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MODERNIZATION OF DEFENSE
LOGISTICS STANDARD SYSTEMS
(MODELS)

Volume I: Establishing the Functional
Baseline

Report DL902R1

September 1991

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In the 1960s, DoD established single-item managers for acquiring, managing, and distributing material. That approach required significant exchanges of logistics data among the Military Services and Defense agencies. To support those exchanges, DoD defined standard message formats, data elements, and procedures, thereby creating the Defense Logistics Standard Systems (DLSS).

The DLSS have successfully supplied DoD logistics transactions for nearly 30 years. However, neither the DLSS nor their supporting Service or agency automated data processing systems have been modernized as rapidly as the surrounding environment, and neither has kept pace with user information requirements. To capitalize on technology advances and satisfy its logistics information requirements into the next century, DoD established the MODELS project to redesign the DLSS. This report documents the progress made in the MODELS program and recommends actions to further improve DoD's logistics capabilities.

Principally, the *Defense Logistics Management System (DLMS) – Functional Baseline, Electronic Data Interchange (EDI) Standards* was released in May 1990. The DLMS (the DLSS replacement system) format is derived from the American National Standards Institute Accredited Standards Committee X12 for EDI, tailored to meet DoD-unique requirements. EDI is a rapidly growing tool used in industry to reduce paper and improve business efficiency and has recently been adopted as a Federal information processing standard.

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PREFACE

This report, in three volumes, describes progress in redesigning and transforming the Defense Logistics Standard Systems (DLSS) into the Defense Logistics Management System (DLMS). It also recommends the scope and capabilities that should be incorporated into the DLMS.

The existing DLSS formats, codes, and procedures have been utilized in DoD logistics for nearly 30 years and they are deeply embedded within Military Service and Defense agency logistics computer systems. In fact, many of those systems were initially developed and designed to support the operation of the DLSS. It is therefore necessary to document the DLMS in detail so that Service and agency design activities can effectively change their systems to adopt the new approach.

To support this effort, Logistics Management Institute has produced extensive documentation that defines the DLMS and provides "mapping" information. This mapping will help Service and agency automated data processing (ADP) personnel correlate the new DLMS to their current DLSS-oriented systems. The mapping documents are called implementation conventions. We have produced an implementation convention for each of the seven primary DLSS. These implementation conventions support the electronic data interchange (EDI) standards document which summarizes, in directory form, the DLMS transaction sets, segments, and data elements. The standards and the conventions represent LMI's primary deliverable for this phase of the Modernization of Defense Logistics Standard Systems (MODELS) project.

The Government will release each of these documents as supplements to the DLSS-sponsored publications (mostly in the DoD 4000.25 series). These supplements will also include revisions to the DLSS procedures that reflect the enhancements made to the DLMS transactions. As further progress is made in the development of the DLMS and the DoD implementation of it, the supplements will emerge as the primary manuals, replacing the existing DLSS manuals.

This volume describes the progress to date and makes recommendations for future actions. Volume II (Appendix H) consists of the DLMS Version 1.1 EDI

Standards. Volume III (Appendix I) is the DLMS Version 1.1 Military Standard Requisitioning and Issue Procedures (MILSTRIP) Implementation Conventions. Because it is the most critical of the DLMS functions, the MILSTRIP implementation conventions are published in this report. They are included in the report as being representative of the other six conventions.

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MODERNIZATION OF DEFENSE LOGISTICS STANDARD SYSTEMS (MODELS)

Volume I: Establishing the Functional Baseline

In the early 1960s, DoD established single-item managers for acquiring, managing, and distributing material. That approach required significant exchanges of logistics data among the Military Services, Defense agencies, and the General Services Administration. To support those exchanges effectively and efficiently, DoD defined standard message formats, data elements, terminology, and procedures. In doing this, it created the Defense Logistics Standard Systems (DLSS).

The DLSS have now been used successfully for DoD logistics transactions for nearly 30 years. However, the DLSS have not been modernized as rapidly as the surrounding environment and have not kept pace with user information requirements. To capitalize on technology advances and satisfy its logistics information requirements into the next century, DoD established the MODELS project to redesign the DLSS.

A fundamental design *criterion* in MODELS is flexibility. MODELS is designed for compatibility with ongoing or planned modernization of Service and agency automation projects. Thus new initiatives, such as the Corporate Information Management (CIM) effort and numerous Defense Management Report Decisions, provide excellent methods for the deliberate implementation of the significant improvements MODELS brings to logistics processes.

This report documents the progress made over the past 3 years and recommends actions to further improve DoD's logistics capabilities. The DLSS replacement system was initially released as the *Defense Logistics Management System (DLMS) — Functional Baseline, Electronic Data Interchange (EDI) Standards* in May 1990. The MODELS baseline contains 56 variable-length transactions that perform all functions previously performed by the more than 400 card-image DLSS transactions. In addition the baseline incorporates more than 75 enhancements to

the DLSS that were requested by the Services and agencies. The DLMS format is derived from the American National Standards Institute (ANSI) Accredited Standards Committee X12 (ASC X12) for EDI tailored to meet DoD-unique requirements. EDI is a rapidly growing tool used in industry to reduce paper and improve business efficiency and has recently been adopted as a Federal information processing standard.

The first update to the DLMS baseline was published in September 1991 as Version 1.1. That update reflects changes to the baseline recommended by the Services and agencies. The purpose of the next update, Version 2.0, is to make the DLMS transactions national standards that are fully approved by ANSI ASC X12. Version 2.0 is projected for completion by February 1993.

We recommend that OSD encourage the incremental implementation of Version 1.1 beginning in 1992 and mandate the initiation of implementation of Version 2.0 no later than October 1995.

Now that steps to implement the DLMS are in motion, we recommend that the MODELS project pursue five additional logistics improvements:

- Expand asset visibility capabilities

- Consolidate supply, quality, and transportation discrepancy reporting into a single standard procedure

- Incorporate maintenance in the standard system

- Convert procurement documents to EDI

- Integrate the DLMS (including the recommendations above) into the DoD CIM initiative.

CHAPTER 1

INTRODUCTION

The Modernization of Defense Logistics Standard Systems (MODELS) project will change the rules and formats by which DoD logistics activities have communicated for nearly 30 years — the Defense Logistics Standard Systems (DLSS). In this chapter, we present an overview of the DLSS, a synopsis of new user requirements, and a description of how MODELS satisfies those requirements.

DEFENSE LOGISTICS STANDARD SYSTEMS

Origins of DLSS

From their beginnings, the Military Services generally provided their own logistics support, and each developed independent systems and procedures for purchasing, storing, requisitioning, and distributing material. However, beginning in the mid-1950s, the "single-item manager" concept evolved. Under that concept, each item in the DoD inventory would be purchased by *one* of the Military Services, and that Service would then be responsible for distributing the item to the other Services as needed. The process of consolidating the purchases under a single-item manager culminated with the establishment of the Defense Supply Agency [now the Defense Logistics Agency (DLA)] in 1962. The new agency assumed integrated management of more than 2.3 million common items shared by the Military Services. Other single-manager assignments to the four Military Services and other agencies accounted for the remaining 1.7 million items.

Initially, commodity managers were responsible for wholesale-level procurement, inventory management, and distribution of their assigned items to all DoD users. The managers negotiated requisitioning procedures with each of the Services. However, these joint Service agreements required different procedures depending on which Service managed the commodity. Additionally, requisitioners in the individual Services were required to follow yet another procedure in preparing requisitions for items managed within their own Service. With the increasing

number of single-item managers for commodities and the proliferation of requisitioning procedures, an inordinate burden was placed on the requisitioners.

In response to this problem, on 1 July 1962, DoD established the Military Standard Requisitioning and Issue Procedures (MILSTRIP) using electronic accounting machinery (punch cards). [1] Recognizing the successful implementation and operation of MILSTRIP and the benefits of standard systems, DoD subsequently established a Standard Systems Office. That office, now the Defense Logistics Standard Systems Division (DLSSD), developed 12 additional systems between 1964 and 1980. These systems are collectively known as the Defense Logistics Standard Systems.

The advent of single-item managers and of DLA dramatically increased inter-Service logistics communications. The creation of the DLSS and the growing use of computers and telecommunications provided the technical means to convert paper forms and punch cards into electronic communications. Two key technical achievements occurred in the mid-1960s:

- The defense communications system known as the Automatic Digital Network (AUTODIN) was developed and installed worldwide to support military communications.

- The Defense Automatic Addressing System (DAAS) was established to control the routing of DLSS transactions through AUTODIN to the correct addressee. DAAS also performed the following functions:

  ‣ Checking errors and validating data

  ‣ Maintaining history files and generating management reports

  ‣ Holding and diverting messages for units in motion

  ‣ Converting transactions between electronic format and paper.

The combination of DAAS and AUTODIN allowed DoD activities to process nearly 2 million transactions a day as compared with the 35,000 possible under manual mailing procedures. By 1965, DoD was operating a worldwide logistics system utilizing electronic data interchange (EDI) principles – nearly 10 years before the release of the first commercial standards. The following subsection describes how the DLSS operate.

Overview of DLSS Flows

The inventory control point (ICP)/integrated material manager (IMM) is central to the DLSS process (Figure 1-1). At the ICP, personnel perform the following activities:

- Establish contracts to purchase material from industry

- Determine stockage levels, forecast future demand, establish reorder points, and meet delivery schedules

- Determine distribution of the material among DoD depots

- Receive requests from end users for material and authorize its release from depots to the users.

Today, about two dozen large ICPs are distributed among DLA and the Services. These ICPs utilize large computer systems, and while these systems differ, they are generally batch oriented and quite old.

The DLSS primarily define the procedures and transactions used by end-users, the ICP, and the depots necessary for the end-user to obtain material. In a simple example, if Fort Hood, Texas, requires M1 tank parts, it sends a *requisition* to the Army's Tank and Automotive Command (TACOM) ICP located near Detroit. If the parts are available, the TACOM computer issues a *material release order* (MRO) to the Red River Army Depot in Texarkana, Texas, and the material is shipped from there to Fort Hood. The computers at the ICP and the depot automatically send *supply and shipment status* to the Fort Hood computer at the time of material release and shipment. MILSTRIP also contains transactions that allow Fort Hood to modify, cancel, or query the status of the original requisition, as well as other specialized transactions such as returning previously acquired material to stock.

The Military Standard Billing System (MILSBILLS, 1973) coordinates accounting for requisitioned material. [2] In our example of requisitioning M1 parts, the ICP computer automatically sends a *bill* to the finance center, which debits Fort Hood's account.
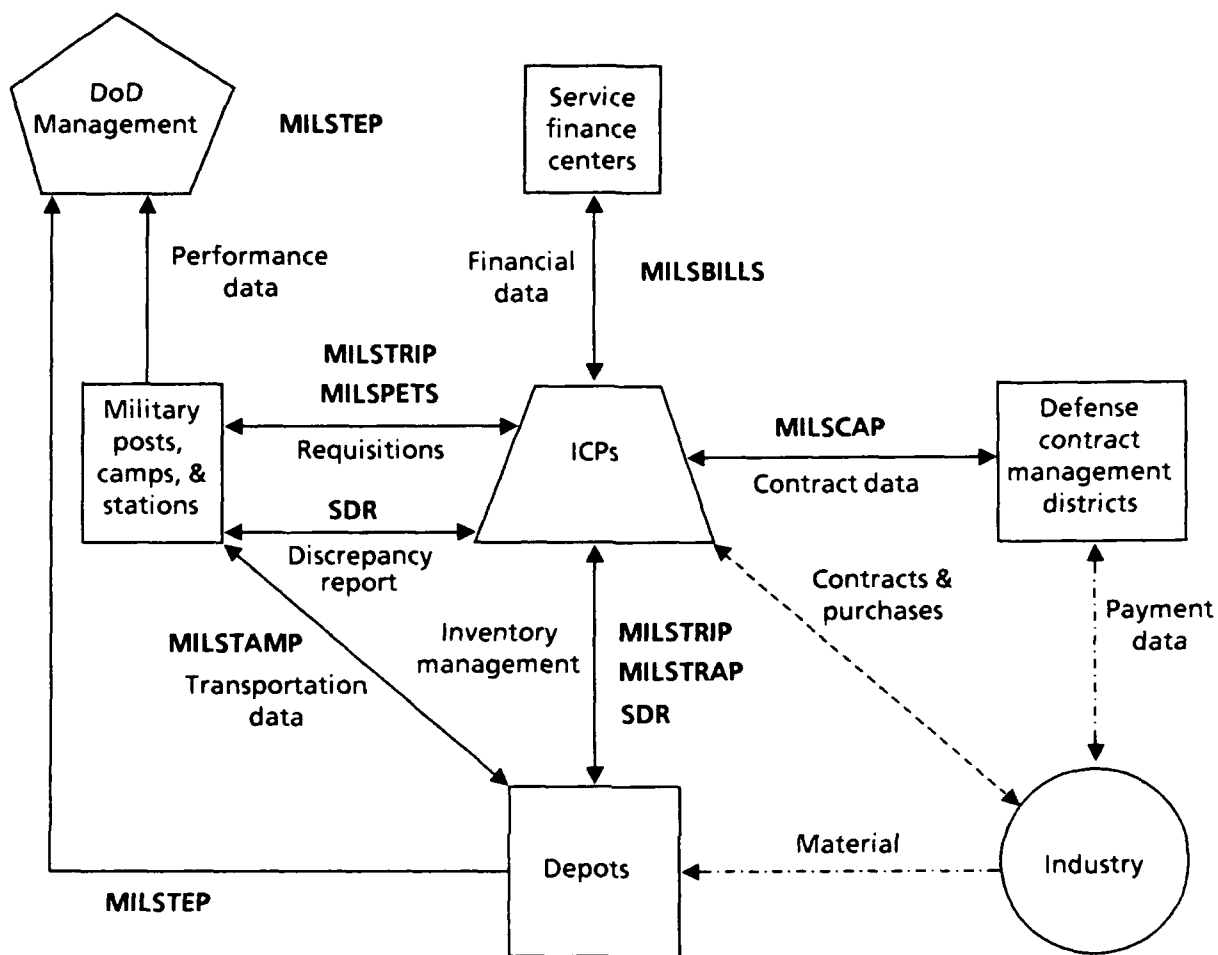
Note: MILSTEP = Military Supply and Transportation Evaluation Procedures; MILSBILLS = Military Standard Billing System; MILSPETS = Military Standard Petroleum System; MILSCAP = Military Standard Contract Administration Procedures; MILSTRAP = Military Standard Transaction Reporting and Accounting Procedures; SDR = Supply Discrepancy Report.

FIG. 1-1. DLSS TRANSACTION FLOW

The following are the other primary DLSS procedures (with the dates they were established):

- Military Standard Transportation and Movement Procedures (MILSTAMP, 1963) defines procedures and transactions for the movement of material overseas. [3]

- Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP, 1965) defines the procedures and transactions between ICPs and depots to maintain inventory. [4]

- Report of Discrepancy [ROD, 1968 – to be renamed Supply Discrepancy Report (SDR)] reports problems in material received at DoD sites [RODs are not automated). [5]

- Military Supply and Transportation Evaluation Procedures (MILSTEP, 1968) is not a transaction system, but a series of rules and reports to provide performance information on the operation of the supply system to DoD management. [6]

- Military Standard Contract Administration Procedures (MILSCAP, 1970) provides for exchanging contract information among ICPs, purchasing offices, and DLA offices who administer the contracts. [7]

- Military Standard Petroleum System (MILSPETS, 1978) provides procedures for distributing petroleum products. [8]

The vast majority of DLSS transactions are computer-to-computer actions that use AUTODIN for communications. However, transactions from smaller activities may be transmitted by mail or other means. With the exception of most MILSTAMP, MILSPETS, and MILSCAP transactions, almost all transactions flow through the DAAS sites in Dayton, Ohio, or Tracy, California.

