HANDBOOK FOR ARMY LOGISTICS AUTOMATION

4th Edition

September 2001

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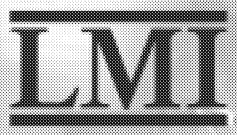

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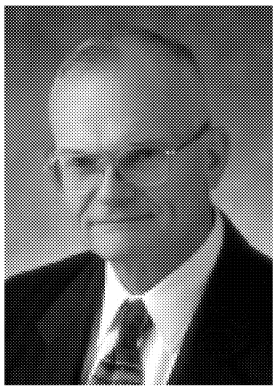

31 August 2001

Dear Reader,

This fourth edition of the *Handbook for Army Logistics Automation* is published by the Logistics Management Institute in conjunction with the United States Army. Our purpose in publishing the Handbook is to fill an existing void by publishing a concise desk reference on logistics automation. This document is not designed solely for logisticians; it is offered to all echelons of the Army as an excellent reference, educational text, and information systems baseline document.

The latest edition of the Handbook provides the reader with a picture of current systems, emerging technologies, and commercial business practices as we see them. We prepared two new chapters that address joint/DoD systems and several emerging commercial business practices that could affect the ongoing CS/CSS Transformation within the Army. This edition also contains a new structured graphic that shows the baseline logistics systems architecture across strategic, operational, and tactical levels of the Army. The chart can be unfolded and used in conjunction with the text to provide a more comprehensive understanding of system functionality and interface.

We want to thank the many Army elements that have continued their support of our Handbook and the countless readers who have expressed their appreciation and support. Our special thanks go to the Director, Logistics Integration Agency; the Project Manager, Global Combat Support Systems–Army; the Product Manager for the Combat Service Support Control System; the U.S. Army Combined Arms Support Command; the U.S. Army Materiel Command and its agencies; and the offices of the Deputy Chief for Logistics and the Deputy Chief of Staff for Operations and Plans, HQDA.

We solicit your comments and recommendations for future improvements.

William G.T. Tuttle, Jr.
General, U.S. Army (Retired)
President

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Preface

This fourth edition of the *Handbook for Army Logistics Automation* is a tutorial and desk reference for logistics functions, structures, systems, and applications at all echelons of the Army and offers insights into emerging concepts, technologies, command and control systems, business practices, and logistics initiatives. The *Handbook* is published with the cooperation of the Army and Joint/DoD organizations that are proponents of the systems and or managers of the specific concepts and initiatives contained herein.

The Logistics Management Institute (LMI) of McLean, VA, authored this *Handbook.* Because LMI is the FA90 (Multi-functional Logistician) Training With Industry (TWI) site for the Army, Army logisticians in the TWI program did much of the research for this *Handbook*. Author biographies are contained at the conclusion of the text.

The text is separated into three distinct sections. Chapters 1 through 3 form the Army's logistics systems baseline, and Appendix A contains a diagram that illustrates how the strategic, operational, and tactical systems make up that baseline. The diagram can assist the reader in understanding the interfaces and functional relationships of Army and DoD/joint systems and processes. The first three chapters describe the systems that are projected to be fielded in Army units or in the joint environment by FY03. Chapter 4 outlines emerging systems and technologies whose projected fielding or implementation dates are after FY03. Chapter 5 discusses commercial business practices and their effect on Army modernization strategies. Throughout the text we have identified the internet site address (URL) that contains a more detailed description of the system or initiative. Those sites were current at the time of publication and are subject to change. Further, some sites may require a military (.mil) domain address to obtain access.

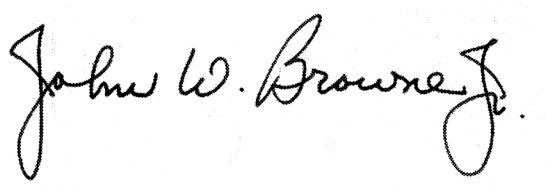
Certain data in the text may depend on the reader's geographical location and the version of the automated systems operating there. Most systems exist in different versions, depending on when and where they were fielded. Those variations could encompass hardware, language, architectural interface, communications media, and operating systems. Many activities have elected not to operate all functions of a particular system, according to their particular mission requirements. Projections for system fieldings are current as of the publication date of the *Handbook* but could change.

The graphics in the appendixes are to be used with the *Handbook* narrative. Anyone who does not have access to the narrative may not fully understand the appendixes. The *Handbook* also supports *A Soldier's Guide to U.S. Army Logistics FY 02-03.* This *Guide* is published separately by the Logistics Integration Agency; it is an illustration of Army and joint/DoD logistics and command and control systems and processes from the point of view of doctrine, organization, training, leader development, materiel, and soldiers.

The *Executive Guide to Army Logistics FY01* (Appendix B of this *Handbook*) is a summary-level graphic of the joint/DoD and Army logistics systems as they currently exist. This graphic is a removable, stand-alone document.

The Logistics and Command and Control (C2) Automated Systems Architecture (Appendix C of this *Handbook*) is a compendium that documents the operating system, database and data storage, communications media, hardware, programming language, interfaces, acquisition history, and materiel and combat developers for selected Army and Joint C2 and logistics information systems.

We solicit your comments and recommendations for improving the Handbook. Please send your comments by e-mail to the undersigned at jbrowne@lmi.org. Beginning in September 2001, the *Handbook* will be available in read-only format on the LMI and LIA web sites*: www.lmi.org* or *lia.army.mil*.



John W. Browne, Jr.
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Chapter 1
Joint/DoD Logistics Systems

Logistics requirements and relationships among logistics elements are significantly different today than they were in the past. Different military missions—such as smaller-scale regional conflicts and peacekeeping and humanitarian roles—have emerged. DoD responded initially with Joint Vision 2010 (JV2010), which prescribes an operational template for how the logistics force structure can deal with the new, dynamic environment of military operations. JV2010 describes the fusion of logistics information and transportation technologies for rapid crisis response; deployment and sustainment; the ability to track and shift units, equipment, and supplies en route; and delivery of tailored logistics packages and sustainment directly to the warfighter. Changes in warfighting scenarios have generated corresponding revisions to logistics support, deployment, stationing, and war reserve strategies. Most recently, the Chairman, Office of the Joint Chief of Staff (OJCS) published Joint Vision 2020, which builds on and extends the conceptual template established by JV2010 for guiding the continuing transformation of America's Armed Forces. The overall goal of the transformation described in JV2020 is the creation of a force that is dominant across the full spectrum of military operations.

> JV2020 reemphasized the criticality of "focused logistics" to the achievement of the goals of full spectrum dominance. It reaffirmed the definition of focused logistics as "the ability to provide the joint force the right personnel, equipment, and supplies in the right place, at the right time, and in the right quantity, across the full range of military operations. This will be made possible through a real-time, web-based information system providing total asset visibility as part of a common relevant operational picture, effectively linking the operator and logistician across services and support agencies. Through transformational innovations to organizations and processes, focused logistics will provide the joint warfighter with support for all functions."[1]

Further, JV2020 provided the following focused logistics transformation path as the azimuth for technology integration:

- Fiscal Year (FY)01, implement systems to assess customer confidence from end to end of the logistics chain—using customer wait-time metric.
- FY02, implement time-definite delivery capabilities using a simplified priority system driven by the customer's required delivery date.

[1] Director for Strategy, Plans, and Policy, J5, Joint Staff, *Joint Vision 2020*, June 2000.

- FY04, implement fixed, deployable automatic identification technologies (AITs), and information systems that provide accurate, actionable total asset visibility.

- FY04 for early deploying forces and FY06 for the remaining forces, implement a web-based, shared data environment to ensure the joint warfighters' ability to make timely and confident logistics decisions.

Notwithstanding these and other policy and system changes, the fundamental mission of the logistics function remains relatively unchanged. The strategies, methods, and communications and information technology (IT) required to accomplish that mission will change significantly. This shift in mission focus places a greater emphasis on timely and accurate information and the means to assure its worldwide availability. Secure and timely access to actionable information has become the single most important capability necessary for supporting changing global logistics scenarios. DoD has been involved in an aggressive program to replace legacy systems and upgrade, and ultimately replace, its communications architectures. In March 2000, the Deputy Secretary of Defense, John Hamre, approved DoD Reform Initiative Directive (DRID) 54—Logistics Transformation Plans. This directive mandates that DoD services and agencies include in their transformation plans a strategy for meeting four objectives, two of which we highlight here:

- Achieve accurate total asset visibility (TAV) and accessibility by using AIT, automated information systems (AISs), and transformed business practices by FY04.

- Field a web-based shared-data environment that provides seamless, interoperable, real-time logistics information for DoD to early deploying forces by 2004 and to the remainder of the force by 2006.

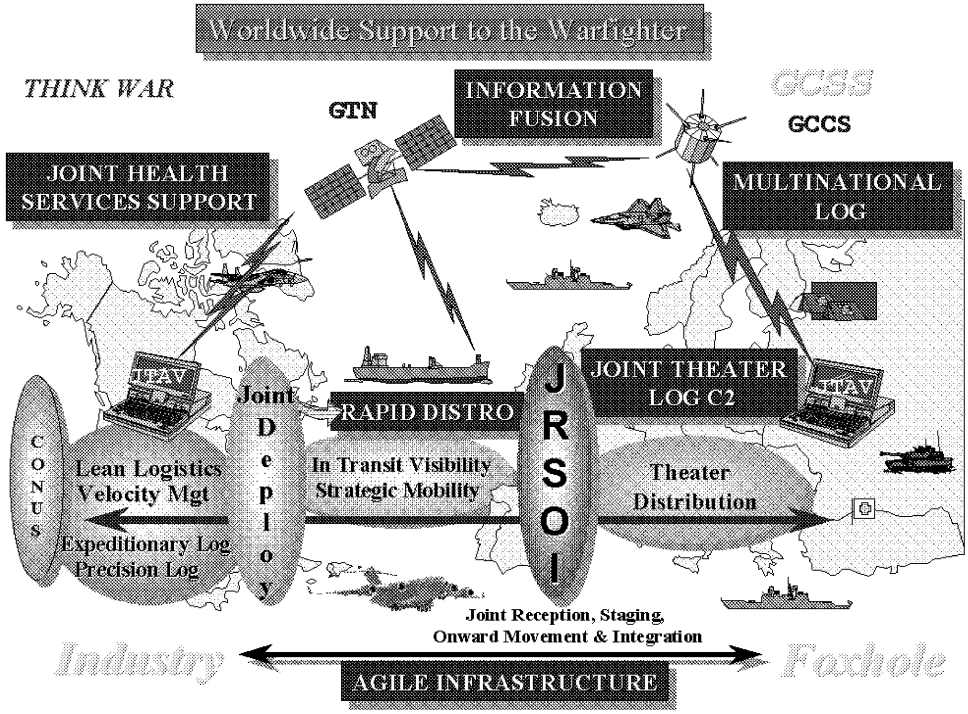
DRID 54 will set the tone for all future IT-related strategies for DoD; those strategies are evolving and will be the subject of subsequent versions of this *Handbook*.

This chapter describes several current and emerging joint/DoD logistics information processes that are being developed and deployed to provide information and logistics support to warfighters. The systems and processes interface with and augment the Army's logistics processes. Although they are DoD-level systems and processes, they represent an important segment of the Army logistics automation configuration. They will be used throughout DoD ensuring support to the warfighter from the source of supply to a point of need. This IT support will include the joint warfighter, the sustaining base, and the National Command Authority (NCA); it will provide real-time situational awareness, total asset visibility, and joint decision support tools. Figure 1-1 shows a view of the focused logistics vision. Figure 1-2 shows the Global Combat Support System (GCSS) integration process. For more information about the Army's vision and transformation

strategy, see *http://www.army.mil/armyvision/default.htm* or *http://www.dtic.mil/doctrine/*.

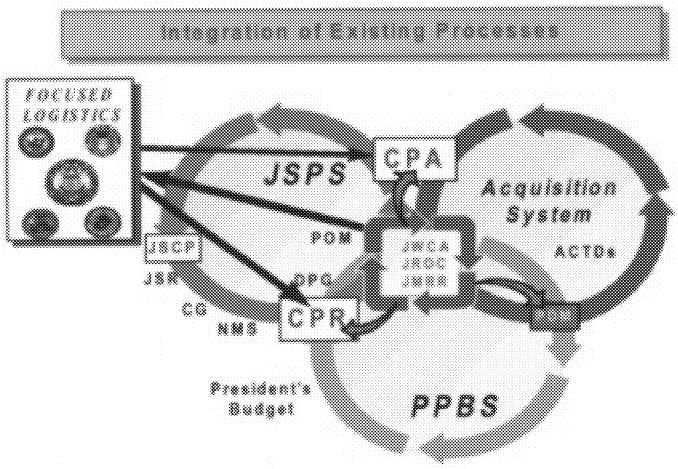
Appendix A includes a functional and technical diagram of the joint/DoD and Army logistics systems baseline; system descriptions in the text follow that baseline. This chapter summarizes joint/DoD-level standard processes in use or to be used by the entire community at the end of FY02.

Figure 1-1. Focused Logistics Vision



Source: *http://www.gcss.jsj4.com/projects/foclog/exsumm.html.*

Figure 1-2. Process Integration



Source: *http://www.gcss.jsj4.com/projects/foclog/exsumm.html.*

COMMAND AND CONTROL

Global Command and Control System

The Global Command and Control System (GCCS) is the single joint command and control (C2) system for the Chairman of the Joint Chiefs of Staff. This classified system, which operates on the Secret Internet Protocol Router Network, integrates joint service capabilities that are required for conducting joint and multinational operations and for supporting the NCA and subordinate elements in global synchronized operations.

GCCS also has tools for enabling a joint task force to maintain dominant battlespace awareness through a focused, integrated, near-real-time battlespace profile. The system has all of the required hardware, software, procedures, standards, and connectivity interfaces at all levels of command. GCCS is an intricate architecture that offers "source" data and access to key information databases.

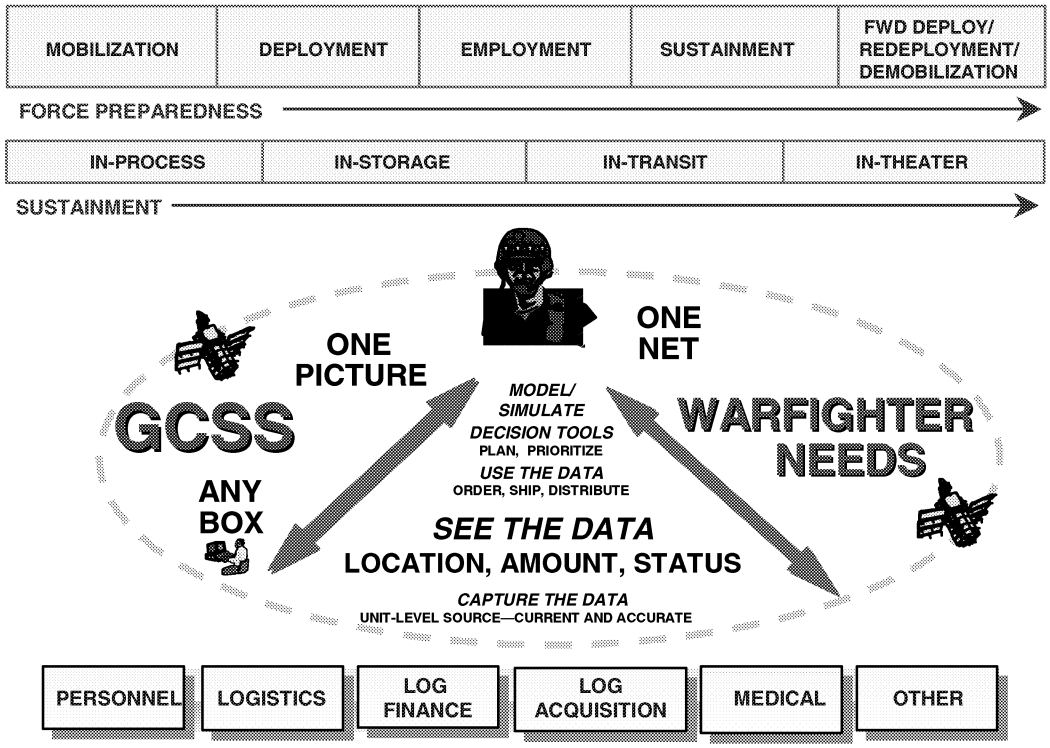
As the cornerstone of command, control, communication, computers, and intelligence, GCCS has become the primary information-processing support for planning, mobility, and readiness for combat commanders, the military services, the Office of the Secretary of Defense, and Defense-related agencies. The Joint Chiefs of Staff (JCS) proponent for GCCS is the J3 Office of the JCS (OJCS). Additional information about GCCS is available at *http://gccs.disa.mil/gccs*.

Global Combat Support System

Joint Vision 2010 establishes focused logistics as one of the four operational concepts for achieving full-spectrum dominance. The GCSS is the mechanism for using information superiority to achieve this operational concept. GCSS is a family-of-systems (FoS) strategy that establishes information and data interoperability across combat support information systems and between combat support and C2 functions that support the joint warfighter. GCSS will provide a fused, integrated, real-time multidimensional view of combat support and combat service support in the battlespace. GCSS cuts across service and Defense agency stovepipe logistics information systems (transportation, supply, maintenance, personnel, force health protection, acquisition, finance, and engineering), making all corporate data accessible and fused.

Figure 1-3 shows how GCSS will provide the joint warfighter with a single end-to-end capability to manage and monitor units, personnel, and equipment from mobilization through deployment, employment, sustainment, and redeployment and demobilization.

Figure 1-3. Joint Warfighter Needs



To maximize rapid implementation, GCSS will use a building block approach rather than developing unique systems. Service, Agency, and Commander-in-Chief (CINC) applications will be migrated to GCSS through a combination of functional and technical reviews.

Legacy systems will be selected for migration according to functional and technical merit.

The proponent for GCSS is the J4 OJCS. Additional information about GCSS is available at *http://www.gcss.jsj4.com/gcssoa/index.html* or *http://www.jsj4.com/concept.doc*.

LOGISTICS

Joint Computer-Aided Acquisition and Logistics Support

Joint Computer-Aided Acquisition and Logistics Support (JCALS) is a part of the DoD-wide continuous acquisition and life-cycle support strategy. JCALS provides an information management system to support uniform logistic and acquisition, engineering, management, materiel management, and other life-cycle functional processes. The JCALS program provides for a common, integrated infrastructure for organizing data about weapon systems over their entire life cycle. The system

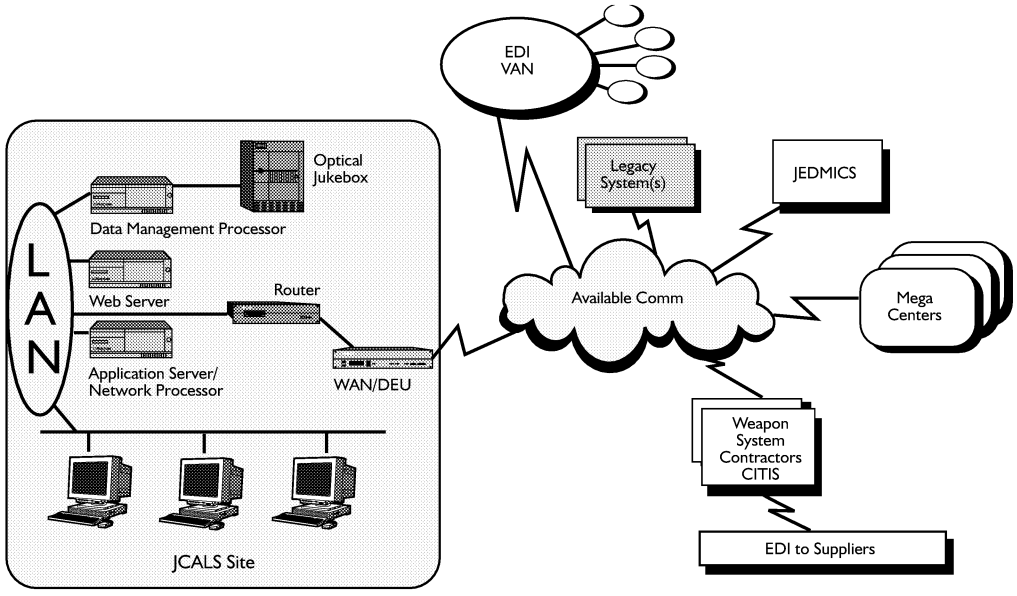
provides applications and services to implement joint functional processes. JCALS enables more effective generation, exchange, management, and use of digital data in support of Defense systems.

The JCALS mandate is to provide a paperless digital environment for managing the support of DoD business areas, particularly weapon systems, using state-of-the-art computer technology. JCALS provides an integrated environment for data access and sharing. It provides acquisition, logistics, and engineering professionals with access to information through workflow processes and the capability to manage technical manuals electronically.

The JCALS configuration consists of hardware, a global data management system, utilities, a workflow manager, reference library and applications (such as joint technical manuals), contract folderization, and technical and electronic data search. Figure 1-4 provides a view of the enterprise-wide work and information management network.

The proponent for JCALS is the Deputy Under Secretary of Defense (Logistics) (DUSD[L]). The Executive Agent is the Army's Program Executive Officer (PEO) Standard Army Management Information System (STAMIS). Additional information on JCALS is available at *http://www.army.jcals.com*.

Figure 1-4. JCALS System Configuration—
Enterprise-Wide Work and Information Management



Source: PEO STAMIS, JCAL Program Manager (PM).

Joint Total Asset Visibility

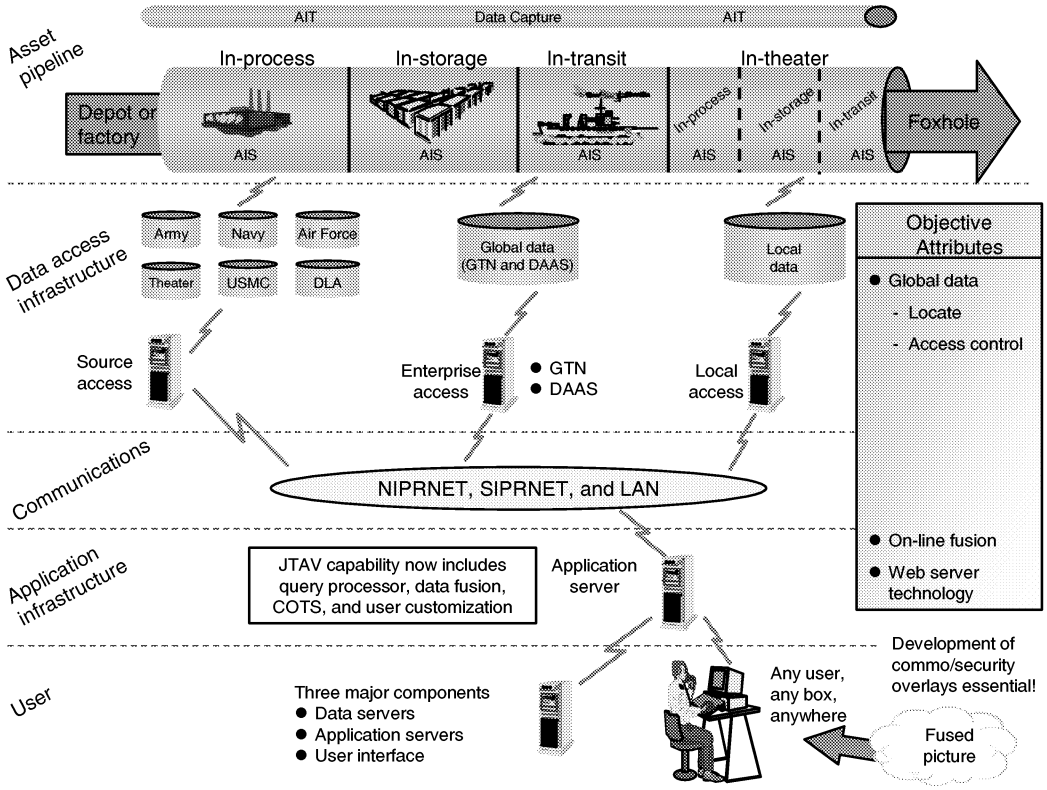
The Joint Total Asset Visibility (JTAV) program provides users with timely and accurate information about the location, movement, status, and identity of units, personnel, equipment, and supplies. JTAV will provide the following benefits to CINCs:

- Ability to track asset data generated by satellite, radio frequency tags, Automated Manifest System
- Capability to receive timely and accurate information on location of a truck or train, by military grid reference coordinates plotted on a map; in-the-box visibility of pallet/container contents
- Visibility of on-hand stocks across services, providing a snapshot of logistics status of assigned units
- Capability to relate supply and transportation data from a single platform (i.e., document number to transportation control number to national stock number)
- Visibility of assets en route to and retrograding from air and seaports of debarkation.

The JTAV program has been designed to integrate automated information system (AIS), AIT, the global transportation network (GTN), global air traffic management (GATM), and other migration systems and databases throughout the joint community. JTAV provides an array of data resources to address operational and logistics requirements worldwide. JTAV will support GCSS, based on joint technical architecture and Defense Information Infrastructure/common operating environment. Figure 1-5 depicts the JTAV objective system architecture.

The proponent for JTAV is the Defense Logistics Agency (DLA). Additional information about JTAV is available at *http://www.acq.osd.mil/log/jtav*.

Figure 1-5. JTAV Objective Architecture



Source: *http://www.acq.osd.mil/log/jtav.*

Joint Engineer Data Management Information and Control System

The Joint Engineer Data Management Information and Control System (JEDMICS) stores technical data electronically for DoD; it is used by all DoD components. The system enables the user to contract with prime contractors and vendors to design, test, and produce a weapon system. Through JEDMICS, technical data that the contractor distributes can be stored in standard digital form, allowing all authorized personnel working on a project worldwide access.

The current repository system contains 1.2 million images and is capable of configuring more than 840,000 technical data packages. JEDMICS also is home to the largest collection of technical data (more than 6 million images) in DoD. The Product Data Team's JEDMICS has one of the highest-performance central processing units, ensuring effective support for customers (on and off the site) and reinforcing its status as the premiere engineering data control facility.

JEDMICS also loads and maintains all of the technical documentation required for complete (unclassified) technical data packages, including engineering change proposals, notices of revisions, specifications, safety data, and drawings.

In addition, part of JEDMICS allows for individualizing data for different organizations and a "viewer" capability that enables all users of the system to interactively view engineering drawings and documents directly from the database through a desktop terminal at local or remote locations. These service functions allow JEDMICS customers to streamline their business processes and reduce operating costs. JEDMICS also provides for a full range of exchange media; as part of the transition of hard copy/mylar/aperture card technical data to the digital migration of same data, the Product Data Team has an electronic process in place to accept these data from contractors.

The proponent for JEDMICS is DUSD(L). Additional information on JEDMICS is available at *http://e-data.pica.army.mil/prod_techdata/Jedmics.htm*.

