

Focused Logistics Roadmap



Volume I

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ACQUISITION,
TECHNOLOGY
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MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
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UNDER SECRETARIES OF DEFENSE
CHIEF OF STAFF OF THE ARMY
CHIEF OF NAVAL OPERATIONS
CHIEF OF STAFF OF THE AIR FORCE
COMMANDANT OF THE MARINE CORPS
COMMANDER, US TRANSPORTATION COMMAND
COMMANDER, US JOINT FORCES COMMAND
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION
DIRECTOR, FORCE TRANSFORMATION
DIRECTOR, JOINT STAFF
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: "As-Is" Focused Logistics Roadmap

The attached Focused Logistics (FL) Roadmap assembles, integrates, and documents logistics-enabling programs and initiatives, directed towards achieving Focused Logistics Functional capabilities. The roadmap is fact-based results of Department of Defense's deliberations on the President's Budget for Fiscal Year 2006 (PB 06). As such, this roadmap provides a baseline of programs and initiatives for future FL capability analysis and investment within the Department.

The roadmap documents significant resource investment in logistics programs and initiatives (\$60+ billion over PB 06); however, it also indicates that key FL capabilities will not be achieved by 2015. Therefore, I direct Deputy Under Secretary of Defense (Logistics and Materiel Readiness) in coordination with the Joint Staff, Military Departments, Combatant Commands, and Defense Agencies to prepare a rigorous "To-Be" Roadmap to include ongoing assessments within the Quadrennial Defense Review. This "To-Be" Roadmap should present credible options to achieve FL capabilities for consideration by the Defense Logistics Board.


Kenneth V. Kries

Attachment:
As stated



Executive Summary

As an element of the Logistics Transformation Strategy, the *Focused Logistics (FL) Roadmap* assembles, integrates, and documents FL logistics-enabling programs and initiatives and reports progress toward the achievement of FL.¹ The roadmap documents fact-based results of DoD's strategic framework for continuous improvement that is focused on end-to-end outcomes, performance, accountability, and authority. It presents an "as-is" compendium of Focus Logistics-enabling DoD programs and initiatives of record as identified by service components, combatant commanders (COCOM), and DoD agencies. The roadmap also provides the program and initiative baseline for future FL capability analysis and investment within the Department of Defense.

The *FL Roadmap* is a representation of the FL portfolio of programs and initiatives for which the FL Functional Capabilities Board (FCB) and Joint Staff J4 have primary oversight responsibility. Through annual revisions, the roadmap will reflect current assessment results, new emerging programs and initiatives, results of joint experimentation and advanced concept technology demonstrations (ACTD), and various DoD logistics-related studies.

The roadmap is structured using the seven Focused Logistics Tier 2 capabilities. Programs and initiatives within the roadmap are tied to each capability:

- Joint Deployment/Rapid Distribution
- Agile Sustainment
- Operational Engineering
- Force Health Protection
- Multinational Logistics
- Logistics Information Fusion
- Joint Theater Logistics.

A fact-based assessment of the data contained in the *FL Roadmap* led to the following conclusions:

- Today's program of record will not result in Focused Logistics by 2015 because there are numerous capability gaps across all seven Tier 2 FL capability areas.
- There are 63 major DoD programs of record, with a total investment (including RDT&E and Working Capital Funds) of approximately \$60.4 billion across the 2006 President's Budget (PB06); \$53.8 billion of that total is committed to mobility within the Joint Deployment/Rapid Distribution Tier 2 capability.

¹ Programs of record appearing in this roadmap are those procurement programs identified by the services for which funding has been programmed across PB06 (FY2006–FY2011). In the case of Working Capital Fund activities, programs represent significant transformational investment across the same period of time. Initiatives are developmental concepts identified by the military services, combatant commanders, and other DoD components that help to achieve of Focused Logistics capabilities.

- There are 22 identified Focused Logistics–enabling initiatives within DoD.
 - Eleven initiatives focus on agile sustainment.
 - Many initiatives reach maturity without follow-on implementation steps.
- Several capability areas have limited or no documented investment or initiatives, including
 - Multinational Logistics,
 - Operational Engineering (Acquisition Category III and IV expensed items),
 - Force Health Protection, and
 - Joint Theater Logistics.
- Performance measures and targets for each Tier 2 Focused Logistics capability must be established to provide an analytic basis for capability-based assessment and to drive FL achievement.

To achieve the goal of Focused Logistics will require an effective construct that identifies, develops, coordinates, integrates, resources, and delivers capabilities to meet future warfighter requirements. Although elements of this construct exist today (for example, the JCIDS process), coordinated implementation does not. The emerging Joint logistics governance structure and processes should eliminate that void. This governance construct will require clear FL capability performance measures and targets to drive all of DoD toward Focused Logistics. These measures and targets will underpin assessment efforts that provide the analytic basis for future course correction and resource trade-offs.

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Chapter 1 Introduction

Purpose

The *Focused Logistics (FL) Roadmap* presents a fact-based “as is” compendium of Focus Logistics–enabling DoD programs and initiatives as identified by service components, combatant commanders (COCOM), and DoD agencies during development of this document. Updated annually, and a complementary document to the Logistics Transformation Strategy and FL Campaign Plan, this roadmap provides the baseline of programs and initiatives for future FL capability analysis and investment within DoD. It represents the FL portfolio of programs and initiatives for which the FL Functional Capabilities Board (FCB) and Joint Staff J4 have primary oversight responsibility, and provides authoritative assessments regarding progress towards achieving Focused Logistics.

Background

The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]) directed the Deputy Under Secretary of Defense for Logistics and Materiel Readiness (DUSD[L&MR]) to develop a logistics transformation roadmap with the express purpose of integrating and rationalizing the various DoD logistics programs and initiatives. The Logistics Transformation Roadmap Working Group (LTRWG), a senior-level working group comprising representatives from the requirements, logistics, materiel, and warfighter communities within the military services, Joint Staff, Joint Forces Command, U.S. Transportation Command (USTRANSCOM), and the Defense Logistics Agency (DLA), was created to oversee development of this roadmap. That oversight responsibility was subsequently transferred to the Joint Logistics Group (JLG).

Overview

Focused Logistics

Focused Logistics can be achieved by transforming logistics capabilities that support future joint forces. FL capabilities are fully integrated, expeditionary, networked, decentralized, adaptable, and capable of decision superiority. Further, they must support future joint force operations that are continuous and distributed across the full range of military operations. Such operations are born joint and fully integrated.

The Focused Logistics Joint Functional Concept, as approved by the Joint Requirements Oversight Council (JROC), describes this comprehensive, integrated approach for transforming DoD logistics capabilities and dramatically improving the quality of logistics support.

Joint Logistics Tier 2 Capabilities

Seven JROC-approved capabilities are designated as Tier 2 capabilities under the Joint Logistics Capability (JLC) area.¹ Each is described below. Additional discussion of each, including supporting subsidiary capabilities, is included in subsequent chapters.

Joint Deployment/Rapid Distribution: The ability to deliver mission ready, tailored forces and sustainment globally and on time for the full range of military operations.

Agile Sustainment: The ability to provide materiel, facilities, services, and other support to maintain readiness and enable operations until successful accomplishment of the defined mission or national objective.

Operational Engineering: The ability to provide effective, efficient, responsive, and tailored engineer support to plan, design, construct, acquire, and maintain the temporary and permanent infrastructure needed to project combat power and sustain forces.

Multinational Logistics: The ability to coordinate logistic activity involving two or more nations, supporting a multinational force conducting military operations under the auspices of an alliance or coalition. Multinational logistics enables burden sharing among nations, increased operational efficiency and interoperability, a reduced multinational footprint, stronger regional engagement, and lower costs for joint logistic support of the full range of military operations.

Force Health Protection: The ability to synchronize, prioritize and direct medical operations. Force Health Protection includes control of a total life-cycle health system that employs an integrated and focused approach to protect and sustain the force by providing rapid, interoperable, and scalable joint medical capabilities in all operational environments. The core capability areas are casualty management, patient movement, medical logistics, surveillance, intelligence, preventive medicine and human performance enhancement.

Logistics Information Fusion: The ability to merge operational and logistics information to create a single, integrated, common operational picture. It provides the means for rapidly matching critical logistics capabilities to operational requirements ensuring the right logistics support at the right place and time.

Joint Theater Logistics (JTL): The adaptive ability to anticipate and respond to emerging theater logistics and support requirements. JTL allows the Joint Force Commander to apply logistics resources to generate and sustain full spectrum theater operations. JTL includes directive authority, processes, and tools to achieve desired joint and combined effects and accomplish operational objectives.

¹ In response to strategic planning guidance, 21 joint capability areas (JCA) were developed as a key product of the Joint Staff's Operational Availability (OA-05). JCAs support the capabilities-based planning process, and provide a common language for discussion and description of capabilities throughout DoD. Each of the 21 capabilities is specified as Tier 1. Joint Logistics, the designated Tier 1 logistics capability, is defined as:

The capability to build effective, responsive, and efficient capacity into the deployment and sustainment pipeline; exercise control over the pipeline from end to end; and provide certainty to the supported joint force commander that forces, equipment, sustainment, and support will arrive where needed and on time.

The Roadmap

This first roadmap captures the FL-enabling programs and initiatives identified by JLG representatives. It provides an initial “fact-based” high-level assessment of each Tier 2 capability. Further capability assessments will be performed under the sponsorship of the Joint Logistics Board, FL FCB, and Joint Staff J4. Results of these ongoing assessments will be incorporated into annual roadmap revisions. Each update will provide increased fidelity as new programs and initiatives are identified and capability assessments are performed. As it becomes more robust in detail and content with each revision, the *Focused Logistics Roadmap* will be the authoritative DoD logistics document that ties all aspects of logistics transformation together.

The roadmap is organized into two major parts. Volume I describes FL-enabling programs of records and initiatives by FL JCA Tier 2 capability and displays individual roadmaps for each. Volume II contains detailed program and initiative data and graphics in Appendix A and Appendix B.

Chapter 2 Joint Deployment/ Rapid Distribution

The FL Joint Deployment/Rapid Distribution (JD/RD) Tier 2 capability currently commands the largest share of programmed resources. This chapter describes the JD/RD capability and the associated subsidiary capabilities. It depicts PB06 program investment and describes each program and initiative mapped to subsidiary capabilities with a JD/RD Tier 2 roadmap.

JD/RD Tier 2 Capability

Joint deployment and rapid distribution means delivering combat forces to the Joint Force commander and linking operating forces with viable sustainment systems. The JD/RD Tier 2 capability represents a set of subsidiary capabilities crucial in providing the joint force commander with the means to dominate the full spectrum of potential operations. Characterized by the aggressive use of technology and partnering with commercial industry, these capabilities provide a responsive and flexible global power projection mobility system to deploy and sustain joint warfighters.

- **Capability 1—Mobility:** Support mobility requirements across the range of military operations with DoD organic mobility forces in the right numbers and types, trained in joint logistics operations, supported by a robust infrastructure, and augmented as required by commercial assets. The following is illustrative of this capability:
 - Optimize the rapid projection, delivery, and handoff of joint forces and sustainment assets worldwide.
 - Support rapid theater opening and distribution of required forces and sustainment when and where it is required.
 - Support rapid force maneuver within the joint or combined operations area.
 - Return forces to the sea base or home station for regeneration and reconstitution.
- **Capability 2—Deployment and Distribution Processes:** Deployment and distribution processes and their enabling business practices and systems share, integrate, and synchronize data and information as necessary, both vertically and horizontally, from strategic to tactical levels.
- **Capability 3—Distribution Network Management:** Determine distribution capacity and optimize distribution capacity allocation, transportation allocation, carrier selection (including sources of opportune lift), scheduling, and rescheduling based on evolving commander's intent.

Mobility Capabilities Study (Future Studies)

DoD's Mobility Capabilities Study (MCS) process is an important complement to the JD/RD portion of the *FL Roadmap*. Each periodic study presents the most current assessment of end-to-end full spectrum mobility needs for all aspects of Defense Strategy. It becomes the authoritative

document guiding future mobility capability investment. Thus, study results and future study areas should be considered during roadmap revisions. Future study areas from the MCS-completed July 2005 are presented here. They are included because they may affect future JD/RD Tier 2 capability assessment by the FL FCB or Joint Staff J4.

- Recapitalization of ship and aircraft fleets after 2012—a “futures excursion” to consider how best to recapitalize strategic lift assets through 2024
- Transformational lift capability—assess how deployment and sustainment for the war-fighter can be improved through two new lift platforms:
 - AMC-X, a proposed Air Force C-130 replacement
 - Austere Access High-Speed Sealift (AAHSS), a rapid inter-theater surface lift capability into austere ports
- Logistics footprint reduction—reduction of the theater logistics footprint through business process improvement and technological innovation.

In addition, the Defense Science Board Task Force on Mobility recommended the pursuit of long-term programs to provide the specific capabilities provided by AMC-X and AAHSS. DoD supports this recommendation.

Joint Heavy Lift (JHL), envisioned as a vertical take-off or landing aircraft now in the concept-development stage, will provide a capability currently unavailable on a joint scale. Key among its capabilities is tactical sustainment. JHL will provide the payload, range, and speed attributes needed to support pulsed logistics sustainment and replenishment operations and possess the flexibility to execute emergency sustainment of units in combat. JHL has a projected initial operational capability (IOC) of 2025; however, if the FL FCB determines JHL meets a critical FL capability gap, it could become a candidate for program acceleration.

Joint Logistics (Distribution) Joint Integrating Concept

A Joint Integrating Concept (JIC) is a description of how a Joint Force commander will integrate capabilities 10–20 years into the future to generate effects and achieve an objective. The Joint Logistics (Distribution) JIC focuses on the distribution of forces and their sustainment, and will inform capability assessment primarily within the JD/RD Tier 2 capability area. Under Joint Staff J4 sponsorship, a capability-based assessment (CBA) using scenarios included in the concept will be performed. Results will indicate capability gaps, shortfalls, excesses, overlaps, and redundancies, and will assist in the prioritization of capability development within Focused Logistics. CBA results will be incorporated into future Roadmap revisions.

Programs and Initiatives

Program or Initiative Overview (by Service, COCOM, or Agency)

This section presents key elements of each enabling program and initiative as provided by submitting military services, COCOM, or agency. They are arrayed first by primary enabling subsidiary JD/RD capability, and then by submitting military service, COCOM, or agency.

Each program entry provides a description, total investment, both procurement and RDT&E, and in the case of Working Capital Fund agencies, program investment, across PB06, and initial and full operational capability (IOC/FOC) data where available. Additional program information for each is detailed in Volume II, Appendix A.

Each initiative entry similarly provides a description, expected outcomes, milestones, and anticipated resource requirement (where necessary) over PB06. Complete initiative information is presented in Volume II, Appendix B.

Tier 2 Program Investment

Over PB06, DoD program investment will total approximately \$54.5 billion within the Joint Deployment/Rapid Distribution Tier 2 capability across 29 total programs. Table 2-1 lists the total programs and investment amount by service or agency.

Table 2-1. Total JD/RD Investment across PB06

Service or agency	Number of programs	Investment: procurement or program	Investment: RDT&E
Air Force	8	\$23.451 billion	\$3.204 billion
Navy	5	\$8.809 billion	\$0.350 billion
Army	9	\$14.880 billion	\$.259 billion
Marine Corps	3	\$0.783 billion	\$2.020 billion
DLA	3	\$0.643 billion	–
USTRANSCOM	1	\$0.087 billion	–
Total	29	\$48.653 billion	\$5.833 billion

Capability 1—Mobility

Programs

The following are DoD's 25 programs of record that enable this capability.

Air Force (8 programs)							
KC-135 Refueling Upgrade Program	Enhances the efficiency and flexibility of the Air Force's air refueling fleet, outfitted to accept wing tip, hose-and-drogue, and air refueling pods for refueling U.S. Air Force, NATO, and U.S. Navy aircraft.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$112.0 M	\$99.3 M	\$97.7 M	\$102.5 M	\$103.2 M	\$103.6 M
	RDT&E	\$1.5 M	\$1.1 M	\$1.1 M	\$1.2 M	\$0.0 M	\$0.0 M
	Inventory	0	482	482	482	482	482
IOC: FY2003			FOC: TBD				
Tanker Replacement Program	Air Force Tanker Replacement Program replacing 100 KC-135s.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$48.1 M	\$1,172.1 M	\$2,061.2 M	\$2,188.7 M	\$3,119.1 M
	RDT&E	\$99.2 M	\$301.6 M	\$163.9 M	\$57.8 M	\$28.9 M	\$0.0 M
	Inventory	0	0	4	12	21	34
IOC: TBD			FOC: TBD				
C-5 Modernization Program	Modernizes C-5 aircraft to enhance its capabilities and extend its life cycle.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$89.3 M	\$190.7 M	\$463.0 M	\$636.1 M	\$765.0 M	\$869.7 M
	RDT&E	\$226.5 M	\$149.6 M	\$50.9 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	57	61	66	71	78	87
IOC: FY1998			FOC: FY2020				
C-17A Program	Increases the C-17 fleet to provide rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward bases in the deployment area.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$3,412.6 M	\$2,527.8 M	\$677.9 M	\$643.5 M	\$670.3 M	\$659.6 M
	RDT&E	\$165.8 M	\$173.3 M	\$176.2 M	\$192.3 M	\$174.3 M	\$164.7 M
	Inventory	157	172	180	180	180	180
IOC: FY1998			FOC: FY2008				
C-130 Avionics Modernization Program	Replaces unreliable or unsupportable engine and flight instruments and flight system components, and installs Global Air Traffic Management (GATM) and Secretary of Defense-directed navigation and safety equipment modifications for Terrain Awareness and Warning System (TAWS) and Traffic Alert and Collision Avoidance System.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$50.6 M	\$87.7 M	\$188.0 M	\$357.4 M	\$427.4 M	\$407.2 M
	RDT&E	\$233.0 M	\$217.6 M	\$171.1 M	\$88.0 M	\$38.9 M	\$0.0 M
	Inventory	0	4	17	50	115	190
IOC: FY2008			FOC: FY2020				
C-130J Hercules Program	Replaces older C-130 models with the new C-130J, thus enhancing operational performance and system reliability.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$105.0 M	\$170.8 M	\$142.7 M	\$148.2 M	\$147.8 M	\$171.8 M
	RDT&E	\$6.7 M	\$35.4 M	\$44.8 M	\$40.0 M	\$43.3 M	\$47.5 M
	Inventory	53	53	53	53	53	53
IOC: FY2005			FOC: TBD				

Air Force (continued)							
KC-10 CLS Aircraft Pylon Replacement Program	Replaces KC-10 pylons.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$21.9 M	\$6.8 M	\$9.8 M	\$40.7 M	\$54.4 M	\$74.4 M
	RDT&E	\$13.5 M	\$38.7 M	\$50.0 M	\$5.6 M	\$0.0 M	\$0.0 M
	Inventory	59	59	59	59	59	59
IOC: FY2000				FOC: FY2005			
Halverson Loader Program	The loader is a lightweight vehicle that can be quickly reconfigured for shipment, driven into a variety of aircraft, and rapidly deployed to demanding operating environments.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$16.3 M	\$8.2 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	385	385	385	385	385	385
IOC: FY1998				FOC: FY2007			