Currently, nearly a billion transactions flow through DAAS each year, and that volume has been growing by 4 percent annually. The flow of these transactions controls virtually the entire operation of DoD logistics.

NEW USER REQUIREMENTS

The DLSS have contributed to efficient DoD logistics for more than 25 years. However, today they and their supporting technologies remain about as they were at their inception.

In the intervening 25 years, computer and telecommunications technology have grown enormously, as have logistics management techniques. This revolutionary growth has spurred increased user demands for logistics data – demands that the DLSS cannot readily support. These demands come from the spectrum of such defense participants as unit supply officers, theater commanders, high-level civilian and military managers, auditors, and Congress and include the following:

- On-line access to the logistics status of material and the status of specific requisitions

- Production, stockage, and in-transit visibility information regarding key items

- New methods of controlling items, such as by weapon system

- Better inventory management to reduce system costs.

The ability of the standard system to meet these requirements has been further reduced by independent efforts of the Services to modernize their internal logistics processes (usually to satisfy the same user requirements). System modernization has proceeded at different rates within the Services and agencies, but all have exceeded the modernization of the DLSS transactions that flow between them. These modernizations have led to disjointed Service logistics capabilities and the rebirth of Service-unique procedures and transactions — whose volume now rivals that of standard transactions.

THE MODELS PROGRAM

To support DoD logistics requirements into the 21st century, OSD initiated the MODELS program in 1984. It defined MODELS to be:

> ... not merely an update of assorted procedures but a fundamental redesign of the way DLSS functions are performed. [9]

The first steps in the project were to develop an overall concept and plan and to determine specific requirements. These efforts are documented in earlier Logistics Management Institute (LMI) reports. [10, 11, 12] The MODELS program has five key objectives:

- *To support additional information requirements.* Replace the 80-character fixed-length formats with variable-length formats that will support DoD's additional data requirements.

- *To increase communications capabilities.* Capitalize on DoD's development of a modern telecommunications network to replace AUTODIN. Additionally, utilize other technological advances to improve communications.

- *To develop a data base of logistics transactions.* Create a data base that can inform users worldwide of the status of their requisitions and dramatically improve management reporting and analysis of supply operations. Linking such data to transportation information is also key to the development of a DoD-wide in-transit visibility capability.

- *Analyze the inter-Service logistics information exchange.* Analyzing major logistics functions represents the key to providing functional improvements. Functions to be addressed include new areas (e.g., maintenance), the conversion of additional paper forms to electronic versions, and the examination of existing transaction flows for consolidation and elimination.

- *Provide a foundation for additional EDI efforts by the Services.* Using techniques and technology developed for MODELS, Services and Defense agencies can extend their use of EDI to include internal transactions, communications with industry, and other actions outside of the specific MODELS scope.

The following subsections summarize how the MODELS program is addressing these goals.

Support Additional Information Requirements

In developing the MODELS, the most immediate requirement was to restructure the data format from fixed-length records to variable-length ones to support user requirements for exchanging more information. The American National Standards Institute's Accredited Standards Committee X12 (ANSI ASC X12) standards for EDI was selected as the most broadly based and flexible approach. [13]

We began by mapping the fixed-length transactions into the EDI-based transactions sets. Where possible, we utilized existing ASC X12 data elements and segments, but because of the variety of military-unique data elements and codes, we created numerous new components. We consolidated 400 fixed-length transactions into only 56 EDI-based transactions (see Figure 1-2 for a comparison of the formats).

To validate the accuracy of these new transactions, we conducted a manual review and developed translation software that converted between the fixed- and variable-length formats. We installed that software on microcomputers and placed them at eight operational logistics sites. The sites transmitted transactions in the normal manner, but we translated copies into the EDI format, sent them in parallel with the original, retranslated them into fixed-length format at the receiving site, and then compared them with the original "card." We conducted that prototype test for approximately 9 months.

Fixed-length Shipment Status

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		79	80

Doc. Ident.			RI To			M & S	Stock Number															Unit of Issue		Quantity						
							FSC			NIIN									Add											

| A | S | 1 | N | 3 | 2 | F | 8 | 2 | 2 | 5 | 7 | A | 5 | 1 | 8 | 3 | 5 | 8 | 3 | 3 | | E | A | 0 | 0 | 1 | 0 | | | |

EDI Shipment Status

(1) TRANSACTION SET HEADER ST*514*0002@	(2) TRANSACTION IDENTIFIER AND ROUTING RFL*A02*N0025680458034@	(3) QUANTITY RQQ*EA*100@	(4) BILLING INFORMATION RBT*J28@
(5) ITEM IDENTIFICATION NUMBER REF*MF*82257A51835833@	(6) PRIORITY RQP*5*AK5**900305@	(7) SERVICE-SPECIFIC INFORMATION RQU**IR@	(8) DEMAND INFORMATION RQD*R*F15E*N*100@
(9) ADDRESS INFORMATION N1*TO**M4N32@ N1*B1**10*N00256@ N1*S2**10*403365@ N1*QF**10*N00256@ N1*QF**10*R03365@	(10) ADVICE CODES RAS*2J@ RAS*2L@	(11) SERIAL NUMBER/MANUFACTURER INFORMATION RMI*00001@ RMI*00002@ • • RMI*00100@	(12) TRANSACTION SET TRAILER SE*116*0002@

FIG. 1-2. COMPARISON OF FIXED- AND VARIABLE- LENGTH TRANSACTIONS

(The variable-length transaction is carrying additional data)

Once the existing functionality was successfully incorporated into the new formats, the Services and Defense agencies submitted more than 200 suggested changes. The recommended enhancements included:

● Serial number and manufacturer information

● Weapon system ID and demand reporting

● Electronic transmission of nonstandard-item requirements

● Data unique to individual Services and agencies

About 80 of the Service or agency recommendations were included in the first release of the new system. Most of the other requests were deferred until later releases.

The Government then submitted the revised transactions to ASC X12 for incorporation into the X12 standards in July 1990. Those transactions are now going through the ASC X12 review-and-approval cycle. In recognition of the effect of the

new transactions, they have been given a new name — The Defense Logistics Management System (DLMS).

Increase Communications Capabilities

The functional and technical changes implicit in the DLMS cannot be implemented through the Service or agency logistics systems overnight. The Service or agency's ability to convert to DLMS will be affected by such constraints as the status of their current systems and budgets. To ease this transition, the MODELS program is providing specialized hardware and software systems; logistics gateway node (LGN) computers will be installed at those DoD activities that generate substantial logistics traffic.

The primary function of an LGN is to translate between the fixed- and variable-length formats. If the host machine with which it is associated can generate only fixed formats, the LGN will translate them to the DLMS format; if the host is capable of initiating DLMS transactions, the LGN will simply pass them on. Receiving LGNs perform similar functions based upon the capabilities of their host computers. Other LGN functions include the following:

- Edit transactions for acceptable format

- Compress the data to save communications costs

- Provide for the security of transmitted transactions

- Route transactions as needed.

Those DLMS transactions leaving an LGN will use the Defense Data Network (DDN) for long-line communications. DDN was established in 1984 to update military communications to their commercial equivalents. DDN will offer faster and more reliable communications than AUTODIN and will also provide interactive terminal inquiries, data compression, and other capabilities that have been common in the commercial world for years but are not available through AUTODIN.

Develop a Data Base of Logistics Transactions

Logistics transactions passing through the DAAS are edited, copied, converted, and routed as needed. They are also archived onto magnetic tape to provide a system audit trail and back-up in case of a failure to AUTODIN or a Service or agency computer. DAAS also extracts information needed to provide Service or agency and

OSD managers with reports on the supply system effectiveness. The DAAS Office (DAASO) has initiated a modernization effort that includes plans to acquire data base management software. DAASO will also update its archival technology from magnetic tape to write once/read many (WORM) mass-storage devices. DAASO released the competitive procurement for this system in June 1991. The system will be referred to as the Logistics Information Processing System (LIPS).

A LIPS data base of DLMS transactions will have many significant effects on the logistics system. Currently, an end user requiring the status of a requisition must trigger a supply computer to initiate a status query. Typically, these systems automatically generate queries if no positive supply status is received from the ICP within a specified number of days. That approach often leads to thousands of status transactions automatically passing between computers. An interactive data base would allow users to obtain supply status whenever needed (and only then); consequently, the automatic exchanges could then be reduced.

In wartime, identifying the location and quantity of critical war items anywhere in the distribution chain from the manufacturer to the front is a critical task. Lack of such visibility was identified as a major problem in the Vietnam conflict, and again 20 years later it was still a problem in *Operation Desert Storm*. Today's logistics system can readily identify material that is stored at the major depots. However, when material is put in motion from the depot, the logistics system loses visibility over most items until they reach the end user's door. Linking the DAAS logistics data base to transportation data bases is the key to improving DoD-wide intransit visibility.

The data base can also be used to supplement and/or replace the existing standard reports on supply operations. Current MILSTEP reports are bulky and usually obsolete by the time they are printed. Their content and layout have not changed since their initial design 20 years ago. They *can be* replaced by a combination of on-line inquiry and smaller exception reports that can be conveyed graphically or in another easy-to-use format.

Analyze the Inter-Service Logistics Information Exchange

Much of the MODELS program activities to date have been directed at updating the existing information flow with today's technologies. The next stage of the project

will focus on improving the functional process. Among the areas to be evaluated are the following:

- *Eliminating the remaining paper forms.* While the logistics system is highly automated, many paper forms remain. Among those remaining are discrepancy reports, requisitions for nonstandard material, and material receiving and inspection reports.

- *Extending the standard system into new functional areas.* Many new opportunities are available for extending the standard systems, including requirements planning for new weapon systems and secondary items. However, the initial area of interest is inter-Service maintenance. Budget constraints are generating increased inter-Service maintenance requirements, but each effort is a separate negotiation. Incorporating standard procedures will simplify the initiation of maintenance agreements and improve the monitoring operations.

- *Evaluating logistics communications flows.* Because of the limitations of the DLSS, the Services have over the years developed hundreds of new transaction types that are generally exchanged within a single Service. Many of these types could be eliminated if key data were added to the DLMS transactions. Additionally, many other transactions are redundant among Services and could be consolidated as standard transactions. Such consolidation would reduce telecommunications, computer utilization, and automatic data processing (ADP) programming and maintenance costs.

New DoD initiatives have added further incentives to develop new ways of exchanging logistics data. The Corporate Information Management (CIM) program includes modernizing and standardizing upon a single ADP approach to support ICPs of all Services and agencies. Parallel efforts are under way to transfer another 1 million items from the Services to DLA, to reduce the number of ICPs, and consolidate depot operations. This transition period offers an excellent opportunity to revise and standardize the communications between systems.

Provide a Foundation for Additional EDI Efforts by the Services

Utilizing the DLSS remains a fundamental part of the Services' logistics ADP operations. Converting these systems into the DLMS EDI environment will enable Services and agencies to extend the use of EDI into areas outside the MODELS scope. OSD issued Defense Management Report Decision (DMRD) 941 in November 1990 providing funds to support further implementation of EDI. The Services and

agencies are responding to this call. Listed below are a few illustrations of efforts to apply EDI technology.

- DLA was assigned responsibility as the Executive Agent (EA) for EDI implementation as of May 1990. DLA is tasked to encourage, assist, and coordinate DoD use of EDI both internally and with industry. [14, 15]

- The EA's primary responsibility is encouraging and coordinating DoD's use of EDI with industry. To effect a DoD-wide "single face to industry" the EA is publishing implementation conventions to standardize use of ASC X12 transactions between DoD and industry. These implementation conventions are the complement of the DLMS implementation conventions for intra-DoD EDI.

- OSD is sponsoring a project to convert Government bills of lading (GBLs) from paper forms to the ASC X12 858 transaction. Further, the Defense Finance and Accounting Service – Indianapolis (DFAS-IN) is automating its GBL reconciliation and payments function to provide for electronic funds transfer of transportation payments.

- DLA ICPs have developed business agreements and software to enable requisitions to flow from DoD end users directly to industrial suppliers for direct vendor delivery of materials. These efforts save money by eliminating second-destination transportation charges and permitting the supply centers to operate with reduced inventories. Frequently, they also reduce delivery times.

- Selected Navy supply centers are using an electronic bulletin board to encourage greater procurement competition by disseminating information on local purchase contracts to be awarded.

Cost Savings

The DMRD 941 directs the use of EDI throughout DoD. The primary expectation of the EDI effort is to save money by changing work processes and replacing paper documents with electronic information and transactions. The DMRD provides the Services and agencies with funds to initiate EDI projects and then over time reduces their operating budgets on the assumption that the successful implementation of EDI has reduced expenses.

The MODELS project cannot be justified solely on the direct savings from replacing paper forms with electronic transactions since the DLSS eliminated most paper forms 30 years ago. MODELS must be justified as the foundation ADP infrastructure from which other efforts are built. It is analogous to the electrical

wiring in a building — no company makes or saves money on its presence, but no company can operate without it.

However, we do not imply that MODELS will not provide savings. For example, many base-level supply computers now generate requisitions that are copied onto a magnetic tape and physically transported to an AUTODIN communications center where the tape is generally transmitted to DAAS overnight. That process usually takes at least a day, and any delays in transportation or transmission add to the time. In a MODELS environment, the base-level supply computer would be connected to DAAS via DDN and the requisitions would be transmitted in a matter of seconds. Similar gains could be expected in the rest of the supply chain from DAAS to the ICP, and again with the MRO back from the ICP to DAAS and from DAAS to the depot. Reducing the processing time for requisitions leads to inventory reductions and dollar savings. The following subsections list further cost savings.

Eliminate Remaining Paper Forms

MODELS will reduce the usage of the following paper forms including:

- Discrepancy reports (see Chapter 4)
- Exception information on requisitions
- Supply assistance messages
- Inter-Service transmittal of information such as serial-numbered material and weapon system identification.

Reduce System Maintenance Costs

Most of the Service or agency programs that process the DLSS were written in the 1960s and 1970s using less sophisticated programming techniques than are utilized today. Consequently, implementing DLSS changes throughout all the Service or agency systems is a labor-intensive and lengthy process requiring as long as 5 years. As Services and agencies reprogram to accommodate new procedures in MODELS, they could face a significant development cost; but after the change, management should be both less expensive and more timely.

Additionally, most of the Services and agencies have developed a large collection of intra-Service transactions to process logistics information that the DLSS are too inflexible to carry. Up to this time, no DoD-wide analysis of Service-unique

transactions has been conducted (see Chapter 4), but we estimate that the annual volume may exceed that of DLSS transactions. By incorporating their information into DLMS transactions, many of these Service-unique transactions will be eliminated along with the consequent telecommunications, administrative, and systems support costs.

Provide Additional Cost Savings

Chapter 4 describes additional opportunities to utilize MODELS to enhance logistics processing, and many of those opportunities offer potentially large savings.

Project Administration

The MODELS project is sponsored by the Director of Supply Management Policy under the Deputy Assistant Secretary of Defense (Logistics) [DASD(L)]. The MODELS Steering Group, which is chaired by the Director of Supply Management Policy and composed of flag rank or senior executive service representatives of all participating Services and agencies (Appendix A), provides additional project oversight. Detailed project management is conducted DLSSD. Coordination with the Services and agencies is made through the Functional and Technical Working Groups (Appendix B). Representatives of the Services and agencies attend working group meetings and make the basic project decisions. The Functional Working Group (FWG) is chaired by DLSSD and the Technical Working Group (TWG) by DAASO.

LMI developed the technical approach specification and is providing functional design analysis. Lawrence Livermore National Laboratory (LLNL) is responsible for integrating hardware and software to initiate the pilot operational system.

SUMMARY

The U.S. Military operates the largest, most widely distributed, and complex logistics operation in the world. Technical and procedural standards that were established in the 1960s placed its logistics communications on the leading edge of technology for that time. It made effective use of EDI 10 years before widespread commercial use began.