Joint Medical Asset Repository

The Medical Logistics Total Asset Visibility Project was established to ensure integration of quad-service medical logistics data into JTAV via the Joint Medical Asset Repository (JMAR). The Medical Logistics Proponent Subcommittee appointed the US Army Medical Materiel Agency (USAMMA) as Executive Agent for developing the JMAR in January 1997. JMAR is the DoD-recognized authoritative source for joint medical logistics information and is the medical logistics component of JTAV. Users from all levels and all services are involved in this systems integration effort, working with the Project Office in identifying legacy system key data elements, data mapping, query development, and user-interface testing. JMAR will be developed in three phases, through FY04.

JMAR Phase 1: Proof of Concept. The first phase (FY98), integrated data from USAMMA inventory management systems (NAC and NAY), which account for Army-owned medical materiel, including Army prepositioned stock and reserve component hospital decrement sets; vendor-managed inventory data from the Army and DSCP; Air Force war reserve materiel data from their medical logistics system (MEDLOG); and data from selected units' Theater Army Medical Materiel Information Systems (TAMMIS). Two catalogs, MEDSILS and the Universal Data Repository, also were included in Phase 1.

JMAR Phase 2: Active Component Integration. Integration of active component data into the JMAR will occur in Phase 2 (FY99-01). During this phase, data from 14 service legacy systems, as well as Defense Medical Logistics Standard Support (DMLSS) Assembly Management, Defense Blood Standard Support, and GTN will be incorporated into JMAR. Additional standard queries and an ad hoc query tool will be provided. The inventory status of medical equipment and supplies from fixed units, tactical units, and retail supply activities will be made available. The JMAR will include current maintenance data and DoD maintenance trends, along with blood inventory status, disposition information, and expiration reports. The intent is to make available relevant data from all sources from

Echelon I active component tactical units up to service-owned strategic war reserve.

JMAR Phase 3: Integration of Wholesale and Reserve Component Data. The third phase (FY02-03) in the development of the JMAR is integration of reserve component medical unit data and DMLSS Wholesale Readiness Management Application (RMA). It also will incorporate additional DMLSS products, as they are fielded (i.e., equipment and technology management and stockroom/readiness inventory management). The reserve component target systems are the same ones identified for the active component. The RMA includes commercial asset visibility (CAV), Industrial Preparedness Program (IPP), and Customer Demand Management Information Application (CDMIA).

Additional information on JMAR is available at *https://JMAR.detrick.army.mil.*

Distribution Standard System

The Distribution Standard System (DSS) is the system that DLA uses to perform the functions of distribution manager for DoD. DSS is designed for use at distribution depots; it provides enhanced tools for inventory accuracy and accountability through the use of automated information and technology devices, including bar-code readers, radio frequency tags, and optical memory cards that continuously update DoD component wholesale systems and the JTAV database. The proponent for DSS is DLA. Detailed information about DSS is available at *http://www.dla.mil/j-6/j-64/dss.htm.*

Defense Automatic Addressing System

The Defense Automatic Addressing System (DAAS) provides a continuous validation and message routing service to DoD and civilian agencies. DAAS previously routed logistics transactions (i.e., requisitions, issues, receipts, and shipment status) via the Automatic Digital Network (AUTODIN).

The Defense Automatic Addressing System Center (DAASC) no longer supports AUTODIN. The following applications, however, ensure timely delivery of messages:

- Web Requisitioning is a DAASC Web product that provides customers a means to input materiel requisitions, cancellations, follow-ups, modifications, and materiel obligation validation documents interactively or via an ASCII file. Web requisitioning also provides status and response documents to the user.

- The DAAS Automated Message Exchange System is a connection between a user's personal computer and DAAS via switched dial-up modem or network (file transfer protocol [FTP]) connection. Personal Computer

(PC) software is furnished free of charge to U.S. Government activities and authorized Defense contractors.

- The DAAS Integrated E-Mail Logistics System enables users to transmit and receive data via their electronic mail system.

- The Defense Data Network (DDN) is a DAASC-developed capability and associated messaging format to support the exchange of Joint Army, Navy, Air Force Publication-128 and user-defined, variable-length message data across the DDN/Defense Information Systems Network, using FTP. This capability has been in place since mid-1993. The DDN file format is the preferred method for exchanging data between the DAASC and its more than 177,000 customers.

- The DAAS AUTODIN Replacement System is a suite of programs that allows DAASC customers to transmit and receive data pattern messages via Unix-based systems. The software will manage and control the transmission of data pattern traffic via Defense Information System Network, utilizing the functions of FTP.

Additional information is available at *http://www.daas.dla.mil*.

Defense Security Assistance Management System

The Defense Security Assistance Management System (DSAMS) is the DoD automated information system designed for use in the preparation and management of foreign military sales (FMS) cases. DSAMS is replacing 13 existing automated systems in use by the Defense Security Cooperation Agency and the military departments. DSAMS provides standardized and improved FMS case preparation and management at reduced cost. It also provides the capability to support the acquisition and management of non-standard equipment that the foreign customer wishes to purchase. The Defense Security Cooperation Agency is the proponent of DSAMS. Additional information on DSAMS is available at *http://129.48.104.198* (select DSAMS from the menu on the left side of the page).

Defense Property Accountability System

The Defense Property Accountability System (DPAS) is developing as DoD's standard system for property accountability. The objectives for the system include physical and financial control over DoD property; integration of financial and property data; and compliance with regulatory financial and physical reporting of property, the Financial Management Regulation, and the Chief Financial Officer Act. DPAS will eliminate redundant accountability systems and costs and provide a single point of data entry, asset visibility, and redistribution capabilities.

DPAS capabilities include inventory management, financial reporting, and equipment tracking:

- Inventory management
  - Automated document register
  - Supply interfaces
  - Automated reporting of automated data processing assets to Defense Information Technology Management System
  - Authorization tracking
  - Catalog of assets managed
  - Component visibility and tracking
  - Hand receipt and sub-hand-receipt holder capability below property book officer
  - Bar-code scanner for physical inventories
  - History of each accountable transaction
- Financial reporting
  - Ability to comply with DoD financial regulations for asset accountability
  - General ledger accounting
  - Separately tracked cost improvements
  - Capital asset reporting
  - Financial system interfaces for nine standard accounting transactions
- Equipment tracking
  - Automated building of skeleton maintenance record
  - Automated preventive maintenance scheduling
  - Complete reporting of utilization
  - Management of warranty, service, and lease information
  - System-generated work orders and trip tickets

- Tracking of maintenance, breakdown, and repair hours
- Historical maintenance and utilization data.

The proponent for DPAS is DLA. Additional information about DPAS is available at *http://www.dla.mil/j-6/e-businessdir/.*

Department of Defense Electronic Mall

The Department of Defense Electronic Mall (DoD EMALL) is a single entry point for DoD customers to find and acquire off-the-shelf, finished goods from the commercial marketplace. The DoD EMALL offers cross-store shopping for the purpose of comparison pricing and best value decisions. Vendors on the DoD EMALL meet Federal Acquisition Regulation requirements, so there is no need to verify that the vendors meet statutory requirements.

The DoD EMALL website is where you can obtain a single view of status of all orders; search for and order parts and supplies; and pay with a government purchase card or fund code/fund cite.

Additional information about DoD EMALL is available at *http://www.dla.mil/j-6/ebusinessdir/.*

Federal Catalog System

The Federal Catalog System (FEDLOG) is a repository for more than 7 million items used throughout the federal government. Through FEDLOG, a national stock number (NSN) is assigned for each item of supply in the federal logistics system. In addition to the NSN, information for identifying items includes item names, characteristics information, interchangeability and substitutability data, hazardous materiel disposition codes, demilitarization data, unit pricing, and manufacturer's part numbers. In addition to all DoD activities, data stored in FEDLOG are available to federal and civilian agencies, the North Atlantic Treaty Organization, and foreign governments. FEDLOG processes all item identification transactions and makes updated information available to users within 24 hours of receipt.

The proponent for FEDLOG is DLA. Additional information on FEDLOG is available at *https://www.dlis.dla.mil*.

Virtual Logistics Information Processing System

The Virtual Logistics Information Processing System (VLIPS), which the DAASC maintains, serves as DoD's central repository for information on the status of requisitions and requisition-related data, including retrograde documents associated with the turn-in of unserviceable items.

VLIPS is a client-server tool that operates through the Internet and via dial-up connection, seamlessly integrating commercial applications and users in the field. The Logistics On-Line Tracking System is a powerful requisition information system that consists of a highly complex relational database that portrays the life cycle of a logistics action. The system consists of a set of transaction handlers that extract logistics information from transaction streams that pass through the DAASC. Those communication streams—in the form of DoD military transactions—contain information about materiel management actions, such as requisitions, cancellations, confirmations on requisition status, shipping instructions, and international logistics communications to and from FMS Countries.

Information can be queried by VLIPS by single transactions, unit activity, NSN/part number, document number, project code, transportation control number, pre-stored ad hoc reports, and user-requested scans to perform DoD-wide studies.

For additional information and access to VLIPS, access the DAAS home page at*http://www.dla.mil/j-6/e-businessdir/.*

Business System Modernization

DLA provides common logistics support to the military services and commanders in chief using legacy materiel management systems, such as Standard Automated Materiel Management System (SAMMS) and Defense Integrated Subsistence Management System (DISMS). Business Systems Modernization (BSM) enables integrating business processes with a new enterprise business system based on commercial-off-the-shelf (COTS) software and best commercial practices.

BSM will support the objectives of Joint Vision 2020, the DoD Logistics Strategic Plan, and the DLA Strategic Plan. BSM is a member of the GCSS family of systems and will comply with the requirements of the GCSS capstone requirements document. BSM received it Milestone 0 approval in December 1999 to enter Phase 0, Concept Exploration. The Joint Requirements Oversight Council validated the operational requirements document on June 26, 2000, and approval of the Milestone I/II (concept demonstration) was grant on August 1, 2000. Milestone III (production and deployment) approval is anticipated in late FY01.

For additional information about BSM, go to *http://www.dla.mil/j-6/bsm/strategy.htm.*

Defense Medical Logistics Standard Support Automated Information System

The DMLSS system will replace numerous legacy logistics systems with one standard DoD medical logistics system, enabling health care providers to spend less time on logistics and more time on primary health care delivery activities.

The objectives and capabilities of DMLSS are as follows:

- To standardize the myriad medical logistics systems used by the uniformed services of DoD's medical departments
- To maximize cost savings possible from shifting to commercial business practices
- To increase the ability to share and transfer data within the DoD medical community
- To move medical logistics operations forward to the customer, enabling logistics operations to become user-friendly, less labor-intensive, and to make supplies more readily available.

DMLSS will replace medical logistics legacy systems currently used by the services, including the TAMMIS and the Army Medical Department Property Accounting System (AMEDDPAS). DLMSS is the MEDLOG component of the Theater Medical Information Program (TMIP) and Medical Communications for Combat Casualty Care (MC4) program. DMLSS AIS is being fielded incrementally. Each release contains new functions and enhancements to existing functions. Required applications reside on each user's personal computer; the server is accessed via the existing medical treatment facility local area network (LAN). DMLSS AIS supports the JV2010 concept of Focused Logistics by integrating the medical logistics systems of the three service components, reducing medical treatment facilities' inventories of medical and pharmaceutical items, and decreasing the medical logistics footprint in the battlespace. Thus, the system decreases the vulnerability of logistics lines of communications to deployed forces while protecting lives.

Basic functionality will include stock control, prime vendor operations, preparation of procurement documents, research and price comparison among a variety of sources for products, property accounting, biomedical maintenance operations, capital equipment, property management, inventory, and facility management applications.

The proponents for DMLSS AIS are DUSD(L) and the Assistant Secretary of Defense (Health Affairs). Additional information on DMLSS is available at *http://www.tricare.osd.mil/dmlss.*

Theater Medical Information Program

The Theater Medical Information Program (TMIP) is the medical component of the GCCS and the GCSS. TMIP will integrate the automation of the theater medical environment, linking all echelons of medical care to the theater commanders to support time-sensitive decisions critical to the success of theater operations.

In addition, TMIP will provide support, integrating medical capabilities under a joint concept of operations to assist the medical commander and theater surgeon and to support the delivery of seamless combat medical care. TMIP will support field medical operations and decision-making about theater medical capability by providing integrated health-decision support systems to assure readiness for mission execution. This includes operational medical units, warfighting CINCs, Joint Task Force commanders, the military services, the Joint Staff, and Office of the Secretary of Defense through an integrated set of information systems. This support will occur by aggregating medical data and situational reports that serve the theater of operations as well as the Continental United States (CONUS) sustaining base medical missions.

The TMIP goal is to globally link information databases and integration centers that are accessible to the warfighter, anywhere, anytime, in any mission. TMIP establishes the means and a standard for tying existing, developing, and future medical information systems (software and equipment) into an interoperable system that supports theater health services. TMIP will provide seamless, integrated automated medical information about all functional areas, including command and control (including planning functions), medical logistics, blood management, patient regulation and evacuation, medical threat and intelligence, health care delivery, manpower and training, and medical capabilities assessment and sustainability analysis.

The logistics systems that TMIP will integrate are the following:

- Composite Health Care System II Theater: CHCS II Theater provides for managing patient and clinical data that will include optical clinic and laboratory management for spectacles and inserts.

- Defense Medical Logistics Standard Support: Assemblage Management Stand-Alone (AMSSA). The AMSA component is a modified GOTS application that automates support for managing supplies (informal stock record accounting) and medical equipment set with Echelon 1 and 2 units. These supplies include war reserve material, controlled drugs, and hazardous materials.

- Defense Blood Standard System (DBSS): The DBSS is a modified GOTS application that supports requesting, moving, tracking, storing, and controlling the inventory of Class VIIIB (blood and blood products) material.

Additional information is available at *http://tmip.hirs.osd.mil*.

Procurement Desktop—Standard Procurement System

The Standard Procurement System (SPS) is an integrated system consisting of a contractor-furnished application, operational data, a relational database

management system, government-furnished client/server and stand-alone hardware, operating systems, and client/server LAN/wide-area network connectivity. SPS supports DoD procurement functions such as the acquisition of supplies and services. SPS represents a change from legacy processes and legacy systems and data to a joint standard automated process system that is data based and data managed.[2]

The program goals for SPS are as follows:

- A single automated contract writing system for DoD at 1,080 sites for 42,000 users
- Reduction of legacy systems
- Improved productivity, enabling workforce downsizing
- Reduction in unmatched disbursements
- Paperless contracting
- Procurement-finance "to-be" model.

SPS will provide contracting personnel with the following desktop capabilities:[3]

- Contract preparation
  - ➤ Procurement planning
  - ➤ Solicit offers
  - ➤ Award contracts
- Electronic data
  - ➤ Electronic commerce and electronic data interchange (EDI)
  - ➤ Search and retrieval
  - ➤ Electronic signature capability
  - ➤ Contractor performance
  - ➤ Local operational data
  - ➤ Corporate shared data

[2] Gary Thurston (DCMA-XX), *Standard Procurement System (SPS) Update to Con 301 Procurement Professional, DoD SPS Program Manager* (presented at Ft. Belvoir, VA, June 2000).

[3] Ibid.

- Electronic filing
  - Archive contract files
  - Automatically link documents
  - Maintain contract data/information
  - Electronic data support
- Electronic forms
- Administer contracts
- Reference libraries.

The proponent for SPS is the DoD SPS program manager, Defense Contract Management Agency. Additional information is available at *http://www.dla.mil/j-6/e-businessdir/.*

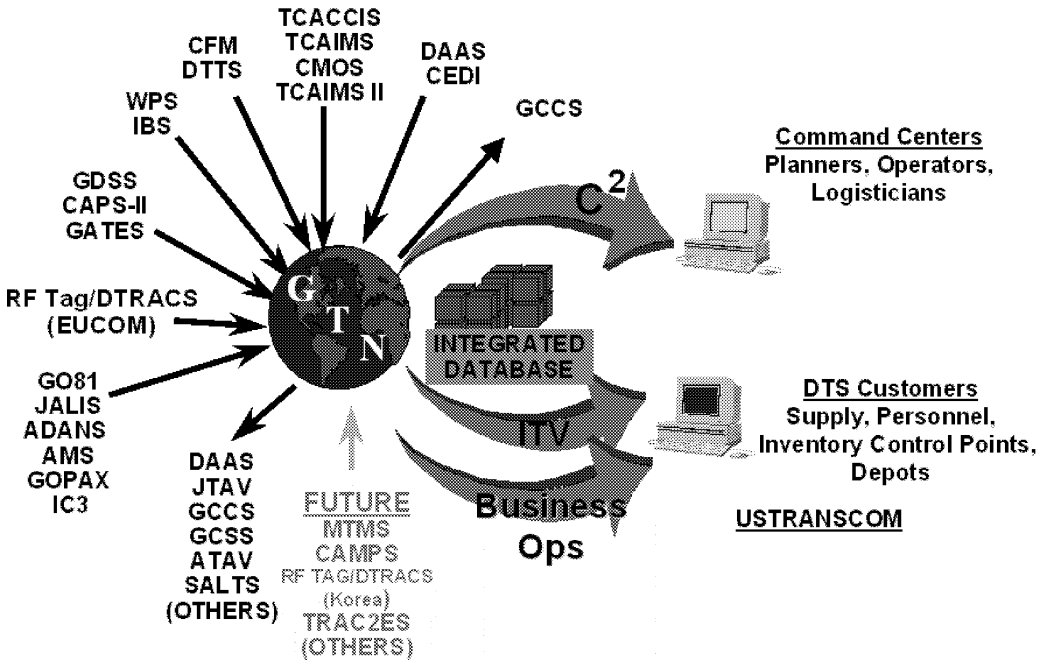
Global Transportation Network

The GTN is an automated command and control information system that provides transportation users and providers with an integrated view of transportation information. GTN collects and integrates transportation information from DoD systems for use by transportation data customers, including NCA, CINCs, the U.S. Transportation Command (USTRANSCOM), and all branches of service. GTN supports JTAV and in-transit visibility (ITV) by providing the ability to track the identity, status, and location of DoD unit and non-unit cargo, passengers, patients, forces, and military and commercial airlift, sealift, and surface assets from origin to destination during peace, contingencies, and war. GTN is an essential element of DoD's warfighting capability. GTN teams with the Department of Transportation and GATM to provide a complete system of warfighter, civilian contractor, and contingency resources for transport worldwide. Although GTN emphasizes the assets of the Air Mobility Command and the Civil Reserve Air Fleet, it includes the Navy's Strategic Sealift, the Ready Reserve Fleet, and the intermodal commercial dry-cargo and intermodal sealift capability.

The proponent for GTN is USTRANSCOM. Additional information about GTN is available at *http://www.gtn.scott.af.mil*.

Figure 1-6 outlines the GTN concept.

Figure 1-6. GTN Concept (June 1998)



Source: Graphic courtesy of U.S. Army Combined Arms Support Command (USACASCOM).

Transportation Coordinators' Automated Information for Movement System II

The Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II) will provide an integrated transportation information management capability for routine deployment, sustainment, and redeployment/retrograde operations for all DoD components and agencies. TC-AIMS II will use the same DoD and service shipment policies and procedures in peacetime and war for active and reserve forces. The system will be integrated with unit-, installation-, and depot-level supply systems to manage inbound and outbound movement, shipment, documentation, and requisition information.

The main objectives of TC-AIMS II include the following:

- Enhance and improve efficiency and effectiveness of Defense Transportation System (DTS)
- Support planning for deployment and redeployment of combat and combat support forces in execution of U.S. Defense missions
- Enhance coordination, control, and management of force deployments, including improving ITV/TAV

- Automate planning, organization, and coordination of overall deployment process
- Facilitate movement of personnel, equipment, and supplies during peacetime and war and provide visibility data of forces from base to foxhole
- Support stand-alone system configuration for users without network connectivity or occasional network connectivity
- Support client/server system configuration at installations with network connectivity, in garrison or deployed mode.

The Army is the lead service and executive agent for TC-AIMS II, in coordination with the Joint Program Management Office at PEO STAMIS.

The proponent for TC-AIMS II is USTRANSCOM. Additional information about TC-AIMS II is available at *http://www.tcaimsii.belvoir.army.mil*.

Defense Transportation Tracking System

All DoD components and DLA use the Defense Transportation Tracking System to monitor hourly, intra-continental United States shipments of arms, ammunition, and explosives by truck. The tracking system uses commercial satellite tracking surveillance services that report on truck location and in-transit truck status changes and notify about emergency situations. Additional information is available at *http://www.transchool.eustis.army.mil/DTO/DTO-Chp6.htm*.

Defense Standard Ammunition Computer System

The Defense Standard Ammunition Computer System (DSACS) is the information system that the Army uses to manage conventional ammunition. DSACS supports the Army's single manager for conventional ammunition mission. The DSACS concept encompasses a wide range of Army, Navy, Air Force, and Marine Corps commands. In addition, DSACS is dedicated to standardizing and controlling wholesale conventional ammunition acquisition, logistics, and financial management processes. The current system interfaces with the Commodity Command Standard System (CCSS).

The proponent for DSACS is the Army Materiel Command's (AMC) Operations Support Command (OSC). Additional information is available at *http://www.logsa.army.mil*.

Chapter 2
The Army's Strategic Logistics Systems

In this chapter, we discuss the functional and technical baseline of the Army's strategic logistics systems. The text follows the flow of systems depicted in the diagram in Appendix A. Our discussion begins with the Army's strategic command and control system—the Global Command and Control System-Army (GCCS-A)—then highlights the systems and processes that support PEOs and PMs. These processes include the Acquisition Database (ADB) and the Army Flow Model (AFM). Next we discuss the primary wholesale systems within the AMC: the CCSS—which supports acquisition of weapon systems, and materiel management—and the Standard Depot System (SDS), which supports the Army's industrial operations activities (consisting of depot operations, war reserve management, and installation supply). The chapter also includes a brief description of reporting databases under the management of the AMC Logistics Support Activity (LOGSA). These databases are being reengineered to create an AMC Data Warehouse under the Logistics Integrated Database (LIDB) initiative. Finally, the chapter describes the ground component portions of the materiel movement management systems that are maintained and managed by the Military Traffic Management Command (MTMC). These systems will be part of TC-AIMS II.

THE ARMY'S LOGISTICS INTERFACE PROCESSES

Command and Control

GLOBAL COMMAND AND CONTROL SYSTEM-ARMY

GCCS-A will provide a single seamless C2 system that is built around the Joint Common Operating Environment; GCCS-A is being integrated with DoD's GCCS. This integrated acquisition strategy ensures software and technology reuse and eliminates duplication among intraservice as well as interservice C2 systems. Integration will be achieved partially through the "best of breed" process as GCCS-A and GCCS share and reuse software modules. The Joint Service/Agency GCCS engineering team, sponsored by Defense Information Systems Agency (DISA), are identifying these software modules. GCCS-A is fundamentally GCCS with additional Army functionality. Additional information on GCCS-A is available at *http://160.147.21.82/wsdocs/stccs/gccsa.htm*.

Requirements

ARMY FLOW MODEL

AFM is a decision support tool that is designed to provide the Army staff with an integrated, quick-turnaround planning tool to assess actual or notional force structures or policies across the Army's major functional areas of force structure, personnel, logistics, installations, and budget. AFM allows Department of the Army staff to conduct "what if" analyses in a timely manner. It provides the capability to readily make force structure or policy change proposals and assess the effects of those changes on unit fill levels and readiness within and across functional areas.

Current models within the AFM are as follows:

- Force structure model
  - ➤ Maintains integrated current force structure by appending modernization data from the Structure and Composition System (SACS) to a Structure and Manpower Allocation System and then linking those data to Personnel SACS and Logistics SACS.
  - ➤ Creates notional force structures (excursions) in conjunction with U.S. Army Force Management Support Agency.
- Personnel models
  - ➤ Army-level personnel models (officer and enlisted for active components) project total personnel inventory by military personnel category and grade to minimize operating strength deviation, given a force structure and user selected policies. These models predict the number of accessions, graduates, promotions, voluntary losses, retention control point-driven losses, and involuntary losses required to achieve this goal.
  - ➤ Inventory projection model (enlisted-active components) projects component inventory by branch of military occupational specialty/grade, based on a force structure and user-selected rule set.
- Logistics models
  - ➤ Logistics distribution model projects unit fill of reportable Class II, VII, and VIII equipment, as well as equipment on-hand readiness of units, based on a force structure, current on-hand data, proposed directed distribution quantities, projected factory output, and a selected set of distribution rules. This model replicates the functionality of the current U.S. Army Total Army Equipment Distribution Plan.

- ➤ Logistics inventory model projects aggregated Army/component-level requirements and on-hand quantities for reportable items (Class II, VII, VIII), given a force structure, current on-hand data, proposed directed distribution quantities, and projected factory output.

- ➤ Logistics procurement model projects quantities of directed, dedicated, and general distribution items, based on equipment procurement data from all sources and requirements to fill other than end-items requirements. Data are furnished to the logistics inventory and distribution model. This model has input only for Office of the Deputy Chief of Staff for Operations and Plans' managed line-item numbers (LINs).

- ◆ Infrastructure models

  - ➤ Unit stationing model projects aggregate unit demand for facilities and matches this demand against installation inventory to generate a rating for the installation (i.e., the degree to which the installation can support the facility requirements of its tenant units).

- ◆ Budget model

  - ➤ Projects active component structure cost down to a Division/separate Brigade (SEP BDE) level.

The proponent of the AFM is the Director, Strategic and Advanced Computing Center, Director of Information Systems for Command, Control, Communications, and Computers. Additional information is available at *http://www.army.mil/ako/flowmodel.pdf*.

STANDARD STUDY NUMBER, LINE ITEM NUMBER AUTOMATED MANAGEMENT AND INTEGRATION SYSTEM

The standard study number (SSN), line item number Automated Management and Integration System is now operational. It continues to be improved with expanded functions and is designed to

- ◆ provide a single request source for Army Research, Development, and Acquisition (Procurement Appropriation) SSNs;

- ◆ display the Procurement Appropriation SSNs and related SSNs in the Army's reporting hierarchy;

- ◆ identify Army LINs that relate to each SSN;

- ◆ enable users to locate existing SSNs, request new SSNs, and initiate SSN-related changes;

- facilitate coordination among agencies with specific SSN interests for all SSN requests; and
- assist in resolving SSN nomenclature, SSN-SSN links, and SSN-LIN disconnects.

Additional information on this application is available at *http://www.slamis.army.pentagon.mil*.

AMC's Logistics Systems

Commodity Command Standard System

CCSS is AMC's standard system for materiel acquisition and management of Army weapon systems, associated support items of equipment, components, spares, and repair parts, including war reserve and contingency stock management. CCSS automates and integrates AMC business processes of logistics data management (provisioning and cataloging), requirements determination, procurement, maintenance planning, inventory control, finance, and security assistance. The system is one of the world's largest integrated business systems; it comprises more than 9 million lines of code, 550 separate applications, and 5,000 program modules that work collectively to process an annual budget for supplies and equipment of more than $23 billion. The support activity for CCSS is the Computer Science Corporation (CSC). The following AMC major subordinate commands (MSCs) and other activities use CCSS:

- U.S. Army Research Laboratory, Installation and Activities
- U.S. Army Aviation and Missiles Command (AMCOM)
- U.S. Army Communications-Electronics Command (CECOM)
- U.S. Army Operations Support Command (OSC)
- U. S. Army Soldier, Biological, Chemical Command (SBCCOM)
- U.S. Army Tank-automotive and Armaments Command (TACOM)
- U.S. Army Security Assistance Command (USASAC)
- DoD customers such as the Defense Finance and Accounting Service (DFAS).

