

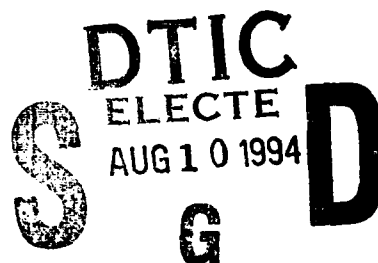
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Logistics Management Institute

Department of Defense
Electronic Data Interchange
Project Baseline Report for FY94



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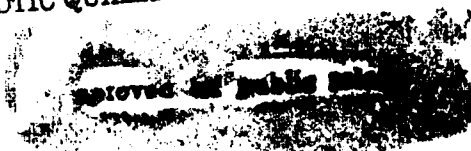
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Department of Defense Electronic Data Interchange Project Baseline Report for FY94

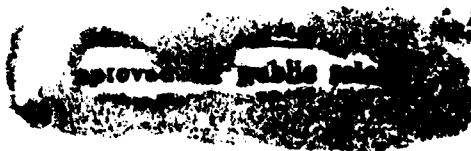
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LOGISTICS MANAGEMENT INSTITUTE

**Department of Defense Electronic Data Interchange
Project Baseline Report for FY94**

Executive Summary

This document was compiled from electronic data interchange (EDI) project profile forms submitted in late FY93 and early FY94 by the DoD Components (the "Components") in response to a request for information issued by the Office of the Under Secretary of Defense for Acquisition and Technology in August 1993. That request was initiated for two reasons. First, it served as an instrument to solicit EDI project ideas that needed funding assistance from DoD. Second, it provided the basis for establishing a baseline of planned and operational EDI projects to be undertaken by the Components.

Three Military Services and four defense agencies reported more than 60 EDI projects. In addition, the Deputy Under Secretary of Defense (Acquisition Reform's) Electronic Commerce (EC)/Electronic Data Interchange (EDI) in Contracting Process Action Team proposed several procurement EDI projects. The projects reported by the Components address the functional areas of procurement, contracting, transportation, supply, maintenance, fuels, and finance.

By FY97, more than one-half of the reported (FY93) annual volume of 96 million paper forms (the number of paper forms currently handled by business processes affected by these projects) will be replaced by their EDI equivalents. Most of these projects will use the Accredited Standards Committee X12 standards for EDI. The following are some of the business functions and transactions addressed by the EDI projects:

- ◆ conversion of Military Standard Requisitioning and Issue Procedures (MILSTRIP) to standard EDI,
- ◆ purchase order placement,
- ◆ delivery orders placed against requirements contracts,
- ◆ contractor award notification,
- ◆ manifest tracking,
- ◆ receipt and transmission of material inspection and receiving reports,
- ◆ dissemination of bid sets and requests for quotations,

- ◆ receipt of contractor's bids,
- ◆ distribution of price change notification information,
- ◆ receipt of invoices,
- ◆ delivery orders against supply bulletins,
- ◆ transmission of shipping instruction information,
- ◆ transmission of government bills of lading,
- ◆ receipt of import arrival notification,
- ◆ receipt of cargo release notifications from the U.S. Customs Service,
- ◆ transmission of transportation discrepancy reports,
- ◆ exchange of nonstandard material requisitions,
- ◆ transmission of into-plane fuel sales slip information, and
- ◆ receipt and transmission of fuel pipeline delivery information.

The Office of the Under Secretary of Defense (Acquisition and Technology) recommended 16 Electronic Commerce (EC)/Electronic Data Interchange (EDI) in Contracting Process Action Team (PAT) projects and 19 Component projects for EDI funding in FY94. The Continuous Acquisition and Life-Cycle Support Management Advisory Council approved those recommendations.

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Department of Defense Electronic Data Interchange Project Baseline Report for FY94

DoD EDI IMPLEMENTATION STRATEGY

The basic DoD electronic commerce (EC)/electronic data interchange (EDI) implementation strategy is to create an electronic environment for the movement of data needed to conduct business. This environment must extend end-to-end [i.e., from the point of inception to the point(s) of use]. The intent is to begin with automated data at the point of inception and to translate, protect, and route those data so that users can easily use the data in their automated systems without the need for creating hard-copy documents. The key to success is the development and implementation of standard systems and procedures that accommodate the great diversity of systems and networks now servicing DoD and private industry.

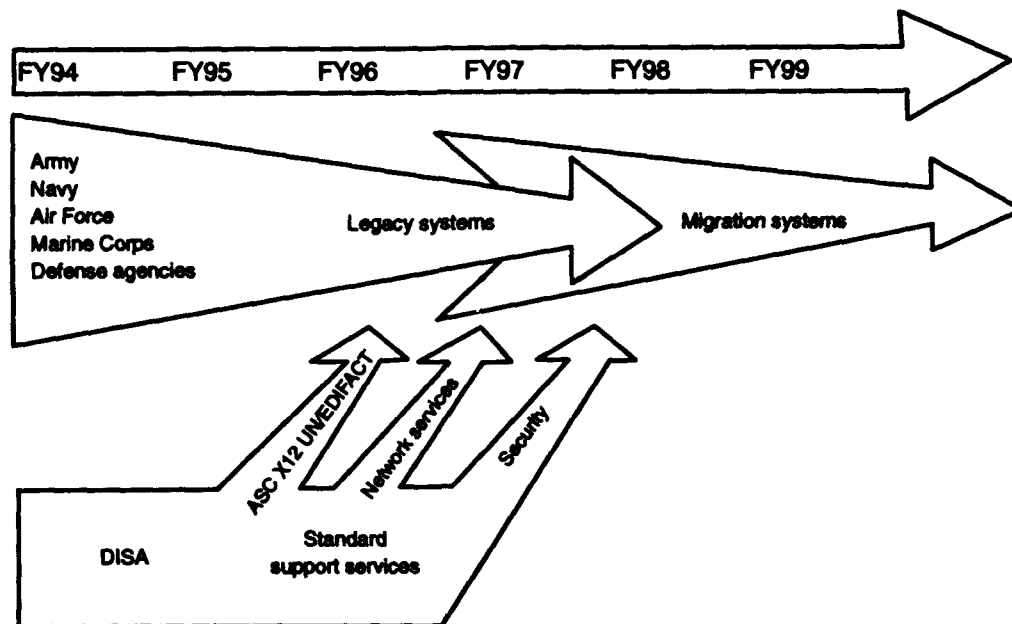
The systems and procedures being developed for EDI initially focus on near-term implementation. They are being designed and developed to provide effective implementation with minimal impact on current systems and networks. They are based on American National Standards Institute (ANSI) and United Nations/EDI for Administration, Commerce, and Transport (UN/EDIFACT) standards, government and/or commercially available software, and EC/EDI value-added network services.

Figure 1 shows how implementation efforts of the DoD Components and utilization of standard support services are expected to merge over time. Component EC/EDI projects that are operational and/or under development for high payoffs will migrate as rapidly as possible to standard support services furnished by the DoD Component EC/EDI gateways, a data distribution point (DP), and licensed commercial EDI value added networks (VANs) made available by the Defense Information Systems Agency (DISA). The standard support services will also provide enabling technology for information management (IM)-initiated changes in DoD's business processes that require EC/EDI support.

OVERVIEW OF EDI PROJECTS IN DoD

Throughout DoD, 64 EDI projects were reported by seven DoD Components (the "Components") for FY94. These projects seek to use EDI as an enabling technology to streamline business operations and reduce the cost of doing business. The functional areas of procurement, contract administration, transportation, supply, maintenance, fuels, and finance are addressed by these projects. In

total, the projects target an estimated annual volume of 53 million paper forms for conversion to EDI. The project descriptions estimate that more than 20,000 trading partners (TPs)¹ will participate in EDI by FY97.



Note: ASC = Accredited Standards Committee; DISA = Defense Information System Agency.

Figure 1.
EC/EDI Migration

Table 1 shows the services and agencies and their projects for FY94. Most of these projects are expected to use Accredited Standards Committee (ASC) X12 standards for EDI.

ORGANIZATION OF REPORT

This report begins with brief descriptions of all DoD EDI projects for which project profile forms were submitted for FY94. Project names and descriptions are presented in order of functional area and Component name. Following the project descriptions is a list of the projects that have been approved for EDI funding by the Continuous Acquisition and Life-Cycle Support (CALS) Management Advisory Council (CMAC). The final section of this report contains information about the technical aspects of DoD EDI projects. In that section, a list is presented of all EDI standards and the agencies/services that use the standards. That section also provides general DoD guidance on the technical issues associated with implementing EDI.

¹ Commercial businesses that conduct business with DoD.

Much of the information used to create this report may be viewed in electronic form by using the files contained on the floppy diskette entitled "FY94 DoD EDI Projects Database." Project information contained on this diskette includes: project name, description, status dates, standards used, volume of paper forms being converted to EDI, points of contact, and other information. Instructions on how to use the database are provided in Appendix A. The diskette is provided as Attachment 1.

Table 1.
Estimated Annual Volume of Paper Transactions

Service/DoD agency	Number of EDI projects	Paper transaction volume (millions of forms)	Paper volume replaced with EDI by FY97 (millions of forms)
DISA/DECCO	1	0.04	0*
Defense Commissary Agency	6	11	9
Defense Finance and Accounting Service	4	55	27
Defense Logistics Agency	26	12.2	8
United States Air Force	11	10	4
United States Army	10	7	4
United States Navy	6	1	0.5
Totals	64	96.24	52.5

Note: DISA = Defense Information Systems Agency; DECCO = Defense Commercial Communications Office.

* Estimate not available.

