

September 2004



Dear Reader,

Our purpose in publishing the *Handbook for Army Logistics Automation* is to provide all echelons of the Army with a desk reference, educational text, and baseline document on the Army's current and future logistics automation initiatives and information management systems.

New to this edition, you will find detailed and updated information on the Single Army Logistics Enterprise (SALE), Enterprise Resource Planning (ERP) software, and Army Knowledge Management (AKM). The SALE and AKM are two sophisticated and relevant technological enablers that provide the Army decision dominance and an architectural baseline supporting global supply chain management.

We want to thank the many Army elements that continue to support this publication and the countless readers who have expressed their deep appreciation and gratitude for the *Handbook*. Our special thanks go to the Project Manager, Logistics Information Systems, for his continued support of this effort and in particular the Army Staff, its forward operating agencies (FOAs), and the major commands (MACOMs) without whose assistance this project would not have been so successful

The Army is succeeding in "connecting the logistician." A vital link to this critical focus area is logistics automation and transformation. We are making significant strides in these areas so I encourage you to read this outstanding Handbook and familiarize yourself with these systems. We hope you find this *Handbook* a useful resource tool and solicit your comments and recommendations for future improvements.

A handwritten signature in black ink, appearing to read "R. Christian". The signature is stylized and cursive.

Lieutenant General, U.S. Army
Deputy Chief of Staff, G4

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The Authors

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Preface



I am very pleased to sponsor the fifth edition of the *Handbook for Army Logistics Automation*. Previous versions have been an outstanding source of information regarding current and future Army logistics systems, technologies, and emerging initiatives. The *Handbook* offers soldiers, leaders, and civilian employees a concise view of Army logistics systems, as well as insights into emerging concepts, technologies, command and control systems, business practices, and emerging logistics initiatives.

Products like the *Handbook* provide a very valuable service to soldiers as the Army moves forward with its aggressive initiatives to transform itself into an expeditionary structure and simultaneously modernizes its systems, processes, architectures, and logistics doctrine. The structure of the text is oriented toward the potential user of the *Handbook*. Chapters 1 and 2 focus on DoD and Joint logistics systems and the emerging en-

terprise requirements that have been established by the Office of the Secretary of Defense. Chapter 2 also discusses the Army's strategy and initiatives to comply with those high-level architectural requirements. Chapter 3 discusses the Army's strategic logistics systems and interfaces, and Chapter 4 covers the Army's tactical logistics systems. Chapter 5 is important for all users, as it provides a brief glimpse into the future and discusses emerging key systems and technologies that could affect the logistics system of the Future Force.

The *Handbook* is not intended to make the reader an expert in these systems; it provides a brief discussion of the system and its capability and, more importantly, identifies a webpage¹ reference (URL) for additional information. The *Handbook* contains two appendices that will be helpful to the reader. Appendix A is the *Soldier's Guide to Army Logistics Automation*, a high-level graphical representation of the systems and interfaces at the strategic, operational, and tactical levels of the Army. Readers of previous versions have found it useful to consult this graphic while reviewing the text. Because enterprise resource planning software is so important to the future of the Army logistics system, a brief discussion to explain this concept is contained in Appendix B.

Certain data in the text may depend on the reader's geographic location and the version of the automated system operating there. Most systems exist in different versions, depending on when and where they were fielded. These variations can encompass hardware, language, architectural interface, communication media,

¹ These sites are current at the time of publication and are subject to change; some sites may require a military (.mil) domain address to obtain access.

and operating system. Many activities have elected not to operate all functions of a particular system, according to their particular mission requirements.

The *Handbook* is published with the cooperation of the Army and Joint/DoD system proponent organizations or managers of the specific concepts and initiatives contained herein. I would like to express my appreciation for their support in preparing this document. A special thanks goes to LMI Government Consulting, which once again has done an outstanding job publishing the *Handbook*. Of special note, LMI is the FA 90 (Multifunctional Logistician) Training with Industry site for the Army. The research and coordination on the *Handbook* was conducted in part by Army logisticians as part of their TWI training program. Author biographies for these officers are contained at the conclusion of the text.

As always, our goal is to provide products that support user requirements. I solicit your comments and recommendations for improving the *Handbook*. Please send your comments via email to jbrowne@LMI.org. Beginning in October 2004, the *Handbook* will be available on the Army Knowledge Online (AKO) portal.

A handwritten signature in black ink, appearing to read 'D W Coker', with a long horizontal line extending to the right.

DAVID W. COKER
COL, QM
PM LIS

Chapter 1

DoD and Joint Logistics Systems

This chapter describes several current and emerging Department of Defense (DoD) and Joint logistics information systems that are deployed or being developed to provide information and logistical support to warfighters. Although they are DoD-level systems, the Army logistics automation configuration must be compatible and interface efficiently with them. These systems ensure interservice capabilities to support the warfighter, from the source of supply to a point of need and augment the Army's logistical processes. The systems discussed in this chapter encompass the following areas:

- ◆ Command and control (C2)
- ◆ Property accountability
- ◆ Supply
- ◆ Decision support systems
- ◆ Electronic commerce
- ◆ DoD network support applications
- ◆ Medical
- ◆ Acquisition
- ◆ Transportation.

COMMAND AND CONTROL

Global Command and Control System–Joint

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

GCCS-J 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-J 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-J 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-J is the J3 Office of the Joint Chiefs of Staff (OJCS).

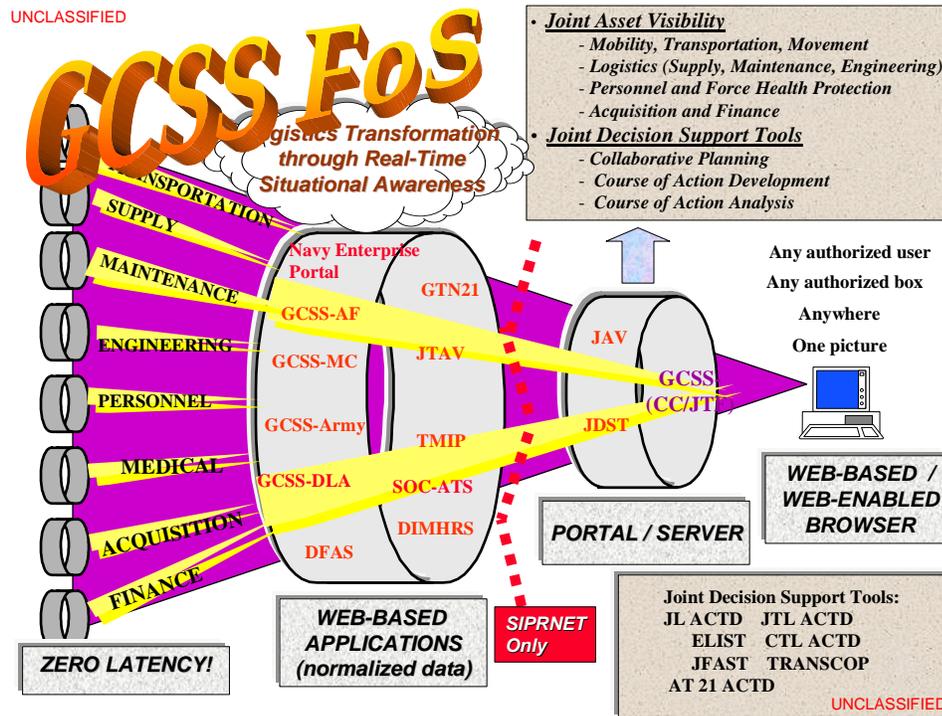
Additional information about GCCS-J is available at
<http://gccs.disa.mil/gccs>.

Global Combat Support System—Family of Systems

Global Combat Support System (GCSS) is a family of systems (FoS) concept and strategy that establishes data interoperability and information assurance across combat support information systems and between combat support system (CSS) and C2 functions in support of the joint warfighter—independent, interoperable systems through web-based technology. An FoS is a set or arrangement of independent systems that can be arranged or interconnected in various ways to provide different capabilities.¹ It fuses information from authoritative data sources into a cohesive common operating picture, to enable the combatant command or joint task force (CC/JTF) commander, to make timely and informed operational decisions. Figure 1-1 illustrates an overall view of the GCSS FoS and the user’s interface with the authoritative data sources via the GCSS(CC/JTF) application.

¹ CJCSI 6723.01a, *Global Combat Support System: Family of Systems Requirements Management Structure*, 8 April 2002.

Figure 1-1. Overall View of the GCSS FoS



Source: Briefing: GCSS-FoS AIT IPT, 19 Sep 02.

PROPERTY ACCOUNTABILITY

The Defense Property Accountability System (DPAS) is the DoD standard system for property accountability. The objectives for the system include physical and financial control over DoD property and integration of financial and property data. The objectives also include 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 will provide asset visibility, a single point of data entry, and redistribution capabilities.

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

- ◆ Inventory management
 - Automated document register
 - Supply interfaces
 - Reporting of 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 Defense Logistics Agency (DLA). Additional information about DPAS is available at

<https://www.dpas.dod.mil/>.

SUPPLY

Business System Modernization

In August 2002, DLA launched the first phase of its implementation of the Business Systems Modernization (BSM) project. This project uses SAP, a commercial off-the-shelf (COTS) enterprise resource planning (ERP) system, and will eventually replace the Standard Automated Material Management System (SAMMS) and other associated systems.

BSM has five major objectives to be accomplished by the end of 2005:

- ◆ Replace DLA's legacy materiel management systems with COTS products.
- ◆ Reengineer by fielding best practices.
- ◆ Improve customer service by collaborating with customers and suppliers.
- ◆ Provide best-value solutions.
- ◆ Provide the agency workforce with the training, experience, and opportunity needed to succeed in this new environment.

BSM supports the objectives of Joint Vision 2020, the DoD Logistics Strategic Plan, and the DLA Strategic Plan. BSM is a member of the GCSS FoS.

The first phase of the BSM implementation was called Concept Demo, or Release 1. For additional information about BSM, visit <http://www.dla.mil/j-6/bsm/default.asp>.

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, identifying information includes item names, characteristics information, interchangeability and substitutability data, hazardous material 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, members of 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

<http://www.dlis.dla.mil/fedlog/default.asp>.

Defense Security Assistance Management System

The Defense Security Assistance Management System (DSAMS) is the DoD automated information system used in the preparation and management of foreign military sales (FMS) cases. DSAMS replaces 13 automated systems used 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 a foreign customer may wish to purchase.

The Defense Security Cooperation Agency is the proponent of DSAMS. Additional information on DSAMS is available at
<http://asks.dau.mil/software/31.jsp>.

Distribution Standard System

DLA uses the Distribution Standard System (DSS) to perform the functions of distribution manager for DoD. Distribution depots are the primary users of DSS, which provides enhanced tools for inventory accuracy and accountability through automated information and technology devices, including bar-code readers, radio frequency (RF) tags, and optical memory cards that continuously update DoD component wholesale systems and the Joint Total Asset Visibility (JTAV) database.

The proponent for DSS is DLA. Detailed information about DSS is available at
<http://www.supply.dla.mil/dss.asp>.

DECISION SUPPORT SYSTEMS

Joint Total Asset Visibility

The Joint Total Asset Visibility program provides timely and accurate information about the location, movement, status, and identity of units, personnel, equipment, and supplies. JTAV provides the following benefits to combatant commanders:

- ◆ The ability to track asset data generated by satellite, RF tags, and the Automated Manifest System
- ◆ The capability to receive timely and accurate information on the location of a truck or train (by military grid reference coordinates plotted on a map) and in-the-box visibility of pallet or container contents
- ◆ Visibility of on-hand stocks across services, providing a snapshot of logistics status of assigned units

- ◆ The 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), automatic identification technology (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.

The proponent for JTAV is the DLA. Additional information about JTAV is available at

<http://www.defenselink.mil/acq/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 a contractor distributes can be stored in standard digital form, allowing worldwide access for all authorized personnel working on a project.

The current repository system contains 190 million images and is capable of configuring more than 500,000 technical data packages. JEDMICS also is home to the largest collection of technical data (more than 6 million images) in DoD. JEDMICS has one of the best performing central processing units, which ensures effective support for customers (on and off the site) and reinforces 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 revision, specifications, safety data, and drawings.

A 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, or 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 the Deputy Under Secretary of Defense (Logistics) (DUSD[L]). Additional information on JEDMICS is available at <https://www.jedemics.net/>.

This site requires a valid login identification (ID) and password.

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). JMAR is managed as a part of the Defense Medical Logistics Standard Support (DMLSS) portfolio of information tools. The Medical Logistics Proponent Subcommittee appointed the U.S. Army Medical Materiel Agency (USAMMA) as the 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 system's integration effort, working with the project office to identify legacy system key data elements, data mapping, query development, and user-interface testing.

Additional information on JMAR is available at http://www.tricare.osd.mil/dmlss/Downloads/Product_Description/JMAR2.pdf.

Global Transportation Network

The Global Transportation Network 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, combatant commanders, the U.S. Transportation Command (USTRANSCOM), and the military service branches. GTN supports JTAV and in-transit visibility (ITV) by providing the capability 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 work 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

<https://www.gtn.transcom.mil/index.jsp>.

This site requires a user account.

ELECTRONIC COMMERCE

The Department of Defense Electronic Mall (DoD EMALL) is a single point of entry 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 if the vendors meet statutory requirements. On the DoD EMALL website, users can obtain a single view of the status of all orders, search for and order parts and supplies, and pay with a government purchase card or fund code or fund cite.

Additional information about DoD EMALL is available at
<http://www.acq.osd.mil/dpap/ebiz/emall.html>.

DoD NETWORK SUPPORT APPLICATIONS

Defense Automatic Addressing System

The Defense Automatic Addressing System (DAAS) provides a continuous validation and message routing service to DoD and civilian agencies. DAAS is maintained and operated by the Defense Automatic Addressing System Center (DAASC). In addition to DAAS, DAASC provides network support applications for all DoD components and activities.

Additional information about DAAS is available at
<https://www.daas.dla.mil/daashome/>.

Virtual Logistics Information Processing System

The Virtual Logistics Information Processing System (VLIPS), which 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 seamlessly interfaces commercial applications and users in the field. 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.

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

Additional information about VLIPS is available from the DAAS home page at
<https://www.daas.dla.mil/daashome/>.
This site requires a user ID and password.

Logistics On-Line Tracking System

The Logistics On-Line Tracking System (LOTS) is a powerful requisition information system that consists of a complex relational database that portrays the life cycle of a logistics action. It is accessible via Web Visual Logistics Information Processing (WEBVLIPS). The customer can track requisitions from their release into the DoD pipeline until the materiel is posted at the destination activity.

Additional information about LOTS is available at
https://www.daas.dla.mil/daashome/daasc_lots.asp.

Web Visual Logistics Information Processing System

The WEBVLIPS is a web-based, controlled query system. It provides access to LOTS data and provides the capability to track reports of excess, and their movement to the destination depot or disposal activities.

Additional information about WEBVLIPS is available at
https://www.daas.dla.mil/daashome/daasc_webvlips.asp.

Web Requisitioning

Web Requisitioning (WEBREQ) is a DAASC web-based product that allows customers to submit materiel requisitions, cancellations, follow-ups, modifications, and materiel obligation validation documents either interactively or via an ASCII file. WEBREQ also provides status and response documents back to the user. The WEBREQ features accommodate a variety of transaction formats and their associated data. WEBREQ also provides pick lists to assist the user in selecting the appropriate entry.

Additional information about WEBREQ is available at
https://www.daas.dla.mil/daashome/daasc_webreq.asp.

Logistics Metrics Analysis Reporting System/ Customer Wait Time

The Logistics Metrics Analysis Reporting System/Customer Wait Time (LMARS/CWT) ensures DoD components can track materiel by node as it flows through the logistics pipeline and report the associate response times. LMARS/CWT at DAASC maintains logistics pipeline information for all whole-sale items of supply. It is populated with information from the military standard requisition and issue procedures (MILSTRIP) and military standard transaction reporting and accounting procedures (MILSTRAP) transactions that flow through DAAS. The application reports response time within any of the 12 nodes of the logistics pipeline.

Additional information about LMARS/CWT is available at
https://www.daas.dla.mi./daashome/daasc_lmars.asp.

DAAS Automated Message Exchange System

The DAAS Automated Message Exchange System (DAMES) provides the user with the capability to communicate with the DAASC, as well as the capability to send logistics transactions and narrative text through a modem using standard telephone lines or the Internet.

Transactions files that are produced by DAMES or other user programs are built in standard data pattern formatted communication messages for transmission. Messages containing narrative, logistics transactions, nonstandard part number requisitions, and other data can be built interactively.

Through DAAS, DAMES provides a communications link to the DoD logistics system for activities without Defense Information System Network (DISN), Non-Secure Internet Protocol Routing Network (NIPRNET), or other Internet capabilities.

For additional information on DAMES, go to
https://www.daas.dla.mil/daashome/daasc_dames.asp.

MEDICAL

Defense Medical Logistics Standard Support Automated Information System

The Defense Medical Logistics Standard Support Automated Information System (DMLSS AIS) replaces numerous legacy logistics systems with one standard DoD medical logistics system that frees health care providers to spend less time on logistics and more time delivering primary health care.

The objectives and capabilities of DMLSS are as follows:

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

DMLSS replaced medical logistics legacy systems used by the services, including the Theater Army Medical Management Information System (TAMMIS) and the Army Medical Department Property Accounting System (AMEDDPAS). DMLSS is the medical logistics (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's local area network (LAN).

DMLSS AIS supports the Joint Vision 2010 concept of focused logistics by integrating the medical logistics systems of the three service components, reducing the medical and pharmaceutical inventories of a medical treatment facility's items, and decreasing the medical logistics footprint in the battlespace. Thus, the system decreases the vulnerability of logistics lines of communications to deployed forces and protects lives. DMLSS includes a retail-level component that automates hospital- or organizational-level logistics functions, and a wholesale-level component that supports strategic supply chain management, requirements forecasting, and prime vendor contract management. The two components integrate to provide an end-to-end supply chain solution across the Military Health System.

Basic functionality includes 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, medical assembly management, 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/proddesc.cfm>.

Theater Medical Information Program

The integrated medical information systems of the Theater Medical Information Program ensure precise, interoperable support for rapid mobilization, deployment, and sustainment of all theater medical services anywhere, anytime, and in support of any mission. TMIP is the medical component of the GCSS. Through TMIP's Medical Surveillance System (MSS) and Joint Medical Workstation (JMeWS), theater commanders gain situational awareness for critical decision-making.

The goal of TMIP 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 provides 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.

In addition, TMIP integrates 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 supports field medical operations and decision-making about theater medical capability by providing integrated health-decision support systems to ensure readiness for mission execution. This includes operational medical units, warfighting CC/JTF commanders, the military services, the Joint Staff, and Office of the Secretary of Defense (OSD) through an integrated set of information systems. Such support is provided 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.

TMIP integrates the following logistics systems:

- ◆ Composite Health Care System II Theater (CHCS II Theater), which helps manage patient and clinical data, including optical clinic and laboratory management for spectacles and inserts
- ◆ Defense Medical Logistics Standard Support
- ◆ Defense Blood Standard System (DBSS), a modified government off-the-shelf (GOTS) application that supports the requesting, moving, tracking, storing, and control of Class VIII B (blood and blood products) material inventory.

Additional information is available at

<http://www.tricare.osd.mil/peo/tmip/default.htm>

ACQUISITION

The Procurement Desktop–Defense (PD2) provides automated strategic, streamlined contract management support for the procurement professional within a complete workflow management solution. PD2 is an integral part of the DoD’s Standard Procurement System (SPS), which is integrating acquisition, logistics, and financial management within one end-to-end enterprise business system. SPS has been deployed throughout DoD contracting community; it provides the technology and business process foundation necessary for DoD to achieve its procurement business goals by

- ◆ eliminating multiple outdated legacy systems and automating manual business processes,
- ◆ facilitating the standardization of efficient business processes to improve management across the enterprise, and
- ◆ expanding the software functionality necessary to effectively award and manage contracts in the rapidly evolving electronic commerce environment.

PD2 automates and controls individual procurement processes, in an integrated desktop environment that enables paperless and more efficient contracting. The intuitive desktop interface provides graphical document management, electronic routing and approval, web-based reference library with both federal and DoD acquisition regulations, and Federal Procurement Data System (FPDS) and ad hoc reporting. The enhanced help feature provides an online learning system that focuses on the procurement processes. PD2 supports the complete end-to-end procurement cycle from requirements definition or initiation through solicitation, offer evaluation, and award to contract administration and closeout. It provides improved funds management capabilities and support for all types of contract actions, including agreements, basic ordering agreements (BOAs), and indefinite delivery contracts. Using both client/server and web architectures, PD2 is scalable and seamlessly integrates with Windows-based office software packages, external legacy systems, and other administrative systems.

For more information, see
<http://pd2.amsinc.com/pd2web.nsf/ID/13>.

TRANSPORTATION

The Transportation Coordinators’ Automated Information for Movement System II (TC-AIMS II) is DoD’s primary transportation system. It provides an integrated transportation information management capability for routine deployment, sustainment, and redeployment or retrograde operations of all DoD components and agencies. TC-AIMS II uses the same DoD and military service shipment policies and procedures in peacetime and war for active and reserve forces. The sys-

tem ultimately will be integrated with unit, installation, and depot-level supply systems to manage inbound and outbound movement, shipment, documentation, and requisition information.

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

- ◆ Enhance and improve efficiency and effectiveness of Defense Transportation System (DTS).
- ◆ Support planning for deployment and redeployment of combat and combat support forces.
- ◆ Enhance coordination, control, and management of force deployments, including improving ITV and total asset visibility.
- ◆ 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 standalone 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 Program Executive Officer Enterprise Information Systems (PEO EIS).

The proponent for TC-AIMS II is USTRANSCOM. Additional information about TC-AIMS II is available at

<https://www.tis.army.mil>.

Select TC-AIMS II from the menu on left side of page.

Chapter 2

Landscape of Logistics Enterprises

This chapter describes the emerging DoD and Army enterprise architectures and logistics systems that are being developed to provide information and support to warfighters. These include the DoD Global Information Grid (GIG), the DoD Business Enterprise Architecture (BEA), BEA-Logistics (BEA-Log), and Army Knowledge Management (AKM).

With this foundation, we then provide a discussion of the technical approach that the Army is pursuing for the Global Combat Service Support–Army (GCSS-A) at the strategic and tactical levels. We conclude with a discussion of how the Army will evolve these two initiatives into the Single Army Logistics Enterprise (SALE). SALE will leverage technology and human skills to ensure the delivery of a relevant and ready logistics system for the Army. The objective is to provide real-time knowledge to the person who needs it and in a form that is useful in making decisions. In the context of the DoD and Army, decision makers range from soldiers in units ordering ammunition to executives in the Pentagon developing policy and procedures.