The system also supports and provides supply and maintenance data to retail standard systems. It interfaces with other Army logistics systems, including the LOGSA reporting database and SDS. In addition, it provides data to AFM at

Headquarters, Department of the Army. Additional information on CCSS is available at *http://www.lsso.army.mil*.

The Army, as a part of the Wholesale Logistics Modernization Program (WLMP), has turned over CCSS and SDS sustainment to CSC. CCSS and SDS will be replaced by a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system. Additional information on WLMP is in Chapter 4.

The following functional areas are a part of CCSS.

ACQUISITION MANAGEMENT SUPPORT/INTEGRATED LOGISTICS SUPPORT MILESTONE MANAGEMENT

The Integrated Logistics Support Milestone Reporting System provides automated support to milestone schedule monitoring and submission of the milestone reports for the integrated logistics support required by Department of the Army (DA) Pamphlet 700-26. Part of this functional area includes establishing and monitoring equipment life-cycle management milestone data by using remote terminals.

Integrated logistics support encompasses all management and analysis actions required to support a materiel system, before and after fielding. The basic principle behind this process is that logistic support resources must be developed, acquired, tested, and deployed as an integral part of the materiel acquisition process.

LOGISTICS DATA MANAGEMENT

Provisioning

As a major item goes through the acquisition cycle, data are collected from the developer on the item that is coming into the inventory. Approximately 2–3 years before the item's initial fielding, the first master file—the provisioning master record (PMR)—is initiated in CCSS. The composition of the PMR is major-item oriented: Every assembly, subassembly, and component in the item is broken down and recorded in the PMR. Each item in the top-down decomposition relates to the next-higher assembly, so that one can start with the major item and determine all supporting items or start with a part and roll back up through all components to the major item.

A second major file also must be developed before any determination of secondary item support can begin. The end item parameter file stores data related to the item's fielding, such as density of end items, timeframes of production and issue to units, and the general location of items already in operation. An essential step in the provisioning process is the establishment of National Stock Numbers for major end items and support items that will be managed by the major subordinate command (MSC). An automated scan of the PMR will find support items that are

identified by part number and commercial and government entity code but have no identifying NSN.

Another task in the provisioning process is the development of technical publications. The repair parts and special tools list is extracted from the PMR, reviewed, and corrected via online computer terminals. Camera-ready list output is produced for use in publication of technical manuals.

In the provisioning process, CCSS also determines the quantity of secondary item support required to support the major item. The Automated Requirements Computation System, Initial Provisioning or the Selected Essential Stockage Availability Method accesses necessary files and computes the quantity of secondary items needed to support the major item for the prescribed period of time (usually 1 or 2 years). This process produces the Supply Support Request for items that are managed by non-Army integrated materiel managers. The requirements quantity and lead times for stock numbers managed by the processing Army inventory control point (ICP) are posted to the National Stock Number Master Data Record (NSNMDR). Requirements for stock numbers managed by other Army ICPs are forwarded via DAAS and posted to the NSNMDR.

The final task in the provisioning process is computing support for units that will use the newly acquired major item. The Support List Allowance Card process computes secondary items that will be stocked on the unit-level prescribed load list (PLL) and items to be stocked at the supporting maintenance units in the authorized stockage list (ASL).

Under the total package fielding concept, those outputs are used to develop the prepackaging and delivery of support items issued to the receiving unit at the same time the major item is fielded. A copy of the support list allowance is furnished to LOGSA to assist in the preparation of the mandatory parts list (parts that regulations require to be stocked in the unit's PLL and ASL accounts).

Cataloging

The CCSS cataloging portions of the logistics data management processes develop the transactions required for NSN assignment, documentation, and change. The NSN identification makes requisitioning and control of assets much simpler. The cataloging area researches technical data, develops reference or descriptive information, and requests a further search of the Defense Logistics Information Service (DLIS) total item record. If no match can be found on the record, a new NSN is assigned for the item. The cataloging area also provides NSN changes to ICP customers, including Army retail, other DoD component wholesale, and FEDLOG. Although CCSS continues to support the cataloging function for the Army, the tasks associated with these functions have been transferred to the DLIS. Additional information on DLIS and FEDLOG is available at *https://www.dlis.dla.mil*.

REQUIREMENTS DETERMINATION

The secondary item requirement computation is a series of applications within CCSS that supports numerous tasks performed by item managers. These tasks include cataloging directions, stock control directions, procurement directions, financial management directions, and maintenance directions.

Although initial requirements (discussed under the provisioning function) are based on engineering estimates of failure rates, replenishment of tactical customers is based on historical data. Therefore, the first step in determining those requirements is to record the historical demands on which the computation is based. The demand return disposal file records 2 years of demand (requisitions from stock control), 2 years of returns (serviceable and unserviceable), and 1 year of disposals. One of the primary uses of those data is the computation of an average monthly demand rate to be used in projecting future requirements. The average monthly demand rate is recorded in NSNMDR files for use by all functional processes.

During the requirement computation process, projected future secondary item requirements and current dues-out are extracted from the NSNMDR file. Those requirements, along with data from other functional areas, are used to run the Requirements Determination and Execution System (RDES) applications. RDES develops supply positions for each item activated by the various processes within CCSS. Forecast demands are based on historical demands, modified by equipment-in-use density or operating tempo (aircraft) for recurring demands. Nonrecurring demands are extracted from the NSNMDR file according to the type of program they support (for example, set assembly programs). Management parameters are applied to produce the supply control study (SCS) for the item manager. The SCS consists of an Item Management Plan for intensively managed items and an abbreviated SCS for routinely managed items. The SCS recommends buys, repairs, cutback procurements, disposals, or the recall of assets from the Defense Reutilization and Marketing Office. RDES also produces the demand and return forecast as input to the budget stratification process for use in budget preparation. This process ensures that the same information is used for programming, budgeting, and execution of secondary item requirements. Under the single stock fund (SSF) program, RDES and budget stratification were expanded to include the Army Working Capital Fund (AWCF) requisitioning objective quantities that are in the AWCF Standard Army Retail Supply System (SARSS), level 1, storage sites. RDES and Army budget stratification systems also have been upgraded to provide online review, recomputation, and update of data via desktop applications. These applications also provide the capability to automatically route documents, electronically approve actions, and automatically generate transactions required to update the mainframe application processes.

ASSET MANAGEMENT

The asset management functional area of CCSS processes incoming transactions from customers and locally generated Military Standard Requisitioning and Issue Procedures/Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP) transactions. A requisition coming into an MSC from another automated system is recorded in the document control file. This file will maintain a record of each individual transaction until it is completed.

On the basis of directions from supply management requirement data, the stock control function processes customer requisitions. This process determines that stock is on hand and serviceable before forwarding a materiel release order through DAAS to the appropriate storage depot, contractor, or other source of supply. When the requested stock is picked, packed, and placed in transportation channels, the depot returns a materiel receipt confirmation to stock control. Stock control records the transactions in the document control file and maintains the on-hand quantities for use in all functional areas. Except for a small group of locally controlled items, this process is automatic. Rejects are written to a Customer Information Control System (CICS) file and corrected online.

An important new capability has been added to the asset management functional area: real-time requisition processing. The retail or wholesale user can initiate real-time requisition processing through an interactive terminal by entering the transaction identification. The system runs interactively under CICS; it is not executable through batch processing. It encompasses requisitions, issues, cancellations, follow-ups, modifiers, and routing to wholesale through the SARSS gateway and Transmission Control Protocol/Internet Protocol (TCP/IP) socket linkage.

The asset management functional area receives its primary direction from item managers. The actual record of on-hand, due-in, and due-out assets is maintained in the NSNMDR file for use by all functional areas. When items are ordered through the procurement process, stock control furnishes a prepositioned materiel receipt transaction to the selected distribution depot. When items are received at the distribution depots, the notification of receipt is forwarded to asset management personnel, who record it in the file. Stock control also is responsible for the inventory process and for maintaining the asset balance record for MSC.

Asset management also provides input to financial management. As requisitions from customers are satisfied, billing data are furnished to financial accounts receivable. Other transactions are furnished to financial management to ensure proper recording of financial inventory accounting records.

FINANCIAL MANAGEMENT

There are four major financial outputs in Commodity Command Standard System's financial management area: fund certification, financial reporting, billing, and disbursement. Requirements for procurement actions are passed from the supply process through the procurement process to the financial process for certification. The financial process enables ICPs to perform required accounting functions for the following funds:

- Supply Management, Army
- Operations and Maintenance, Army
- Procurement Appropriation, Army
- Research, Development, Test, and Evaluation
- Conventional Ammunition Working Capital Funds.

Detailed transactions are documented in daily transaction registers, and an audit trail of all transactions is maintained. Customer billing is accomplished automatically as a result of inventory drops and/or confirmations that flow from stock control programs to financial processes. The financial process also generates treasury reports on disbursements. Under SSF, all financial processing of AWCF transactions were consolidated into a single general ledger with CCSS.

PROCUREMENT

The procurement process is the interface between the item manager and the source of supply. It facilitates compliance with procurement laws through automatic checks and balances, and it generates bidder lists, solicitations, and contracts. It provides a basis from which management can track, control, and monitor the status of all procurement requests. It also provides the Defense Contract Management Agency with contract abstracts for contract administration purposes. This process, through appropriate reporting channels, dispatches reports of awards requested by Congress.

MAINTENANCE MANAGEMENT AND PRODUCT ASSURANCE

The primary inputs to the maintenance management and product assurance processes are repair/rebuild requirements, from supply management, and major-item overhaul requirements. Other inputs to these processes are the parts-consumption history—which provides parts utilization—and the unserviceable asset inventory, which tells the maintenance manager what is actually available for the overhaul process. The maintenance data management subsystem uses those and other data to prepare the maintenance support budget. This process also produces the repair/rebuild budget and forecasts workloads at maintenance depots. It develops

maintenance allocation charts and depot maintenance work requirements, and it forecasts requirements for repair of major and secondary items. It also provides user feedback in the form of equipment improvement reports, quality deficiency reports, warranty claims, and other identifiers of problems. Those data are loaded into the Deficiency Reporting System for analyzing failures and quality deficiencies.

SECURITY ASSISTANCE MANAGEMENT

Security assistance management is accommodated to the maximum extent possible throughout all functional areas of the integrated processes, major files, special files, and output products provided by CCSS. It creates an effective interface among USASAC, the MSCs, and the Security Assistance Accounting Center. Through the Security Assistance Army Automation process, CCSS provides total case management automation at the ICPs. CCSS interfaces with DSAMS in the preparation of price and availability and letters of offer and acceptances. DSAMS is the DoD-level standard system for security assistance management.

TRAFFIC MANAGEMENT AND PACKAGING

This area supports the preparation of packaging requirements for new major and secondary items by identifying those that require packaging data. This information is forwarded to the depot and/or to the LOGSA Packaging Requirements Center for action. In addition, a file of traffic management data, over-ocean cargo data, and materiel safety information is developed for use by the depots. This function also provides codes needed to identify radioactive/hazardous materiel.

Standard Depot System

SDS is AMC's standard system for industrial operations, ammunition, and AMC installation management. The Central Design Activity for SDS is CSC. SDS supports industrial operations in every state except Hawaii and in key countries abroad (Italy, The Netherlands, Qatar, Luxembourg, Belgium, England, Germany, South Korea, and Japan).

SDS modules, which are the standard for logistics operations at more than 150 facilities worldwide, are systemic groupings of tasks within application processes or modules that facilitate logistics management of ammunition and general supply items (wholesale and retail) of equipment, facilities, and maintenance rebuild of major and secondary items. SDS is the accountable record for all Army inventories, including Army War Reserve Stocks owned by AMC. SDS provides seamless information processing for procurement, production, maintenance, financial management, storage, and delivery of materiel to the Army's active components, Reserve components, and other DoD customers. The 40-plus modular applications that make up SDS are flexibly linked to accommodate various

industrial business processes. SDS communicates with more than 40 DoD automated systems through standard protocols.

The system is used for AMC maintenance, manufacturing, and accountability missions. It creates, collects, and disseminates information and documentation for receipts, inventories, storage locations, inspections, and issues for supplies worldwide. SDS is the AMC standard system for managing and controlling industrial, financial, and personnel resources. It consists of more than 12 million lines of source code and operates in a three-tiered hardware architecture. Additional information on SDS is available at *http://www.ilso.army.mil*.

LOGISTIC DATA MANAGEMENT (CATALOGING MODULE)

The Logistic Data Management module of SDS receives data from CCSS and other DoD systems and maintains a master data record of catalog data elements relating to item identification, freight classification, packaging, interchangeability, and substitutability in support of depot operations and installation supply within SDS. It provides notification to users of stock number, unit of issue, physical security, and shelf-life code changes.

MAINTENANCE

The depot maintenance management process is accomplished through the following application modules.

Depot Maintenance Module

This module of SDS interfaces with CCSS-Maintenance Data Management System and Headquarters, AMC Systems. Within the installations/depots, it interfaces with the Cost Accounting/Budget System, Methods and Standards System, Installation Supply Accounting System, and Capability Engineering Data Reporting System. This process is based on the principle of management by exception to the maximum extent practicable, achievement of which is attained through extensive use of data processing equipment in program planning, acceptance, scheduling, and analysis. The process features automatic follow-ups on pending actions and established suspense dates for required inputs. It facilitates the exchange of maintenance repair data between MSC and performing user installations. The composition of this process is derived from the major SDS maintenance process modules.

Program Management Module

Project and production controllers at depots use this SDS module. It provides the capability to accept maintenance programs from the MSC element; reschedule monthly production quantities; renegotiate with MSC on unit-funded cost; update the End Item Master Data Record as command or installation changes occur that

affect current/future programs; report end-item completions, inductions, and scrap; and analyze production planning and control output products related to cited capabilities.

Repair Parts Management Module

This module provides an automated method to assure timely and responsive parts support to MSC-issued work orders. Features include review of historical consumption data (mortality data history file); updates of forecast anticipated demands; and monitoring of parts consumption during program execution and at program closeout.

Administrative Support Module

This module provides an automated online method to identify and update—as well as retrieve and print—applicable systems control files required for controlling the various options within this maintenance operation application.

Maintenance Shop Floor System

The Maintenance Shop Floor System is composed of nine subsystems that may be used independently or in any combination with each other:

- End-Item Tracking Subsystem
- Component Tracking Subsystem
- Work Station Requirements Subsystem
- Requisition Subsystem
- Materiel Request Suspense Subsystem
- Inventory Subsystem
- Kitting Subsystem
- Bill of Materiel Subsystem
- Bench Stock Subsystem.

Maintenance Resource Planning Process

The SDS-Maintenance Resource Planning process represents an evolutionary enhancement to production planning and control (PP&C). It brings material requirements planning (MRP) II tools and techniques to Army depot maintenance.

The following modules and functions are included in SDS-Maintenance Resource Planning:

- Workcenter/Workstation Resource Characteristics
- Customer Order Negotiation and Acceptance
- Bill of Material
- Subassembly Component Routing
- Order Acceptance, Create Maintenance Resource Planning Database
- Work Order Tracking
- Capacity Planning
- Completions and Work Order History
- Reports and Inquiries.

SUPPLY

Supply management processes are accomplished through the initiation of the modules described in the following subsections.

Physical Inventory Module

This module includes processes to accept inventory count requests from either local sources, CCSS, or other wholesale sources. It also automatically generates inventory requests for certain stock numbers, based on regulatory requirements. The module prioritizes all requests in a predetermined sequence, based on policy, and provides in-float controls over items scheduled for physical inventory. This module provides the physical inventory workload either with or without Logistics Applications of Automated Marking and Reading Symbols (LOGMARS) scanning. Either method allows physical count and discrepancy data to be entered into the system for count analysis. Count analysis results in an automatic count adjustment within established criteria or provides tools to research the count discrepancy. This module accumulates and provides automated statistical reports.

Reconciliation Module

This module includes processes that automatically transceive a storage activity's data from physical inventory, inventory adjustment, or daily reconciliation inputs to the applicable owner. The module accomplishes the data interface by determining whether the accountable record resides with the wholesale Integrated Material Management Center (IMMC) or with the storage activity. If the accountable

record is with the IMMC, the module process transmits balance and transaction history records for IMMC comparison and accountable record adjustment, if necessary. If the accountable record is at the storage activity, it transmits the inventory adjustment with the adjustment quantity or a zero quantity (for no adjustment) to the IMMC. It also provides the storage activity's record balances, selected cataloging data, and transaction history data to the IMMC at the end of each day.

Location Survey Module

This module provides for the verification of data elements maintained at the storage location against those recorded on depot master data records. The module generates location survey data that contain elements that must be accurate to receive, store, and issue materiel at a storage activity. The module provides the location survey workload for LOGMARS scanning devices or manual operations. Either method allows accumulation of performance data to project future workloads or determine accuracy.

Location Record Audit Match/Location Reconciliation Module

This module includes processes that provide a storage activity's catalog, balance, and transaction history data to the IMMC quarterly or annually. It ensures that storage activity and IMMC records are identical. If there are discrepancies with the IMMC, an IMMC automatic adjustment, request for additional storage activity transaction history, request for physical inventory, or IMMC-initiated catalog correction for the storage activity may occur.

Adjustment Module

The Adjustment Module provides for updating and recording of adjustments to the installation's accountable materiel asset records by storage activity. Asset record adjustments include changes in condition of materiel, re-identification of items, and gains or losses of materiel. Those adjustments will result in a MILSTRAP adjustment document to the IMMC. This process also transfers stock between IMMCs, based on results of logistic reassignments and ammunition single manager paybacks. Ammunition adjustments are processed against the storage site custodial balance at the lot number level and are reported to the IMMC at the consolidated stock number level.

Preservation and Packing Module

This module encompasses the authorization, visibility, control, and reporting of preservation and packing (P&P) and minor repair requirements in support of the Care of Supplies in Storage program. A supply transaction is generated to the applicable IMMC item manager requesting approval or disapproval of supply P&P requirements resulting from a receipt inspection or in-storage inspection. A

follow-up procedure is included in this module to generate follow-ups for all P&P requests. Items scheduled to be worked are selected from a P&P workload list that reflects all locally approved work and all storage activity approved or disapproved work on the status file. The process also features an online inquiry that provides the capability to retrieve the status of items recorded on the status file and automatically generate quarterly reports.

Supply Performance Reporting Module

This module posts daily statistics to the Cumulative Performance Data File. At the end of the month, performance statistics are extracted and all balances are set for the next month's activity. Performance reports are created for Headquarters, AMC and local use. Statistics accumulated relate to performance times; line-item workloads, receipt, issue, and materiel release denial volumes; and related percentages.

DoD Small Arms Serialization Program Module

The Department of Defense Small Arms Serialization Program module provides for recording and control of small arms (rifles, handguns, and certain missiles, etc.) serial numbers, which are physically stored at the installation level. Small arms serial numbers are maintained by detailed location on a master file. Computer listings of serial numbers accompany weapons on receipt, in storage, and at issue. Transactions by serial number are transmitted electronically to the DoD Central Registry of small arms serial numbers.

Ammunition Management

The ammunition management process is accomplished with the modules described in the following subsections.

Ammunition Stock Location Module

The Ammunition Stock Location Module handles site structural data, hazard class limits, stock grid assignments, location add and change, and delete processes from various applications to the site location master data record on a real-time basis. Pictorial representations of physical storage sites are provided automatically on request to facilitate receipt, storage, inspection, and issue of materiel. Occupied space, stock stored weight, and explosive weight are accumulated within each site location. Notification is provided when the hazard class limits or explosive weight limits for the site are exceeded.

Ammunition Storage Data Module

The Ammunition Storage Data Module reconciles ammunition lot records and site location records. Space utilization and tonnage data for individual site locations

are summarized to produce feeder data for storage space management reports. The ammunition serial lot history is maintained on a DATACOM database file.

Ammunition Surveillance Process

This process updates ammunition relational databases with serviceability and scheduling data obtained from surveillance inspections. Those data are maintained and made available through daily inquiry, online inquiry, or regularly scheduled reports. Inspection schedules are prepared for various intervals up to 15 months in advance of due dates to assist in planning. When inspections are due, inspection records are automatically prepared to provide the historical data required to conduct the inspection and to serve as an input medium for revised data. To assist explosive safety monitoring, this process provides reports that describe ammunition in storage, due for shipment, or considered hazardous. This process provides input to Defense Standard Ammunition Computer Subsystem on a daily basis and to the Worldwide Ammunition Reporting System (WARS) monthly. The process also provides an automated depot (installation) surveillance record, on which inspection results are recorded for historical purposes, and an automated ammunition data card.

Worldwide Ammunition Reporting System

The WARS process provides serviceability data, on a daily basis, for CONUS and outside CONUS installations for conventional ammunition by lot number. WARS receives data daily from the Ammunition Surveillance Process.

SDS Installation Support Applications

AMC Installation Supply System Module

This module is an installation-level supply system for all classes of supply. It is designed to run on a daily cycle with input entered at remote terminal stations. The process includes online validation and real-time processing of receipts and issues. Application functionality includes cataloging, requisition processing, stock control and accountability, inventory replenishment, automated follow-up and requisition status update, substitute part, demand history recording, physical inventory, adjustment processing, restratification of assets, asset stratification, and computation of requisitioning objective. The process interfaces with CCSS and other DoD systems for requisitioning and with DSS for location, receiving, transportation, shipping, and inventory function support.

Automated Self-Service Supply Center Module

This module provides automated support on a real-time basis to installation self-service supply stores and annexes. The process standardizes the tasks of requisitioning, receiving, storing, issuing, accounting, reporting, managing, and controlling specified items required and consumed by authorized activities on an

installation. The process provides a stand-alone microcomputer with multi-terminal capability, online real-time updating and retrieval from master files, periodic report generation, automated inventory routines, automatic replenishment, and usage of LOGMARS/bar-coding equipment for data entry of store transactions. The process has standard system interfaces to AMC, DA, and DoD systems.

Cyclic Inspection

This module provides a means of scheduling materiel in storage for periodic inspections at predetermined intervals. The location file of the storage management process is used as the database for this task. Data are then downloaded to a hand-held computer. Changes to condition code, where applicable, are entered into the hand-held computer, where they are stored until the end of the day. At that time, data are uploaded to the mainframe for database updating.

UNIQUE DEPOT MAINTENANCE SYSTEMS[1]

Aviation Roundout Maintenance Management Information System

The Aviation Roundout Maintenance Management Information System (ARMMIS) is an automated maintenance management system that is designed to interface with SDS and support the automation needs of the Aviation Roundout Program. The system is being installed in four CONUS National Guard Bureau Aviation Classification Repair Activity Depots and four outside CONUS contingency depot operations. Although ARMMIS will be used for aviation, it is not restricted by commodity. The system will use maintenance production control, quality review, materiel forecasting/control, and budget/production data.

Maintenance Government-Owned, Government-Operated/Government-Owned, Contractor-Operated System

The Maintenance Government-Owned, Government-Operated/Government-Owned, Contractor-Operated (GOGO/GOCO) System automates delivering workloading data from OSC to a government-owned, government-operated or contractor-operated facility. For GOCO operations, workload data are centrally maintained by OSC and provided to the government contracting officer's representative, who administers the workload procurement request order number (PRON) repair within the terms of the contract. For GOGO operations, workload data are provided to the maintenance PP&C activity that is responsible for acceptance or negotiation of PRON repair of Army-owned materiel. Performance data are automatically reported to OSC. For GOCO operations, reporting is monthly; GOGO reporting is weekly.

[1] Not shown on baseline chart.

Financial Management

Standard Industrial Fund System

The Standard Industrial Fund System (SIFS) supports the functions of Defense Working Capital Fund accounting, job-order costing, general fund accounting, and financial inventory accounting for depots and ammunition plants. It also supports methods and standards development and the operating budget process. SIFS is a part of SDS and is operational at 19 sites in CONUS.

Methods and Standards Process

This standard system application provides management data that reflect man-hour resource expenditures, production counts, and performance effectiveness. The process receives labor and production reporting daily by individuals from the Automated Time and Attendance and Production System. Labor standards established by the installation activity are recorded and maintained by the system for use in providing performance measurement via comparison with actual hours reported. Production performance indicators are provided at various organizational levels on weekly, monthly, and FY-to-date accumulations. Information also is accessible daily via remote terminal inquiry by work center or job order/program control number (JO/PCN). The process shares common validation and base files with the cost accounting and budget application and interfaces with materiel management files to obtain performance factor production for shipping and receiving functions. Work center workloading capabilities and man-hour bid standards are provided through integration with the maintenance and supply PP&C applications.

Cost Accounting and Budget Process

This application is designed to collect, record, maintain, and report cost data by organizational element (work center), Army Structure code, JO/PCNs, and PRON. Costs are charged to JO/PCNs according to predetermined average labor rates. Unique features of the system are the sharing of common base files with the operations and support application and performance of common validation for the Financial Inventory Accounting/General Fund application. This process also interfaces with the Standard Army Civilian Payroll System/Defense Civilian Payroll System (STARCIPS/DCPS) for financial reporting of payroll applications.

Financial Inventory Accounting and General Fund Process

This application is designed to collect, validate, record, maintain, and report financial data that are applicable to AWCF; appropriated funds (Operation and Maintenance, Army); miscellaneous receipts; unapplied disbursing officer deposits; and so forth. This process maintains the various required allotment ledgers and AWCF ledgers and produces internal management reports regarding status of funds, cash, accounts receivable, and accounts payable for the Finance

and Accounting Officer. This process automatically produces the Installation Command Accounting Reports and Data Element Management and Accounting Reports (DELMARS) for submission to higher headquarters and/or the Defense Finance and Accounting Center.

Headquarters AMC Personnel and Manpower Management Application Processes[2]

INSTALLATION FORCE DEVELOPMENT (MANPOWER) PROCESS

This application provides feeder data for recurring manpower reports that reflect organization-level performance data for use in determining staffing requirements. Man-month and end-strength data also are computed and passed to the Financial Inventory Accounting/General Fund application for inclusion in the AMC 218 Status of Approved Resources report. Data for these processes are obtained through automated interface with STARCIPS/DCPS, the SDS Cost Accounting and Budget System, and the SDS Methods and Standard System.

AUTOMATED TIME AND ATTENDANCE PRODUCTION SYSTEM

The Automated Time and Attendance Production System (ATAAPS) provides functional support to all AMC activities for time and attendance reporting, labor and production, and interface to the DCPS. ATAAPS is an online computer system that employees, timekeepers, and supervisors use to enter valid labor, production, time, and attendance information. As labor and production information is reported, ATAAPS formats the data into electronic transactions that are in turn passed to various financial and productivity measurement systems. Those labor transactions are subsequently converted into electronic time and attendance inputs in the format required by STARCIPS/DCPS. ATAAPS provides real-time validation of all terminal-entered data so that information collected is essentially error-free. At the close of a pay period, the "electronic time and attendance images" are passed to the payroll system to satisfy time and attendance reporting requirements. ATAAPS provides an electronic payroll certification procedure, electronic leave concurrence procedure, and an electronic time and attendance record that can be reviewed by employees. It also provides a comprehensive series of management controls and audit trails to ensure data integrity. Those data are immediately available on an as-required basis through the same terminal devices used to report the labor. The system allows data entry through a keyboard or bar-coded documents.

