
Figure 1 – Performance-Based Logistics

PMs will be held responsible for the overall management of the weapon system life cycle to include: timely acquisition of weapon systems, integration of sustainability and maintainability during the acquisition process, and weapon system sustainment to meet or exceed warfighter performance requirements throughout the life cycle at best corporate value to the Services and DOD. Ongoing implementation actions include:

- Incorporate sustainability as a key element in the Joint Requirements Operational Council process.

- Revise DOD publications 5000.1/5000.2 to provide guidance on performance agreements, provide PM sustainment guidance, and incorporate Service and OSD oversight mechanisms.

- Develop Service Performance-Based Logistics (PBL) implementation schedules.

- Expand Defense Acquisition University curriculum to include TLCSM on Performance-Based Logistics.

- Develop enabling financial mechanisms with Under Secretary of Defense (Comptroller).

Condition-Based Maintenance Plus (CBM+)

Today, the DOD does not adequately predict failures on equipment to produce broad-based planned maintenance programs. The inability to adequately predict failures requires a labor force with extensive knowledge and training, diagnostic equipment that is cumbersome, time consuming and often unreliable, long repair cycle times which result in expensive supply pipelines. Many of the current business processes rely on time or operation intervals for servicing that are labor intensive and fail to address specific conditions driven by environmental and operational factors. Additionally, there is a need to better integrate maintenance and other logistics functions to improve responsiveness and reduce footprints. Moving toward CBM+, with more accurate predictions of impending failures based on condition data, would result in dramatic savings and improved weapon system availability to meet CINC requirements.

CBM+ focuses on inserting into both new and legacy weapon systems, technology to support improved maintenance capabilities and businesses processes. It also involves integrating and changing business processes to dramatically improve logistics system responsiveness. Under consideration are capabilities such as enhanced prognosis/diagnosis techniques, failure trend analysis, electronic portable or point of maintenance aids, serial item management, automatic identification technology and data-driven interactive maintenance training. The ultimate intent of this initiative is to increase operational availability and readiness throughout the weapon system life cycle at a reduced cost. The desired end state is a force of maintainers who have the knowledge-skill sets and tools to maintain complex systems at the optimal time through the use of available technologies that improve maintenance decisions and integrate the logistics processes.

Assessment of current guidance, programs, technologies and processes is an ongoing action, as is incorporating CBM+ into the requirements and acquisition review/ approval process.

Depot Maintenance Partnerships

Depot maintenance services, costing over $17B annually, today are performed at a mix of 20 public and hundreds of private facilities. The primary intent of the depot maintenance partnership initiative is to enhance depot support to the warfighter by enabling and empowering the DOD organic depots to develop appropriate partnerships with the commercial sector, while recognizing the legitimate national security need for DOD to retain depot maintenance capability. The desired end state is a dramatic increase in depot maintenance public-private partnerships, resulting in greater private sector investment in facilities and equipment, better facility utilization, reduced cost of ownership, workforce integration, more efficient business processes, and greater credibility.

Unlike commercial supply chains, maintenance is the largest component of our life cycle sustainment. Our efforts are directed towards ensuring that we maintain viable, output-focused depot capability to support US and Allied forces. We are completing regulatory and statutory changes so that DoD depot resources may work more closely with industry to provide modified, upgraded or refurbished weapon systems. These partnerships enable use of shared facilities and equipment, work forces, and supply management functions.

Two provisions beneficial for depot maintenance partnering were included in the recent National Defense Authorization Act for Fiscal Year 2002. These provisions exempt partnering work from the 50 percent limit on contracting when accomplished by the private sector at designated depots and amend several "hold harmless" provisions to include cost, schedule, and quality as a basis to file a claim if the public sector fails to comply with a contract. One additional legislative proposal currently is under consideration to enhance partnering. A comprehensive policy memorandum was promulgated providing a framework to aggressively expand partnering.

End-to-End Distribution

Currently, the DoD distribution environment is comprised of multiple, unsynchronized distribution nodes and segments, with rescheduling often required at each change of transportation mode. DoD employs a myriad of discrete supply chains that are optimized at the item/commodity/customer/mode level but not harmonized at the enterprise level. This distribution environment places a heavy materiel-tracking burden on the customer, who lacks complete information and end-to-end visibility. This often creates unnecessary customer workloads at the point of receipt, which is especially critical when the point of receipt is an austere area of conflict.

The end-to-end distribution initiative is directed toward streamlining warfighter support by providing materiel, including retrograde and associated information, from the source of supply or point of origin to the point of use or disposal, as defined by the CINC, Military Service, or characteristics of the commodity, on a worldwide basis. The intent of the initiative is to influence acquisition, sourcing, and positioning to facilitate the flow of materiel to the end user, ensuring that deployment and sustainment are synchronized. The desired end state is an integrated, synchronized, end-to-end distribution system to meet warfighter requirements for information and materiel. Ongoing implementation actions for this initiative include:

- Synchronize policies and initiatives, in partnership with all service providers and process owners, for end-to-end distribution, including distribution process business rules and procedures.

- Advocate greater consideration of distribution in acquisition decisions.

- Engage all strategic partners in a comprehensive assessment to identify additional improvements in the management of end-to-end distribution.