FUNCTIONAL EDI PROJECT AREAS BY COMPONENT ACTIVITY

This section presents DoD EDI project activity divided by the functional areas of procurement, contract administration, transportation, supply, maintenance, fuels, and finance. Projects that do not fit into these functional categories are presented here as miscellaneous projects. Projects were classified primarily on the basis of their project descriptions, DoD forms targeted for conversion to EDI, and the EDI transaction sets used. Under the heading for each functional area, the Services and agencies with project activity in that area are listed. The EDI project names and a brief description of each project are provided for all projects in the functional area. Full project descriptions are provided in the Appendix B.

Table 2 shows the paper transaction volume reported by functional project area. The paper transaction volume column shows the estimated total current volume of paper forms being processed by the various functional areas. Table 2

shows that the finance functional area is targeting the largest volume of paper transactions, followed by procurement, transportation, miscellaneous, and fuels.

Table 2.
Estimated Paper Transaction Volume by Functional Area

Functional area	Paper transaction volume (millions of forms)
Procurement and contract administration	15
Transportation	11
Supply and maintenance	0.2
Fuels	3
Finance	60
Miscellaneous	7
Total	96.2

Procurement and Contract Administration

Throughout DoD, 24 EDI projects in the procurement area were reported for FY94. Those projects target an estimated annual volume of more than 15 million paper forms for conversion to EDI. Procurement projects were submitted by DECCO, Defense Commissary Agency (DeCA), the Defense Logistics Agency (DLA), the Army, and the Air Force. For each of these organizations, the following tables provide the project names and brief synopses of the projects.

In addition to the projects described in this report, DoD EDI projects are underway that are sponsored by the Deputy Under Secretary of Defense's (Acquisition Reform's) Electronic Commerce (EC)/Electronic Data Interchange (EDI) in Contracting Process Action Team (PAT). Those projects consist of efforts to add EDI capability to existing procurement systems and to provide EDI gateways.

DEFENSE COMMERCIAL COMMUNICATIONS OFFICE

The DECCO reported one project in the procurement area.

Project name	Synopsis
<i>Electronic Commerce/Electronic Data Interchange (EC/EDI)</i>	This project will use EDI to support the ordering and billing associated with procuring telecommunications equipment and services.

DEFENSE COMMISSARY AGENCY

The DeCA reported two projects in the procurement area.

Project name	Synopsis
<i>Conversion of DeCA Military Standard Requisitioning and Issue Procedures (MILSTRIP) Process</i>	This project will convert MILSTRIP transactions to the Defense Logistics Management System (DLMS)/Modernization of Defense Logistics Standard Systems (MODELS) transaction sets.
<i>DeCA EDI Ordering Standardization Expansion</i>	This project will convert proprietary EDI transactions for purchase orders to ASC X12 transaction sets and will expand its system to include CONUS, Alaska, and Hawaii.

DEFENSE LOGISTICS AGENCY

The DLA reported 15 projects in the procurement area.

Project name	Synopsis
<i>Advance Agreement EC</i>	This project will allow the electronic placement of delivery orders against requirements contracts.
<i>Awards/Orders</i>	This project will use EDI to transmit notice of award information to the contractor. Also, orders against a contract will be transmitted via EDI.
<i>Base Operations Support System (BOSS) Hazardous</i>	EDI will be used for order processing, manifest tracking, and invoicing.
<i>Department of Defense Form 250</i>	This project will use EDI to transmit Material Inspection and Receiving Report Form from the contractor to the Automated Voucher Examination and Disbursement System (AVEDS).
<i>DLA Pre-Award Contracting System (DPACS) — EC</i>	This project will add EDI to DPACS, an operating contracting system.
<i>EC/EDI Automated Bid Sets Interface Project</i>	This project seeks to provide the capability to electronically disseminate bid sets and other solicitation components.
<i>EDI with Mandatory Sources</i>	This project will use EDI to place purchase orders.
<i>Electronic Bid Board</i>	This project will use EDI in conjunction with an electronic bulletin board (EBB) to display request for quotations (RFQs) and to transmit quotes.
<i>Medical</i>	This project will use EDI to place delivery orders against long-term contracts.

Project name	Synopsis
<i>Offers/Bids</i>	This project will use EDI to receive offers/bids from contractors.
<i>Paperless Order Placement System (POPS)</i>	This project will use EDI to place purchase orders with the contractor.
<i>Price Change Notification</i>	This project will use EDI to transmit SF 30 (Price Change Notification) information.
<i>Quick Response for the Clothing and Textile Directorate</i>	This project will use EDI to place purchase orders with four vendors.
<i>Source Material Acceptance and Progress Payments</i>	This project will use EDI to allow paperless handling of source Material Inspection and Receiving Reports (DD Form 250) among contractors, Defense Contract Management Center (DCMC), and Defense Finance and Accounting Service (DFAS).
<i>Subsistence Brand Name</i>	This project will use EDI to place purchase orders against supply bulletins and will use EDI to conduct invoicing and payment transactions in the future.

UNITED STATES ARMY

The Army reported one project in the procurement area.

Project name	Synopsis
<i>Standard Automated Contracting System (SACONS)</i>	This project will use EDI for RFQs of \$25,000 or less.

UNITED STATES AIR FORCE

The Air Force reported five projects in the procurement area.

Project name	Synopsis
<i>Bar Code Integration to EC/EDI</i>	This project will use EDI in conjunction with bar coding for ordering, generating inspection reports, and creating solicitations.
<i>Contracting Electronic Document System (CEDS)</i>	This project will use EDI to provide a paperless environment for the Air Force operational contracting community.
<i>European EDI for Administration, Commerce, and Transport (EDIFACT) Contracting System (EECS)</i>	This project will use EDIFACT messages to send and receive contracting information that is used and generated by the Base Contracting Automated System (BCAS).
<i>Med Image</i>	The Med Image computer system currently uses EDI to provide a paperless environment for local medical procurement operations. This project will install the Med Image system at the Keesler Medical Center.
<i>Rapid Deployment of Automated Form 9 and Electronic Delivery System</i>	This project will use EDI to provide contractors with information pertaining to delivery orders against standard contracts.

Transportation

Throughout DoD, 13 EDI projects in the transportation area were reported for FY94. Those projects target an estimated annual volume of more than 11 million paper forms for conversion to EDI. Transportation projects were submitted by DLA, the Army, the Air Force, and the Navy. For each of these organizations, the following tables provide the project names and brief synopses of the projects.

DEFENSE LOGISTICS AGENCY

The DLA reported three projects in the transportation area.

Project name	Synopsis
<i>Contractor-Operated Parts Depot (COPAD)</i>	This project will use EDI to transmit shipping instruction data and invoices.
<i>DLA Warehousing and Shipping Procedure (DWASP)</i>	This project will use EDI to transmit government bill of lading (GBL) information in support of the wholesale transportation process.
<i>Export Transportation (EXTRA)</i>	This project will use EDI to support DoD supply and transportation communities.

UNITED STATES ARMY

The Army reported eight projects in the transportation area.

Project name	Synopsis
<i>Advanced Arrival Notification Interface</i>	This project will use EDI to obtain import arrival notifications from ocean carriers as well as cargo release notifications from customs.
<i>Commercial Bills of Lading (CBL)</i>	This project will use EDI to transmit CBLs to a carrier rating and selecting system.
<i>EDI Management Office</i>	This project will provide management and coordination for Defense Transportation System (DTS) EDI projects.
<i>Global Transportation Network (GTN)</i>	This project will use EDI to enhance the GTN.
<i>Military Traffic Management Command (MTMC) Electronic Guaranteed Traffic Program</i>	This project will use EDI to enhance the existing standard tender processing system.
<i>Transportation Component Command (TCC) — EDI</i>	This project will use EDI to communicate information from TCC systems to the GTN.
<i>Transportation Discrepancies in Shipments</i>	This program will use EDI to transmit transportation discrepancy reports from the CONUS freight management (CFM) host system to the Military Services' claims offices.
<i>Worldwide Household Goods Information System for Transportation (WHIST)/Transmission of Pricing Support (TOPS)</i>	This project will apply EDI to the personal property shipment and storage function.

UNITED STATES AIR FORCE

The Air Force reported one project in the transportation area.

Project name	Synopsis
<i>In-Transit Visibility Using Commercial EDI Data</i>	This project will use EDI to receive commercial carrier shipment data.

UNITED STATES NAVY

The Navy reported one project in the transportation area.

Project name	Synopsis
<i>Transportation (all related projects)</i>	This project will manage seven transportation-related EDI sub-projects. Two of these represent Navy participation in DoD-wide initiatives.

Supply and Maintenance – United States Navy

Throughout DoD, only one EDI project (for the Navy) in the supply and maintenance area was reported for FY94. This project targets an estimated annual volume of more than 200,000 paper forms for conversion to EDI. The following table provides the project name and a brief synopsis of the project.

Project name	Synopsis
<i>Non-Standard Materiel Requisitioning and Nonstandard Material Demand Reporting</i>	This project will use EDI to exchange nonstandard material requisitions and nonstandard material-demand reports among Navy organizations.

Fuels

Throughout DoD, four EDI projects in the fuels area were reported for FY94. Those projects target an estimated annual volume of almost 3 million paper forms for conversion to EDI. Fuels projects were submitted by DLA and the Air Force. For each of these organizations, the following tables provide the project names and brief synopses of the projects.

DEFENSE LOGISTICS AGENCY

The DLA reported three projects in the fuels area.