GLOBAL INFORMATION GRID

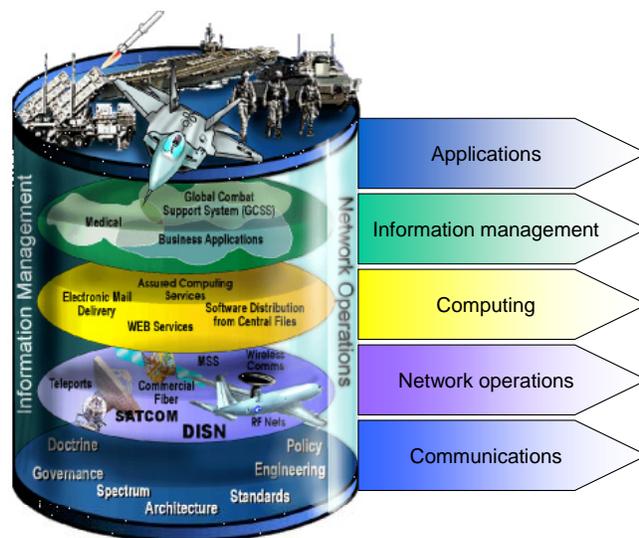
GIG is a globally interconnected, end-to-end set of on-demand information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing information to warfighters, policy makers, and support personnel. It includes all owned and leased communication and computing systems and services, software (including applications), data, and security services and other associated services necessary to achieve information superiority. It also includes national security systems as defined in the Clinger-Cohen Act of 1996, and it supports all DoD, national security, and related intelligence community missions and functions (strategic, operational, tactical and business), in war and in peace. It provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms, and deployed sites) and interfaces to coalition, allied, and non-DoD users and systems.

The overarching objective of the GIG vision is to provide the NCA, warfighters, DoD personnel, intelligence community, business, policy-makers, and non-DoD users with information superiority, decision superiority, and full-spectrum dominance. Key areas for the GIG are as follows:

- ◆ Transformational Communications Architecture (includes GIG Bandwidth Expansion, the Joint Tactical Radio System [JTRS], the Advanced Wide-band System and the Transformational Communication Satellite programs)
- ◆ Horizontal Fusion Initiative
- ◆ GIG Enterprise Services (GES) and Net-centric Enterprise Services (NCES)
- ◆ Information protection and assurance and computer network defense
- ◆ The DoD Data Management Strategy.

Figure 2-1 depicts a holistic view of the GIG.

Figure 2-1. Global Information Grid



Source: DISA, Network Services, <http://www.disa.mil/ns/gig.html>.

DoD BUSINESS ENTERPRISE ARCHITECTURE

DoD's Business Enterprise Architecture identifies DoD's business processes and helps identify, plan for, and implement opportunities to improve them. Essentially, it is an integrated blueprint for business transformation. The architecture includes a transition plan that charts a course to improved business operations. The services use the architecture and transition plan to help move the DoD to its future business environment in an effective, efficient, and timely manner, while minimizing the effect of the transition on current operations, organizations, and personnel.

The BEA is designed to ensure compliance with appropriate laws, regulations, policies, and standards and to provide additional detail to govern DoD business operations. It embodies DoD's vision of where it wants to be, by documenting the requirements of the future business environment.

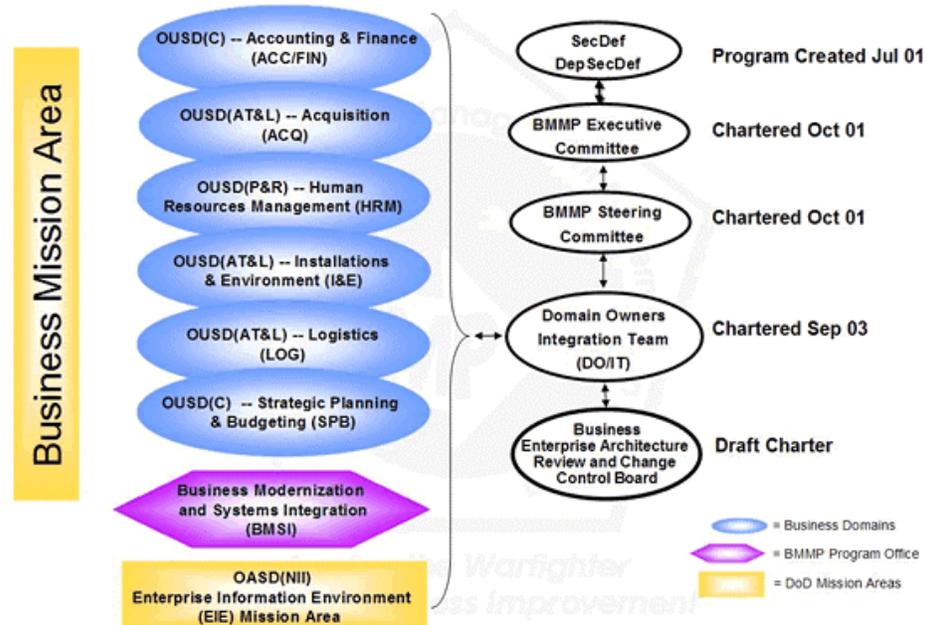
The BEA comprises an integrated family of work products that describe multiple and different perspectives of current and future transformed DoD business operations. Integration of information contained in all work products across those perspectives is critical to the success of DoD's future BEA. The work products are categorized into families, as described below:

- ◆ DoD architecture framework products
- ◆ Supplemental architecture framework products
- ◆ External requirements and verification reports.

The work products consist of models, diagrams, tables, and narratives. Together, these products translate the complexities of a given entity into meaningful representations of present and planned, future business operations. Such operations are described in logical terms (e.g., business processes, rules, information needs and flows, users, locations) and technical terms (e.g., hardware, software, data, communications, security standards, protocols). Different views into the entity's operations are created for the present and future environments. Future operations, in particular, are described in terms of "enterprise capabilities" that operate across the DoD enterprise.

To assist organizations using the BEA, the Business Management Modernization Program (BMMP) was established and adopted a department-wide management or governance approach. Governance describes business transformation duties and responsibilities within DoD. To put it more simply, it is the process that allows business process (i.e., Domain) owners and the heads of the DoD components to integrate business systems and practices in a unified manner. Figure 2-2 depicts the BMMP's integrated governance model.

Figure 2-2. BMMP Governance



Source: <http://www.dod.mil/comptroller/bmmp/pages/governance.html>.

The following are the domains or business process areas:

- ◆ Accounting Finance
- ◆ Acquisition
- ◆ Human Resources Management
- ◆ Installations and Environment
- ◆ Logistics
- ◆ Strategic Planning, and Budgeting.

For more information on BEA visit

http://www.dod.mil/comptroller/bmmp/pages/arch_home.html.

DOD BUSINESS ENTERPRISE ARCHITECTURE— LOGISTICS

BEA-Log, formerly referred to as the Force-centric Logistics Enterprise (FLE) Architecture, is the logistics segment of the DoD BEA. The BEA-Log fulfills DoD’s vision to accelerate logistics improvements and enhance support to the warfighter. It represents the logistics domain of BMMP. The primary objective of the BEA-Log is to ensure consistent, reliable support that meets warfighter re-

quirements through enterprise integration and end-to-end customer service. This initiative is focused on six interrelated, collaborative areas across the services and agencies that will directly improve warfighter support, address known structural problems, and accelerate the achievement of DoD's long-range vision:

- ◆ *Depot maintenance partnerships* allow DoD-owned maintenance depots and arsenals to expand partnerships with private companies.
- ◆ *Condition-based maintenance plus* includes systems that require minimum maintenance, need-driven maintenance; appropriate use of embedded diagnostics and prognostics, improved maintenance analytical and production technologies, automated maintenance information generation; trend-based reliability and process improvements, integrated information systems that provide logistics system response based on equipment maintenance condition, and smaller maintenance and logistics support footprints.
- ◆ *Total life-cycle systems management* assigns responsibility to the weapon system's manager for the total system's life cycle.
- ◆ *End-to-end distribution* streamlines warfighter support by providing material from the source of supply (vendor) to the point of use (warfighter) or disposal.
- ◆ *The executive agent (EA) initiative* is aimed at improving support to warfighters by ensuring EA roles, responsibilities, resources, and capabilities are responsive to the supported combatant commanders' deployment and sustainment requirements. The initiative builds upon the emerging results of the recent Focused Logistics war games, analyses of EA responsiveness, and applications of customer relationship management.
- ◆ *Enterprise Integration (EI)* builds upon efforts underway within the military services and DLA that are successfully using commercial ERP and other COTS tools for modern, integrated solutions to fulfill complex information requirements across the DoD logistics enterprise. The EI initiative is based on phased implementation with adequate training and the full support of leadership.

For additional information on DoD BEA-Log visit

<http://www.bea-log.com/>

or

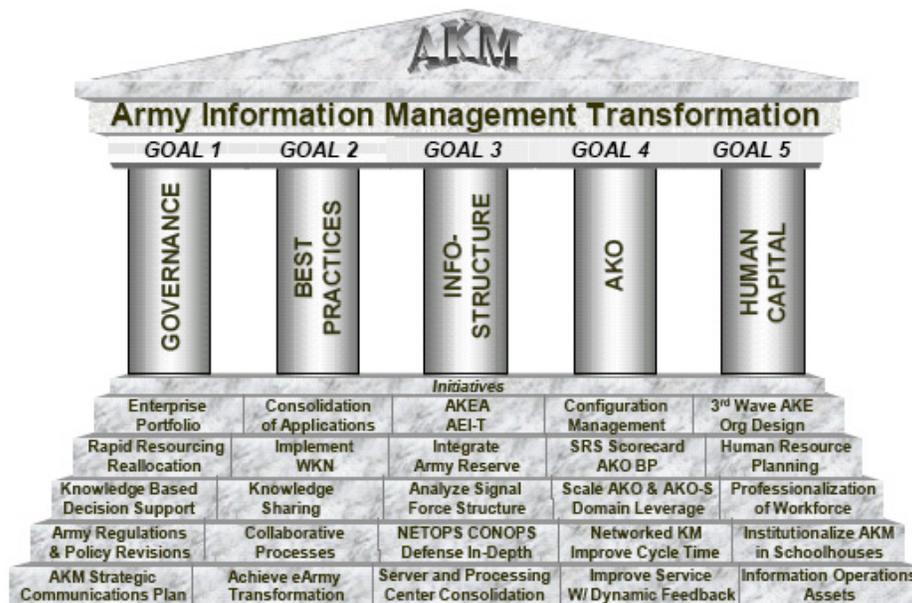
http://log.dau.mil/future_logistics-asp.

ARMY KNOWLEDGE MANAGEMENT

AKM is the Army’s approach to knowledge management; it enables the Army’s transformation into a network-centric, knowledge-based force. AKM establishes the blueprint (Army Knowledge Enterprise [AKE]) and a single point of entry to the knowledge base (Army Knowledge Online [AKO]) that facilitates the collection of information and experiences of individual workers, making them available across the enterprise as a whole, for the purpose of using it wisely and replenishing the knowledge base. This ongoing cycle encourages a learning organization, stimulates collaboration, and empowers people to continually enhance the way they perform.

The AKM Implementation Plan fuses the AKM Strategic Plan and information management (IM) transformation initiatives. Figure 2-3 is a graphical representation of the five goals for AKM and their supporting initiatives. AKM and IM are inextricably linked and are critical for gaining decision dominance—in the battle space, in its organizations, and in mission processes.

Figure 2-3. AKM is Army Information Management Transformation



Source: Army Knowledge Management Implementation Plan, 1 September 2003.

Army Knowledge Enterprise Architecture

The Army Knowledge Enterprise Architecture (AKEA) includes the operational requirements for combat, combat support, and business and functional areas that drive knowledge requirements. It is also the information structure to ensure storage and transmission of related data, and the protocols and standards to ensure that the systems and system-of-systems can exchange data within the Army and between

the Army and other services, DoD, and others. The AKEA supports the use of information technology (IT) to simulate some aspects of knowledge and to break down domain and component barriers for the transmission of knowledge. AKEA will improve decision dominance by warfighters and DoD business stewards.

Army Knowledge Online

The Army portal, Army Knowledge Online (AKO), is a primary component of AKM strategy and the Army Transformation. It is the single point of entry into a robust and scalable knowledge management system. By enabling greater knowledge sharing among Army communities, AKM fosters improved decision dominance in the battlespace, organizations, and Army's mission processes. It provides enterprise messaging services, collaboration tools, and access to Army-wide content and systems. Security is assured by integrated identification and authentication (I&A) capability, which enables a single sign-on. AKO is available to active and reserve components, Army National Guard, Department of the Army civilians, retired Army, and Army-sponsored guest accounts.

For additional information about AKO visit
www.us.army.mil.

Battle Command Knowledge Center

The Battle Command Knowledge Center (BCKS) is an unclassified/classified, networked, and embedded Joint, Interagency, Intergovernmental, and Multinational (JIM) knowledge, collaboration, training, action learning, and teaching system. BCKS generates and applies intuition, understanding, solutions, and capabilities (knowledge, skills and attributes) faster and better than any thinking or adaptive enemy.

The BCKS is an enterprise collaborative knowledge management system to network professional forums across all operations, training, leader and doctrine domains.

The BCKS program is divided into three blocks:

- ◆ Block 1 focuses on Structured Professional Forums (also known as Structured Communities of Practice)
- ◆ Block 2 focuses on Supporting/Supported Toolkits (to include a Request for Information or RFI tool)
- ◆ Block 3 focuses on High-Performance Commander/Leader Teams.

ARMY PORTFOLIO MANAGEMENT AND OVERSIGHT

In a memorandum dated 16 April 2003, the Secretary of the Army established the Army Enterprise Integration Oversight Office (AEIOO) to provide departmental policy, guidance, and direction for all Army ERP solutions. AEIOO provides overarching enterprise integration strategy and framework for the Department of the Army, focusing on the Army's business domains: Human Resources (HR) and Medical, Operations, IT, Acquisition and Logistics, Finance, and Installation Management.

AEIOO oversees the domains, ensuring they comply with DoD and Army policy, and assigns responsibilities for managing information technology investments as portfolios within their domains. The portfolios enable decisions on what IT investments to make, modify, or terminate based on the Army mission and business goals, architectures, risk tolerance level, potential returns on investment, and outcome and technical performance goals. The IT portfolios are based on the principles of centralized guidance and oversight, stakeholder participation, collaborative decision-making, and decentralized execution. It also ensures IT systems that are designed or acquired support the Army Transformation Vision and Investment Strategy, comply with the BEA, and have architectures that are developed within the GIG Enterprise.

Additional information on AEIOO is located in the Communications Center section at

<http://www.army.mil/aeioo>.

SINGLE ARMY LOGISTICS ENTERPRISE

A fully integrated digital environment that builds sustains, and generates, warfighting capability through a fully integrated logistics enterprise based upon collaborative planning, knowledge management, and best business practices. —The Army's Enterprise Vision

The Army logistics system is a complex collection of business processes, organizations, doctrines, procedures, and automated systems. Historically, the system has been separated into two management levels: wholesale and retail. Doctrinally, the system is segregated into three levels: strategic, operational, and tactical. The Single Army Logistics Enterprise will integrate wholesale and retail levels into a single logistics system using commercial standard software, SAP, whenever appropriate. Additional details and information about ERP and SAP is in Appendix A.

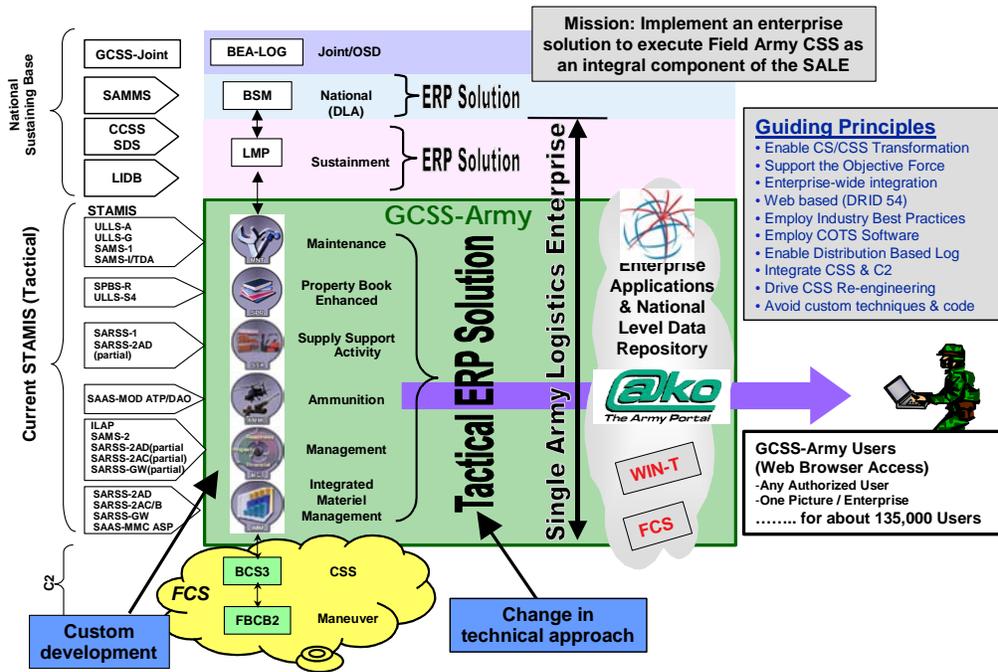
Currently, the SALE concept consists of three initiatives:

- ◆ At the strategic level, the Logistics Modernization Program (LMP) initiative requires a contractor to provide application services using SAP ERP¹ applications to replace the logistics functions of the Commodity Command Standard System (CCSS) and Standard Depot System (SDS), as well as the Headquarters, Army Materiel Command System (HAS), and the supporting financial systems that operated under the Defense Financial Accounting Services (DFAS).
- ◆ At the tactical level, GCSS-A is the initiative supporting the SALE. The project manager for Logistics Information Systems (PM LIS) is working with the lead system integrator (LSI), Northrop Grumman Mission Systems, to configure SAP's application as the replacement for the 13 current operational systems now in use. The 13 systems that GCSS-A replaces are described in Chapter 4 and are shown in Figure 2-4.
- ◆ The operational component is the Product Life-Cycle Management-Plus (PLM+), which will be managed as an element of the GCSS-A program. PLM+ will use SAP NetWeaver and provide a comprehensive integration application that enables the synchronization of these initiatives across the SALE architecture.

Figure 2-5 illustrates the objective operational architecture of the SALE and the envisioned technical implementation of SAP to support Army logistics.

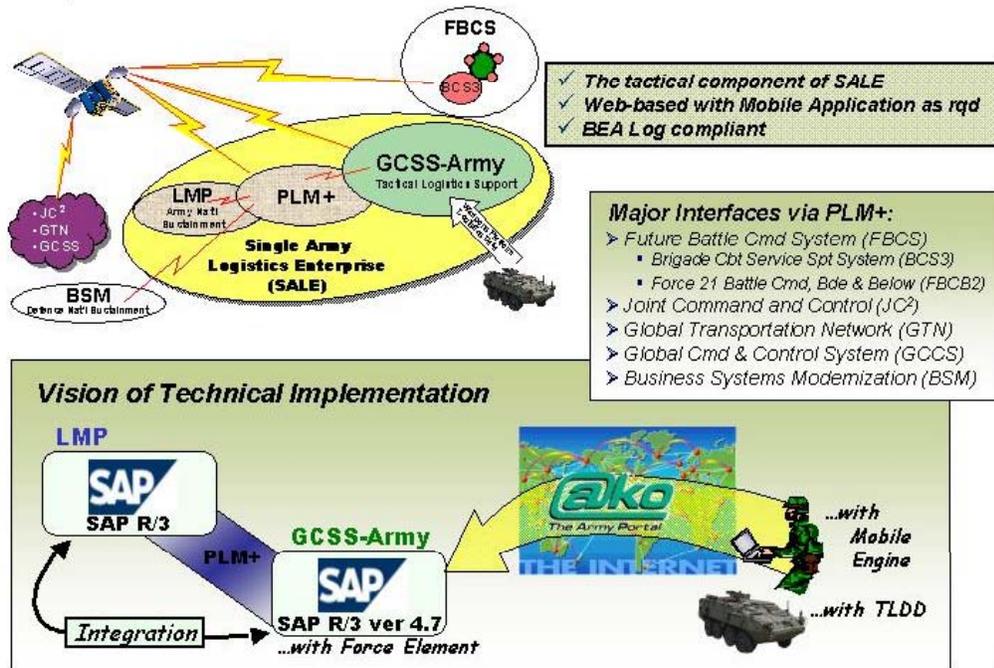
¹ ERP is discussed in Appendix B. Additional information concerning the wholesale current operational systems is provided in Chapter 3 of this publication.

Figure 2-4. GCSS-A ERP Overview



Source: GCSS-A/T ERP Business Case, Volume 5, Version 5.0 (Draft).

Figure 2-5. SALE Operational Architecture



Source: PLM+ Program Office Implementation Plan.

Logistics Modernization Program

The Logistics Modernization Program is an Army pilot program to modernize the U. S. Army Materiel Command's (AMC) 30-year-old wholesale and retail logistics business processes and practices. The goal of LMP is to provide agile, reliable, and responsive services by leveraging the best practices and technology to enable AMC to deliver world-class logistics and readiness to the warfighter. The partnership created under the LMP between the AMC and Computer Science Corporation (CSC) will replace HAS and the two wholesale Army current operational systems, CCSS and the SDS, with a single service. LMP will provide an integrated logistics management capability, enhanced decision support capability, and real-time, easy access to information. Some of these services are discussed in the following sections.

The strategy is to leverage best-in-class commercial practices for logistics planning, using an integrated set of demand planning, supply planning, and execution processes and tools. The LMP solution uses a seamless integrated SAP solution set that supports the end-to-end process. LMP is currently operating at the U.S. Army Communications-Electronics Command (CECOM), Fort Monmouth, AMC Headquarters, Tobyhanna Army Depot, Army Security Assistance Command, DFAS activities, and activities at the U.S. Army Tank–Automotive and Armaments Command (TACOM), Natick.

Additional information on LMP can be found at
<https://www.WLMP.com>.

LMP will provide a variety of modernized services,² including

- ◆ product life-cycle management,
- ◆ supply chain planning,
- ◆ acquisition,
- ◆ sales and distribution,
- ◆ inventory management and warehouse management,
- ◆ budget and finance,
- ◆ environmental health and safety,
- ◆ industrial base operations, and
- ◆ business information warehouse.

² AMC, *Logistics Modernization Program Business Operating Procedure*, 20 May 2003.

The major SAP processes in support of SCP include the Advance Planning Optimizer (APO), SAP R/3, and the Business Information Warehouse (BW). Within each of these processes are specific modules that are used in conjunction with SCP.

- ◆ APO—Global Availability to Promise (GATP), Demand Planning (DP), Supply Network Planning ([SNP] ammunition only), and Transport Load Builder (TLB, ammunition only)
- ◆ SAP R/3—Real-time, three-tier architecture
- ◆ Business Information Warehouse (BW)—Serves as a repository for information and values used by SCP processes.

ACQUISITION

Acquisition functions in SAP support the business processes for all purchases. A number of current operational systems will send data via an interface to SAP. These current operational systems include the Procurement Automated Data and Document System (PADDS) from CCSS, the SPS, the Standard Operation and Maintenance, Army Research and Development System (SOMARDS), and mechanization of contract administration services (MOCAS). Purchase requisitions are created and awarded in SPS or PADDS. Contract award information is then passed back to SAP via an interface. The contract information in SAP is updated via transactions coming from PADDS and MOCAS. These transactions include modifications, receipt, shipping and acceptance documents, and contract closeout.