However, the standard military logistics information system has not modernized as rapidly as the surrounding environment. The MODELS project is an

effort to bring about necessary changes to the system to support DoD requirements into the next century.

Central to those changes is the use of EDI technology and a public standard (ANSI ASC X12) as the basis for flexible, variable-length transactions. Such transactions will support both internal exchanges and DoD communications with industry. MODELS implementation in the DoD Components will capitalize on other technology advances in telecommunications, microcomputers, intelligent gateway processors, and data base management software to improve the exchange of the data.

Finally, MODELS will benefit DoD by effectively infusing EDI into the military logistics system and encourage the Services and agencies to expand their use of EDI to achieve benefits beyond the MODELS scope. To do that, changes are needed to basic logistics concepts, procedures, management techniques, and even Federal regulations.

In the next chapter, we describe the documentation of the DLMS standards that will enable the Services and agencies to begin implementation planning. Chapter 3 describes the technical approach, and Appendix F provides a summary of steps Service or agency activities must take to participate. The report concludes with Chapter 4, in which we recommend additional ways to utilize the DLMS as a platform to further improve logistics operations.

CHAPTER 2

RELEASING THE FUNCTIONAL BASELINE

Functional requirements for MODELS include the utilization of variable-length transactions to replace the existing fixed-length transactions. [10] The recommended variable-length format uses EDI formats that have been successfully used in private industry.

INITIAL DEVELOPMENT AND REVIEW

The first step toward implementing DLMS is to produce EDI transactions that are at least the functional equivalents of the current DLSS. We began that effort in January 1988 by assigning functional analysts knowledgeable in the DLSS processes to the logistic functional areas: supply, transportation, billing, and contract management. Those analysts reduced more than 400 DLSS transaction formats to 56 EDI transactions.

The EDI transactions were based on the ANSI ASC X12 standards for EDI. [3] The transactions employ ASC X12 rules of syntax, X12 data elements, and segments where possible, but include additional components specially developed to meet DoD requirements.

The transactions were grouped by DLSS (e.g., MILSTRIP) and comply with DLSS procedures and transaction contents. As the transactions for each of the DLSS were produced, they were reviewed and revised by the MODELS FWG. After the documentation was approved by the group, the Service or agency representatives circulated it within their respective Services and agencies for further review and comment. The entire set of systems was reviewed by the FWG during the later portions of 1988 and early 1989.

INCORPORATING ENHANCEMENTS

When the initial Service or agency review was completed, we began the next stage, enhancing the package. In April 1989, DLSSD sent a letter to the Services and

agencies requesting them to submit all desired enhancements to the DLSS. [16] The proposals were not to be constrained by any existing DLSS policies or formats.

The Services and agencies responded with 220 recommendations. An initial DLSSD review identified numerous duplicates or suggestions for changes already in the DLSS process. That review reduced the number to 160 recommendations to be reviewed by the FWG. Over the next several months, that group approved 87 for inclusion in the first DLMS release, deferred 58 for later consideration, and rejected 15 (see Appendix C). In addition to these suggestions, all existing proposed DLSS changes were considered. Approved, but not yet implemented DLSS changes were included, without any additional review. The enhancement list approved for the initial release included the following:

- Serial number identification

- Weapon systems identification and demand reporting

- Electronic transmission of nonstandard-item requirements

- Electronic versions of standard documents

    ‣ Discrepancy reporting

    ‣ Contracting documents (DD Form 350, DD Form 375-2)

- Long-line accounting

- Expanded information

    ‣ Organization/activity information

    ‣ Plain language capability

    ‣ Service- or agency-unique data.

The DLMS standards were updated to incorporate these 87 changes. The standards were then resubmitted to the Services and agencies for a second review along with a request for the Services and agencies to formally accept them as replacements for the DLSS.

TESTING

In parallel to the functional review, system testing was conducted. Beginning in the fall of 1988, and continuing through the spring of 1990 MODELS LGN computers were placed at several DoD logistics activities including three ICPs. DLSS

transactions being transmitted from any of the test sites to another test site were copied and downloaded to the LGN, which translated them from DLSS to DLMS format and transmitted them in parallel to the normal AUTODIN transmission using a commercial telecommunications network. At the receiving LGN, they were translated back into existing DLSS format and compared with the original DLSS transaction.

In addition to this testing, large numbers of DLSS transmissions were obtained from DAAS archives and processed through the translator. Between the live sites and the DAAS archives, hundreds of thousands of DLSS transactions were processed through the translators. The live test was completed in 1990, but tests using DAAS archives and translators at LMI continued as the standards and the translator were revised.

These tests were performed under the auspices of the MODELS technical task and the lessons learned from them are reported in another LMI report. [17] However, the translation testing also had implications for the functional task as well.

The technical test verified that the translation process successfully transmitted all data contained in existing DLSS transactions and restored them to their proper fixed-length positions. The LMI technical team reviewed all transmissions in which the restored transactions differed from the originals. Those deviations had three causes:

1. *An error existed in the translation software.* We then modified the software to correct the error.

2. *An error existed in DLMS transaction.* We modified the DLMS EDI standards to correct the problem.

3. *The original transmission did not conform to DLSS processing rules.* These problems which we called "anomalies," were referred to the FWG.

Anomalies were collected, identified by type and by initiating Service or agency, and submitted to the FWG. Individual FWG members discussed them within their Services and agencies and then the full FWG determined the final resolution: either change the standard to accept the deviation or direct the Service or agency to revise its transmissions.

FUNCTIONAL BASELINE PUBLISHED

The Services and agencies performed the previously discussed second review of the DLMS material in late 1989. Their written comments were returned to DLSSD in January 1989, and the FWG met in February to review the comments and resolve any final disagreements.

The standards were then updated by LMI to reflect the FWG approved changes. The standards were also updated to resolve problems identified by the MODELS test.

DLSSD distributed the revised standards to the Services and agencies. This publication is identified as Version 1.0 of the DLMS EDI standards. It is also referred to as the functional baseline to be used by the Services and agencies to begin their implementation planning.

DEVELOPING IMPLEMENTATION CONVENTIONS

The development of implementation conventions proceeded in parallel with the incorporation of enhancements into the DLMS standards. The standards documentation defines the format of the DLMS transactions but provides little detail of how the standards relate to the existing DLSS. Implementation conventions are prepared to fill that role. They provide Service or agency users with maps between the DLSS and DLMS transactions.

One mapping, called the "cross-reference," is organized as the data exist in DLSS transactions; it shows where to find those same data in the DLMS transactions. The cross-references were copied from the "format" or "record lay-out" appendices of the DLSS manuals. The right-hand column shows where each data element listed in the DLSS format is located in the DLMS format (see Figure 2-1 and Volume III).

A second mapping, the implementation conventions, is structured in DLMS transaction order and identifies where the data come from in the DLSS transactions. The implementation conventions provide detailed information as to how the data can be programmatically converted between the two formats (see Figure 2-2 and Volume III).

The primary purpose of the implementation conventions is to assist Service or agency programmers and systems analysts in understanding the DLMS transactions and to develop applications software that can process those transactions. In the

REQUISITION ^A/

FIELD LEGEND	TYPE REQUISITION (MANUAL) BLOCK NO.	(MECHANICAL) RECORD POSITION(S)	ENTRY AND INSTRUCTIONS	DLMS DATA ELEMENT REFERENCE DESIGNATOR
Send to	A	Not Applicable	The appropriate in-the-clear name and address corresponding to the RI code may be entered.	
Requisition is from	B	Not Applicable	The appropriate in-the-clear name and address of the requisitioner may be entered.	
Document Identifier	1	1 – 3	DI A0__/AM__.	RFL01
Routing Identifier	2	4 – 6	Code indicating source to which the document is submitted.	N101,03 & 04
Media and Status	3	7	Enter the M&S code.	RFL08
Stock Number	4,5,6	8 – 22	Enter the stock or part number of the item requisitioned. For subsistence items, enter type of pack in rp 21. ^V	REF01 & 02, RQU01; RBT03; RQY03
Unit of Issue	7	23 – 24	Enter the U/I.	RQQ01
Quantity	8	25 – 29	Enter quantity requisitioned. For ammunition requisitions only, (items in FSG 13), enter an "M" in rp 29 to express in thousands any quantity exceeding 99,999. Example: A quantity of 1,950,000 will be expressed as 1950M (1950 in rp 25 – 28 and an "M" in rp 29.	RQQ02
Document Number	9 – 12	30 – 43	Document number as assigned by the preparing activity.	RFL02
Demand	13	44	Enter the demand if applicable; otherwise, leave blank.	RQD01; RFL03
Supplementary Address	14 – 15	45 – 50	When applicable, enter the coded address of the ship-to- or bill-to activity. Field may be left blank when coded entry is not applicable. When coded data entered is not significant to the supply source (other than an AAC), an alphabetic "Y" will be entered in rp 45.	N101 ,03 & 04, RQU02
Signal	16	51	Enter the signal code.	RFL09

---

^V Requisitions to DRMS (RI S9D) cannot reflect entry in rp 21 – 22 other than a DTID document number suffix in rp 21, where applicable.

FIG. 2-1. SAMPLE CROSS-REFERENCE PAGE

```
                                    Segment:  REF - REFERENCE NUMBERS
                                      Level:
                       Optional      Req. Des.:  O
                              1       Max Use:  1
                                        Loop:  -
                                      Purpose:  TO SPECIFY IDENTIFYING NUMBERS.


                            ...................... Data Element Summary ......................

                        Ref   Data
                        Des.  Element Name                                       Attributes
                        ....  .......  ..............................................  ..........

          Mandatory     REF01  128    REFERENCE NUMBER QUALIFIER                 M ID 02/02
                                      CODE QUALIFYING THE REFERENCE NUMBER.


                                      CODE          DEFINITION
                                       80  PLANT EQUIPMENT CODE*
                                       81  DOD AMMUNITION CODE*
                                       82  SPECIAL OR LOCALLY ASSIGNED NUMBER*
                                       KL  CAGE AND MANUFACTURER'S PART NUMBER*
                                       KS  SUBSISTENCE IDENTIFICATION NUMBER, LOCALLY
                                           ASSIGNED NUMBER FOR BRAND NAME RESALE*
                                       MS  CAGE CODE*
                                       MF  MANUFACTURERS PART NUMBER
                                       NS  NATIONAL STOCK NUMBER
```

SEE MILSTRIP DoD 4000.25-1-M, APPENDIX B5.
QUALIFIER(S):
1. IF RP 3 IS "1" OR "A", USE CODE "NS".
2. IF RP 3 IS "2" OR "B", USE CODE "KL".
3. IF RP 3 IS "5" OR "E", CODES "NS", "KL",
    "MF", "80", "81", "82", "MS", OR "KS"
    ARE ACCEPTABLE.
4. IF RP 8-9 IS "89" (FSG 89),
    USE CODE "KS".
5. IF RP 3 IS "4" OR "D", CODES "80", "81",
    "82", OR "KS" ARE ACCEPTABLE.
6. IF RP 3 IS "7", CODES "NS", "KL", OR
    "MF" ARE ACCEPTABLE.
7. AS INTERIM SOLUTION TO INABILITY TO
    DISTINGUISH BETWEEN TYPE OF
    IDENTIFICATION NUMBER USED WHEN
    TRANSLATING DLSS-TO-DLMS, AND WHEN ABOVE
    RULES DO NOT ADEQUATELY APPLY, IF
    RP 12-13 IS "00" OR "01", USE CODE "NS";
    IF RP 8-9 IS "89", USE CODE "KS";
    OTHERWISE, USE CODE "KL".

```
          Mandatory     REF02  127    REFERENCE NUMBER                          M AN 01/40
SEE APPENDIX 1, NOTE A.                REFERENCE NUMBER OR IDENTIFICATION NUMBER AS DEFINED
SOURCE(S):                             FOR A PARTICULAR TRANSACTION SET, OR AS SPECIFIED BY
1.  RP 8-20.                           THE REFERENCE NUMBER QUALIFIER.*
2.  RP 8-22.                           ALSO SEE: REFERENCE NUMBER QUALIFIER (128).
3.  BLOCK 1 (DD FORM 1348-6).
```
NOTE(S):
A. FOR SOURCE 1, IF RP 12-13 IS "00" OR
    "01", IF RP 8-9 IS OTHER THAN "89", AND
    IF SOURCE IS FILLED, USE REF02.
    RP 21-22, IF FILLED IS S/A UNIQUE
    INFORMATION AND TRANSLATED IN ROU
    SEGMENT.
B. FOR SOURCE 1, IF RP 8-9 IS "89", AND IF
    SOURCE IS FILLED, USE REF02. RP 21 IS
    SUBSISTENCE TYPE OF PACK CODE AND

FIG. 2-2. SAMPLE IMPLEMENTATION CONVENTION PAGE

future, once the DLMS fully replaces the DLSS, the conversion detail will be removed from the conventions and much of the policy information that is currently carried in the text of the DLSS manuals will be moved to the conventions.

LMI produced the initial drafts of the seven implementation conventions between May and August 1990. The FWG representatives distributed them within their Services and agencies and provided feedback between November 1990 and January 1991.

The format and content of the MILSTRIP implementation conventions are presented in Volume III of this report. DLSSD will initially distribute the implementation conventions informally to the Services and agencies and subsequently publish them as supplements to the DLSS manuals.

RELEASING OF VERSION 1.1 OF THE DLMS STANDARDS

Review of the implementation conventions, ongoing testing, and other reviews led to a number of revisions to the standards. Additionally, the FWG adopted a new policy regarding editing of transactions.

In the DLMS environment, the DAAS software and the receiving application software performed data edits only on a few key fields. In a few cases, transactions failing these edits were modified and forwarded, but for the most part, they were rejected. DLMS editing will test every data element as either being optional or mandatory. If a transaction does not carry a mandatory data element, it is rejected. However, EDI processing also allows a middle level of data requirement called "recommended." This level consists of data that DLMS policy dictates should be present but that are not absolutely necessary for a transaction to be processed. If the transmitting activity does not send some recommended data, an error message would be sent to that activity but the transaction would be processed.

All of the above changes were incorporated into Version 1.1 of the DLMS standards. The standards are shown in detail in Volume II of this report. DLSSD will release the revised standards to the Services and agencies for use in implementation programming. Version 1.1 will be published by DoD as a supplement to the DoD Logistics Data Element Standardization and Management Program Procedures (LOGDESMAP) manual. [18]

SUMMARY

The release of Version 1.1 of the DLMS standards and their accompanying implementation conventions serves as the basis for the Services and agencies to begin implementing the DLMS. This documentation provides the format for DLMS transactions, but policy for use still resides in the primary DLSS manuals. In addition to publishing the documentation, several other steps must be taken before implementation can begin. Those steps are outlined in Chapter 3 and Appendix F.

CHAPTER 3

TOWARD IMPLEMENTATION

Release of the functional baseline provided the foundation for work in the following areas:

- Developing the system network (the hardware, software, and telecommunications) to process the transactions

- Planning by Services and agencies for applications programming

- Developing significant functional improvements in the standard logistics process.

In this chapter, we briefly review the technical environment and the specific steps a site must take to implement the DLMS functional baseline system. Appendix F will discuss the site preparation necessary in order to exchange DLMS transactions and initial implementation plans.

THE TRANSACTION NETWORK

The functional modernization of the current DLSS relies on exchanging new information using altered transaction formats as well as on the modernization of its supporting technology. The sophisticated delivery system for the new transactions will allow participants to send and receive variable-length transactions efficiently. This chapter describes the network's operation, functionality, and probable implementation.

Prototype Test

A prototype version of the transaction network using the new transaction formats was tested from the fall of 1988 through the summer of 1990. The test pursued the following objectives:

- Test the attributes of a transaction delivery system

- Validate and, if necessary, suggest revisions to the new transactions

- Develop guidance for making the transition to the DLMS

- Demonstrate an EDI-based environment capable of supporting non-EDI participants.