Project name	Synopsis
<i>DD Form 1898</i>	This project will use EDI to transmit Into-plane Sales Slips (DD Form 1898) from the contractor to the AVEDS.
<i>Meter Tickets</i>	This project will use EDI to electronically transmit information about fuel deliveries through a pipeline (meter ticket).
<i>Nomination</i>	This project will use EDI to transmit schedule information about pipeline deliveries of fuel.

UNITED STATES AIR FORCE

The Air Force reported one project in the fuels area.

Project name	Synopsis
<i>Fuels Automated Management System (FAMS)</i>	This project will use EDI to replace paper fuel slips form, purchase orders form, and shipping notices form.

Finance

Throughout DoD, seven EDI projects in the finance area were reported for FY94. Those projects target an estimated annual volume of more than 60 million paper forms for conversion to EDI. Finance projects were submitted by DeCA, DFAS, and DLA. For each of these organizations, the following tables provide the project names and brief synopses of the projects.

DEFENSE COMMISSARY AGENCY

The DeCA reported two projects in the finance area.

Project name	Synopsis
<i>DeCA EDI/Imaging Data Storage and Retrieval System</i>	This project will use EDI to receive invoices and receiving reports.
<i>DeCA Electronic Invoicing System for Resale Merchandise</i>	This project will use EDI to allow commissaries to receive invoices from retailers.

DEFENSE FINANCE AND ACCOUNTING SERVICE

The DFAS reported four projects in the finance area.

Project name	Synopsis
<i>Defense Transportation Payment System</i>	This project will use EDI to process government bills of lading and freight invoices.
<i>EDI For Contract Payments</i>	This project will use EDI to receive contract administration service's commercial invoices and will work with DCMC, and DeCA for progress payments, source acceptance, and public voucher applications. This project is in production for stock fund commercial invoices.
<i>Local Vendor Payments</i>	This project will use EDI to process invoices.
<i>Standard Accounting and Reporting System (STARS) Electronic Processing System (SEPS)</i>	This project will use EDI to process invoices. Electronic signature transactions will be used to certify invoices. This project is operational at several sites.

DEFENSE LOGISTICS AGENCY

The DLA reported one project in the finance area.

Project name	Synopsis
<i>Invoice</i>	This project will use EDI to receive invoices from the contractor to be processed by the AVEDS.

Miscellaneous

Throughout DoD, 15 EDI projects in the miscellaneous area were proposed for FY94. These projects target an estimated annual volume of 7 million paper forms for conversion to EDI. Miscellaneous projects were submitted by DeCA, DLA, the Air Force, the Army, and the Navy. For each of these organizations, the following tables provide the project names and brief synopses of the projects.

DEFENSE COMMISSARY AGENCY

The DeCA reported two miscellaneous projects.

Project name	Synopsis
<i>DeCA EDI Price, Item Maintenance and Promotion System</i>	This project will use EDI to help maintain up-to-date information about items, including item descriptions and prices.
<i>Standardization of DeCA Frequent Delivery System (FDS)</i>	This project will use EDI to support the FDS.

DEFENSE LOGISTICS AGENCY

The DLA reported four miscellaneous projects.

Project name	Synopsis
<i>EDI Cataloging (EDICT)</i>	This project will use EDI to update pricing information from Supply Bulletin vendors.
<i>Electronic Submission of Cost Proposals</i>	This project will develop the computer applications to process electronic cost proposals and will develop the policy and procedures needed to use electronic cost proposals.
<i>Hazardous Material Information System (HMIS)</i>	This project will use EDI to receive material safety data sheets (MSDSs) from vendors and to distribute them to DoD procurement activities.
<i>Prime Vendor/Tailored Support for Organic Manufacturing Sites</i>	This project will use EDI to support service organic manufacturing sites.

UNITED STATES AIR FORCE

The Air Force reported four miscellaneous EDI projects.

Project name	Synopsis
<i>Electronic Forms Routing and Distribution Hub</i>	This project will enable intra-site EC/EDI.
<i>Logistics Efficiencies Enhancements</i>	This project will conduct research about ways to use microchip and radio frequency technology to streamline various aspects of property management. EDI will be used to transmit shipping document information.
<i>MSDS</i>	This project will use EDI to receive MSDSs from vendors and to distribute them to DoD procurement activities.
<i>Printing Process EDI (PPEDI)</i>	This project will explore the application of EDI to the DoD printing process.

UNITED STATES ARMY

The Army reported one miscellaneous EDI project.

Project name	Synopsis
<i>Automated Carrier Interface (ACI)</i>	This project will use EDI to receive ocean shipment status details.

UNITED STATES NAVY

The Navy reported four miscellaneous EDI projects.

Project name	Synopsis
<i>Advanced Traceability and Control (ATAC) Plus</i>	This project will use EDI to provide better visibility of assets within the logistics pipeline.
<i>Contractor Cost Reporting and Contractor Schedule Reporting</i>	This project will use EDI to obtain contractor cost and schedule reports.
<i>EDI for Manufacturing (EDIM)</i>	This project will use EDI to perform business transactions between inventory control points (ICPs) and manufacturing sites.
<i>MSDS</i>	This project will use EDI to receive MSDSs for processing by the Hazardous Material Information System (HMIS).

DoD-FUNDED EDI PROJECTS

The projects listed below were approved for EDI funding by the CALS CMAC on 16 November 1993. Project names are listed under the Component that is primarily responsible for the implementation. Projects sponsored by the Deputy Under Secretary of Defense (Acquisition Reform's) EC/EDI in Contracting PAT (the "Procurement PAT") are listed separately under the Component heading. With the exception of the Procurement PAT projects, detailed descriptions of all projects can be found in the Appendix under the service name and project name.

DISA/DECCO

Projects include

- ◆ Electronic Commerce/Electronic Data Interchange; and
- ◆ Procurement PAT-sponsored projects, which are as follows:
 - ▶ Configuration Management,
 - ▶ Distribution Hubs, and
 - ▶ Defense Information Systems Agency (DISA) Program Office.

Procurement PAT

Projects include

- ◆ Education/Training and
- ◆ Functional Support.

Defense Commissary Agency

Projects include

- ◆ Conversion of DeCA MILSTRIP Process;
- ◆ DeCA EDI Price, Item Maintenance, and Promotion System; and
- ◆ DeCA Electronic Invoicing System for Resale Merchandise.

Defense Finance and Accounting Service

Projects include

- ◆ Local Vendor Payments and
- ◆ SEPS.

Defense Logistics Agency

Projects include

- ◆ EXTRA;
- ◆ HMIS – EDI;
- ◆ Quick Response for the Clothing and Textile Directorate;
- ◆ Source Material Acceptance and Progress Payments; and
- ◆ Procurement PAT-sponsored projects, which are as follows:
 - ▶ Defense Automatic Addressing System Office (DAASO) Gateway,
 - ▶ DPACS-EC, and
 - ▶ Standard Automated Materiel Management System (SAMMS) Procurement by EDI.

United States Army

Projects include

- ◆ Transportation (includes WHIST/TOPS, Guaranteed Traffic, Discrepancies, GBL, Arrival Notification, and ACI); and
- ◆ Procurement PAT-sponsored projects, which are as follows:
 - ▶ SACONS-EDI and
 - ▶ SACONS Gateway.

United States Air Force

Projects include

- ◆ **Bar Code Integration to EC/EDI;**
- ◆ **EECS;**
- ◆ **Electronic Forms Routing and Distribution Hub;**
- ◆ **Logistics Efficiencies Enhancements (inventory control chip);**
- ◆ **MSDS; and**
- ◆ **Procurement PAT-sponsored projects, which are as follows:**
 - ▶ **Menu-Assisted Data Entry System (MADES II) and**
 - ▶ **Air Force Gateways.**

United States Navy

Projects include

- ◆ **Transportation;**
- ◆ **Contractor Cost Reporting and Contractor Schedule Reporting;**
- ◆ **Supply and Logistics (includes ATAC, EDIM, MSDS, Nonstandard Material Requisitioning and Nonstandard Material Demand Reporting); and**
- ◆ **Procurement PAT-sponsored projects, which are as follows:**
 - ▶ **Automation of Procurement and Accounting Data Entry (APADE),**
 - ▶ **Integrated Technical Item Management and Procurement (ITIMP), and**
 - ▶ **Navy Gateways.**

TECHNICAL ASPECTS OF DoD EDI PROJECTS

This section provides information about the use of standards by DoD EDI projects and general technical guidance for all DoD EDI projects. This guidance consists of an overview of the DoD EDI standards framework and the DoD's standard technical architecture.

EDI Standards Framework

The EDI standards framework, Figure 2, ensures progress toward the goal of developing and implementing a cost-effective, common technical approach by mandating use of Federal, national, and international standards. This commonality brought about by the standards framework does not constrain the design of technical solutions that are driven by functional and economic requirements.

American National Standards Institute (ANSI) (ASC) X12 UN/EDIFACT and DoD data standards.

ANSI ASC X12 UN/EDIFACT and Federal Information Processing Standards (FIPS) for unclassified but sensitive data.

ANSI ASC X12 UN/EDIFACT-compliant translation software.

De facto industry standards for communication as DoD and industry move towards International Standards Organization (ISO) open system interconnection (OSI) protocols.

Electronic mail (E-mail) standards currently include ISO X.400 E-mail and Internet Simple Mail Transfer Protocol (SMTP) with anticipated future adoption of the ISO X.435 EDI standard.

Telecommunications standards include transmission control protocol/internet protocol (TCP/IP), the ISO X.25 standard, and the ISO X.500 directory standard for addressing.

Operating system software will be POSIX-compliant for compilers, mail handling, and telecommunications.