A purchase requisition (i.e., procurement work directives) is a request for procurement action for a specific services or quantity of materiel from external customers or internally from the Materiel Resource Planning (MRP) system. Purchase requisitions are generated in SAP and passed to the appropriate external system. Contracts are created and awarded in the external system and the award information passed to SAP. The contract information in SAP is updated via transactions coming from PADDS and MOCAS.

SALES AND DISTRIBUTION

Sales and distribution (SD) functions in SAP support the business processes for requisition creation and processing of major and secondary items, including requisitions from internal and external customers.

Requisition creation and processing of major and secondary items are supported by the creation of a standard order requisition or a non-Army-managed item (NAMI) order requisition. Entry of completed order requisitions triggers the GATP check, delivery, and billing.

Requisitions from Army tactical customers are processed in accordance with the Milestone 3 single stock fund (MS3 SSF) rules.

INVENTORY MANAGEMENT AND WAREHOUSE MANAGEMENT

The inventory management (IM) process in SAP provides the capability to manage stock at that plant and storage location level and to track all movement of materiel, from receipt until the finished item is shipped to a customer. The IM module pulls together the logistics and financial systems into one common database. It also maintains an audit trail of movement and records inventory levels and values. Inventory transactions are compared against a common, real-time, integrated database.

Warehouse management (WM) involves an inventory control system that supports all item flow processing within the warehouse structure and monitors the allocation of storage bins and any transfer actions in the warehouse. Functions provided include receiving, issuing, and stock transfers using stock placement and removal.

The following are the major processes for IM/WM:

- ◆ Manage stock
- ◆ Maintain audit trail of movement
- ◆ Maintain bin level storage
- ◆ Receive goods
- ◆ Transfer goods
- ◆ Issue goods.

BUDGET AND FINANCE

Budget and finance capabilities capture and report the financial impact of all logistics transactions, development of program and budget requirements, execution of funds and the measurement of program efficiency. Financial management includes the accounts payable and billing or accounts receivable processes, the generation of internal and external reports, and the recording of funding programs.

ENVIRONMENT HEALTH AND SAFETY

Environment health and safety (EH&S) support for the initial deployment includes product safety and dangerous goods management. The EH&S module provides the capability to identify, maintain, and manage hazardous material, ammunition, and explosives.

The EH&S module provides the capability to identify, maintain, and manage hazardous materials. It also provides tools and a repository for the development and maintenance of packaging information for both hazardous and non-hazardous materials.

INDUSTRIAL BASE OPERATIONS

Industrial base operations (IBOs) consist of manufacturing, remanufacturing, and customer support. These processes are managed in the SAP Production Planning, Customer Services, and Project Systems modules.

The following major functional capabilities are contained in the IBO business area:

- ◆ Materiel master (IBO views) contains numerous tables that record all the basic information required to manage an item of materiel.
- ◆ A bill of material (BOM) is an SAP R/3 master record. BOMs are used extensively in IBO applications for manufacturing or remanufacturing processes to assist with material requirements planning and to detail the exact formula or recipe for the finished goods. In conjunction with other SAP master records, BOMs will replace current operational tools, such as the CCSS Provisioning Master Record. Within SAP R/3 there are six different BOM categories. Each category represents different objects (i.e., materials, equipment, functional location, and documents) and is used to maintain object-specific data.
 - Material
 - Equipment
 - Document Structure
 - Functional Location
 - Sales Order
 - Work Breakdown Structure

BUSINESS INFORMATION WAREHOUSE

The BW services include a central repository for SAP data. Secondary item sales history necessary for the development of a demand forecast (as performed by the APO) is an example of the type of information extracted from the BW. A variety of custom reports can be designed and executed using data stored in the BW.

Global Combat Support System—Army

The Global Combat Support System—Army initiative will result in a new logistics automated system that will replace existing combat support systems, including logistics, personnel, medical, and other non-logistics combat support functions (see Figure 2-4). GCSS-A will be modernized using 21st century information technology and e-business solutions. Northrop Grumman Mission Systems (NGMS), the LSI, will use a COTS ERP solution to provide a comprehensive, web-based logistics system using a common shared relational database to replace the current stovepiped automated standard Army management information systems (STAMISs). The ultimate goal is to link the two logistics domains—sustainment (i.e., LMP) and tactical (i.e., GCSS-A)—giving logistics personnel access to accurate and consistent supply chain information across all echelons and from the foxhole to the depot.

The GCSS-A ERP solution sets will interface with other automated CSS systems to maximize available information with minimum data entry. The result will be a single enterprise that uses a single database and delivers in Block I the functionality of the following six logistics mission areas:

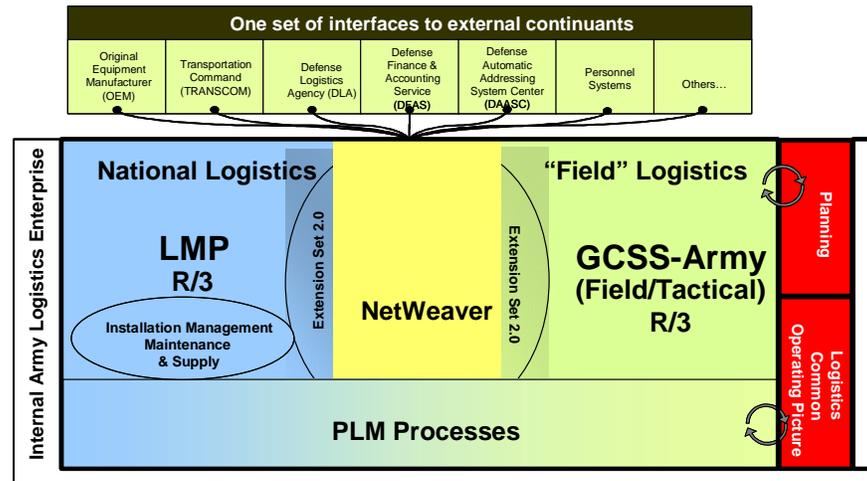
- ◆ Integrated supply operations and property accountability in all units
- ◆ Integrated ground, aviation, and water equipment maintenance operations at all levels
- ◆ Integrated ammunition management and operations at the ammunition supply points (ASP)
- ◆ Integrated management and operations at the supply support activity (SSA)
- ◆ Integrated supply, property, ammunition, and maintenance management
- ◆ Management that integrates the preceding missions, and enables data exchanges with other CSS joint automated systems.

By providing access to near-real-time logistics status, soldiers will be able to accurately track the progress of orders, increase planning efficiency, and eliminate redundancies.

Product Life-Cycle Management–Plus

The PLM+ component of SALE is the critical element in achieving the Army's objectives of modernizing logistics business processes in an integrated ERP environment. The two primary technology-enabling components of PLM+ are SAP's Product Life-cycle Management (PLM) module (with pre-configured views) and SAP's NetWeaver platform. Together, these components provide capabilities for interfacing with external constituents and for meeting Army goals of total life-cycle system management (TLCSM) and enterprise-to-enterprise (E2E) customer service. Figure 2-7 illustrates PLM+ from a systems point of view.

Figure 2-7. PLM+ Operational Overview



Source: PLM+ Program Office.

PLM+ refers to the interface hub that will seamlessly pass information to other ERP and non-ERP systems. PLM+ has two primary components: the PLM module and NetWeaver.

- ◆ The PLM component contains the product life-cycle management business processes and technical data that will be configured according to Army logistics needs. PLM is the tool for managing the E2E business processes. PLM is a SAP set of E2E business processes that flows across all levels of Army logistics and interacts with a weapon system's original equipment manufacturers (OEMs) and equipment PEOs. PLM will provide an integrated solution for managing product data and the Army logistics processes it supports throughout the life cycle of a weapon system. PLM brings together, in one shared environment, users involved in product development, manufacturing, and customer service. For most weapons systems, development is influenced by feedback from weapon system PEOs, OEMs, and field segments of the product lifecycle; PLM takes this into account. PLM interprets this extended value chain of influencers as one business process, as opposed to a series of separate silo-based business processes.

The SAP PLM product provides the following functions:

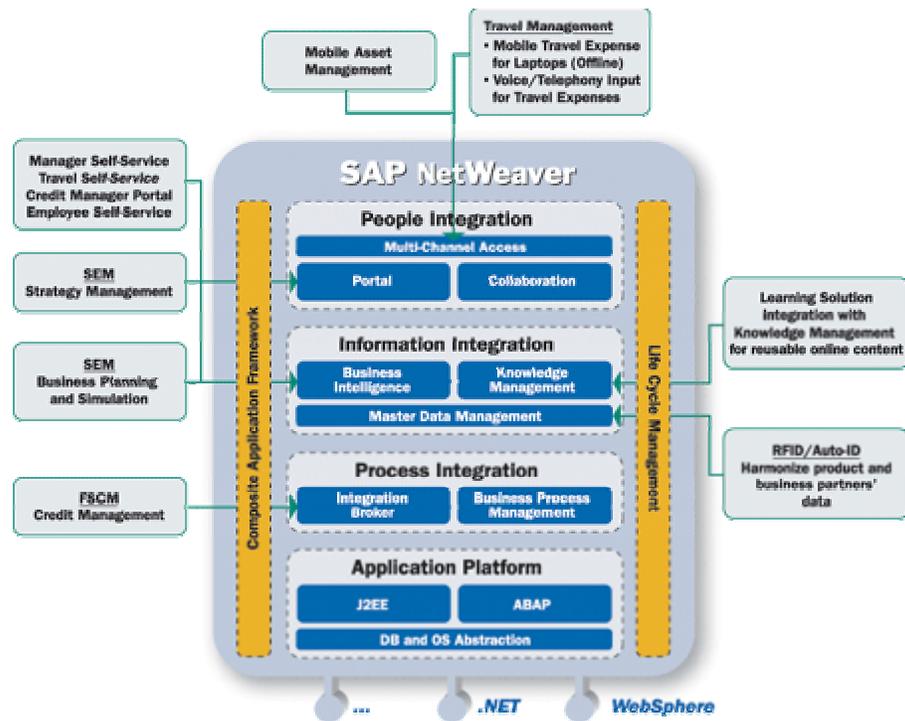
- *Life-cycle data management* delivers a wide range of product information to ensure immediate access to up-to-date data.
- *Asset life-cycle management* targets personnel who are in charge of physical assets and equipment from inception to disposal and replacement of assets.

-
- *Life-cycle collaboration and analytics* support collaborative engineering to communicate information such as documents and product structures across development teams.
 - *Quality management* ensures and manages the quality of products and assets.
 - *Environment, safety, and occupational health (ESOH)* enhances business processes to ensure compliance with government regulations and manage risk.
 - ◆ SAP's NetWeaver suite has multiple components with a primary focus on the business warehouse component, exchange infrastructure (XI), and master data management (MDM). Based on an open architecture, NetWeaver can integrate SAP and non-SAP solutions at the user level, bringing people together and helping them work more efficiently, at the information level, bring together information from a variety of locations and having it make sense in the context of what is to be accomplished, and at the process level, coordinating the flow of work across departments, divisions, and between companies (See Figure 2-8).

NetWeaver is SAP's response to customer needs. With NetWeaver, information technology becomes an enabler of flexible business strategies, driving innovative business processes across the enterprise and making change sustainable through contained cost and reduced risk. The following are among the available NetWeaver products:

- *SAP Enterprise Portal* helps create software that brings together all the data and software tools that a person needs to do their job in one consistent user interface.
- *SAP Business Intelligence* provides tools for information integration, so what your people see is consistent and accurate. (That is, the info somebody in the Sales department sees about a customer matches what somebody in customer service or shipping calls up on the screen.)
- *SAP Exchange Infrastructure* integrates processes and helps applications talk to one another.

Figure 2-8. SAP NetWeaver™



Source: Insider Volume 5 Number 2.

Together, PLM and NetWeaver offer a means to integrate data between GCSS-A (field or tactical), LMP, other logistics systems in the Army Enterprise, and systems throughout the DoD. All activities that require specific logistics information can access the data via PLM+ in real time using the integrated environment. Data elements that are maintained in one system, but called something else in another system, will be seamlessly mapped through the PLM+ hub using SAP's NetWeaver suite of software.

PLM+ is an important part of the SALE architecture, providing real time data exchange throughout the entire Army Enterprise.

SAP NetWeaver is SAP's response to customer needs, empowering IT to become an enabler of flexible business strategies, driving innovation business processes across the enterprise, and making change sustainable through contained cost and reduced risk.

Chapter 3

The Army's Strategic Interfaces and Logistics Systems

This chapter provides a summary of the Army's Strategic Logistics Systems and interfaces. Our discussion begins with the interfaces of the Global Command and Control System–Army (GCCS-A), Army Flow Model (AFM), Web Army Research Development Acquisition Budget Update Computer System (WARBUCS), and Standard Study Number, Line Item Number Automated Management Integration System.

The second half of this chapter examines the primary wholesale legacy systems within the AMC: CCSS, which supports acquisition of weapon system and materiel management; and the SDS, which supports the Army's industrial operations activities (consisting of depot operations, war reserve management, and installation supply). Within this chapter we also identify the financial management module; HAS, which includes personnel and manpower management application processes; and logistics integrated databases, which are under the management of the AMC Logistics Support Activity (LOGSA).

Finally, we describe the ground component portions of the materiel movement transportation systems that are maintained and managed by the Military Surface Deployment and Distribution Command (SDDC). These systems will migrate into TC-AIMS II.¹

THE ARMY'S LOGISTICS INTERFACE PROCESSES

Command and Control

Global Command and Control System–Army is the Army's strategic and theater C2 system. It provides readiness information as well as planning, mobilization, and deployment capability for the strategic commanders. For theater commanders, GCCS-A provides common operational picture (COP) and associated friendly and enemy status information, force employment planning and execution tools (receipt of forces, intra-theater planning, readiness, force tracking, onward movement, and execution status), and overall interoperability with joint, coalition, and tactical Army battle command systems (ABCSs). The GCCS-A is a user-oriented system that supports Army units, from the NCA through COCOMs in the theater and down to the JTF commander. It provides a seamless Army extension from the strategic GCCS-J system to echelons corps-and-below (ECB). Compatibility and

¹ TC-AIMS II is discussed in Chapter 1 of this *Handbook*.

interoperability is achieved by building the GCCS-A applications to operate on the Defense Information Infrastructure Common Operating Environment (DII COE), Joint Technical Architecture (JTA), and through interfaces to other C2 systems within the Army as well as to other services. This approach provides common support architecture, with modular software used by the services and agencies in developing mission-specific solutions to their C2 requirements. The system architecture links users via LANs in client-server configurations with an interface to the SIPRNET for worldwide communication.

More information on GCCS-A can be found on the following website:
<http://www.gordon.army.mil/AC/FALL00/gccs.htm>.

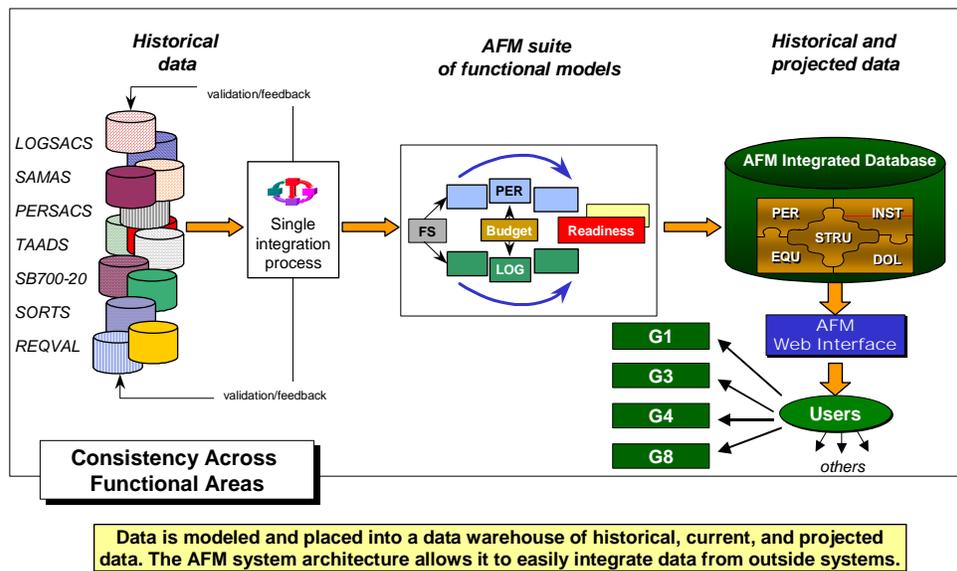
The Battle Command Sustainment Support System (BCS3) provides the logistics portion of GCCS-A. For more information on BCS3, refer to page 4-2 of this *Handbook*.

Requirements Decision Support

ARMY FLOW MODEL

The Army Flow Model (AFM) is a decision support tool that is designed to provide the Army staff with integrated, quick-turnaround planning options 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. AFM also 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. See Figure 3-1 for a graphical depiction.

Figure 3-1. Army Flow Model



Source: Army Flow Model Briefing, April 2004.

Current models within the AFM are as follows:

- ◆ Force structure model
 - Maintains integrated current force structure by appending the modernization data of the Structure and Composition System (SACS) to a Structure and Manpower Allocation System (SAMAS) file, 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 (USAFMSA).
- ◆ Personnel models
 - Army-level personnel models (officer and enlisted for active components) project total personnel inventory by military personnel category (MPC) 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– (RCP-) driven losses, and involuntary losses required to achieve this goal.
 - Inventory projection model (active enlisted components) projects component inventory by branch of military occupational specialty (MOS)/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 (TAEDP).
 - Logistics inventory model projects aggregated Army and 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-item requirements. Data are furnished to the logistics inventory and distribution model. This model has input only for the Army G-3–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—The budget model projects active component structure cost down to a division and separate brigade (SEP BDE) level.

The proponent of the AFM is the Army G-3. Additional information is available at <https://afm.us.army.mil/index.jsp>, which requires an AKO ID and password to view.

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

The Standard Study Number (SSN), LIN Automated Management and Integration System allows the user to assign, edit, and update of the SSN and LINs. It is an operational application that

- ◆ provides a single request source for Army RDA (procurement appropriation) SSNs;
- ◆ displays the RDA SSNs and any related SSNs in the Army's reporting hierarchy;
- ◆ identifies Army LINs that relate to each SSN;
- ◆ allows users to locate existing SSNs, request new SSNs, and initiate SSN related changes;
- ◆ facilitates coordination among agencies with specific SSN interests for all SSN requests; and
- ◆ assists in resolving SSN nomenclature, SSN-to-SSN links, and SSN-to-LIN disconnects.

Additional information on this application is available at <http://www.slamis.army.pentagon.mil>. The site is password protected.

Web Army RDA Budget Update Computer System

WARBUCS is used by the Army Acquisition Corps to support the Army systems acquisition process for the appropriated funds.

The WARBUCS database contains official RDA funding data for current PPBES budget cycle as well as archives back as far as the FY1996 President's budget. The database houses data for current, historical, and extended program planning

years. It is designed primarily for PEO and PM users, but can be used by all levels of users throughout the acquisition process to query the database.

Potential users must apply for a user account. Once approved the user can login at <https://apps.rdaisa.army.mil/warbucks>.

STRATEGIC LOGISTICS SYSTEMS

Commodity Command Standard System

Commodity Command Standard System (CCSS) is AMC's standard legacy 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 support activity for CCSS is the Computer Sciences Corporation (CSC). CCSS is used by the following AMC MSCs and other activities:

- ◆ U.S. Army Aviation and Missile Command (AMCOM)
- ◆ U.S. Army Communications-Electronics Command (CECOM)
- ◆ U.S. Army Field Support Command (AFSC)
- ◆ U.S. Joint Munitions Command (JMC)
- ◆ U.S. Army Tank-automotive and Armaments Command (TACOM)
- ◆ U.S. Army Security Assistance Command (USASAC)
- ◆ DoD customers, such as DFAS.

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

The following functional areas are a part of CCSS:

- ◆ Logistics data management
- ◆ Provisioning
- ◆ Cataloging
- ◆ Requirements determination

-
- ◆ Financial management
 - ◆ Procurement
 - ◆ Maintenance management and product assurance
 - ◆ Security assistance management
 - ◆ Traffic management and packaging.

Standard Depot System

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

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. The following are the functions supported by SDS:

- ◆ Logistic data management (Cataloging Module)
- ◆ Maintenance
 - Depot Maintenance Module
 - Program Management Module
 - Repair Parts Management Module
 - Administrative Support Module
 - Maintenance Shop Floor System
 - Maintenance Resource Planning Process
- ◆ Supply
- ◆ DoD Small Arms Serialization Program Module
- ◆ Ammunition management
- ◆ SDS installation support applications.

The support activity for SDS is CSC.

Unique Depot Maintenance System

AVIATION ROUND-OUT 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. Although ARMMIS will be used for aviation, it is not restricted by commodity. The system is used for maintenance production control, quality review, materiel forecasting and control, and budget and production data.

GOVERNMENT-OWNED, GOVERNMENT-OPERATED, OR GOVERNMENT-OWNED, CONTRACTOR-OPERATED SYSTEM

The Government-Owned, Government-Operated (GOGO)/Government-Owned, Contractor-Operated (GOCO) System automates the delivery of work-loading data from Joint Industrial Operations Command (JIOC) to a GOGO or GOCO facility. For GOCO operations, workload data are maintained centrally by JIOC 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 planning, production, and control (PP&C) activity that is responsible for acceptance or negotiation of PRON repair of Army-owned materiel. Performance data are automatically reported to JIOC. GOCO operations report monthly and GOGO reporting is weekly.

Financial Management

AMC depots use the following systems and processes to conduct financial management:

- ◆ Standard Industrial Fund System
- ◆ Methods and Standards Process
- ◆ Cost Accounting and Budget Process
- ◆ Financial Inventory Accounting and General Fund Process.

HQ AMC Systems (Personnel and Manpower Management Application Processes)

The following systems and processes are specific to HQAMC personnel and manpower management:

- ◆ Installation Force Development (Manpower) Process
- ◆ Automated Time and Attendance Production System
- ◆ Automated Financial Entitlements System
 - Commercial Accounts Module
 - Travel Module
 - Disbursing Module
- ◆ AMC Automated Manpower Management Information System.

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). Once complete, it will enable 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 AMC customers by becoming the command'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 access to more than 60 current logistics functions that encompass 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 in which 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, across the World Wide Web. AEPS also provides the AEPS Broadcast Network for teaching hundreds of students over the Internet, with live chat participation. The broadcast and the chat are saved for later viewing.

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

Logistics Integrated Database

Logistics Integrated Database (LIDB)² is the re-engineering initiative to integrate into one relational database all of the Army and AMC logistics data managed by LOGSA. LIDB stores wholesale and retail historical information. It provides real-time status of Army readiness, requisition, supply, maintenance, and asset information to customers worldwide. The most recent version of the LIDB CD-ROM includes the LIDB installation program, the user's manual, online help program, computer-based training (CBT) for each module within the development, and e-mail and telephone numbers for LOGSA's technical assistance.