AUTOMATED FINANCIAL ENTITLEMENTS SYSTEM

The Automated Financial Entitlements System supports and integrates voucher examination and preparation functions for commercial accounts. It also supports the travel, payment, and collection functions for commercial accounts and the

[2] Not shown on baseline chart.

travel, payment, and collection processing for disbursing. The three major components of the system are the Commercial Accounts Module, the Travel Module, and the Disbursing Module.

Commercial Accounts Module

This module processes payments that are due to or owed by commercial concerns. The functional components provide for online entry of procurement data, receiving/certifying data, and invoice data. This module automatically links invoices and receiving reports, computes suspense dates on missing source documents, forms potential payments, and calculates payment due dates to schedule payments. It provides input transaction formats for automated interfaces with standard procurement and receiving systems such as the SPS.

Travel Module

This module provides the capability to process payments that are due to or owed by the Army's civilian and military employees on authorized travel. The functional components provide for online posting of basic travel advance and settlement package data, track the status of packages in travel, and automatically remove outstanding settlement suspenses. This module also provides read-only access to selective travel data, online maintenance of installation-specific history cards, settlement and collection of suspense letters of indebtedness, payroll deduction action, and management summary reports.

Disbursing Module

This module is capable of transforming certified voucher packages from commercial accounts and travel branches into fund transactions by supporting the disbursing payment and collection function. Vouchers received in disbursing are input through an online entry and editing process. This process permits verification or rejection of vouchers for payment/collection and recording of individual collections and disbursements. It permits online maintenance of installation-specific reference data. It prints checks for validated vouchers and tracks inventory balances of cash, negotiable instruments, electronic funds transfer, and vouchers awaiting validation. It provides automated output formats for the Standard Operations and Maintenance, Army Reporting Data System; SIFS; and DELMARS.

AMC AUTOMATED MANPOWER MANAGEMENT INFORMATION SYSTEM

The AMC Automated Manpower Management Information System supports the functions of Table of Distribution and Allowances (TDA) preparation, personnel/equipment authorization and requirement; Manning Document Preparation; and budget/authorization, by appropriation. It also provides management reports. The system is used at nine AMC CONUS sites (TACOM, Operations Support Command/Rock Island Arsenal, Headquarters AMC, Letterkenny Army Depot,

CECOM, Test and Evaluation Command, SBCCOM, War Reserve List, and AMCOM) that support 109 unit identification codes.

The system provides for gathering, defining, automating, and storing of common data for manpower management/force development, personnel, and equipment as required by AMC. Real-time reporting and uniform accuracy are keynote features. Output can be received locally or transmitted to remote/different locations. The modules included in this system are as follows:

- Documentation Module
- Program/Budget/Allocations Module
- Strength Management Module
- Function Integration Module.

Technical Baseline

THREE-TIERED ARCHITECTURE

CCSS utilizes the Army's three-tiered architecture of mainframes, minicomputers, and PCs/terminals as its configuration. This architecture has provided numerous benefits—especially the ability of the PC user to uncouple and perform operations independent of the larger, often heavily loaded mainframe and minicomputers. The implied connectivity of the three tiers places a premium on effective and reliable communications and requires fail-safe mechanisms to ensure continuity of operations when a communications failure occurs. The three-tiered architecture permits distribution of functions such as spooling of input transactions offline on PCs for later batch submittal at off-peak hours. It also permits user access to many different machines and applications as well as the CCSS mainframe applications. Figure 2-1 depicts the CCSS software/hardware architecture.

SDS is the Army's standard system for industrial operations, ammunition, and AMC installation management. SDS supports industrial operations in every state except Hawaii and in key countries abroad (Italy, The Netherlands, Qatar, Luxembourg, Belgium, England, Germany, South Korea, and Japan). Figure 2-2 shows the software/hardware architecture that supports SDS.

Figure 2-1. CCSS Software/Hardware Architecture

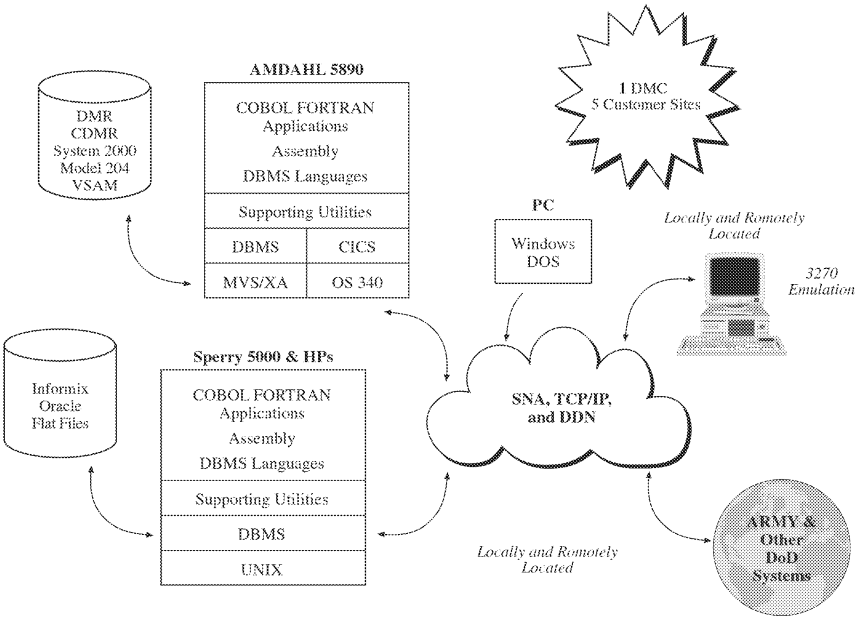
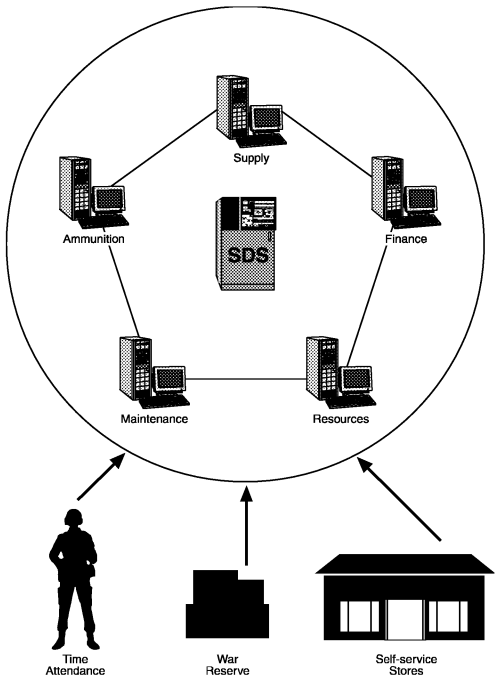


Figure 2-2. SDS Architecture



Total Asset Visibility

The TAV database is an enabling capability that is designed to extract and manipulate asset information residing in various STAMISs. These data are then structured and presented in a usable format to support multiple users (managers/decision makers at various echelons) and systems applications. The system provides TAV by weapon system, location, quantity, condition, and authorization of assets the Army owns, uses, stores, or has in the pipeline. TAV is capable of providing visibility of major end-items down to the unit property book level and secondary items down to the direct support-level ASL. Managers can have a complete picture across all classes of supply; petroleum, oil, and lubricants; ammunition; and major item medical assets. In the near future, TAV will provide a generic, deployable asset visibility capability to theater-based users during any military operation. TAV accesses existing data sources through the available communication structure. TAV is being integrated into LIDB.

Army TAV (ATAV)-Enhanced is an automated data storage and retrieval system which provides Web-based access to logistics management information, assists managers in identifying materiel that can be redistributed to reduce excess, cross level items, and provide detailed stock level trend analysis. ATAV-Enhanced aids in identifying and resolving ATAV data integrity issues across the full spectrum of Army standard systems and all command levels. ATAV-Enhanced will be integrated into LIDB by 30 September 2001.

A related TAV initiative is JTAV; this joint system is explained in Chapter1. Additional information about TAV is available at *http://www.logsa.army.mil/.*

Logistics Integrated Database[3]

The LIDB is AMC's initiative to reengineer its reporting databases and integrate all of its logistics data into a relational database that stores wholesale and retail historical reporting information and provides real-time status of Army readiness, requisitions, supply, maintenance, and services to customers. The LIDB Phase I software release in September 1999 updated current users with the first production module. Phase I is distributed on CD-ROM to approximately 2,300 customers.

LIDB Version 1.0 includes logistics information that previously was obtainable from stand-alone systems/databases (Table 2-1). In addition, LIDB Version 1.0 includes some information that previously was in the Maintenance Master Data File. LIDB Phases II and III are under development. The LOGSA Web site is at *http://www.logsa.army.mil.*

[3] See LOGSA Pamphlet 700-1.

Table 2-1. Logistics Integrated Database

Legacy data	Where in LIDB?
Army Force Information	Force/Query A Code
Army Master Data File	Item Information
Army Total Asset Visibility	ATAV
Continuing Balance System Expanded	Assets/Authorizations
Central Demand Database	Retail Demands
DoD Activity Address Code	Force
End Item Code	Item Information
Equipment Oriented Publications Database	Publications
Interchangeability and Substitutability	Item Information
Installations Activity Code	Query A Code
The Army Authorization Documentation System	Assets/Authorizations
Project Codes	Force
Routing Identifier Codes	Force
Supply Bulletin 700-20	Item Information
Work Order Logistics File	Maintenance

MATERIEL MOVEMENT TRANSPORTATION SYSTEMS

Before the Goldwater-Nichols DoD Reorganization Act of 1986 was passed, responsibility for management of the common-user DTS was vested primarily in three single managers. The Army was responsible for land transportation and port operations, the Navy for strategic sealift, and the Air Force for strategic airlift. Each military service developed standard systems to perform its responsibilities. MTMC is the worldwide traffic manager for moving DoD cargo and passengers through DTS. MTMC is a jointly staffed major command under USTRANSCOM. MTMC is the key to the global mobility system and the first leg of strategic mobility. Brief descriptions of the systems that currently support the MTMC materiel movement responsibilities appear in the following subsections. The functionality of these systems will be included in the TC-AIMS II when it is fully implemented. MTMC's Web site is at *http://www.mtmc.army.mil*.

Global Freight Management System

The Global Freight Management (GFM) system supports MTMC's mission to manage commercial freight transportation services. The primary functions of GFM are to provide

- automated capability to transportation offices for carrier selection, costing, shipment documentation, and management of DoD freight worldwide CONUS;

- prepayment audit support of carrier freight bills submitted to DFAS for payment; and
- automated interfaces with the military service systems and carriers.

GFM uses EDI as the principal means of automatic data transfer with other DoD systems and with carriers; it also supports readiness and mobilization transportation requirements.

Integrated Booking System

The Integrated Booking System provides automated support for the release and call-forward of DoD unit equipment and nonunit cargo into DTS during peacetime and wartime. The system combines the MTMC cargo booking function for unit cargo and resupply within a single system.

Strategic Deployment System

The Strategic Deployment System is a rapid, integrated, automated data processing system that enables MTMC to monitor, retrieve, process, and analyze data associated with deployment, mobilization, and sustainment. The system supports MTMC's planning and execution responsibilities command-wide. It is the vital link for providing movement information associated with deploying forces and ocean terminal activities to USTRANSCOM, Transportation Terminal Units, and U.S. Army Forces Command (FORSCOM) via automated interfaces.

Transportation Coordinators' Automated Command and Control Information System

The Transportation Coordinators' Automated Command and Control Information System (TC-ACCIS) is an information management and data communication system that automates selected transportation functions within an installation. It assists unit and installation personnel in preparing and deploying unit and nonunit equipment and personnel during peacetime, crises, and unit relocation.

Transportation Operational Personal Property Standard System

The Transportation Operational Personal Property Standard System automates and standardizes personal property shipment and storage documentation at the installation level. It standardizes operating procedures throughout DoD and utilizes automation to reduce the manual administrative workload associated with preparing, controlling, distributing documents, maintaining registers, rosters, and files related to personal property shipment and storage actions.

Worldwide Port System

The Worldwide Port System is a single automated system that supports the worldwide water terminal operating mission for common-user cargo for MTMC, the U.S. Navy, and FORSCOM during peacetime and wartime. It provides documenting, accounting, and cargo manifesting for all DoD water port common-user cargo, including unit equipment and resupply cargo moving through DTS.

Chapter 3
Tactical Automated Logistics Systems

Tactical automated logistics systems support Army, National Guard, and Reserve elements at the corps/installation level and below and Table of Organization and Equipment (TOE) units at echelons above corps (EAC). The chart in Appendix B, "The Executive Guide to Army Logistics FY01," illustrates the Army's overall automated logistics system architecture, including tactical systems. The Army's tactical STAMISs provide automated support for the following critical logistics functions:

- Asset management (property accountability)
- Supply
- Maintenance
- Transportation
- Ammunition
- Medical
- Personnel
- Financial
- Command and control.

STAMISs use COTS computers and evolving open-systems software to enhance sustainment capabilities. An important tenet of this architecture is that a division or SEP BDE will use nothing larger than a microcomputer. In addition, each unit's microcomputer (a Pentium, COTS-based desktop) is equipped with software systems to support logistics functions from the motor pool to the battalion (BN) aid station. At corps and EAC, various management centers and selected commands use minicomputers (Corp Theater Automation Data Processing Service Center-Block II [CTASC-II]).

The following sections provide brief descriptions of each logistics CSS system typically found in the tactical environment. The baseline for this discussion is the diagram in Appendix B.

ASSET MANAGEMENT (PROPERTY ACCOUNTABILITY)

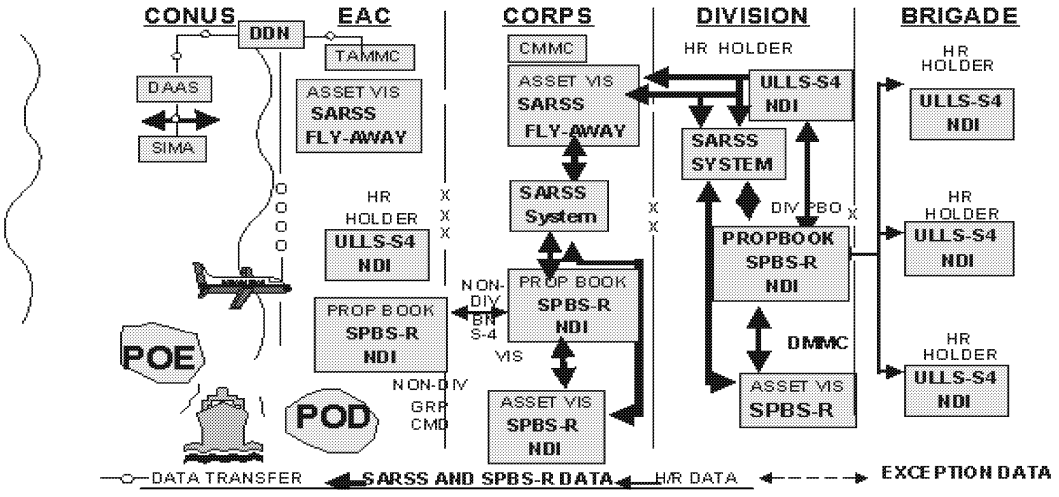
Standard Property Book System-Redesign

The Standard Property Book System-Redesign (SPBS-R) is an interactive, menu-driven property accountability and reporting system that operates on COTS hardware. Designed initially for TOE units, the application has been expanded to accommodate installations as well as TDA units. The system accomplishes the functions of property accountability required by Army Regulation 710-2 and Department of the Army Pamphlet 710-2-1.

SPBS-R provides online management information and automated reporting procedures for the Property Book Officer and produces updated company-level hand receipts. It also provides automated interfaces with supply support activities (SSAs) for the request and receipt of equipment, the Continuing Balance System-Expanded (CBS-X) for worldwide asset reporting, all central registers for serial number tracking, and Unit-Level Logistics System-S4 (ULLS-S4) for sub-hand receipt and component accountability. The supply/property module of the GCSS-Army system is scheduled to replace SPBS-R Army-wide by FY04. Additional information about GCSS-A is available at *http://www.gcss-army.army.mil*.

SPBS-R interfaces with the SARSS, DPAS, the Combat Service Support Control System (CSSCS), and LOGSA databases for total asset visibility and requisition validation. Figure 3-1 shows the configuration of SPBS-R.

Figure 3-1. Standard Property Book System-Redesign



Source: Graphic courtesy of U.S. Army Combined Arms Support Command (USACASCOM).
Note: ULLS-S4 expands to BN and company levels.

SUPPLY

Unit-Level Logistics System

The ULLS is a STAMIS that consists of software and hardware that automates the logistics system for unit supply, maintenance, and materiel readiness management operations and prepares unit supply documents, maintenance management records, readiness reports, and property records. ULLS is composed of three separate operational applications found in company and BN motorpools, unit supply rooms, and BN S-4 shops: unit motor pool operations (ULLS-Ground), company supply and BN S-4 operations (ULLS-S4), and aviation flight line operations (ULLS-Aviation). The supply/property module of GCSS-A is scheduled to replace ULLS-S4 Army-wide by FY04. The maintenance module of GCSS-A is scheduled to replace ULLS-G and ULLS-A Army-wide by FY04. Additional information about GCSS-A is available at *http://www.gcss-army.army.mil*.

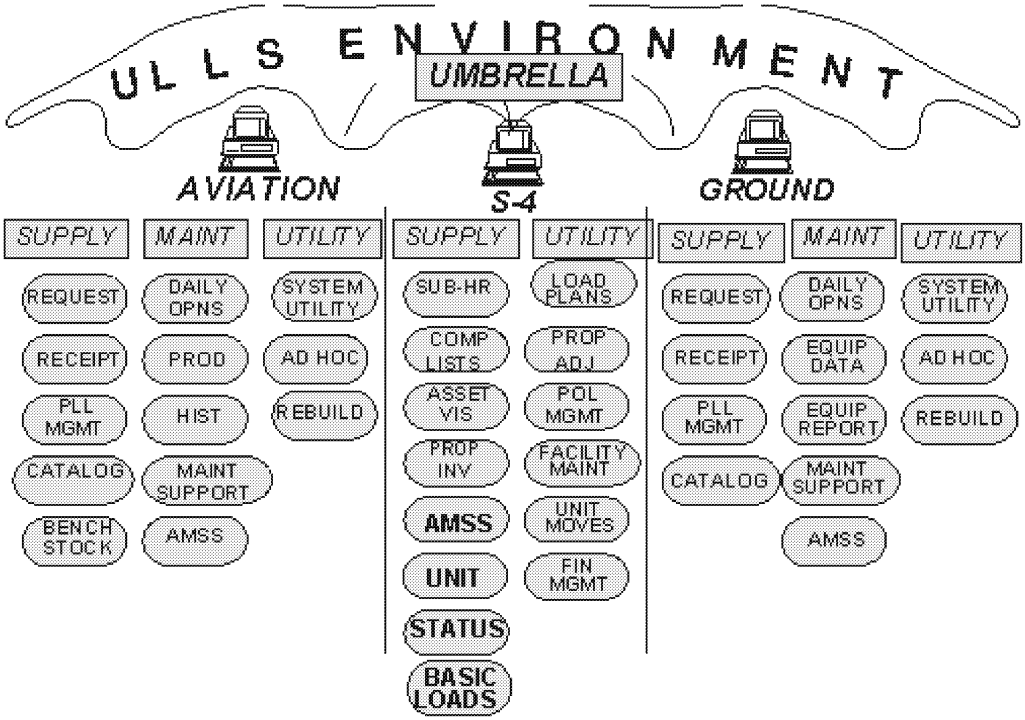
- ULLS-G—located at units that have organizational maintenance facilities—automates the unit maintenance systems of logistics, supply and materiel readiness management, including: vehicle dispatching, PLL management, and TAMMIS. ULLS-G operates in the active Army, the Army Reserve, and Army National Guard and contains basic access control for data security in the database through a user identification and password control. ULLS-G also interfaces with SARSS-[Level] 1, the SARSS Gateway, the three levels of Standard Army Maintenance Systems (SAMSs) (SAMS-1, SAMS-2, SAMS-I/TDA), ULLS-S4, LOGSA, and FEDLOG.

- ULLS-S4 automates logistics functions of the unit supply room and BN and BDE S4 staff sections. Its processes include property accountability (sub-hand receipts and component listings); requests for supplies, including an interactive catalog; document register maintenance; unit load management; financial capabilities; operational planning; asset visibility; bulk management of petroleum, oil, and lubricants; and facility management. ULLS-S4 interfaces with SARSS, SAMS, ULLS-G, ULLS-A, SPBS-R, Standard Army Ammunition System (SAAS), and the Department of the Army Movement Management System-Redesign (DAMMS-R).

- ULLS-A is an automated system that produces flight packs, tracks aircraft readiness, maintains operational and historical records, and processes repair parts requisitions. ULLS-A also automates bench stock listings by shop codes, prescribed load lists, reportable component management, production control, and the Army Materiel Status Reporting application. ULLS-A is used at the Aviation Unit Maintenance level and the Aviation Intermediate Maintenance level; it interfaces with SARSS and SAMS.

Figure 3-2 illustrates the ULLS environment umbrella. Additional information about ULLS is available at *http://www.gcss-army.army.mil/ULLS*.

Figure 3-2. ULLS Environment Umbrella



Source: Graphic courtesy of USACASCOM.

Standard Army Retail Supply System

The SARSS is a CSS peacetime and wartime logistics STAMIS that provides stock control and supply management to the Army retail level. The system is a near real-time, integrated system that is composed of four subsystems: SARSS-1, SARSS-2AD, SARSS-2AC/B, and SARSS-Gateway (formally known as the Objective Supply Capability). SARSS also provides supply-related data to the Integrated Logistics Analysis Program (ILAP) at various functional levels. SARSS supports the accountability, requisition, storage, issue, and management of Supply Classes II (clothing and equipment), IIIP (packaged petroleum, oils, and lubricants), IV (construction and barrier materials), V (non-ammunition), VII (major end-items), and IX (repair parts). SARSS supports split-based operations that provide supply management functions to all elements within a CSS domain, regardless of geographic location in peacetime, as well as in deployment situations or wartime. SARSS-1 operates on COTS hardware at divisional and nondivisional SSAs, SEP BDEs, and armored cavalry regiments. SARSS maintains accountable records and performs supply operations (i.e., receipt, storage, and issue of supplies). It extends automation and accountability to the supply support activity (SSA). Major functions executed in SARSS include processing of customer requests for issue, cancellation, or modification; receipts; replenishment; excess

identification; inventory; and location survey. SARSS supports ULLS, SAMS, SPBS-R, and nonautomated customers.

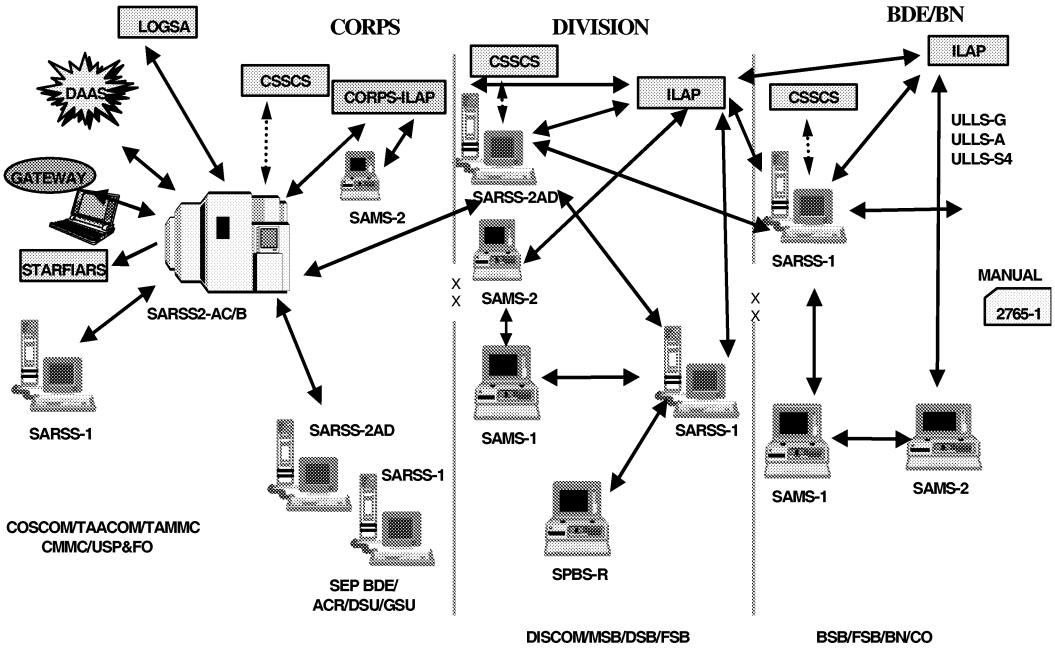
- SARSS-2AD operates in Materiel Management Centers (MMCs) at the division, SEP BDE, and armored cavalry regiments. SARSS-2AD maintains a custodial Availability Balance File (ABF) that is updated by SARSS-1. This function provides the MMC with visibility of assets for all SARSS-1 activities under its control. The system also performs time-sensitive management. Major functions executed in SARSS-2AD include management support, financial adjustment, Department of Defense Activity Address Code parameter maintenance, and general system administration. At the theater level, it supports Army war reserves, materiel rebuild programs, and major item acquisitions.

- SARSS-2AC/B operates on CTASC-II hardware at the Corps MMC, Theater Army Area Command, Theater Army Materiel Management Center, and National Guard United States Property and Fiscal Officer. SARSS-2AC/B also maintains a custodial ABF with visibility of assets in all SARSS-1 activities, including divisional and nondivisional activities. SARSS-2AC/B processes include all of the SARSS-2A functions plus SARSS-2B non-time-sensitive actions such as catalog, document history, demand history, and interface with the financial systems.

SARSS-Gateway is a relational database that uses specific processing logic (formerly known as Objective Supply Concept) that interfaces with existing Army STAMISs to provide a near-real-time supply system to unit-level supply and maintenance activities. Requests are electronically transmitted from customers to the Gateway computer, where lateral search/issue decisions are made on the basis of resident Availability Balance Files uploaded by the STAMIS and maintained at the Gateway. If insufficient assets are available, the Gateway determines whether to send replenishment or dedicated requisitions to the integrated materiel manager and provides status to customers on action taken.

SARSS can interface with several networks for data transfer. It supports the exchange of information using LANs, the DDN, and the AUTODIN. Connectivity is via Frequency Modulated (FM radio), dial-up lines, direct or leased lines, or LANs. At this time, SARSS, through the CTASC-II, uses block asynchronous transmission communication software and a universal, queue-based file transfer program. The SSA module of GCSS-A is scheduled to replace SARSS Army-wide by FY04, and the integrated materiel management module of GCSS-A is scheduled to replace SARSS-2AD and SARSS-2AC/B Army-wide by FY04. Figure 3-3 graphically depicts the current SARSS architecture. Additional information about SARSS is available at *http://www.gcss-army.army.mil/SARSS/PMSARSS.HTM*.