Note: POSIX = portable operating system specification.

Figure 2.
EDI Standards Framework

The ANSI ASC X12 and DoD data standards are published in the *DoD Implementation Guidelines for EDI*. Those guidelines establish a baseline of standard transaction sets for use and comment. As outlined in Federal Information Processing Standard (FIPS) Publication 161-1, Federal agencies using industry-specific standards as of 30 September 1991 may continue to do so for 5 years from that date. [1] Industry-specific standards may be used beyond 5 years only if no equivalent X12 or UN/EDIFACT Standards are approved by 30 September 1995. DoD Components now using ANSI ASC X12 standards or industry-specific standards may continue to do so and convert to published DoD conventions at a date mutually agreeable to functional proponents and DISA. New implementations of the conventions must use the DoD conventions. If no convention exists or if changes are needed, DoD Components must submit their requirements to DISA. [2]

The DoD plans to support the exchange of ANSI ASC X12 transaction standards and draft standards for trial use (DSTUs) in the current version and release (Version 3, Release 4, referred to as "3040") as well as two prior releases (3020 and 3030) following the latest DoD EDI implementation conventions.

The ANSI ASC X12 National Standards are going to migrate to the UN/EDIFACT international standards. Full migration to the international standards is targeted for 1997. DoD's focus will remain on ASC X12 and migrate to UN/EDIFACT with American industry.

The Government Open Systems Interconnection Profile (GOSIP) defines the use of the ISO OSI protocols, which support interoperation of computer networks in a multivendor environment. Version 1 of GOSIP was published as FIPS Publication 146 in August 1988; in August 1990, its use became mandatory for all government procurements that specify computer networking. [3] Since EDI must be communicated to a non-GOSIP industrial base, de facto industry standards are authorized for use as industry transitions to OSI-compliant systems.

EDI Standards and Transaction Sets

More than 60 ASC X12 transaction sets are being considered for use by the projects for which project profile forms were submitted. One project will use UN/EDIFACT messages. Several projects plan to use the Uniform Communication Standard (UCS). Table 3 lists the ASC X12 transaction sets [transaction set identification number (ID) and description] and the DoD Agency/Service that is planning to use the transaction set.

Table 3.

DoD Agency and Service Use of EDI Standards

ASC X12 ID	Description	Agency/Service
110	Air Freight Details and Invoice	DFAS
196	Contractor Cost Data Reporting	Navy
210	Motor Carrier Freight Details and Invoice	DFAS
213	Motor Carrier Shipment Status Inquiry	DLA Army
214	Motor Carrier Shipment Status Message	DLA Air Force Army Navy
251	Pricing Rate Proposal	DLA
300	Reservation (Booking Request) (Ocean)	DLA Army
301	Confirmation (Ocean)	DLA Army

Table 3.***DoD Agency and Service Use of EDI Standards (Continued)***

ASC X12 ID	Description	Agency/Service
303	Booking Cancellation (Ocean)	DLA Army
312	Arrival Notice (Ocean)	Army
315	Status Details (Ocean)	DeCA DLA Army
323	Vessel Schedule and Itinerary (Ocean)	DeCA
410	Rail Carriers Freight Details and Invoice	DFAS
511	Requisition	DFAS Navy
527	Material Due-In and Receipt	Navy
602	Transportation Services Tender	Army
805	Contract Pricing Proposal	DLA
810	Invoice	DeCA DFAS Defense Fuel Supply Center (DFSC) DLA Air Force
811	Consolidated Service Invoice/Statement	DISA/DECCO
820	Payment Order/Remittance Advice	DISA/DECCO DFAS Air Force
823	Lock box	Air Force
824	Application Advice	DeCA DFAS DLA Army
829	Payment Cancellation Request	Army

Table 3.***DoD Agency and Service Use of EDI Standards (Continued)***

ASC X12 ID	Description	Agency/Service
830	Planning Schedule with Release Capability	DFSC
832	Price/Sales Catalog	DFSC Air Force
836	Contract Award	DLA Army
838	TP Profile	DLA Army
839	Project Cost Reporting	Navy
840	Request for Quotations	DISA/DECCO DLA Air Force Army Navy
841	Specifications/Technical Information	DLA Air Force Navy
842	Nonconformance Report	DLA Air Force Army
843	Response to Request for Quotations	DISA/DECCO DFSC DLA Air Force Army
846	Inventory Inquiry/Advice	DeCA DFSC
848	Material Safety Data Sheet	DLA Navy Air Force
850	Purchase Order	DISA/DECCO DeCA DFAS DLA Air Force Army Navy

Table 3.***DoD Agency and Service Use of EDI Standards (Continued)***

ASC X12 ID	Description	Agency/Service
852	Product Activity Data	DeCA DLA
854	Shipment Delivery Discrepancy Information	DeCA
855	Purchase Order Acknowledgment	DeCA DLA Air Force
856	Ship Notice/Manifest	DeCA DFAS DFSC DLA Air Force Navy
857	Shipment and Billing Notice	DeCA
858	Shipment Information	DeCA DFAS DLA Air Force Army Navy
859	Freight Invoice	DFAS Navy
860	Purchase Order Change Request — Buyer Initiated	DeCA DFAS DLA Air Force
861	Receiving Advice/Acceptance Certificate	DeCA DFSC DLA Navy
864	Text Message	DeCA DFAS DLA Air Force Army

Table 3.***DoD Agency and Service Use of EDI Standards (Continued)***

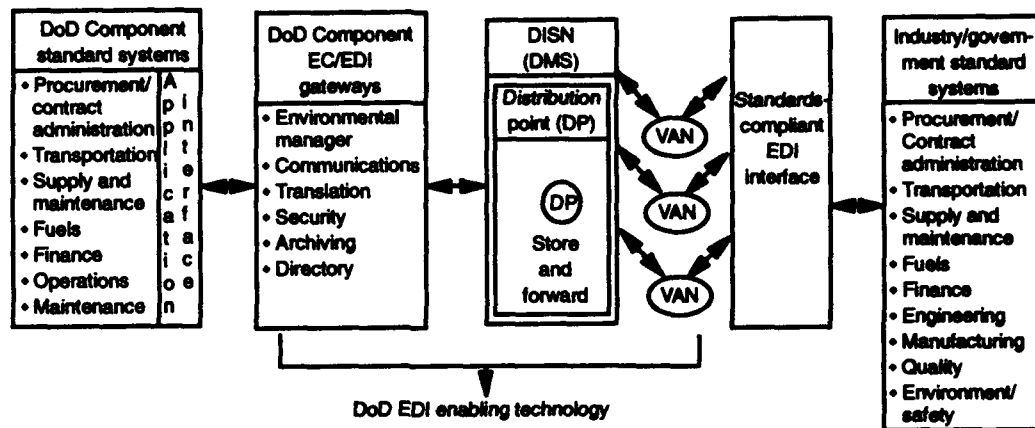
ASC X12 ID	Description	Agency/Service
865	P.O. Change Ack./Request — Seller Initiated	DeCA DLA Air Force
867	Product Transfer and Resale Report	DeCA Navy
869	Order Status Inquiry	Air Force
870	Order Status Report	Air Force
879	Price Change	DeCA
888	Item Maintenance	DeCA
889	Promotion Announcement	DeCA
894	Delivery/Return Acknowledgment Record	DeCA
895	Delivery/Return Ack. and/or Adjustment	DeCA
940	Warehouse Shipping Order	DeCA Navy
943	Warehouse Stock Transfer Shipment Advice	DeCA
944	Warehouse Stock Transfer Receipt Advice	DeCA
945	Warehouse Shipping Advice	DeCA
947	Warehouse Inventory Adjustment Advice	DeCA
997	Functional Acknowledgment	DeCA DFAS DLA Army
UCS	Not available	DeCA DLA
UN/EDI-FACT	Not available	Air Force

DoD Standard EDI Technical Architecture

Electronic data interchange provides DoD with a means for interchanging data internally, with private industry, and with other Federal agencies — with minimum impact on its installed systems.

The EDI architecture, Figure 3, supports this interchange through the development and implementation of a communication and computing infrastructure based on the principles of open systems. The goal of the selected architecture is to free EDI from using proprietary systems during the long term and to provide

a capability to rapidly accommodate a wide variety of applications that meet the needs of the functional user.



Note: DISN = Defense Information Systems Network; DMS = Defense Message System.

Figure 3.
DoD Standard Technical Architecture to Support EDI

Major Parts of DoD Standard EDI Technical Architecture

The major objective of the DoD standard EDI technical architecture is that DoD's electronic transactions are received by external trading partners in a similar manner, regardless of project/Service, and are understandable. This means that different automated information systems (AISs) using dissimilar technologies to package the EDI transaction links transmit to DoD's external TPs in exactly the same manner. Therefore, the intent is not that every process must be identical, but that the process "looks" the same to DoD's external TPs. [4]

The major parts of the DoD standard technical architecture to support EDI, represented by Figure 3, are described below.

- ◆ **DoD Component standard systems.** These systems are the Legacy AISs currently used by the DoD functional business areas to meet their automation needs. In the architecture, the DoD Components remain responsible for their functional requirements for each appropriate AIS. While the technical architecture adopts a front-end enabling technology to assist in accomplishing EC/EDI for a particular business function, the true benefits of EC will be realized through the functional business reengineering of their business practices and the resulting changes to their AISs. This is a long-term objective for each defense IM group established in DoD. [4]
- ◆ **Application interface.** This application interface links the application systems and the DoD EC/EDI gateway functions. The automated business applications contain the data elements necessary for creating EDI transactions.