During the test, network interface devices at selected DoD logistics sites translated fixed-length transactions into their variable-length EDI equivalents, sent them over a closed test network to their destinations, accepted EDI transactions from other test sites, and retranslated EDI transactions to fixed-length format.

The results of the test, including technical specification for an operational LGN, are incorporated in a three-volume LMI report. [17] The DoD has selected LLNL to develop a pilot operational LGN.

Concept of Operation

In the logistics community, host computers exchange logistics information. Those transaction exchanges are supported by applications software that performs logistics-related processing for DoD Components. When those applications become EDI-compatible, they will be capable of exchanging variable-length transactions according to the new DLMS procedures. The network interconnecting the hosts will support a phased transition to the new transaction formats. In other words, the network will handle a mix of DLMS and non-DLMS activities. Such an interim capability will smooth the transition to an all-DLMS environment.

Current Versus Proposed Architectures

Figure 3-1 shows the current transaction delivery system. In this arrangement, applications on Service or agency host computers exchange fixed-length transactions through a central DAAS. AUTODIN connects host sites with DAAS.

The DAAS provides a wide range of value-added services for the current delivery system. Among those services are transaction editing, routing, and logging. Until today, DAAS alone has performed those functions because of the economy in centralizing them. However, advancing technology has increased the feasibility of placing such operations closer to the hosts using them. The new network *distributes* some of these operations among deployed LGN "transaction servers." Figure 3-2 depicts a proposed architecture for that network.

The new transaction delivery system will continue to support the exchange of the DLSS transactions for hosts connected by AUTODIN until all logistics activities are upgraded to EDI-capable hosts connected to the DDN, the primary DoD
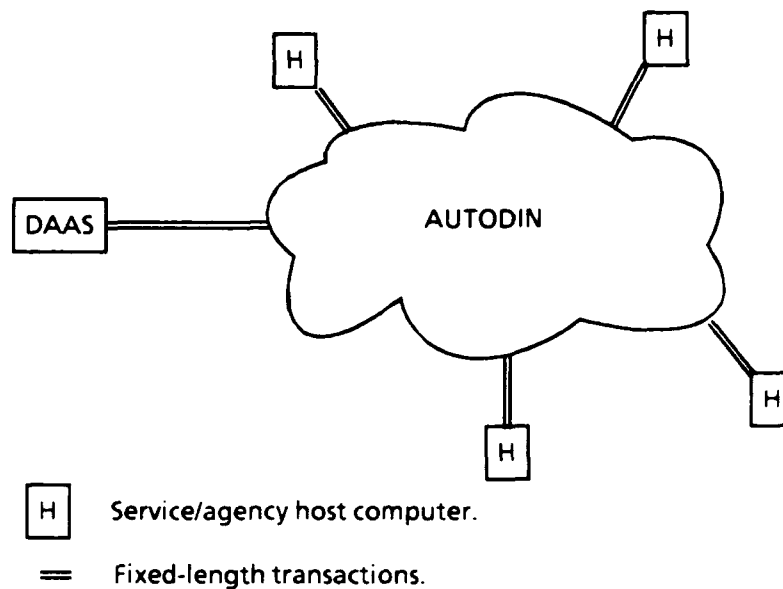
H Service/agency host computer.

== Fixed-length transactions.

FIG. 3-1. CURRENT LOGISTICS NETWORK ARCHITECTURE

communications wide area network (WAN) designated for the DLMS. AUTODIN will carry only fixed-length transactions, while the WAN can accommodate both fixed and variable lengths. Local LGNs will provide transaction-related services for hosts with high transaction volumes; others may share these services through one of the central LGNs (CLGNs), located at the DAAS sites. The CLGN will also provide the network with access to external networks, the transaction data dictionary, and the LIPS. The LGN, CLGN, host computer, DDN, and DAAS are each described in greater detail in the following subsections.

Logistics Gateway Node

Local LGNs provide on-site, transaction-related services for applications on a single host computer (its client). These services include the following operations:

- Accept outbound transactions (either fixed-length or EDI) from the host and edit them for technical correctness

- Translate fixed-length transactions into EDI format

- Compress, encrypt, and format outbound EDI transactions for transmission
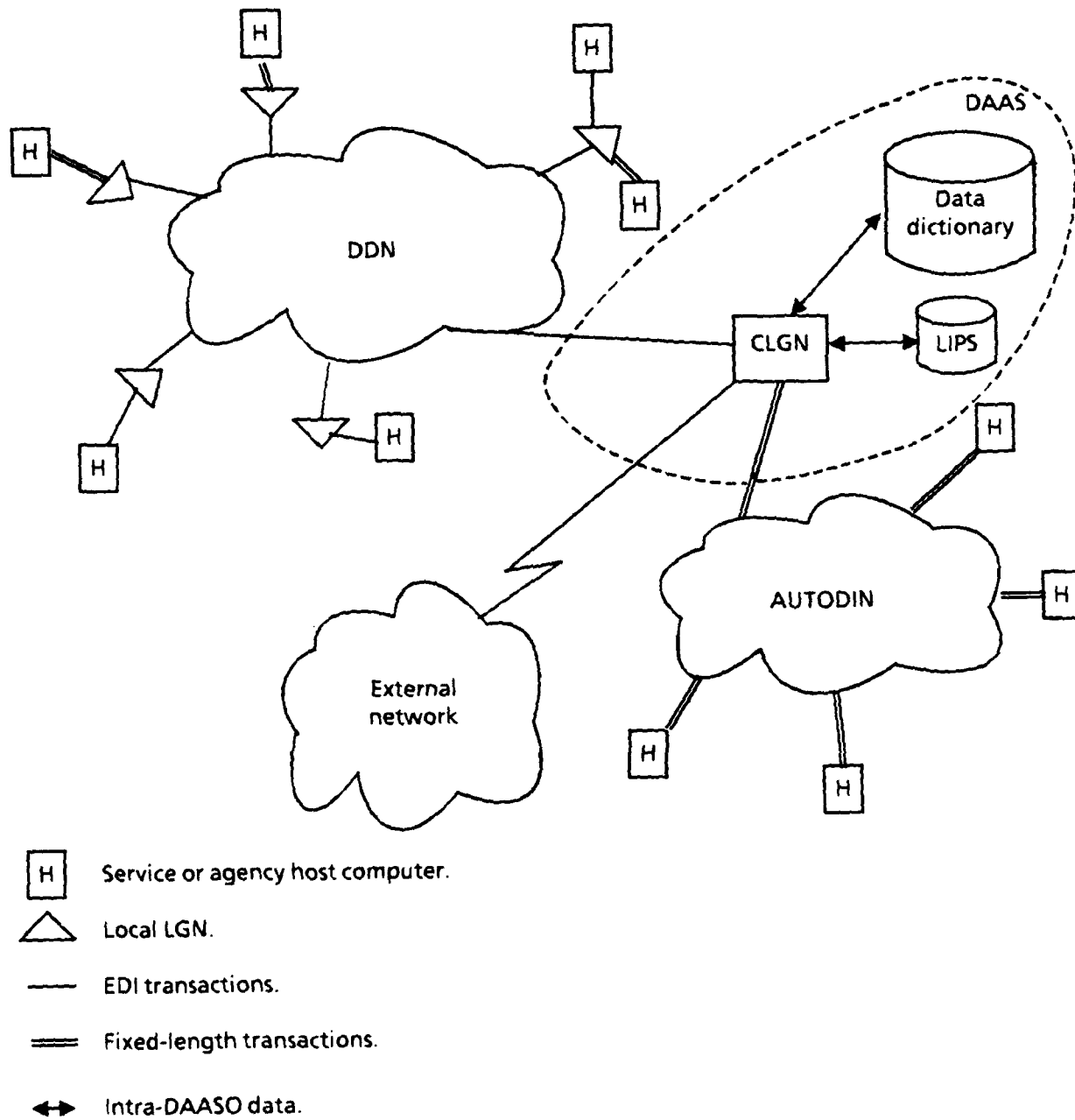
3-3

Symbol	Description
H	Service or agency host computer.
△	Local LGN.
—	EDI transactions.
═	Fixed-length transactions.
↔	Intra-DAASO data.

FIG. 3-2. PROPOSED NETWORK ARCHITECTURE

- Log and route selected transactions directly to destination LGNs, using CLGN-controlled routing tables; send others to a CLGN for further processing

- Accept EDI transactions from another LGN or a CLGN

- Decrypt and decompress received transactions, translating them into fixed-length format if the receiving host is not DLMS-capable

- Periodically transmit logged transactions to DAAS for updating the LIPS

- Process requests from the CLGN to modify the LGN's control tables (routing, translation, host, and network parameters).

Central Logistics Gateway Node

The CLGN will be a resident part of the DAAS. It controls the network and operates as both a transaction server (like the local LGN) and a gateway. It also processes transactions for host computers that do not have access to a local LGN. The CLGN provides gateway interconnection between the transaction network and the intra-DAAS network. This connection supports communication between DDN-based or AUTODIN-based host computers and external networks. Except for hosts serviced directly by a CLGN, the CLGN will translate fixed-length transactions to EDI before forwarding them over the DDN to their destination. The CLGN performs the following operations:

- Accepts, decompresses, decrypts, and logs EDI-formatted transactions routed to it from local LGNs

- From host computers not serviced by a local LGN, accepts and logs fixed-length transactions over AUTODIN or EDI formats over DDN

- Determines the transaction recipient, whether it has a local LGN, and the format (fixed length or EDI) it expects

- Translates, if required, the transaction to the needed format

- Where local LGN service is available, compresses, encrypts, and forwards the transaction to the recipient's local LGN

- Sends the transaction directly to the host computer over AUTODIN or DDN for recipients without a local LGN

- Accepts periodic transaction log updates from local LGNs

- Updates the LIPS from its transaction log

- Forwards queries to the LIPS and data dictionary system for further processing; routes responses back to querier

- Supports communications with external networks

- Updates direct-routing, host-parameter, and format-translation tables for itself and local LGNs as needed.

Host Computers

Host computers generate, process, transmit, and receive logistics information at a particular location for specific trading partners. Currently, hosts use AUTODIN to exchange fixed-length transactions via the DAAS. As DLMS participants, host computers may continue to exchange fixed-length formats with trading partners whose application software cannot yet handle DLMS transactions. During this transition to EDI, DLMS-capable trading partners may exchange information (e.g., weapon systems data) not currently available in the fixed-length transactions. The protocol for accepting these data at non-DLMS sites is currently being developed.

Sites that process large volumes of transactions or those considered critical by their Service or agency will have a local LGN; otherwise, a site host computer can exchange information with a CLGN. A host computer serviced by a local LGN may compose transactions for its LGN in either fixed-length or EDI format. The LGN will translate fixed-length patterns to EDI before sending transactions across DDN. For incoming transmissions over DDN, an LGN accepts EDI transactions and, if its host computer is not DLMS-capable, converts them to fixed-length format. Host computers serviced only by a CLGN may exchange fixed-length or EDI transactions over DDN. (For a predetermined transition period, a more commonplace occurrence will be for the CLGN to process fixed-length transactions delivered over AUTODIN.)

Defense Data Network

The DLMS host computers will send and receive transactions over the Military Network (MILNET) portion of DDN. Current OSD policy mandates the use of this packet-switched network for data communications within DoD. To participate, activities must request a DDN connection from the Defense Information Systems Agency [DISA (formerly the Defense Communications Agency (DCA)]. Until they have such a connection and their host computers become fully EDI-capable or are

served by a local LGN, they may continue using AUTODIN to exchange fixed-length transactions.

In the new transaction network, DDN host computers whose applications are incapable of generating EDI-formatted transactions must employ a local LGN. These local LGNs behave as DDN host computers. In other words, each has a global network address distinct from the host it serves. The CLGN also appears as a host on DDN and links the transaction network with the rest of the DAAS.

Defense Automatic Addressing System

The DAAS is being modernized to provide additional services to DLMS participants, including: the CLGN, the LIPS, and the DLMS data dictionary system.

Network Requirements

The proposed network architecture supports transmission of information between logistics trading partners and promotes a phased modernization of the DLSS. The key features of the proposed new network may be summarized as follows:

- During a lengthy transition period, logistics activities may continue to generate and process 80-column transactions exchanged in fixed-length format over AUTODIN.

- When their internal systems can handle the additional data needed for variable-length EDI transactions, activities may begin sending and receiving them in compliance with the new DLMS procedures.

- While organizations are making the transition from fixed-length formats to EDI formats, a network of LGNs will translate from one format to the other as needed. The network of LGNs will also provide a means for non-EDI sites to receive DLMS transaction data not contained in fixed-length transactions.

- Any site connected to DDN can also link to the DLMS transaction network. During the transition period, the network will use DAAS on AUTODIN to support users who are not EDI-capable.

- The network will use its CLGNs to provide a gateway to commercial networks and will support a DoD-wide logistics management information system (MIS).

By handling both fixed-length and EDI formats while the Services and agencies implement DLMS, the network supports a transition pace for logistics activities consistent with their own needs and resources.

LOGISTICS GATEWAY NODE REQUIREMENTS

In this section, we present additional details of local LGN and CLGN transaction-related requirements. The LLNL is developing software that is expected to operate on AT&T microcomputers acting as front-end transaction processors for host computers connected to the DLMS network. LGNs are expected to meet the functional, interface, and performance requirements described in this section.

Functions

CLGNs and local LGNs perform the following functions with respect to transactions created by host computers:

- Editing

- Translating

- Routing

- Logging

- Imaging.

Editing

Editing ensures that a transaction is consistent with formats (is valid) in the official DLMS publications. At the local LGN, editing offers a communications cost advantage by permitting rejection of invalid transactions before transmitting them across the network. The LGN simply returns rejected transactions to its host computer. Local LGN editing is primarily a technical verification and is a subset of the functional validation performed at the CLGN. When centralized editing is required, flawed transactions must travel across the network to the CLGN and back again.

Translating

The LGNs and CLGNs translate between fixed-length-to-EDI and EDI-to-fixed-length transaction formats. Translation from fixed-length-to-EDI formats creates a

variable-length transaction from one or more 80-character images; translation from EDI-to-fixed-length formats creates one or more 80-character images from each variable-length transaction. Translation software includes tables containing the format translation rules and the translator itself. Using its data dictionary system, DAAS will update the translation tables of local LGNs through the CLGN.

Routing

Routing entails transferring a transaction to the communications subnet for delivery to its ultimate recipient. Today, all logistics transactions are centrally routed through DAAS. For the DLMS network, the CLGN will continue centralized routing by determining the recipient's routing identifier from the transaction itself and authenticating it by means of several large address-table files maintained at DAASO. When DDN is used, the final stage of routing will occur within the CLGN, which looks up the global network address of the destination host computer and the address (port) of the application. (If the DDN host has a local LGN, these addresses will correspond to the LGN hardware and software.) For AUTODIN addressing, the CLGN will perform in a similar capacity, except that a greater role can be entrusted to the store-and-forward message-switching faculty of the network itself. The CLGN then sends the transaction to its destination over DDN or AUTODIN.

By direct routing, a transaction can be exchanged between local LGNs without any intermediate processing by a CLGN. Local LGNs would not perform the same routing operations as CLGNs, but for a limited number of transactions, they could address them directly to the receiving LGN. These limited transactions include those whose destinations can be determined with simple algorithms and which require no value-added processing by the CLGN. The CLGN has a capability of updating each local LGN's routing tables with routine addresses and application rules. These may be applied to routine occurrences of transactions matching the pattern. Direct routing by a local LGN could reduce communication costs, relieve the processing burden on the CLGN, and make the network more fault-tolerant.

Logging

To maintain the integrity of the LIPS, local LGNs will retain copies of transactions routed directly and periodically will send their logs to the CLGN. From

time to time, the CLGN will update the LIPS from its repository of transactions received from the network.