Navy (5 programs)							
T-AKE Program	The T-AKE is a dry cargo and ammunition ship that can operate independently for extended periods at sea while providing underway replenishment services to carrier battle groups.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$380.1 M	\$440.4 M	\$387.3 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	0	3	6	8	10	11
IOC: 1Q FY2007				FOC: 3Q FY2011			
Joint High Speed Vessel (JHSV) Program	Provides flexible and rapid (35-45 KTS) seaborne intra-theater lift of multi-cargo payloads.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$253.5 M	\$1,773.5 M	\$1,433.5 M	\$3,047.2 M
	RDT&E	\$25.0 M	\$34.0 M	\$24.0 M	\$15.0 M	\$12.0 M	\$7.0 M
	Inventory	-	-	-	-	-	-
IOC: 3Q FY2012				FOC: Not Provided			
Maritime Pre-positioning Force (Future) (MPF[F]) Program	Provides functions not provided by the current MPF including at-sea arrival and assembly of units, direct support of the assault echelon of the ATF, indefinite sea-based sustainment of the landing force, and force reconstitution and redeployment.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$66.3 M	\$66.3 M	\$20.4 M	\$12.5 M	\$12.8 M	\$13.1 M
	Inventory	-	-	-	-	-	-
IOC: Not Provided				FOC: Not Provided			
Triple Product Replenishment Ship (T-AOE[X]) Program	The T-AOE(X) provides underway replenishment services, simultaneously delivering ship petroleum products, ammunition, and provisions/stores.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$22.5 M	\$10.5 M	\$3.6 M	\$4.8 M	\$0.0 M	\$0.0 M
	Inventory	-	-	-	-	-	-
IOC: FY2014-FY2016				FOC: Not Provided			
KC-130J Program	The KC-130J increased utility and improved mission performance. The J tanker is capable of refueling both fixed and rotary wing aircraft as well as conducting rapid ground refueling.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$1,093.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	23	33	33	33	33	33
IOC: 1Q FY2006				FOC: Not Provided			

Army (9 programs)							
Future Cargo Aircraft (FCA) Program	FCA is the future cargo replacement for the retiring C-23 aircraft currently in the Army inventory.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$4.90 M	\$107.5 M	\$134.3 M	\$215.5 M	\$255.3 M	\$339.4 M
	RDT&E	\$0.00 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	–	3	6	12	19	28
IOC: 1Q FY2006			FOC: 4Q FY2011				
UH-60M Black Hawk Upgrade Program	The UH-60M Black Hawk will serve as the Army's future utility helicopter, and be used for air assault, air cavalry, troop and equipment transport, command and control, and medical evacuation.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$33.3 M	\$30.4 M	\$13.1 M	\$11.1 M	\$0.0 M	\$0.0 M
	RDT&E	\$96.5 M	\$51.3 M	\$0.0 M	\$0.0 M	\$20.3 M	\$25.4 M
	Inventory	1,632	1,673	1,718	1,798	1,874	1,948
IOC: 4Q FY2006			FOC: 4Q FY2014				
CH-47F (ICH) Program	A remanufactured version of the CH-47D Chinook cargo helicopter with the new T55-GA-714A engines.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$677.5 M	\$624.4 M	\$757.7 M	\$1,047.0 M	\$863.7 M	\$967.9 M
	RDT&E	\$19.7 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	477	479	481	493	497	504
IOC: 3Q FY2007			FOC: 4Q FY2011				
Family of Medium Tactical Vehicles (FMTV) Program	The FMTV includes the 2.5-ton light tactical vehicle, the 5-ton medium tactical vehicle (6x6), troop and cargo carriers, vans, tractors, wreckers and dumps.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$449.6 M	\$634.1 M	\$624.9 M	\$567.5 M	\$680.2 M	\$553.2 M
	RDT&E	\$1.9 M	\$1.9 M	\$2.0 M	\$1.9 M	\$1.8 M	\$1.9 M
	Inventory	29,379	32,148	35,191	37,919	41,251	43,826
IOC: Fielded			FOC: Fielded				
Tactical Trailers and Dolly Sets Program	Light Tactical Trailer, M1022A1, M871A3 semi-trailer, self load off-load trailer, M105A3 all semi-trailers, 22.5 ton, 34 ton, 40 ton, and 5,000 gallon tankers, fifth wheel towing device, and shop trailer.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$15.9 M	\$7.1 M	\$6.5 M	\$5.7 M	\$2.5 M	\$2.5 M
	RDT&E	\$0.9 M	\$1.0 M	\$1.0 M	\$1.0 M	\$2.0 M	\$2.0 M
	Inventory	10,211	10,699	11,214	11,639	11,872	12,126
IOC: Fielded			FOC: Fielded				
Family of Heavy Tactical Vehicles Program	Heavy tactical wheeled vehicles used in line haul, local haul, unit resupply, and other missions throughout the tactical environment to support modern and highly mobile combat units.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$169.1 M	\$203.0 M	\$199.7 M	\$183.6 M	\$103.9 M	\$40.7 M
	RDT&E	\$0.0 M	\$3.6 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	9,373	9,681	9,840	9,954	9,954	9,954
IOC: Fielded			FOC: Fielded				
Theater Support Vessel (TSV) Program	A next generation Army watercraft to support the Army's doctrinal intratheater lift mission.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$15.0 M	\$15.4 M	\$299.4 M	\$301.6 M	\$154.2 M	\$154.4 M
	RDT&E	\$3.3 M	\$5.1 M	\$5.1 M	\$2.9 M	\$3.1 M	\$3.2 M
	Inventory	–	–	1	3	4	5
IOC: 3Q FY2012			FOC: TBD				

Joint Deployment/Rapid Distribution

Army (continued)							
High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) Program	A light, highly mobile, diesel-powered, four-wheel-drive vehicle configurable as a troop carrier, armament carrier, S250 shelter carrier, ambulance, TOW missile carrier, or a scout vehicle.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$224.2 M	\$331.1 M	\$340.9 M	\$481.8 M	\$724.1 M	\$347.2 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	114,895	118,137	121,397	125,936	132,656	135,831
IOC: Fielded			FOC: Fielded				
Light Utility Helicopter	Light utility aircraft; replaces UH-1/OH-58A/C; CONUS/Europe based for use by ARNG units for Homeland Security mission; TDA support; MEDEVAC missions; commercial 8-10 PAX; supports NORTHCOM/EUCOM.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$108.0 M	\$190.6 M	\$221.6 M	\$221.8 M	\$157.3 M	\$58.6 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	31	81	138	194	232	245
IOC: 1Q FY2007			FOC: TBD				
Marine Corps (3 programs)							
CH-53X Redesignated Heavy Lift Replacement (HLR) Program	The HLR will fill the vertical heavy lift requirement that is necessary for Sea Basing and joint operating concepts, and provide the ability to transport 27,000 pounds to distances of 110 nautical miles under most environmental conditions.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$271.9 M	\$300.1 M	\$341.0 M	\$351.4 M	\$369.7 M	\$363.9 M
	Inventory	0	0	0	0	0	0
IOC: 4Q FY2015			FOC: FY2021				
Logistics Vehicle System Replacement (LVSR) Program	Provides flexible and rapid (35-45 KTS) seaborne intra-theater lift of multi-cargo payloads.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$28.4 M	\$63.9 M	\$95.7 M	\$216.6 M	\$194.7 M	\$183.3 M
	RDT&E	\$4.6 M	\$4.2 M	\$4.0 M	\$9.2 M	\$0.0 M	\$0.0 M
	Inventory	0	19	151	305	745	1,184
IOC: 1Q FY2008			FOC: 3Q FY2011				
Medium Tactical Vehicle Replacement (MTVR) Program	Replaces the aging M939/M809 5-ton trucks with a fleet of state-of-the art, commercially based, medium trucks with greater mobility, lift, and reliability.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	6,393	6,393	6,393	6,393	6,393	6,393
IOC: NA			FOC: 3Q FY2005				

Initiatives

Two USTRANSCOM-enabling initiatives support this capability.

Joint Task Force—Port Opening

The Joint Task Force—Port Opening (JTF-PO) is a combination of people, equipment, and systems necessary to achieve a rapidly deployable, early entry, expeditionary theater-opening capability. JTF-POs are composed of USTRANSCOM-assigned active-duty forces that are tailored to meet regional COCOM mission requirements. JTF-PO forces remain under the operational control of USTRANSCOM and hand over operations to follow-on forces within 4 to 6 weeks in order to reset for follow-on missions.

Outcome, resources, and milestones: The JTF-PO forces are capable of operating air and seaports to support initial deployment and distribution operations; providing in-transit visibility, movement control, and intermodal platform management and conducting cargo and personnel processing and handling.

The JTF-PO construct is being developed and the first pilot is expected in Exercise BRIGHT STAR 05. No resource requirements are identified to support this initiative.

Single Operating Environment for the Distribution Enterprise

The Single Operating Environment for the Distribution Enterprise (SOEDE) captures passenger and cargo transportation requirements in a collaborative environment, provides the customer with cost options to meet the requirement, books the agreement, and provides single billing and tracking numbers for in-transit visibility. SOEDE provides the distribution process owner (DPO) and warfighter with movement control and visibility within the distribution network. This is achieved through links to information contained in current automated information source systems to provide accurate movement requirements and advance notice of cargo and passenger movement to all distribution nodes.

Outcome, resources, and milestones: SOEDE provides a single source for passenger and cargo movement planning and execution. It facilitates improved passenger and distribution network management by providing a tool for network optimization and prioritization.

Estimated resource requirements (FY2006–FY2011) for the support of SOEDE total \$33.5 million. The following milestones have been identified for this initiative:

- October 2005—Requirements Visibility and Shipment Notification
- March 2006—Single Booking and Single Tracking
- May 2006—Sustainment Optimization
- July 2006—Constrained Data Sharing Across DPO Environments
- December 2006—Initial Requirements Visibility Capability
- July 2007—Initial Shipment Notification Capability.

Capability 2—Deployment and Distribution Processes

Programs

The following are DoD’s four programs of record that enable this capability.

DLA (3 programs)							
Distribution Planning and Management System (DPMS)	DPMS is an enterprise-wide distribution planning and management system that will allow improved collaboration between DLA and its customers, carriers, and vendors.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: N/A			FOC: FY2005			
Global Stock Positioning (GSP)	GSP strategy is a portfolio of capabilities designed to ensure the right inventory is at the right location at the right time for the least cost. This is achieved through a suite of capabilities (Forward Stocking, Deployable Depot, and DLA Afloat Distribution Center).						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$113.8 M	\$97.6 M	\$92.5 M	\$94.5 M	\$96.5 M	\$98.6 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: FY2005			FOC: FY2006			
Fuels Automated System (FAS)	FAS provides an automated materiel management system that spans from the point of sale to vendor payment for all energy commodities, and supports fuels business functions including supply management, financial management, facilities management, and decision support.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$32.0 M	\$17.7 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: N/A			FOC: FY2007			
USTRANSCOM (1 program)							
Agile Transportation for the 21st Century (AT21)	AT21 will transform business processes and leverage commercial supply chain management technologies to streamline and standardize contingency and sustainment planning processes. This will provide collaboration and visibility throughout the planning process, embed Focused Warfighter Initiative business rules into the IT tools, and dramatically improve support to the warfighter. Planning lead-time will be reduced, and transportation movements will meet warfighter required delivery dates with greater assurance.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$15.6 M	\$14.9 M	\$14.30 M	\$13.1 M	\$14.6 M	\$14.2 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: FY2008			FOC: FY2011			

Initiative

There is one DoD enabling initiative identified as primarily supporting this capability.

Radio Frequency Identification

This initiative implements active radio frequency identification (RFID) to track consolidated shipments overseas, and passive RFID to facilitate automation of supply chain transactions, thus taking maximum advantage of inherent life-cycle asset management efficiencies realizable through integration of RFID throughout DoD.

Outcome, resources, and milestones: RFID will directly enable the sharing, integration, and synchronization of data from the strategic to the tactical level as data supplied through RFID is forwarded to supply chain nodes. Improved asset visibility as well as timely and accurate shipping and receiving data will provide the Joint Theater Commander the ability to anticipate and better plan sustainment in support of joint operations.

Funded resource requirements (FY2006–FY2011) to implement active RFID total \$399.3 million. And, additional required resources (FY2007–FY2012) are approximately \$417.5 million. The following milestones have been identified for this initiative:

- January 2005—Suppliers apply passive RFID tagging—Class I (some), II, VI, IX shipments to Distribution Depot Susquehanna Pennsylvania (DDSP) and Distribution Depot San Joaquin (DDJC).
- September 2005—Implement tactical U.S. Marine Corps pilot.
- October 2005—Finalize Service/USTRANSCOM RFID implementation plans.
- December 2005—Implement RFID at three aerial ports.
- January 2006—Implement at all distribution centers within the continental United States.
- January 2006—Commence full-scale implementation of Active RFID in Navy and Air Force.
- January 2007—Implement at all outside the continental U.S. (OCONUS) distribution centers.
- January 2007—Suppliers apply passive RFID¹ tags to all shipments for all commodities.

Capability 3—Distribution Network Management

Program

There are no programs to support this capability.

Initiative

There is one Joint Forces Command initiative that supports this capability.

Deployment and Distribution Process Integration

The Deployment and Distribution Process Integration (DDI) initiative is a partnered effort between USTRANSCOM and Joint Forces Command (USJFCOM) that leverages approved architectures (DoDAF-compliant) to integrate joint deployment and global distribution processes. Constructed around the Joint Staff requirements framework, DDI facilitates implementation of recommended improvements, either through Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities (DOTMLPF) change recommendations (DCRs) or through

¹ RFID data available to the Joint Theater Commander through Joint Total Asset Visibility (JTAV), Global Transportation Network (GTN), and radio frequency in-transit visibility (RF-ITV) servers, and the Battle Command Sustainment (BCS) system.

initial capability documents. DDI leverages lessons learned, real-world operations, and exercise findings to feed experimentation. Products are vetted through the Joint Planning and Execution Community (JPEC) prior to presentation to the appropriate Functional Capabilities Boards for endorsement and implementation. An annual iterative process, the first three areas focus on

- requirements generation and sourcing,
- asset visibility, and
- force and capability closure.

In subsequent years, additional focus areas will be evaluated under the process.

Outcome, resources, and milestones: Integration of deployment and distribution processes provides COCOMs and joint theater commanders with the situational awareness necessary to meet key deployment or sustainment objectives prescribed by DoD's Joint Swiftness Goals and other governing directives and policy. Commanders achieve these objectives through better management and optimization of the flow of forces, equipment, and supplies into theaters of operation.

Estimated resource requirements (FY2006–FY2011) to support the DDI initiative total \$11.7 million. The following milestones have been identified for this initiative:

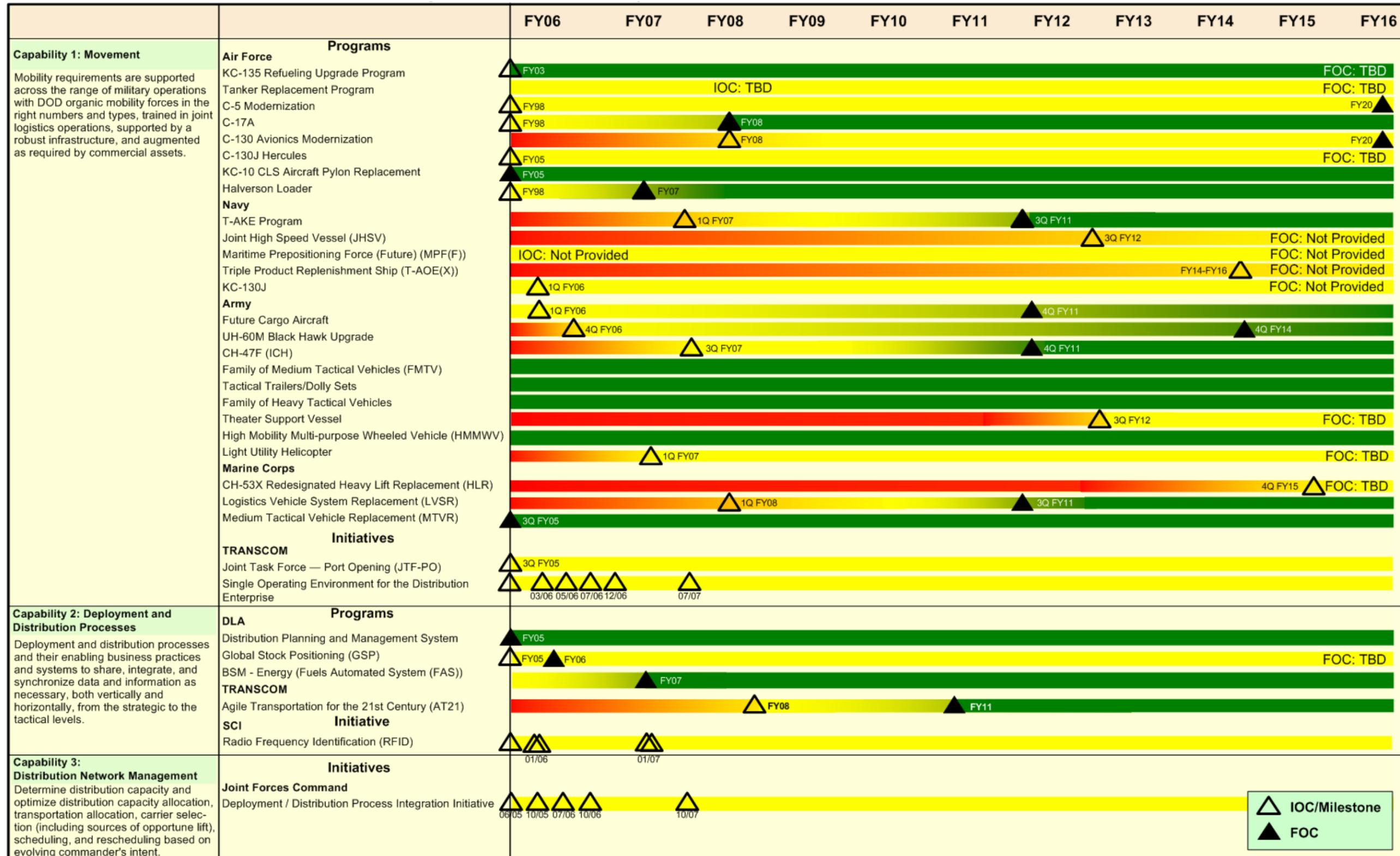
- June 2005—New process integrated architecture (“as is” deployment and “as is” Defense Transportation System) delivered.
- October 2005—The Joint Planning and Execution Community (JPEC) vets process improvements in first three focus areas. DCRs are submitted through JCIDS process.
- July 2006—Integrated force projection “to be” architecture delivered.
- October 2006—JPEC vets force projection process.
- October 2007—JPEC vets final process improvements; appropriate JCIDS documentation submitted to Joint Staff.

JD/RD Roadmap Assessment Summary

Figure 2-1 is the JD/RD roadmap. There is substantial investment within the JD/RD Mobility capability area (Capability 1)—approximately \$53.8 billion. Although many programs reach maturity (full operational capability [FOC]) by 2015, other programs do not or their FOCs are undetermined. As such, full mobility capability will not be achieved by 2015.

Roadmap data also indicates limited program investment and few identified initiatives within the other two JD/RD capability areas: deployment and distribution processes (Capability 2) and distribution network management (Capability 3). Here, too, capability is not achieved by 2015 because of limited effort in these areas, and initiatives reach maturity without documented implementation steps.

Figure 2-1. Joint Deployment/Rapid Distribution Roadmap



Chapter 3 Agile Sustainment

This chapter describes the Agile Sustainment (AS) Tier 2 capability and its associated subsidiary capabilities. It depicts PB06 program investment, describes programs and initiatives, and maps each program or initiative to subsidiary capabilities within an AS Roadmap.

Agile Sustainment Tier 2 Capability

Agile Sustainment encompasses a majority of sustaining functions, including materiel management, pre-positioning and war reserve, mobilization and manpower, and critical commodities, and force structure.