You will need to complete LOGSA's system access request (SAR) form and request access to LIDB. The SAR can be completed online from
<https://www.logsa.army.mil>.

See section on "System Access Request (SAR) Procedures" for detailed instructions on how to properly complete the SAR.

MATERIEL MOVEMENT TRANSPORTATION SYSTEMS

The Military Surface Deployment and Distribution Command (SDDC) is the Army component of the U.S. TRANSCOM. SDDC is responsible for all the DoD's surface transportation shipments as well as several core transportation processes. The SDDC offers the DoD worldwide single port management, transportation and traffic management services; deployment planning and engineering; and 21st century technologies.

SDDC is a jointly staffed major command under USTRANSCOM. The core element of the command's work is traffic management of the DoD's surface cargo and acquisition of commercial transportation services. SDDC is responsible for the global management, documentation, and synchronization of cargo moving by land and sea. To maintain oversight, SDDC uses a variety of automation programs, including the Global Freight Management (GFM) system and the Integrated Booking System (IBS), which are discussed below.

² See LOGSA Pamphlet 700-1.

Brief descriptions of the systems that support the SDDC materiel movement responsibilities include Strategic Deployment Systems (STRADS), Transportation Coordinator Automated Command and Control Information System (TC-ACCIS II), Transportation Operational Personal Property Standard System (TOPS), and Worldwide Port System (WPS). SDDC's website is <http://www.SDDC.army.mil>.

Global Freight Management System

The GFM system supports SDDC's mission to manage commercial freight transportation services for all Army and selected Navy components. Through GFM, traffic managers select freight carriers, provide costing services, generate shipping documentation, and manage the freight movements by road, rail, air, and sea. The system has automated interfaces with many military services shipper systems, and it supports Army Time-phased Force Deployment List (TPFDL) deployment transportation requirements. GFM also supports in-transit visibility for domestic freight movements through an interface with the USTRANSCOM GTN.

Integrated Booking System

The IBS is the primary SDDC execution system for the global surface movement of unit and sustainment ocean cargo. The IBS consists of the following modules:

- ◆ Carrier Analysis and Rate Evaluation II (CARE II)
- ◆ Requirements Forecasting and Rate Evaluation (RF-RAM)
- ◆ IBS Prime (unit, sustainment, and cargo management)
- ◆ Commercial Sealift Solutions (CSS)
- ◆ Ocean Carrier Interface (OCI)
- ◆ Web Vessel Schedule
- ◆ One-Time-Only (OTO)
- ◆ Direct Booking
- ◆ Electronic Shipper System (ESS).

These automated tools of these modules support carrier contract requirement definition; rate and service solicitations and evaluations; input vessel schedules; book unit and sustainment cargo; produce shipment documentation; provide cargo offering and status information; produce payment and billing information; and provide ITV information. SDDC also offers shippers the option of booking directly through an ocean carrier's Website. In such cases, the ocean carrier and shipper send data to IBS to record the direct booking transaction. IBS supports in-transit

visibility for commercial SEAVAN movements through interfaces with the GTN. The Transportation Coordinator's Automated Information for Movements System II interfaces with IBS for movements originating from the continental United States. A unit's deployment equipment list (DELs) can be pushed to IBS to create the export traffic release request.

Strategic Deployment System

The Strategic Deployment System (STRADS) is an integrated system that allows SDDC to monitor, retrieve, process, and analyze data associated with SDDC planning and execution systems. It is used to plan, execute, and monitor unit mobilization, deployment, sustainment, and redeployment activities during exercises and contingencies. STRADS supports SDDC's planning and execution responsibilities across the entire command. It is the vital link for providing movement information associated with deploying forces and ocean terminal activities to U.S. TRANSCOM, transportation terminal units (TTUs), and U.S. Army Forces Command (FORSCOM) via automated interfaces.

Transportation Coordinator Automated Command and Control Information System

The Transportation Coordinator Automated Command and Control Information System (TC-ACCIS) is an information management and data communication system used by active and reserve Army components to plan and execute deployments. It automates selected transportation functions within an installation and assists unit and installation personnel in preparing and deploying equipment and personnel. Selected TC-ACCIS functionality will migrate to TC-AIMS II, which will replace this system.

Transportation Operational Personal Property Standard System

TOPS automates and standardizes personal property movement and storage functions at transportation offices throughout DoD. It standardizes operating procedures and utilizes automation to reduce the manual administrative workload associated with preparing, controlling, and distributing documents and maintaining registers, rosters, and files related to personal property shipment and storage actions.

Worldwide Port System

The WPS supports the worldwide water terminal operating mission for SDDC operated common-user water ports, the Department of the Navy's common user water ports, and FORSCOM's deployable tactical water terminal units during peacetime and wartime. It provides documenting, accounting, and cargo manifesting for DoD break-bulk, ammunition, and unit movement cargoes that transit

common user water ports within CONUS. It also is used in outside CONUS (OCONUS) for the same types of cargo, but also tracks commercial SEAVAN sustainment cargo transiting OCONUS water ports.

WPS supports in-transit visibility for both general cargo and unit moves through interfaces with the USTRANSCOM Global Transportation Network. It produces the reports necessary for terminal operations and generating the ocean cargo manifest. WPS is implemented at all Army-operated common user ocean terminals and at selected Navy water ports, where common user services are provided.

WPS receives advanced data from TC-AIMS II and IBS, and provides ITV data to GTN.

Chapter 4

The Army's Tactical Interfaces and Logistics Systems

The Standard Army Management Information Systems (STAMISs) support logistics activities of the active and reserve components and the Army National Guard at the corps or installation level and below, as well as Table of Organization and Equipment (TOE) units at echelons above corps (EAC). The current operational systems provide logistics support for maintenance, supply, property accountability, ammunition, and readiness management. Existing STAMISs operate in a stovepipe structure, at single locations without interface or real-time interoperability with other systems. Communication frequently is accomplished by way of a “sneaker net” (that is, the passing of floppy disks).

The following sections provide brief descriptions of selected logistics related STAMIS:

- ◆ Command and control
- ◆ Property accountability
- ◆ Supply
- ◆ Decision support applications
- ◆ Maintenance
- ◆ Transportation
- ◆ Ammunition
- ◆ Tactical medical logistics
- ◆ Personnel
- ◆ Financial management
- ◆ Army Reserve and Army National Guard logistics systems
- ◆ Communications.

COMMAND AND CONTROL

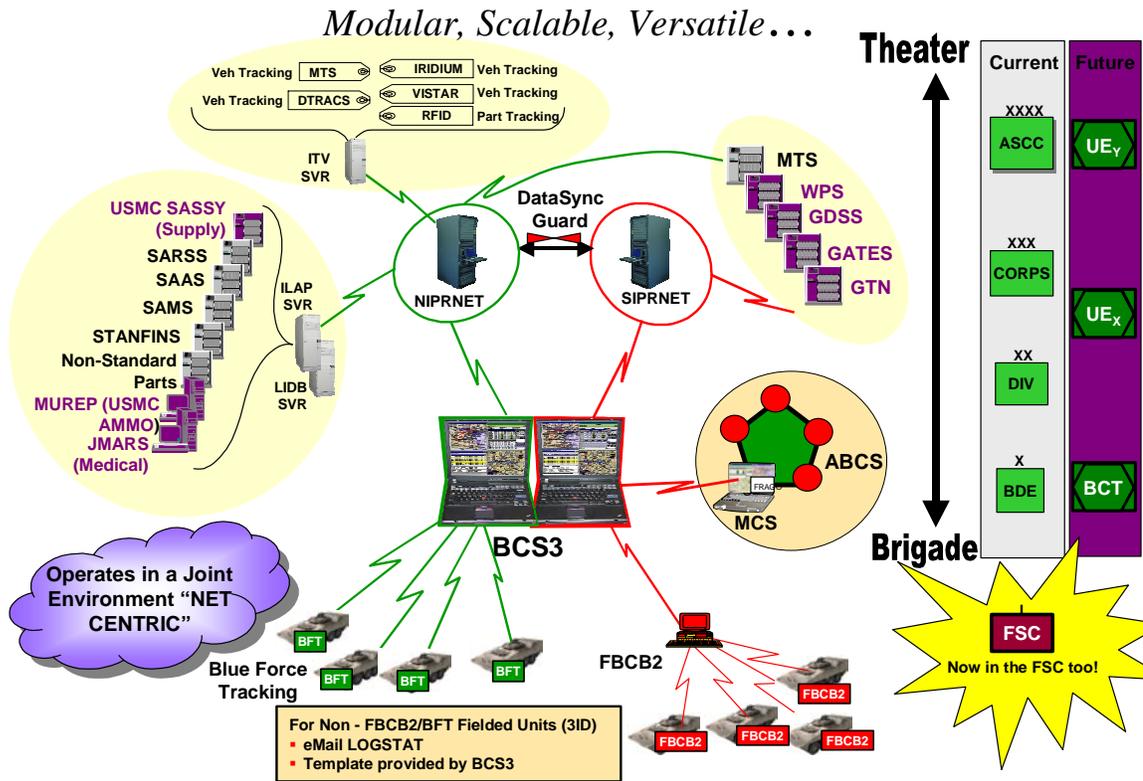
The Battle Command Sustainment Support System (BCS3) is the Army's maneuver sustainment C2 system—the fusion center, from theater to brigade. As the logistics element of the ABCS, it is a Windows-based, lightweight, portable (i.e., laptop computer) system that is highly platform independent. BCS3 provides the logistics component of combat power to the running estimate capability as defined by the Chief of Staff, Army's Battle Command Top Down focus areas. BCS3 aligns sustainment, in-transit, and force data to provide actionable information that aids commanders in making critical decisions. Further, BCS3 gives the warfighter access to the latest available information on a map-centric view with logistics common data, ITV alert features, and input to combat power computations.

BCS3 can answer several key questions, including

- ◆ What can I bring to the fight?
- ◆ Where are my parts?
- ◆ Can I logistically support the fight? and
- ◆ What is the status of critical resources as specified in the commander's critical information requirements (CCIR)?

Figure 4-1 illustrates the BCS3 functionality at a high level. This innovative tool enables the warfighter to plan, rehearse, integrate, and sustain deployed missions within the same system, and permits operations on both the classified and unclassified modes. In addition, BCS3 complements the Future Combat System (FCS) and provides a bridge to the Army's Future Force capabilities. It is an integral element of the Army G4's focus area, "connect the logisticians."

Figure 4-1. BCS3 Operating Environment



Source: Army G-4.

The following is a list of the current functional capabilities of BCS3:

- ◆ Provides near-real time maneuver sustainment C2 on a map-based display
- ◆ Provides flexible situational assessment products in response to queries from CSS battalions through echelons above corps, which are made available via SIPRNET
- ◆ Enables continuity of operations
- ◆ Provides reports and input forms for units, supply points, echelon status, and combat power
- ◆ Enables dynamic unit task organization to reflect changing organizational relationships and full color mapping
- ◆ Accommodates electronic messaging and data exchange with ABCS and Joint systems
- ◆ Emphasizes non-developmental item (NDI) software and interfaces to other DoD data sources that employ a data warehouse strategy and access to national databases

-
- ◆ Executes distribution management
 - ◆ Provides reception, staging, onward movement, and integration visibility and status
 - ◆ Provides access to Critical Items Roster (CIR) and Command Selected Items Roster (CSIR) (The tracking and the CIR are unit-selected items flagged for monitoring)
 - ◆ Operates on classified as well as unclassified networks
 - ◆ Operates at the installation level, enabling peacetime as well as wartime operations
 - ◆ Provides combat power data to maneuver control system (MCS).

Additional information on BCS3 is available at
<http://pmatccs.Monmouth.army.mil/bcs3.html>.

PROPERTY ACCOUNTABILITY

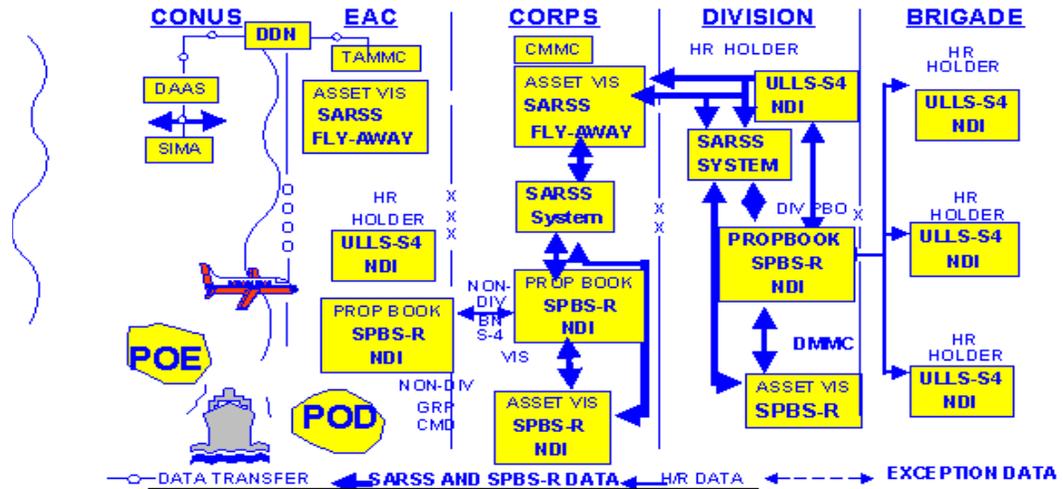
Standard Property Book System–Redesign

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 Table of Distribution and Allowances (TDA) units. The system accomplishes the functions of property accountability required by Army Regulations 710-2 and 735-5 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 SSAs, the Continuing Balance System–Expanded (CBS-X), and Unit-Level Logistics System–S4 (ULLS-S4). Additional information on SPBS-R is available at
<https://www.pmlis.lee.army.mil/private/ULLS.htm>.

SPBS-R interfaces with the Standard Army Retail Supply System (SARSS), DPAS, CSSCS, and LIDB for total asset visibility and requisition validation. Figure 4-2 illustrates the configuration of SPBS-R.

Figure 4-2. Standard Property Book System—Redesign



Source: U.S. Army Combined Arms Support Command.

Note: ULLS-S4 expands to BN and company levels.

Property Book Unit Supply, Enhanced

Property Book Unit Supply, Enhanced, (PBUSE) is an update to the current operational systems, SPBS-R and Unit-Level Logistics System–S4 (ULLS-S4). Its web-based applications replace and consolidate the functionality of both the SPBS-R and ULLS-S4. PBUSE allows a commander to access the system for queries without having to depend on the property book officer (PBO) to gather the information.

PBUSE processes sensitive but unclassified information in the system's high-level mode, which uses permission control to manage who has access to what data. The system is accessed through user identifications and passwords, and operates over NIPRNET and Internet connections. In the tactical environment, PBUSE uses mobile subscriber equipment (MSE) and the Combat Service Support Automated Information System Interface (CAISI). PBUSE provides the following benefits to the un-field commander:

- ◆ Real-time property accountability and total asset visibility throughout all levels of army management
- ◆ Updates to the Logistics, the Army Authorization Documents System (LOGTAADS)
- ◆ Serial number tracking
- ◆ Asset adjustments, lateral transfers, and authorization updates

-
- ◆ Unit transfers, task force, split operations
 - ◆ Basic and operational load and hand-receipt management.

PBUSE is employed by the active and reserve components and the Army National Guard. Fielding to the total force is expected to conclude early in FY05.

SUPPLY

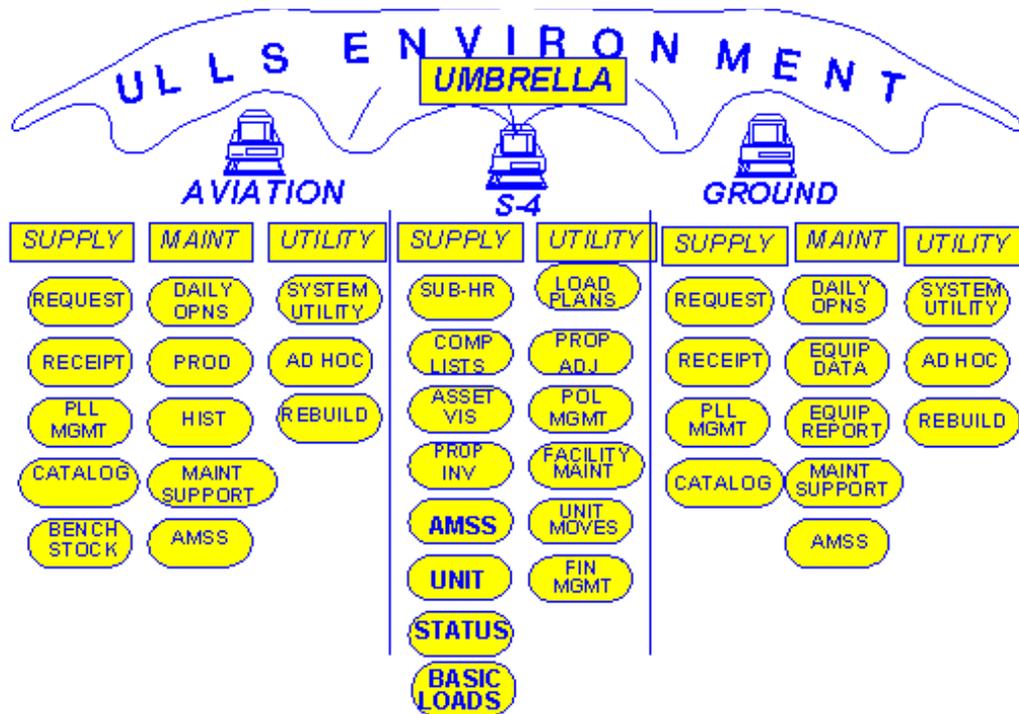
Unit-Level Logistics System

The Unit-Level Logistics System (ULLS), a current operational STAMIS, automates the logistics functions of unit supply, maintenance, and materiel readiness management operations. ULLS prepares unit supply documents, maintenance management records, readiness reports, and property records. It is composed of three separate operational applications found in unit motor pools (ULLS–Ground [ULLS-G]), company supply rooms or battalion S-4 shops (ULLS-S4), and aviation flight line operations (ULLS–Aviation [ULLS-A]).

- ◆ ULLS–Ground is employed by units with organizational maintenance facilities. It automates the unit maintenance functions of logistics, supply, and materiel readiness management, including vehicle dispatching and prescribed load list (PLL) management. ULLS-G operates in active and reserve components and within the Army National Guard. It contains basic access control for data security in the database through a user identification and password control. ULLS-G also interfaces with Level 1 of SARSS (the SARSS Gateway), three levels of Standard Army Maintenance Systems (SAMS-1, SAMS-2, and SAMS-I/TDA), ULLS-S4, LIDB, and FEDLOG.
- ◆ ULLS-S4 automates logistics functions of the unit supply room and battalion and brigade S-4 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, the Standard Army Ammunition System (SAAS), and the Department of the Army Movement Management System–Redesign (DAMMS-R).
- ◆ ULLS–Aviation produces flight packs, tracks aircraft readiness, maintains operational and historical records, and processes repair part 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; and it interfaces with SARSS and SAMS.

Figure 4-3 illustrates the ULLS environment umbrella. Additional information about ULLS is available at <https://www.pmlis.lee.army.mil/private/ULLS.htm>.

Figure 4-3. ULLS Environment Umbrella



Source: U.S. Army Combined Arms Support Command.

Standard Army Retail Supply System

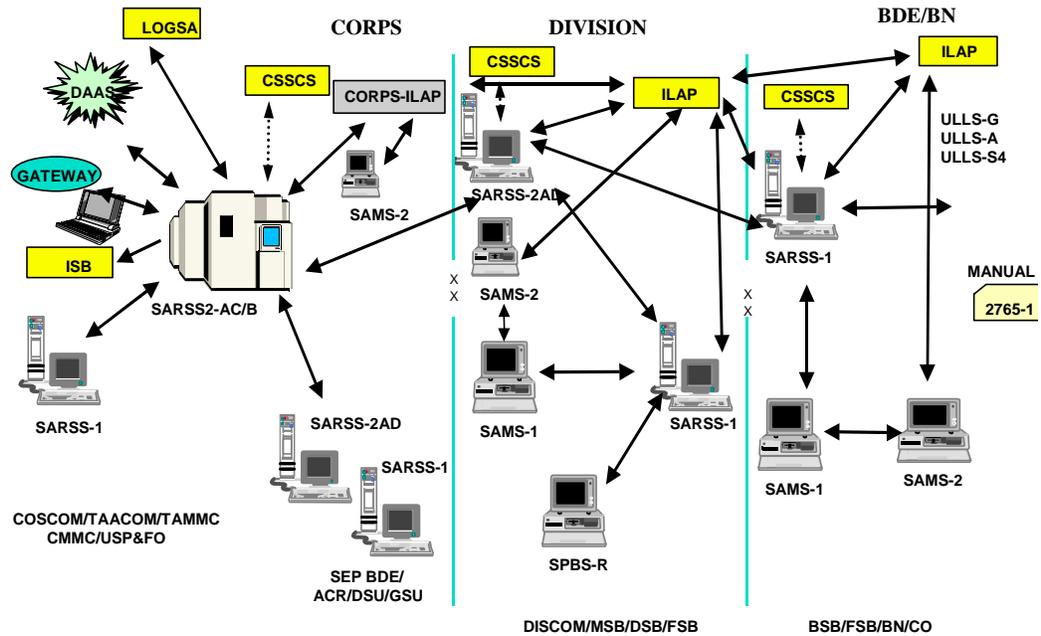
SARSS provides stock control and supply management to the Army retail level. SARSS also provides supply-related data to the Integrated Logistics Analysis Program (ILAP) at various functional levels. SARSS supports the accountability, requisition, storage, issue, and management of supply Classes II (clothing and equipment), III (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. SARSS comprises four subsystems: SARSS-1, SARSS-2AD, SARSS-2AC/B, and SARSS-Gateway.

- ◆ SARSS-1 operates at divisional and non-divisional supply support activities (SSAs), separate brigades, and armored cavalry regiments. SARSS-1 maintains accountable records and performs supply operations (i.e., receipt, storage, and issue of supplies). Major functions executed in SARSS-1 include processing of customer requests for issue, cancellation, or modification; receipts; replenishment; excess identification; inventory; and location survey.

-
- ◆ SARSS-2AD operates in materiel management centers (MMCs) at the division, separate brigade, 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. SARSS-2AD also performs time-sensitive management. Major functions executed in SARSS-2AD include management support, financial adjustment, DoD Activity Address Code (DoDAAC) parameter maintenance, and general system administration. At the theater level, SARSS-2AD supports Army war reserves, materiel rebuild programs, and major item acquisitions.
 - ◆ SARSS-2AC/B operates on Corps Theater ADP Service Center II (CTASC-II) hardware at the corps MMC, Theater Army Area Command, Theater Army Materiel Management Center, and National Guard U.S. property and fiscal officer. SARSS-2AC/B also maintains a custodial ABF with visibility of assets in all SARSS-1 activities, including divisional and non-divisional 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 to interface 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 and issue decisions are made based on resident ABFs uploaded by the STAMIS and maintained at the Gateway.