Imaging

As a result of numerous agreements between DAASO and logistics trading partners, copies of certain transactions routinely are sent to host computers other than the original recipient. In the DLMS network, the central and local LGNs will send these "courtesy" copies, called images. The CLGN uses its transaction logs for imaging.

DDN Connectivity

Depending on site configuration, local LGNs access and communicate with DDN using a local area network (LAN) protocol or one of the following standard DoD protocols:

- TCP: Transmission Control Protocol [Military standard (MIL-STD-1778)]

- IP: Internet Protocol (MIL-STD-1777)

- DDN Standard X.25.

Since August 1990, all new DDN users must use Government Open Systems Interconnection Profile (GOSIP) to comply with Federal Information Processing Standard Publication (FIPS) publication 146. LGNs will support DoD protocols and GOSIP as costandards, while DDN makes the transition exclusively to GOSIP.

Communications Between Local and Central Logistics Gateway Nodes

Local and Central Logistics Gateway Nodes exchange EDI-formatted transactions across the WAN. This interface is characterized by the following operations:

- Compressing/decompressing

- Encrypting/decrypting

- Formatting

- Data transferring

- Queuing.

CompressingIDecompressing

Logistics gateway node software compresses EDI transactions before delivering them to DDN. That compression reduces the size of the DDN transmission. Upon receipt of the transaction, the LGN restores the compressed EDI transaction to its original uncompressed state before transferring it to the client.

EncryptingIDecrypting

LGN software encrypts EDI transactions according to the Protection of Logistics Unclassified/Sensitive Systems (PLUS) initiative, which effectively applies the attributes of Data Encryption Standard (DES) and public key encryption (PKE) to transmitted DLMS transactions.

Formatting

LGNs with direct DDN connections disassemble ("packetize") compressed EDI transactions for transmission, reassemble received packets into a compressed EDI transaction, and manage the connection with a DDN packet-switching node (PSN). Local LGNs connecting to DDN across a LAN perform formatting required for the DDN gateway. In these configurations, the gateway handles the DDN formatting.

Data Transferring

The LGNs directly connected to the network exchange packets with the front-end processor (FEP) or a PSN. The LGN at sites with a LAN connection to DDN exchanges compressed transactions with the DDN gateway, using the LAN access protocol.

Queuing

The LGN queues information it is not currently processing. Queued data include transactions received from the server interface awaiting further processing, transactions or packets awaiting transfer to a gateway (CLGN only) or PSN, and transactions awaiting transfer to a host.

External Network Gateways

The CLGN at DAASO provides gateways to external networks. Those gateways allow host computers on DDN (or those connected to the CLGN by AUTODIN) to

share information with industry and other DoD trading partners. The external network gateways support transaction-based, rather than interactive, terminal communications rather than interactive communications. The security implications of these interfaces are now under study.

DAAS Processors

The DAAS continues to provide its traditional value-added services for the new transaction network through its CLGN. The CLGN accepts transaction-based LIPS and data dictionary queries and returns the query results. The CLGN controls network operation for deployed LGNs, including updating the direct routing and format translation tables in local LGNs.

Security

Logistics gateway nodes will operate as unclassified/sensitive equipment. MODELS will recommend technologies such as the DES and coordinate with initiatives such as PLUS data and systems to ensure the protection of data transmitted by LGNs. Local-site connectivity and the CLGN external networks gateway will also affect the security requirements of a particular LGN. Once transaction traffic leaves the LGN, DDN has several safeguards protecting it. Although MODELS participants will use the unclassified MILNET part of DDN, this network will have link encryption on all circuits. Network equipment is also protected to restrict physical access.

PROJECTED LOGISTICS GATEWAY NODE IMPLEMENTATION

The DAASO Network Control System (DNCS), which began installing hardware in April 1991, will implement the CLGN. Each activity designated to have local LGNs will procure its own hardware as needed; DLSSD and DAASO will provide and maintain the LGN software. While the published LGN specification is exact, implementation features for the local LGN and the CLGN are still under study. This section explores some probable hardware and software features for the final implementation.

Hardware

The DNCS hardware is a Digital Equipment Corporation mainframe computer operating in a networked, multiprocessing environment. The DNCS will interface

with DDN, external networks, an Ethernet LAN, and DAASO's high-speed HYPERNET. The LAN connects the DNCS with the LIPS and the transaction data dictionary, and the HYPERNET connects the DAAS processors, including the AUTODIN interface. The DNCS will become operational, providing CLGN capabilities for the DLMS network, during the third quarter of 1991.

The specifications for the LGN hardware call for a high-performance microcomputer capable of supporting multitasking. It will have a high-capacity hard disk and possibly an archival storage unit. The LGN will include interface options for X.25, GOSIP, and LAN access. Local site requirements will determine which of five host interface options a particular LGN has.

Software

The DNCS software will emphasize input/output processing and will manage communications tasks that move transactions between DDN and the DAASO LAN. The local LGN software will include an operating system, a communications manager, and system applications.

Operating System

The operating system will provide multitasking as well as other features of POSIX, the proposed standard for UNIX-based computers. The operating system provides automatic recovery and restart, installation routines, and "self-test" diagnostics. That software supports the communications manager and system applications.

Communications Manager

The communications manager software handles interfaces with the client (host) computer and DDN. It links the rest of the LGN to host computer applications through the client-server interface. For DDN connectivity, the communications manager supports the interface options described for the LGN hardware. In other words, for a site with a direct DDN connection, the communications manager will support the host-to-host, internet, and DDN network access protocols. If a site connects to DDN across a LAN, the communications manager will support the LAN access protocol.

System Applications

The LGN applications meet the functional requirements described here. The routing and format translation applications will be table-driven. In this case, rules for routing transactions directly and translating between fixed-length and variable-length formats will be separate from the software that carries out those rules. Table-based rules are easier to maintain than rules embedded within the translation software itself. As noted earlier, local LGNs will have utilities to filter, compress, decompress, encrypt, and decrypt data.

CHAPTER 4

BEYOND IMPLEMENTATION

INTRODUCTION

Implementation of the DLMS will provide the Services and agencies with opportunities to both expand and simplify their logistics data exchanges. However, those are only the first of many benefits DoD can derive from the MODELS program. This chapter proposes additional areas in which the logistics process can be streamlined and defense dollars saved after the DLMS standards are implemented. We have already begun work in some of these areas while others have yet to be explored.

In our initial MODELS efforts, we converted the fixed-length transaction to the EDI transactions and initiated implementation. We have completed developing the functional documentation and the technical specifications. While continuing to assist DLSSD develop procedures to support the DLMS transactions and performing other implementation issues, we are turning our attention to improvements in logistics operations using the DLMS as the base. We describe those efforts in this chapter.

WORK IN PROGRESS

Incorporating DLMS Transaction into Public Standards

In March 1991, FIPS publication 161 was approved by the Department of Commerce. That new FIPS mandated using either or both the ANSI ASC X12 and the International Standards Organization's EDI For Administration, Commerce, and Transportation (EDIFACT) as Federal EDI standards. Once Service and agency consensus was reached on the format and contents of the EDI transactions to replace the DLSS, DoD began the process of submitting DLMS transactions to ASC X12.

LMI prepared 42 new ASC X12 project proposals and submitted them to ASC X12 in March 1991. The first transactions were then submitted into the ASC X12 review process in June 1991. That process consists of the following steps:

- Initial review of the project proposals by the Procedures Review Board

- Functional review by the Government Subcommittee

- Technical review by the Technical Assessment Subcommittee

- Overall review by the entire X12 membership through voting packages

- Resolution of all objections raised by members.

Because of the number of steps required in the review process, the fact that ASC X12 meetings are held only three times a year, and the fact that ASC X12 must review a large number of DLMS transactions, it may take 2 years to approve all of the DLMS transactions.

As transactions are submitted to ASC X12, further consolidation and enhancements will be incorporated. One consolidation will be the incorporation of MILSPETS transactions into MILSTRIP and MILSTRAP. Some consolidations will take place within each system. For example, DLMS transactions 511 through 513, which are the requisition, modifier, cancellation, and follow-up, will all be combined into a single ASC X12 transaction. Another change in the requisition will be incorporating the capability (but not the requirement) to perform multiline requisitions. Additional changes will be incorporated over time as the FWG reviews additional Service or agency recommendations that were deferred. These ASC X12 compliant transactions are referred to as DLMS Version 2.0.

Version 1.1 of the DLMS standards was designed and documented to support easy conversion between the existing DLSS formats and the DLMS/EDI formats. It allows Services and agencies to transition to EDI individually. By using the Version 1.1 standards and the LGNs, DoD can support mixed EDI/DLSS interchanges at the expense of minimal use of enhanced data. However, with the changes made to accept ASC X12 format and additional DoD enhancements, the Version 2.0 will be very different from Version 1.1. Developing and supporting automated translation capabilities between the DLSS to DLMS Version 2.0 and from Version 1.1 to 2.0 will be both difficult and costly.

Recommendation. We recommend that OSD encourage early implementation of Version 1.1 standards (beginning in 1991). While the open-ended implementation of Version 1.1 provides Services and agencies flexibility to make the dramatic change from fixed-length to variable-length transactions, it does not permit full use of the enhanced data. Version 2.0 does provide full use of enhanced data and should be implemented as soon as practical for the Services and Agencies. We also recommend that OSD

mandate a specific date for DoD-wide implementation of Version 2.0. That date would optimally be in 1995.

Additional Enhancements

Beginning in early 1992, DLSSD in conjunction with the Services and agencies will begin to review the 50 enhancement proposals that were not incorporated into Version 1.1 (see Appendix C). Additionally, they will consider any new proposed enhancements. The approved enhancements will be included in Version 2.0 or subsequent releases.

Discrepancy Reporting

The current DLSS procedures cover reporting only SDRs. Two other major discrepancy reports are separately administered by the Army's Military Traffic Management Command and DLA's Quality Assurance Branch: Transportation Discrepancy Report (TDR), and the Product Quality Deficiency Report (PQDR) All three reports are paper based and have no standard electronic equivalents.

We reviewed the discrepancy reporting process and made recommendations regarding automating and standardizing the process. The report will be released concurrently with this one. It recommends that OSD take the following steps:

- Define a standard reporting system for all types of discrepancies in one procedural document and consolidate system operations oversight under DLSSD

- Encourage the integrated automation of all types of discrepancy reporting, at both the retail and wholesale levels, to include record keeping, report preparation and transmission, investigation and research, controlling, disposition, and disposition processing as part of the standard logistics process

- Institute requirements for the using and sharing of discrepancy data

- Establish data bases at appropriate levels and ensure that they are usable and accessible to managers who need information

- Evaluate the need for supporting documentation requirements and expand the capability to transmit electronic images of these data where required.

Additional Transportation Tasks

DLSSD should develop new DLMS transactions for the following MILSTAMP documents that currently use only paper formats:

- Air/ocean manifest

- Domestic route order

- Export traffic release.

ADDITIONAL BENEFIT AREAS

In this section, we describe areas in which the DLMS and the MODELS program can make significant contributions to improving DoD logistics operations. However, LMI has not yet had the opportunity to explore them to any depth because of cost or time constraints.

Asset Visibility

An important way to reduce defense spending is to reduce inventory and make better use of it. One method of doing this is to give item and weapon systems managers better item visibility. That "total asset visibility" includes not only items in wholesale storage but also those in retail storage, in the procurement cycle, and even in motion.

The MODELS program can contribute to total asset visibility by facilitating the reporting of retail stock transactions to item managers. DLMS procedures would document DoD policy on what, when, and how material would be reported by the Services and what level of authority the item manager would be given to reallocate material. Perhaps even more important for the item manager is the ability to make better informed decisions about when and how much material to buy.

We can also use EDI transactions to link item managers with industry so that they can determine the exact status of due-in assets. That linkage will become increasingly important to DoD as the defense industrial base shrinks with planned reductions in the force structure. For widely used items, asset visibility can be combined with vendor-maintained stockage and direct vendor delivery significantly reduce DoD depot inventories.

Recommendation. Under a separate task, LMI is recommending OSD policy for asset visibility. Once the policy decisions are made, improvements in data processing technology will make asset visibility easier to implement. DLMS transactions and procedures should serve as the basis for exchanging asset visibility information.

Inter-Service Maintenance

Increasing inter-Service use of the same high-cost equipment and material is another way for DoD to save money. Currently, inter-Service maintenance support is conducted in the same manner as inter-Service requisitioning was done 30 years ago — through memoranda, joint agreements, and telephone calls.

MODELS creates the opportunity to provide standard transactions for the following actions:

- Submit maintenance requests

- Schedule and transmit maintenance status

- Assist in maintenance programs and budgets

- Coordinate transportation of the item between the home base of the material and the maintenance activity

- Perform automatic billing.

Recommendation. The Director for Maintenance Policy [DASD(L)MP], for maintenance in conjunction with the Joint Depot Maintenance Group and DLSSD should begin analysis aimed at developing a DLMS-based standard inter-Service maintenance process.

DoD Corporate Information Management

The DoD's CIM effort to standardize and reduce the number of ADP systems used by the Services and agencies will dramatically affect future logistics information operations. The principal near-term effect will be that:

- The Logistics Standard Information System (LSIS) will be installed at all DoD ICPs and a standard distribution system at depots.

Transactions

As LSIS evolves, the content, volume, and ownership of transactions flowing between DoD ICPs and depots will be altered. The DLMS will remain critical to

logistics communications even with fewer separate software systems for several reasons:

- The LSIS components are being developed by several Service and DLA design activities, and the DLMS should continue to provide a standard input/output format between systems.

- While the number of "wholesale" logistics ADP systems will be reduced to two (the ICP and the depot), a diverse number of retail systems and specialized systems that must communicate with the wholesale systems will remain.

- DLMS variable-length transactions offer a flexible method for altering the information content of transactions exchanged between LSIS and/or component retail systems.

One aspect of the LSIS capability is to add information to standard transactions that are currently being carried by one or more Service-unique transactions and then eliminate the Service-unique transaction(s). Service-unique transactions not flowing through DAAS are estimated to at least equal the 1 billion transactions that do flow through DAAS annually.

Recommendation. The Deputy Assistant Secretary of Defense for Logistics [DASD(L)] with the assistance of DLSSD and the Material Management CIM should determine the role of DLMS transactions in the CIM process. As a part of this effort, DLSSD should evaluate selected intra-Service-unique transactions and their data elements and make recommendations for either eliminating or converting them into DLMS formats and use them as inter-Service standards available to all. For transactions external to the DoD community — i.e., with industry — DLSSD should assist the CIM systems to utilize ASC X12 transactions.

Interactive Logistics Processing

Private industry has been highly successful in linking EDI with sophisticated data base management systems (DBMS) to revolutionize the way business is conducted. A few of these techniques are as follows:

- Material from suppliers arrives at a manufacturer's assembly area "just in time" to be installed in a higher level item. This technique known as just-in-time inventory (JITI) reduces warehouse inventory and handling costs. Use of EDI is crucial to JITI because utilizing paper transactions is too slow and unreliable to guarantee the timely delivery of material.

- Numerous commercial suppliers keep stock in a few depots or even with the manufacturer. When an order is received, electronic transactions are sent to

the source of stock and the material delivered directly to the store or the customer. This approach saves money in reduced transportation, inventory, and material handling costs.

- Some catalog outlets that use depots receive EDI transactions about due-in material from their suppliers so that an item can be ordered from the due-ins if it is not available at the depot. This allows for better inventory management.

- "Point-of-sale" information systems allow retail outlets to maintain low stocks of a given item. When a sale depletes the stock, an electronic transaction notifies the wholesale depot to replenish the item. This approach not only provides for lower and constantly replenished inventory but also collects demand data so that future production can more accurately reflect customer needs.