A joint force capable of full-spectrum dominance must possess unmatched speed and agility in positioning and repositioning tailored forces from widely dispersed locations to achieve operational objectives quickly and decisively. Supporting this type of force requires flexible, tailored sustainment from agile, responsive sustaining organizations. Tailoring support packages and deploying logistics organizations to support operational requirements will help meet warfighter needs at precisely the right place and time. This requires early and integrated planning among the combatant commanders, military services, sustaining organizations, combat support agencies, and multinational partners. The following are AS capabilities:

- **Capability 1—Routine and Surge Requirements (Industrial Base):** Industrial base meets routine and surge requirements
- **Capability 2—Routine and Surge Requirements (Sustaining Organization):** Sustaining organizations meet routine and surge requirements
- **Capability 3—Tailored Sustainment:** Tailor sustainment, which includes both logistics support packages (with supply requirements automatically generated and assessed, then sourced from the best of all available sources using rules-based sourcing) and deploying logistics organizations (with potential sources of support forces automatically identified, tailored, and jointly agreed upon)
- **Capability 4—Tactical Resupply:** Tactical resupply, including delivery by airdrop, precision aerial delivery, or air/land, as well as by land- or sea-based assets
- **Capability 5—Military Service Collaboration and Interoperability:** Collaboration and interoperability across all military services, enabled by common metrics, standards, and processes
- **Capability 6—Collaboration with Civilian Sector:** Collaboration with the civilian sector to take advantage of advanced business practices, commercial economies, and global non-military networks
- **Capability 7—Executive Agent Responsibilities:** Integration and synchronization of executive agent responsibilities, contractor logistics support, and third or host nation support

- **Capability 8—System Health Monitoring:** Remote monitoring and diagnosing of system health, and sense, predict, anticipate, and report failures and consumption—and thus anticipate demand—associated with current, modernized, and transformed forces and weapon systems
- **Capability 9—System Upgrade and Future Fielding:** Upgraded systems and fielding of future weapons systems with designed-in deployability, reliability, maintainability, availability, sustainability, and interoperability to increase readiness and reduce logistics requirements and costs.

Programs and Initiatives

Overview by Service, COCOM, or Agency

This section presents programs and initiatives (as provided by submitting service, COCOM, or agency) that primarily support one of nine agile sustainment capabilities. At least one identified program or initiative primarily supports capabilities 1, 2, 4, 6, 8, or 9; no programs or initiatives primarily link to capabilities 3, 5, or 7.

Program entries provide a description, total investment (as procurement, RDT&E, and in the case of Working Capital Fund agencies, program investment across PB06), and IOC/FOC data when available. Additional program information for each is detailed in Volume II, Appendix A.

Initiative entries provide a description, expected outcomes, milestones, and anticipated resource requirement (where necessary) over PB06. Complete initiative information is presented in Volume II, Appendix B.

Tier 2 Program Investment

Across PB06, DoD program investment will total approximately \$2.3 billion within the AS Tier 2 capability across 13 total programs. Table 3-1 depicts total programs and investment amount by military service or agency.

Table 3-1. Total Agile Sustainment Investment Across PB06

Service or agency	Number of programs	Investment: procurement or program	Investment: RDT&E
Air Force	1	\$0.253 billion	–
Navy	1	\$0.523 billion	\$0.043 billion
Army	7	\$1.432 billion	\$0.011 billion
Marine Corps	–	–	–
DLA	4	\$0.129 billion	–
Total	13	\$2.337 billion	\$0.054 billion

Capability 1—Routine and Surge Requirements (Industrial Base)

Programs

The following presents DoD’s one program of record enabling this capability.

DLA (1 program)							
Supplier Relationship Management (SRM)	SRM will build two-way relationships with key suppliers as a way to evaluate and manage supplier capability and jointly solve problems. It is the overarching business philosophy DLA will incorporate in working with industry to improve support to the war-fighter and is a critical element in the shift from managing supplies to managing suppliers. SRM seeks to incorporate the entire enterprise and provide structure to the supplier facing tools being developed. The enhanced relationships will allow DLA to be more responsive to customer needs. To date, DLA has formed strategic supplier alliances with 26 suppliers, and is currently developing its first collaborative relationships, known as supply chain alliances with the next tier of suppliers.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: N/A			FOC: N/A				

Initiative

DoD identified one initiative as supporting this capability.

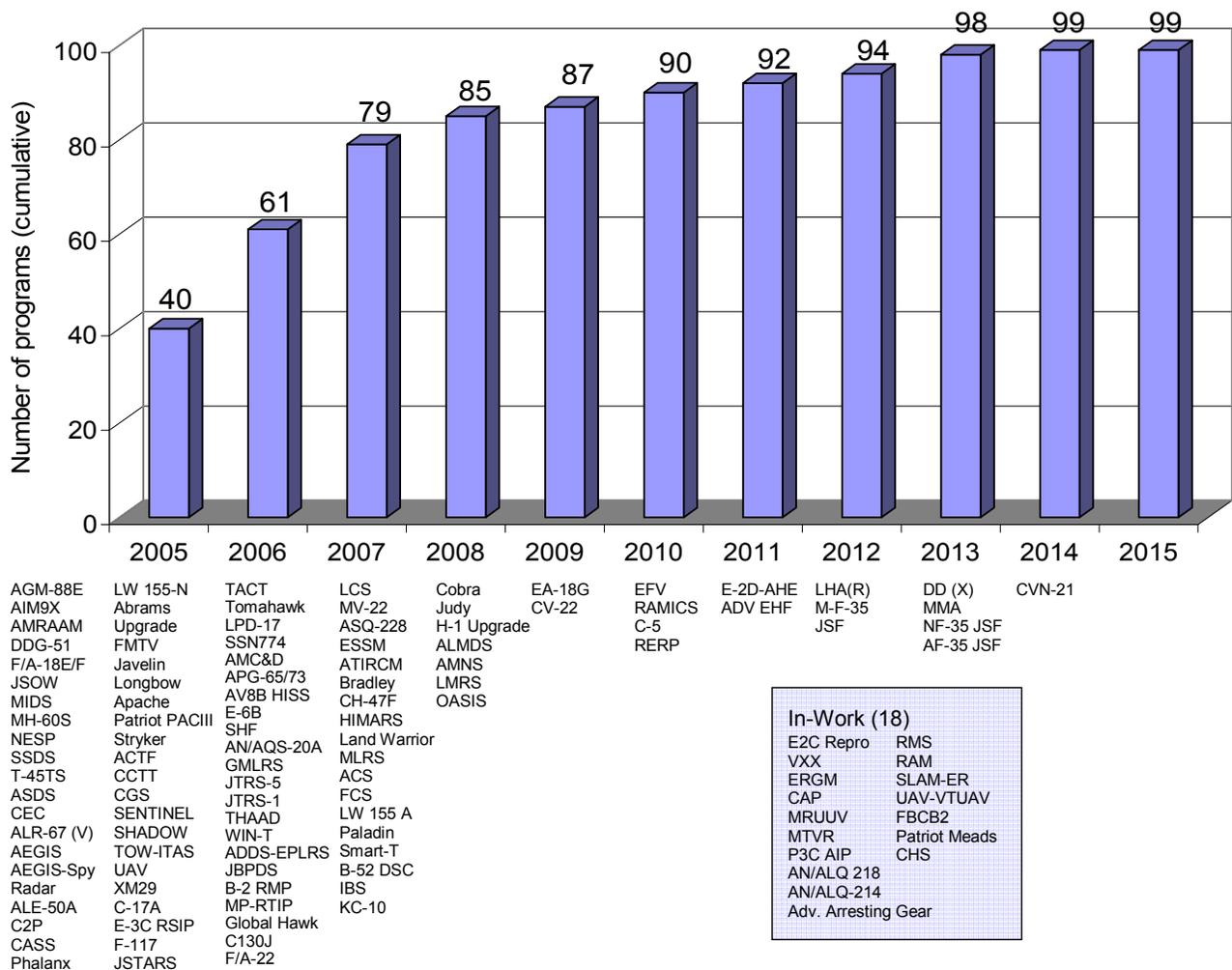
Performance Based Logistics

Performance-based logistics (PBL) is DoD’s preferred acquisition strategy for weapon system product support. PBL employs the purchase of support as an integrated, affordable performance package that optimizes system readiness. It establishes performance goals for a weapon system through a support structure based on long-term performance agreements with clear lines of authority and responsibility to continuously meet the user’s needs. The goal of PBL is to purchase weapon system sustainment as an affordable, integrated package, based on output requirements and measures such as weapon system availability, rather than input measures such as parts and technical services requirements.

Outcome, resources, and milestones: Adoption of PBL strategies across the PBL spectrum will lead to increased operational availability, improved operational reliability, reduced cost per unit usage, smaller logistics footprint, and minimized logistics response time.

No resource requirements have been identified in support of PBL. Figure 3-1 depicts the PBL implementation schedule.

Figure 3-1. PBL Implementation Schedule (Major Programs [2005–2015])



Source: Service input as of 22 March 2005.

The following are supporting PBL implementation milestones:

- September 2001—Quadrennial Defense Review (QDR)—mandated implementation of performance-based logistics.
- May 2003—DoD 5000.1 and 5000.2 establishes PBL as the preferred support strategy within DoD and requires program managers to develop and implement PBL strategies.
- 2003—DPG requires each military department (MILDEP) to submit a plan for applying PBL to all new weapons systems.
- 2005—PBL implemented on 40 programs.
- 2006—In accordance with strategic planning guidance (SPG), services complete BCAs on all ACAT I and II systems not planned for PBL.
- 2015—PBL implemented on 60 additional programs (68 percent of ACAT I and II).

Capability 2—Routine and Surge Requirements (Sustaining Organization)

Programs

DoD identified 11 programs of record as primarily enabling this capability.

Air Force (1 program)							
Air Combat Support Equipment	Provide combat support for Air Expeditionary Forces (AEF), Basic Expeditionary Airfield Resources (BEAR) and HARVEST FALCON. These programs provide kits that include shelters, support equipment and other items needed to establish and support operations at expeditionary bases. BEAR and HARVEST FALCON kits provide housing, mess hall, recreation, and work facilities for deployed forces.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$23.20 M	\$27.0 M	\$37.7 M	\$59.1 M	\$74.0 M	\$31.9 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	233	233	233	236	236	236
IOC: N/A			FOC: Ongoing				
Army (7 programs)							
Combat Service Support Equipment	Includes heaters and ECUs; laundries, showers, and latrines; soldier enhancement; field feeding equipment; field sustainment support; and field feeding containerized kitchen.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$62.4 M	\$75.6 M	\$76.2 M	\$70.8 M	\$74.7 M	\$68.7 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	6,927	8,215	8,829	9,348	9,876	10,395
IOC: 2Q FY1999 to 3Q FY2008			FOC: 3Q FY2001 to 4Q FY2010				
Forward Repair System (FRS)	FRS is a flat-rack mounted, integrated, enhanced maintenance platform that consists of a 10,500 lb-capable crane, welder, repair tool kit, compressor, and a 35kW generator, transportable by either a HEMTT or PLS. Provides on-site battlefield repair and maintenance to combat and heavy weapon systems. FRS is an FCS complementary system.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$27.4 M	\$24.5 M	\$26.0 M	\$26.0 M	\$31.8 M	\$26.9 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	305	371	438	503	580	643
IOC: 2Q FY2001			FOC: TBD				
Materiel Handling Equipment (MHE)	Includes all terrain lifting Army system.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.4 M	\$15.9 M	\$19.4 M	\$21.1 M	\$21.1 M	\$21.1 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	1,625	1,705	1,832	1,969	2,106	2,243
IOC: 4Q FY2008			FOC: 3Q FY2012				
Fuel and Water Storage and Distribution	Assault Houeline, Fuel System Supply System (FSSP), Tactical Water Distribution System (TWDS), Hippo, Modular Fuel Farm, Camel, Petroleum Quality Surveillance System, Inland Petroleum Distribution System, Rapidly Installed Fuel Transfer System (RIFTS).						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$44.7 M	\$43.2 M	\$62.8 M	\$105.1 M	\$106.3 M	\$108.1 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	65	72	189	348	498	659
IOC: 2Q FY2006 to 4Q FY2008			FOC: 2Q FY2016 to 4Q FY2020				

Army (continued)							
Load Handling Modular Fuel Farm (LMFF)	Load Handling Modular Fuel Farm is a petroleum storage, issue, and distribution system compatible with PLS and HEMTT-LHS; it provides ability to rapidly establish a fuel distribution and storage capability at any location.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$18.7 M	\$20.4 M	\$24.6 M	\$24.6 M	\$24.7 M	\$24.7 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	1	23	34	44	55	66
IOC: 4Q FY2006			FOC: TBD				
Advanced Aviation Forward Area Refueling System	Modular, soldier-portable 1-4 points aviation refueling system that delivers fuel at 55 GPM per nozzle, uses 400-500 gallon drums as primary fuel source but is compatible with other fuel sources such as HEMTT and 5K tankers.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$2.7 M	\$2.7 M	\$6.6 M	\$6.6 M	\$6.8 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	Inventory	252	372	407	407	407	407
IOC: 1Q FY2005			FOC: TBD				
Maintenance Equipment	The Shop Equipment, Contact Maintenance Vehicle (SECM) truck is mounted on a HMMWV Heavy variant for general use to provide improved cross-country mobile maintenance support to maneuver elements. The Welding Shop, Trailer Mtd, supports the only qualified welders in the Army and supports two-level maintenance. The welding shop provides a robust all-purpose welding capability to support the legacy force, Army Transformation and Modularization efforts to Brigade Combat Teams. The Standard Automotive Tool Set (SATS) is a modular, flexible, standardized automotive maintenance system that will replace numerous types of field level shop sets. SATS enables a two level maintenance system.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$9.8 M	\$3.4 M	\$23.0 M	\$22.0 M	\$23.4 M	\$27.1 M
	RDT&E	\$0.0 M	\$1.4 M	\$1.4 M	\$1.5 M	\$3.3 M	\$3.6 M
	Inventory	995	1,037	1,078	1,123	1,183	1,282
IOC: Fielded			FOC: Fielded				
DLA (3 programs)							
Customer Relationship Management (CRM)	CRM is a strategy that uses people, processes, and tools for setting and meeting mutual expectations to optimize value for both the military services and DoD. This will be accomplished by implementing an Enterprise Customer Strategic Plan to: engage existing and potential customers deliberately through execution of the CRM program; translate customer needs into actionable information to support the development of logistics solutions that maximize readiness and combat power; and deliver consistently on customer requirements and expectations.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$16.3 M	\$13.9 M	\$3.7 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: FY2006			FOC: FY2008				
National Inventory Management Strategy (NIMS)	NIMS will extend DLA's consumable item supply chain responsibility from the wholesale level to the point of consumption. DLA will transform itself into a manager of a complete supply chain. NIMS will merge wholesale and retail inventories into a national inventory that can be managed in a more integrated manner. By providing tailored inventory solutions to individual service logistics requirements, NIMS allows the services to reduce redundant inventory and the personnel and infrastructure required to support those inventory.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$21.2 M	\$9.6 M	\$8.2 M	\$8.5 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: N/A			FOC: FY2005-FY2007				

DLA (continued)							
Product Data Management Initiative (PDMI)	PDMI is DLA's strategy for transforming DLA's technical and quality business processes and capabilities. DLA's technical business processes are focused on identifying the "right item," the foundation to ensure its customers get the specific parts to meet their requirements in a timely, cost effective, and reliable manner. The success and effectiveness of technical business processes in DLA, and the ability to get the "right item," for its customers, depends upon the quality, accuracy, and completeness of the technical or product data concerning the item.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$9.3 M	\$9.1 M	\$6.9 M	\$7.5 M	\$7.5 M	\$7.5 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: FY2007			FOC: FY2011			

Initiatives

Eight enabling initiatives were identified as primarily supporting this capability.

Agile Sustainment Project (DoD)

The Agile Sustainment Project (ASP) seeks to develop processes that enable much-improved sustainment support for equipment and other end-items where fulfillment of material requirements has become diminished through traditional DoD procurement means. By focusing on the 100 oldest orders¹ held at Defense Supply Center Richmond (DSCR) and Defense Supply Center Columbus (DSCC), analysis will be performed to determine root cause. This will lead to development and adoption of new policy, processes, technology, and organizational change as required.

Outcome, resources, and milestones: ASP focuses on achieving an industry standard response when the original manufacturer discontinued production long ago, or when there is insufficient surge capacity. By pursuing PBL relationships with trusted companies with broad capabilities to handle the range of products and services required, Diminished Manufacturing Services and Material Source (DMSMS) items and customer wait time will improve significantly.

The resource requirement (FY2006–FY2008) to support the ASP initiative is estimated to be \$8.1 million. The following milestones have been identified for this initiative:

- FY2005—Pilot program:
 - June 2005: Understand oldest 100 orders at DSCR/DSCC.
 - September 2005: Develop classes of parts.
 - October 2005: Pursue PBL agreements.
 - October 2005: Export new processes to other depots.
- FY2006—Export process to two depots.
- FY2007—Full implementation across DoD.

¹ The oldest is about 6.5 years old; the youngest is about 2.5 years old.

SPG/CPG Readiness Levels (DoD)

This is a strategic policy initiative that aligns the daily activities, and resulting products and services, of the integrated DoD weapon system support infrastructure with the specific equipment that must be available to enable tasked units to successfully execute assigned missions as directed by strategic planning guidance and contingency planning guidance (SPG/CPG) and other high-level planning documents. Supporting DRRS objectives (DoDD 7730.65), the program will correlate desired unit capabilities with required equipment, and objectively quantify the optimum equipment inventory to which each unit is entitled—for each tasked mission. Availability of this ready-for-use equipment becomes the management objective and performance standard of all functional weapon system support capabilities (e.g., supply, maintenance, distribution, sustaining engineering), both individually and collectively. Clearly documenting requirements is the first step in seeking to optimally balance the sustainment value chain and improve materiel readiness.

Outcome, resources, and milestones: Measuring the performance of the weapon system materiel readiness value chain in terms of mission equipment availability requirements at the operational unit level will promote shared expectations with respect to system support. Documenting quantifiable shared expectations in readiness and sustainment plans provides for a much better understanding of true cause-and-effect relationships among readiness drivers and enables support resources to be optimally balanced, dramatically increasing the likelihood that all the support that should be delivered to the operating forces is actually delivered. DoD expects improvement in materiel availability at no increase in life-cycle cost (or continued achievement of current readiness goals at reduced cost).

No resource requirements have been identified regarding the SPG/CPG initiative. The following are implementation milestones:

- 2005—Establish ADUSD(MR&MP) as the DRRS focal point for DoD sustainment. Provide leadership for service and DLA ERP development efforts to eventually be capable of satisfying the DRRS “Equipment” and “Supply” resource information requirements.
- 2006—Publish a revised DoDI 3110.5, “Materiel Condition Reporting for Mission-Essential Systems and Equipment” that is compatible with the DRRS operational concept. Subsequently, assess the ability of planned readiness and condition reporting systems to provide information essential to the Office of the Secretary of Defense (OSD) for decision-making.
- 2007–2008—All services initiate development of capability to utilize resources-to-readiness data using materiel readiness predictive modeling and simulation tools.
- 2010—All services should be operationally capable of deploying materiel readiness predictive modeling and simulation tools.

Sustained Materiel Readiness Process Improvement (DoD)

The Sustained Materiel Readiness Process Improvement initiative institutionalizes continuous improvement of the processes by which materiel readiness is created and delivered throughout the end-to-end DoD sustainment value chain. The program emphasizes the use of clearly defined, measurable cause-and-effect metrics and the timely collection of accurate value chain performance data. The ability to use credible data to analytically model materiel readiness improves

sustainment decision making and budgeting. The Sustained Materiel Readiness Process Improvement initiative includes the institutional implementation of continuous improvement (CI) tools (Lean, Theory of Constraints, etc.) and the use of sound sustaining engineering (SE) practices, particularly in the area of weapon system reliability analysis. Determining if performance standards are being met—and if there is a way to improve performance by process reengineering—is the second step to balancing the sustainment value chain and improving materiel readiness.

Outcome, resources and milestones: Sustained materiel process improvement enables fact-based insight into specific strengths and weaknesses of the entire, integrated materiel readiness value chain. It will encourage balanced application of resources to optimize productive output. Depot and field-level repair cycle time can be reduced, as will the average customer wait time for replenishment items. Weapon system reliability will also lower failure rates. Total ownership cost can be reduced without lowering materiel readiness.