SARSS interfaces with several systems for data transfer. It supports the exchange of information using LANs, floppy discs, modems, wireless CAISI, and very small aperture terminal (VSAT) capability. Connectivity is provided via dial-up lines, direct or leased lines, file transfer protocol (FTP), LANs, and frequency modulation (FM) radio. At this time, SARSS, through the CTASC-II, uses block asynchronous transmission (BLAST) communication software and a universal, queue-based FTP. Figure 4-4 depicts the current SARSS architecture.

Figure 4-4. Current Standard Army Retail Supply System Architecture



Source: U.S. Army Combined Arms Support Command.

Installation Supply Buffer

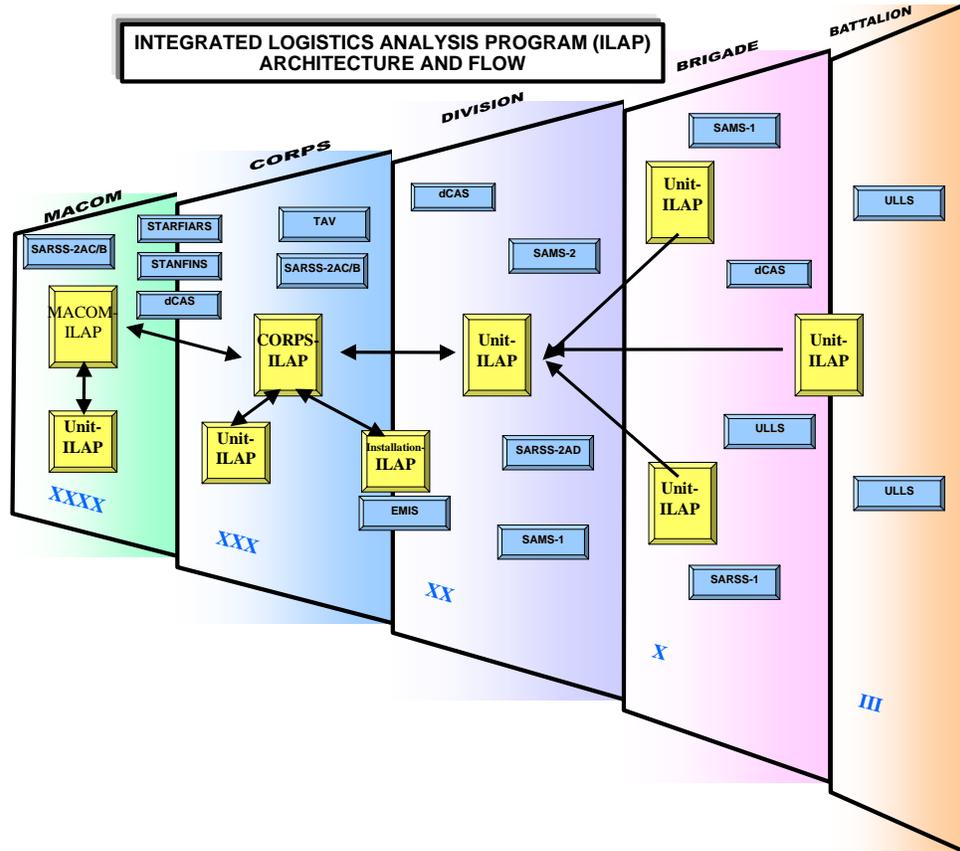
With the Army's conversion to Single Stock Fund, the Installation Supply Buffer (ISB) replaces the Standard Army Financial Inventory Accounting and Reporting System—Modernized (STARFIARS-Mod). ISB is an interactive, real-time system that records financial inventory accounting and other financial transactions for the Army Working Capital Fund, Supply Management, Army, and other related consumer funds.

DECISION SUPPORT APPLICATION

The Army employs one primary decision support application. The Integrated Logistics Analysis Program (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 STAMISs at tactical, operational, and strategic levels, as well as from DFAS. These data are integrated and displayed at levels of aggregation appropriate for each management level. As a decision-support application, ILAP produces informational management reports in an easy-to-understand, readable format that assists managers in the decision-making by integrating data from numerous sources. Figure 4-5 displays ILAP architecture and flow.

Additional information on ILAP is available at <https://www.ilaparmy.mil>.

Figure 4-5. Architecture and Flow of the Integrated Logistics Analysis Program



Source: U.S. Army Combined Arms Support Command.

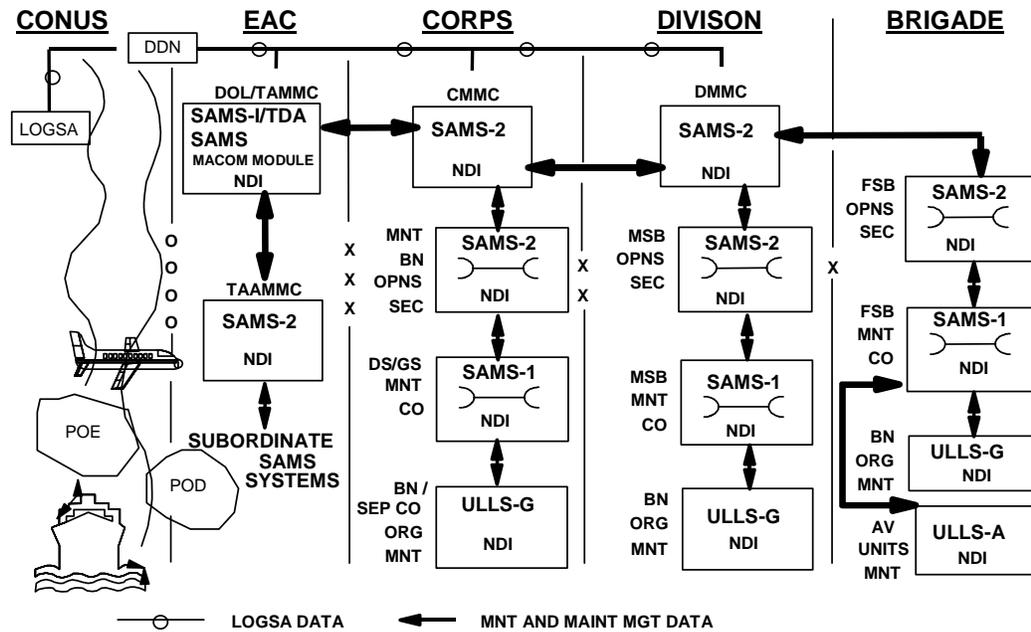
MAINTENANCE

The Army uses one primary maintenance system. The Standard Army Maintenance System (SAMS) automates maintenance shop activities and presents commanders with access to maintenance management information. SAMS consists of SAMS 1, Rehost, and Installation/TDA (SAMS-I/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 battalion 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.

Figure 4-6 provides a graphic view of the SAMS configuration.

Figure 4-6. Standard Army Maintenance System



Source: U.S. Army Combined Arms Support Command.

TRANSPORTATION

Department of the Army Movements Management System–Redesign

The Department of the Army Movements Management System–Redesign (DAMMS-R) provides an automated movement information management capability for movement managers involved in controlling and allocating common-user land transportation in a theater of operations. It gives theater mode operators a tool to assist in the management of their assets, including personnel, equipment, and terminal or trailer transfer points. The system supports 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:

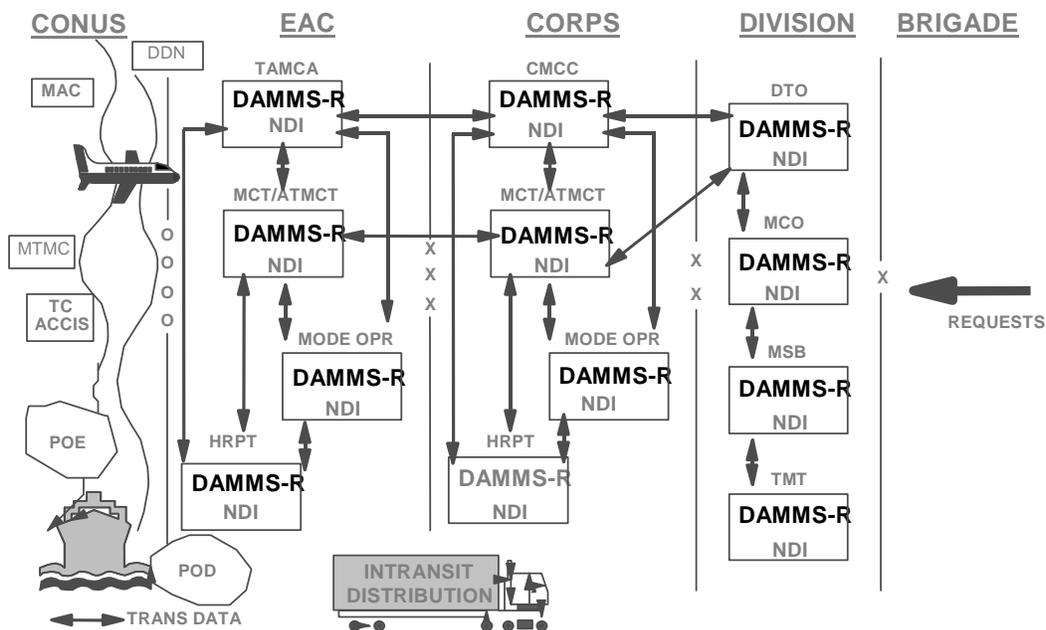
- ◆ shipment management,
- ◆ addressing,
- ◆ movement control,
- ◆ highway regulation, and
- ◆ mode operations,
- ◆ convoy planning.

The proponent for DAMMS-R is the Army G4, Director for Force Projection and Distribution. DAMMS-R functionality is being ported over to TC-AIMS II; the proponent for TC-AIMS II is Combined Arms Support Command (CASCOM).

Figure 4-7 provides a graphic view of the DAMMS-R configuration. Additional information is available at

<http://www.tis.army.mil>.

Figure 4-7. Department of the Army Movements Management System—Redesign



Source: U.S. Army Combined Arms Support Command.

Global Air Transportation Execution System

The Global Air Transportation Execution System (GATES) is a fully integrated transportation system that is used by the Air Mobility Command. GATES functionality includes automated cargo and passenger-processing information to direct mobility operations worldwide. It also provides the air portion of passenger and cargo ITV information to GTN and billing to the Air Mobility Command's financial management directorate. The system is designed to establish an integrated corporate system.

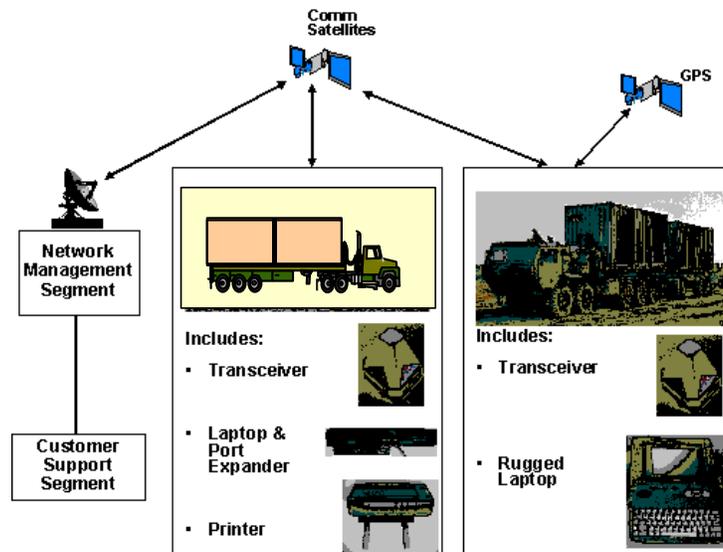
Additional information about the Air Mobility Command is available at www.defenselink.mil/privacy/notices/usaf/f024afamca.htm. This website requires the use of army.mil computer.

Movement Tracking System

The Movement Tracking System (MTS) is a satellite-based tracking and communications system with the capability to identify, position, track the progress of, 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 provide the means for transportation movement control and CS/CSS operations sections to improve traffic management on the main supply routes, provide the means to identify flat-track and trailer delivery and 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 and 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 and track the asset position on a map background, using PC-based software. Figure 4-8 represents the current MTS objective architecture. Currently, there are 2,663 MTSs deployed in the Southwest Asia theater of operations.

Figure 4-8. MTS Objective Architecture



MTS Communications Network

Source: U.S. Army Combined Arms Support Command.

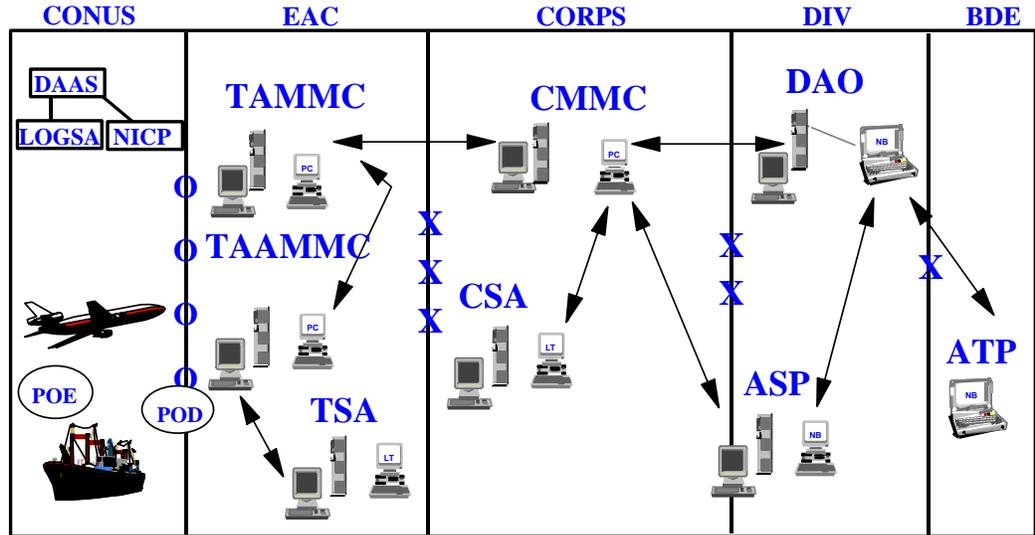
AMMUNITION

The Army employs one primary system for ammunition management. The Standard Army Ammunition System–Modernization (SAAS-MOD) is an automated ammunition management system that combines all three SAAS levels of operations—theater and corps MMC, ammunition supply points (ASPs), and the 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 and corps storage points, the IMMC, and AMCOM. The system will provide automated management data to affect 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 4-9 provides a graphic view of the SAAS-MOD architecture.

Figure 4-9. SAAS-MOD Architecture Battlefield Locations (includes AIT)



Source: Graphics courtesy of USACASCOM.

TACTICAL MEDICAL LOGISTICS

The Army's primary tactical system for medical logistics is the Theater Army Medical Management Information System (TAMMIS), which is managed by the U.S. Army Medical Research and Materiel Command's TAMMIS Project Office. TAMMIS provides both institutional and tactical medical management. It is used in training scenarios, contingency operations, and humanitarian assistance operations. It also is used by 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 is divided into two subsystems:

- ◆ *Medical Supply (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 battalions, TOE combat support hospitals within the corps and communications zone, and at U.S. Army TDA hospitals within 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 Assemblage Management (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
www.medlogspt.army.mil,
which requires an AKO login ID and password to access.

PERSONNEL

The Army's new Electronic Military Personnel Office (eMILPO) system is the Army's replacement for the personnel system, SIDPERS-3 (Standard Installation/Division Personnel System 3). eMILPO will improve basic personnel actions and save soldiers time in processing personnel functions. eMILPO is a key component of the Army G-1's (Personnel) transformation, because it links the Army's personnel database to the Internet. It includes four main personnel areas:

- ◆ Personnel accounting
- ◆ Personnel services
- ◆ Promotion
- ◆ Reassignment.

Although eMILPO is a powerful system, it is just an interim step toward a much larger, multiple-service, integrated personnel and pay management system called the Defense Integrated Military Human Resources System (DIHMRS).

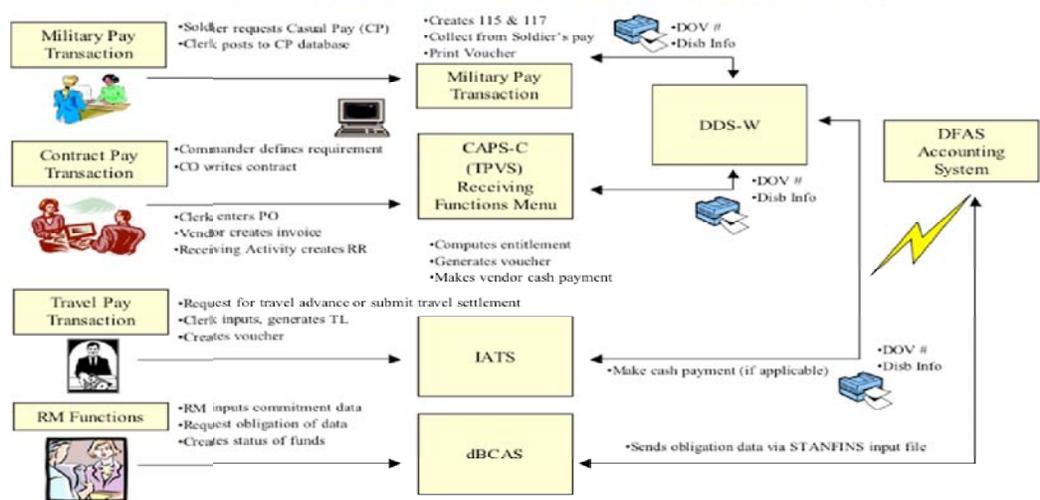
eMILPO will be driven primarily by PeopleSoft8, a purely Internet-based COTS software. Additional information about eMILPO is available at
<https://www.perscom.army.mil/fsd/emilpo1.htm>.

FINANCIAL MANAGEMENT

Financial Management Tactical Platform

The Financial Management Tactical Platform (FMTP) is a deployable, modular local area network-configured hardware platform that supports finance and resource management operations and functions across the entire spectrum of a conflict. System functionality includes vendor services, military pay, disbursing, accounting, travel, and resource management. Figure 4-10 shows the finance business process for FMTP.

Figure 4-10. Finance Business Process for FMTP



FMTP is a “system wrapper;” it integrates essential DFAS systems into a user-friendly package. The system operates on non-developmental item hardware at all levels of the deployed environment, wherever finance units can be found. FMTP is fielded in two configurations: basic and expanded. The basic configuration has 6 notebook computers, 2 portable printers, 1 file server, and 1 laser printer. The expanded configuration employs 19 notebook computers and 2 laser printers.

Additional information can be obtained at
<http://www.finance.army.mil/fmtp/>.

Database Commitment Accounting System

The Database Commitment Accounting System (dbCAS) 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 that records and manages commitments and funding data and for uploading and receiving obligation transactions to and from the Standard Finance System (STANFINS) and other automated systems. dbCAS 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 budgetary needs.

ARMY RESERVES AND ARMY NATIONAL GUARD LOGISTICS SYSTEMS

The Army Reserve and Army National Guard (ARNG) automation programs and initiatives provide functionalities and capabilities that enhance current operational logistics STAMIS for Army Reserve and ARNG logistics operations. In addition, the logistics systems provide an interim “bridge” of capabilities and functionalities as the Army moves to the Future Force construct, which will require a replication or an equivalent capability or functionality built into an ERP solution GCSS-A or a change to logistics policy and guidance for the Army Reserve and ARNG. Ultimately, the logistics systems of ARNG and reserve components will move into the envisioned “One Army” architecture.

Aviation Resources Logistics Readiness Model

Aviation Resources Logistics Readiness Model (ALRM) assists the Aviation and Safety Division, National Guard Bureau–Aviation (NGB-AVN), and the states in their budget decision processes and in tracking readiness. ALRM improves communication between the facilities and NGB.

Integrated Materiel Application Program

Integrated Materiel Application Program (IMAP) is an ARNG Logistics-Finance checkbook. Before a requisition is accepted into SARSS, it must be funded. IMAP facilitates Single Stock Fund (SSF) implementation. Requisitions are passed through the IMAP checkbook and a determination of funds availability is made before the requisition is sent to SARSS.

Mobilization Movement Control System

The Mobilization Movement Control System (MOBCON) program gives National Guard state defense movement coordinators (DMCs) an automated system that plans, schedules, and deconflicts convoys within CONUS. MOBCON schedules active component Army units, as well as NGB. Eventually it will transition to a joint DoD system.

Surface Maintenance Management Model

The Surface Maintenance Management Model (SM3) is used in the Army Logistics Directorate of the ARNG. It automates the labor-intensive procedures previously performed by inspectors at the combined support maintenance shops (CSMS) and maneuver area training equipment (MATES) sites.

Training, Readiness and Operations, Unit Planning, Execution and Resourcing System

The Training, Readiness and Operations, Unit Planning, Execution and Resourcing System (TROUPERS) unites training planning with resource allocation and execution management processes at every echelon. It links the unit commanders' training plans (individual and collective) with state and national training goals.

Objective Supply Capability Adaptive Redesign

Objective Supply Capability Adaptive Redesign (OSCAR) provides an interface between the NGB-unique supply support processes and the Army STAMISs. It provides a means for the major NGB end-item managers to redistribute assets between states to improve readiness and reduce excess.

Reserve Component Automation System

The Reserve Component Automation System (RCAS) is an automated information management system that enhances capabilities of the NGB and the Army Reserve forces. RCAS supports the daily operational, training, and administrative tasks for all Guard and Reserve echelons and provide timely and accurate information to plan and support mobilization. The system links approximately 10,500 National Guard and Army Reserve units at more than 4,000 sites in all 50 states, the District of Columbia, Guam, Puerto Rico, the Virgin Islands, Europe, and the Pacific Rim.

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.

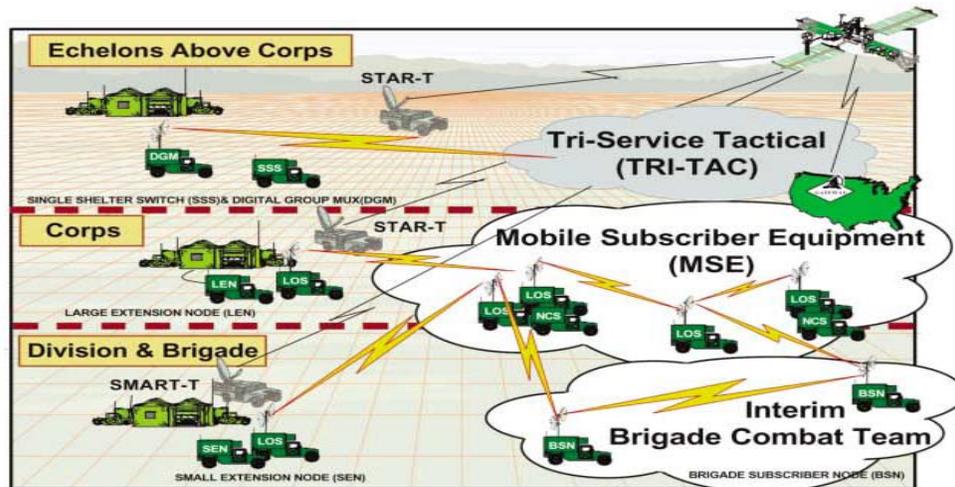
Distribution operations depend on the Area Common User System (ACUS), which consists of Tri-Services Tactical (TRI-TAC) and MSE systems. Operations within a brigade area use the Tactical Internet (TI) to provide connectivity between the brigade and STAMIS. Commercial satellites augment these primary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

Area Common User System

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 battalion 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 STAMISs to transfer data.