Software is available and hosted on the gateway that is able to receive the data from the application system. While the software to accomplish this interface may reside on the gateway, the actual control and use of the interface software remains with the application's business software. [4]

- ◆ **DoD Component EC/EDI gateways.** The DoD Component EC/EDI gateways are composed of both software and hardware. They enable the electronic exchange of data among computer applications using ANSI ASC X12 or UN/EDIFACT standard EDI transactions. This is accomplished by interfacing the EDI gateway software with existing application systems. Classified data will not normally be processed on the system; however, sufficient controls will be installed to ensure confidentiality, integrity, and the availability of data. In the short term, the Components' EDI gateways facilitate the insertion of EC/EDI capabilities into AISs that have resident within them the appropriate business data needed for transmission of ANSI ASC X12 or UN/EDIFACT EDI transactions.
- ◆ **Corporate telecommunications.** The most important telecommunications requirement is to provide to industry a common approach to telecommunications across the DoD Components. This means that any industry that elects to conduct business electronically with DoD may do so without having to significantly change its procedures to meet unique Military Service or defense agency telecommunications requirements.

This common-approach requirement is being satisfied through the use of a DP that provides connectivity between the Defense Information Systems Network (DISN) and EDI VANs that have entered into a license agreement to communicate DoD EDI data to and from their subscribers. The DP will access the EDI VAN to deposit or pick up data. The data may involve all VAN subscribers or a specific VAN subscriber.

- ▶ The DISA is responsible for planning, developing, and supporting telecommunication services for EC/EDI. When requesting telecommunication services, DoD Components will follow existing internal procedures and comply with the requirements set forth in DoD Directive 4640.13, Subject: Management of Base and Long-Haul Telecommunications Equipment and Services [5]; and DoD Instruction 4640.14, Subject: Base and Long-Haul Telecommunications Equipment and Services. [6]
- ▶ The overall functions that the DP will perform are: provide a centralized communications hub for collecting, storing, and forwarding EDI transactions; establish connectivity to DoD's external TPs via third-party VANs; establish connectivity to other telecommunication facilities for transmission of EDI transactions among DoD's internal TPs; and serve as a central coordination point for resolution of connectivity issues with all external DoD TPs.
- ◆ **VANs.** Third-party VANs perform the important function of acting as intermediaries in the electronic transmission of EDI transactions to and from

DoD's external TPs. DoD will satisfy its VAN requirements through a reciprocal, no-cost license agreement between DoD and vendors providing EDI VAN services and other related services (e.g., electronic mail) needed to support EC initiatives. Most functional areas within DoD, including procurement, finance, transportation, supply, administration, and energy, are ultimately expected to use the services provided by that license agreement. Procurement is the first functional area that will use the DoD EDI DP concept and the reciprocal no-cost license agreement. DISA is coordinating the arrangements for establishing the VAN's license agreement.

- ◆ *External TP corporate processes.* The standard architecture depicts DoD's external TPs and their national corporate automated processes, but there can be no set architectural or software solutions so long as the transactions to/from these TPs are compatible with ANSI ASC X12 or UN/EDIFACT and DoD's communications environment.

Glossary

ACI	= automated carrier interface
AIS	= automated information system
ANSI	= American National Standards Institute
APADE	= Automation of Procurement and Accounting Data Entry
ASC	= Accredited Standards Committee
ATAC	= advanced traceability and control
AVEDS	= Automated Voucher Examination and Disbursement System
BCAS	= Base Contracting Automated System
BOSS	= Base Operations Support System
CALS	= Continuous Acquisition and Life-Cycle Support
CBL	= commercial bills of lading
CEDS	= Contracting Electronic Document System
CFM	= CONUS freight management
CMAC	= CALS Management Advisory Council
COPAD	= contractor-operated parts depot
COTS	= commercial off-the-shelf
DAASO	= Defense Automatic Addressing System Office
DCMC	= Defense Contract Management Center
DDN	= Defense Data Network
DeCA	= Defense Commissary Agency
DECCO	= Defense Commercial Communications Office
DFAS	= Defense Finance and Accounting Service

DFSC	= Defense Fuel Supply Center
DISA	= Defense Information Systems Agency
DISN	= Defense Information Systems Network
DLA	= Defense Logistics Agency
DLMS	= Defense Logistics Management System
DMS	= Defense Message System
DP	= distribution point
DPACS	= DLA Preaward Contracting System
DSTU	= Draft Standard for Trial Use
DTS	= Defense Transportation System
DWASP	= DLA Warehousing and Shipping Procedures
EBB	= electronic bulletin board
EC	= electronic commerce
EDI	= electronic data interchange
EDICT	= EDI catalog transaction
EDIFACT	= EDI for Administration, Commerce, and Transport
EDIM	= EDI for Manufacturing
EECS	= European EDIFACT Contracting System
E-mail	= electronic mail
EXTRA	= Export Transportation
FAMS	= Fuels Automated Management System
FDS	= Frequent Delivery System
FIPS	= Federal Information Processing Standard
GBL	= government bill of lading

GOSIP	= Government Open Systems Interconnection Profile
GTN	= global transportation network
HMIS	= Hazardous Material Information System
ICA	= Integrated Communications Architecture
ICP	= inventory control point
IM	= information management
ISO	= International Standards Organization
ITIMP	= Integrated Technical Item Management and Procurement
ITPB	= Information Technology Policy Board
MADES II	= Menu-Assisted Data Entry System
MILSTRIP	= Military Standard Requisitioning and Issue Procedures
MOCAS	= mechanization of contract administration services
MODELS	= Modernization of Defense Logistics Standard Systems
MSDS	= material safety data sheets
MSP	= message security protocol
MTMC	= Military Traffic Management Command
OSI	= open system interconnectivity
PAT	= process action team
POPS	= paperless order placement system
POSIX	= portable operating system specification
PPEDI	= printing process EDI
RFQs	= request for quotations
SACONS	= Standard Automated Contracting System
SAMMS	= Standard Automated Materiel Management System

SDNS	= secure data network service
SEPS	= STARS Electronic Processing System
SF	= standard form
SMTP	= Simple Mail Transfer Protocol
STARS	= Standard Accounting and Reporting System
TCC	= transportation component command
TCP/IP	= transmission control protocol/internet protocol
TOPS	= transmission of pricing support
TP	= trading partner
UCS	= Uniform Communication Standard
UN	= United Nations
USA	= United States Army
USAF	= United States Air Force
USN	= United States Navy
VAN	= value-added network
WHIST	= Worldwide Household Goods Information System for Transportation

References

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- [3] U.S. Department of Commerce, National Institute of Standards and Technology, *Federal Information Processing Standards Publication 146, Government Open Systems Interconnection Profile (GOSIP)*, August 1988.
- [4] DoD *Electronic Commerce/Electronic Data Interchange (EC/EDI), Technical Review (Draft)*, 25 April 1993.
- [5] DoD Directive 4640.13, *Management of Base and Long-Haul Telecommunications Equipment and Services*, 5 December 1991.
- [6] DoD Instruction 4640.14, *Base and Long-Haul Telecommunications Equipment and Services*, 6 December 1991.
- [7] Defense Message Systems Architecture Working Group Report, *The Defense Message System (DMS) Target Architecture and Implementation Strategy (TAIS)*, April 1993.
- [8] Public Law (P.L.) 100-235, *Computer Security Act of 1987*, 8 January 1982.
- [9] LMI Report DL203R3, *Risk Assessment Methodology for EDI Unclassified/Sensitive Information Systems*, Julie A. Smith, May 1993.
- [10] DoD Directive 5200.28-STD, *Department of Defense Trusted Computer System Evaluation Criteria*, December 1985.
- [11] DoD Directive 5200.28, *Security Requirements for Automated Information Systems (AISs)*, 21 March 1988.

APPENDIX A

Instructions for Viewing FY94 DoD EDI Projects Database

SYSTEM REQUIREMENTS

- ◆ Disk operating system (DOS)
- ◆ Mouse.

PREPARATION

- ◆ Create a directory on your hard drive and copy files from the EDI floppy disk entitled "FY94 DoD EDI Projects Database" to that directory. This diskette is provided as Attachment 1 to this appendix. Requires 1.2 MB of available storage.
- ◆ Or, set default to the EDI floppy disk "FY94 DoD EDI Projects Database" and type *install*. This will create a directory on your "C" drive named DODEDI94.

RUNNING THE DATABASE PROGRAM

- ◆ Set default to the directory created in the step above.
- ◆ Type *EDI*.

VIEWING EDI PROJECT INFORMATION

- ◆ Choose a Military Service or Defense Agency from the list at top left of screen by double clicking.
- ◆ Choose a project name from the list at top right of screen by double clicking.
- ◆ Information about the project will be displayed on the screen.

IMPORTANT NOTES

- ◆ Field names preceded by a single asterisk (*) are memo fields. After clicking on these fields, text will appear in a smaller window. To exit these memo fields, single click the upper left corner.
- ◆ Field names preceded by double asterisks (**) are list fields. After clicking on these fields, lists of information will appear in a smaller window. To exit these fields, single click on the "Exit" button at the top left corner of the screen.
- ◆ To exit from the main screen, single click on the "Exit" button at the top left corner of the screen.
- ◆ This application does not allow changes to be made to any of the data.

APPENDIX B

FY94 DoD EDI Project Descriptions

This appendix provides project names and descriptions of all DoD electronic data interchange (EDI) projects reported in FY94. Projects are listed under the appropriate DoD Component name. The project descriptions presented here are the ones reported by the projects, and they have not been edited.