No resources have been identified in support of the Sustained Materiel Readiness Process Improvement initiatives. The following are implementation milestones:

- 2006—OSD publishes continuous process improvement policy guidance to optimize and institutionalize reliability and repair cycle time efficiencies.
- 2007—Military services routinely employ Lean thinking to improve the process by which materiel readiness is achieved and sustained.
- 2010—All service readiness budgets are driven by quantifiable and objective data. Requirements to make targeted changes to either equipment reliability or equipment sustainment cycle time (or both) are defensible. End-to-end sustainment processes are in control and readiness accounts are optimally resourced.

Commodity Management (DoD)

The Commodity Management initiative provides a systematic approach to the entire usage cycle for groups of items. It makes available key commodities, in the needed quantities, both in peace and wartime, when demand patterns can differ substantially. A commodity team, unique to each commodity, develops a thorough understanding of a commodity's internal buying patterns and the market forces surrounding it. This understanding is leveraged to drive best-value total installed cost, improve quality, reduce cycle-time, and procure items at the lowest unit cost. This is accomplished through component commonality and design for manufacturability and maintainability.

Outcome, resources, and milestones: Implementation of commodity management will ensure identification and availability of theater support requirements regardless of demand patterns typically based on peacetime requirements. Availability of material in the correct quantities to support increased war-time demand patterns will increase the operational flexibility of joint theater commanders.

No resource requirements have been identified to support the Commodity Management initiative. The following are implementation milestones:

- March 2005—Commodity pilot areas identified.
- May 2005—Commodity management contractor identified; pilots begin.

- November 2005—Final report on pilots and proposed commodity management strategy.
- 2006—Commodity teams stood up and initial contracting strategies in place to reflect Commodity Management strategy.
- 2007–2010—Additional commodity teams in place.
- 2010—Commodity Management Strategy implemented throughout DoD.

Readiness Based Sparing (DoD)

Readiness Based Sparing (RBS) is an inventory requirements determination methodology that produces inventory investment solutions that support end-item performance requirements at minimum cost. RBS optimizes allocation of inventory to the most appropriate location relative to the supported repairable end-item and level of assembly. This optimization is accomplished through development of support plans both for routine and surge scenarios developed through scenario analysis and other modeling techniques.

Outcome, resources, and milestones: RBS provides increased readiness through optimized stock positioning and inventory levels. This optimization provides theater supply activities improved material availability—both end-items and support for end-item repair, translating into improved end-item availability and readiness for COCOMs and joint theater commanders.

Funding of \$37.1 million has been allocated to Joint Advanced Planning and Scheduling Office (JAPSO) from FY2006 to FY2011. The following are implementation milestones:

- 2005—JAPSO formed.
- 2005—Components to brief current status and road ahead for RBS.
- 2005—RBS steering committee and working group formed to speed time to realize benefit.
- 2005—Initial cross-service implementations identified.
- 2006—Requirements definition for RBS complete; implementation plan developed and complete.
- 2007—Military services begin RBS implementation.
- 2009—RBS implementation complete.

Joint Regional Inventory Material Management (DoD)

Joint Regional Inventory Materiel Management (JRIMM) consolidates materiel distribution within a given geographic area. This consolidation eliminates extraneous inventory locations and associated materiel handling, and leads to more efficient and effective distribution within the defined region. JRIMM brings together all DoD components in each geographic location for continual distribution process improvement aimed at streamlining materiel flow within either that region or theater of operations.

JRIMM provides reduced cycle time and decreased variability in customer wait times. It supports increased readiness throughout each region or geographic area through improved material availability. Within a theater of operations, it allows COCOMs and joint theater commands greater operational flexibility as distribution processes are regionally optimized to maximize use of available resources.

Outcome, resources, and milestones: No resource requirements have been identified in support of the JRIMM initiative. The following are implementation milestones:

- 2005—San Diego pilot site begins attriting materiel to JRIMM determined levels.
- 2005—Implementation underway on Oahu, with participation by four services and DLA.
- 2006—JRIMM roll out to other geographic areas and locations.
- 2008—Full implementation.

Executive Agent (DoD)

Executive Agent (EA) is a governance structure to ensure collaboration and cooperation among the services to achieve end-to-end logistics support for the warfighter. DLA is designated as the DoD EA to improve supply chain management efficiency for several supply classes: Class I (Subsistence), Class III (Bulk Fuels), and Class VIII (Medical Materiel).

Outcome, resources, and milestones: EA directly supports DoD's logistics transformation, the Focused Logistics Joint Functional Concept, and AT&L's plan to implement a distributed and adaptive logistics capability. It will provide COCOMs and joint force commanders with increased supply readiness resulting from improved material management throughout the distribution network.

No resources requirements have been identified in support of EA. The following are implementation milestones:

- Complete—Supply Class I (Subsistence), III (Bulk Fuels), and VIII (Medical Material)
- 2005—Supply Class II (Clothing and Textiles)
- 2005—Supply Class IV (Construction and Barrier Material).

Defense Transportation Coordination Initiative (USTRANSCOM)

The Defense Transportation Coordination Initiative (DTCI) is a freight initiative aimed at increasing operational effectiveness and efficiency within the continental United States. This is achieved through reduction in cycle time and improved predictability through the use of dedicated truck schedules and cross-docking operations. Also included in this initiative is the adaptation of best business practices, such as increased less-than-truckload consolidation and mode conversions. A third-party logistics (3PL) capability and experience will harness best commercial practices to improve reliability, predictability, and efficiency of DoD materiel moving within CONUS.

Outcome, resources, and milestones: DTCI will result in increased CONUS supply chain confidence through improved in-transit visibility, and reliability, predictability, and operational

effectiveness. Additionally, the concept will leverage best commercial practices, use of small business, and commercial industry assets to ensure routine and surge distribution requirements are met. DTCI will also establish common process and measured performance standards regarding CONUS distribution.

No resources requirements have been identified in support of DTCI. The following are implementation milestones:

- June 2006—Award and begin ramp-up.
- January 2007—DTCI implemented at DLA sites.
- January 2009—DTCI implemented at collocated sites (within 50 miles of DLA depots).
- June 2010—DTCI implemented at other designated installations.

Capability 4—Tactical Resupply

Program

No programs support this capability.

Initiative

The Army identified one enabling initiative as primarily supporting this capability.

Integrated Logistics Aerial Resupply

Integrated Logistics Aerial Resupply (ILAR) is a holistic approach to aerial resupply—airland, airdrop, and slingload distribution operations in balance and in sync with surface distribution based logistics operations. It will provide a full range of aerial delivery support/services, take advantage of joint intermodal enablers, and be transparent to COCOMs and Joint Theater Commanders. The ILAR initiative evaluates each subcomponent through prototyping, demonstrations, and analysis to determine requirements, existing capabilities, and gaps, while looking horizontally across subcomponents to ensure that they are synchronized in a way that provides a holistic aerial resupply capability.

Outcome, resources, and milestones: ILAR directly supports development of JCIDS documentation that defines the full aerial resupply requirement. It addresses the full range of aerial delivery support/services and intermodal enablers necessary to fully support COCOMs and Joint Theater Commanders over the full spectrum of operations.

No resource requirements have been identified in support of ILAR. The following are implementation milestones:

- 2006—Capability exploration.
 - Explore the capabilities of aerial delivery systems such as Joint Precision Aerial Delivery (JPADS) and Advanced Low Velocity Airdrop System (ALVADS) to enhance aerial resupply.

- Explore and assess the use of available and emerging aerial delivery systems with fixed and rotary-wing aircraft.
- Identify and document logistics requirements for unmanned aircraft.
- Evaluate the capability of slingload operations to enhance aerial resupply.
- Explore capabilities of emerging enabler technologies and existing and emerging modular packaging and containers to enhance the aerial resupply process.
- 2007—Capabilities documentation. Develop a capabilities development document (CDD) that defines airdrop program requirements and incorporates the results of the capabilities exploration process.
- 2008—Capability institutionalization.
 - Develop TTPs to describe holistic integrated logistics aerial resupply procedures.
 - Incorporate ILAR into Army and joint policies.
 - Incorporate ILAR into established training programs, events, and venues.

Capability 6—Collaboration with the Civilian Sector

Program

No programs support this capability.

Initiative

DoD identified one enabling initiative as primarily supporting this capability.

Unique Identification and Serialized Item Management

Unique Identification (UID) is a mandatory DoD program that places a machine-readable identification mark on the department's tangible assets, and establishes the data management protocols needed to automatically recover stored information about the item from both static and dynamic data bases. UID policy complements existing DoD policy on serialized item management (SIM). SIM associates an item's assigned identification number with dynamically updated attributes of the item to produce a life history record of the item. Using UID, decision makers can access an item's life history or "pedigree" information to achieve a level of situational awareness (item location, usage, performance, reliability, and ownership cost) not previously possible.

Outcome, resources, and milestones: UID/SIM is a key enabler of wholesale, institutionalized Continuous Process Improvement (CPI). CPI, and associated analytical readiness modeling, is possible only if data is available. UID/SIM provides that data. By using this data to optimally balance readiness resources, depot and field-level repair cycle time can be reduced, and average customer wait time for replenishment items can be cut.

No resources requirements have been identified in support of UID/SIM. The following are implementation milestones:

- May 2005—Legacy UID program plan for DoD depots published.
- June 2005—UID program plans (ACAT I D programs) approved.
- December 2005—FOC UID CONOPS for DoD maintenance published.
- January 2006—UID program plans (all programs) approved.
- January 2006—All government-furnished equipment (GFE) meets UID policy requirements.
- September 2007—All existing serialized assets entered into UID registry.
- September 2007—FOC legacy marking capability at all organic depots. All parts routinely marked as they cycle through the depot repair/rework process. SIM enabled for marked parts.

Capability 8—System Health Monitoring and Diagnosis

Program

The Navy identified one program of record as primarily supporting this capability.

Navy (1 program)							
Consolidated Automated Support System (CASS)	A suite of general purpose automatic test equipment designed to perform functional tests, fault detection, and isolation of naval airborne avionics, repairable weapon assemblies, and shop repairable assemblies.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$81.1M	\$83.8 M	\$86.5 M	\$88.3 M	\$90.4 M	\$92.5 M
	RDT&E	\$6.8 M	\$6.4 M	\$7.2 M	\$7.4 M	\$7.6 M	\$7.7 M
	Inventory	587	602	618	636	654	672
IOC: N/A			FOC: N/A				

Initiative

DoD identified one enabling initiative as primarily supporting this capability.

Conditioned Based Maintenance+

Condition Based Maintenance Plus (CBM+) is an umbrella initiative designed to integrate “best-of-breed” maintenance strategies and concepts with innovative maintenance technologies to increase maintenance efficiency and productivity. CBM+ is not a single-event solution, but a broad maintenance improvement approach that repeatedly challenges weapons platform and equipment managers to collect meaningful information and analyze system performance. If one or more current maintenance strategies or technologies are found to be either unsatisfactory or excessively expensive, alternatives need to be explored. CBM+ identifies and catalogs candidates for process reengineering. By offering the services “better ways of doing business,” CBM+ represents the fourth step in seeking to optimally balance the sustainment value chain and improve materiel readiness.

Outcome, resources, and milestones: Continuous process improvement identifies processes within the sustainment value chain that are constraining the delivery of required materiel readiness, and provides the opportunity to substitute better processes. By employing the more efficient processes identified under the CBM+ initiative, the cost of readiness can be reduced without reducing materiel availability.

No resources requirements have been identified in support of CBM+. The following are implementation milestones:

- 2006—CBM+ elements (CBM, RCM, diagnostics, etc.) identified and inserted in appropriate OSD and military service guidance.
- 2007—Resource strategy for CBM-enabling development or prototype efforts with commercial sector published.
- 2008—Diagnostics and health management systems demonstrated in the fielded environment.
- 2010—Selected CBM+ characteristics demonstrated in all SORTS-reported weapon systems.

Capability 9—System Upgrade and Future Fielding

Program

No programs support this capability.

Initiative

DoD identified one enabling initiative as primarily supporting this capability.

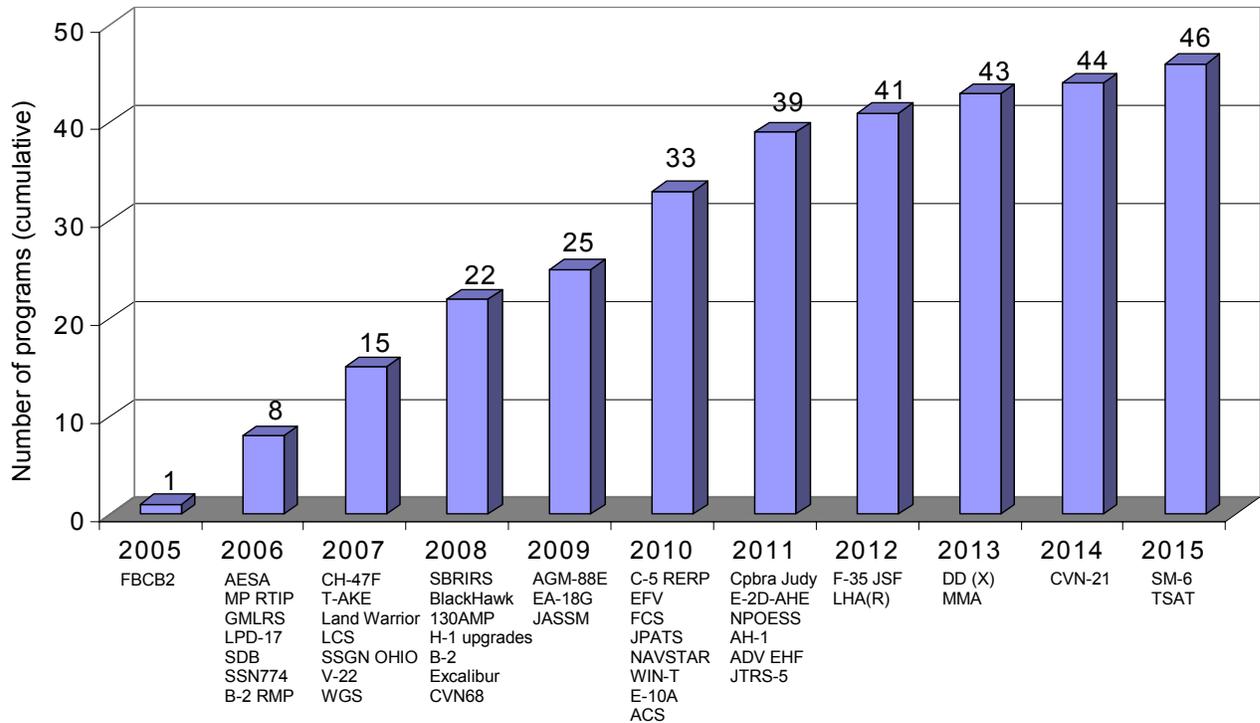
Total Life-Cycle System Management

Total Life-Cycle System Management (TLCSM) is the implementation, management, and oversight, by the designated program manager, of all activities associated with the acquisition, development, production, fielding, sustainment, and disposal of a DoD weapon system across its life cycle. TLCSM establishes a single point of oversight and accountability for weapon system acquisition and sustainment. It places early and continuing emphasis on translating performance objectives into operationally available and affordable increments of capability over the life cycle. Although a variety of product support strategies are available to the program manager, PBL is the preferred DoD strategy. PBL is a weapon system product support strategy that employs the purchase of support as an integrated, affordable performance package designed to optimize system readiness.

Outcome, resources, and milestones: Implementation of the TLCSM business approach means all major materiel alternative considerations, and all major acquisition functional decisions, demonstrate an understanding of the effects on consequential operations and sustainment phase system effectiveness and affordability. TLCSM establishes the PM as the single point of accountability to optimize operational reliability and availability while reducing footprint and life cycle.

No resources requirements have been identified in support of TLCSM. Figure 3-2 depicts the TLCSM implementation schedule.

Figure 3-2. TLCSM Implementation Schedule (2005–2015)



The following are supporting TLCSM implementation milestones:

- May 2003—DoD Directive 5000.1 established the PM as the single point of accountability for accomplishing TLCSM, including sustainment.
- Jun 2003—CJCS 3170 issued to establish supportability as a new requirement.
- 2004—DoD 5000 issued; PM single point of accountability for TLCSM.
- 2005–2010—25 new pre-MDAP and MDAP programs incorporate TLCSM principles and delivered to user in 2010.
- Post-2010—21 additional TLCSM programs will be delivered to user.

Agile Sustainment Roadmap Assessment Summary

Figure 3-3 provides the AS roadmap. Program investment within AS is approximately \$2.3 billion, and there are 11 initiatives that focus on various aspects of this capability. The following are AS assessment observations from both the roadmap diagram and initiative data:

- There are four capability areas without programs or initiatives (capabilities 3, 4, 5, and 7), which result in capability gaps
- Related material readiness initiatives do not reflect coordination or integration and result in potential gaps or redundancy
- Initiative outcomes are sometimes left undefined or unclear
- Initiative milestones do not always result in attainment of capability
- Some initiatives do not address follow-on service implementation requirements.

These observations from “as-is” Roadmap data lead to the conclusion that Focused Logistics will not be attained by 2015 within the AS FL capability area.

Figure 3-3. Agile Sustainment Roadmap



Chapter 4 Logistics Information Fusion

Logistics Information Fusion (LIF) is the Tier 2 FL capability that supports all other capabilities within the FL JCA. It encompasses the ability to effectively sense and respond to warfighter needs. This chapter describes the LIF capability and its associated subsidiary capabilities, depicts PB06 program investment, and describes each program and initiative within the capability area. Programs and initiatives are mapped to the subsidiary capabilities with the Tier 2 LIF roadmap.

Logistics Information Fusion Tier 2 Capability

The LIF capability provides logisticians and operators with a shared understanding of an integrated operational picture that offers reliable asset visibility and access to logistics resources. It merges operational and logistics information to create a single, integrated operational picture. Achieving information fusion is essential for meeting every other Tier 2 Focused Logistics capability and for overall logistics transformation. By enabling this capability, the COCOM and Joint Force Commander will have the means for rapidly matching critical logistics capabilities to operational requirements. This will result in more effective and efficient use of resources and the ability to have the right logistics support at the right place and time. Logistics Information Fusion capabilities are outlined below:

- **Capability 1—Information Grid:** A robust, end-to-end information grid characterized by
 - assured communications, and
 - DoD net-centric enterprise services, such as universal transaction services, distributed environment support, and high assurance of services.
- **Capability 2—Infrastructure:** Robust, agile, and survivable infrastructure, combined with joint interdependencies, enables infrastructure that can withstand both kinetic and directed information warfare attacks.
- **Capability 3—Pipeline Control:** Real-time, end-to-end control of the entire deployment, distribution, and sustainment pipeline, from mobilization, deployment, employment, re-constitution, regeneration, redeployment, and demobilization, and across the entire logistics spectrum. The following is illustrative of this capability:
 - Ability to capture timely, accurate, interoperable source data (enabled by data standards)
 - High-quality authoritative data available for processing and presentation applications
 - Enhanced asset visibility, control, and management decision support tools that turn available data into “actionable” information
 - Information-rich visualization so commanders and staff can quickly and efficiently assimilate the volumes of data and information pertaining to their respective areas of responsibility

- Robust network architecture capable of providing rapid access to an integrated operational picture with timely, accurate, and synchronized operational, intelligence, and logistics information
- Automatic planning and replanning to reduce significantly the time necessary for developing and evaluating alternative approaches for logistics support and for creating a feasible plan
- Execution monitoring—through trigger processes or plan sentinels at key nodes or links in the pipeline—for identifying and reacting rapidly to deviations from the selected plan
- Ability to view the requisition process.

Programs

Program Overview by Service, COCOM, or Agency

This section presents programs and initiatives identified as primarily supporting one of three LIF capabilities. No identified programs or initiatives are primarily linked to LIF capability 2 (infrastructure).