The ACUS Modernization Program (ACUS-MOD) consists of planned upgrades to the MSE system at echelons at corps and below. The ACUS-MOD will implement a prioritized set of tactical operational requirements or capabilities to support current and emerging Army C4ISR initiatives. Figure 4-11 is an illustration of the ACUS communication architecture.

Figure 4-11. ACUS Communication Architecture



Source: USACASCOM System Description.

Additional information about ACUS is available at
http://www.defensedaily.com/progprof/army/acus_mod.pdf.

Tactical Packet Network

TPN is the packet overlay to MSE and Tri-service Tactical communications systems. It provides network services for users of secret information, from brigade to echelons above corps. TPN provides such services 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 STAMISs are sensitive but unclassified. Physical connectivity of STAMIS to the TPN is through the CAISI device, the design of which 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/tacom/tpn/TPN.htm>.

Combat Service Support Automated Information System Interface

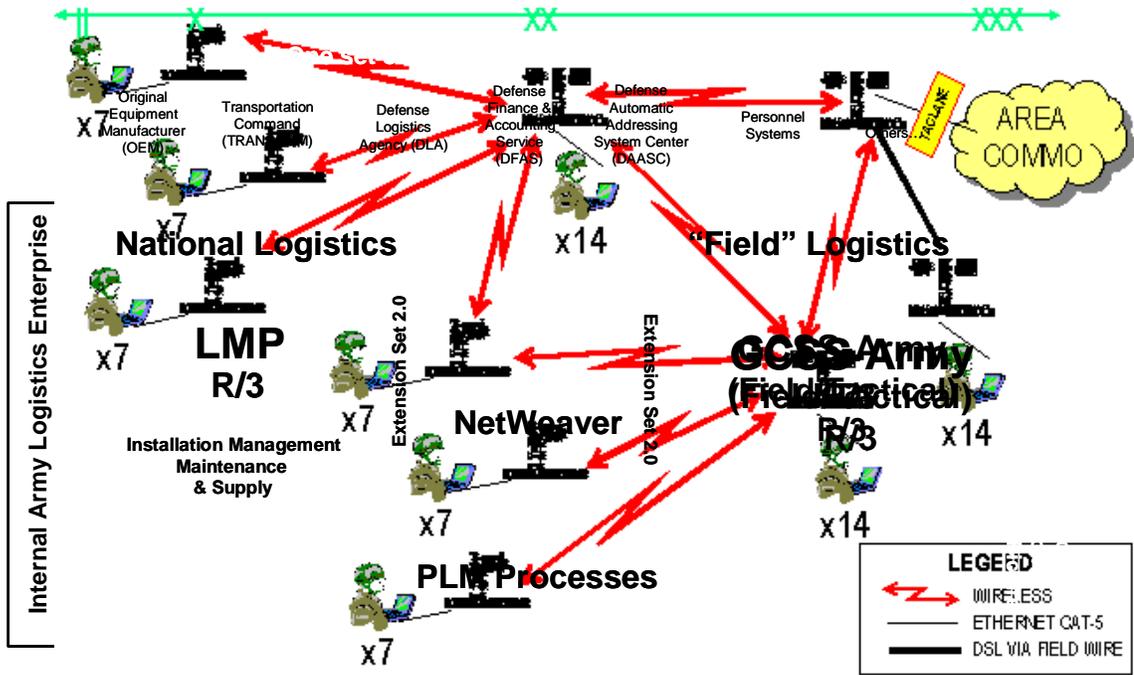
The CAISI provides the capability for current battlefield CSS operational systems to exchange information electronically within logistics support areas, with other battlefield CSS automation systems, and with automation systems within the sustaining base. CAISI includes hardware and software and is deployable from the unit level through corps and echelons above corps. It is currently deployed at the company level 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, separate brigade support battalions, BDE- or group-sized CSS organizations 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 4-12 is an illustration of the current CAISI concept of operation.

Additional information about CAISI is available at
<http://www.peostamis.belvoir.army.mil/tacmis/CAISI/index.htm>.

Figure 4-12. CAISI Concept of Operation



Source: U.S. Army Combined Arms Support Command.

Chapter 5

Emerging Technology Initiatives

In this chapter, we review selected emerging technology initiatives that support the Army's Logistics Transformation. This 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 aid logisticians with today's complex and challenging mission. This chapter describes some of the most advanced technologies in support of logistics transformation. These initiatives and technologies will assist logisticians in virtually every Army operation across the entire spectrum—from humanitarian operations to 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 logistics transformation. These capabilities conform to mandates that require compatibility with joint initiatives and operational capability at home stations 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.

The categories below best represent our discussion of emerging technologies and enabling technologies that support the Army G4's goal to “connect the logistician, modernize theater distribution, improve force reception and integrate the supply chain:”

- ◆ System support of FCS
- ◆ Emerging modularity initiatives
- ◆ Emerging enterprise information initiatives
- ◆ Emerging logistics information initiatives.

SYSTEM SUPPORT OF FUTURE COMBAT SYSTEM

Platform Soldier–Mission Readiness System

The Platform Soldier–Mission Readiness System (PS-MRS) is a knowledge source to enhance mission planning and logistics operations. It is designed and programmed to provide knowledge about platforms and soldiers to unit leaders and the entire logistics community to support overall mission readiness.

PS-MRS affects every system and subsystem.¹ Performance-based metrics drive the process; the goal is to predict failure with sufficient time to mitigate risk before it affects mission profile. The PS-MRS will feed the Logistics Decision Support System (LDSS).² PS-MRS also reports on the status of consumables on each of the platforms and will be the interface with the Future Warrior to report soldier status.

The basic function of the PS-MRS is to provide mission readiness assessment capability for platform equipment and personnel, as well as decision support for on-platform maintenance actions. In addition, PS-MRS provides a continuous assessment and improvement capability for the diagnostic and prognostic algorithms.

PS-MRS is partitioned into two elements: an embedded PS-MRS and the PS-MRS Decision Accuracy Validation Service (PDAVS), a system integration laboratory-based decision accuracy validation service. The platform-embedded mission readiness system service provides the embedded functionality required by the platform. PDAVS provides the functionality to assess the performance of the on-platform readiness system service (based on data collected by the on-platform readiness system service), as well as the environment for generating and testing updates to the algorithms and models required for the on-platform readiness system service.

The PS-MRS publishes (via the System of Systems Common Operating Environment [SOSCOE]) mission readiness information aggregated at the vehicle level. The LDSS subscribes to this mission readiness information and aggregates across all vehicles to create an overall mission readiness assessment that is available through the common relevant operation picture.

¹ It is family of systems, but not system of systems (i.e., not complementary programs).

² Supportability Industry Day, 8 January 2003, Briefing, *Platform Soldier Mission Readiness System and Logistics Decision Support System*, Rick Wong, Boeing Company.

Logistics Decision Support System

The LDSS will be a robust decision support system developed from current and emerging logistics information and C2 systems. LDSS will provide overall sustainment situational awareness and provide the unit of action (UA) commander logistics situational awareness in the common operating picture. It will provide the forward support battalion (FSB) commander the tools needed to monitor and influence the UA logistics mission readiness. The LDSS aggregates vehicle readiness information (obtained from the PS-MRS across the UA).

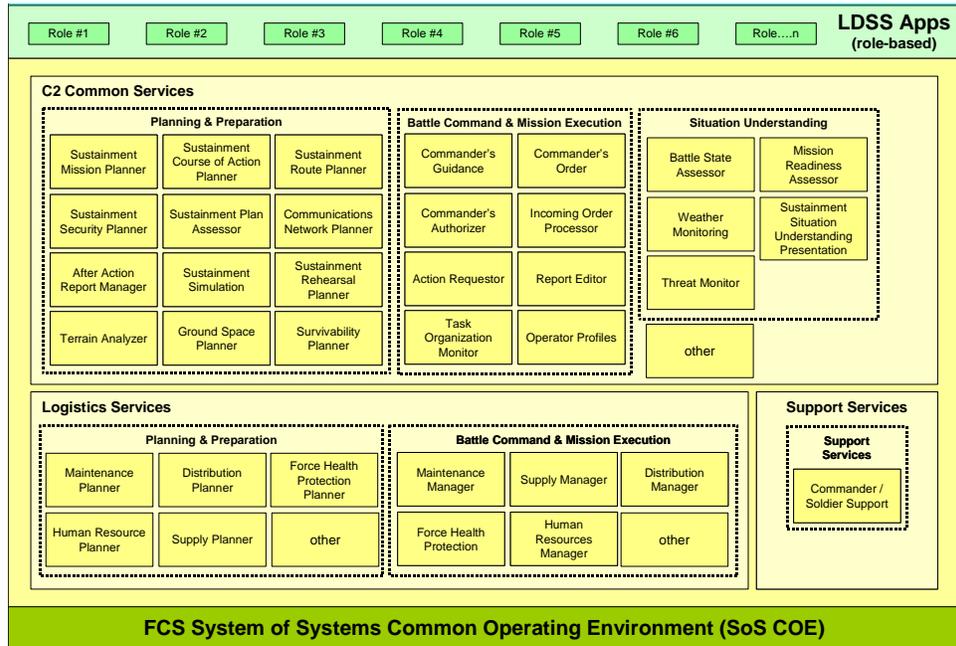
The following functionality is envisioned for LDSS:

- ◆ Supports mission plans, sustainment objectives, planning guidance, and situational information from other C2 services to produce a sustainment plan
- ◆ Evaluates logistic support for operational courses of action, rank them according to the evaluation criteria, and recommend the preferred course of action
- ◆ Executes the sustainment plan by generating orders, requisitions, and instructions required to implement the plan consistent with current situational information
- ◆ Monitors the sustainment plan execution, compares the status of the plan against the actual situation, and reports deviations, which may require re-planning.

The lower section of Figure 5-1 depicts the LDSS logistics services and support services. The upper section depicts C2 common services that support both C2 and LDSS. The entirety of LDSS is constructed from the C2 common services and the LDSS-unique services that support maneuver sustainment. LDSS software services are divided into three functional categories:

- ◆ Planning and preparation
- ◆ Battle command and mission execution
- ◆ Support services.

Figure 5-1. Warfighter Machine Interface



EMERGING MODULARITY INITIATIVES

The TRADOC is leading the design and development of the future force for the Army, realigning functions and resources from the headquarters staff and from the Objective Force Task Force. This restructuring will create more modular, capabilities-based forces to better meet combatant commanders' requirements. The Army will retain the 10 division headquarters as battle command headquarters, but it will move some enabling resources (such as air defense, signal and intelligence) to the brigade level. The Army will also increase the number of maneuver brigades under the divisions from three to four. That alone will take the service from 30 brigades under the division structure to 40. Building the fourth brigade takes much of the division-level support elements (such as engineers, military intelligence, supply, and maintenance units) and makes them organic to the brigade structure. This restructuring leaves a division with three types of brigades: heavy, with armor; light, with motorized infantry; and airborne.

Brigade combat teams will be restructured into brigade units of action (BUAs). Once transitioned, BUAs will enable greater capacity for rapid packaging and responsive and sustained employment to support combatant commanders. BUAs will also enhance the expeditionary and campaign qualities of Army forces by better enabling joint or coalition operations. The transition to BUAs will also increase the brigade-equivalent forces available to meet both enduring and emerging mission requirements.

For more information about emerging modularity initiatives, visit http://www.monroe.army.mil/futurescenter/FCWebV2_content.html.

EMERGING ENTERPRISE INFORMATION INITIATIVES

Service-Oriented Architecture

DoD is focusing on service-oriented architecture (SOA) as part of the progression for “net-centricity.” This focus is moving from point-to-point integration to horizontal fusion. SOA provides open-ended integration to combine capabilities in new ways as needed and allow the construction of systems based on components with well-defined service interfaces. In service-based architectures, components publish their capabilities as discoverable services on the network and perform work on behalf of other components. This can enable interoperability across enterprise, logistical, and tactical architectures.

SOAs are built around a collection of reusable software components with well-defined interfaces. These components may perform work (or a service) for others on a network, and inherently provide the

- ◆ ability to “discover” the existence of services,
- ◆ ability to convey information necessary for usage, and
- ◆ descriptions, including formats and protocols.

SOA eases integration across heterogeneous environments and applications. It facilitates the reuse of existing applications by turning capabilities into discovery network services. This ensures the retention of previous investments and a bridge to the future force.

Integrated Data Environment

An integrated data environment (IDE) is a virtual web-based enterprise solution developed for the Army by Lockheed Martin 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 that span multiple organizations 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.

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 allow units to attain precise, timely, and focused support, distribution, and redistribution across organizational and geographical boundaries for all services when coupled with improved business practices, information supremacy, and systems integration to maintain and sustain the Army.

Tactical Logistics Data Digitization

The mission of the Tactical Logistics Data Digitization (TLDD) project is to give Army equipment operators' rapid digital access to technical data on the battlefield, in the motor pool, and in the schoolhouse. TLDD makes it possible to get the right materiel delivered to the right place at the right time, and it does so by providing integrated parts selection (IPS), or what is commonly referred to as "point-and-click" capability to both maintainers and operators on any number of weapons platforms.

This is accomplished via the Electronic Technical Manual Interface (ETM-I) application, which confirms data input against updated FEDLOG data to ensure accuracy. It has the unique ability to interface with the current STAMIS applications, ULLS-G and SAMS, so the verified data remain consistent among systems. Additional capabilities of the TLDD solution include Digital Log-Book (DLB) and Digital Preventive Maintenance Checks and Services (DPMCS). These capabilities allow maintainers to expeditiously move repair parts requests, service data updates, and digitized Preventive Maintenance Checks and Services (PMCS) data at near-real-time speeds. It also gives the maintainer and management-level logistician the ability to check and confirm the status of ordered parts.

Common Logistics Operating Environment

Joint Vision 2010 and 2020 emphasize four emerging operational concepts, including the Focused Logistics concept.³ The Common Logistics Operating Environment (CLOE) addresses the Army's contribution to focused logistics by resolving gaps in both logistics doctrine and business processes from the platform-based sensor-level through the interfaces with joint and integrated enterprises. CLOE is not separate from the efforts of Joint Visions 2010 and 2020; it is the Army's portion of this larger transformation management effort.

At the direction of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (ASA[ALT]),⁴ the Army G-4 and the Director of the U.S. Army

³ The Joint Staff, *Focused Logistics Joint Functional Concept*, Version 1.0, March 2004. Available at <http://www.dtic.mil/jointvision/history/focuslog.pdf>.

⁴ Assistant Secretary of the Army (Acquisition, Logistics, and Technology) memorandum, *Common Logistics Operating Environment Capabilities and Standards*, 25 July 2003.

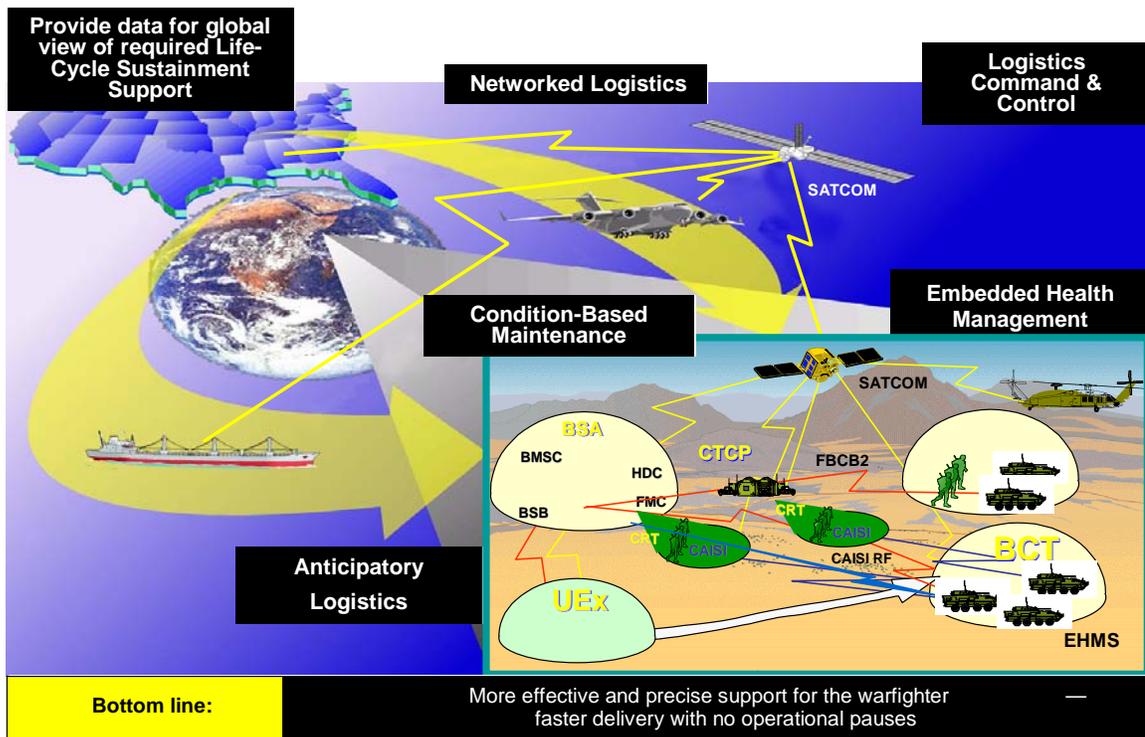
Logistics Transformation Agency (USALTA) established the Common Logistics Operating Environment effort as a means to develop the operational and technical architectures for that environment. These digital capabilities can be termed the Army's platform-based health management system.

The envisioned end state of CLOE is a technology-enabled Army that uses self-diagnosing platforms that interact in a networked sustainment environment to provide the highest possible state of operational availability, mission capability, and combat power for a composite force structure of both current and future forces.

Under the future force structure, all primary platforms (i.e., ground, air, and support) will have embedded health management systems that cover the majority of mission-critical components. Embedded diagnostic capabilities will autonomously isolate faults in mission-critical systems to the line-replaceable unit (LRU) or major component level. Many of the embedded systems will also have prognostic capabilities that allow them to predict failures in key systems sufficiently in advance of an actual failure to schedule corrective maintenance actions and distribution of required repair parts. These embedded health management systems will link to embedded command, control, and communications (C3) systems to allow the platforms to self-report health and consumable status (for ammunition, fuel, and water), crew status, and maintenance needs.

Figure 5-2 depicts the CLOE operational architecture.

Figure 5-2. CLOE Operational Architecture



CLOE applies three overarching principles for this transformation effort:

- ◆ All combat, combat support, and combat service support platforms (including aviation) transfer time-critical data directly to the appropriate off-platform information entry point, to the maximum extent practicable. The transfer of time-critical data may occur in a data burst over radio or satellite communications links; less critical data may be transferred in bulk using a data download capability. CLOE maximizes platform-generated digital data, and minimizes human intervention in monitoring, detecting, processing, reporting, and transferring data to decision makers within the various functional areas of the battlefield.
- ◆ The application and fielding of CLOE enablers must be compatible throughout all Army logistics functions (e.g., supply, distribution, medical, maintenance, and transportation), including commercial and Joint Service business processes that support the Army's logistics system.
- ◆ CLOE must enhance warfighting capabilities to ensure the commanders' decisions are based on accurate and timely data for logistics situational awareness.

In addition, CLOE integrates six specific design principles into its initial architectures:

- ◆ Maximize warfighting effectiveness in the unit of action.
- ◆ Provide data for global view of required UA sustainment support.
- ◆ Optimize communication processes.
- ◆ Retain enough flexibility to adapt to changing technology environments.
- ◆ Streamline the UA logistics footprint.
- ◆ Transform UA maintenance and sustainment operations into an integral component of the enterprise integration.

Initial CLOE capabilities focus on the platform and include the elements necessary to implement an embedded health management system. Follow-on capabilities will be developed to implement Condition-Based Maintenance Plus (CBM+) and Anticipatory Logistics for the end-to-end set of enablers, business processes, and analytic capabilities of a truly integrated logistics enterprise.

- ◆ High-level CLOE capabilities
 - Network-enabled
 - Sensor-based and linked

- Distributed processing
- Reach as required
- ◆ Functional CLOE capabilities
 - Automated logistics status reporting
 - Automated reporting of critical faults detected by Embedded Health Management System (EHMS)
 - Automated reporting of critical faults detected by crew
 - Automated detection and reporting of critical predicted faults
 - Operating history, maintenance history, and data captured and stored from the Army Maintenance Management System (TAMMS)
 - Configuration of critical parts maintained
 - Cargo data read and transmitted from the family of medium tactical vehicles (FMTV)
 - Fault isolated or LRUs replaced at platform
 - Remote query and fault isolation
 - Crew maintenance
 - Platform data downloaded/synchronized
 - Logistics status displayed in Force XXI Battle Command Battalion or Brigade and Below (FBCB2)
 - Movement Tracking System (MTS) data merged into FBCB2 displays
 - Platform data fed to the Logistics Common Operational Picture (LCOP).

Advanced Logistics Project

The Advanced Logistics Project (ALP) started in 1997 with the goal of using information technology to solve the problems of the Joint Vision 2010 pillar of focused logistics. In 1998, the program took on a course of large-scale distributed agent technology, bringing the current best-of-breed concepts together with a number of innovative new concepts. Each year the Defense Advanced Research Projects Agency (DARPA) designed, developed, integrated, and demonstrated increasing capabilities to meet the challenges of a global end-to-end logistics system.

Through three major revisions of the architecture, four demonstrations, numerous technology exploration initiatives and over \$80 million, the ALP created the Cognitive Agent Architecture (Cougaar).

In 2000, the decision was made to open source the technology to facilitate transition. Based on this decision, numerous government projects and commercial initiatives are using or considering the use of Cougaar technology. The efforts to build a community around this technology are beginning to pay off as people developing applications and identifying elegant improvements to the architecture are starting to emerge. The FCS program has selected Cougaar for its LDSS application.

Based on a challenge from OSD, the Army determined that, although the ALP had fully met its challenges regarding global logistics, a new set of challenges regarding the survivability of the technology would need to be addressed.

Net-Centric Logistics

Net-Centric Logistics (NCL) is a DARPA-sponsored seedling effort to explore new and revolutionary concepts in military logistics operations. Current logistics practice relies on a predictable and well-known logistics support structure and linear supply lines, results in asset concentration in large and difficult-to-move rear stockpiles, and is straightforward enough for the adversary to analyze, exploit, target and attack. This is inconsistent with net-centric warfare on a non-linear battlefield that employs the rapid maneuver of smaller, capabilities-based operating forces.