Figure 3-3. Current Standard Army Retail Supply System Architecture



Source: Graphic courtesy of USACASCOM.

Installation Supply Buffer

Installation Supply Buffer, formerly called the Standard Army Financial Inventory Accounting and Reporting System-Modernized, is an interactive, real-time system that records financial inventory accounting and other financial transactions for the Army Working Capital Fund, Supply Management, Army, and other related consumer funds.

DECISION SUPPORT APPLICATIONS

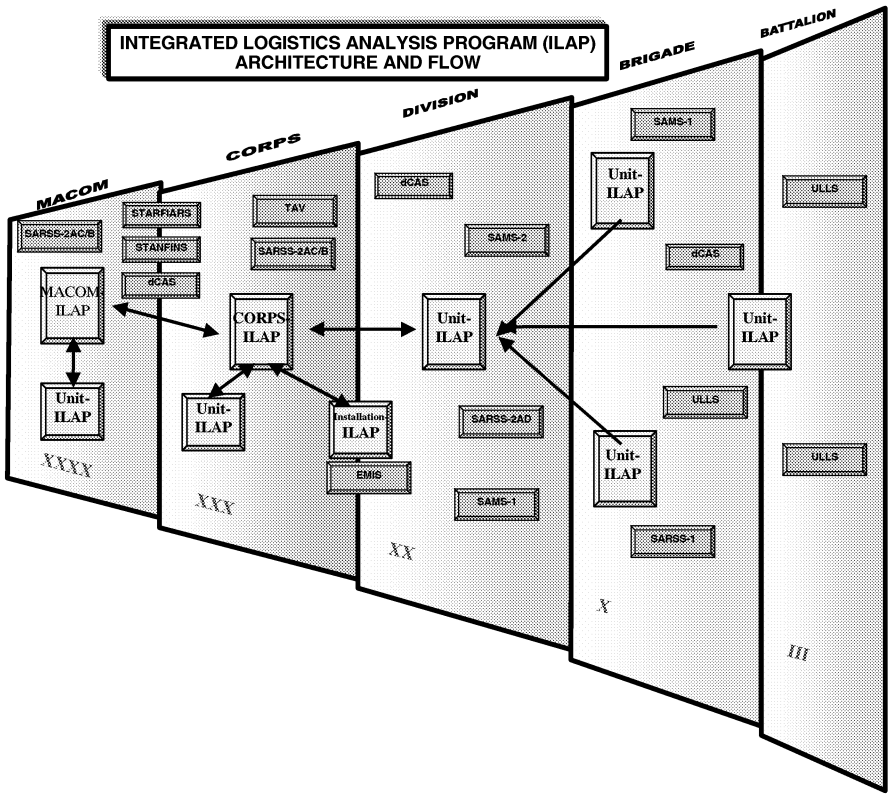
Integrated Logistics Analysis Program[1]

ILAP is an automated information management application that provides logistics and resource managers with integrated views of cross-functional data. The program gathers data daily, weekly, and monthly from STAMIS at tactical, operational, and strategic levels, as well as from DFAS. These data then are integrated and displayed at levels of aggregation appropriate for each management level. ILAP is a decision-support application that produces informational management reports in an easy-to-understand, readable format that assists managers in the decision-making process by integrating data from numerous sources. ILAP is being reconfigured to meet functional requirements generated by the implementation of

[1] ILAP is not included in Appendix B because it is not a functional system.

SSF, which is expected to be fully implemented by FY02. ILAP is scheduled to be integrated into the management model of GCSS-A by FY02. Figure 3-4 displays ILAP architecture and flow. Additional information about SSF is available at *http://www.army.mil/ssf*.

Figure 3-4. Architecture and Flow of the Integrated Logistics Analysis Program



Source: Graphic courtesy of USACASCOM.

Army Total Asset Visibility Client Server Prototype

The mainframe-based remote-access ATAV capability is being migrated toward a user-defined functionality. This approach uses a regional information concept using a thin-client/server-based architecture. The ATAV client server prototype facilitates the following:

- Initial steps toward GCSS-A management module functions
- Real-time access to organic theater logistics data
- Information displayed as functionally oriented information, easily manipulated using MicroSoft Office Desktop tools
- Web-enabled user interface.

The prototype sites are 21st Theater Support Command, 200th Materiel Management Center, Kaiserslautern, Germany; Office of the Deputy Chief of Staff for Logistics, Heidelberg, Germany; and the 19th Corp Materiel Management Center, Wiesbaden, Germany.

MAINTENANCE

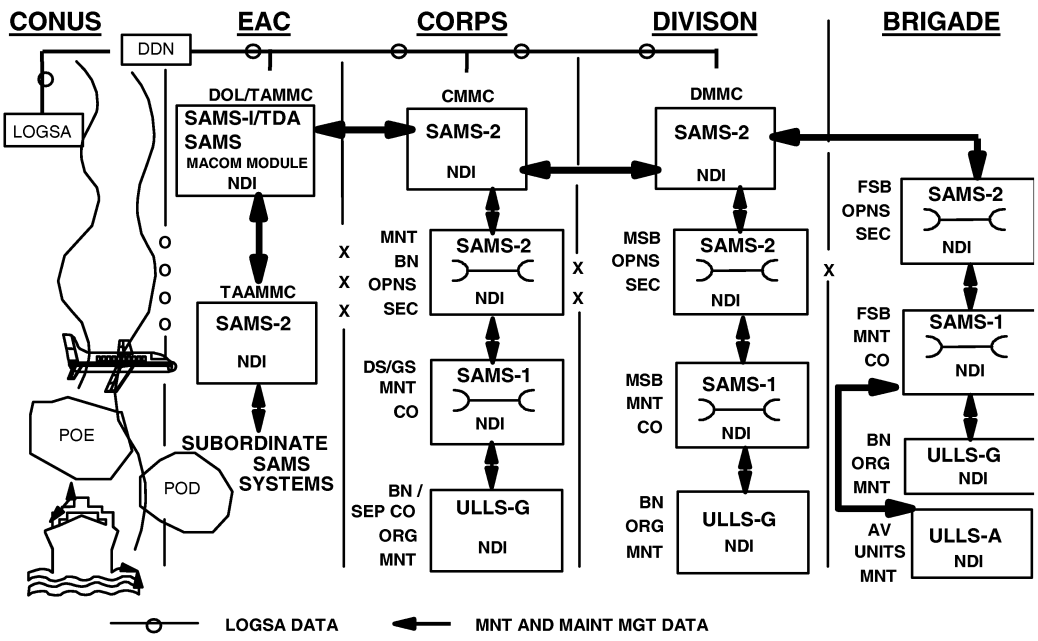
Standard Army Maintenance System

The SAMS automates maintenance shop activities and provides commanders with maintenance management information. SAMS consists of SAMS-Rehost and Installation/TDA.

- SAMS-1-Rehost automates shop production functions and maintenance control records, maintains shop supplies, and requests repair parts. It receives maintenance data from the BN maintenance section's ULLS.
- SAMS-2-Rehost provides field commanders with selected maintenance, equipment readiness, and equipment performance reports. It also provides readiness data and life-cycle management data to LOGSA.
- SAMS-I/TDA is the non-tactical installation-based application that provides standard automated maintenance operations management information to I/TDA direct support/general support.

A COTS platform now is used in place of the Tactical Army Combat Support Computer System platform. The COTS-based systems use Pentium-based laptop and notebook computers that operate in a Windows NT environment. All SAMS operating levels are designed to use the blocked asynchronous transmission communications software. SAMS-1 and 2 Rehost tactical communications are supported by Mobile Subscriber Equipment (MSE). SAMS-I/TDA uses existing sustaining base assets such as dial-up telephones, DDN, LANs, and magnetic media transfer. The maintenance module of GCSS-A is scheduled to replace SAMS-1 and SAMS-I/TDA by FY03. Additional information about GCSS-A is available at *http://www.gcss-army.army.mil*. Figure 3-5 provides a graphic view of the SAMS configuration.

Figure 3-5. Standard Army Maintenance System



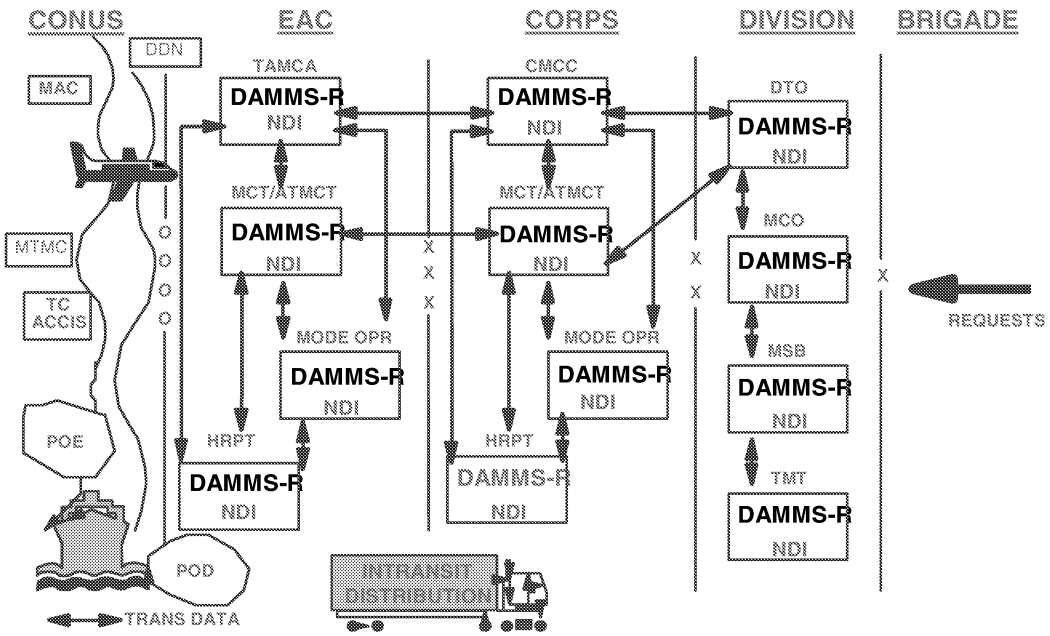
Source: Graphic courtesy of USACASCOM.

TRANSPORTATION

Department of the Army Movements Management System-Redesign

DAMMS-R provides an automated movement information management capability for movement managers involved in providing movement control and allocation of common-user land transportation in a theater of operations. It provides theater mode operators with a tool to assist in the management of their assets, including personnel, equipment, and terminal/trailer transfer points. The system provides support to operational peacetime theaters where the forward-deployed Army component is responsible for common-user transportation and movement services. DAMMS-R consists of the following components: shipment management, movement control, mode operations, addressing, highway regulation, and convoy planning. The proponent for DAMMS-R is the Deputy Chief of Staff for Logistics, Director for Force Projection and Distribution. DAMMS-R functionality is being ported over to TC-AIMS II; the proponent for TC-AIMS is Combined Arms Support Command (CASCOM). Additional information is available at *http://www.tcaimsii.belvoir.army.mil*. Figure 3-6 provides a graphic view of the DAMMS-R configuration.

Figure 3-6. Department of the Army Movements Management System–Redesign



Source: Graphic courtesy of USACASCOM.

Global Air Transportation Execution System

The Global Air Transportation Execution System (GATES) is a fully integrated transportation system that Air Mobility Command uses to support United States Transportation Command's (USTRANSCOM) 2010 Integration Plan requirements. GATES functionality includes cargo and passenger-processing information to direct mobility operations worldwide. GATES transitions the command's legacy transportation systems from a proprietary environment to an open systems environment, using fourth-generation language (4GL) and rapid application prototyping tools. It also provides the air portion of passenger and cargo ITV information to GTN. The system is designed to establish an integrated corporate system and is projected to be fully fielded by FY01. Additional information about the Air Mobility Command is available at *http://www.scott.af.mil*.

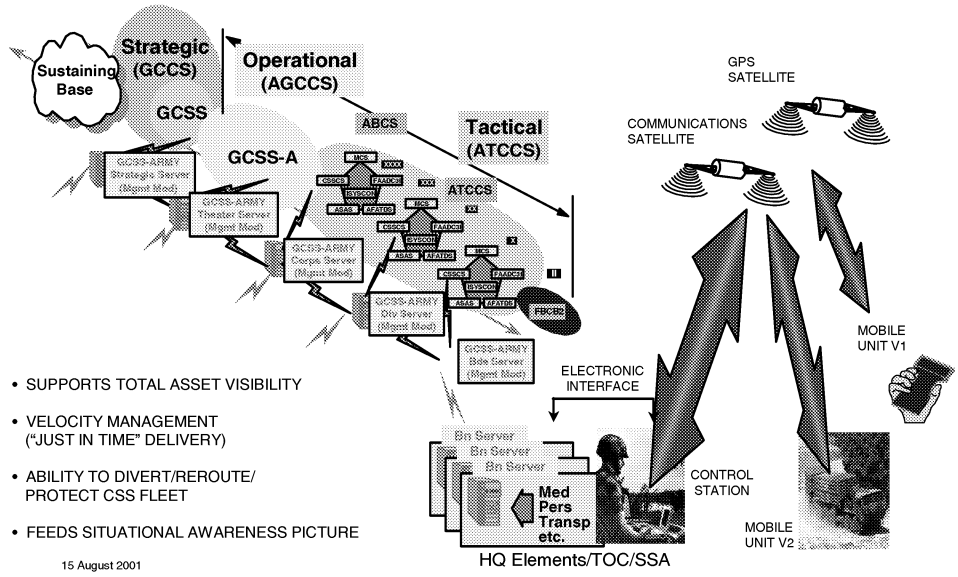
Movement Tracking System

The Movement Tracking System (MTS) is a satellite-based tracking/communications system that enables mode operators with a sufficiently capable system to identify, position, track progress, and communicate with operators of tactical wheeled vehicles (TWVs). The purpose of MTS is to provide common-user land transportation vehicles and mode managers with real-time ITV of units, personnel, and cargo with position reports throughout the theater of operation. In addition, MTS has an embedded movement-control capability that will improve traffic management on the main supply routes, provide the means to identify

flat-track and trailer delivery/pickup locations on the digitized battlefield, and furnish real-time operating tempo data for planning and exercises.

The system consists of a mobile unit mounted in the vehicle and a base unit controlled/monitored by the movement control and mode operators. MTS includes a global positioning system that can send messages from base to mobile unit or vice versa and locate/track the asset position on a map background, using PC-based software. The system is in Phase 1. In the future, MTS will interface with GCSS-A. Figure 3-7 outlines the objective architecture of MTS. Additional information about MTS is available at *http://www.mts.army.mil.*

Figure 3-7. MTS Objective Architecture



Source: Graphic courtesy of USACASCOM.

AMMUNITION

Standard Army Ammunition System-Modernization

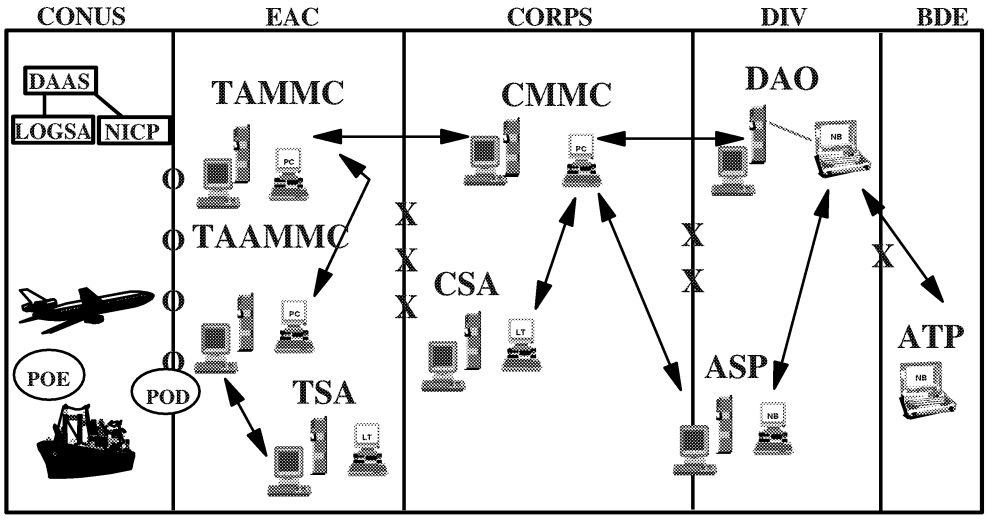
The Standard Army Ammunition System-Modernization (SAAS-MOD) is an automated ammunition management system that combines all three SAAS levels of operations—Theater/Corps MMC, ammunition supply points (ASPs), and Division Ammunition Office (DAO)—into a single software baseline. SAAS-MOD is a real-time, interactive system that incorporates embedded training, AIT, sustainment training, and enhanced communications technology. SAAS-MOD operates on COTS hardware in a Windows NT environment. The system can perform related management functions for the Class V Manager.

At the theater and corps MMC, SAAS-MOD provides asset accountability, resupply requirements, in-transit asset visibility, serviceability information, and status

of maintenance items and components and packaging materiel. The system supports management of ammunition between theater/corps storage points, the IMMC, and AMCOM. The system will provide automated management data to effect Class V resupply requirements, based on total theater posture, and it will support decisions required to ensure timely resupply throughout the theater area of operations.

At the DAO, SAAS-MOD provides visibility and maintenance capability of ammunition-related data, rapid determination of resupply requirements, and information needed for coordination, tracking, reporting, and distribution of ammunition from ammunition transfer points to the using unit. At the ammunition supply point, SAAS-MOD provides information on daily storage operations, receipts, issues, and accountability of ammunition within the theater and corps storage areas and ASPs. Each SAAS-MOD operating level can function independently of the next-higher level, if necessary. When deployed independently (such as with a modular ammunition platoon in an immature theater), SAAS-MOD can perform the functions of any level. The system also gives users the ability to test wartime scenarios on existing databases without disrupting real-time accountability. The system is capable of performing joint operations supported by online automated communications. The system also provides total vertical and horizontal integration of retail Class V information management. Figure 3-8 provides a graphic view of the SAAS-MOD architecture. SAAS-MOD will be replaced by the ammunition module of GCSS-A by FY03. Additional information is available at *http://www.gcss-army.army.mil/SAA/PMSAAS.htm*.

Figure 3-8. Standard Army Ammunition System-Modernization Architecture Battlefield Locations (Includes AIT)



Source: Graphics courtesy of USACASCOM.

TACTICAL MEDICAL LOGISTICS

Theater Army Medical Management Information System

The TAMMIS—a system managed by the U.S. Army Medical Command—is the Army's wartime medical management information system. It also is used in training scenarios, contingency operations, and humanitarian assistance operations, as well as for garrison medical operations. TAMMIS assists commanders and health care personnel in performing their missions through the management of patients and materiel on the battlefield. TAMMIS runs on many different COTS platforms and is divided into three subsystems:

- *Medical Supply (MEDSUP).* MEDSUP automates the management and requisitioning of medical materiel (Class VIII) required to support the medical needs of Army units. The system operates at the Division Medical Supply Office, MEDLOG BNs, TOE hospitals within the Corps and Communications Zone, and at U.S. Army TDA hospitals in CONUS. MEDSUP manages local inventories in support of local and external medical units, reduces user input error, eliminates complex reordering procedures, provides online edits to identify potential problems, and enhances Class VIII management.

- *Medical Maintenance (MEDMNT).* MEDMNT manages and supports scheduled maintenance and repair of medical equipment owned by local and supported units. The system operates at MEDLOG and TOE hospitals within the Corps and Communications Zone. MEDMNT is capable of maintaining a unit's equipment file, stocking repair parts, processing work orders, providing monthly performance report of scheduled and unscheduled maintenance, and providing command interest information. MEDMNT improves repair parts management, automates the DA 2406, and provides automated work performance reporting.

- *Medical Assemblage Management (MEDASM).* MEDASM automates the management of medical assemblages for TOE medical units that are responsible for storage and maintenance of their own equipment. MEDASM tracks overages, shortages, quality control information, and storage locations for each assemblage. It also generates assemblage management reports and assemblage status reports on demand; generates stock status reports; processes reports, receipts, and due-in management reports; and can provide user-designed reports. MEDASM automates the unit status report, which eliminates the need for manual tracking of assemblages, enhances medical assemblage management, and provides unit assemblage allowances for all standard assemblages. Finally, it provides the capability to track more than one unit's assemblages.

Additional information about TAMMIS is available at *http://logsys.amedd.army.mil.*

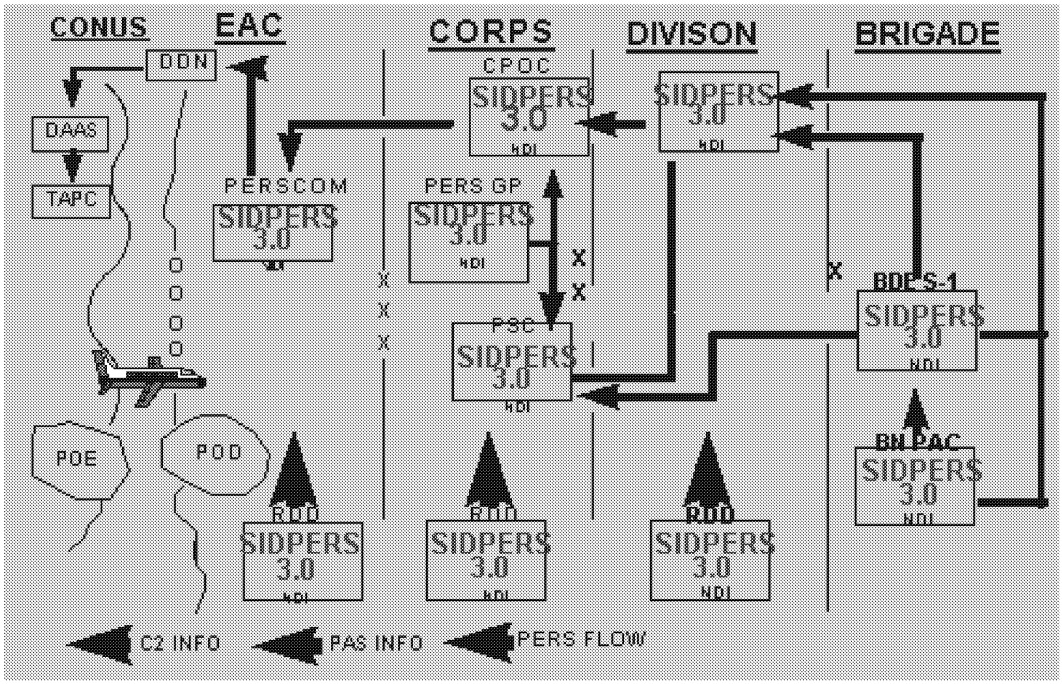
Standard Installation and Division Personnel System-3

The Standard Installation and Division Personnel System-3 (SIDPERS-3) is a STAMIS that brings real-time military personnel management and strength accounting processing to the desktop. The system is located within the personnel services battalion at the division, corps, and theater levels. The system also is located at the unit level (S1/G1) from BN through corps. It serves the active Army during peacetime and the total Army during mobilization, war, and demobilization. The system consists of a relational database, application software written in Ada, and a hardware suite. The hardware architecture is a host-based design with a terminal server as the hub, which includes the database. As many as four remote personal computers can connect to the terminal server to access the database and run office automation applications while not performing SIDPERS-3 functions.

SIDPERS-3 reduces transaction-processing time between the field and Headquarters, Department of the Army from days to hours, quickly giving commanders more accurate information. System input edits and help screens enable the user to increase productivity and reduce errors. Additional enhancements include the ability to produce an officer or enlisted record brief at any level down to BN and separate unit and a fully automated promotion module. The system completed fielding in 1999.

Figure 3-9 provides a graphic view of the SIDPERS-3 configuration. Additional information about SIDPERS-3 is available at *http://www.peostamis.belvoir.army.mil/sidpers3/sidpers3.htm.*

Figure 3-9. Standard Installation and Division Personnel System-3



Source: Graphic courtesy of USACASCOM.

FINANCIAL MANAGEMENT

Databased Commitment Accounting System

The Databased Commitment Accounting System (dCAS)[2] is a peacetime financial application that is used in conjunction with divisional logistics systems to provide commitment data to commanders. The system is a PC-based, automated commitment ledger recording and managing commitments and funding data and for uploading and receiving obligation transactions to and from the Standard Finance System (STANFINS) and other automated systems. dCAS is a valuable tool for the commander because it reports the value of requisitions submitted to higher sources of supply for major weapon systems.

Standard Finance System

STANFINS is a fully automated, Army-wide standard accounting system that is designed to provide sophisticated and comprehensive accounting support at Army installations and effective general ledger control over all resources. The system provides full disclosure of the financial results of all activities, adequate information required for all management purposes, effective general ledger control and accountability for all funds and other assets, and reliable data to serve all

[2] Not shown on summary chart in Appendix B.

budgetary purposes. Additional information about DoD financial systems is available at *http://www.dfas.mil/library*.

COMMAND AND CONTROL

Combat Service Support Control System

The CSSCS is the logistics component element of the Army Battle Command System (ABCS) and provides the combat service support functionality for the Army Tactical Command and Control System. CSSCS provides commanders with logistics situational awareness. It provides a concise picture of unit requirements and support capabilities by collecting, processing, and displaying graphical information on key items of supplies, services, and personnel. CSSCS enables client-server interactivity, including a database of equipment and personnel called the Baseline Resource Items List; using this list, commanders can identify items critical to the operation, establish a Commander's Tracked Item List, and monitor/manage those items. Bumper-number level of detail for major weapon systems will be added to the software in FY01.

As a decision and planning tool, CSSCS supports the decision-making process with an application called Course of Action (COA) Analysis. Staffs can analyze up to three COAs, each extending for 4 days. Variables include operating tempo, unit task organization, and geographical area. COAs can be compared to show the relative supportability of each COA. During the planning phase, analyses can be conducted in garrison to project status and be stored with operation plan databases for later use during tactical operations. The Army's current requirement documents extend the functionality of CSSCS to BN level.