All of these approaches produce *direct* savings through reduced material handling and paperwork. They also lead to *indirect* savings through reduced inventory and transportation. However, the benefits do not end there. The improved performance can lead to greater customer satisfaction and therefore increased sales.

In contrast to industry, DoD's logistics ADP systems operating at ICPs and depots are mostly batch-oriented and have little or no on-line capability for either input or query. However, this situation is changing.

New CIM systems able to support interactive queries are to be developed with commercial DBMS at their core. In parallel with the CIM development, DAASO's LIPS will provide on-line inquiry to transaction history by 1993.

The ability to use interactive data bases and EDI among Services and agencies and among DoD and industry offers DoD the opportunity to fundamentally alter the way the requisitioning is performed and allow it to save cost and at the same time improve performance.

In such an environment, a user should be able to requisition interactively and be immediately aware of an item's status. If the item is available in a depot, the MRO should be prepared instantaneously. Alternatively, for material that the ICP maintains on a direct-vendor delivery contract, the delivery order should be electronically sent to the vendor. In either case, the user should be informed of the estimated delivery date (based on the date of shipment and the user's requested transportation priority — a DLMS enhancement). Only when a backorder or other

unusual condition exists should the requestor have any doubt about when the material will be delivered.

Follow-up status can also be dealt with through on-line inquiry. Such capability would eliminate the millions of batch-generated requests for status and replies that are currently transmitted annually.

Recommendation. We recommend that the DASD(L) request the CIM to include the following in initial versions of LSIS:

- *Interactive requisitioning and/or query status*

- *Multiline requisitioning*

- *Linking of procurement, supply, and transportation data*

- *Reducing the amount of information required in each transaction*

- *Providing improved and more timely management information.*

New DoD Financial Organizations and Procedures

Two extraordinary changes have occurred in DoD's financial community in the past year. The first was the consolidation of the Military Service finance and accounting centers into the DFAS. The second was the establishment of the Defense Business Operations Fund. New and additional information is needed by management to operate under these new conditions. The flexibility and unlimited data capability of EDI are now available to support these new requirements.

Recommendation. As DFAS analyzes its information requirements, representatives of the DLMS community should participate to develop standardized methods for communicating the information among DFAS centers and between DFAS and wholesale and retail logistics activities.

Acquisition-Related Initiatives

Previous LMI reports [19, 20] have described the benefits of using EDI in acquisition. Much of this activity supports DoD/industry communications outside of the MODELS scope of intra-DoD logistics standards, but much of the information infiltrates into DLMS communications.

Acquisition Management and Statistical Reporting

Many DoD acquisition reports are still paper-based and others that are automated are prepared in Service-unique formats. The following are some of the high-volume, paper-based or Service-unique reports:

- Contractor reports to contract administration officers (CAOs)

- CAO reports to higher headquarters

- Contract data requirement lists (data item descriptions)

- Defense Contract Management Command reports to buying activities

- Statistical reports [e.g., Individual Contracting Action Report (DD Form 350)].

Recommendation. OSD should review all paper-based or non-EDI acquisition reporting systems. It should standardize information in these reports within DoD and link that information to EDI transmissions from contractors to minimize DoD manual preparation of the reports.

Bar Coding Contract Information

The Material Inspection and Receiving Report (Form DD 250) is used extensively across all the Services and agencies. LMI's report on a paperless DD 250 discusses numerous aspects of replacing the form with EDI transactions. [21] One aspect that closely ties in with DLMS transactions are the four copies of the form that accompany each shipment of material from a vendor to a DoD receiving activity.

Recommendation. Extend the use of bar coding within DoD to the key items on the DD 250 regarding incoming material. This would include the contract number, MILSTRIP transaction number, and item national stock number or part number, and quantity. This information could then be matched to information in the receiving activity's due-ins file and reduce manpower expended in material receipt.

SUMMARY

The DLMS will sustain the logistics information exchange for DoD well into the next century just as the DLSS have for the past 30 years. Because of their increased flexibility, they offer DoD the opportunity to manage more information and manage it in a more timely manner than has been possible in the past. The DLMS provides the basis to significantly change logistics business practices. Acting upon the

recommendations included in this chapter will provide DoD the opportunity to make our military logistics both more efficient and responsive.

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* The full text of the noted items can be found in Appendix D.

APPENDIX A

MODELS STEERING GROUP REPRESENTATIVES

MODELS STEERING GROUP REPRESENTATIVES

This appendix lists the DoD Service or agency representatives to the MODELS Steering Group at the time of this report.

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Maj Gen (Select) Tenoso, U.S., Transportation Command USAF, Director, Operations and Logistics

APPENDIX B

MODELS WORKING GROUP REPRESENTATIVES

MODELS WORKING GROUP REPRESENTATIVES

This appendix lists the DoD Service or agency representatives to the Modernization of Defense Logistics Standard Systems (MODELS) Functional and Technical Working Groups at the time of the release of this report.

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Note: See Glossary for acronyms.

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APPENDIX C

ENHANCEMENT SUMMARY

ENHANCEMENT SUMMARY

This appendix lists all active enhancements submitted by the DoD Services and agencies up to the time of this report. The list does not contain those enhancements that were eliminated as being duplicative of another submission or a proposed or approved system change letter. Also not included are any that were either withdrawn by the submitting Service or agency or disapproved by the Functional Working Group.

The list is composed of four columns:

Heading	Comments
Version [V]	The Defense Logistics Management System version. A "1" indicates it was approved for inclusion in Version 1., A "2" indicates it was deferred for consideration in a later version.
DLSS (Defense Logistics Standard Systems)	The DLSS with which the enhancement was associated. An enhancement may be associated with more than one DLSS; however, we list only the first.
TITLE	Title of the enhancement.
RECNO	The unique identifier for the enhancement, consisting of the last two digits of the year submitted and a sequential number.

The list is sorted by version, title and RECNO.

V	DLSS		RECNO
1	MILSTRAP	DEVELOP ITEM TYPE STORAGE CODE.	89-013
1	MILSTRIP MILSCAP MILSTRAP	INCLUDE REQUISITION NUMBER, FULL CLIN/PIIN, AND AT TIMES, CALL ORDER NUMBER, ON ONE DOCUMENT TO ENHANCE GFM MANAGEMENT AND CASH SALES CONTROL.	89-015
1	MILSTRIP	DEVELOP JOB ORDER NUMBER FIELD FOR REQUISITION.	89-048
1	MILSTRIP MILSTRAP MILSTAMP	ADD SHELF LIFE ACTION CODES/HAZARDOUS MATERIAL CODES AND BAR CODE INFORMATION IN IRRD.	89-058
1	MILSTRIP	EXPAND NONSTANDARD ITEM DATA ELEMENT TO INCLUDE ACQUISITION INFORMATION.	89-059
1	MILSTRIP MILSBILLS	EXTEND DEPRA CLONE PROCEDURES WORLDWIDE.	89-062
1	MILSTRIP	INCLUDE CARRIER NAME IN SHIPMENT STATUS.	89-064
1	MILSTRAP	PROVIDE MEANS FOR ICPS TO DIRECT STORAGE ACTIVITIES TO RECLASSIFY MATERIAL.	89-077
1	MILSTRIP	CREATE DIC AND MODELS TRANSACTION FOR SUPPLY ASSIST MESSAGES.	89-086
1	MILSTRAP MILSTRIP MILSCAP	AUGMENTATION OF PREPOSITIONED MATERIEL RECEIPT DATA TO INCLUDE SELECTED CONTRACT DATA.	89-104
1	MILSTRIP	DEVELOP FMS UNIQUE REQUISITION, CONTRACT, AND SHIPPING INFORMATION.	89-113
1	MILSTRIP MILSTAMP	INCLUDE ADDITIONAL CARRIER INFORMATION IN RSE (SHIPMENT STATUS).	89-129
1	MILSTRIP MILSCAP MILSTAMP	PROVIDE MILSCAP AND SHIPPER INFORMATION IN REQUISITION STATUS TRANSACTION.	89-133
1	MILSTRIP	RETENTION OF NAVY EXCEPTION PROCESSING IN MOV PROCESS.	89-140
1	MILSPETS	ADD 5 ADDITIONAL OCCURRENCES OF GBL NUMBER TO THE 5 ALREADY IN THE 556 TRANSACTION TO ELIMINATE NEED TO SUBMIT 2 TRANSACTIONS.	89-151
1	MILSPETS	TRANSLATE XEL "MULTIPLE DFSP TANKER/BARGE SHIPMENTS FROM CONTRACTOR" TRANSACTION CURRENTLY PART OF MILSPETS INTO EDI.	89-156
1	MILSTRIP	ALLOW REQUISITIONING FROM RECLAMATION.	89-200
1	MILSTRIP	INCLUDE UNIT PRICE IN DI AS3 STATUS DOCUMENTS TO DRMOS	89-202
1	MILSTRIP	ELIMINATE REQUIREMENT TO SEND SECOND SET OF DD FORM 1348-1 TO FREIGHT FORWARDERS WHEN CARGO IS SHIPPED VIA SMALL PARCEL.	89-204
1	MILSTRIP MILSTAMP MILSTEP	REVISE SHIPMENT STATUS (DI AS_), MATERIEL RELEASE CONFIRMATION (DI AR_), AND SHIPMENT TRACING PROCEDURES TO IDENTIFY THAT A TCN VICE GBL WILL BE USED FOR ALL SHIPMENTS MADE THROUGH THE ENHANCE DLA DISTRIBUTION SYSTEM (EDDS).	89-205
1	MILSTRIP	REVISE STATUS CODE CP AND ASSIGNMENT OF A REJECT STATUS CODE FOR LOCAL MANUFACTURE.	89-206
1	MILSTRIP	ESTABLISH A SINGLE RI ON CUSTOMER EXCESS REPORTS TRANSMITTED TO GSA.	89-208
1	MILSTRIP	PROVIDE FOR ICP GENERATION OF FTR TRANSACTIONS WITH SE STATUS UPON RECEIPT OF DI FTM TRANSACTIONS WITH	89-209

V	DLSS		RECNO
		UNIDENTIFIABLE NSNS.	
1	MILSTRIP	AUTOMATED VERIFICATION OF EXCESSIVE QUANTITY REQUISITIONS.	89-210
1	MILSTRIP	DETERMINE MANDATORY ENTRY BLOCKS ON MATERIEL RELEASE DOCUMENTS.	89-211
1	MILSTRIP	TEMPORARY EXEMPTION OF SELECTED UNITS FROM THE MOV PROCESS.	89-213
1	MILSTRAP MILSBILLS MILSTRIP	ESTABLISH INTER-SERVICE/AGENCY USE OF SUPPLY CONDITION CODE Q TO IDENTIFY PRODUCT QUALITY DEFICIENCY RELATED MATERIEL.	89-216
1	MILSTRAP MILSTRIP	MAINTAINING ITEM ACCOUNTABILITY FOR MAINTENANCE ACTIONS	89-217
1	MILSTRAP MILSTRIP	PROVIDE FOR ACCOUNTABILITY OF MATERIEL RETURNS NOT DUE-IN.	89-218
1	MILSTRIP MILSTRAP	IDENTIFICATION OF TERMINAL ASSETS TO REUTILIZATION AND MARKETING.	89-219
1	MILSCAP	CHANGE MILSCAP MANUAL TO REFLECT PENDING DFARS GUIDANCE AND CHANGES TO DD FORM 350.	89-220
1	MILSCAP	BRING MILSCAP MANUAL INTO LINE WITH THE "TYPE OF CONTRACT CODES" PRESCRIBED IN DFARS.	89-221
1	MILSPETS	REMOVES P52 AND P9E TRANSACTIONS FROM MILSPETS THAT ARE NO LONGER USED BECAUSE INFORMATION IS OBTAINED INTERNALLY.	89-225
1	MILSPETS	ACTIVATES EXISTING BUT CURRENTLY UNUSED DATA ELEMENTS ON P3T.	89-226
1	MILSCAP	DEVELOP DATA ELEMENTS TO INCORPORATE INDIVIDUAL CONTRACT ACTION REPORT (ICAR) (DD FORM 350) DATA ELEMENTS INTO TRANSACTION SET 561, DOD CONTRACT ABSTRACT.	89-301
1	MILSCAP	DEVELOP A "KSP" DATA SEGMENT AND ADDED IT TO THE 561 (DOD CONTRACT ABSTRACT) TRANSACTION SET TO ALLOW FOR THE TRANSMISSION OF CERTAIN OTHER CLAUSES IN CONTRACT ABSTRACTS.	89-304
1	MILSTRAP	MULTIPLE SEGMENT/DATA ELEMENT REPORTING.	89-311
1	MILSBILLS MILSTRIP MILSTAMP MILSCAP	EXPAND CURRENT ABBREVIATED TREASURY SYMBOL CODE DATA ELEMENT (1093) TO NEW, COMPLETE LONG LINE ACCOUNTING CLASSIFICATION CODE (ACC).	89-312
1	MILSTRIP MILSTAMP MILSPETS MILSTRAP MILSBILLS (INTERFAC E) SDR (POSSIBLY MILSCAP, MILSPETS)	SUFFIX CODE ASSIGNMENT.	89-315
1	MILSTRAP	ENHANCE WAR RESERVE MATERIAL IDENTIFICATION.	89-318
1	MILSTRIP	ENHANCE DEMAND RECORDING INFORMATION.	89-319

V DLSS		RECNO
1 MILSTRAP	NEW DATA IN ISSUE, BACKORDER AND DEMAND TRANSACTION.	89-320
1 MILSTRIP MILSTRAP	ADAPTATION OF RIMSTOP STOCKAGE CODE AS A DOD STANDARD FOR DEFINING PURPOSE CODES.	89-326
1 MILSTRIP MILSTRAP MILSBILLS MILSCAP	EXPAND COGNIZANCE SYMBOL FROM 2 TO 3/4 DIGITS.	89-327
1 MILSTRIP MILSTRAP MILSCAP	PROVIDE REQUISITION TECHNICAL REFERENCE DATA CAPABILITY	89-329
1 MILSTRIP	ADD DODAAC TO MRP TO IDENTIFY ACTIVITIES WITH NO RIC.	89-331
1 MILSTRIP MILSTRAP	INCORPORATE SERIAL NUMBER REPORTING INTO VARIOUS DLSS TRANSACTIONS.	89-345
1 MILSTRIP	DEVELOP MOV CAPABILITY TO ALLOW ACIVITY WHO DEVELOPED A REQUIREMENT TO VALIDATE THE REQUIREMENT.	89-346
1 MILSPETS	ADDS ADDITIONAL SUSPENSE INFORMATION TO P6S SUSPENSE NOTIFICATION.	89-348
1 MILSTRIP MILSBILLS	DEVELOP MULTIPLE UNIT PRICE FIELDS. PROVIDE "ESTIMATE CREDIT" FIELD FOR THE MRP (MATERIAL RETURN PROGRAM INFORMATION) SEGMENT. COORDINATE ACTION WITH RECNO 309.	89-352
1 MILSTRIP	DIFFERENTIATE BETWEEN EXCESS AND LONG SUPPLY IN OFFER OF EXCESS TRANSACTIOIN (FTE).	89-353
1 MILSTRAP	PROVIDE FOR AUTOMATED TRANSMISSION OF CONTRACT HISTORY DATA BETWEEN IMMS FOR LOGISTIC REASSIGNMENTS.	89-354
1 MILSTRIP	NOTIFICATION OF NONRESPONSE TO MATERIEL OBLIGATION VALIDATION (MOV) REQUEST.	89-356
1 MILSTRIP MILSBILLS	INTER-SERVICE LATERAL REDISTRIBUTION PROGRAM.	89-357
1 MILSTRIP MILSBILLS MILSPETS MILSTRAP	IMPROVE UNIT PRICE/BILLING FLEXIBILITY.	89-360
1 MILSTRIP MILSTRAP MILSBILLS (INTERFAC E) MILSTAMP (POSSIBLY MILSCAP & MILSPETS)	PROVIDE STANDARD DOD AUDIT TRAIL CAPABILITY FOR SUFFIX CODE ASSIGNMENTS.	89-361
1 MILSTRIP MILSBILLS	ADD THE IDENTITY OF THE ULTIMATE RECIPIENT OR BUYER OF DOD MATERIAL.	89-362
1 MILSTRAP MILSCAP	EXPAND DEPOT RECEIPT ACKNOWLEDGMENT PROCESS TO REFLECT DATE OF INSPECTION.	89-366
1 MILSTRIP	PROVIDE EXPANDS STATUS CAPABILITY.	89-369
1 MILSTRIP	IDENTIFY SHIP-TO TO DODAAC FOR UNSERVICEABLE MATERIEL.	90-002
1 MILSTRIP	EXPAND RQQ SEGMENT TO IDENTIFY UNSERVICEABLE QUANTITY.	90-003