The goal of NCL is to design a program to create the technological framework, products, and processes for a revolutionary distributed logistics system. It is envisioned that the eventual program will build on DARPA agent technologies and advanced transportation and material-handling concepts. The goal is to bring the benefits of net-centric warfare and information superiority to the logistician in a much more timely and accurate manner. Specifically, the program will interlink three changes in logistics practice to dramatically reduce tactical inventory and increase operational agility over the current logistics support system:

- ◆ Change the physical distribution of material inventory from a hierarchically arranged supply chain into a much more distributed model
- ◆ Enable the logistics transportation platforms available on the battlefield to better support a more flexible pull system based on an operating customer networked model.
- ◆ Alter the flow of information (e.g., demand signals, inventory status, negotiations) among units in order to recommend the best decisions for the moment-to-moment configuration of the logistics support structure.

Guided by the suite of intelligent agents and business rule processes developed by DARPA, and enabled by the transportation changes and technologies developed in the private sector, NCL will develop a program that will ensure physical inventories behave as a network, efficiently flowing from unit to unit in order to maximize agility. It will provide the capability for dynamic decision-making rather than operating the logistics system as fixed logistic chains and inflexible organizational queues.

The technology will enable strategic inventory positioning and tactical distribution from strategic resources/distances. It will also make more efficient use of battlefield stocks by increasing supply options and dynamically evolving the supply chain structure to fit the unique operation. Net-centric warfare concepts will be applied initially in the ground logistics domain to use information as a substitute for mass in logistics; and in so doing, will enable ground commanders to create and exploit operational advantage in a dramatically more flexible way.

Additional information about NCL is available at
<https://docs.ultralog.net/NCL/>.

General Fund Enterprise Business System

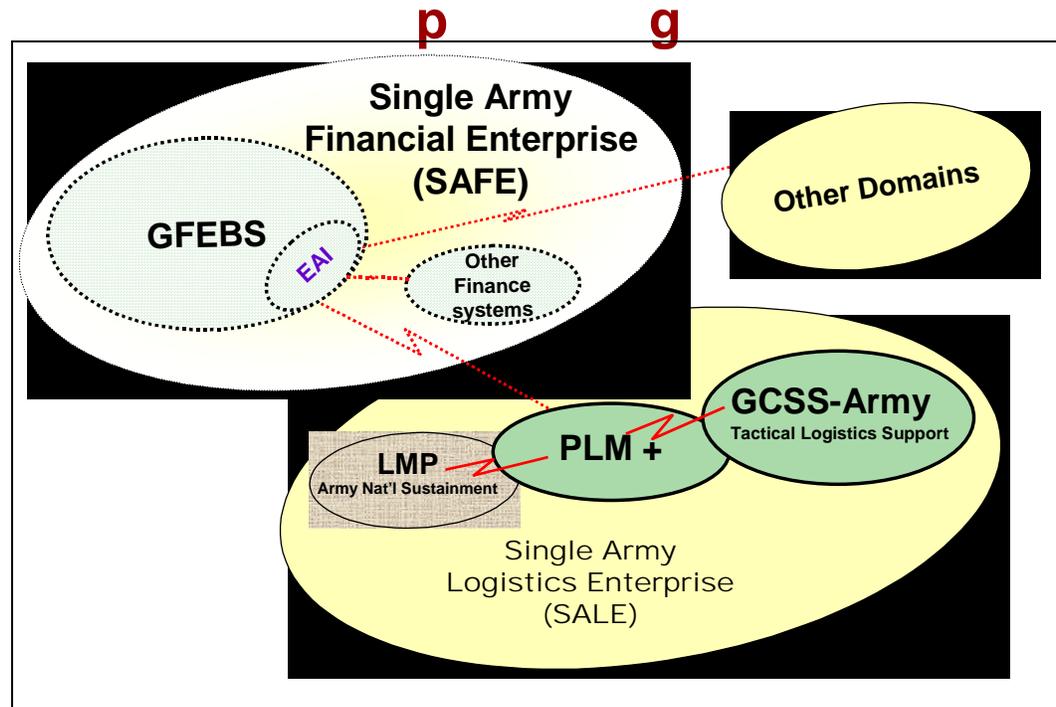
General Fund Enterprise Business System (GFEBS) will replace several existing systems: Standard Finance Systems, Standard Operation and Maintenance Army Research and Development System (SOMARDS), and the Defense Joint Accounting System (DJAS). The vision for GFEBS, as approved by the Principal Deputy for the Assistant Secretary Army, Financial Management and Comptroller (ASA[FM&C]) is as follows:

A Chief Financial Officer (CFO) compliant General Fund Finance and Accounting System, on a Joint Financial Management Improvement Program (JFMIP) certified COTS/ERP product, that is capable of supporting DoD with accurate, reliable, and timely financial information, in peacetime and in war.

The goal is to implement a pilot of GFEBS at one installation, demonstrate through that pilot that GFEBS will meet the Army's needs, and then implement the system across the Army. When implemented, GFEBS will be consistent with the Army's ERP business process architecture (BPA).

Figure 5-3 shows a high-level conceptual view of the GFEBS.

Figure 5-3. Notional Enterprise Integration of GFEBs



Source: Information Assurance (IA) Strategy for the U.S. Department of the Army General Fund Enterprise Business System, 30 April 2004.

Elimination of Military Standard Transactions

The Under Secretary of Defense for Acquisition, Technology, and Logistics issued a memorandum, *Migration to the Defense Logistics Management Standards (DLMS) and Elimination of the Military Standard Systems (MILS)*, dated 22 December 2003. The memorandum directs that

- ◆ MILS-formatted messages are not authorized for information exchanges within or between DoD systems as of close of business 31 December 2004, and
- ◆ All information exchanges among DoD systems must use the DLMS ANSI ASC X12⁵ or equivalent extensible markup language (XML) schema for all business processes supported by the DoD 4000.25 series of manuals as of 1 January 2005.

The memorandum also called for the military services and agencies (S/As) to submit transition plans not later than April 2004. Meeting the requirements of this memorandum will have significant cost and schedule implications for Army IT modernization plans. There is strong agreement that the transition directed by the

⁵ DLMS ANSI ASC X12 = Defense Logistics Management Standard American National Standards Institute, where ASC X12 is the file extension.

Under Secretary's memorandum should be accomplished. The issues relate principally to the timing of the transition, its implementation cost, scope, and the specific standards to be utilized. The release of this OSD memorandum, combined with the extensive S/A ERP adoption, presents an open window for a paradigm shift in defense logistics systems and data capabilities that is unlike any opportunity available in the past 30 years—or likely to exist again in the near future.

There are three areas in which the DLMS migration interacts with S/A logistics modernization efforts:

- ◆ *Format and bandwidth.* The memorandum allows S/As to adopt either DLMS X12 EDI or DLMS X12/XML. This approach means DoD must bear the costs of supporting two standards. Neither standard is wholly desirable. The X12 formats are already partially deployed, are soundly devised, and conform to industry EDI practice; however, as the technology progresses, EDI is rapidly being replaced by XML as the method of choice for information exchanges. XML offers many advantages over EDI, but the specific DLMS X12/XML format wraps the XML metadata and structure around the EDI.⁶
- ◆ *Data and scope.* The data currently included in DLMS are essentially the same as what the MILS have included for 40 years, with approximately 100 enhancements (i.e., new data elements), including UID. The advantage of the DLMS over the MILS is it is readily expandable; however, there has not been sufficient interservice coordination to reengineer and update the standard to reflect ongoing modernization processes across the DoD. It is also clear the proposed DLMS enhancements have not generally been incorporated into ERP planning, or conversely, individual S/A ERP enhancement plans have not incorporated the DLMS requirement.
- ◆ *Architecture.* In the MILS architecture, transactions flow from the S/A initiator through the Defense Automatic Addressing System (DAAS) to the recipient. With the advent of the DLMS the environment becomes more complex. Several variations in format are allowed (MILS, X12 EDI, flat-files [called UDFs], and X12/XML), with DAAS providing translation services among the different formats. The intended architecture is not discussed in the OSD memorandum, nor is its effect on both current operational and new S/A systems. The near-term and perhaps transitional architecture needs to be agreed upon so the S/A can effectively provide DAAS and their partners the correct data in the correct format.

⁶ Hence a DLMS X12/XML transaction contains MILS data, MILS metadata, X12 EDI metadata, and XML metadata, and thereby the great expansion in transaction size.

LANDWARNET

Communication systems are key in connecting the logistician so that it is possible to see and know what the soldier needs as soon as it is required. LandWarNet is the Army's network enterprise component of the Joint Battle Management Command and Control. It includes all Army networks, from sustaining military bases to forward-deployed forces. LandWarNet captures emerging network capabilities and encompasses all aspects of evolving battle command, communications, information management, and decision support.

Specific characteristics of LandWarNet include the following:

- ◆ Connects elements of combat power and enables battle command
- ◆ Consists of a "system" of pipes and applications
- ◆ Provides connectivity between sensors and shooters
- ◆ Promotes collaboration between commanders and staffs
- ◆ Supports home station reachback
- ◆ Increases combat power by
 - better synchronizing joint effects in the battlespace;
 - achieving greater speed of command; and
 - increasing lethality, survivability, and responsiveness.

Satellite Communications

To achieve effective communication on the battlefield, logisticians require an organic administrative and logistics (A&L) network that mirrors the A&L voice network. Current logistics battlefield communications processes lack the flexibility, speed, and availability to support expeditionary logistics in a deployed environment. A possible solution to this shortfall is commercial satellite-based communications (SATCOM) technology.⁷ SATCOM provides unmatched reliability, with far fewer potential points of failure than terrestrial solutions. Providing dedicated satellite capability empowers logisticians with the capability to support military operations anywhere in the world. With 24/7 connectivity on demand, logisticians will be an integral part of the joint battlefield network and have the ability to pass and receive key data from the battlefield to the industrial base.

⁷ Army G4 White Paper, *Army G-4 Focus Areas*, December 2003.

The Army G-4, along with AMC and the Combined Arms Support Command (CASCOM), will work with the CIO and G-6 to ensure logistics communication solutions are embedded within the Army's network, optimizing joint and combined operations in an expeditionary environment. The design of the BCS3, GCSS-A, LMP, and PLM+ are critical to fully implementing the G-4's "Connect the Logistician" focus area. These systems will provide an accurate logistics common operating picture; the vital link in the joint commander's ability to see his force and to make decisions based upon accurate, real-time logistics information. The virtual satellite aperture technology (VSAT) pictured in Figure 5-4 currently is fully fielded to the 3rd Infantry Division. Beginning in September 2004, fielding will begin to the 101st Airborne Division, followed by the 10th Mountain Division. By FY07, Army-wide fielding will be complete.

Figure 5-4 Soldiers Establishing a Satellite Communication Link



Warfighter Information Network–Tactical

Warfighter Information Network–Tactical (WIN-T) is an evolving C2 network of commercially based, high technology information and communications systems. WIN-T 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-T comprises seven component threads: power projection and sustaining base; tactical Internet and combat net radio; satellite transport; information systems; information services; terrestrial transport; and network management. This network provides support to ABCS.

Additional information on WIN-T is available at
<http://www.monmouth.army.mil/newpages/vCpeoc3s.html>.

Wireless local area networks (WLANs) are a major component of WIN-T 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. WLANs are a flexible data communications system that can either replace or extend a wired LAN to provide added functionality. Using RF technology, WLANs transmit and receive data over the air, through walls, ceilings, and even cement structures, without wired cabling. A WLAN provides all the features and benefits of LAN technologies without the limitations of cable connections.

Tactical Internet

At brigade 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-T data network.

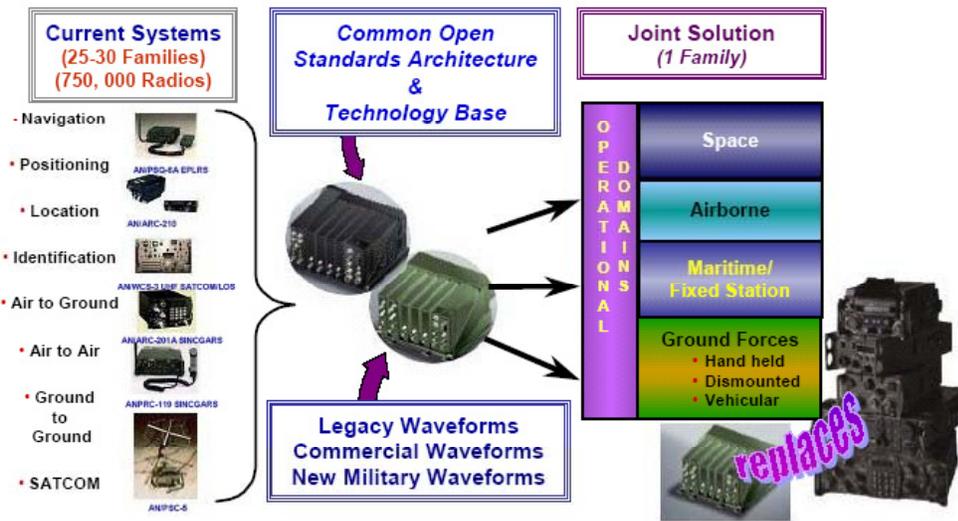
Additional information on the TI is available at
<http://www.gordon.army.mil/tsmtr/ti.htm>.

Joint Tactical Radio System

Joint Tactical Radio System (JTRS) will enable network-centric warfare through a single family of radios based on a common architecture to meet the needs of ground forces, maritime forces, airborne, or space-based systems. It will eliminate duplicative radio development efforts and multiple-current radio systems by consolidating requirement within functional domains; and it enables connectivity to allied or coalition, civil, and national authorities. JTRS is a family of common computer radios and waveforms built around a standard open architecture. Figure 5-5 depicts an overview of the JTRS concept.

The JTRS 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 JTRS will be to serve as the information transport backbone for the TI at brigade 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.

Figure 5-5. Joint Tactical Radio System



Additional information about JTRS is available at
<http://jtrs.army.mil>

or

<http://www.monmouth.army.mil/newpages/vCpeoc3s.html>.

Global Broadcast Service

The Global Broadcast Service (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-T 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, combat-support (CS), and combat service support units (CSS) 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.fas.org/spp/military/program/com/gbs.htm>.

Automatic Identification Technology

Automatic identification technology (AIT) 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 two-dimensional bar codes, magnetic strips, integrated circuit or “smart” cards, optical memory cards, contact memory buttons, RFID technology and data collection devices, and magnetic storage media.

AIT is a key enabler of the Army total asset visibility capability and the primary method of achieving in-transit visibility. AIT, largely in the form of RF technology, provides stand-off content visibility and nodal tracking of assets moving through the logistics pipeline. PEO enterprise information systems (EIS) is responsible for implementing RF technology to provide inside-the-box visibility of sustainment shipments and of assets moving from the United States to an overseas theater of operations in support of force projections.

Radio Frequency Identification Device

A radio frequency identification system is a form of AIT that permits rapid and accurate capture, storage, and retrieval of source data. RF technology has been implemented throughout the Army and DoD to achieve visibility of container/pallet contents and ITV of critical Army assets moving through the logistics pipeline.

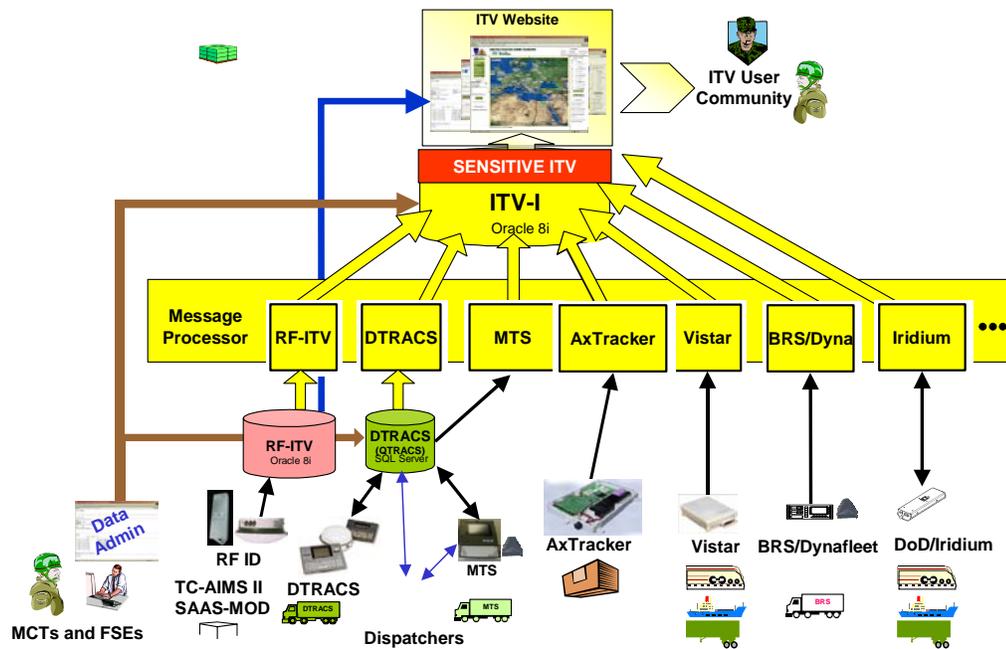
Using RF transponders and strategically placed readers (see Figure 5-6), AIT allows automatic identification and tracking of assets as they move through the logistics pipeline. Information collected at each point in the supply chain is immediately available through a business process server at each facility (e.g., depot, port, etc.) and through ITV servers located in the United States, Germany, Korea and now Operations Enduring Freedom and Iraqi Freedom. The ITV server provides a mechanism for users to query shipment status and location information. The ITV server forwards data to GTN and the JTAV servers.

Figure 5-6. Radio Frequency Identification Components



To provide the ITV capability, the RFID components provide a low-cost and deployable means for military units to track and trace not only major end items such as vehicles, but also containers or pallets of supplies. A RF tag can identify the contents of trucks, seavans, and air pallets and their location. These RF tags are read automatically when queried by fixed or handheld RF interrogators at air and seaports of embarkation and debarkation, and at their transportation nodes, choke points, and during receiving activities. Figure 5-7 provides a broad overview of in-transit visibility.

Figure 5-7. ITV Overview



Appendix A

Enterprise Resource Planning and SAP

WHAT IS ENTERPRISE RESOURCE PLANNING?

ERP is an industry term for the broad set of activities supported by a software application package that helps manufacturers or other businesses manage the full scope of their enterprise functions. ERPs are available as commercial-off-the-shelf (COTS) software packages. They are normally comprised of applications for operational planning, parts purchasing, maintaining inventories, interacting with suppliers, providing customer service, distribution, and tracking orders. ERP can also include application modules for finance and human resources. Typically, an ERP system is capable of operating on several protocols (including web-based) and as an integrated database system in a centralized, tiered architecture to facilitate near real-time operation and user access.

ERP systems contain hundreds of solution sets that are engineered into a single, integrated package. Companies choose ERP as a means to make quantum leaps in capability, conduct business process reengineering, adopt integrated data solutions, eliminate legacy applications, take advantage of the vendor's research and development programs and their world-wide user base, and assure that future system improvements are planned and executed in an integrated manner. ERP software is sold by vendor companies who also provide consulting, training, and software version upgrade services. However, most ERP vendors do not perform the service of integrating the software solutions within customer organizations. Typically, companies hire an integrating contractor to perform this function.

These integrating contractors are industry leaders who specialize in ERP planning and implementation, and have developed very sophisticated methodologies for guiding their client companies through a very defined and rigorous process of phased implementation. ERP systems are sold by user license; typically, the costs are based on the volume of use and are generally categorized as full-time, part-time, or employee user. When a customer procures user licenses for the system, the price includes the full scope of solution sets and capabilities, including any additional engines or third party software. ERP license fees are typically a one-time cost, and each user, irrespective of category, must have a license. Typically, a client will be charged a fee based on the cost of the license for maintenance upgrades. These upgrades range from technical improvements to major version upgrades and are produced and released cyclically by the ERP vendor. Customer companies then decide (based on user need) when to implement the upgrades or version changes. As ERP vendors support many worldwide companies that could be operating different versions of their software, ERP vendors typically provide support to those versions of the software over extended periods of time. When

configured and implemented within a company, the ERP system becomes a company specific instance of the ERP package.

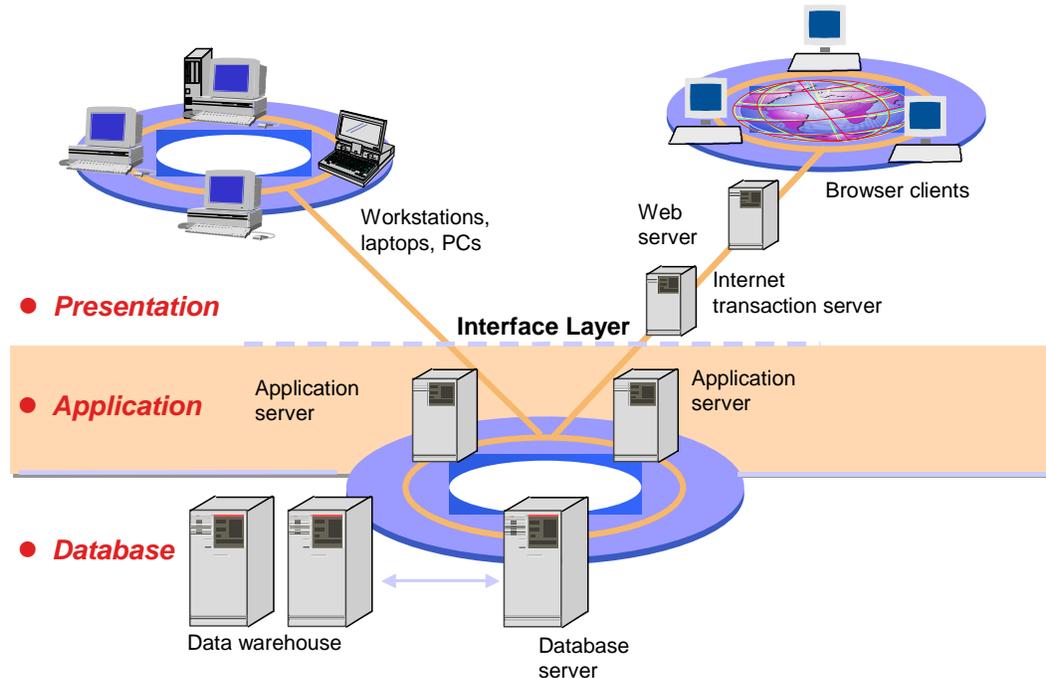
Evolution of ERP

The concept of ERP has been evolving since the 1960s with the automation of inventory control systems. Most software at that time was designed to assist in management of inventory in a manufacturing environment. The focus shifted in the 1970s to material requirement planning (MRP) as the complexity of manufacturing operations increased and the capacities of computers to manipulate large quantities of data and provide automated reports also increased. In the 1980s, the concept of manufacturing resources planning (MRP-II), an extension of MRP to the shop floor, and distribution management activities grew in importance. In the early 1990s, the increased complexity of businesses and the need to integrate all the functions within an enterprise lead to development of ERP tools. These were enhanced by developing relational databases so that functions, like human resources and financial management, could be integrated with manufacturing and customer order management. ERP is an extension of MRP-II to cover the complete range of activities within an enterprise. In addition, it addresses the technology aspects of enterprise management.