Executive Agents (EA)

This initiative is aimed at improving support to warfighters by ensuring that Executive Agents roles, responsibilities, resources, and capabilities are responsive to the supported CINCs' deployment and sustainment requirements. The initiative builds upon the emerging results of the recent Focused Logistics Wargames, analyses of EA responsiveness, and applications of customer relations management.

The primary intent of the EA initiative is to assess and align EA designations with warfighter requirements arising from the National Defense Strategy, as shown in Figure 2. The desired result of this initiative is a formal assignment process focusing logistics EA responsibilities on support of warfighting requirements; EA assignments that support the warfighter across the full spectrum of operations, including support on an end-to-end basis and rapid response to all deployments; improved crisis/deliberate planning to include EA responsibility and alignment of the resource (budget, force structure, etc.) responsibilities associated with the EA.
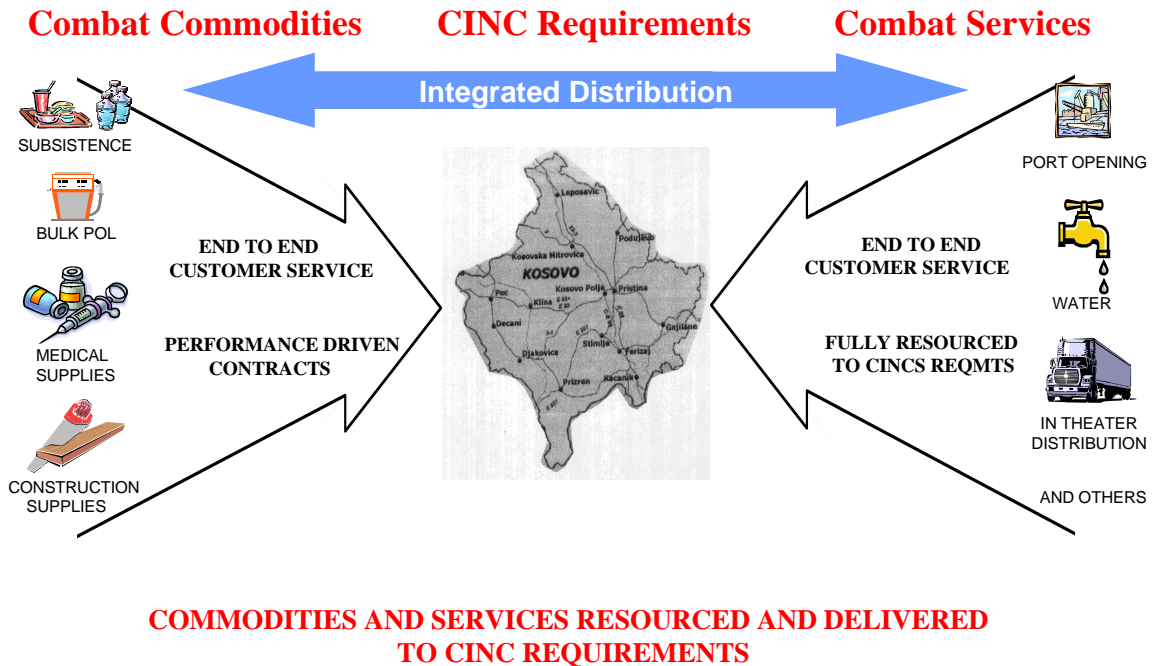

COMMODITIES AND SERVICES RESOURCED AND DELIVERED TO CINC REQUIREMENTS

Figure 2 – End-to-End Combat Support

Enterprise Integration (EI)

Presently, interactions among DoD customers and partners are characterized by paper-based and batch-processed transactions, created and recreated in a sequential chain f activity – functional stovepipes. These processes and transactions do not capitalize on today's technology and best practices. Over the years, lack of oversight and real portfolio management produced thousands of logistics systems and associated interfaces, which must be sustained and maintained. It's estimated that between $1.5B and $2.5B is spent annually to support these logistics systems that remain susceptible to errors and delays that do not support today's more agile, lethal defense forces.

To accelerate development of a logistics EI, this initiative builds upon efforts, underway within the Services and DLA, which successfully use commercial Enterprise Resource Planning (ERP) and other Commercial Off-the-Shelf (COTS) tools for modern, integrated solutions to complex information requirements across the DoD logistics enterprise. Since changes to commercial software increase cost and risk, the initiative seeks to avoid software change by identifying common, reusable business practices assumed by available software that will support participants across the enterprise. The initiative is based upon phased implementation with adequate training and the full support of leadership. Collaborative solutions and shared knowledge will be encouraged through policy initiatives and oversight. The desired end state of this initiative is for highly trained and skilled people within the DoD logistics enterprise to have access to near real time, actionable information provided by modern, commercially-based software products that have been rapidly implemented to enable reengineered logistics processes and business rules.

Summary

The operational demands of rapid deployability, reduced footprint, and assured sustainment dictate that the Department of Defense migrate to a more focused logistics structure built upon end-to-end customer service and enterprise integration. The DoD, through the leadership of the Joint Logistics Board, is aggressively moving out to implement the Future Logistics Enterprise. These initiatives will ensure we continue to provide our frontline warriors with the logistics excellence they deserve.