V	DLSS		RECNO
1	MILSTRIP MILSTRAP	UTILIZATION CODE DEVELOPMENT	90-008
1	MILSTRAP	IDENTIFY RECEIPT TRANSACTIONS SUBMITTED IN REPLY TO ICP FOLLOWUP.	90-010
1	MILSCAP	EXPAND FREE-FORM DESCRIPTION FROM 15-20 POSITIONS.	90-012
1	MILSTRAP MILSTRIP MILSBILLS MILSTEP	DEVELOP EDI FORMAT FOR CONSIGNEES TO PROVIDE RECEIPT OF SHIPMENT INFORMATION. DEVELOP MATERIAL RECEIPT CONFIRMATION TRANSACTION.	90-018
1	MILSCAP	ADD POINT(S) OF CONTACT AND REMARKS TO PJB TRANSACTION (REVISED DELIVERY FORECAST).	90-024
1	MILSTRIP	EXPAND THE TCN FIELD IN MILSTRIP TRANSACTIONS TO 17 RECORD POSITIONS (SEE PMCL 447).	90-028
1	MILSTRIP	REINSTATEMENT OF CANCELLED TRANSACTIONS (SEE PMCL 449A)	90-029
1	MILSTRIP	FMS REQUISITIONING AND BILLING PROCEDURES (SEE PMCL 442A).	90-030
1	MILSTRIP	FMS STATUS PROCEDURES (SEE PMCL 462).	90-031
1	MILSTRIP	INTRANSIT CONTROL OF SHIPMENTS TO DEFENSE REUTILIZATION AND MARKETING OFFICES (DRMO).	90-032
1	MILSTRIP	STATUS CODES FOR NONCONSUMABLE ITEMS (SEE PMCL 478).	90-033
1	MILSTRIP	STATUS CODE FOR PLANNED PROGRAM REQUIREMENTS (SEE PMCL 484).	90-034
1	MILSTRIP	CONTROL OF ACCESS TO DOD MATERIEL INVENTORIES REQUIRED BY DEFENSE CONTRACTORS (SEE PMCL 477A).	90-035
1	MILSTRIP	REDUCTION IN THE USE OF EXCEPTION DATA REQUIREMENTS (SEE PMCL 483A).	90-036
1	MILSTRIP	DOD ISSUE RELEASE/RECEIPT DOCUMENT (IRRD) WITH APPENDED ADDRESS LABEL, DD FORM 1348-2 (SEE PMCL 485).	90-037
1	MILSTRIP	DODAAC OF INITIAL TRANSPORTATION SHIPPING ACTIVITY FOR TRACING SHIPMENTS (SEE PMCL 488).	90-038
1	MILSTRIP	MODIFY MATERIEL RETURNS PROGRAMS REPORTING TIMEFRAMES (SEE PMCL 461).	90-039
1	MILSTRIP	REQUIRED DELIVERY DATE FOR SUBSISTENCE REQUISITIONS (SEE PMCL 5).	90-040
1	MILSTRIP	BAR CODED FOREIGN MILITARY SALES (FMS) DATA ON DDD FORM 1348-1, ISSUE RELEASE/RECEIPT DOCUMENT (IRRD) (SEE PMCL 489A).	90-041
1	MILSTRIP	TCN ENTRY INSTRUCTIONS FOR SHIPMENTS BY SMALL PACKAGE CARRIERS (SEEM PMCL 12).	90-042
1	MILSTRIP	DATE PACKED/EXPIRATION DATE OF SUBSISTENCE ITEMS (SEE PMCL 003).	90-043
1	MILSTRIP	REVISED DOLLAR THRESHOLD FOR SHIPMENT STATUS (DI AS3) TO DRMS (SEE PMCL 013A).	90-044
1	MILSTRIP	ADVICE CODES TO SHIP NEWEST MATERIEL WITH NO LESS THAN 75% OF THE SHELF LIFE REMAINING (SEE PMCL 019).	90-045

V	DLSS		RECNO
1	MILSTRIP	PROCESSING MASS CANCELLATION REQUEST (SEE PMCL 30).	90-046
1	MILSTRIP	SOURCE OF SUPPLY PROCESSING CANCELLATION REQUESTS FOR WHICH SUPPLY STATUS BZ HAS BEEN PROVIDED (SEEM PMCL 31).	90-047
1	MILSTRIP	USE AND APPLICATION OF DISTRIBUTION CODES 7 OR 8 (NO PMC).	90-048
1	MILSTRIP	MANDATORY ENTRY BLOCKS ON MATERIEL RELEASE DOCUMENTS (SEE PMCL 32).	90-049
1	MILSTRIP	INTER-SERVICE USE OF DISTRIBUTION CODE 6 (NO PMCL).	90-050
1	MILSTRIP	STATUS CODES D8 (SEE PMCL 36).	90-051
1	MILSTRIP	DAAS REJECT OF REQUISITIONS WITH INVALID SHIP-TO AND MAIL-TO ADDRESSES IN THE MAPAD (SEE PMCL 39)	90-052
1	MILSCAP	ELECTRONIC CERTIFICATION OF DESTINATION ACCEPTANCE TRANSACTIONS.	90-053
1	MILSTRAP	SUBSISTENCE EXCLUSION (SEE PMCL 82).	90-054
1	MILSTRAP	SUPPLY CONDITION CODE W FOR UNSERVICEABLE WARRANTED ASSETS (SEE PMCL 2).	90-055
1	MILSTRAP	NEW SPR STATUS CODE FOR TERMINAL ITEMS WHICH HAVE NO KNOWN REPLACEMENT (SEE PMCL 007).	90-056
1	MILSTRAP	DATE PACKED/EXPIRATION DATE FOR SUBSISTENCE ITEMS (SEE PMCL 3).	90-057
1	MILSTRAP	REVISED INVENTORY ADJUSTMENT TRANSACTION (SEE PMCL 008)	90-058
1	MILSTRAP	REVISED PROCEDURES FOR PHYSICAL INVENTORY CONTROL (SEE PMCL 114A).	90-059
1	MILSBILLS	SOURCE FOR FMS TRANSPORTATION BILL CODE (SEE PMCL 24A).	90-060
1	MILSBILLS	STANDARDIZE INTERFUND BILLING NUMBERS (SEE PMCL 49).	90-061
1	MILSBILLS	EXTEND MINIMUM TIME FOR SUBMITTING REQUESTS FOR BILL STATUS--BILLING ADVICE CODE 34 AND 35 (SEE PMCL 53).	90-062
1	MILSBILLS	REIMBURSEMENT OF INTER-SERVICE LATERAL REDISTRIBUTION (SEE PMCL 57).	90-063
1		WEAPON SYSTEM DESIGNATOR CODE	90-064
2	MILSTAMP	DEVELOP PROCEDURES TO TRANSMIT REPORTS OF SHIPMENT TO THE CONSIGNEE IN EDI FORMAT.	89-002
2	MILSTAMP DTMR	DEVELOP PROCEDURES TO TRANSMIT EXPORT TRAFFIC RELEASES AND DOMESTIC ROUTE ORDERS IN EDI FORMATS.	89-003
2	MILSTAMP	ADOPT MTMC RECEIPT AND LIFT DATA FORMATS (TT-SERIES) AS DLSS TRANSACTIONS.	89-023
2	MILSTAMP MILSCAP	PROVIDE MOVEMENT DATA FROM VENDORS TO CONTRACT ADMINISTRATORS.	89-025
2	MILSTRIP	INCORPORATION OF DLSS TRANSACTIONS AND EDI STANDARDS IN NAVY SHIPS CONFIGURATION AND LOGISTICS SUPPORT INFORMATION SYSTEM (SCLSIS).	89-037
2	MILSTRAP MILSTRIP MILSCAP SDR	TRANSMIT AN ALERT FOR ITEMS FOUND DEFECTIVE SO THAT SUBSEQUENT RECEIPTS OF THE SAME ITEM ARE SCREENED PRIOR TO STOCKING.	89-043

V DLSS		RECNO
2 SDR	PROVIDE ADDITIONAL DATA IN THE SDR RESPONSE TO SUPPORT DEVELOPMENT OF A TRACEABLE SHIPMENT FOLLOWUP OR TO PRODUCE A DISCREPANCY IN SHIPMENT REPORT (SF 361).	89-082
2 MILSTRIP MILSCAP MILSTRAP	TRANSMIT CERTIFICATE OF DISPOSAL TO DRMR/DRMO.	89-094
2 MILSTRAP	REVIEW SUPPLY SUPPORT REQUESTS, USED TO FURNISH SUPPLY AND TECHNICAL INFORMATION, BECAUSE THEY ARE HAMPERED BY 80 POSITION FORMATS.	89-096
2 MILSTRIP	ELIMINATE DATA ELEMENTS NOW CONTAINED IN CANCELLATION REQUESTS.	89-139
2 MILSTRIP	MODELS DATA ELEMENT LENGTHS EXCEED BAR CODING CAPABILITY.	89-148
2 MILSPETS	REMOVES P9B "ACCOUNT FOR INTRANSIT GAIN OR LOSS" FROM MODELS. THIS IS A COMPUTER GENERATED, INTERNAL DFSC TRANSACTION.	89-152
2 MILSPETS MILSTRAP	CONSOLIDATION OF TWO DATA ELEMENTS- MANAGEMENT INDICATOR AND MANAGEMENT CODE- INTO ONE NEW DATA ELEMENT.	89-154
2 MILSBILLS	INITIATE A REPLY TRANSACTION TO CONFIRM RECEIPT OF INTERFUND BILL RETRANSMISSION REQUEST	89-158
2 MILSTRIP MILSTRAP	EXPAND THE COOPERATIVE LOGISTICS PROGRAM SUPPORT CODE (CLPSC) TO DIFFERENTIATE BETWEEN FOREIGN MILITARY SALES ORDER (FMSO) I AND II REQUISITIONS.	89-203
2 MILSTRIP MILSBILLS	ESTABLISH PROCEDURES/FORMATS TO PREPARE MRO CONFIRMATIONS FOR FOREIGN MILITARY SALES (FMS) SHIPMENTS.	89-207
2 MILSBILLS SDR	ALLOW BILLED OFFICES TO BILL BACK TO BILLING OFFICE FOR ADJUSTMENTS NOT RESPONDED TO.	89-222
2 MILSCAP	RESOLVE AIR FORCE PROBLEM WITH CONTRACT STRUCTURE OF ACRNS FOR FMS AND R&D MONEY.	89-305
2 MILSTRAP MILSTRIP	CLARIFY MODELS TRANSACTION HISTORY TRANSACTION DESIGN.	89-307
2 MILSTRAP MILSTRIP	EXPAND DOCUMENT NUMBER TO 18 POSITIONS.	89-308
2 MILSTRIP	CONSOLIDATE THE NUMBER OF MODELS TRANSACTIONS.	89-321
2 MILSTRIP	MULTI-LINE ITEM REQUISITIONING.	89-322
2 MILSTRIP MILSTRAP MILSCAP	STANDARDIZE "B" SERIES DOCUMENTS.	89-325
2 MILSTRIP MILSTRAP MILSCAP	PROVIDE VARIABLE/MULTIPLE QUANTITY UNIT PACK (MULTI-QUP) IDENTIFICATION CAPABILITY.	89-328
2 MILSTEP, MILSTRIP	INCLUDE GOVERNMENT FURNISHED MATERIEL (GFM) VERIFICATION PROCESS FOR MILSTEP REPORTING.	89-330
2 DODAAD MAPAD	INCLUDE DODAAD AND MAPAD IN MODELS.	89-342
2 SDR DTEDI	AUTOMATE THE TRANSPORTATION DISCREPANCY REPORT (TDR) AND QUALITY DEFICIENCY	89-344

V	DLSS		RECNO
		REPORT (QDR). ADOPT JOINT REGULATION AR 55-38, ET. AL., REPORTING OF DISCREPANCIES IN SHIPMENT AS A DEFENSE LOGISTICS STANDARD SYSTEM. DEVELOP APPROPRIATE SOURCE DATA AUTOMATION AND EDI FORMATS.	
2	MILSTRIP MILSTAMP	INTEGRATE MILSTRIP AND MILSTAMP DATABASES TO ACHIEVE COMPLETE PIPELINE VISIBILITY AND MANAGEMENT CAPABILITY. AUTOMATE PROCEDURES PRESCRIBED IN THE CODE OF FEDERAL REGULATIONS TO TRACK THE DISPOSAL OF HAZARDOUS WASTE. INCLUDE THOSE PROCEDURES IN APPLICABLE DLSS AND DEVELOP EDI FORMATS.	89-347
2	MILSTRIP MILSTRAP	DEVELOP FMS REPAIR TRANSACTION. ADD USAF STARR/PC FMS TRANSACTION TO MODELS.	89-350
2	DODAAD MAPAD	ADD DATA ELEMENT TO IDENTIFY THE MAJOR COMMAND (MACOM) OF THE REQUISITIONING ACTIVITY.	89-355
2	MILSTRIP MILSTRAP MILSTAMP MILSBILLS	PROVIDE THE CAPABILITY TO SELECTIVELY DETERMINE THE DISPOSITION AND PROCESSING OF MODELS TRANSACTIONS BY INTERPOSING A CENTRALLY DEFINED SERIES OF CONDITIONS GOVERNING MATERIEL RELEASE, ASSET REDISTRIBUTION, CREATION OF BACKORDERS, ETC.	89-358
2	MILSTRIP	PROVIDE THE CAPABILITY TO RECEIVE STANDARD REQUIREMENTS DATA TRANSACTIONS INTO THE MODELS REQUIREMENTS PROCESS.	89-359
2	MILSCAP MILSTAMP	PROVIDE FOR THE ROUTING OF ALL MODELS TRANSACTIONS THROUGH DAASO.	89-363
2	DODAAD MILSTRIP MILSTRAP MILSBILLS MILSCAP MILSTAMP	UTILIZE DODAACS TO DEFINE ALL DLSS ADDRESS CODES.	90-001
2	MILSTRIP	INDICATE ACCEPTABILITY OF LESS THAN SUPPLY CONDITION CODE (SCC) A MATERIEL IN REQUISITIONS AND REFERRAL/PASSING ORDERS.	90-004
2	MILSTRAP	AUTOMATE WAR MATERIEL REQUIREMENTS (WMR) REJECTION DATA.	90-005
2	MILSTRAP MILSTRIP MILSCAP	USE ONE CONTRACT DATA SEGMENT IN ALL DLSS TRANSACTIONS.	90-006
2	MILSTRIP MILSTRAP SDR MILSCAP MILSBILLS MILSTAMP	LINK SERIAL NUMBER TRACKING AND ACCOUNTABILITY; ALLOW MULTIPLE SERIAL NUMBER REPORTING IN GIVEN TRANSACTION.	90-007
2	MILSTRAP MILSCAP	SHIPMENT DATA IN MILSTRAP DX_ FOLLOWUP.	90-009
2	MILSCAP	PROVIDE FOR TRANSMISSION OF MULTIPLE TYPE OF CONTRACT CODES.	90-013
2	MILSCAP	PROVIDE SENDER WITH INFORMATION ON STATUS OF DATABASE.	90-014