ERP Characteristics

ERP is a commercial software system that is created by a vendor, tested, and designed to be tailorable to the standards, processes and challenges of specific industries. It is an integrated solution that includes hundreds of functional solution sets that are structured to help organizations adopt best business practices developed by industry leading companies around the world. ERPs typically use a web-based client-server computing model which shares information over a network. Usually the ERP will have a 3-tiered technical architecture that includes a presentation layer, application layer, and database layer, this may include a data warehouse and decision support tools. Figure A-1 is an example of a three-tiered architecture for an ERP.

Figure A-1. ERP Architecture



Source: SAP.

ERP Benefits

The following is a list of the major reasons why organizations undertake ERP solutions:

- ◆ Enterprise-wide standardization
- ◆ Enterprise-wide integration
- ◆ Incorporate best business practices
- ◆ Profitability/Productivity/Growth
- ◆ Transition from legacy systems
- ◆ Industry-based solutions
- ◆ Platform to achieve reengineering/process change
- ◆ Leap to open systems/client-server technology
- ◆ Leverage ERP investment in their commercial products and get out of custom development
- ◆ Software flexibility, functionality, and access.

ERP Phases

ERP software is transformed from its out of the box “raw software” state to the customer’s version of the product. ERP integrating contractors typically use a methodology to guide clients through the adaptation of “raw software” to the customer’s version. Most integrating contractors have adapted the cycles/phases of evolution developed by specific ERP vendors. The phases permit the client and integrating contractor to execute a very orderly, meticulous, event driven process maximizing the ERP capability to meet client needs.

- ◆ *Evaluation.* Complete ERP solution scope, outline business benefits, refine system development, finalize change management and training & knowledge transfer strategy
- ◆ *Project Preparation.* Refine and approve program scope/strategies, business practices, and project methodology, to include leveraging of Enterprise Integration Toolkit (EIT) and other ERP initiatives e.g., LMP, BSM, etc.
- ◆ *Blueprinting.* Create the Business Blueprint document. This document contains a detailed description of the reengineered “to be” business processes that will be automated through SAP. The document is also used to define baseline scope and refine project goals, objectives, and schedule
- ◆ *Realization.* Transition the approved blueprint into a working system and benchmark against requirements and phase completion checkpoints
- ◆ *Final Preparation.* Complete preparation of the production system, including end user training, cutover activities, and system validation in a war-fighter environment
- ◆ *Field and Sustain.* Implement and field; provide service support as required.

ERP Implementation Team

Over the past 10 years, ERP integrating contractors have developed methodologies for ERP implementation. An industry best practice model has been developed and implemented in hundreds of implementations. The model provides for the establishment of teams of individuals, normally a mix of integrating contractor personnel and client personnel, who are vested with responsibility to execute the ERP implementation process. Teams are generally required for configuration, change management, technical support, development, training/fielding, and sustainment.

The teams perform their specific tasks in a collaborative environment. As teams conclude their work on a specific phase, members may migrate to other teams more involved in later phases. This strategy assures that the learning and expertise gained in early phases is retained and used within the project.

ERP Enhancements

While ERP solutions provide an integrated and comprehensive automated management process, ERP products may not provide exact solutions that meet all user needs. A process called “fit-gap” analysis is typically conducted to determine the scope of requirements that cannot be met by ERP software. Later in the Project Preparation and Blueprinting phases these shortfalls are refined and candidate enhancements are identified. The most significant lesson learned from private industry’s fifteen years experience with ERP implementations is that only limited changes (customization) of ERP source code should be permitted. Enhancements may typically perform the following:

- ◆ Interface with another system
- ◆ Create reports/forms
- ◆ Develop customized functionality to augment ERP software.

WHAT IS SAP?

SAP is a world leader in business software solutions with industry-specific products for virtually every aspect of business operations. This includes best-of-suite solutions that are targeted for specific business processes and enterprise resource planning (ERP) solutions that help streamline entire organizations. SAP also provides collaborative tools to extend the reach of organizations far beyond the enterprise to the entire value chain. SAP solutions are built on open technologies, that are highly scalable, they will integrate seamlessly with virtually any internal or external systems. SAP has been the choice of 80 percent of the FORTUNE Global 100 companies. Several U.S./NATO Defense organizations, in addition to the U.S. Army, have also chosen SAP as their solution.

SAP solutions are installed at more than 60,000 customer locations in 120 countries. And they’re developed, implemented, and supported by 28,700 professionals operating out of a global network of offices. SAP has made substantial investments in ongoing research and development. They built SAP Labs into one of the world’s premier technology research and development organizations, with thousands of professionals operating from locations around the globe. This assures customers worldwide best practices and solutions based on the latest technologies. SAP also offers highly specialized solutions based on years of real-world experience. One of SAP’s major accomplishments was to develop solutions for small and mid-size businesses that provide scalability, seamless integration, adaptability, ease of implementation, and industry expertise.

SAP presents the inventory of their global solutions through diagrams called Solution Maps. Figure A-2 depicts the SAP Solution Map that provides the solution baseline for GCSS-Army.

Figure A-2. Overall Scope of GCSS-Army Using a Solution Map

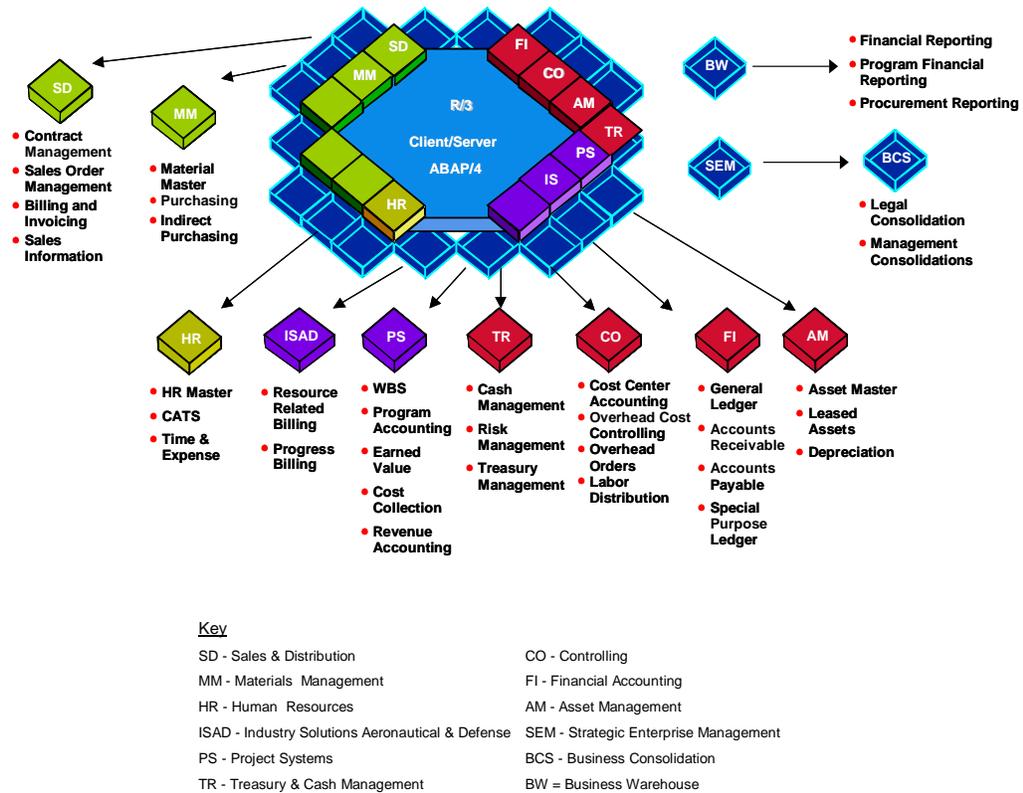
GCSS-A Solution Map - Edition 2003

Sustain Deployed Operations	Support Planning	Deployment	Mission Changes and Sustainment	Redeployment	Closing	
Mission Ops	Logbook Ops	Dispatching Equipment	Qualifications and Certifications			
Tactical Maintenance	Notification	Platform Data Input	Maintenance Planning & Preparation	Configuration Management and Control	Maintenance Management and Execution	Quality Assurance
Material Management	Material Requirements Planning	Supply Chain Management & Procurement	Inventory Management / Warehouse Management	Hazardous & Special Material Management	Inspection & Quality Assurance	
Financial & Cost Accounting	Funds Management	Managerial Accounting	Financial Accounting			
Transportation	Reception, Staging, Onward Movement & Integration	Convoy Management	Operational Movements Program	Container Management	Movements Control	Mode Management
Personnel & Organization	Organization Management	Workforce Planning & Personnel Administration	Time Management	Individual and Collective Dev & Trg	Personal Support Services	Interface Services

SAP R/3-Application Modules

The current version of SAP software is entitled R/3 (Real-time 3-tiered) and is one of the world's leading ERP solutions providing comprehensive functions that integrate virtually all major business processes, from finance to HR. Typically, a client will not use the full scope of all available solution sets within an SAP version. As depicted below, R/3 consist of a client-server architecture to which organizations adapt the solution that best meets their business requirements. R/3 uses a program language called ABAP, which is a 4th generation language (this is designated as ABAP/4 on the chart below). The challenge in planning for and executing an ERP implementation is to determine the business practices that the SAP solution sets must execute in order to assure the efficient and effective implementation of solutions to meet organizational technical and operational goals. Figure A-3 shows the application modules for SAP R/3.

Figure A-3. SAP R/3-Application Modules



SAP R/3 is the version of SAP that GCSS-ARMY is implementing. SAP R/3, a 3-tier client server architecture, consists of modules (categories of functionality) that are tailored for specific functionality.

Additional information is available at www.sap.com.

Appendix B

Abbreviations

A

A&L	Administrative and logistics
ABCS	Army Battle Command Systems
ABF	Availability Balance File
ACUS	Area Common User System
ACUS-MOD	Area Common User System–Modernization Program
AEIOO	Army Enterprise Integration Oversight Office
AEPS	AMC Electronic Products Support
AFM	Army Flow Model
AFSC	Army Field Support Command
AIS	Automated information system
AIT	Automatic identification technology
AKE	Army Knowledge Enterprise
AKEA	Army Knowledge Enterprise Architecture
AKM	Army Knowledge Management
AKO	Army Knowledge Online
ALP	Advanced Logistics Project
ALRM	Aviation Resources Logistics Readiness Model
AMC	Army Materiel Command
AMCOM	U.S. Army Aviation and Missile Command
AMEDDPAS	Army Medical Department Property Accounting System
ANSI	American National Standards Institute
APO	Advanced Planning Optimizer
ARMMIS	Aviation Round out Maintenance Management Information System
ARNG	The Army Reserve and Army National Guard

ASA (ALT)	Assistant Secretary of the Army (Acquisitions, Logistics and Technology)
ASA(FM&C)	Assistant Secretary of the Army (Financial Management and Comptroller)
ASC	ASCII (File Name Extension)
ASCII	American Standard Code for Information Interchange
ASPs	Ammunition Supply Points
AVN	Automated Voice Network

B

BCS3	Battle Command Sustainment Support System
BDE	Brigade
BEA	Business Enterprise Architecture
BEA-Log	Business Enterprise Architecture–Logistics
BLAST	Block Asynchronous Transmission
BMMP	Business Management Modernization Program
BOA	Basic Ordering Agreements
BOM	Bill of Materials
BPA	Business Process Architecture
BSM	Business Systems Modernization
BUA	Brigade unit of action
BW	Business Information Warehouse

C

C2	Command and Control
C4ISR	Command, Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance
CAISI	Combat Service Support Automated Information System Interface
CARE II	Carrier Analysis and Rate Evaluation II
CASCOM	Combined Arms Support Command
CBS-X	Continuing Balance System–Expanded
CBT	Computer-Based Training
CCIR	Commander’s Critical Information Requirements

CC/JTF	Combatant Command/Joint Task Force
CCSS	Commodity Command Standard System
CECOM	U.S. Army Communications-Electronics Command
CFO	Chief financial officer
CHCS	Composite Health Care System
CIO	Chief information officer
CIR	Critical items roster
CLOE	Common Logistics Operating Environment
COB	Close of business
COCOM	Combatant commander
COI	Community-of-Interest
CONUS	Continental United States
COP	Common operational picture
COTS	Commercial off-the-shelf
CS	Combat support
CSA	Corps support area
CSC	Computer Science Corporation
CSIR	Command Selected Items Roster
CSMS	Combined support maintenance shop
CSS	Commercial sealift solutions; combat service support
CSSCS	Combat Service Support Control System
CTASC	Corps Theater ADP Service Center

D

DAAS	Defense Automatic Addressing System
DAASC	Defense Automatic Addressing System Center
DAMES	DAAS Automated Message Exchange System
DAMMS	Department of the Army Movement Management System
DAMMS-R	Department of the Army Movement Management System–Redesign
DAO	Division Ammunition Office
DARPA	Defense Advanced Research Projects Agency

DBSS	Defense Blood Standard System
dbCAS	Database Commitment Accounting System
DDN	Defense Data Network
DEL	Deployment equipment list
DFAS	Defense Financial Accounting Services
DIHMRS	Defense Integrated Military Human Resources System
DII COE	Defense Information Infrastructure Common Operating Environment
DISN	Defense Information System Network
DJAS	Defense Joint Accounting System
DLA	Defense Logistics Agency
DLB	Digital Log-Book
DLMS	Defense Logistics Management Standard
DMC	Defense Movement Coordinators
DMLSS	Defense Medical Logistics Standard Support
DoD	Department of Defense
DODAAC	Department of Defense Activity Address Code
DoD eMALL	DoD Electronic Mall
DP	Demand Planning
DPAS	Defense Property Accountability System
DPMCS	Digital Preventive Maintenance Checks and Services
DSAMS	Defense Security Assistance Management System
DSS	Distribution Standard System
DTS	Defense Transportation System
DUSD (L)	Deputy Under Secretary of Defense (Logistics)

E

E2E	Enterprise-to-enterprise; end-to-end
EA	Executive agent
EAC	Echelons above corps
ECB	Echelons, corps-and-below
EDI	Electronic Data Interchange

EH&S	Environmental Health and Safety
EHMS	Embedded Health Management System
EI	Enterprise integration
EIS	Enterprise Information Systems
eMILPO	Electronic Military Personnel Office
ERP	Enterprise Resource Planning
ESS	Electronic Shipper System
ESOH	Environment, Safety & Occupational Health
ETM-I	Electronic Technical Manual Interface

F

FCS	Future Combat System
FEDLOG	Federal Catalog System
FLE	Future Logistics Enterprise
FM	Frequency modulation
FMS	Foreign military sales
FMTP	Financial Management Tactical Platform
FORSCOM	Army Forces Command
FoS	Family of systems
FPDS	Federal Procurement Data System
FSB	Forward Support Battalion
FTP	File transfer protocol

G

GATES	Global Air Transportation Execution System
GATM	Global Air Traffic Management
GATP	Global Availability to Promise
GBS	Global Broadcast Service
GCCS-J	Global Command and Control System-Joint
GCCS-A	Global Command and Control System-Army
GCSS-Army	Global Combat Support System-Army
GCSS-FoS	Global Combat Support System Family of System
GES	GIG Enterprise Services

GFEBs	General Fund Enterprise Business System
GFM	Global Freight Management
GIG	Global Information Grid
GOCO	Government-Owned, Contractor-Operated
GOGO	Government-Owned, Government -Operated
GOTS	Government-off-the-Shelf
GTN	Global Transportation Network

H

HAS	Headquarters, Army Materiel Command System
HQ	Headquarters
HQAMC	Headquarters, Army Materiel Command
HQDA	Headquarters, Department of the Army
HR	Human Resources

I

IBCT	Initial Brigade Combat Team
IBO	Industrial Base Operations
IBS	Integrated Booking System
ID	Identification
IDE	Integrated Data Environment
ILAP	Integrated Logistics Analysis Program
IM	Inventory Management
IMAP	Integrated Materiel Application Program
IMMC	Integrated Materiel Management Center
IP	Internet protocol
IPS	Integrated parts selection
ISB	Installation supply buffer
IT	Information technology
ITV	In-transit visibility

J

JCS	Joint Chiefs of Staff (USA)
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JEDMICS	Joint Engineer Data Management Information and Control System
JFMIP	Joint Financial Management Improvement Program
JIM	Joint Interagency, Intergovernment, Multinational
JIOC	Joint Industrial Operations Command
JMAR	Joint Medical Asset Repository
JMC	Joint Munitions Command
JMEWS	Joint Medical Workstation
JTA	Joint technical architecture
JTAV	Joint total asset visibility
JTF	Joint task force
JTRS	Joint Tactical Radio System
L	
LAN	Local area network
LCOP	Logistics Common Operating Picture
LDSS	Logistics Decision Support System
LIDB	Logistics Integrated Database
LIN	Line-item number
LIS	Logistics Information Systems
LMARS/CWT	Logistics Metrics Analysis Reporting System/Customer Wait Time
LMP	Logistics Modernization Program
LOGSA	Logistics Support Activity
LOGTAADS	Logistics, the Army Authorization Documents System
LOTS	Logistics On-Line Tracking System
LRU	Line-replaceable unit
LSI	Lead system integrator
LTP	Long-term planning
M	
MACOM	Major Command
MATES	Maneuver Area Training Equipment Sites
MC4	Medical Communications for Combat Casualty Care

MCS	Maneuver Control System
MCT	Movement control team
MDM	Master Data Management
MEDASM	Medical Assemblage Management
MEDLOG	Medical Logistics
MEDSUP	Medical Supply
MILS	Military Standard Systems
MILSTRIP	Military Standard Requisitioning and Issue Procedure
MILSTRAP	Military Standard Transaction Reporting & Accounting Procedure
MMC	Materiel Management Centers
MOBCON	Mobilization Movement Control System
MODE	Mode operations
MOCAS	Mechanization Of Contract Administration Services
MOS	Military Occupational Specialty
MPC	Military Personnel Category
MRP	Materiel Resource Planning
MS3	Manpower Staffing Standards System
MS3 SSF	Milestone3 Single Stock Fund
MSC	Major Subordinate Command
MSE	Mobile Subscriber Equipment
MSS	Medical Surveillance System
MTS	Movement Tracking System

N

NAMI	Non-Army-Managed Item
NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NCES	Net-Centric Enterprise Services
NCL	Net-centric Logistics
NDI	Non-Developmental item
NGB	National Guard Bureau

NGB-AVN	National Guard Bureau–Aviation
NGMS	Northrop Grumman Mission Systems
NIPRNET	Non-Secure Internet Protocol Routing Network
NSN	National Stock Number
NT	New Technology
O	
OCI	Ocean Carrier Interface
OCONUS	Outside the Continental United States
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans
OEM	Original Equipment Manufacturers
OJCS	Office/Organization of the Joint Chiefs of Staff
OSCAR	Objective Supply Capability Adaptive Redesign
OSD	Office of the Secretary of Defense
OTO	One-Time-Only
P	
PADDS	Procurement Automated Data and Document System
PBO	Property book officer
PBUSE	Property Book and Unit Supply–Enhanced
PD2	Procurement Desktop–Defense
PDAVS	PS-MRS Decision Accuracy Validation Service
PEO	Program Executive Officer
PEO-EIS	Program Executive Officer-Enterprise Information Systems
PLL	Prescribed Load List
PLM	Product Life-Cycle Management
PLM+	Product Life Cycle Management–Plus
PM	Program or project manager
PM LIS	Project Manager, Logistics Information Systems
PMCS	Preventive Maintenance Checks and Services
POE	Port of embarkation
PP&C	Planning, production and control

PPBES	Planning, Programming, Budgeting, and Execution System
PRON	Procurement Request Order Number
PS-MRS	Platform Soldier–Mission Readiness System

R

R&D	Research & Development
RCAS	Reserve Component Automation System
RCP	Retention Control Point
RDA	Research Development Acquisition
RF	Radio Frequency
RFID	Radio Frequency Identification Technology
RF-RAM	Requirements Forecasting and Rate Evaluation

S

S/A	Service and Agency
SAAS	Standard Army Ammunition System
SACS	Structure and Composition System
SALE	Single Army Logistics Enterprise
SAMAS	Structure and Manpower Allocation System
SAMMS	Standard Automated Material Management System
SAMS	Standard Army Maintenance Systems
SAP	Systems, Applications & Products in Data Processing
SAR	System access request
SARSS	Standard Army Retail Supply System
SATCOM	Satellite communications
SCP	Supply Chain Planning
SD	Sales and distribution
SDDC	Surface Deployment and Distribution Command
SDS	Standard Depot System
SEAVAN	Shipping Container (Commercial- or Government-Owned or Leased)
SEP BDE	Separate brigade
SIDPERS	Standard Installation Division Personnel

SIPRNET	Secret Internet protocol router network
SM3	Surface Maintenance Management Model
SMM	Shipment Management Module
SNP	Supply Network Planning
SOA	Service-oriented architecture
SOMARDS	Standard Operations and Maintenance, Army R&D System
SOSCOE	System of Systems Common Operating Environment
SPBS	Standard Property Book System
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 Systems
STANFINS	Standard Finance System
STARFIARS/MOD	Standard Army Financial Inventory Accounting and Reporting System/Modernized
STRADS	Strategic Deployment Systems
T	
TACOM	Tank-automotive and Armaments Command
TAEDP	Total Army Equipment Distribution Plan
TAMMIS	Theater Army Medical Management Information System
TC-AIMS II	Transportation Coordinators' Automated Information for Movement System II
TC-ACCIS	Transportation Coordinator Automated Command and Control Information System
TCP	Transmission control protocol
TDA	Table of Distribution and Allowances
TI	Tactical Internet
TLB	Transport Load Builder
TLCSM	Total Lifecycle Systems Management
TLDD	Tactical Logistics Data Digitization

TMIP	Theater Medical Information Program
TOE	Table of Organization and Equipment
TOPS	Transportation Operational Personal Property Standard System
TPFDL	Time-phased Force Deployment List
TPN	Tactical Packet Network
TRANSCOM	Transportation Command
TRI-TAC	Tri-Services Tactical
TROUPERS	Training, Readiness And Operations, Unit Planning, Execution and Resourcing System
TTU	Transportation terminal unit
TWV	Tactical wheeled vehicles

U

UA	Unit of action
UDFs	Uniqueness Database File
UID	Unique identifier
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	United States Army Combined Arms Support Command
USAFMSA	United States Army Force Management Support Agency
USAMMA	United States Army Medical Materiel Agency
USAR	United States Army Reserve
USASAC	United States Army Security Assistance Command
USTRANSCOM	United States Transportation Command

V

VLIPS	Virtual Logistics Information Processing System
VSAT	Very small aperture terminal

W

WARBUCS	Web Army Research Development Acquisition (RDA) Budget Update Computer System
WEBREQ	Web Requisitioning
WEBVLIPS	Web Virtual Logistics Information Processing System
WIN-T	Warfighter Information Network-Tactical
WLAN	Wireless local area network
WLMP	Wholesale Logistics Modernization Program
WM	Warehouse Management
WPOD	Water port of debarkation
WPS	Worldwide Port System

X

XI	Exchange infrastructure
X12	American National Standards Institute Accredited Standards Committee electronic data interchange standard
XML	Extensible markup language

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