DEFENSE COMMERCIAL COMMUNICATIONS OFFICE

EC/EDI Electronic Commerce/Electronic Data Interchange

Pre-development. The system is intended to be a fully integrated telecommunications and information technology ordering, accounting, and billing system. The system will be incorporated throughout the organization for both internal and external communications requirements. The system will be incorporated throughout the organization for both internal and external communications requirements. The system will be used to exchange billing and service change detail transactions as well as Requests for Quotations and Response to Requests for Quotations and Purchase Orders.

DEFENSE COMMISSARY AGENCY

Conversion of DeCA MILSTRIP Process

DeCA is seeking to identify opportunities that will standardize and improve the efficiency and effectiveness of our MILSTRIP requisitioning, status, receiving, and adjustment processes used to support all overseas locations and Air Force Troop Issue locations worldwide. The majority of DeCA subsistence requisitions are forwarded by DPSC to commercial manufacturers as name brand purchases, either through manual purchase orders or UCS electronic transactions. In keeping with the DLMS/MODELS initiatives, DeCA seeks to not just convert the existing MILSTRIP requisition format to the MODELS format, but to convert to the final format that is actually being used to order the product from the supplier.

DeCA EDI Ordering Standardization and Expansion

DeCA is currently generating UCS purchase orders for approximately 89 vendors for two distribution centers. This is accomplished by transmitting the DIBS generated order file to a microcomputer running a commercial translator.

DeCA intends to convert this to an ANSI X12 purchase order suite of transactions and migrate to a larger translation system that can support all CONUS, Alaska and Hawaii DeCA locations. The DeCA Interim Business System (DIBBS) currently calculates and generates a suggested order. These order files will be transmitted to a central translation site using our existing DCN/DISN network. The use of commercial VAN's are being evaluated for cost effectiveness and data integrity.

DeCA EDI Price, Item Maintenance and Promotion System

DeCA is seeking to implement the capability to accept and process price changes, item maintenance, and item promotion offers that will improve the efficiency and effectiveness of maintaining our item catalog files and significantly reduce the chance of pricing errors between DeCA and the commercial manufacturers. Based upon DeCA research and the findings of a Joint Industry Committee report that strongly supports the use of these EDI transactions, improvements are expected to benefit the reconciliation and contract payment functions of the two service centers, simplify and reduce the time expended to maintain the item description data, and greatly reduce the time spent maintaining item prices.

DeCA EDI/Imaging Data Storage and Retrieval System

DeCA is seeking to identify imaging opportunities that will improve the efficiency and effectiveness of records and data management. Improvements are expected to benefit the reconciliation and contract payment functions of the two service centers, simplify and shorten the time expended to conduct contract and payment audits, and greatly reduce the document storage and retrieval efforts. The objectives of this initiative are to 1) define how imaging and optical storage technology can be applied to the receiving, bill paying, and other accountable officer/contract file functions at DeCA, 2) design and field a pilot automated system for electronically enhanced archive and retrieval of document and electronic document images, and 3) evaluate and expand the pilot effort.

DeCA Electronic Invoicing System for Resale Merchandise

This system was developed using a commercial off-the-shelf (COTS) translator on an AT&T 3B2. System design has been closely coordinated with DFAS. Functional Integration Testing begins on Jan 25, 93. The system will be used to receive electronic invoices in ANSI X12 format from resale merchandise suppliers to defense commissaries. The invoices are archived, translated, validated, printed, and forwarded to the DeCA Standard Automated Voucher Examination System (SAVES) for batch input. An EDI invoice rejection module is scheduled for phase 2, FY 93. The objectives of the Electronic Invoicing Project are to reduce manual data entry of invoice data, reduce errors inherent to data entry, reduce quantity of hard copy invoices and make invoice data available for reconciliation and payment at the earliest time.

Standardization of DeCA Frequent Delivery System (FDS)

DeCA is seeking to identify opportunities that will standardize and improve the efficiency and effectiveness of our Frequent Delivery System used at more than 200 CONUS locations. The FDS method of ordering is a proprietary form of Quick Response or Just in Time replenishment that exchanges order and receipt records electronically. FDS is used to submit daily delivery requests to a distributor acting on the behalf of numerous manufacturers for a specific geographic area. These daily deliveries are rolled into 15 day invoicing periods by the manufactures. Improvements are expected to benefit the order generation, shipment notice, receipt and reconciliation functions at each of these store locations, the two service centers and our suppliers.

DEFENSE FINANCE AND ACCOUNTING SERVICE

Defense Transportation Payment System

This project will use EDI to automate the Government Bill of Lading for freight and household goods.

EDI for Contract Payments

In production for stock fund commercial invoices and are testing capability for mechanization of contract administration services (MOCAS) commercial invoices (implementation in 1st quarter FY94). Also working with DCMC and DeCA for progress payments, source acceptance and public voucher application. All transactions will be processed in ASC X12 transaction sets and will go through a 3rd party network. Project will conform to DoD standard architecture when fully defined and developed.

Local Vendor Payments

Development of an EDI program for local vendor payments.

Standard Electronic Processing System (SEPS)

Operation at selected sites. The invoice process requires certification by government officials prior to presenting the invoice for payment at DAO Arlington. SEPS accommodates the collection of DD 250 Ship/Manifest Notices; processing of Foreign Military Sales (FMS) Acquisition Services Team Program (FAST LINE) source MILSTRIP(s); and the automatic update of the payment system from the Shipbuilding Contractor, Defense Contractor University, and FAST LANE source invoice data in ANSI X 12 formats. These transaction are electronically transmitted by the contractor to the authorized certifying official for review and approval

with electronic signature. MILSTRIP status is passed between that FAST LINE contractor and the appropriate government ICP until the transaction has been completed and accepted by the government. DD 250 ship/manifest notices are returned to the contractor with the name of the person signing the 856 electronically. Approved invoices are forwarded to the disbursing office to effect EFT payment within the scope of the prompt pay law.

DEFENSE LOGISTICS AGENCY

Advance Agreement Electronic Commerce

Development. This process will allow electronic placement of delivery orders against requirements contracts. This system will replace POPS by allowing ordering of groups of items rather than by single item.

Awards/Orders

The Offers/Bids are transmitted from the contract in response to a solicitation. The contract specialist will review for award or process for negotiations. When the lowest offer/bid is determined, a notice of award, the SF26, is transmitted to the contractor by use of an ANSI 850. During the effective period of the award, the customer may process an order against the award. The customer at the base will process and transmit the DD1155 by use of an ANSI 850.

Base Operations Support System (BOSS) Hazardous

Planning. EDI capabilities will be incorporated into BOSS to allow for delivery order processing, manifest tracking, hazardous invoicing, and electronic funds transfer payment between DRMS and contractors. EDI will satisfy DRMS mission requirements for monitoring all phases of hazardous disposal, from the initial receipt to a DRMS to ultimate disposal.

Contractor Operated Parts Depot (COPAD)

Electronically transmits Shipping Instruction Sheet data and receives responses from SAMMS Automated Small Purchase System Vendors. Also provides for electronically invoicing.

DD Form 1898

The DD1898 (Into-Plane Sales Slip), will be mapped on to the ANSI X12 856. It will be transmitted from the contractor through the translation software on the 3B2 and sent to the Automated Voucher Examination and Disbursement System

(AVEDS) on the mainframe in Richmond. This transaction is part of a Systems Change Request (SCR) against DFAMS/AVEDS to accept and process electronic transactions. To date, this SCR is still in AIS for evaluation and anticipate approximately 800 hours to implement. The Into-Plane invoice is received with the DD1898s and processed through AVEDS for payment.

DD Form 250

The DD250 (Material Inspection and Receiving Report), will be mapped on to the ANSI X12 856. It will be transmitted from the contractor through the translation software on the 3B2 and set to the Automated Voucher Examination and Disbursement System (AVEDS) on the mainframe in Richmond. This transaction is part of a Systems Change Request (SCR) against DFAMS/AVEDS to accept and process electronic transactions. To date, this SCR is still in AIS for evaluation and anticipate approximately 800 hours to implement. The Bulk Fuels invoice is received with the DD250 and processed through AVEDS for payment. DLA Pre-Award Contracting System - Electronic Commerce (DPACS) Oper/Dev. DPACS is an operating contracting system. This project adds EDI capability to it.

DLA Warehousing and Shipping Procedures (DWASP)

Implementing EDI within the wholesale transportation process within DWASP was initiated to reduce the resource intensive process of producing and transmitting transportation documentation. System change requests are in place and initial design and development is under way to be in a posture to transmit GBL data through CFM to DFAS.

To accomplish this requirement, mid-tier software was acquired so that DWASP transportation data elements which produce the GBL and Continuation Sheets, SF Forms 1103/1109, could be computer mapped, translated to the ASC X12 858 transaction set format and transmitted to DFAS. Initially the DLA plan is to use Defense Data Network (DDN)/DSN as the telecommunication link between DWASP and CFM, with the intent to go to a commercial VAN as development and requirements dictate.

DLA development effort by DSAC-H (DWASP central design activity) has been hampered due to lack of resources and difficulties with the ABC translation software. To date, 858 transactions are flowing between Defense Distribution Depot Ogden and the Military Traffic Management Command, but not in an operational mode.

EC/EDI Automated Bidsets Interface Project

To allow the electronic dissemination of bidsets and other solicitation components in response to vendor requests. This is required to replace output of aperture cards to vendors.

EDI Cataloging (EDICT)

Production. An EDI cataloging application used in the Subsistence Directorate. UCS transaction sets are utilized to obtain updated pricing information from Supply Bulletin vendors.