Each program entry provides a description, total investment (procurement, RDT&E, and in the case of Working Capital Fund agencies, program investment across PB06), and IOC/FOC data when available. Additional program information for each is detailed in Volume II, Appendix A.

Each initiative entry similarly provides a description, expected outcomes, milestones, and anticipated resource requirements (if necessary) across PB06. Complete initiative information is presented in Volume II, Appendix B.

Tier 2 Program Investment

Across PB06, DoD program investment within the Logistics Information Fusion Tier 2 capability will total approximately \$2.9 billion across 17 programs. Figure 4-1 depicts total programs and investment by military service or agency.

Table 4-1. Total Logistics Information Fusion Investment Across PB06

Service or agency	Number of programs	Investment: procurement or program	Investment: RDT&E
Air Force	2	\$0.016 billion	\$0.261 billion
Navy	1	\$0.066 billion	\$0.071 billion
Army	9	\$1.400 billion	\$0.269 billion
Marine Corps	1	\$0.070 billion	\$0.110 billion
DLA	2	\$0.192 billion	–
USTRANSCOM	2	\$0.409 billion	–
Total	17	\$2.153 billion	\$0.711 billion

Capability 1—Information Grid

There are three programs of record identified that primarily enable this LIF capability.

Army (2 programs)							
Virtual Small Aperture Terminal (VSAT) Satellite Communications (SATCOM)	Global commercial satellite based network capability that supports logistics automation systems.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$7.2 M	\$5.9 M	\$5.9 M	\$5.9 M	\$5.9 M	\$5.9 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: 3Q FY2004			FOC: 1Q FY2006				
Combat Services Support (CSS) Automated Information Systems Interface (CAISI)	High data rate wireless system that provides sensitive but unclassified (SBU) data connectivity to CSS computer systems located within the tactical battle space. CAISI provides network connectivity down to the computer level when CSS systems are deployed for combat or other operations.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$6.4 M	\$9.8 M	\$9.9 M	\$10.1 M	\$10.1 M	\$10.1 M
	RDT&E	\$5.5 M	\$3.1 M	\$1.0 M	\$1.0 M	\$3.0 M	\$4.6 M
IOC: 1 FY2007			FOC: 4Q FY2011				

DLA (1 program)							
Integrated Data Environment (IDE)	IDE will employ a commercial-off-the-shelf based information technology service-oriented architecture, which will provide industry-proven logistics transaction processing, data sharing, and state-of-the-art central data brokering capabilities. The DoD logistics community relies on the services provided by DLA's Defense Automatic Addressing System Center, Defense Logistics Information Service, and Defense Logistics Management Standards Office for centralized data brokering, reference data, and business rule support. The transformation of these centralized services is vital to support the mandates of network-centric enterprise services and data sharing, supporting DLA and DoD enterprise transformation efforts.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$10.8 M	\$7.3 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: FY2005			FOC: FY2007				

Capability 3—Pipeline Control

There are 14 programs of record identified as primarily enabling this capability.

Air Force (2 programs)							
Enhanced Technical Information Management System (ETIMS)	Provides digital technical orders to improve accuracy and timely updates. Joint program (JCALS) is cancelled; it was replaced by AF ETIMS program.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$3.4 M	\$3.3 M	\$3.4 M	\$3.5 M	\$3.6 M	\$3.6 M
IOC: 2Q FY2006			FOC: TBD				

Air Force (continued)							
Expeditionary Combat Support System (ECSS)	Air Force Logistics Enterprise Resources Planning Program (ERP). Provides a suite of IT tools to accomplish and track all logistics transactions and process associated with the supply chain reference model. Information from ECSS is provided to the warfighter as needed to enable expeditionary capabilities.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$2.5 M	\$2.6 M	\$2.7 M	\$2.7 M	\$2.8 M	\$2.8 M
	RDT&E	\$37.8 M	\$39.0 M	\$39.7 M	\$40.4 M	\$41.3 M	\$41.9 M
IOC: FY2011			FOC: FY2012				

Army (7 programs)							
Medical Communications for Combat Casualty Care (MC4)	MC4 system is a family of commercial and government off-the shelf (COTS/GOTS) technology used to link healthcare providers, medical diagnostic systems, and information and C2 systems at all echelons. MC4 will provide managerial/decision-making health-care info associated with medical C2, situational awareness, treatment, medical logistics, casualty movement, and health care delivery. Will interface with medical and non-medical info systems such as GCSS-A and Land Warrior (Warrior Medic).						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$8.3 M	\$9.1 M	\$9.3 M	\$3.3 M	\$8.9 M	\$5.7 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: 4Q FY2005			FOC: 4Q FY2010				
Property Book Unit Supply Enhanced	This is a web-based, fully interactive, combat service support property accountability system. System features provide property book accountability and unit supply functionality plus seamless, compliance with Federal Financial Management Improvement Act (FFMIA) and Chief Financial Officer (CFO), and data access by permission control system for both garrison and tactical environments. As tactical requirements dictate and direct connection to the web is not possible, the system operates in a disconnected stand-alone mode.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$19.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: 3Q FY2002			FOC: 4Q FY2007				
Standard Army Retail Supply System (SARSS)—RFID Upgrade	Provides stock control and supply management to the Army retail level. SARSS also provides supply-related data to ILAP at various functional levels. SARSS supports the accountability, requisition, storage, issue, and management of supply for Classes II (clothing and equipment), III (packaged petroleum, oils, and lubricants), IV (construction and barrier materials), V (non-ammunition), VII (major end items), and IX (repair parts) within the theater of operations and CONUS. Ammunition AIT integration. Maintenance AIT (Field); reparable reverse pipeline AIT-based tracking; Automated Manifest System (AMS) fwd; RF security tag; AIT for small arms digital arms room; and OSD RFID policy implementation. Incorporation of RFID data in the retail level order processing system provides in transit visibility and requisition status. It also supports reverse pipeline tracking of reparable items.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$62.2 M	\$37.4 M	\$13.9 M	\$36.0 M	\$38.7 M	\$121.3 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: Fielded			FOC: Fielded				

Army (continued)							
Global Combat Support System—Army (GCSS-A)	U.S. Army logistics automation technology initiative, implemented to transform supply chain business processes to enhance logistics support of Army tactical combat operations.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$71.5 M	\$98.9 M	\$125.2 M	\$57.7 M	\$46.1 M	\$46.4 M
	RDT&E	\$62.9 M	\$28.2 M	\$21.3 M	\$7.5 M	\$8.3 M	\$8.2 M
	IOC: 3Q FY2005			FOC: 3Q FY2009			
Transportation Coordinators-Automated Information for Movements System II (TC-AIMS II)	Automates the process of planning, organizing, coordinating, and controlling unit-related deployments, sustainment, day-to-day installation transportation officer or transportation management officer operations, redeployment, and retrograde operations in support of the Defense Transportation System. TC-AIMS II will interface with installation, unit, and depot-level supply systems, appropriate joint and service feeder systems to the Joint Operation Planning and Execution systems. Supports both peacetime and wartime requirements.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$34.6 M	\$33.5 M	\$32.6 M	\$29.2 M	\$23.6 M	\$29.9 M
	RDT&E	\$17.8 M	\$23.0 M	\$20.1 M	\$22.9 M	\$20.0 M	\$2.1 M
	IOC: 3Q FY2002			FOC: 4Q FY2011			
Battle Command Sustainment and Support System (BCS3)	BCS3 is the logistical command and control system that reflects the Army's emphasis on future force warfighting capabilities, giving commanders unprecedented actionable logistics information in the form of an automated view of the battlefield coupled with the logistics positioning of supplies.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$10.1 M	\$10.0 M	\$12.8 M	\$13.0 M	\$5.2 M	\$5.2 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: 4Q FY2004			FOC: 4Q FY2011			
Movement Tracking System (MTS)	MTS is a satellite based tracking, position/location and communications system. Provides capability to identify/track vehicle positions and communicate with tactical vehicles supporting CS/CSS operations. Supports increased asset visibility through direct interfaces to TC-AIMS II and GCSS-A.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$27.7 M	\$76.2 M	\$29.1 M	\$26.2 M	\$28.3 M	\$30.6 M
	RDT&E	\$2.5 M	\$2.9 M	\$0.9 M	\$0.9 M	\$0.9 M	\$0.9 M
	IOC: 2Q FY2001			FOC: 4Q FY2012			

Navy (1 program)							
Enterprise Resources Planning (ERP)	Provides a standard set of tools that will facilitate business process reengineering and provide interoperable data elements for acquisition, financial, and logistics operations.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$10.9 M	\$9.1 M	\$13.1 M	\$17.2 M	\$9.5 M	\$5.7 M
	RDT&E	\$49.6 M	\$19.6 M	\$1.0 M	\$0.04 M	\$0.04 M	\$0.3 M
	Inventory	9,300	11,098	38,847	56,117	76,970	85,046
IOC: 3Q FY2006			FOC: 2Q FY2011				

Marine Corps (1 program)							
Global Combat Support System (GCSS)	Provides an integrated functionality across supply, maintenance, transportation, and distribution for secure access to and visibility of logistics data. When fully integrated, these capabilities introduce a seamless, end-to-end logistics chain that relies less on forward-positioned materiel and capitalizes on near-real-time information critical to the combat effectiveness of the Marine Corps.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$12.8 M	\$11.7 M	\$8.6 M	\$11.4 M	\$10.6 M	\$14.4 M
	RDT&E	\$13.8 M	\$17.4 M	\$22.5 M	\$23.9 M	\$19.7 M	\$12.4 M
	IOC: 2Q FY2007			FOC: 4Q FY2007			

USTRANSCOM (2 programs)							
GTN 21	GTN 21 provides in-transit visibility by integrating transportation information. It also supports USTRANSCOM's C2 global transportation management mission requirements for planning, directing, and controlling operations of assigned forces. GTN 21 provides the transportation domain for the Global Combat Support System Family of Systems and will provide aggregated information so the commander in chief, combatant commanders, USTRANSCOM (to include its component commands), and other transportation information customers can plan, have visibility of, make decisions about, and execute the transportation mission.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$29.2 M	\$23.3 M	\$24.7 M	\$20.9 M	\$24.8 M	\$21.4 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: 2Q FY2007			FOC: 4Q FY2011			
Modernized Global Decision Support System (GDSS)	GDSS is a major modernization and integration initiative to improve the command and control capability of the Air Mobility Command (AMC). The goal is to provide a global common operational view of air mobility information tailored to the specific needs of headquarters force-level controllers, wing-level command post personnel, operational support users, and deployed theater users. GDSS mobility air forces data users include DoD agencies, combatant commanders, Joint Task Force, and foreign governments. HQ AMC, as the Air Force component command of United States Transportation Command and the Tanker Airlift Control Center, AMC's execution agency, utilize the GDSS and its C2 systems interfaces to provide global planning, scheduling, execution management and monitoring of AMC joint forces during peacetime and wartime operations. GDSS supports the COCOMs in providing a common operational view of the mobility forces and materials to fight the Global War on Terrorism, and OEF and OIF. GDSS is the primary C2 system used to disseminate and track airlift and tanker support for the deployment and movement of cargo and personnel to the theater of operations in support of the warfighter. GDSS automates the majority of air mobility tracking procedures that were previously performed by multiple legacy system. The current level of effort for the GDSS program includes the sustainment of multiple legacy systems, Command and Control Information Processing System, Integrated Management Tool and the migration into a single, integrated system, which encompasses multiple interfaces with various C2 in-transit visibility systems.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$41.6 M	\$43.0 M	\$45.2 M	\$45.8 M	\$43.7 M	\$45.7 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: 3Q FY2005			FOC: 2Q FY2007			

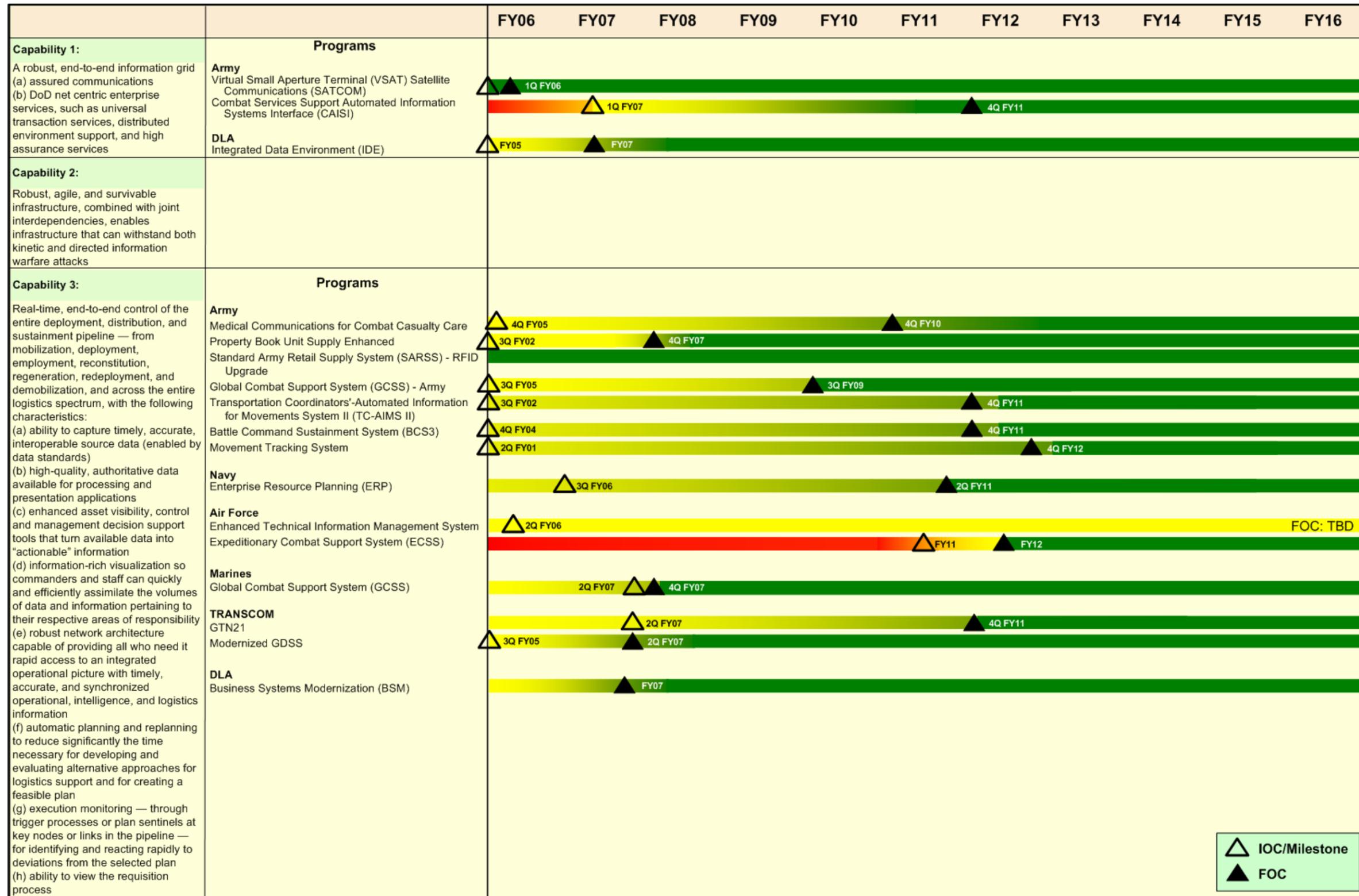
DLA (1 program)							
Business Systems Modernization (BSM)	BSM is DLA's program to replace the agency's 1960 vintage legacy materiel management systems with commercial off-the-shelf software. BSM is an Enterprise Resources Planning and Supply Chain Management system that will replace the agency's legacy systems with a state-of-the-art system (both business processes and technology) linking the entire supply chain from customer to supplier. This major re-engineering effort crosses all agency commodities (e.g., subsistence, construction, medical) to provide greatly improved end-to-end material, financial, and procurement management. BSM is the most significant information technology and reengineering project in DLA today.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$173.5 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: N/A			FOC: FY2007				

Logistics Information Fusion Roadmap Assessment Summary

Figure 4-1 provides the LIF roadmap. Program investment within this capability totals approximately \$2.9 billion, with approximately \$100 million of the total focused on Capability 1 (robust information grid). The remaining is programmed in Capability 3 (real-time, end-to-end control of the entire deployment, distribution, and sustainment pipeline). There are no programs or initiatives identified as primarily supporting Capability 2 (robust, agile, and survivable infrastructure).

Limited programs within Capability 1, and no identified programs or initiatives within Capability 2, indicates the Tier 2 Logistics Information Fusion capability will not be achieved by 2015. Because LIF enables all other FL capabilities, it is critical to achieve Focused Logistics. As such, FL FCB emphasis on identifying LIF gaps and solutions is imperative.

Figure 4-1. Logistics Information Fusion Roadmap



Chapter 5 Operational Engineering, Multinational Logistics, Force Health Protection, and Joint Theater Logistics

In this chapter we combine the Operational Engineering, Multinational Logistics, Force Health Protection and Joint Theater Logistics Tier 2 capability areas. PB06 program investment within each FL capability, with program and initiative descriptions, is mapped to subsidiary capabilities within a roadmap diagram for each area. No multinational logistics programs or initiatives were identified for inclusion in this first roadmap.

Operational Engineering Tier 2 Capability

Operational Engineering (OE) is the ability to provide effective, efficient, responsive, and tailored engineer support to plan, design, construct, acquire, and maintain the temporary and permanent infrastructure needed to project combat power and sustain forces. OE encompasses the following subsidiary capabilities:

- **Capability 1—Engineering Forces:** Effective, efficient, and responsive engineering forces that are agile, scalable to the mission, and multi-skilled for the full range of joint and combined operations
- **Capability 2—Engineering Assessment Tools:** Tools for rapid engineer assessments, contingency planning, and execution characterized by
 - engineering combat and combat service support forces tailored to reduce strategic lift requirements, and with minimized engineer footprint in the joint or combined operations area; and
 - the ability to rapidly determine expeditionary facility and infrastructure requirements as well as other engineer support needed for all phases of the operation
- **Capability 3—Pre-positioned Engineering Equipment:** More effective use of pre-positioned engineering equipment and materials as well as contract and host-nation engineers to reduce lift requirements and increase capabilities and capacity
- **Capability 4—Advanced Construction Materials and Technologies:** Advanced construction materials and technologies for improving operations in austere locations
- **Capability 5—Vendor-Supported Construction Material:** A streamlined process to obtain vendor support for construction materials essential during the early phase of any operation, whether humanitarian, disaster relief, peacekeeping, or combat.

There is one program and one initiative of record within the subsidiary operational engineering capabilities that support this Tier 2 capability. Each is presented below. Complete program and initiative information is contained in Volume II, Appendix A and B.

Capability 2—Engineering Assessment Tools

Joint Engineer Planning and Execution System (Version 7)

Joint Engineer Planning and Execution System (JEPES 7) is an engineering planning and execution tool that operates within the GCSS environment. It gives the warfighter and individual Joint Force Commanders the capability to plan and execute joint engineer operations. It brings together warfighter and engineer force structure data to allow engineer planners the ability to analyze and plan force facility and infrastructure requirements based on proposed warfighter courses of actions (COA). Engineer combat support and combat service support forces are then tailored to minimize strategic lift requirements based on those COAs. The system also enables the monitoring and reassessment plan execution for optimal theater engineer operations.

Outcome, resources, and milestones: JEPES 7 provides COCOMs and Joint Force Commanders with improved engineer response through a suite of advanced planning and execution tools. It provides the capability to plan engineering forces tailored to meet the commander's specific needs and objectives, while reducing deployment time, and strategic lift requirements. It allows for tailoring of engineer combat support and combat service support forces, thus minimizing strategic lift requirements and theater footprint. It enables the monitoring of plan execution through a net centric environment providing real-time status of ongoing engineer operations. This allows for the rapid plan reassessment and adjustment necessary to ensure facility and infrastructure support is optimized to meet Joint force operational requirements.