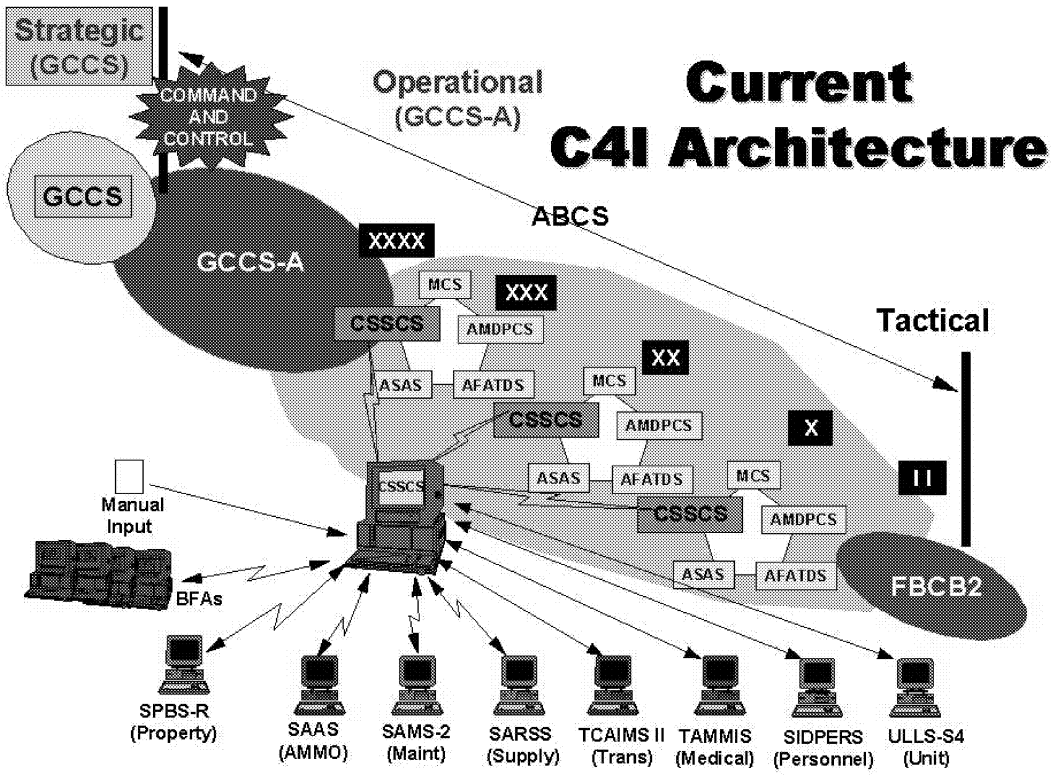
CSSCS is very easy to use and learn. It will be the first system with true embedded training. The interactive courseware uses multimedia (digital photos, 2D/3D graphics, animation text, and audible narration) to present knowledge- and skills-related content; it can provide trainees with corrective feedback, comprehension checks, and navigational control via the Lesson Map incorporated to the system.

CSSCS currently interfaces with SIDPERS-3, SAMS, SPBS-R, ULLS-S4, SAAS, and SARSS and exchanges near-real-time data with Force XXI Battle Command Brigade and Below (FBCB2). CSSCS has been ported to the Versatile Computer Unit hardware and software configuration and to COTS products (such as Microsoft Office and Netscape). The system operates on a HP-Unix and Sun operating system in a "peer-peer" relationship; eventually, however, it will migrate to a client-server architecture. CSSCS is capable of using the Tactical Internet (TI), MSE, combat network radios, LANs, and commercial communications.

CSSCS will be the interface to GCCS-A and GCSS-A. CSSCS has been fielded to the divisions of the III Corps and XVIII Airborne Corps, the Army's Command and General Staff College, and the Army Logistics Management

College. Fielding continues to the Interim Brigade Combat Team (IBCT) and U.S. Army Europe in FY01–02. Additional information on CSSCS is available at *http://www.lee.army.mil/csscs/*. Figure 3-10 depicts the CSSCS architecture.

Figure 3-10. CSSCS Current C4I Architecture



Source: Graphic courtesy of USACASCOM.

COMMUNICATIONS

Interconnectivity of information systems is critical in garrison and field environments. Communications must provide reliable connectivity for a seamless flow of information throughout the strategic, operational, and tactical levels. Tactical logistics automation systems currently rely on a mix of tactical and local communications systems. In a deployed environment or contingency theater, tactical communications provide the majority of communication support.

Distribution operations depend on the Area Common User System (ACUS), which consists of Tri-Services Tactical (TRI-TAC) and MSE systems. Operations within a BDE area use the TI to provide connectivity between the BDE and STAMIS. Commercial satellites augment these primary systems.

Area Common User System

The ACUS is a digital battlefield telecommunications system that is composed of switching, transmission, network control, TRI-TAC, and MSE subscriber and terminal equipment. ACUS provides access for static or mobile subscribers and interfaces with strategic voice and data systems. MSE extends from the divisional maneuver BN rear area back to the corps rear boundary. TRI-TAC systems provide fully interoperable, automated, secure voice and data connectivity with EAC. Although ACUS was designed to handle primarily voice traffic, TRI-TAC and MSE include a packet switch network overlay to the voice network called the Tactical Packet Network (TPN). TPN has no effect on voice grade of service and is used by large-volume STAMIS to transfer data. Additional information about ACUS is available at *http://www.gordon.army.mil/symp/acuswint/tsld006.htm*.

Tactical Packet Network

TPN is the packet overlay to MSE and TRI-TAC communications systems. It provides network services for users of secret information from BDE through EAC. It provides services such as automatic IP address assignment and address resolution. None of these network services is available to unclassified users. TPN is accredited at the secret systems high level. Most CSS STAMIS are sensitive but unclassified. Physical connectivity of STAMIS to the TPN is though the Combat Service Support Automated Information System Interface (CAISI) device. The device's design is based on the requirement that STAMIS must communicate on the battlefield via TPN. CAISI and other unclassified TCP/IP-capable hosts cannot connect directly to TPN. A Network Encryption System is positioned between unclassified TPN users and connectivity points to the MSE/TRI-TAC network. Additional information about TPN is available at *http://www.sed.monmouth.army.mil/comm/taccom/tpn/TPN.htm.*

Combat Service Support Automated Information System Interface

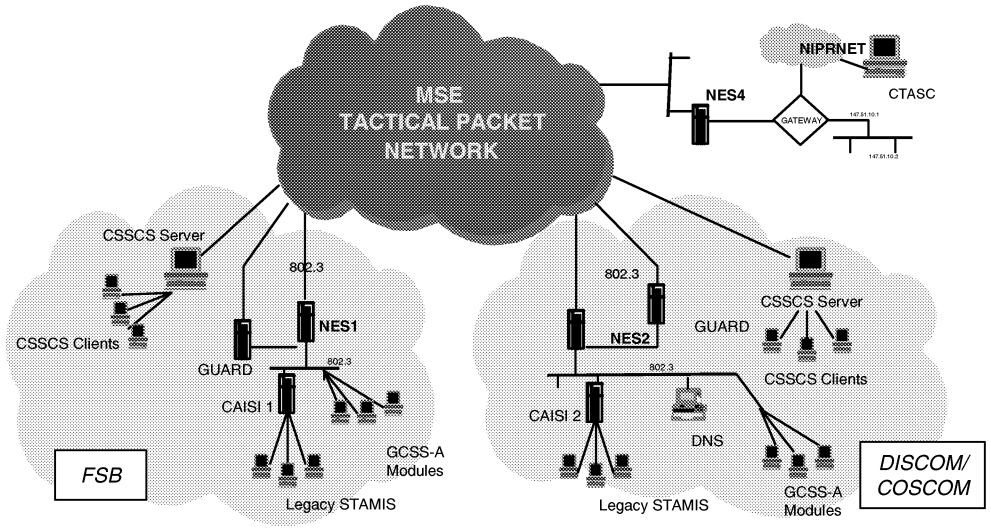
The CAISI provides the capability for current battlefield CSS legacy systems to exchange information electronically within logistics support areas, with other battlefield CSS automation systems, and with automation systems within the sustaining base. CAISI includes hardware and software and is deployable from the unit level through corps and EAC. It currently is deployed at BDE and above.

The system can operate over current tactical and strategic military networks, including MSE, the DDN, the Defense Switching Network, TRI-TAC, U.S. public switched networks, and commercial communications systems of nations where there is a defense agreement in place.

CAISI supports STAMIS interfaces for Corps Support Commands, Division Support Commands, SEP BDE Support BNs, BDE- or group-sized CSS or-

ganizations at EAC, and Corps or EAC hospitals. The system is user owned and operated by the CSS unit it supports. It can be operated in field or garrison environments, using common commercial and tactical power voltages, frequencies, and sources. A wireless prototype of CAISI with LAN capability has been developed for use in the IBCT. Figure 3-11 illustrates the current CAISI concept of operation. Additional information about CAISI is available at *http://www.peostamis.belvoir.army.mil/tacmis/CAISI/index.htm.*

Figure 3-11. CAISI Concept of Operation



Source: Logistics Integration Agency, Alexandria, VA.

Chapter 4
Emerging Logistics Initiatives

In this chapter, we review selected emerging initiatives that support the Army's Combat Support/Combat Service Support (CS/CSS) Transformation. The CS/CSS Transformation demands fundamental changes in the way the Army thinks about logistics, measures its effectiveness, and uses it to support the 21st-Century Army in a joint environment.

Several emerging initiatives and new technologies are available to aid logisticians with today's complex and challenging mission. This chapter describes some of the most advanced technologies in support of CS/CSS Transformation and the advancement toward Focused Logistics. These initiatives and technologies will assist logisticians in virtually every Army operation across the entire spectrum—from humanitarian operations through war—by merging agile combat service support organizations with new information technologies to sustain soldiers on the battlefield. State-of-the-art information-age technology, source data automation, real-time situational awareness, asset visibility, assured communications, and technological breakthroughs will facilitate the change from a stovepiped, mass supply-based logistics system to a real-time, focused, factory-to-foxhole distribution-based system—a major tenet of CS/CSS Transformation. These capabilities conform to mandates that require compatibility with joint initiatives and operational capability in home station and deployed locations. Flexibility of this type enables logisticians to support operations across the whole spectrum of conflict and to execute all missions directed by the national command authority.

Selected emerging initiatives and technologies fall into the following categories:

- Systems support to IBCT
- SSF/National Maintenance Management (NMM)
- Emerging enterprise information initiatives
- Emerging logistics information initiatives
- Communications.

SYSTEMS SUPPORT TO INTERIM BRIGADE COMBAT TEAM

The IBCT—currently evolving at Fort Lewis, WA—reflects the Army's efforts to generate a medium-weight brigade with optimized capabilities for

executing small-scale contingency operations. Chief of Staff of the Army General Eric K. Shinseki made the IBCT the Army's priority program for organizing a rapidly deployable, full-spectrum combat brigade. The brigade in development has the objectives of deploying its maneuver force anywhere in the world in 96 hours and sustaining its operations for 72 hours. These objectives are driving this combined arms organization to include a common maneuver platform that is strategically mobile and, in turn, requires superior agility from its support organization.

Support units for the IBCT would operate in an environment characterized by fast-paced, intense missions in austere surroundings and a joint-service context. Such an environment calls for a new concept of support and a new organization. The Combat Service Support Company (CSSC) is that IBCT support organization concept; it will employ the latest advances in CSS and C2 information systems, situational understanding, and CSS processes. The CSSC will achieve anticipatory logistics through the common relevant operating picture provided by FBCB2 and CSSCS—the commander's window to the battlefield and its sustainment.

The CSSC also must meet the aforementioned strategic mobility requirements, as well as a requirement to reduce the CSS footprint in the area of operations. As such, the smaller CSS structure of the IBCT will not provide the same level of support as that provided by direct support battalions of other brigade combat teams. Support in the CSSC will focus on tailoring the deployed organization and strategically configuring loads to the mission environment. To accomplish this goal, the doctrinal concept for CSSC relies on maximizing the use of regionally available transport, supply and services. Joint, multinational, and contracted resources may meet these requirements. The CSSC concept makes use of the latest advances in logistics techniques and technologies to meet the challenges of the IBCT.

SINGLE STOCK FUND/ NATIONAL MAINTENANCE MANAGEMENT

The SSF/NMM program is the Army's initiative to reengineer its business processes. The SSF is an Army initiative to improve the logistics and financial processes in the AWCF, Supply Management, Army (SMA) business area and incorporate stocks at division level and above into a single, nationally managed revolving fund account. This account will have one general ledger in CCSS. At milestone 1/2, the national manager, AMC, capitalized inventories in the previous retail revolving fund into the national level fund. This initiative will streamline current processes to include one point of sale, a single credit for each item, and one financial general ledger.

The objective of the NMM program is to repair Class II, IV, and IX reparable items that are managed within the single AWCF-SMA account that are designated

for repair and return to stock. Requirements supporting the NMM are computed on a total Army basis. IMMCs direct the national repair programs for execution at regional and local maintenance activities and coordinate appropriate program funding. These repaired components are available for Army-wide distribution as directed by the responsible IMMC.

Figure 4-1 shows the Army's financial structure before SSF implementation. Figure 4-2 shows the Army's supply and maintenance processes at the end of milestones 1 and 2. Figure 4-3 shows the continued evolution at the end of milestone 3. Additional information about SSF is available at *http://www.army.mil/ssf*.

Figure 4-1. The Army Today—The Baseline

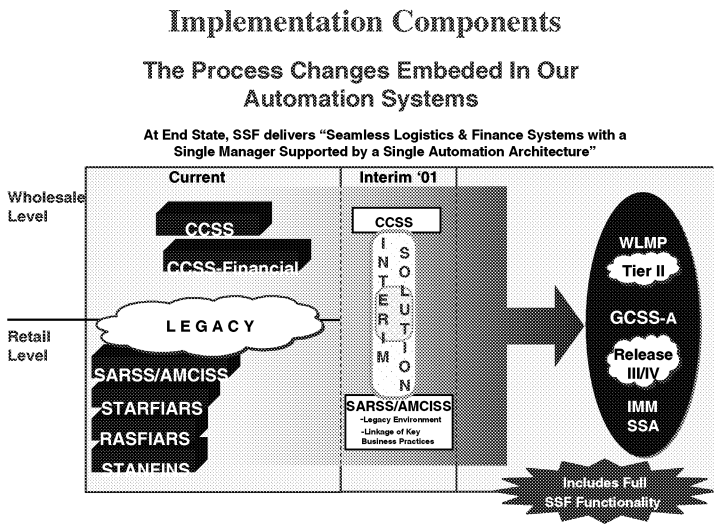
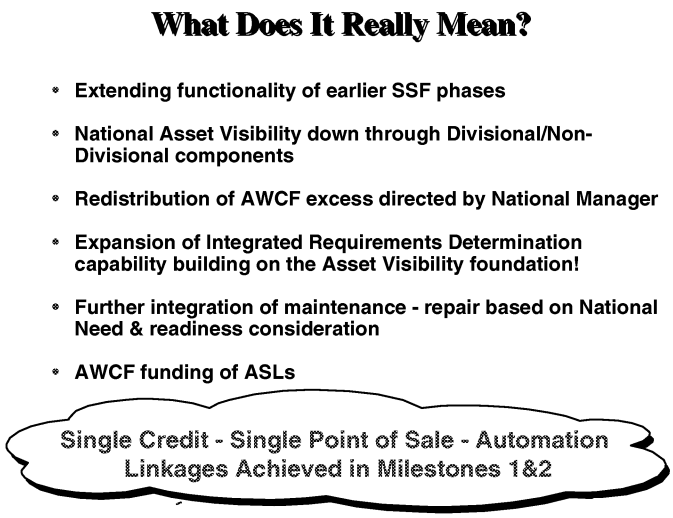


Figure 4-2. Milestones 1 and 2 SSF and NMM—What Changes?

Area	Today	Tomorrow
Inventory Visibility	• Inventory visibility via TAV	• AWCF-SMA inventory & associated transactions embedded in our IT systems
	• Re-positioning of excess replenishment of stock involves financial transactions	• AWCF-SMA replenishment fill of ASLs on non-reimburseable basis
Finance	• Dual tiered credit process	• Single Credit process
	• 2 credit transactions per turn-in	• 1 credit transaction per turn-in
	• 2 billings per requisition	• 1 billing per requisition
	• STARFIARS -- Multiple AWCF-SMA Retail General Ledger Accounts	• CCSS Financial - Single AWCF-SMA General Ledger Account
	• O&M pays for Retail AWCF-Supply Support	• AWCF Reimburses for Supply Support

Figure 4-3. Evolution at the End of Milestone 3



Source: SSF Graphics courtesy of USACASCOM.

EMERGING ENTERPRISE INFORMATION INITIATIVES

Enterprise Portals

Enterprise portal (ePortal) technology can be a key enabler that integrates information from disparate and remote databases. ePortal technology transforms legacy stovepipe IT systems into integrated processes with usable information delivered to a central business portal. ePortal technology can pave the way for rapid CSS automation and true integration of information, even in a legacy IT environment.

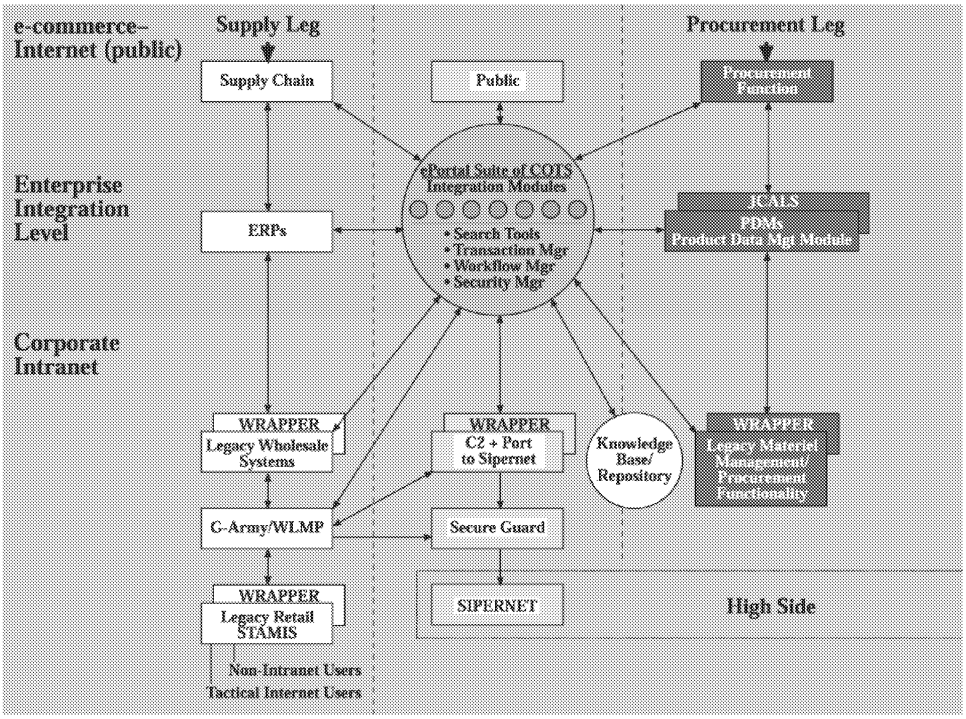
The ePortal provides the extended enterprise with a personalized single point of entry to enterprise information, via the World Wide Web. The integrated environment created by the ePortal enables users to make informed decisions, act on them, and collaborate with others throughout the process. The real potential for the technology, however, goes beyond the portal and the "window to the Web." Developments that are taking place behind the portal offer CSS automation the greatest opportunity. Behind the portal resides a set of applications that offer a wide array of technologies developed over the past decade and employed as an integrated suite of COTS modules. The ePortal suite combines sophisticated integration technology with powerful web-based search, collaboration, and categorization tools to simulate, in effect, true integration of disparate IT systems and databases. As such, the ePortal modernizes the user's view and the information process used by the user community, while allowing—even facilitating—migration from legacy to modernized IT in the background, often transparently to the user. In facilitating modernization, ePortal technology incorporates modular integration design to enable "plug-in" replacement of application systems and databases as the system is modernized. Plug-ins use COTS integration modules that

are capable of tying into virtually any database and application—or even unstructured textual information sources.

ePortals provide a suite of web-based applications that integrate all of an organization's existing IT systems and provide access to all of those systems through a single customized portal on the Web. As such, the technology provides tools that allow the enterprise to integrate its distributed and disparate legacy operations.

Thus, ePortal technology provides the opportunity for migrating to modernization, with the potential for early benefits to the enterprise user (i.e., early advances in capabilities for the enterprise user are expected). Because the technology provides for initial application in a legacy IT environment, users can anticipate more rapid development of business applications and early access to a fully integrated, commonly shared information warehouse. Applied globally to the supply chain, ePortal technology can facilitate horizontal and vertical integration (see Figure 4-4). Such integration would apply to retail, wholesale, and commercial operations; supply, maintenance, transportation, and procurement (cross-functional integration); and controlled access to the various levels of the Internet—corporate, enterprise, and public domain. Other benefits to the CSS enterprise community would include enhanced end-to-end visibility of assets throughout the supply chain and concurrent access to federal and commercial supply data, resulting in streamlined requisition and other business processes. Figure 4-4 illustrates potential CSS application of ePortal technology.

Figure 4-4. Potential CSS Application of ePortal Technology



Source: U.S. Army Logistics Integration Agency, New Cumberland, PA.

Integrated Data Environment[1]

Integrated data environment (IDE) is a virtual enterprise solution developed for the Army by Lockheed Martin, Moorestown, NJ, in conjunction with several of its business partners. IDE allows a geographically dispersed team to have secure, real-time access to program documents and information, making truly concurrent engineering and data sharing a reality. Integrated product and process development teams spanning multiple organizations now can collaborate efficiently throughout the entire program life cycle. Access control allows various roles to be defined within IDE, from systems engineers to program managers, and provides an environment that supports open information sharing.

ENTERPRISE IDE VISION

An enterprise IDE is an integrated set of cooperating business resources (e.g., hardware, software, data, and business rules) that are specifically selected, organized, and managed to enable DoD, DA, AMC, and their industry partners to support the development, fielding, support, and use of defense systems. IDE is an evolving automation environment, governed by open system standards and policies, that enables creating, accessing, managing, and using data; data exchange; and data management services. The enterprise IDE consists of the total of individual IDEs established by acquisition and logistics programs, functional and support communities, and industry partners that integrate and work together to execute defense business processes. IDE is Internet based; it requires only a PC and a COTS browser.

IDE CHARACTERISTICS

An individual IDE, a subset of the enterprise IDE, is governed by the same principles (e.g., Internet-based, open system, secure). It encompasses business processes and the principal organizations with which the creating organization does business. A program, supporting organization, or functional community establishes an IDE to improve the efficiency and cost-effectiveness of its internal and external operations. To achieve these objectives, business process reengineering (BPR) (and continued BPR) becomes an integral activity in the initial creation of an IDE.

Commands and organizations across DoD are pursuing initiatives under their IDE programs. IDE requirements and principles are as follows:

- Provides functionality to efficiently and effectively manage business operations of the organization
- Provides appropriate data security and proprietary data protection
- Provides interoperability across DoD, DA, and AMC enterprise

[1] U.S. AMC LAISO, Huntsville, AL, provided the information in this section.

- Contributes to reducing the cost of doing business
- Keeps pace with evolution of automation technology
- Achieves "near-paperless" operations by 2002
- Information required is immediately accessible to authorized users
- Authorization is dynamic and timely
- Web technology has highest potential to achieve desired interoperability and keep pace with evolving technology
- Information owner or creator is authoritative source
- Information access replaces stovepipe reporting
- BPR is integral to achieving IDE vision.

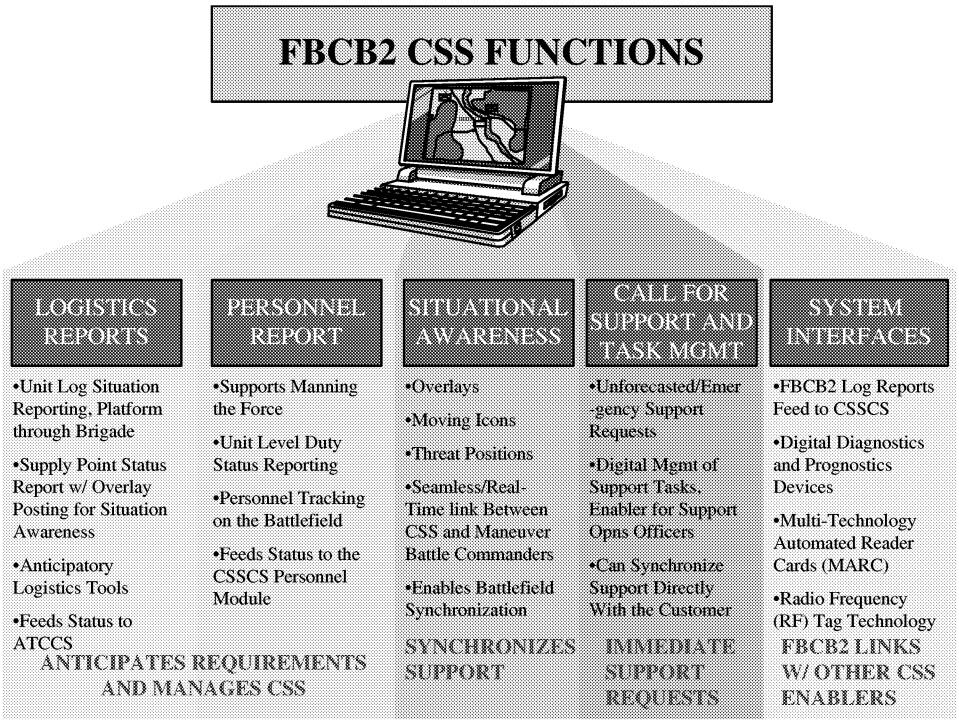
Additional information about IDE is available at *http://ness.external.lmco.com/nessm/ide.html*.

Force XXI Battle Command, Brigade and Below

The FBCB2 is a digitized information system that provides on-the-move, real-time and near-real-time battle command information to tactical combat, combat support, and combat service support leaders and soldiers. FBCB2, as a key component of the ABCS, seamlessly integrates with the other components of ABCS at the BDE and BN level. FBCB2 supports situational awareness down to the soldier/platform level across all battlefield functional areas and echelons. FBCB2 also provides brigade- and battalion-level commanders the means to command when they are away from their tactical operations centers, interoperating with subordinate commanders and leaders who also are equipped with FBCB2.

A CSSCS-FBCB2 interface has been developed to support wartime automated systems as defined in the Command, Control, Communications, and Computer Requirements Definition Program. This interface is designed to provide an automated capability for the exchange of Joint Variable Message Format messages concerning logistics, personnel, and position reporting data between CSSCS and FBCB2 operational facilities at BDE, SEP BDE, Armored Cavalry Regiment, and BN levels. Figure 4-5 shows the CSS functions of FBCB2.

Figure 4-5. FBCB2 Combat Service Support Functions



Source: PM FBCB2, Information Paper, August 10, 2000.

FBCB2 consists of the following elements:

- Software for embedded air and ground platforms
- Hardware and software for non-embedded air and ground platforms
- Platform interfaces
- Supporting communications systems (as specified by the Warfighter Information Network [WIN] strategy).

CSS functions of FBCB2 include logistics situation reports, personnel situation reports, situational awareness, call for support and logistics task orders, and task management capabilities. Additional requirements identified in the User Functional Description for FBCB2 and slated for future development include system interface and integration, medical logistics and situation reports, mortuary affairs information, fuel status data, and weapons system crew registration information. With FBCB2 CSS functionality, logisticians can provide responsive support and ensure that sufficient resources are on hand to accomplish the commander's intent.

FBCB2 also permits information, such as comments or other pertinent CSS information, to be entered as free text. In these cases, users must understand that the information is not automatically manipulated or rolled-up by higher echelons.

The CSSCS-FBCB2 interface continues in development, with required capabilities achieved in the phased development of both systems. The CSSCS-FBCB2 interface provides the Logistics Situational Report and the Personnel Situation Report. The former consists of platform/unit logistics status; the latter provides personnel status reporting. Both reports originate at the subordinate platform level. These reports are rolled-up within FBCB2, maintaining individual unit integrity, and forwarded via FBCB2 to the first echelon, where CSSCS resides.