EDI with Mandatory Sources

Testing. DPSC's Medical and Clothing and Textiles Divisions are testing the use of the ANSI X12 850 transaction set with the National Institute for the Blind (NIB), National Institute for the Severely Handicapped (NISH) and Federal Prison Industries (FPI). DPSC purchases merchandise from these sources and will use the 850 to transmit electronic orders.

Electronic Bid Board

Operational. Display of automated (Phase II) RFQs on an EBB for 15 days. On-line quote input and download capabilities for contractors. Electronic transmittal of quotes from EBB to DPACS.

Electronic Submission of Cost Proposals

To facilitate the use of electronic submission of cost proposals, a new cost proposal standard needed to be developed. Both DoD and industry participated in its development. The next step is to start testing the proposed standards to ensure that they meet the requirements of the Government and contractors. In order to utilize the new standards, several things must occur such as: analytical computer programs and applications need developing; incorporation of the new standards into the FAR and/or DFARS and policy and procedures for their use; and review by commercial parties regarding the content of the standards and procedures for commercial use.

Export Transportation (EXTRA)

Phase I of project initiated. Functional Test scheduled for 7-9 Dec. 93, Environmental Test 10-14 Jan. 94. EXTRA is a PC based software system that maximizes the EDI technological advances of the commercial sector and provides this

dual technology data to the DoD supply and transportation communities in support of making timely requisition, procurement, and transportation decisions.

Hazardous Materials Information System (HMIS) – EDI

Planning/Development. Receive Material Safety Data Sheets (MSDS) from private industry organizations via EDI and provide EDI movement among DoD procurement activities, DoD Focal Points and HMIS. DoD needs the ability to move MSDS from the manufacturer/vendor/contractor directly into the HMIS database via EDI so the user of a hazardous product can have access to the identity of the product, hazards associated with it and precautions needed to protect the individual and environment. MSDS are required for each and every hazardous material in use at federal facilities for compliance with Federal OSHA, DOT, EPA, and state and local laws and regulations.

Invoice

The invoice will be mapped on the ANSI X12 810. It will be transmitted from the contractor through the translation software on the 3B2 and sent to the Automated Voucher Examination and Disbursement System (AVEDS) on the mainframe in Richmond. This transaction is part of a Systems Change Request (SCR) against DFAMS/AVEDS to accept and process electronic transactions. To date, this SCR is still in AIS for evaluation and anticipate approximately 800 hours to implement. This SCR also includes the electronic receipt and processing of the DD250 and the DD1898.

Medical

Operational. An EDI application where electronic delivery orders are placed against long term contracts. The orders use the ASC X12 850 Purchase Order transaction set. In Phase I, merchandise is shipped to DLA's warehouses, in Phase II, merchandise is shipped directly to DPSC customers.

Meter Tickets

A Meter Ticket is completed for each fuel delivery through a pipeline. This document provides the data necessary to validate the condition and volume of product received. This information is transmitted to the Defense Fuel Regions and stored in a database to be processed and transmitted to DFAMS.

Nomination

The Defense Fuel Region or Office submits a nomination to the pipeline company. This document requests approval of a proposed schedule of pipeline deliveries of fuel. The pipeline company responds with the schedule.

Offers/Bids

The Offers/Bids are transmitted from the contract in response to a solicitation. Some of the information is extracted from the solicitation, combined with other data and is forwarded to the Contracting and Production Directorate for consideration for an award.

Paperless Ordering Placement System (POPS)

Operational. Electronic placement of orders with the contractor. Pricing and delivery have been previously agreed upon.

Price Change Notification

The Price Change Notification is currently performed on the SF30 as the Price Change Modification against current contracts. These changes reflect escalation/de-escalation of interim and final prices as a result in the market environment. Market publications are mailed to the Market Research Office who forward them to the appropriate buying division. This information is factored into the Price Escalation System which outputs a paper SF30. A Systems Change Request is in the AIS office for programming. Estimated completion, 2/28/94.

Prime Vendor/Tailored Support for Organic Manufacturing Sites

As part of the Defense Performance Review (DPR) initiative, it is the intention of this project to secure/maximize regional manufacturer's/distributor's inventory and delivery services to support service organic manufacturing sites. The objective of this project is to improve responsiveness and reduce inventory cost.

Quick Response for the Clothing and Textile Directorate

Testing. The Quick Response project is testing with four vendors and five different transaction sets. Additional vendors and transaction sets are being tested and developed. Quick Response is being used to bring C&T acquisition in line with the retail apparel industry using state of the art technology, while reducing depot stock.

Source Material Acceptance and Progress Payments

Developmental. Fully integrated operational and management system comprised of source material inspection receiving report (DD250) and progress payments that allow for paperless (EDI) transaction among the contractor, DCMC and DFAS.

Subsistence Brand Name

Oper/Dev. An EDI application where electronic orders are placed against Supply Bulletins. The application is operational for purchasing and cataloging transactions, invoicing and payment transactions are in development and testing.

UNITED STATES AIR FORCE

Bar Code Integration to EC/EDI

- ◆ The use of bar coding and EDI (the "Quick Response" or "Just-In-time" technologies) is essential to improving Governments method of doing business. Bar codes can offer an accuracy rate that is ten thousand times more accurate than human entry. EDI is the computer-to-computer exchange of business matter in a standard format. Bar codes allow us to track our inventory, people, and places more accurately than ever before. Once this accurate information is collected, EDI is utilized to communicate this data either internally, or to our business partner.
- ◆ The LAAFB is presently undertaking the training and implementation of UCC/EAN 128 Bar code. This equipment will be used to interface to the DoD standard EDI system.

Contracting Electronic Document System (CEDS)

The objective of the CEDS project is to create a paperless acquisition environment in the Air Force operational contracting community and to provide a documented baseline system to aid Air Force planners in the implementation of the DoD mandated Defense developing detailed functional specifications and supporting documentation to provide for the electronic exchange of information between contracting and base, post, station customers and accounting and . . .

Electronic Forms Routing and Distribution Hub

Asynchronous communications are the basic capability of most AF sites. Electronic delivery of most forms requires a binary capable store and forward hub in order to enable intra-site EC/EDI. These feed external EC/EDI activities.

European EDIFACT Contracting System (EECS)

EDI will electronically transmit the following EECS Contracting documents using the EDIFACT transaction sets between the Rhine Ordnance Barracks (ROB) division of USAFE Contracting and selected trading partners:

SF1443 – Request for Payment
SF18 – Request for Proposal
DD1155 – Purchase Order
SF30 – Contract Modification
DD250 – Shipping Notice

The system will allow trading partners access to the USAFE Contracting Bid List. Benefits to include rapid, relatively error free interchange of requirements between buyers and vendors. We have identified 13 potential trading partners who currently have EDIFACT capability. We plan to contact them as soon as possible to see if they will participate in this project.

Fuel Automated Management System (FAMS)

EDI will improve vendor payment response, reduce data entry requirements, reduce paperwork, and reduce error rates.

In-Transit Visibility Using Commercial EDI Data

Operational. Integrate commercial carrier EDI shipment data with government transportation movement data and transit out EDI compliant transactions. This capability will enhance movement visibility, movement documentation, and payment procedures. Currently, AFLIF is receiving commercial carrier (ANSI 214) data from UPS, FEDEX, and Consolidated Freightways. AFLIF is also ready to accept 858 transactions from CMOS and depot systems.

Logistics Efficiencies Enhancements

This is a microchip and radio frequency technology research/investigation project proposal to streamline various aspects of property management processes. The Air Force needs a standard production and information system to provide timely processing and tracking of over \$12 billion of inventory. Current inefficient inventory management methods result in wasted money and manpower. Stockage needs have been overstated causing excess purchases of spare parts for or weapon systems. We anticipate a savings of approximately one percent of this inventory by improving visibility of the assets. With shrinking budgets and manpower resources, more efficient daily business practices need to be explored. We envision integration of microchip and radio frequency (RF) technology into the everyday property management processes throughout the

operating forces, as well as the wholesale and retail supply systems. Our intention is to place a microchip on significant items of COMSEC issue and each unit of issue in warehouses of the wholesale and retail systems, with an interface between the chip data and property accounting software programs. This chip will reduce the manpower intensive tasks of maintaining control of COMSEC equipment, and of receiving and managing inventory while reducing human error. The immediate gains anticipated are improved inventory accuracy, faster receipt processing, faster, more accurate Readiness Spares Packages (RSP) reconstitutions, and serialized accounting of both weapons and COMSEC assets, to name a few. Enhancements will enable us to reduce our manpower and spares inventory requirements currently associated with these tasks, as well as the resultant tasks associated with correcting the errors of a less efficient, less accurate system. A brief description of how this would work is presented in the discussion under benefits (paragraph 13).

Material Safety Data Sheets

OSHA and Presidential Executive Order require all industrial sites to have material safety data sheets in each work area. The cost of acquiring machine presentable MSDSs averages \$30 each. The cost of doing it via EDI is estimated at \$7.

Med Image

The Med Image computer system was developed at Wilford Hall Medical Center to support a paperless environment for the Local Purchase Operation. The goal of this project is to install a Med Image system at Keesler Medical center and Implement EDI technology using the Med Image system to support medical procurement operations. The local purchase branch at Keesler Medical Center orders approximately \$14.4 million worth of medical supplies on an annual basis.

Printing Process EDI (PPEDI)

This is a new project. This project will explore the application of EDI principles and processes to the current DoD printing process. If funded, current information will move through appropriate channels reducing human intervention. It will automate many administrative facets of the printing process, eliminating duplicated information and streamlining the process as print jobs move through DoD and Air Force channels.