Estimated resource requirements identified to date (FY2006-FY2007) to implement JEPES 7 totals \$3.25 million. Additional funding is required but is undetermined at this time. The following milestones have been identified for this initiative:

- January–June 2005—Planning tool capability prototype development complete.
- February–June 2005—JEPES 7 net centric environment requirements document complete.
- April–August 2005—Prototyping and operational testing of planning tool.
- October 2005—JEPES 7 planning tool fielded.
- October 2006—JEPES 7 net centric environment complete (enables JEPES 7 execution tool development).
- October 2007—JEPES 7 execution tool fielded.

Capability 4—Advanced Construction Materials and Technologies

Army (1 program)							
Tactical Electrical Power	Develops, procures, and fields quality electric power sources and associated equipment that directly supports all field power demands of modern weapon systems, TOCs, C4ISR, fire direction and control, life support, and sustainment systems. Includes the Aviation Ground Power Unit, Advanced Medium Mobile Power Sources, 10kW Auxiliary Power Unit, 2–100 kW TQGs, 5kW/28 VDC APU, Dep Power Generator and Dist., and MP2.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$8.6 M	\$12.4 M	\$5.9 M	\$6.8 M	\$2.8 M	\$2.8 M
	RDT&E	\$43.1 M	\$33.5 M	\$34.3 M	\$28.6 M	\$24.7 M	\$25.9 M
	Inventory	40,683	42,613	42,811	43,016	43,157	43,217
IOC: 4Q FY2004 to 3Q FY2006			FOC: 3Q FY2005 to 4Q FY2009				

Force Health Protection Tier 2 Capability

Force health protection is the ability to synchronize, prioritize, and direct medical operations. It includes control of a total life cycle health system that employs an integrated and focused approach to protect and sustain the force by providing rapid joint, interoperable, and scalable medical capabilities in all operational environments. Force health protection encompasses the following subsidiary capabilities:

- **Capability 1—Health Protection:** Protection from all health threats across the full range of military operations
- **Capability 2—Joint Medical Systems:** Tailored, standardized joint medical systems to provide only essential care in theater and enhanced care during evacuation to definitive care
- **Capability 3—Health Monitoring and Surveillance:** Improved health monitoring and surveillance of forces engaged in military operations by using items, such as
 - individual health status monitors;
 - physiological sensor fusion, image analyses, and diagnostic and prognostic algorithms;
 - improved medical situational awareness interfaces;
 - improved patient tracking;
 - interoperable small, deployable medical diagnostic systems; and
 - the ability to access and transmit medical data in real time.

There are two programs of record within the FHP capability that supporting subsidiary capabilities 1 and 2. No identified programs or initiatives support Capability 3. Each is outlined below. Complete program information is contained in Volume II, Appendix A.

Capability 1—Health Protection

Army (1 program)							
DoD Drugs and Vaccines	Support technical development of candidate medical countermeasures to infectious diseases and Congressionally mandated HIV medical countermeasures; three major product areas are vaccines, drugs, and diagnostic kits. Provides protection for the soldier from indigenous diseases in worldwide deployments.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$18.9 M	\$21.6 M	\$33.3 M	\$33.9 M	\$36.1 M	\$34.1 M
	RDT&E	\$24.1 M	\$37.8 M	\$39.1 M	\$67.5 M	\$65.5 M	\$35.6
IOC: Ongoing			FOC: Ongoing				

Capability 2—Joint Medical Systems

Navy (1 program)							
Theater Medical Information Program (TMIP-M)	An automated medical logistics capabilities program to increase the effectiveness of theater medical supply by lowering stockpiles and reducing the medical footprint on the battlefield.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Procurement	\$1.7 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
IOC: 4Q FY 2007			FOC: Not Provided				

Joint Theater Logistics Tier 2 Capability

Joint Theater Logistics (JTL) is the adaptive ability to anticipate and respond to emerging theater logistics and support requirements. JTL allows the joint force commander to apply logistics resources to generate and sustain full spectrum theater operations. It includes directive authority, processes, and tools to achieve desired joint, and combined effects and accomplish operational objectives. JTL encompasses the following subsidiary capabilities:

- **Capability 1—Integrated Logistics Command and Control:** C2 that enables the prioritizing, directing, redirecting, synchronization, integration, and coordination of common-user and cross-service logistics materiel and functions under the combatant commander's control
- **Capability 2—Visualization and Decision-Support Tools:** Interoperable systems with visualization and decision support tools that the combatant commander and JTF commander can use for managing logistics assets and processes in the area of operations
- **Capability 3—Full Collaboration:** Fully collaborative capability that links logisticians, intelligence analysts, and operators at the supporting and supported combatant commander or JTF level with each other and with their counterparts at the service component level, and with interagency and coalition partners.

Within the JTL capability, there is one program of record, and two initiatives supporting subsidiary Capability 1. No programs or initiatives were identified supporting the remaining JTL capabilities. Complete program information is contained in Volume II, Appendix A.

Capability 1—Integrated Logistics C2

Program

DLA identified one program as primarily supporting this JTL capability.

DLA (1 program)							
Reutilization Modernization Program (RMP)	RMP is an effort to fully integrate all Information Technology for the Defense Reutilization and Marketing Service into the overall IT solution set for DLA. This modernization effort will replace the current DRMS IT systems based on best practices and COTS software products. RMP will leverage DLA's current efforts to incorporate DRMS information needs into the DLA end-state architecture.						
		FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
	Investment	\$21.0 M	\$14.9 M	\$13.2 M	\$7.8 M	\$8.2 M	\$9.9 M
	RDT&E	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M	\$0.0 M
	IOC: FY2007			FOC: FY2010			

Initiatives

USTRANSCOM identified enabling initiatives as primarily supporting this JTL capability.

Joint Deployment and Distribution Operations Center

The Joint Deployment and Distribution Operations Center (JDDOC) is designed to satisfy the requirement to integrate strategic and theater deployment execution and distribution operations within each regional COCOM's area of responsibility. Each regional COCOM establishes a core JDDOC capability that can be augmented by in-theater personnel or national support-level commands, agencies, staffs, and military services to meet increased requirements generated by crisis situations. JDDOC provides the capability to execute COCOM priorities, enhance total asset visibility (TAV) and in-transit visibility (ITV), manage theater distribution architecture, synchronize inter- and intra-theater distribution, develop distribution performance measures, and perform intermodal equipment management.

Outcome, resources, and milestones: JDDOC supports regional COCOM operational objectives by synchronizing and optimizing strategic and multi-modal resources to maximize distribution, force deployment and sustainment. It enhances the regional COCOM's ability to see, sense, and respond to a dynamic operational environment.

No resources have been identified in support of the JDDOC initiative. The following are implementation milestones:

- May 2005—RCC DDOC capability enters IOC
- May 2007—RCC DDOC capability completes FOC.

Director of Mobility Forces—Surface

Director for Mobility Forces—Surface (DM4-S) and the Surface Mobility Division (SMD) synchronize and direct the movement of surface transportation resources to ensure uninterrupted throughput at Ports of Debarkation (air and sea) to the theater level location defined by the Combined/Joint Force Land Component Commander (C/JFLCC). The DM4-S coordinates the

integration of inter-theater surface mobility capability provided by USTRANSCOM; facilitates the tasking and employment of surface mobility forces; and ensures all surface mobility operations supporting the JFC are integrated into the assessment, planning, and execution process.

The Surface Mobility Division plans, coordinates, tasks, and executes the surface mobility mission to meet theater requirements. The SMD also plans, coordinates, tasks, and executes the surface mobility mission to meet theater requirements. The SMD will produce a daily surface tasking order (STO), manage containers and aerial distribution platforms, and coordinate the employment of intra-theater commercial shipping.

Outcome, resources, and milestones: DM4-S will be the C/JFLCC's designated coordinating authority for theater surface mobility and is responsible for integrating the total surface mobility effort for the C/JFLCC.

No resources have been identified in support of the DM4-S initiative. The following are implementation milestones:

- Summer 2005—Finalize construct and resourcing strategy (SDDC)
- March 2006—Exercise capability in EXER RSOI 06
- There is one JFCOM initiative identified as primarily supporting this JTL capability.

Joint (Experimental) Deployment and Support

Joint (Experimental) Deployment and Support (JxDS) is a scalable joint and combined capability that serves to enhance the coordination, integration, and synchronization of logistics in order to produce an operational effect resulting in increased force employment opportunities and alternatives.

Outcome, resources, and milestones: JxDS enables effective use of logistics assets, and increases responsiveness and agility by centralizing planning, visibility of requirements, and resource allocation to meet regional component commander (RCC) priorities. JxDS leverages the capability of the Joint Deployment and Distribution Operations Center (JDDOC) and its links to national partners. It provides a centralized point for coalition partners to identify and synchronize joint common support requirements.

Total estimated resources required for JxDS are \$4.1 million (FY2005–FY2006). The following are implementation milestones:

- Fall 2004—CONOPS development
- Winter 2005—Experimentation
- Spring 2005—Wargame (UQ 05, RSOI 05)
- Summer 2005—CONOPS refinement and wargame (UFL 05)
- Fall 2005—Wargame (UC 05)
- Spring 2006—Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF).

Theater Sustainment Command

The Theater Sustainment Command (TSC) is a Joint-capable C2 headquarters with the mission to plan, prepare, rapidly deploy, and execute operational logistics within an assigned JOA. Its capabilities include

- planning, controlling, and synchronizing all support operations for the Joint force commander;
- providing single logistics command and control (C2) in theater to deploy, employ, sustain, redeploy—simultaneously—full spectrum operations;
- operating as part of a joint/combined force;
- deploying multiple deployable command posts (DCP) into separate JOAs;
- supporting end-to-end joint, interagency, and multinational forces; and
- integrating participation of USTRANSCOM, SDDC, DLA, contractors, and others.

Outcome, resources, and milestones: The TSC is designed to execute COCOM sustainment priorities. It provides the regional COCOM with a single logistics C2 headquarters for execution of end-to-end distribution in the JOA.

Total estimated resources required for TSC are \$4.1 million (FY2005–FY2006). The following are implementation milestones:

- September 2007—Activate 4 TSCs.
- September 2008—Activate 11 DCPs.

Roadmaps

This final section addresses each Tier 2 FL capability presented in this chapter.

- **Operational Engineering**—As shown in Figure 5-1 one initiative supporting OE Capability 1 (tools for rapid engineering assessments, contingency planning, and execution) and one program supporting OE Capability 4 (advanced construction materials and technologies) are identified. There are no programs in the remaining three operational engineering subsidiary capabilities.
- **Multinational Logistics**—In Figure 5-2, no programs are identified within the Multinational Logistics Tier 2 capability.

- **Force Health Protection**—As depicted in Figure 5-3, there is one program supporting FHP Capability 1 (protection from all health threats across the full range of military operations), and one program supporting Capability 2 (tailored, standardized joint medical systems). There are no identified programs or initiatives supporting Capability 3 (improved health monitoring and surveillance of forces).
- **Joint Theater Logistics**—In Figure 5.4, one program and three initiatives are identified as supporting JTL Capability 1 (integrated command and control). There are no programs or initiatives supporting the remaining two JTL capabilities.

These four Tier 2 capability areas require comprehensive FL FCB assessment. Although programs or initiatives are underway, the fact that few have been identified spotlights the need for near-term assessment.

Figure 5-1. Operational Engineering Roadmap

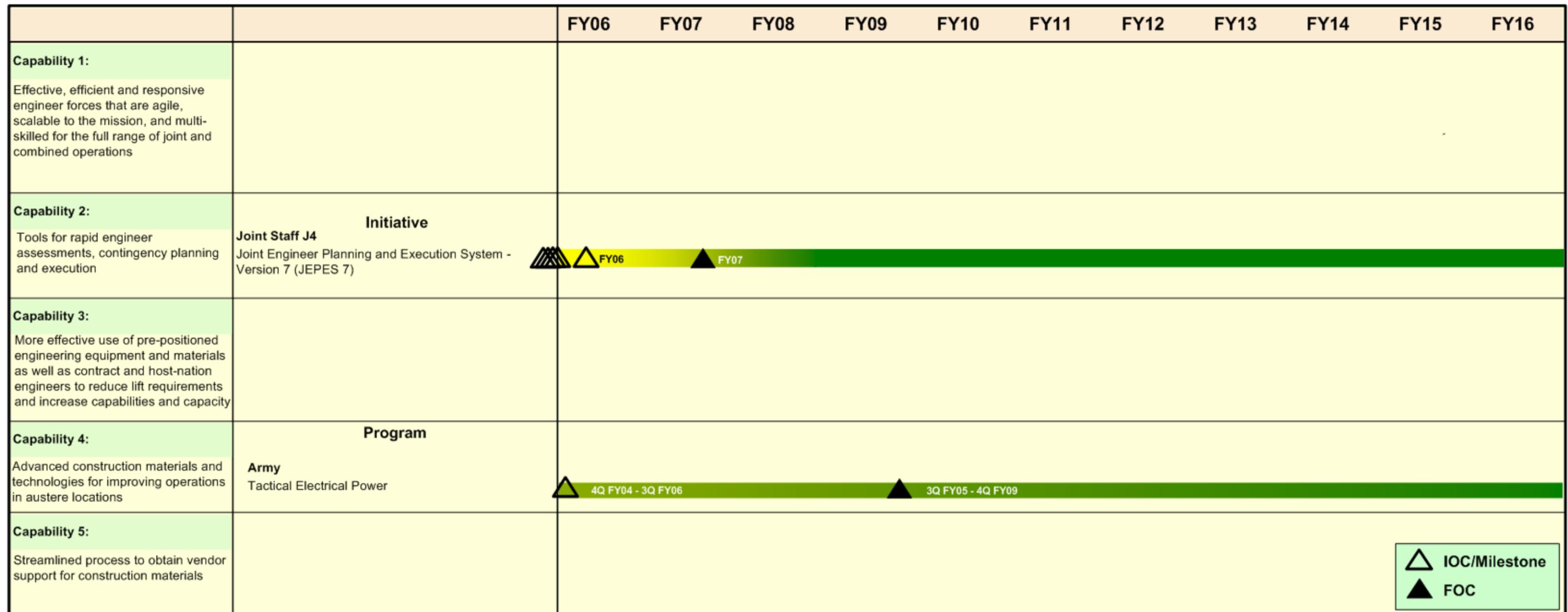
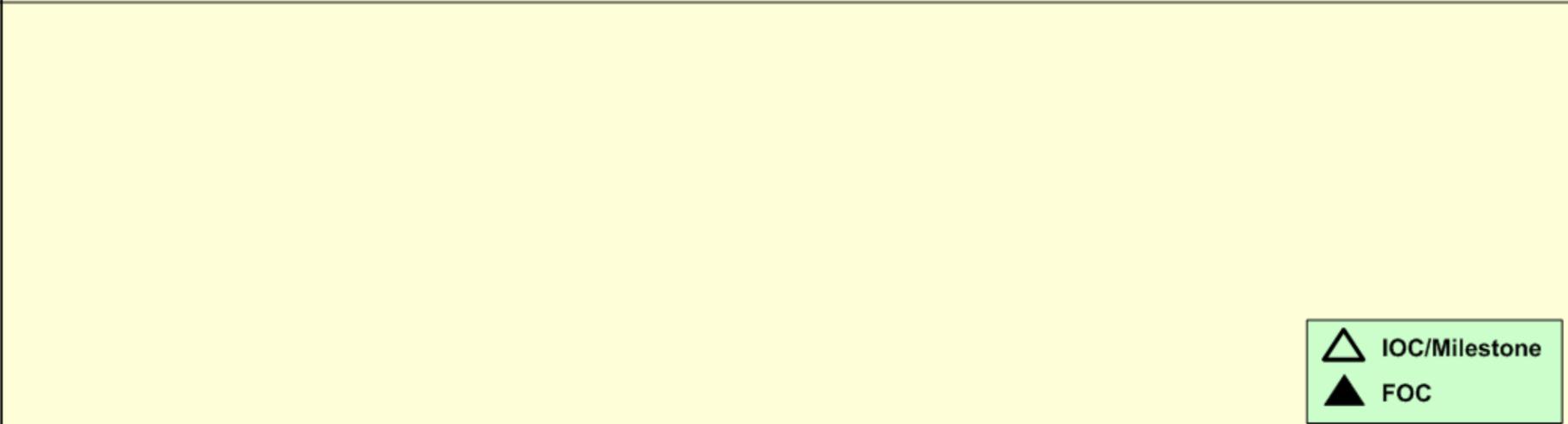


Figure 5-2. Multinational Logistics Roadmap

		FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Capability 1: Improved multinational data sharing and interoperability												
Capability 2: Optimized logistics operations across and between all echelons, alliances, coalitions, and host nations		<p>No programs or initiatives reported</p>										
Capability 3: Improved interoperability among agencies, industry, non-governmental organizations, and private volunteer organizations, particularly in foreign disaster relief and stability operations												
Capability 4: Improved contracting for contingency, humanitarian, or peacekeeping operations to provide for facilities, supplies, and services, including maintenance, transportation, quality of life support, and real estate management												

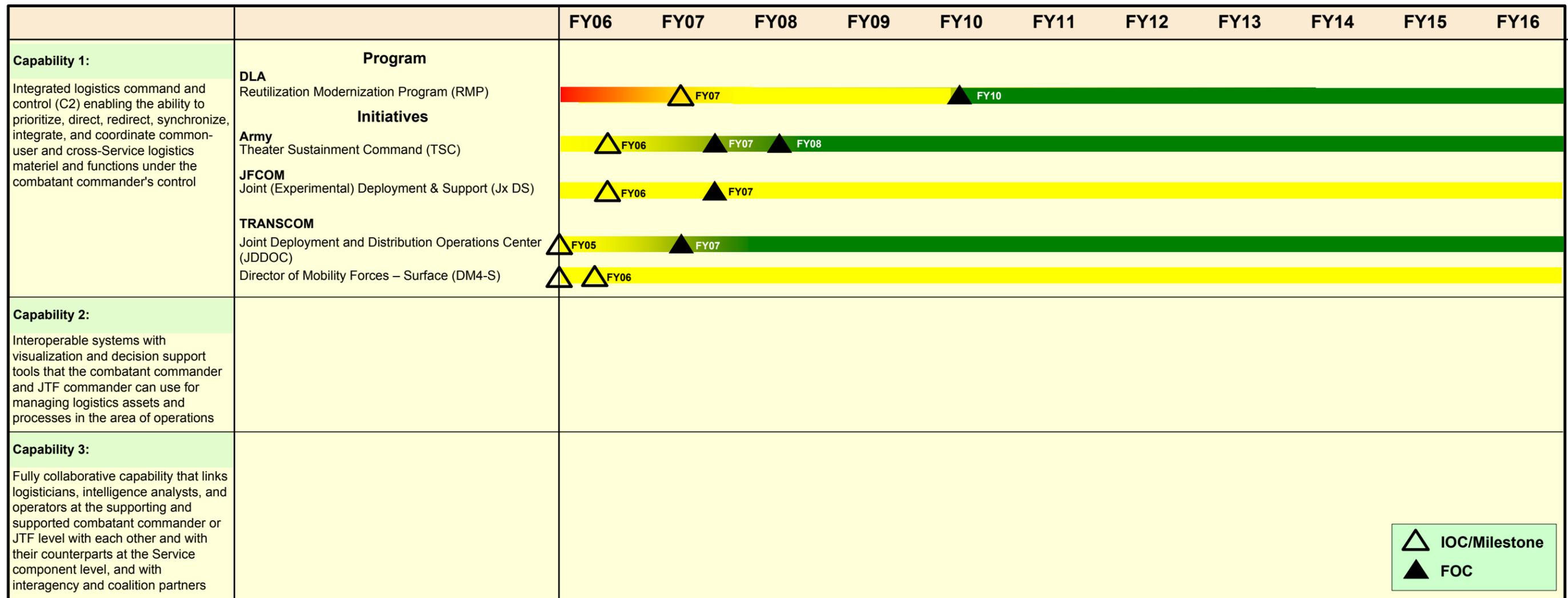
 IOC/Milestone
 FOC

Figure 5-3. Force Health Protection Roadmap

		FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Capability 1: Protection from all health threats across the full range of military operations	Program Army DoD Drugs and Vaccines											
Capability 2: Tailored, standardized joint medical systems to provide only essential care in theater and enhanced care during evacuation to definitive care	Program Navy Theater Medical Information Program (TMIP-M)	 △ 3Q FY07 FOC: TBD										
Capability 3: Improved health monitoring and surveillance of force engaged in military operations by using items such as: (a) individual health status monitors (b) physiological sensor fusion, image analyses, and diagnostic and prognostic algorithms (c) improved medical situational awareness interfaces (d) improved patient tracking (e) interoperable small, deployable medical diagnostics systems (f) ability to access and transmit medical data in real time												

△ IOC/Milestone
 ▲ FOC

Figure 5-4. Joint Theater Logistics Roadmap



Chapter 6 Experimentation, Science, and Technology

This chapter provides the experimentation, science, and technology portion of the *FL Roadmap*. It provides the context and sources within DoD that foster sound logistics innovation strategy. This chapter also identifies current experimental and demonstration efforts for consideration during future FL FCB and Joint Staff J4 Tier 2 capability area assessments.