Functional requirements include the following:

- Enhanced visibility of CSS assets and supported units on the battlefield
- Enhanced task visibility of CSS assets
- Enhanced visibility of unit and supply point status
- Enhanced visibility of combat operations for CSS planning and execution
- Enhanced capability for the customer to request support
- Enhanced capability to synchronize support.

Additional information about FBCB2 is available at *http://www.lee.army.mil/csscs/documentation/Fbcb2infopaper2.doc*.

Force Manning System

The Force Manning System is a personnel accounting system that is designed to provide decision support to the personnel manager at Division G1/Battalion S1 level. The system provides tools for making real-time personnel estimates, conducting predictive planning and creating an accurate deployment database, computing unit strength, and analyzing missions. The system supports manifesting, personnel accounting, strength management, and replacement operations as a prototype of the personnel functionality in CSSCS. The Personnel Service Support vision is to give its operators the ability to maintain a tempo that is equal to or greater than that of supported combat forces.

The prototype of the system is Microsoft Windows-based, operates on a laptop computer, and can interface with the multi-technology automated reader card and appliqué. It interfaces by design with Army Company Information System, SIDPERS, and Total Army Personnel DataBase, and its functionality will feed the AFM.

AcquiLine Suite of eProcurement Solutions

AcquiLine provides a web-based extension of SPS for users outside the contracting community eliminating the requirement to manually re-key data and reduces

paper-based cost, cycle time, and travel cost. Combined with Procurement Desktop 2 (PD2), the AcquiLine software suite will provide an integrated, paperless acquisition solution. Internet technology couples with existing PD2 code, concepts, and logic to develop robust web-enabled acquisition tools. AcquiLine tightly integrates the contract office with external organizations; it uses the Web to make parts of PD2 available to key participants in the acquisition process. Additional information about AcquiLine is available at *http://www.amsinc.com/defense/cots.htm#PD2.*

EMERGING LOGISTICS INFORMATION INITIATIVES

Emerging logistics information management systems will provide real-time global visibility and standard management of logistics resources and capabilities on a single platform. These systems will enable units to attain precise, timely, and focused support, distribution, and redistribution across organizational and geographical boundaries of all services, coupled with improved business practices, information supremacy, and systems integration to maintain and sustain the Army.

Global Combat Support System-Army

The end-state of the GCSS-Army will be a seamless, interoperable, real-time logistics information system. This system will be web-based, operate in a shared data environment, and provide integrated CSS information to the Army and joint warfighter for timely and confident decision-making. With full support of the Defense Logistics Management System, development covers the spheres of retail/tactical and wholesale/strategic. GCSS-Army will be integrated with the OJCS-sponsored GCSS family of systems.

RETAIL/TACTICAL

The retail/tactical is the Army's objective logistics automation system. It supports the CSS functions of manning, arming, fixing, fueling, moving and sustaining soldiers and their systems. This will be the Army's seamless, integrated, modular, and interactive CSS information management and operations system at all force support levels.

Development and fielding of the retail/tactical tier is being done through the normal acquisition management life-cycle process. This acquisition category (ACAT) 1 program spans through FY04. Thirteen legacy logistics STAMIS baselines are being transformed from a multiple stovepipe and non-integrated environment to a seamless, integrated, interactive, and modern web-based environment.

In the shared-data environment the retail/tactical will give the Army commander access to integrated joint information to support planning and provide joint

systems with timely and accurate information from Army databases and inter-service support capabilities.

Key operational capabilities will incorporate

- automated source data-entry devices, distributed databases, and multitask processing, and streamlined CSS business practices to reduce the proliferation of AIS, same data inputs, and duplicative tasks;
- shared standardized data;
- horizontal and vertical access to more information across the total CSS structure; and
- communications initiated from within functional applications.

Additional information about GCSS-Army is available at *http://www.cascom.lee.army.mil/automation/GCSS-Army_Global_Combat_Support_System-Army/index.htm*.

WHOLESALE/STRATEGIC INTEGRATION

The Wholesale Logistics Modernization Program (WLMP) is a non-materiel development life cycle initiative that will provide commercially outsourced IT services. The WLMP is a BPR and ERP initiative for modernizing the two largest wholesale logistics systems, the CCSS and SDS.

In the shared data environment, the WLMP will give the Army commander access to integrated joint information to support planning. It also will provide joint systems with timely and accurate information from Army databases and inter-service support capabilities.

Specific WLMP goals are to

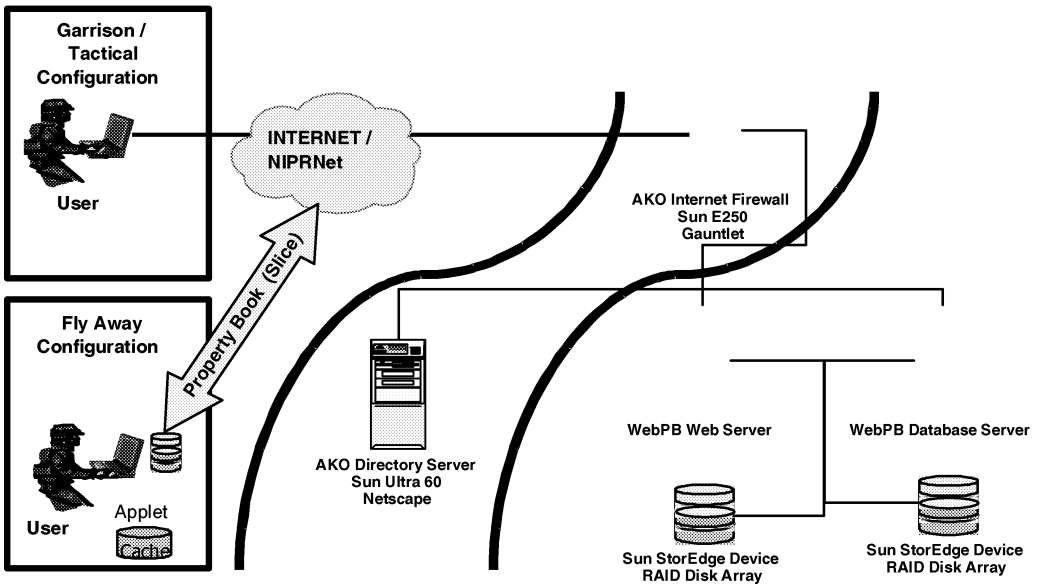
- modernize logistics by identifying and adopting best business practices and the information technology that supports those processes;
- transfer, from government to contractor, the responsibility for sustaining the current CCSS, SDS, and other transferred systems and subsystems;
- integrate the WLMP with the retail/tactical force support modules, the SSF, and other significant initiatives to achieve seamless Army logistics;
- provide modernized data processing; and
- enable logistics managers to access accurate product data (created using AIT applications), wherein WLMP maintains a national perspective of all uniquely identified products.

Additional information about WLMP is available at *http://www.wlmp.com.*

GCSS-Army/Supply Property Module

The Supply Property Module (SPR) (formerly the Web Property Book [WebPB]), is the first web-enabled module of GCSS-A; it replaces two of the Army's current retail STAMIS (SPBS-R and ULLS-S4). SPR is a redesign of SPBS-R and ULLS-S4 in a web-based environment that operates over low-bandwidth communications. SPR will provide the Army with a seamless, chief financial officer-compliant, integrated, automated information system for garrison and tactical environment property accountability. Figure 4-6 illustrates how SPR will support the warfighter.

Figure 4-6. SPR Support to the Warfighter



Source: TRW's SPR Project Office.

SPR is one of six modules in the Army's web-enabled, revolutionary new business system. SPR leverages the power of web technology and the infrastructure of the Army Knowledge Online portal and initiates the process of complying with DRID No. 54. BPR efforts—as part of SPR development—will improve data quality, simplify and automate complex processes, reduce life-cycle costs, and reduce system and database administrators' tasks.

SPR gives users a responsive and efficient means for maintaining accountable records for the Army's inventory of property in the hands of TOE and TDA units, National Guard and Reserve units, and installations. SPR is configurable to support garrison operations, using only a browser-equipped PC; the tactical environment (when communications are available); and in a fly-away configuration, providing tactical users with the capability to operate locally until communications are established or until disrupted communications are restored.

Medical Logistics-Divisional

The TAMMIS MEDLOG-Divisional (MEDLOG-D) module is a prototype automated system that is designed to enhance the management and efficiency of materiel support within Combat Health Support Level I and II organizations. MEDLOG-D will provide a standard methodology and automation support to facilitate product identification, order generation, order tracking and status posting, consumption history, funds tracking, and assemblage management.

MEDLOG-D is designed to operate on any notebook, laptop, or desktop computer. Possible data communications to be supported include telephonic modem, MSE, tactical radio, digital radio, high-frequency radio, cabled LAN, radio frequency LAN, tactical satellite, and International Maritime Satellite. Additional information about MEDLOG-D is available at *http://tamnews.tammis.amedd.army.mil/meddsum.html*.

Medical Communications for Combat Casualty Care (MC4)

The Theater Medical Information Program-Joint (TMIP-Joint) is a DoD program designed to integrate medical logistics functional information across all echelons of medical support. MC4, or TMIP-Army, is the Army component of this system, which is intended to be an integrated medical information system that partially satisfies management information requirements of joint C2, MEDLOG, and health care delivery. When MC4 is completely fielded, it will implement tactical communications and automation technology objectives for the Army Medical Department, at all echelons of wartime medical support. The Army's MC4 family of systems eventually will provide an information system that includes the following medical logistics functions: medical operations/logistics planning, reporting, supplies management, and data collection. The medical logistics applications are provided by the Defense Medical Logistics Standard Support (DMLSS) Program Management Office (PMO), integrated by the TMIP-J PMO, and then fielded by MC4 to deployable Army medical units. MC4 will provide a robust reach-back capability to medical support units, connecting them with health care professionals in- and outside of deployed theaters.

The MC4 information system requires dedicated high-speed data connectivity to allow real-time interaction of medical support personnel when treating the range of battlefield casualties. Such communications infrastructure required developing a flexible digital-radio system that is capable of handling audio, visual, textual, and graphical data. The High-Frequency Communications Radio System (HFCRS) will be a reliable, continuous-access radio network to carry MC4 data to CSS and C2 systems, keeping battlefield commanders informed about unit medical status. HFCRS radio fielding will occur in lieu of existing vehicle and tactical operation center radios in medical support units. This system includes vehicle-mounted, base station, and transportable base-station configurations, each

composed of a receiver/transmitter with antenna, a wireless gateway connecting LANs via FM, and a laptop computer running the MC4 application.

Program management for the MC4/TMIP-A/HFCRS system operates from the PM MC4 office at Ft. Detrick, MD. Additional information about the MC4 family of systems is available at *http://www.mc4.army.mil*.

AgileLOGS

AgileLOGS—a joint TACOM Armament Research Development Engineering Center/PEO TWVs/CSS Battle Lab effort—is intended to be a component of TWVs and CSS-tracked vehicles to synchronize logistics with maneuver units to support warfighters' plans. It will provide near-real-time C2, situational awareness, and information on the status and location of CSS assets on the battlefield through software modifications with logistics-unique menus and messages and AITs. The status of combat-platform fuel, ammunition, and power train will be collected automatically by onboard sensors and transmitted to ground stations that are linked to C2 and logistics networks. Logistics managers will use this information to direct logistics materiel and services to the right place at the right time to ensure battlefield lethality, survivability, and tempo. AgileLOGS will enhance logistics C2 capabilities on the battlefield and allow division and corps support logisticians to concentrate CSS at critical dispersed locations and times without massing assets to present lucrative targets.

AMC Electronic Products Support

AMC Electronic Products Support (AEPS) is a web-based logistics data and application source for AMC customers (logisticians, managers, and contractors). When complete, it will enable those customers to ease the burden in searching for and using logistics data produced by AMC and its subordinate commands. The main goal of AEPS is to provide timely and useful logistics information to its customers by becoming AMC's primary web portal for all supply, maintenance, technical, and procurement logistics information. AEPS will accomplish this goal by providing comprehensive guidelines for creating, maintaining, and administering information, databases, and web pages within the AEPS website.

AEPS is a password-protected website that provides continuous Web access to more than 60 current logistics functions encompassing supply, readiness, technical, and maintenance information and customer service and support. AEPS has integrated multiple databases, mainframe programs, and other data sources through the World Wide Web. This functionality enables customers to transmit, receive, and view pertinent and timely logistics data, using streamlined, state-of-the-art processes. AEPS can be navigated with a programmable remote control, which enables the user to customize the links required to complete their mission. AEPS provides timely and accurate logistics information; supply, maintenance, and safety bulletins, messages, and advisories, as well as other weapons system

information and links to other sites; and a search capability navigated by keyword or the AEPS site map. In addition, AEPS provides functional pages where tailored reports about logistics processes can be obtained instantly; transaction input, tracking, and status; and streamed videos and links to Army colleges and training centers—all in one place, over the World Wide Web. AEPS also provides the AEPS Broadcast Network for teaching hundreds of students over the Web with live chat participation. The broadcast and the chat are saved for later viewing.

The proponent for AEPS is the TACOM, Rock Island. Further information about AEPS is available at *http://aeps.ria.army.mil*.

WebLOG

WebLOG is a part of the Army's LIDB and is a web-based source of data and applications for retail logistics. LIDB began as a modernization effort and secured approval and funding from AMC in 1997. WebLOG provides Army logisticians with web-based information management and decision support tools. It provides asset visibility and requirements on line that go directly to the authoritative source. WebLOG provides an integrated, seamless, web-based environment encompassing the Army's many retail and wholesale interfaces.

WebLOG's weapon system management (major item support) requirements domain and business process includes logistics information systems that are commonly known as CBS-X, The Army Authorization Documents System, and Requisition Validation, along with the Total Army Equipment Distribution Plan now produced by the AFM. The most recent effort to modernize the major item management business process rests with GCSS-Army's online web-enabled SPR module. The system will be the center of WebLOG's weapon system management (major item support) requirements domain. This business process will provide major item asset information to support fielding and sustainment requirements for the Army's weapon systems. Other efforts to add capability to WebLOG are continuing.

The proponent of WebLOG is the AMC Logistics Support Activity, Huntsville, AL. Additional information about WebLOG is available at *http://weblog.logsa.army.mil*.

COMMUNICATIONS

Many of the emerging logistic concepts outlined in this chapter will use emerging communications technology. Global cellular systems, low-earth-orbit satellites, and the joint tactical radio (JTR) may be included in system architectures to satisfy operations requirements. In addition, the WIN, TI, Global Broadcast Service (GBS), and wireless LANs (WLANs) are all evolving to accommodate changing requirements.

Warfighter Information Network

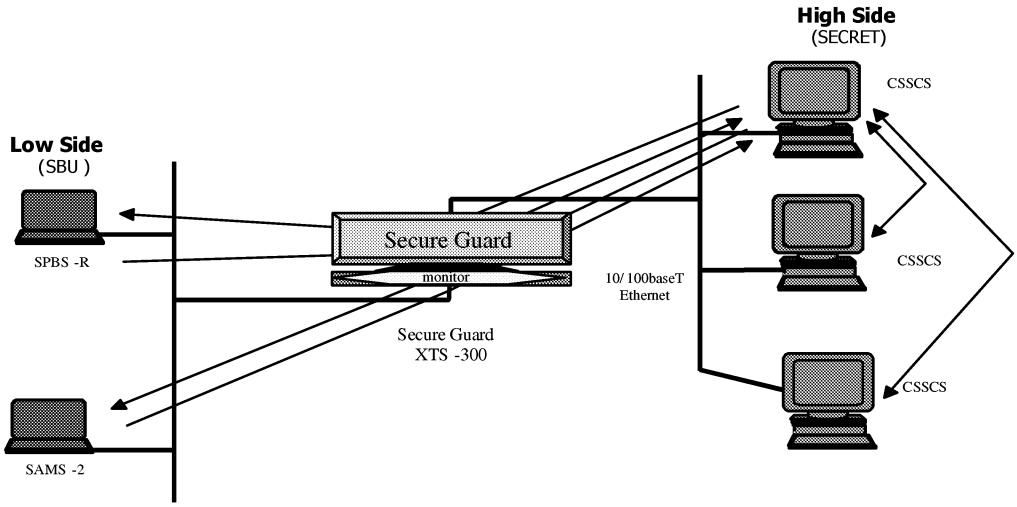
WIN is an evolving C2 network of commercially based, high-technology information and communications systems. WIN is designed to gain information dominance in an area of operations through increased capacity and velocity of information distribution. It will support the warfighter with the means to provide sustaining base information services to deployed units. WIN comprises seven component threads: power projection/sustaining base, TI/combat net radio, satellite transport, information systems, information services, terrestrial transport, and network management. This network provides support to ABCS. Additional information on WIN is available at *http://www.sysearch.gordon.army.mil/win/win.htm*.

Secure Guard

In accordance with the global information grid capstone requirements document, an important goal of the security architecture is to give users operating at any security level a controlled capability to exchange operationally required information with a user operating at a higher or lower security level. For example, the Army's CSS systems are designed to pass logistics information from deployed logistics systems upward to higher echelons. The higher echelons may forward the information to the appropriate sustaining base system. These transactions are conducted primarily at the sensitive unclassified information (SUI) level (formerly referred to as sensitive, but unclassified). SUI logistics users also must communicate with the secret logistics part of the C2 system—the CSSCS. Today, SUI logistics information from legacy STAMIS must be passed by floppy disk to a classified CSSCS. This process is cumbersome because it requires logistics personnel to drive from one site to another to pass the information. If a true multilevel secure system is not deployed to support the transfer of the data electronically, future "to-be-deployed" systems (e.g., GCSS-A) will be required to use the "air-gap" method as well.

The Secure Guard is the combat developer's vision for enabling tactically deployed users to pass information between security levels of currently deployed legacy systems and near-future systems. The Secure Guard is intended to provide secure, scaleable, reliable, efficient, and interoperable connectivity to mediate file transfer and database exchanges of logistics data between tactically deployed SUI and secret users, allies, and other federal agencies, such as the Department of State, and the intelligence community. Figure 4-7 depicts the initial Secure Guard architecture implementation concept.

Figure 4-7. Secure Guard's Architecture Implementation Concept



Source: Secure Guard Concept of Operations, 18 December 2000.

The Secure Guard PMO will be the acquisition manager for system purchasing. As systems roll out to forward-deployable commands, ownership will be transferred to the command.

At the forward-deployable command, the Secure Guard is a signal battalion and S6 information assurance asset; they will be the primary owners responsible for providing a secure physical location, configuration (in accordance with National Security Agency/DISA filter-setting guidelines), and level 1 maintenance of the Secure Guard. Each enclave that connects to the guard will need to communicate its requirements and configuration information.

The signal battalion will be responsible for maintaining physical control, installation, operation, and maintenance of the Secure Guard. For additional information on the Secure Guard concept of operations, see *http://www.gordon.army.mil*.

Tactical Internet

At BDE and below, the Tactical Internet (TI) will extend ABCS to soldiers and weapons platforms. It will pass battle command and situational awareness data. It must provide tactical, mobile, simultaneous multiband, multimode, voice, and data communications while providing routing and network services. The TI must support secret and unclassified data. The TI describes communications pathways that use the Tactical Multinet Gateway, which interfaces with the data server to provide connectivity to the WIN data network. Additional information on the TI is available at *http://www.gordon.army.mil/tsmtr/ti.htm*.

Joint Tactical Radio

The JTR will be a means for transporting information exchange requirements among users throughout a theater. Different configurations—from low-capacity local voice or data nets to high-capacity video links that cover large areas—will support information exchange requirements. These radios will operate simultaneously across multiple frequency bands and multiple voice, data, or video networks to exchange information between users. A key function of JTR will be to serve as the information transport backbone for the TI at BDE level and below. It also will enable operating multiple applications simultaneously from a single radio unit. This future digital-radio concept will replace current tactical radios. Additional information about JTR is available at *http://www.jtrs.sarda.army.mil*.

Global Broadcast Service

The GBS is a secure, integrated satellite broadcast service and information dissemination system that is evolving as commercial high technology develops. GBS will increase the capacity and velocity of information distribution. It will be a component of WIN, and it will augment current space and terrestrial transport systems through one-way transmissions. It exploits commercial developments in the direct-to-home broadcast service industry. Because GBS is low in cost, mobile, and small, it will be fielded to combat, CS, and CSS units at all levels down to battalion. It will have receiver terminals that consist of a small antenna system and a receiver. GBS terminals will be capable of operating on vehicles and aircraft. GBS will provide a real-time, continuous means of receiving, accessing, retrieving, and archiving battle command information. Additional information about GBS is available at *http://www.inmspac.disa.mil/gbs.html*.

Wireless Local Area Networks

WLANs are a major component of WIN that will support the information needs of highly mobile and distributed users by being adapted to military tactical communications systems and commercial wireless technology. WLANs will assist in providing mobile and flexible command posts and enhancing mobile C2. Additional information about WLANs is available at *http://www.monmouth.army.mil/peoc3s/win-t/main/swlan.htm.*

Automatic Identification Technology

Automatic identification technology is a family of data-capturing devices designed to provide rapid and accurate acquisition, retention, and retrieval of source data. AIT includes a variety of read and write data-storage technologies used to process asset identification information. These technologies include linear and 2-dimensional bar codes, magnetic strips, integrated circuit or “smart” cards, optical memory cards, contact memory buttons, radio-frequency identification and data-collection devices, and magnetic storage media.

Common Access Card

The common access card is a credit card-size device that can contain multiple technologies and individualized databases. Types of technology normally found on a smart card include an integrated circuit chip, magnetic stripe, and bar codes. The topology of the card can contain printed information and images, such as photos, fingerprints, and text. Common access card will serve as a standard identification card for active-duty military personnel, including Selected Reserve, DoD civilian employees, and eligible contractor personnel. The card will enable physical access to buildings and controlled spaces; and will be the principal card for accessing the computer network. It is the primary platform for the public key infrastructure authentication token.

Chapter 5
Commercial Business Practices

Discovery and adoption of "best business practices" has become a requirement for success among industry-leading organizations. The global reach of business and communications has necessitated refinement of processes across the spectrum of business functions—and doing so with an urgency that matches the pace of operations today. Market pressure and competition are such that if one company revolutionizes an existing technique, competitors must quickly adopt that practice and learn to change faster or risk failure. Similarly, the demands of downsizing and expanding responsibilities place pressure on government agencies and military services to be increasingly efficient, responsive, and rapidly adaptable to change. Those organizations also must look externally to find the best practices related to their business and make them their own.

The CS/CSS Transformation requires that the Army adopt "best practices" within the government sector from proven methods and business innovations in the private sector. In fact, the Clinger-Cohen Act of 1996 encourages the DoD logistics community to embrace commercial industry practices by integrating information technologies within the defense framework. The Army logistics community is engaged in an aggressive campaign to identify and integrate industry's best practices, methods, and techniques where feasible to assure effective support of the 21st-Century Army.

Recent studies have resulted in categorization of areas in which the Army could tailor its practices. Improvements in these areas would achieve increases in efficiency and maximize the impact of limited resources. The following categories address the scope of Defense logistics and provide focus for warfighters and logisticians to improve support to military operations:

- Planning and performance measurement
- Weapon system life-cycle logistics management
- Implementing supply chain management
- Operating with reduced structure
- Joint theater and force projection
- Managing logistics resources
- Managing the logistics workforce.

Although numerous commercial practices may have applicability in Defense logistics, a few recurring themes span several of the foregoing categories and get to the heart of logistics transformation. Automating all logistics management data and providing for common data availability to operators/managers at all levels is the key to this transformation. Incorporating decision-making and analytical tools into management systems becomes possible through such automation—which, in turn, eliminates redundant functions and reduces resource demands. Optimizing lower-level logistics functions through automation and integration across functions provides flexibility to manage systems in close to real time. Visualizing the entire distribution chain from the perspective of a common user makes interactive management of the logistics pipeline an emerging reality. Each of these concepts supports current DoD objectives for CS/CSS Transformation: TAV, velocity management, distribution-based logistics, precision logistics, ITV, and Focused Logistics. Selecting relevant best practices from the government and commercial sectors will ensure that these objectives become the reality of Army logistics in the 21st Century.

This chapter contains a discussion of business trends and best practices that are particularly useful to the Army's logistics transformation: supply chain management (SCM) and the Supply Chain Operations Reference (SCOR) model for supply chain optimization, enterprise resource planning, source data automation, and business process reengineering.

SUPPLY CHAIN MANAGEMENT

A supply chain consists of all processes and associated entities in a series of customer-supplier relationships, from the most basic raw materials to the ultimate customer for a product or service. SCM involves actively planning, organizing, and controlling a supply chain's activity. The effectiveness of a supply chain can influence an organization's return on investment (ROI)—and even its survival. For the Army, SCM can determine the degree of mission success for training, peacetime missions, and combat operations—and, ultimately, the well-being of soldiers.

Tools are emerging to support effective supply chain performance. ERP systems and separate SCM tools and applications are available to automate planning and communications functionality within and between supply chain links and to optimize their efficiency. The SCOR model (see discussion below) is one well-known tool that is in widespread use. The Internet is fast becoming the vehicle for high-speed communications between supply chain links, regardless of an organization's internal software and integration limitations. Electronic commerce is becoming a reality within supply chains on a global basis, with high-speed, two-way communication on a near-real-time basis.

Supply chain optimization refers to the use of automated tools and computing systems to achieve the best possible results of SCM processes. Optimization

relates to operational and strategic decision making. Users and vendors of supply chain optimization believe that it is most useful in situations in which a company or product has a complex supply base, complex distribution, or volatile demand. Technology helps to identify and resolve problems such as bottlenecks or unreliable suppliers. Logically, distribution-intensive industries such as food/beverage and consumer packaged goods can benefit from transportation optimization and inventory deployment. Supply chain optimization can most influence logistics efficiency and deliver maximum ROI. As we indicate in Chapter 4, SCM will be a primary element of the business practice modernization effort in the WLMP. Additional information about SCM is available at *http://www.supplychainlink.com* and *http://silmaril.smeal.psu.edu/misc/supply_chain_intro.html*.

SCOR MODEL FOR SUPPLY CHAIN OPTIMIZATION

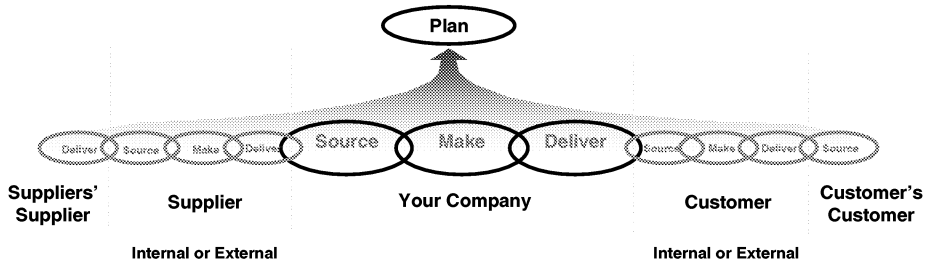
Effective use of the many tools that are available to optimize the supply chain begins with a thorough understanding of an organization's own business processes and how to modify or reinvent them to get the best results. To that end, the Supply Chain Council (SCC) created the SCOR model.