We consider this project to be an excellent candidate for EDI for three main reasons, direct savings, indirect savings, and present level of automation. First, there is the potential to save over \$34,531.20 in direct costs according to our calculations. Second, indirect benefits are also bountiful. Many reports are generated for the Defense Printing Service (DPS), the Air Force as well as other DPS customers. Many of these reports are printed out on one system and manually

punched into the next. Third, and most importantly, the level of automation already present makes this project an ideal candidate. The Printing Resource Management Information System (PRMIS) relies heavily on electronic compilation and distribution of DPS data. In many instances, this resource can be easily migrated to EDI applications.

Rapid Deployment of Automated Form 9 and Electronic Delivery System

Deployment of an automated Form 9 for ordering for standard contracts. Approve the Form 9 in PK and transmit to the vendor as EDI delivery order. Provides functional prototype and production for 6 sites and 3 contractors.

UNITED STATES ARMY

Advanced Arrival Notification Interface

Project is in development phase with IOC planned for 1st quarter FY94. Allow MTMC ports to receive import arrival notifications from ocean carriers and cargo release notification from customs as a secondary party.

Automated Carrier Interface (ACI)

Testing: information to be provided by proponent.

Commercial Bills of Lading (CBL)

Develop electronic transfer of CBL to provide the capability to rate and select carrier for the traffic currently moving under the CBLs thereby, assuring the government will get the best service at the best rate.

EDI Management Office

Currently, there is command-wide implementation of EDI in support of the Defense Transportation System (DTS) and DRMD 941. The command has implemented conversion testing and development of approximately 27 transaction sets and identified additional data for transaction set development. Currently, approximately 75 Trading Partner Agreements (TPA) exist between the command, the commercial carrier industry and other DoD agencies. This figure is expected to more than double within the next fiscal year. A command infrastructure must continue to manage our EDI mission and requirements, support the DoD services and commercial industry TPAs, meet internal and external communication,

hardware and software requirements, and ensure systems standardization and interoperability requirements to support a changing force structure.

Global Transportation Network

GTN is an automated command and control information system that supports the family of transportation users and providers, both DoD and commercial, through providing an integrated system of in transit visibility information and command and control capabilities. GTN collects and integrates transportation information from selected DoD and commercial transportation systems. The resulting information is provided to USTRANSCOM, its component commands, and DoD customers for transportation planning, control common user airlift, surface lift, and terminal services to deploy and sustain DoD forces on a global basis in peace and war.

MTMC Electronic Guaranteed Traffic Program

Development. The Guaranteed traffic program will be enhanced through the use of the existing standard tender processing system for processing voluntary tenders.

SACONS

Development/Revision of current system. SACONS will be using EDI for RFQ's of \$25K and less. The RFQ's will be posted to a bulletin board, registered vendors will browse RFQ's and submit proposals electronically. Contracting will review proposals, select winning vendor and notify both successful and unsuccessful responder electronically.

Transportation Component Command (TCC) – EDI

Implement EDI capability within the TCC systems. The systems are HQ AMC HOST and CAPS II, MTMC CFM, and MSC. These are the source systems for transportation data to US TRANSCOM's GTN system. AMC HOST and CAPS II provide transportation shipment data from the aerial ports. MTMC and MSC provide surface transportation data. The TCC's support USTRANSCOM in their global mission for providing DoD and commercial transportation visibility in peace and war.

Transportation Discrepancies in Shipments

Under Development. The transportation discrepancy report (TDR) submission process will be automated: consignee will use the CFM Field Module

microcomputer to record discrepancies and transfer the data electronically to the CFM Host System. The CFM host system will distribute the electronic TDR in EDI format to the claims offices of the military services, of the shipper and to the carrier. The electronic TDR will result in more timely settlement of claims and, it is hoped, will lead to improved handling and visibility of DoD freight. The funds will be used to incorporate EDI standards into the field module and to design the appropriate automated file transfer software.

WHIST/TOPS

Under development: Acquire, track, maintain and distribute information related to the shipment and storage of personal property.

UNITED STATES NAVY

Advanced Traceability and Control (ATAC) Plus

In-Process. Enhancement of existing Depot Level Repairables (DLR) visibility system by incorporation of EDI to provide further visibility of assets within the logistics pipeline. Improvements will allow DLR tracking, on a real-time basis, at every phase of the overall retrograde and reissue cycle to include: unserviceable turn-in from combatant to Combat Logistics Force (CLF), to ATAC Node, through Air Mobility Command (AMC), to Designated Stock Point and Designated Overhaul Point, to eventual reintroduction into the supply system. Extensive software development is in process in accordance with DoD Total Asset Visibility plan. Participating activities include Navy Management Systems Support Office (NAVMASSO), Fleet Material Support Office (FMSO), Navy Material Transportation Office (NAVMTO), and AMC within the Air Force. The increased asset visibility will result in lower overall inventory requirements, reduced inventory adjustments and associated labor, improved depot repair scheduling, and improved inventory management practices, e.g., JIT inventory applications.

Contractor Cost Reporting and Contractor Schedule Reporting

In Process. Naval Air Systems Command has developed a database and the capability to accept electronic transactions automating the Contractor Cost Data Report (CCDR) reporting process and replacing the paper DD Form 1921 series. Similarly, Naval Sea Systems Command is investigating the development of a comparable capability. NAVSEASYS COM is also developing the ability to transmit Cost Performance Reports (CPR) data among project offices, prime contractors, subcontractors, contract administration offices, and headquarters cost analysis organizations. This coincides with Navy direction to utilize Performance Analyzer software as a standard methodology for program cost and schedule analysis.

Electronic Data Interchange for Manufacturing (EDIM)

Planned-Not Operational. Incorporate EDI into common business transactions routinely taking place between Inventory Control Points (ICP's), and manufacturing activities. Currently, Naval Undersea Warfare Center (NUWC) – Keyport is leading the implementation effort toward restructuring this aspect of Navy acquisitions. Emphasis is places on capability to transfer product specification information and related technical data to and from ICP's ISE's, and manufacturing activities for inclusion in request for quotes, bid responses, and purchase orders. Digitized Technical Data Packages (TDP) with CAD/CAMdata mapped to EDI standard transaction sets combined with more familiar procurement transactions will give true electronic commerce capability. The goals of the project include standardizing for use at other Navy or commercial facilities. The resulting system should allow for the elimination of slower, labor-intensive processes and provide the additional benefit of lower costs through increased competition as demonstrated in other electronic commerce experience.

Material Safety Data Sheets (MSDS)

In Process. Navy will incorporate EDI in the receipt and submission of Material Safety Data Sheets to the DoD Hazardous Material Information (HMIS) database in order to increase the speed and accuracy with which that information reaches the end-user. First phase of project relates to Navy Environmental Health Center receiving MSDS information from industry. Eventual submission to HMIS via EDI is planned in concert with a related DLA effort. The information contained on the MSDS is crucial to user safety and first-aid treatment as well as environmental protection and clean up. The current process relies on paper exchange and communication through several organizations from procurement to the centrally managed data bank. This manual system is labor-intensive, error-prone, and, more importantly, slow to deliver the information to the end-user who needs it. EDI provides the capability to quickly verify the requirement and provide the necessary data to each source in the process. Process re engineering may also negate the need to submit MSDS when a document is already on file in HMIS. Electronic submission of the MSDS allows for the process to integrate with electronic procurement and maintain the emphasis for environmental and safety awareness at the procurement stage of the material flow process.

Non-std. Material Requisitioning and Non-Std. Mat. Demand Reporting

In Process. Exchange of non-standard material requisitions and non-standard material demand reports between Navy organizations. Current logistics transactions do not convey all necessary information for identifying many non-standard material requests. This can dramatically effect timeliness with which customers receive needed material, and , in the case of maintenance

activities, increase cycle time for returning assemblies to RFI status. In addition, the lack of adequate technical information adversely impacts cataloging and stocking decisions. Projects provide for the exchange of requisitions for non-standard material between Navy afloat and ashore organizations. When the requirement cannot be identified to standard material and must be acquired commercially, a demand notification will be provided to the ICP. The ICP will, in turn, capture the expanded data set and electronically process the transaction as a candidate for NSN assignment and central management.

Transportation (all related projects)

Various Stages of Development/Operation. Navy has identified at least seven potential projects under the realm of transportation which offer significant process improvements and/or cost savings through EDI. Of these seven projects, two are DoD-wide initiatives in which Navy actively participates. The opportunities include: Government Bill of Lading (using EDI to transmit GBL's from Navy shipping activities and shipping centers to Navy Material Transportation Office - NAVMTO), Transportation Operation Management - TOM (NAVMTO will use EDI for increased in-transit visibility, cargo routing, and movement authorizations), Do-It-Yourself-EDI Automated Loading System - DEALS (automating Do-It-Yourself - DITY move documents), Household Goods EDI Audit Transactions - HEAT (automating flow of information to NAVTMO for household good entitlement audit), Funds Administration (NAVMTO improvement for administering Navy Management Fund - NMF and Service-Wide Transportation - SWT budgets through EDI), Navy Transportation Office Automation Transportation Management System - NTOA TMS (Automation of Navy transportation offices, electronic GBL and TCMD production), and, the two DoD initiatives: Defense Transportation Tracking System - DTTS (using EDI to track shipments of sensitive material such as arms and special ammunition) and Defense Transportation Electronic Data Interchange - DTEDI (process improvements with EDI in areas such as TCMD's, export traffic releases, air manifests, and EDI standard Tender). All projects have the capability to impact significantly on Navy transportation's ability to efficiently move personnel, equipment, and supplies.

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