Implicit within the development of future joint force capability is the assumption that network-centric warfare concepts and technologies will allow future forces to conduct distributed adaptive operations to generate desired effects. Force elements will be empowered to seize the initiative, exploit success, and “task-organize” in response to threats and opportunities. They will have the necessary strategic, operational, and tactical situational knowledge to operate consistent with the commander’s intent, whether operating autonomously or in coordination with other force elements. Organizations composed of such elements will be able to learn and adapt to successes, failures, and other situational changes.

Such operations and their enabling systems are complex, and introducing new military capabilities involves risk, cost, and potential disruption. Any concept, hypotheses, and associated developmental end items need to be tested and validated before major investment of time and resources for full development and integration of practices and capabilities.

DoD has developed and specified the use of transformational experimentation processes to provide managers and warfighters with a mechanism to support development, evaluation, validation, socialization, and integration of new policies, advanced concepts, proposed capabilities, evolving technologies, and associated doctrine and education. Experimentation also supports governance of the transformation process, and capabilities-based acquisition.

Ideas for logistics business process improvement and advanced technology are developed and tested within a number of established DoD organizations and programs:

- U.S. Joint Forces Command’s Logistics Experimentation Organization
- Joint Warfighting Science and Technology Plan
- Advanced Concept Technology Demonstration Program
- Basic and applied scientific research.

U.S. Joint Forces Command

USJFCOM is DoD’s executive agent for joint experimentation and serves as DoD’s transformation laboratory. The command is also designated DoD’s Joint Deployment Process Owner (JDPO). Within USJFCOM’s Joint Experimentation Directorate is the Joint Deployment, Employment, and Sustainment Division. This division has two elements of special interest to the joint logistics community: Joint Deployment Process Owner (JDPO) and Joint Logistics Transformation Center (JLTC).

Joint Deployment Process Owner

The JDPO is tasked to lead collaborative efforts of the joint planning and execution community to improve the joint deployment and redeployment processes. The JDPO's principal focus is to resolve joint deployment and redeployment process problems that span functional and organizational boundaries.

Joint Logistics Transformation Center

The JLTC is a rapid logistics concept and prototype development unit. It provides the joint logistics community a conduit to the joint experimentation process. The JLTC partners with the joint and multinational logistics communities concerns to develop and experiment with logistics concepts.

Joint Concept Development and Experimentation Campaign Plan

A major component of the logistics transformation process must be the use of experimentation and rapidly developed operational prototypes to

- examine operational, organizational, and technological validity, impact, and military utility;
- support integration of advanced concepts and technologies; and
- reduce risk.

The Joint Concept Development and Experimentation Campaign Plan (JCD&E CPLAN) provides a framework for synchronizing all military services and ensuring forces are used more effectively based on improvements in doctrine, interoperability, and integration.

USJFCOM experiments along two principal paths:

- The joint concept development path explores new solution approaches for improving future warfighting. These approaches result from an iterative experimentation program that relies on smaller, more frequent experiments conducted in a joint, co-sponsored, wargaming environment.
- The joint prototype path improves current warfighting capabilities, maturing new capabilities through continuous experimentation immersed in combatant command joint exercise programs.

Current joint concept development efforts are focused on Joint force projection and sustainment for full spectrum operations. This future concept is based upon joint lessons learned, senior leader guidance, and experimental evidence. It describes a single, coherent joint deployment, employment and sustainment concept that enables seamless projection and indefinite sustainment of future joint forces. It is an operational concept that merges planning and execution of deployment, employment, and sustainment of forces within a single construct.

Current USJFCOM logistics-related joint experimentation and prototyping efforts include the Joint Experimental Deployment and Support (JxDS) and Joint Deployment Process Improvement.

Joint Experimental Deployment and Support

JxDS is a scalable joint and combined capability that serves to enhance the coordination, integration, and synchronization of logistics in order to produce an operational effect resulting in increased force employment opportunities and alternatives. JFCOM has received several requests from COCOM's to establish "a Joint Force Support Component Command (JFSCC)" and an "organizational construct for execution." Results of JFCOM experimentation from service co-sponsored war games also support development of a scalable construct that would enable synchronization of deployment, employment, and sustainment processes within a combatant commanders' area of operation that would build upon USTRANSCOM's Deployment and Distribution Operations Center initiative.

Joint Deployment Process Improvement

USJFCOM's, the Joint Deployment Process Owner, is leading a collaborative effort to transform joint deployment processes to improve joint, multinational, and interagency deployment operations. JDPO initiatives which support deployment transformation over the near- and mid-term include the following:

- Quick wins for the warfighter
- Multinational integration and interoperability
- Joint deployment process improvement database
- Joint capabilities requirements tool
- Joint Force Projection advanced concept technology demonstration
- Joint deployment employment and sustainment lab
- Joint deployment monitor prototype
- Unified View.

Joint Warfighting Science and Technology Plan

To ensure DoD's science and technology program supports priority joint warfighting capabilities, the *Joint Warfighting Science and Technology Plan* (JWSTP) is organized to support the five JROC-approved joint functional concepts: Battle Space Awareness, Command and Control, Force application, Protection, and Focused Logistics. Although other joint and military service-unique capabilities also need strong support, these five areas provide an important focus for the science and technology program.

The JWSTP is issued annually as defense guidance. Advanced concepts and technologies that enhance high-priority joint warfighting capabilities, along with prerequisite research, receive priority for funding in the President's Budget and accompanying *Future Years Defense Plan*.

Together, DoD's *Basic Research Plan*, *Defense Technology Area Plan*, and JWSTP focus collective science and technology efforts on superior joint warfare capabilities and on improving interoperability among the services. They ensure the near-, mid-, and long-term needs of the joint warfighter are properly balanced and supported in DoD's science and technology planning, programming, budgeting, execution, and assessment activities.

Advanced Concept Technology Demonstrations

The Advanced Concept Technology Demonstration (ACTD) Program aids in rapidly transitioning advanced technology into the hands of the warfighter. It permits early and inexpensive evaluation of mature advanced technologies to meet the needs of Joint Force commanders. The evaluation is accomplished by the warfighter to determine military utility before a commitment is made to proceed with formal acquisition. ACTDs also allow development and refinement of operational concepts to take full advantage of the new capability. Upon conclusion, a successful ACTD may leave a residual operational capability. If only a few are required, the capability can be replicated or transitioned into the appropriate phase of formal acquisition.

Following are titles, descriptions and milestones of active logistics-related ACTDs, listed by Tier 2 capability and year of initial funding.

Joint Deployment and Rapid Distribution

Fiscal Year 2005

- **Joint Force Projection** demonstrates the technologies and operational concepts necessary to provide combatant commanders with the tools, decision aids, and processes needed to support the analysis, planning, execution, and assessment of force projection for a joint capabilities-based force.
 - **Milestones:**
 - FY2005—Develop, test, and demonstrate a semantic-based workflow portal to link force projection activities from initial planning and requirements for capabilities generation, through sourcing, movement, and delivery to the Joint Force Commander. Gain access to authoritative data sources, develop data structures to link capabilities to forces and forces to capabilities, and then provide tracking throughout the deployment process. Focus on integration of existing tools through application of advanced web-technologies. Develop initial concept of operations. Primary metric: 100 percent net-centric access to core deployment planning and execution systems.
 - FY2006—Develop, test, and demonstrate model-based decision support tools to give the Joint force commander the ability to be able to conduct rapid, dynamic course of action analysis and predictive assessment of the deployment flow on current operations. Develop, test, and demonstrate a common, joint toolset for joint reception, staging, onward movement, and integration activities to coordinate the flow of forces and sustainment into a theater during execution. Primary metric: 100 percent ability to

create, manage, and track capability-based force packages and link them to an operational plan.

- FY2007—Finalize demonstration activities and delivery of capability into programs of record, primarily Global Combat Control System (GCCS). Primary metric: Crisis action planning and execution (after release of deployment order) support development and maintenance cycle for operations order (OPORD) and associated products. Cycle time reduction from 2 weeks to less than 96 hours. Complete JFP ACTD.

Fiscal Year 2004

- **Coalition Reception, Staging, and Onward Movement (CORSOM)** establishes a central data repository for CORSOM infrastructure data available in national and NATO data sources, along with Web-based access to data and interfacing tools.
 - **Milestones:**
 - FY2004—Determined essential data requirements, and extended CORSOM databases where needed to provide a framework for future planning and execution functionality. Completed requirements capture and initial implementation of prototypes for CORSOM data exchange and software extensions to NATO and national systems. Installed hardware and software to conduct NATO RFID proof-of-concept trial for tracking NATO consignments on flights into Afghanistan, and developed links to NATO movement and transportation (M&T) systems to enhance ITV within NATO.
 - FY2005—Finalization of prototypes and CORSOM tactics, techniques, and procedures (TTP). Provide ITV concept and technology assessment during International Security Assistance Force operations using RFID. Use modeling and simulation to analyze new concepts and doctrines currently under discussion in various NATO M&T forums. Initial military utility assessment scheduled for April 2005 will demonstrate planning functionality of software. Provide final operational demonstration of tool for CORSOM planning and execution monitoring to users in a major coalition exercise. Final ACTD demonstration scheduled for November 2005.
 - FY2006—Begin transition to include CORSOM in the NATO logistics functional area services of the Bi-Strategic Command Automated Information System, as well as integration in the U.S. GCSS.
 - FY2007—Complete transition to NATO logistics functional area services and integration into GCSS and demonstrate capability. CORSOM ACTD scheduled completion date is December 2007.
- **Future Tactical Truck System** provides replacement tactical trucks that are more deployable, agile, survivable, maintainable, sustainable, and fuel efficient.
 - **Milestones:**
 - FY2004—Implementation directive developed and approved. Draft solicitation for the modeling and simulation (M&S) phase released to industry. Developed and released the research announcement (RA) and required attachments for the M&S Phase. The

RA included specifications for both the Maneuver Sustainment Variant and the Utility Variant. M&S Phase Source Selection Evaluation Plan developed and approved. Announcement released for the Tactical Wheeled Vehicle Fleet Modernization Technology Rodeo as part of the Expedited Modernization Initiative Procedure. Initiated development of CONOPS and TTP. Initiated development of the Military Utility Assessment Plan (MUAP). Finalized the Management Plan and completed staffing for approval. Awarded M&S phase contracts.

- FY2005—Continue development of the CONOPS and TTPs. Conduct Technology Rodeo. Conduct an in-process review, a preliminary design review and a critical design review (CDR) during the M&S phase. Award contracts (minimum of one contract each for the maneuver and sustainment variants) for the hardware build phase. Continue development of the MUAP.
 - FY2006—Finalize the CONOPS, TTPs, and MUAP. Complete build of the Movement Sustainment Vehicle (MSV) and the Utility Vehicle (UV). Conduct Safety Assessment for the MSV and UV vehicles. Conduct the military utility assessment (MUA). Conduct the TWV Rodeo in parallel with the MUA. Initiate transition strategy and prepare for extended user evaluation.
 - FY2007—Begin transition to truck acquisition programs. Complete the ACTD.
- **Joint Precision Air Drop System (JPADS)** demonstrates ability to release heavy parachute payloads from high altitudes and deliver precisely to specified ground locations.
 - **Milestones:**
 - FY2004—Refined TTPs and CONOPS. Performed prototype design and fabrication. Initiated system integration (Air Force Precision Airdrop System [PADS]) with Army Joint Precision Airdrop System (formally PEGASYS). Successfully demonstrated autonomous flight of two 10Klb decelerator system concepts during technical testing.
 - FY2005—Complete user prioritization decision on decelerator systems. Complete system integration and continue technical testing. Conduct early user training and evaluation and prepare for Joint Military Utility Assessments (JMUA) Scenario 1. Demonstrate a high altitude (25,000 ft mean sea level), autonomous offset airdrop capability (goal 10–20 miles offset) with the option to deliver separate and distinct payloads (up to 10,000 lbs total, fully rigged weight) to multiple locations.
 - FY2006—Conduct MUA 1. Prepare for JMUA scenario 2 and 3 and execute. Transition JPADS ACTD technologies to Army and Air Force transition managers (Program Manager Force Sustainment Systems [PM FSS] and Air Mobility Command) for system development and demonstration (SDD).
 - FY2007—Distribute JMUA final reports and residual JPADS systems to MUA users. Execute the residual support contracts to support systems. Continue to support and monitor residual system performance and user feedback. Continue to have JPADS transition managers (PM FSS and Air Mobility Command) execute planned SDD programs. Complete the JPADS ACTD.

Fiscal Year 2003

- **Deployable Cargo Screening** provides an air deployable, highly sensitive capability to detect explosive threats in pallet loads of cargo moving in the defense transportation system.
 - **Milestones:**
 - FY2004—Developed the demonstration plan. Prepared and assessed concept of operations. Conducted initial testing of proposed system. Initial assessment by customer determined need for an alternative technical approach. Oversight group met and approved demonstration and assessment of an alternative technology and operational concept. Oversight group approved extension of demonstration phase to accommodate alternative approach.
 - FY2005—Perform MUAs of the pilot systems and spiral upgrades of sensor systems. Accelerate fielding of interim system for assessment and current operational imperatives. Complete the final demonstration and military utility assessment. Transition lessons learned during extended user evaluation of demonstration systems to objective cargo screening system procurements and fielding. Concepts of operations, tactics, techniques, and procedures also transitioned to Air Mobility Command transshipment operations. Perform baseline survey to determine presence of any existing persistent residue of explosives in the trans-shipment environment.
 - FY2006—Complete the extended user evaluation and the ACTD.

Agile Sustainment

Fiscal Year 2004

- **Agile Rapid Global Combat Support** provides a deployable, scalable, open architecture maintenance system that will support all electronic systems and subsystems of the U.S. and participating coalition forces.
 - **Milestones:**
 - FY2004—Finalized system requirements. Conducted system integrator competition and awarded contract. Finalized and received approval of Implementation Directive and initiated approval of management plan. Worked with UK MoD and Spanish MoD as coalition partners. Initiated industry-led standards activities to formalize agile rapid global combat support technologies involving common test interface, advanced test markup language, and synthetic instrument interfaces.
 - FY2005—Complete fabrication of systems hardware and software. Complete Integrated Assessment Plan.
 - FY2006—Conduct technical evaluation before deployment on final system hardware and software. Deploy systems and begin JMUA.
 - FY2007—Complete JMUA. Begin transition of products. Conduct extended user evaluation.

Multinational Logistics

Fiscal Year 2001

- **Coalition Theater Logistics (CTL)** demonstrates enhanced command and control of combat support for coalition task forces through real-time information technologies and decision support tools. Specific technologies include secure coalition network and standard information tags; information collection, storage, and transfer; intelligent data retrieval agents; and web-based collaboration. Reaching the desired end state means overcoming policy, process, and procedural barriers to enhanced information availability and fusion.
 - **Milestones:**
 - FY2004—Integrated capabilities to support combatant commands within the architecture framework. Completed all technical testing and integration. Conducted a successful final demonstration and Military Utility Assessment during Multinational Experiment 03 and COBRA GOLD 04. Drafted transition plan. Began transition and plan to field residual capabilities and migrate logistics tools to CENTRIXS Network.
 - FY2005—Complete migration of logistics tool sets to CENTRIXS Network and conduct operational testing with Australian Defense Force, U.S. Pacific Command (PACOM), and USTRANSCOM.
 - FY2006—Complete transition of CTL applications on CENTRIXS network and complete the ACTD.

Force Health Protection

Fiscal Year 2005

- **Epidemic Outbreak Surveillance (EOS)** FY2005 ACTD demonstrates and transitions solutions that are transformational dual use for biodefense and operational medicine. EOS is designed to rapidly detect and identify a wide range of pathogens. It is intended to overcome two diagnostic challenges:
 - Discrimination between diverse pathogens that present similar (e.g., flu-like) symptoms
 - Screening rapidly, accurately and simultaneously across multiple (more than 100) candidate pathogens (including dark horses and zebras).

EOS exploits sophisticated micro array-based technology, advanced molecular biology procedures, bio-informatics, and connectivity to provide commanders at all levels the information needed to make time-critical decisions. This situational awareness provides a high likelihood that correct diagnostic decisions will be made, even before the onset of symptoms. In detect-to-warn and detect-to-treat applications, EOS supports sustainment of warfighter capabilities in biologically hostile domains by promoting earlier and targeted interventions, minimizing casualty losses, and reducing mission degradation. The microbial forensic capability of EOS provides detect-to-act support for commanders as they make decisions related to threat source attribution, for tracking and retribution. DUSD (Advanced Systems

and Concepts), USJFCOM, Air Force Office of the Surgeon General, and Joint Program Executive Office for Chemical and Biological Defense (CBD) are the principals for development, assessment or CONOPS, and transition of the required system.

▪ **Milestones:**

- FY2005—Begin planning and hardware procurement. Initiate monitoring of basic military trainees at Lackland AFB, Texas, for outbreaks of candidate pathogens using level 5 research platforms. Conduct user training. Begin development of CONOPS and TTPS. Plan and conduct technical demonstrations. Introduce protocol optimization and process automation to develop prototype platform for small clinic venues (level 3).
- FY2006—Continue monitoring military trainees for outbreaks. Refine protocols and collect data for certification of EOS as a diagnostic tool. Continue refinement of CONOPS and TTPs.
- FY2007—Continue previous activities and expand demonstrations to joint arenas to include carrier battle groups, the national capital region, etc. Conduct joint military utility demonstrations.

- **Medical Situational Awareness in Theater (MSAT)** ACTD demonstrates the ability to provide combatant commanders and Joint Task Force (JTF) commanders timely, complete, actionable health information for operational decision-making. This capability provided by a fusion of medical data, personnel location information and health threat intelligence for situational awareness in theater. The improved timeliness and actionable nature of the medical situational awareness information allows theater commanders to reduce both disease and non-battle injuries, as well as combat casualties, while improving combat effectiveness and responsiveness to emergencies. MSAT user sponsor is the U.S. Pacific Command, with the executive agent being the Office of the Secretary of Defense, Health Affairs, Director of Deployment Health Support.

▪ **Milestones:**

- FY2005—Refine architecture and identify new and sufficiently mature technologies for possible insertion or integration into the MSAT initial spiral. Develop a spiral model to incrementally grow the architecture while eliminating non-viable alternatives and decreasing risk. Prepare Functional Requirements Document identifying user needs to be addressed by the selected technological capabilities. Final preparation for initial field trial.
- FY2006—Conduct field trials of interim spiral capabilities and operational concepts. Demonstrate and assess concept of operations and the tactics, techniques, and procedures in a joint exercise.
- FY2007—Conduct field trails and integration of spiral upgrades with a full assessment of capabilities, operational concepts, and procedures in a capstone demonstration during a joint exercise.