SCC is an independent, not-for-profit corporation that comprises more than 400 supply industry companies. With SCOR, the Council established a cross-industry standard system of evaluating and implementing supply chain industry best processes. SCOR is now the "alphabet" of supply chain reengineering; it provides a logical tool for reforming defense logistics. In effect, the SCOR model defines supply processes in a general, universally applicable way and allows for structured description of supply activities from the "supplier's supplier" to the "customer's customer."

The SCOR model is a process reference model that combines accepted business reengineering practices—identifying supply processes, quantifying best processes, and characterizing best management practices—into one reference to achieve "best in class performance" within the supply chain. The supply operations (plan, source, make, and deliver) that form the framework of the SCOR model appear in Figure 5-1.

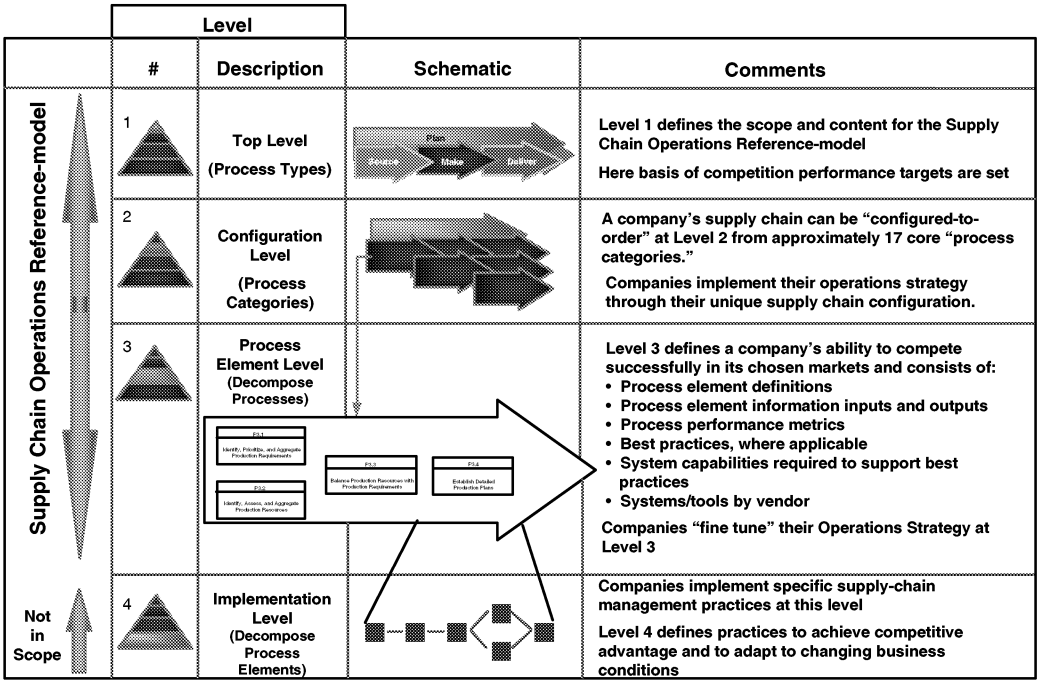
Multiple levels of SCM employ each of these operational categories. The SCOR model defines processes only at the management levels, however—not down to tactical operations (Figure 5-2). With this model, an organization can identify supply "threads" running across mid- to upper levels of management and operational categories, from the source to the end customer. The organization then can define each of its supply chains and functions in a logical, reconfigurable manner—the essence of business process reengineering.

Figure 5-1. SCOR Model Framework



Source: *http://www.supply-chain.org/html/scor_overview.cfm.*

Figure 5-2. SCOR Model—Three Levels of Detail



Source: *http://www.supply-chain.org/html/scor_overview.cfm.*

ENTERPRISE RESOURCE PLANNING

ERP refers to an automated, integrated information and management process that reaches across the entire enterprise. ERP is the strategy that an increasing number of commercial manufacturing and service-sector organizations use to manage total scope of their operation. In addition to the Army, DoD and other public-sector activities are implementing ERP solutions. ERP had its beginning in MRP, which developed in the 1960s. MRP is a set of techniques that calculate material requirements and time-phase their acquisition and use.

Manufacturing resource planning (MRP II) evolved from MRP in the 1970s to expand the functionality of MRP systems to accommodate planning of all resources for a manufacturing company. MRP functionality became a module within MRP II and was applied to processes in use at that time. In the 1990s, MRP II evolved into ERP. ERP differs from MRP II in that ERP is characterized by inclusion of relatively new technical requirements, such as graphical user interfaces, relational database, use of fourth-generation language, software engineering tools, client/server architecture, and relatively open system portability.

Successful implementation of ERP requires hard work. Quoted ERP failure rates are in the range of 60–90 percent (with failure defined as implementation that does not achieve the ROI identified in the project approval process).

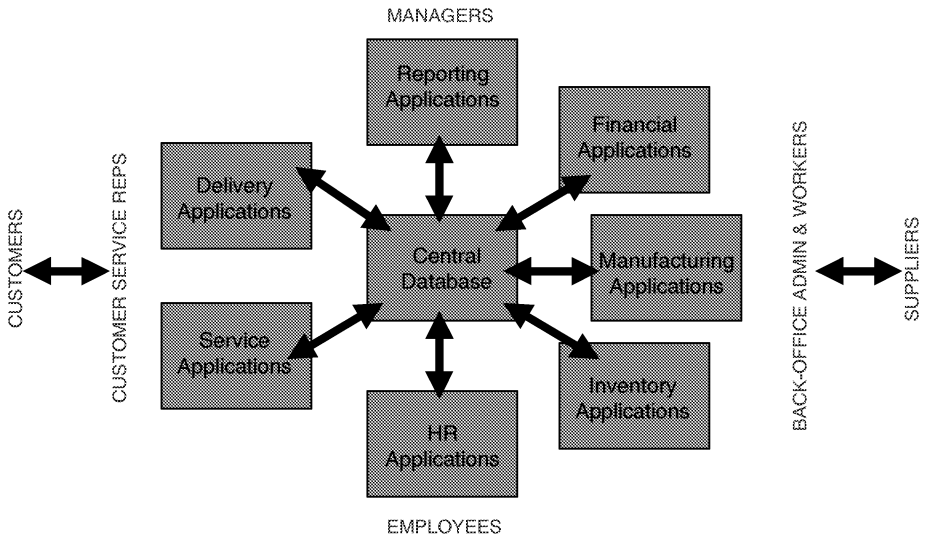
Computer-based ERP systems make possible at least six significant advances over traditional legacy systems:[1]

- Masses of data can be stored and manipulated cheaply, at rapid speed
- Plans can be integrated over products and processes
- Previously over-complex product structures now allow easy loading, storage, and retrieval for multiple uses
- User options become available for classification purposes (lot sizing, ordering logic, etc.)
- Myriad data become available for many users simultaneously through one input
- Frequent, rigorous re-planning takes place easily, quickly, and inexpensively.

These advances enable Army logistics to implement support operations that are agile, provide continuous visibility of assets, allow real-time operational decision making, and efficiently utilize limited resources. The Army has adopted SAP as the ERP to support the WLMP's modernized services. Figure 5-3 portrays an example of an enterprise structure. Additional information about ERP is available at *http://www.erpsupersite.com* and *http://www.apics.org*.

[1] George W. Plossl, Orlicky's Material Requirements Planning: Second Edition, New York: McGraw-Hill, 1994, p. 260.

Figure 5-3. Anatomy of an Enterprise System



Source: Adapted from Thomas H. Davenport, "Putting the Enterprise into the Enterprise System," *Harvard Business Review*, July–August 1998.

SOURCE DATA AUTOMATION

Automating information input from the lowest level to increasingly higher operational levels is a key characteristic of efficient business processes today. Source data automation refers to obtaining information at the individual transaction level in a form that is immediately usable by computers. Several compelling advantages of this type of data collection encourage automation of as many low-level logistics operations as possible. Such data gathering is faster than manual methods, yields information with greater accuracy, provides flexibility for data use, and allows dynamic tracking of management data. This increased pool of data, however, requires high-capacity/high-speed information handling, storage, and processing equipment. Processes and formats for exchanging or using these data must follow established standards—another demand of fast, accurate information for which the benefits are well worth the costs.

Source data automation takes on several forms and combines with the family of multimedia devices to simplify inputs for computing systems. Scanning devices and supporting software provide for optical recognition of text characters, marks, codes, ink characters, voices, and signatures. We encounter many of these devices every day through bank/credit cards, bar-coded price tags, personal checks, and so forth. Other data automation devices take dynamic measurements of mechanical systems through thermal, pressure, light, and other sensors. Devices such as these exist in automobiles to alert users to problem conditions; their signals can be packaged, transmitted, and recorded for use in automated information systems. Add facsimile machines and audio/video recorders to the set of data collection

devices, and one begins to see the full promise of automating information, especially in defense logistics.

The logical extension of automatic data collection is to exchange information directly between logistics customers and operators. For the purposes of this handbook, EDI is the process of electronically moving documents, forms, and data between logistics entities. Given standardized processing equipment, reliable communications connections, and automated data, logisticians can perform transactions electronically and in real time. This environment makes possible the leap-ahead gains in efficiency that Army logistics requires for support of future operations. Additional information about source data automation is available at *http://www.mae.ucsd.edu/~burgos/ch4.html*.

BUSINESS PROCESS REENGINEERING

During the 1980s and early 1990s, American industry began a revolutionary transition in the way it viewed change. Corporations began to notice that industry-leading and emerging companies had abandoned the traditional Adam Smith theory that work should be broken down into its simplest and most basic tasks; they began to consider change management by re-unifying those tasks into coherent business processes. They also began to realize that success resulted not simply from trying to fix, adjust, automate, or reorganize individual tasks or entire organizations but by starting over from scratch and focusing on processes. They learned that three key tenets of management had driven much of this change and would affect their future operations. First, customers and consuming corporations demand products and services that are designed for their specific needs and schedules; the notion of mass markets has become secondary. Second, competition has expanded in a global economy to such an extent that they had little notice of smaller, niche companies entering the market. Third, change is constant, and technology is driving capabilities faster than their organization's ability to assimilate them; the pace and scope of change require flexible organizations and processes. The concept of BPR emerged from the methods developed by those "process oriented" innovative organizations.

BPR is linked closely to strategic planning. It becomes the tool to provide a fresh start when organizations determine that their current methods, systems, and structures do not support the achievement of corporate goals and visions. Hammer and Champy, in *Reengineering the Corporation,* define BPR as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed."[2] BPR forces organizations to question the fundamental reasons why they do what they do and bring innovative methods and emerging technologies to bear to define the best practices, systems, and organizational structures to achieve corporate goals and satisfy customer needs.

[2] Michael Hammer and James Champy, *Reengineering the Corporation: A Manifesto for Business Revolution*, New York: HarperCollins, 1993, p. 32.

Although BPR has evolved into a proven method to execute change, many attempts in private industry have not been successful. Key among the reasons for failure are trying to fix a process instead of changing it; lack of strong executive leadership; ignoring the values and beliefs of individuals; not taking a process focus; settling for minor results; making reengineering happen from the bottom up; failing to put someone in charge who understands and supports reengineering; and not making the reengineering effort a priority on the corporate agenda.

Many Army and Defense organizations have adopted BPR as a means to modernize systems, processes, and organizations. The Army's strategy for CS/CSS Transformation, as a means to achieve the visions of the Army's Transformation, is a good example of using BPR to modernize systems, processes, and organizational relationships and responsibilities. The BPR strategy of the WLMP demonstrates the Army's resolve to replace outdated practices, technologies, and organizational structures with modern, innovative methods and capabilities. Additional information about BPR is available at *http://www.brint.com/BPR.htm*.

Appendix A
U.S. Army Logistics System Baseline FY02/03

The U.S. Army Logistics Systems Baseline FY02/03 is a diagram that summarizes standard logistics functions, processes, and automated systems supporting the Army through FY03. The baseline was designed to provide soldiers and commanders with a ready reference to current joint/DoD and Army logistics systems, processes, and organizational relationships. The relationships displayed on the baseline were developed and approved by functional proponents at Joint Chief of Staff, J4, Headquarters, Department of the Army, Office of the Deputy Chief of Staff for Logistics (ODCSLOG); AMC; CASCOM; the PM for CSSCS; the PM for GCSS-A, and other activities.

A COMPLEX "SYSTEM"

The Army logistics "system" is a complex series of processes wherein organizations, personnel, procedures, and automated information processes use an established set of policies to perform logistics functions for DoD and the Army. The baseline aggregates this complex view into a total DoD view of the Army logistics system. The baseline is designed to provide readers of this handbook with a tool to assist them in understanding this complexity and to support the Army's strategy to execute the mandate of CS/CSS transformation.

DESIGN AND ORGANIZATION OF THE BASELINE

The baseline is organized on horizontal and vertical axes (rows and columns). The horizontal axis (i.e., column labels) shows the three echelons of the joint/DoD and Army logistics system: strategic, operational, and tactical.

- *Strategic Logistics* includes the nation's organic industrial base and DoD's link to its military forces. Strategic logisticians focus on requirements determination, personnel and materiel acquisition, prepositioning, stockpiling, strategic mobility, deployment, redeployment, and demobilization. Examples of organizations at this echelon are DoD/Service Headquarters, Joint Chief of Staff-J4, AMC, GSA, DLA, PEOs/PMs, USTRANSCOM, and MTMC.

- *Operational Logistics* ties tactical requirements to strategic capabilities. Operational logisticians focus primarily on reception, discharge, onward movement of forces, positioning of facilities, materiel management, theater-level maintenance, movement control, distribution, and reconstitution. With the implementation of SSF and NMM, this echelon includes some

elements of AMC, plus organizations at the theater, EAC, and installation levels.

- *Tactical Logistics* entails synchronization of all logistics activities required to sustain soldiers and their systems in operation/training environments. Military units, organic to deployed tactical forces at corps and below, constitute the bulk of tactical organizations at this echelon.

To clarify the relationship between systems, processes, organizations, and functions, the Baseline uses a system of color codes. Boxes, words, and lines highlight the primary functions of logistics—which consist of Command and Control (white), Medical (light blue), Supply (blue), Transportation (orange), Finance (green), Procurement (pink), Ammunition (purple) and Management Reporting (black). The flow of materiel to customers is shown as a solid black line. The legend on the baseline details this color-coding.

Beginning at the top left, under the "Strategic" column and below the Command and Control band, the baseline shows the fundamental elements of the Army Force Development process as the source of the Army's materiel requirements. For those requirements, the processes move down (doctrinal functions) or across (operational echelons) to identify and track the relationships of the primary systems and organizations of the logistics system as they interact in the joint/DoD and Army command and control structure.

Customers can track the route of their transactions and see an overview of how requirements (materiel and information) are processed and the levels and systems that process them. They also can see the flow of support requests to their ultimate destination.

The following editing techniques were used to achieve brevity without sacrificing completeness:

- When a system or part of that system operates at a higher and a lower echelon, the functions are described in detail at one level but not repeated at the other level.

- Materiel flow lines (solid lines) represent all classes of supply except Class X.

- Doctrinal, policy, and systems changes scheduled to be implemented after FY03 are not shown on this chart.

Appendix B
The Executive Guide to Army Logistics FY01

The chart on the following page illustrates the architecture of the Army's overall automated logistics system, including tactical systems.

Appendix C
Logistics and C2 Automated Systems Architecture

The Logistics and C2 Automated Systems Architecture is a compendium that documents the operating systems, database/data storage, communications media, hardware, programming languages, interfaces, acquisition histories, material and combat developers for selected Army and joint C2 and logistics systems.

Appendix D
Abbreviations

ABCS	Army Battle Command System
ABF	Availability Balance File
ACUS	Area Common User System
AEPS	AMC Electronic Products Support
AFM	Army Flow Model
AIS	automated information system
AIT	automatic identification technology
AMC	Army Materiel Command
AMCOM	U.S. Army Aviation and Missiles Command
ARMMIS	Aviation Roundout Maintenance Management Information System
ASL	authorized stockage list
ASP	ammunition supply point
ATAAPS	Automated Time and Attendance Production System
AUTODIN	Automatic Digital Network
AWCF	Army Working Capital Fund
BDE	brigade
BN	battalion
BPR	business process reengineering
BSM	Business System Modernization
C2	command and control

C4I	command, control, communication, computers, and intelligence
CAISI	Combat Service Support Automated Information System Interface
CASCOM	Combined Arms Support Command
CBS-X	Continuing Balance System-Expanded
CCSS	Commodity Command Standard System
CECOM	U.S. Army Communications-Electronics Command
CICS	Customer Information Control System
CINC	commander-in-chief
CO	company
COA	course of action
CONUS	continental United States
COSIS	care of supplies in storage
COTS	commercial off-the-shelf
CS	combat support
CSC	Computer Science Corporation
CSS	combat service support
CSSC	Combat Service Support Company
CSSCS	Combat Service Support Control System
CTASC-II	Corps Theater Automation Data Processing Service Center-Block II
DA	Department of the Army
DAAS	Defense Automatic Addressing System
DAASC	Defense Automatic Addressing System Center

DAMMS-R	Department of the Army Movement Management System-Redesign
DAO	Division Ammunition Office
dCAS	Databased Commitment Accounting System
DCPS	Defense Civilian Payroll System
DDN	Defense Data Network
DELMARS	Data Element Management and Accounting Reports
DFAS	Defense Finance and Accounting Service
DISA	Defense Information Systems Agency
DISMS	Defense Integrated Subsistance Management System
DLA	Defense Logistics Agency
DLIS	Defense Logistics Information Service
DMLSS	Defense Medical Logistics Standard Support
DoD EMALL	Department of Defense Electronic Mall
DPAS	Defense Property Accountability System
DRID	DoD Reform Initiative Decision
DSACS	Defense Standard Ammunition Computer System
DSAMS	Defense Security Assistance Management System
DSS	Distribution Standard System
DTS	Defense Transportation System
DUSD(L)	Deputy Under Secretary of Defense (Logistics)
EAC	echelons above corps
EDI	electronic data interchange
ERP	enterprise resource planning
FBCB2	Force XXI Battle Command Brigade and Below

FEDLOG	Federal Catalog System
FLIS	Federal Logistics Information System
FM	Frequency Modulated
FMS	foreign military sales
FOC	full operational capability
FORSCOM	U.S. Army Forces Command
FTP	File Transfer Protocol
FY	fiscal year
GATES	Global Air Transportation Execution System
GATM	global air traffic management
GBS	Global Broadcast Service
GCCS	Global Command and Control System
GCCS-A	Global Command and Control System-Army
GCSS	Global Combat Support System
GCSS-A	Global Combat Service Support-Army
GFM	Global Freight Management
GOCO	government-owned, contractor-operated
GOGO	government-owned, government-operated
GTN	Global Transportation Network
HFCRS	High-Frequency Communications Radio System
HQAMC	Headquarters, Army Materiel Command
IBCT	Interim Brigade Combat Team
ICP	inventory control point
IDE	integrated data environment
ILAP	Integrated Logistics Analysis Program

IMMC	Integrated Material Management Center
IP	Internet protocol
IT	information technology
ITV	in-transit visibility
JAMSS	Joint Ammunition Management Standard System
JCALS	Joint Computer-Aided Acquisition and Logistics Support
JCS	Joint Chiefs of Staff
JEDMICS	Joint Engineer Data Management Information and Control System
JMAR	Joint Medical Asset Repository
JO/PCN	job order/production control number
JTAV	Joint Total Asset Visibility
JTR	Joint Tactical Radio
JV2010	Joint Vision 2010
LAN	local area network
LIA	Logistics Integration Agency
LIDB	Logistics Integrated Database
LIN	line-item number
LMI	Logistics Management Institute
LOGMARS	Logistics Applications of Automated Marking and Reading Symbols
LOGSA	Logistics Support Activity
MC4	Medical Communications for Combat Casualty Care
MEDASM	Medical Assemblage Management
MEDLOG	Medical Logistics
MEDLOG-D	Medical Logistics-Divisional

MEDMNT	Medical Maintenance
MEDSUP	Medical Supply
MILSTRAP	Military Standard Transaction Reporting and Accounting Procedures
MMC	Materiel Management Center
MRP	materiel requirement planning
MRPII	manufacturing resource planning
MSC	major subordinate command
MSE	Mobile Subscriber Equipment
MTMC	Military Traffic Management Command
MTS	Movement Tracking System
NCA	National Command Authority
NIPRNET	Unclassified but sensitive Internet Protocol Router Network
NMM	National Maintenance Management
NSN	national stock number
NSNMDR	National Stock Number Master Data Record
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
OJCS	Office of the Joint Chiefs of Staff
OSC	Operations Support Command
P&P	preservation and packaging
PC	personal computer
PCN	program control number
PD2	Procurement Desktop 2
PEO	Program Executive Officer
PLL	prescribed load list

PM	program manager
PMR	provisioning master record
PP&C	production, planning, and control
PRON	procurement request order number
RDES	Requirements Determination and Execution System
ROI	return on investment
SAAS	Standard Army Ammunition System
SAAS-MOD	Standard Army Ammunition System-Modernization
SACS	Structure and Composition System
SAMMS	Standard Automated Materiel Management System
SAMS	Standard Army Maintenance System
SAMS-2	Standard Army Maintenance System-Level 2
SAMS-I/TDA	Standard Army Maintenance System-Installation/ Table of Distribution and Allowances
SARSS	Standard Army Retail Supply System
SBCCOM	U.S. Army Soldier, Biological, Chemical Command
SCM	supply chain management
SCOR	Supply Chain Operations Reference (model)
SCS	supply control study
SDS	Standard Depot System
SEP	separate
SIDPERS-3	Standard Installation and Division Personnel System-3
SIFS	Standard Industrial Fund System
SMA	Supply Management, Army
SPBS-R	Standard Property Book System-Redesign

SPS	Standard Procurement System
SSA	supply support activity
SSF	single stock fund
SSN	standard study number
STAMIS	Standard Army Management Information System
STANFINS	Standard Finance System
STARCIPS	Standard Army Civilian Payroll System
SUI	Sensitive Unclassified Information
TAAMMC	Theater Army Area Materiel Management Center
TACOM	U.S. Army Tank-Automotive and Armaments Command
TAMMIS	Theater Army Medical Management Information System
TAV	total asset visibility
TC-ACCIS	Transportation Coordinators' Automated Command and Control Information System
TC-AIMS II	Transportation Coordinators' Automated Information for Movement System II
TCP	Transmission Control Protocol
TDA	Table of Distribution and Allowances
TI	Tactical Internet
TMIP-A	Theater Medical Information Program-Army
TMIP-J	Theater Medical Information Program-Joint
TOE	Table of Organization and Equipment
TPN	Tactical Packet Network
TRANSCOM	U.S. Transportation Command
TRI-TAC	Tri-Service Tactical
TWV	tactical wheeled vehicle

ULLS	Unit-Level Logistics System
ULLS-A	Unit-Level Logistics System-Aviation
ULLS-G	Unit-Level Logistics System-Ground
ULLS-S4	Unit-Level Logistics System-S4
USACASCOM	U.S. Army Combined Arms Support Command
USASAC	U.S. Army Security Assistance Command
USTRANSCOM	U.S. Transportation Command
VLIPS	Virtual Logistics Information Processing System
WARS	Worldwide Ammunition Reporting System
WIN	Warfighter Information Network
WLAN	wireless local area network
WLMP	Wholesale Logistics Modernization Program

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MAJ Alan Woodard was a Resident Research Fellow during 1999. He is a Quartermaster officer and Operation Desert Storm veteran who came to LMI from the 24th Infantry Division where he served as company commander and BN staff officer. Upon conclusion of his TWI program, he was assigned to several key staff positions with the 1st COSCOM at Fort Bragg and is currently en route to the 2ID DISCOM in Korea. MAJ Woodard is a graduate of Belmont Abbey College, the Quartermaster Basic Course, the Combined Logistics Officer Advanced Course, the Army Force Management School, and the Combined Arms Services and Staff School.

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Mrs. Clark has been a consultant with LMI for more than 10 years. She has more than 30 years of logistics management experience, including policy; system design and analysis; and planning, programming, and budgeting. As an Army civilian employee, Mrs. Clark worked at the Army's major logistics command, the Army Central Design Agency, and the Office of the Deputy Chief of Staff for Logistics, as well as the Office of the Secretary of Defense. Mrs. Clark operates her own logistics and financial management consulting firm and, at LMI, has been involved in writing a DoD manual on requirements priorities and asset application, a study on the causes of secondary item excess inventory, the Army Strategic Logistics Plan, a study on Army logistics automation, and the *Soldiers Guide to U.S. Army Logistics*.

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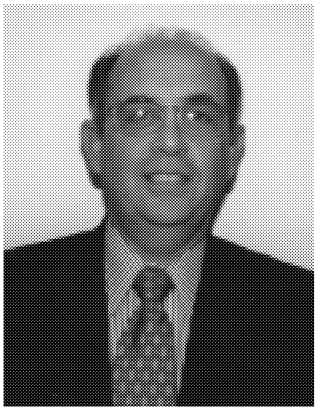
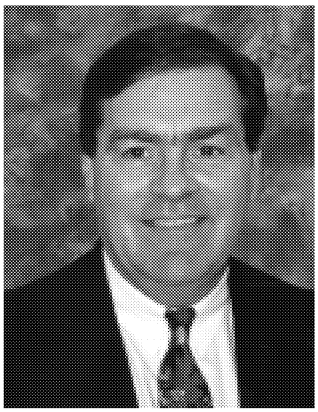


Mr. Hendon is a Project Leader at LMI and has been a member of the Institute's staff since 1998. He holds a bachelor's degree in business and a master's of education degree. His fields of expertise include all levels of Army logistics, business process engineering, automation systems, and weapons systems. He has authored or coauthored studies and analysis in the areas of power generation for the PM Abrams and for integrated lifecycle support for the PM Crusader. Mr. Hendon served as an Army Quartermaster for more than 26 years with command assignments at battalion and company, staff assignments at OCSA and AMC, as well as assignments with division and COSCOM staffs. His final assignment was Chief, Quality Assurance Division, Defense Contract Management Agency. His military education includes the Army War College, Command and General Staff College, Armed Forces Staff College, and the QM Advance Course.



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Mr. Browne is a program manager at LMI and has been a member of the Institute's staff for more than 10 years. He holds a bachelor's in English Literature and master's of science in Public Administration and Industrial Management. His academic fields of expertise include supply chain management, business process reengineering, strategic planning, information technology, weapon system project management, and financial management. He has authored or coauthored studies and analyses for the Army in the areas of logistics command and control, outsourcing, the application of enterprise resource planning software, Army information systems, product support, the application of commercial business and emerging network technology to Army logistics, and the management of revolving funds in both the Army and DoD. Before joining LMI, Mr. Browne served as an Army Quartermaster with command assignments at battalion and installation levels and in staff assignments at Army Headquarters in the DAIG, ODCSLOG, and OCSA. Mr. Browne is the functional coordinator of the FA 90 TWI program at LMI.