Basic and Applied Research

The current logistics focus of the Defense Advanced Research Projects Agency (DARPA) is developing technologies that will enable logistics information systems to be survivable in the most demanding wartime environments—those that combine intense traditional (kinetic) attack with large-scale information (cyber) attack, all the while handling wartime data throughputs and infrastructure changes. The programs below support the Logistics Information Fusion Tier 2 capability.

UltraLog

DARPA recently completed efforts under its UltraLog program. The purpose of the program was to seek out and develop a suite of software technologies that make distributed software agent applications sufficiently secure, robust, and scalable to meet the demands of the most difficult wartime logistics environments. UltraLog successfully prototyped an actual military logistics distributed planning application that links both existing systems and new capabilities, is built using a survivable agent architecture, and is able to withstand simultaneous kinetic and cyber attacks against the computing infrastructure. UltraLog was adopted for the Army Future Combat System (FCS) and serves as the architecture underlying FCS Logistics Decision Support System.

The distributed logistics planning system previously developed under DARPA's Advanced Logistics Program provided a significant head start on the survivability problem and on developing the world's most survivable information infrastructure. The program also created technologies supporting

- decision tools for high-speed logistics planning and execution-time replanning;
- flexible, robust, highly reconfigurable agent societies for different supportability strategies; and
- Web technologies for interoperability and ease of deployment.

Net-Centric Logistics

DARPA is defining a new Net-Centric Logistics program for advanced supply chain technologies. This program will result in

- better inventory positioning, sourcing strategies, and distribution; and
- tighter links to operations with fewer logistics constraints on the operational commander.

Preceding from the assumption that asset visibility, demand data, and communications are available (at least partially), the Net-Centric Logistics program will advance the underlying science for sense-and-respond logistics and related supply chain concepts. This research builds upon the earlier sense-and-respond logistics initiative to predict, detect material or logistics service requirements, and respond effectively with the required logistics support. Program technologies will result in a much smaller and far more agile in-theater logistics footprint. This is accomplished by providing a net-centric logistics structure that is based on dynamically adaptive and survivable demand networks and distributed self-synchronization of warfighting consumers and supply sources.

Chapter 7 Logistics Human Capital Strategic Plan

DoD is developing the *Logistics Human Capital Strategic Plan* (LHCSP) that supports logistics transformation. This plan recognizes that a workforce of logistics professionals with the right background, skills, and motivation must be in place to support the future logistics enterprise. Development of this workforce cannot be viewed in isolation from other DoD human capital planning efforts. The plan for logistics professionals identifies key interface points and leverages the various efforts throughout the department to achieve a transformed workforce. It will ensure those efforts are consistent with, and fully supportive of, future programs and initiatives presented in future Focused Logistics roadmaps.

Background

The DoD logistics workforce is a significant part of the overall manpower and warfighting structure of the department. More than 1 million government personnel perform logistics functions. This includes active duty, reserve, National Guard, and civilian personnel. This number swells even more when contractor personnel, who provide logistics services to DoD, are counted. The need to recruit, train, educate, retain, and transition the logistics workforce is both urgent and crucial. The creation and maintenance of in-house government capabilities in a changing environment with rapidly developing knowledge and technology demands must be addressed. To meet the need for a highly professional and capable workforce, DoD must give strategic planning attention to this human capital dimension commensurate with the value it holds for its workforce.

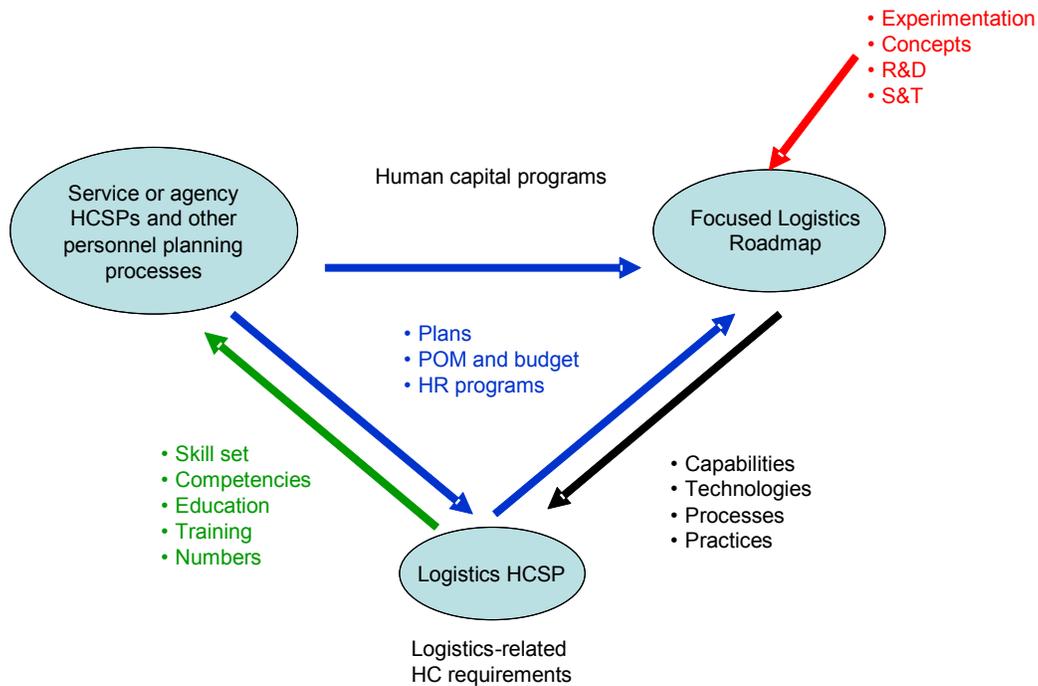
Factors that must be considered in logistics human capital planning include

- technological advances in logistics practices that will shape the workplace and environment;
- operational requirements defining the full range of future military operations;
- integration of military services, agencies, allies, and the sustaining base to manage the joint expeditionary force;
- regulatory and legislative framework within which government personnel management and contracting for extra-governmental personnel are accomplished; and
- the societal motivations, compensation models, and professional incentives for the logistics workforce of tomorrow.

This plan recognizes the responsibilities of the military services and agencies under Title 10 of the U.S Code to organize, train, and equip their respective organizations. The plan will strategically link to the roadmap to the Logistics Transformation Strategy and the FL JFC, and to other high-level DoD strategic guidance and governance and monitoring efforts. Through collaboration and leveraging of various initiatives among the responsible components, the LHCSP will ensure required capabilities, competencies, and skill sets for shaping the future logistics workforce, are recognized and included in military service and agency transformation plans.

The relationship among the roadmap, the LHCSP, and the military service and agency human capital processes is depicted in Figure 7-1.

Figure 7-1. Relationship among the FL Roadmap, LHCSP, and Military Service or Agency Human Capital Processes



LHCSP Development

An integrated process team (IPT) chartered under the Joint Logistics Board will develop the LHCSP. The IPT will provide periodic updates to the JLB during plan development. Staffing of plan drafts will be coordinated through the JLG. The first iteration of the LHCSP will be complete 18 months from start of work. The plan is intended as a living document that will adapt to the dynamic environment within which it's executed, and maintained in conjunction with the roadmap revisions and new logistics concept development.

The core group charged with responsibility for development of this plan will include representatives of

- OSD (logistics, personnel, acquisition),
- Joint Forces Command,
- the Joint Staff,
- USTRANSCOM,
- Office of Force Transformation,

- the military services,
- Defense Logistics Agency,
- Defense Acquisition University,
- industry, and
- the civilian academic community.

The core group will have the authority to speak for their respective organizations and should possess a broad logistics background. The core group must also include manpower specialists that have insights into the legislative and regulatory constraints that will affect logistics needs. They will assist in developing proposed changes where required to achieve the needed results. Representation may also include the operations and intelligence communities—those supported and sustained by logistics operations.

Plan Steps

The LHCSPP is built upon a six-step concept contained in *Play to Your Strengths: Managing Your Internal Labor Markets for Lasting Competitive Advantage*.¹ Those steps are outlined below. Detailed explanation of this approach is contained in the cited publication.

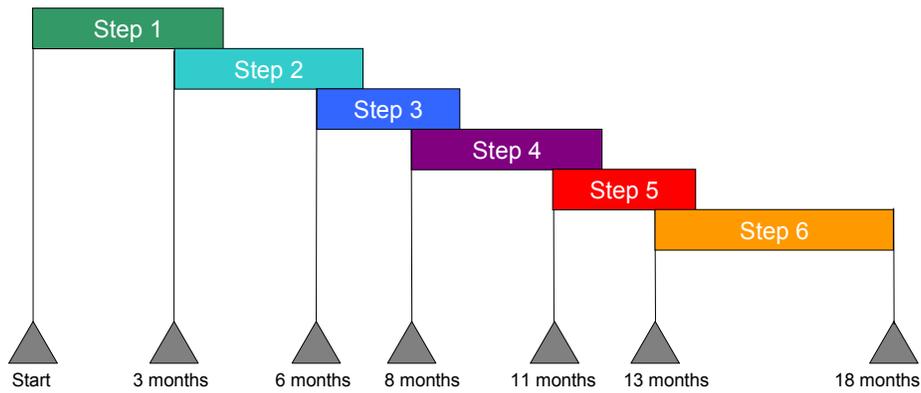
- Step 1: Know where you are. Develop qualitative and quantitative data about the current workforce and management practices.
- Step 2: Project the future.
 - Determine the desired end state.
 - Determine the human capital implications.
- Step 3: Find the value. Identify which human capital attributes and practices create the greatest value.
- Step 4: Close gaps.
 - Define workforce competencies required for key capabilities for the future logistics workforce.
 - Identify and protect current sources of value creation.
 - Identify changes to principles governing how work is structured.

¹ Haig Nalbantian et al., *Play to Your Strengths: Managing Your Internal Labor Markets for Lasting Competitive Advantage*. New York: Mercer Human Resources Consulting, LLC (McGraw-Hill), 2004.

- Step 5: Design the interventions.
 - Define necessary workforce changes.
 - Identify mechanisms to manage change process.
 - Align organizational culture and people processes.
- Step 6: Implement with accountability.
 - Develop metrics to measure success.
 - Ensure closed loop feedback mechanism.

As mentioned, the development of the LHCSP is expected to take 18 months from development start date planned for fall 2005. Figure 7-2 provides a graphic depiction of the project's step phasing.

Figure 7-2. LHCSP Project Timeline



Chapter 8 Conclusion

This first *FL Roadmap* brings together all programs of record and initiatives identified by service component, combatant commander (COCOM), and DoD agency. A fact-based assessment of this data leads to the following conclusions:

- Today's program of record will not achieve Focused Logistics by 2015 because there are numerous capability gaps across all seven Tier 2 FL capability areas.
- Sixty-three major DoD programs of record represent a total investment (including RDT&E and Working Capital Funds) of approximately \$60.4 billion across PB06. \$53.8 billion is committed to mobility within the Joint Deployment/Rapid Distribution Tier 2 capability.
- There are 22 identified Focused Logistics-enabling initiatives within DoD.
 - Eleven initiatives focus on agile sustainment.
 - Many initiatives reach maturity without follow-on implementation steps.
- There are several capability areas with limited or no documented investment or initiatives. They are
 - Multinational Logistics,
 - Operational Engineering (Acquisition Category III and IV expensed items),
 - Force Health Protection, and
 - Joint Theater Logistics.

The data within this roadmap shows significant resource investment in logistics programs and initiatives, both financially and in human capital. However, assessment results indicate that Focused Logistics will not be achieved by 2015. This points to the need for an effective construct that identifies, develops, coordinates, integrates, resources, and delivers capabilities to meet future warfighter requirements. Although elements of this construct exist today (e.g., the JCIDS process), coordinated implementation does not. The emerging Joint Logistics Governance structure and processes should eliminate that void. In addition, clear performance measures and targets for each FL Tier 2 capability area must be developed to support the construct and drive achievement of Focused Logistics. These measures should underpin assessment efforts and provide the analytic basis for future course correction and resource trade-offs.

Glossary

AAHSS	Austere Access High-Speed Sealift
ACAT	Acquisition Category
ACTD	Advanced Concept Technology Demonstration
ADUSD (MR&MP)	Assistant Deputy Undersecretary of Defense for Material Readiness and Maintenance Programs
AEF	Air Expeditionary Forces
AF	Air Force
AFB	Air Force Base
AIT	Automatic Identification Technology
AMS	Automated Manifest System
APU	Auxiliary Power Unit
ARNG	Army National Guard
AS	Agile Sustainment
ASP	Agile Sustainment Project
AT&L	Acquisition Technology and Logistics
AT21	Agile Transportation for the 21st century
BCS	Battle Command Sustainment
BCS3	Battle Command Sustainment and Support System
BSM	Business Systems Modernization
C2	Command and Control
CAISI	Combat Service Support Automated Information Systems Interface
CASS	Consolidated Automated Support System
CBA	Capability-Based Assessment
CBD	Chemical and Biological Defense
CBM	Condition Based Maintenance
CDR	Critical Design Review
CFO	Chief Financial Officer
CI	Continuous Improvement
CJCS	Chairman of the Joint Chiefs of Staff
COA	Course of Action

COCOM	Combatant Commander
CONOPS	Concept of Operations
CONUS	Continental United States
CORSOM	Coalition Reception, Staging, and Onward Movement
COTS	Commercial Off-The-Shelf
CPG	Contingency Planning Guidance
CPI	Continuous Process Improvement
CRM	Customer Relationship Management
CS	Combat Support
CSS	Combat Service Support
CTL	Coalition Theater Logistics
DARPA	Defense Advanced Research Projects Agency
DCP	Deployable Command Post
DDI	Deployment and Distribution Process Integration
DDJC	Defense Distribution Depot, San Joaquin, California
DDOC	Deployment and Distribution Operations Center
DDSP	Distribution Depot, Susquehanna, Pennsylvania
DLA	Defense Logistics Agency
DM4	Director of Mobility Forces
DMSMS	Diminished Manufacturing Services and Material Sources
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
DPG	Defense Planning Guidance
DPMS	Distribution Planning and Management System
DPO	Distribution Process Owner
DRRS	Defense Readiness Reporting System
DSCC	Defense Supply Center, Columbus
DSCR	Defense Supply Center, Richmond
DTCI	Defense Transportation Coordination Initiative
DUSD	Deputy Under Secretary of Defense
EA	Executive Agent
ECSS	Expeditionary Combat Support System
ECU	Electronic Control Unit

EOS	Epidemic Outbreak Surveillance
ERP	Enterprise Resource Planning
ETIMS	Enhanced Technical Information Management System
EUCOM	European Command
FAS	Fuels Automated System
FCA	Future Cargo Aircraft
FCB	Functional Capabilities Board
FCS	Future Combat System
FFMIA	Federal Financial Management Improvement Act
FHP	Force Health Protection
FL	Focused Logistics
FLR	Focused Logistics Roadmap
FMTV	Family of Medium Tactical Vehicles
FOC	Full Operational Capability
FRS	Forward Repair System
FSS	Force Sustainment System
FSSP	Fuel System Supply System
FY	Fiscal Year
GATM	Global Air Traffic Management
GCCS	Global Combat Control System
GCSS	Global Combat Support System
GDSS	Global Decision Support System
GFE	Government-Furnished Equipment
GOTS	Government Off-The-Shelf
GPM	Gallons Per Mile
GSP	Global Stock Positioning
GTN	Global Transportation Network
HLR	Heavy Lift Replacement
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
HQ	Headquarters
IDE	Integrated Data Environment
IOC	Initial Operational Capability

IPT	Integrated Process Team
ITV	In-Transit Visibility
JAPSO	Joint Advanced Planning and Scheduling Office
JCD&E CPLAN	Joint Concept Development and Experimentation Campaign Plan
JCIDS	Joint Capabilities Integration and Development System
JDDOC	Joint Deployment and Distribution Operations Center
JDPO	Joint Deployment Process Owner
JDRD	Joint Deployment/Rapid Distribution
JEPES	Joint Engineer Planning and Execution System
JFC	Joint Functional Concept
JFCOM	Joint Forces Command
JFLCC	Joint Force Land Component Commander
JFSCC	Joint Force Support Component Command
JHL	Joint Heavy Lift Aircraft
JHSV	Joint High Speed Vessel
JIC	Joint Integrating Concept
JLB	Joint Logistics Board
JLC	Joint Logistics Capability
JLG	Joint Logistics Group
JLTC	Joint Logistics Transformation Center
JMUA	Joint Military Utility Assessment
JOA	Joint Operations Area
JPADS	Joint Precision Airdrop System
JPEC	Joint Planning and Execution Committee
JRIMM	Joint Regional Inventory Material Management
JROC	Joint Requirements Oversight Council
JTAV	Joint Total Asset Visibility
JTF	Joint Task Force
JTL	Joint Theater Logistics
JWSTP	Joint Warfighting Science and Technology Plan
LHCSP	Logistics Human Capital Strategic Plan
LHS	Load Handling System

LIF	Logistics Information Fusion
LMFF	Load Handling Modular Fuel Farm
LP&P	Logistics Plans and Policy
LTRWG	Logistics Transformation Working Group
LVSR	Logistics Vehicle System Replacement
M&S	Modeling and Simulation
M&T	Movement and Transportation
MC4	Medical Communications for Combat Casualty Care
MCS	Mobility Capabilities Study
MDAP	Major Defense Acquisition Program
MHE	materiel handling equipment
MILDEP	Military Department
MPF	Maritime Pre-positioning Force
MSAT	Medical Situational Awareness in Theater
MSV	Movement Sustainment Vehicle
MTS	Movement Tracking System
MTVR	Medium Tactical Vehicle Replacement
MUA	Military Utility Assessment
MUAP	Military Utility Assessment Plan
NATO	North Atlantic Treaty Organization
NIMS	National Inventory Management Strategy
NORTHCOM	United States Northern Command
OCONUS	Outside the Continental United States
OE	Operational Engineering
OPORD	Operations Order
OSD	Office of the Secretary of Defense
PB	President's Budget
PBL	Performance Based Logistics
PDMI	Product Data Management Initiative
PLS	Palletized Load System
PM	Program Manager
QDR	Quadrennial Defense Review

RA	Research Announcement
RBS	Readiness Based Sparing
RCC	Regional Component Commander
RCM	Reliability-Centered Maintenance
RDT&E	Research, Development, Test, and Evaluation
RFID	Radio Frequency Identification
RIFTS	Rapidly Installed Fuel Transfer System
RMP	Reutilization Modernization Program
RSOI	Reception, Staging, Onward-Movement, and Integration
SARSS	Standard Army Retail Supply System
SATCOM	Satellite Communications
SATS	Standard Automotive Tool Set
SBU	Sensitive but Unclassified
SCI	Supply Chain Integration
SDD	System Development and Demonstration
SDDC	Surface Deployment and Distribution Command
SE	Sustaining Engineering
SECM	Shop Equipment, Contact Maintenance Vehicle
SIM	Serialized Item Management
SMD	Surface Mobility Division
SOEDE	Single Operating Environment for the Distribution Enterprise
SORTS	Status of Resources and Training System
SPG	Strategic Planning Guidance
SRM	Supplier Relationship Management
STO	Surface Tasking Order
TAV	Total Asset Visibility
TAWS	Terrain Awareness and Warning System
TBD	To Be Determined
TC-AIMS	Transportation Coordinators-Automated Information for Movements System
TLCSM	Total Life Cycle Systems Management
TMIP	Theater Medical Information Program
TSV	Theater Support Vessel

TTP	Tactics, Techniques and Procedures
TWDS	Tactical Water Distribution System
TWV	Tactical Wheeled Vehicle
UID	Unique Identification
USMC	United States Marine Corps
USPACOM	United States Pacific Command
USTRANSCOM	United States Transportation Command
UV	Unmanned Vehicle
VSAT	Virtual Small Aperture Terminal