V	DLSS		RECNO
2	SDR MILSTRAP MILSTRIP DTEDI	ESTABLISH A ROD DATABASE.	90-015
2	MILSTRAP MILSTRIP SDR DTEDI	MODIFY DEPOT MATERIEL RECEIPT TRANSACTIONS.	90-017
2	DTEDI MILSTEP MILSTRIP MILSTRAP	EXPAND MATERIEL RECEIPT ACKNOWLEDGMENT PROCEDURES.	90-019
2	MILSCAP SDR MILSTRIP	TRANSMIT INVOICE CERTIFICATIONS ELECTRONICALLY TO HELP ACCOUNTING AND DISBURSING OFFICES COMPLY WITH TIME STANDARDS ESTABLISHED IN THE PROMPT PAYMENT ACT.	90-020
2	MILSTAMP	MTMC RECOMMENDS A REDUCTION IN THE PRESENT VOLUME OF DETAILED LINE ITEM INFORMATION CARRIED IN TRANSPORTATION DOCUMENTATION TO MEET SUPPLY SYSTEM REQUIREMENTS. USAF OPPOSING VIEWPOINT RECOMMENDS THE INCLUSION OF DATA (NEW TRAILER RECORDS) FOR AUTOMATIC LOAD PLANNING AND MANDATORY INCLUSION OF NSN/FSN IN ALL ATCMD/TCMDS.	90-021
2	MILSTAMP	EXPAND MILSTAMP EDI FORMATS TO INCLUDE INTRANSIT DATA TRANSACTIONS.	90-022
2	MILSTAMP	EXPAND MILSTAMP EDI FORMATS TO INCLUDE TAA AND TAB MANIFEST HEADER CARDS.	90-023
2	MILSTRAP MILSTRIP DTEDI	CONSOLIDATION POINT PROCESSING FOR SHIPMENTS AND RETURNS.	90-026
2	MILSTRAP	ASSET VISIBILITY INITIATIVE, DMRD 901.	90-027

Total Records this Report = 153

APPENDIX D

KEY MODELS-RELATED MEMORANDA

KEY MODELS-RELATED MEMORANDA

This appendix contains one-line summaries of several key memoranda related to the Modernization of Defense Logistics Standard Systems (MODELS). It includes the March 1984 memoranda that initiated the project and also a few electronic data interchange (EDI) memoranda that are not directly related to MODELS. The memoranda are listed in chronological order.

1 2 MAR 1984

MANPOWER
INSTALLATIONS
AND LOGISTICS

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY (IL&FM)
                ASSISTANT SECRETARY OF THE NAVY (S&L)
                ASSISTANT SECRETARY OF THE AIR FORCE (RD&L)
                DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Modernization of Defense Logistics Standard Systems

As you know, our logistics systems are critical to mission performance and force readiness. Currently, Defense Components are engaged in the large-scale replacement and modernization of their automated logistics management systems. If we are to take full advantage of the opportunities offered by emerging ADP and telecommunications technologies and the ongoing modernization process, then special attention must be directed toward upgrading the Defense Logistics Standard Systems (DLSS). Sometimes referred to as the MILS, these standard systems provide uniform policies, procedures, forms, reports, documents, data elements, and time standards which serve as essential procedural bridges between, among and within DoD logistics management systems.

Since their inception in the 1960's and 70's the DLSS have served to encourage the automation of logistics functions, facilitate communications among systems and improve logistics systems performance throughout the DoD. However, as they have matured and become more embedded into logistics operating systems, the DLSS progress has become constrained increasingly by the capabilities and responsiveness of the slowest, most outdated Service management system. Such constraints also impact on the systems modernization efforts of the DoD Components.

To assure that the DLSS can continue to develop and maintain pace with technology and component modernization efforts, I am hereby establishing a Joint DoD Task Group for the Modernization of Defense Logistics Standard Systems (MODELS). The objectives of the task group are to: (1) identify the objectives, goals, scope and applicability of the modernization effort; (2) develop, coordinate, obtain approval of, and maintain a Five Year Plan (FYP) to include specific tasks, events, timetables and resource requirements; and (3) monitor the progress of tasks identified in the FYP necessary to accomplish the planned modernization.

It is essential that this effort be viewed not merely as an update of assorted procedures but as a fundamental redesign of the way DLSS functions are performed. The Task Group must approach modernization in a manner which is geared to accommodate the capabilities of our most progressive systems,

while retaining a capability to service our most outdated systems. To do this effectively, the MODELS Task Group should combine a complete understanding of the logistics requirements with a thorough grasp of information technology.

The task group will be chaired by Mr. Jack Bartley of my Office. The Project Manager will be the Chief of the Defense Logistics Standard Systems Office. Administrative support, including contractual support as required, will be provided by the Defense Logistics Agency (DLA). It is requested that each of the Military Services and DLA designate (1) an Office of Primary Responsibility (OPR) to serve as the staff point of contact on matters pertaining to the MODELS project; and (2) a knowledgeable individual to serve on the Project MODELS task group. It is anticipated that the task group will meet essentially full time for an initial period of 30 days to develop a proposed MODELS FYP in accordance with the attached guidance and periodically thereafter contingent upon approved FYP schedules. Designations of OPRs and task group members should be provided to this Office by memorandum not later than 45 days from the date of this memorandum.

Your cooperation and support in this critical endeavor are needed if we are to achieve our mutual objectives of improved logistics management systems and more efficient use of DoD resources.

Signed

Herbert W. McCarthy
Acting Deputy Assistant Secretary of Defense
(Logistics and Materiel Management)

Enclosure
  As stated

cc: Cdt, U.S. Marine Corps
     Director, J-4, JCS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-4000

24 JUN 1985

**MANPOWER,
INSTALLATIONS
AND LOGISTICS**
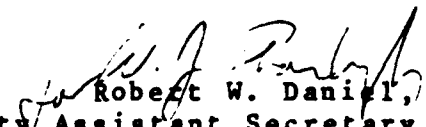
MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY(I&L)
                   ASSISTANT SECRETARY OF THE NAVY(S&L)
                   ASSISTANT SECRETARY OF THE AIR FORCE(RD&L)
                   DIRECTOR OF THE DEFENSE LOGISTICS AGENCY

SUBJECT: Plan for Modernization of the Defense Logistics
           Standard Systems (MODELS)

     The Logistics Management Institute (LMI) is developing a
draft plan for the Modernization of the Defense Logistics
Standard Systems (MODELS). Your cooperation is needed to assure
the plan reflects your requirements, assesses properly the
impacts on your system, and provides for effective interchange of
logistics data throughout the DoD.

     Please provide briefings and information as requested by LMI.
Mr. Paul Young, the LMI Project Leader, will arrange mutually
convenient times for the briefings. The subject plan will
encompass all elements addressed in DoD Directive 4000.25,
Subject: "Administration of the Defense Logistics Standard
Systems." LMI is interested in those systems which are affected
by that Directive.

     Your full support of and cooperation with this important
study effort will be appreciated and will benefit the entire DoD
logistics community through development of a new, truly effective
logistics information system for tomorrow's needs.

                              Robert W. Daniel, Jr.
                    Deputy Assistant Secretary of Defense
                       (Logistics and Materiel Management)

D-7

ACQUISITION AND
LOGISTICS

21 JUL 1986

L/SD

MEMORANDUM FOR THE DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Modernization of the Defense Logistics Standard Systems
(MODELS) Project

The first phase of the MODELS project will be completed at the end of this Fiscal Year. This plan will form the foundation for many of the major revisions in automated information processing in the Department of Defense which will occur in the next decade. Continuation of the MODELS process requires the initiation of two new projects. We have reviewed the proposed statements of work for these projects and concur with the initiation of both projects in early FY87.

The project entitled, "MODELS Transactions and Procedures Development," will redesign the basic Defense Logistics Standard Systems (DLSS) transaction sets and will be completed in FY88. The second project, entitled, "MODELS System Architecture Prototype Development and Implementation," will develop and test a prototype system based on the MODELS concept and will be completed in FY89.

Funding for the MODELS effort will continue to be provided by the Defense Logistics Agency (DLA) and the Defense Logistics Standard Systems Office (DLSSO) will continue to function as the MODELS Project Manager.

Success of the MODELS project is critical to the overall DoD logistics management information system modernization process. All of the Services and DLA are in various stages of modernizing their logistics management systems. The MODELS concepts are being integrated into all of these systems efforts. Continued high priority should be given to assuring the continuity and success of the actions set in motion by the MODELS Plan.

Maurice N. Shriber
Deputy Assistant Secretary of Defense
(Logistics)

MAR 20 1987

ACQUISITION AND
LOGISTICS
L/SD

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
ASSISTANT SECRETARY OF THE NAVY (S&L)
ASSISTANT SECRETARY OF THE AIR FORCE (A)
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Modernization of the Defense Logistics Standard
Systems (MODELS)

In March 1984, the Department of Defense embarked on a
major modernization program which affects all of the Defense
Logistics Standard Systems (DLSS), e.g., MILSTRIP, MILSTRAP.
The MODELS program will redefine the DLSS functions in terms of
the changes in information technology which have occurred since
the DLSS inception in the early 1960s. The planning phase has
now been completed and the basic planning documents are now
being disseminated. Your analysis of these documents will allow
you to determine how your internal modernization efforts will
interact with the total DoD logistics system.

The next phase, operational development, is beginning with
two projects: design and development of the new variable length
DLSS transactions, and design, development and prototype
operation using MODELS transactions in the Logistics Gateway
Node (LGN) architecture. These projects will require active
participation by the Services and Agencies. The projects will
be accomplished by project teams chaired by the Defense
Logistics Standard Systems Office (DLSSO) and will consist of
personnel from DLSSO, the Logistics Management Institute, the
Military Services and DLA. Service/Agency committees will be
required to assist DLSSO in the development of the information
necessary to support the project teams.

The MODELS program is a significant undertaking which will
impact Defense logistics operations and management well into the
next century. Your full support of this DoD-wide effort is
requested.

Robert B. Costello

0 1 MAY 1987

PRODUCTION & LOGISTICS

L/SD

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
                ASSISTANT SECRETARY OF THE NAVY (S&L)
                ASSISTANT SECRETARY OF THE AIR FORCE (A)
                DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Modernization of the Defense Logistics Standard
         Systems (MODELS) Conceptual Design, Implementing
         Strategy, and Work Plans

        Three basic MODELS documents are enclosed for your review
and appropriate action. The Concept and Plan for Modernizing
the Defense Logistics Standard Systems is the third phase of the
initial MODELS development action - establishment of a MODELS
Five Year Plan. The previous two phases - A Report on Current
Logistics Systems Concepts, December 1985, and Defense Logistics
Standard Systems Functional Requirements, March 1987 - were
previously provided to you. The final phase of the development
effort - publication of the Five Year Plan - is scheduled to
occur in June 1987. The Five Year Plan will use the initial
three documents as the basic sources for establishing the MODELS
system design and transition program.

        The other two enclosed documents begin the initial actions
of system design and prototype testing. These documents are the
respective work plans for developing the: "MODELS Data Base,
Transactions, and Procedures" and "MODELS System Architecture
Prototype." The work plans each contain schedules, project
responsibilities and manpower requirements involving all of the
MODELS participants (including the Military Services and Defense
Agencies). Further details of the manpower requirements and
schedules will be provided under separate cover.

        Your continuing support of MODELS is essential to insuring
that the logistics systems of the nineties and beyond are based
on a coherent DoD-wide strategy emphasizing flexibility, growth,
and modern communications networking capabilities.

                                    H.D. Weatherson
                                    Acting Deputy Assistant
                                        Secretary of Defense
                                    (Logistics)

Enclosures

ODUCTION AND
LOGISTICS

JUN 15 1987

L/SD

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
ASSISTANT SECRETARY OF THE NAVY (S&L)
ASSISTANT SECRETARY OF THE AIR FORCE (A)
DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY
DIRECTOR, J-4, JOINT STAFF, JCS

SUBJECT: Modernization of the Defense Logistics Standard
Systems (MODELS) - Working Groups

Planning the Modernization of the Defense Logistics
Standard Systems (MODELS) has been accomplished by the Logistics
Management Institute (LMI) and the Defense Logistics Standard
Systems Office (DLSSO). MODELS now requires a broader base for
its development actions - the commitment of Service and Agency
personnel and internal and inter-Service/Agency planning.

The amount of Service/Agency participation was identified
in the two work plans forwarded by DASD(L) memorandum of 1 May
1987. The work plans require joint development of transactions,
Logistics Gateway Node (LGN) architecture and interface design.
Individuals with the requisite capabilities should be designated
as the Service/Agency participants for each of these projects.

Enclosed are the MODELS Functional and Technical working
group charters. The two working groups will define issues
requiring resolution by the MODELS Project Manager or through
individual or joint Service/Agency action.

The working groups will commence operations as soon as
possible. Identify your representatives to DLSSO by June 19,
1987. Details of work plan participation will be discussed by
the two working groups. Questions should be directed to Mr.
Charles Strong (274-4701), DLSSO MODELS Administrator, or Mr.
Richard Allen of my staff (697-3151).

Robert B. Costello

Enclosures

The FYP will identify, prioritize and schedule actions which will address:

a. Establishment of a mechanism to assure continuing dialogue and close coordination between the DoD Task Group and Defense Logistics Standard Systems (DLSS) Administrators and Focal Point Committees, and organization elements of the DoD logistics community engaged in DoD Component logistics management systems modernization.

b. Inventory of existing and planned interfacing logistics systems which prescribe the collection, reporting and/or interchange of logistics data and information between two or more DoD Components.

c. Assessment of opportunities and capabilities of telecommunications networks with particular attention to potential uses for remote inquiry, packet switching and electronic mail.

d. Extensive evaluation of advanced data interchange plans and programs of private industry and other government agencies.

e. Development of standard guidelines and criteria to be applied to the modernization of the 14 DLSS identified in DoD Directive 4000.25 to include the process of transition from current to modernized procedures.

f. Institution of essential controls over the identification and configuration of the DLSS prior to, during and after their transition from existing to future modernized design.

g. Identification of specific modernization planning actions for the 14 DLSS.

h. Inventory and standardization of logistics data elements, terms and abbreviations.

i. Development of guidelines and criteria for the use and maintenance of logistics data element dictionaries/directories.

j. Utilization of the DoD Logistics Data Resources Management System (LOGDRMS) as the vehicle for automated system in support of the project operations.

Enclosure (1)

PRODUCTION AND
LOGISTICS

SEP 23 1987

L/TP

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
                ASSISTANT SECRETARY OF THE NAVY (S&L)
                ASSISTANT SECRETARY OF THE AIR FORCE (RS)
                DIRECTOR, J-4, OJCS
                DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Electronic Data Interchange (EDI) Program Office

      Over the past several years, we have been pursuing various
new technologies to increase productivity within logistics. One
very promising opportunity is the use of EDI to transfer
business information from one computer to another. To explore
the benefits of EDI, we initiated a test to determine the
feasibility of substituting EDI for the paper copy of the
Government bill of lading which is used extensively in the
transportation of military shipments. This test has proven very
successful in demonstrating that significant benefits can be
derived by integrating EDI into our transportation operations.
So that we can take full advantage of these benefits, I have
tasked the Logistics Management Institute to develop a long
range plan to fully integrate EDI into defense transportation.

      Critical to effecting such a plan is the establishment of a
program office to manage and coordinate the many requirements
necessary for implementing a successful EDI program. The
Defense Logistics Standard Systems Office (DLSSO), consistent
with its responsibility for the Modernization of Defense
Logistics Systems (MODELS) project, is hereby designated as the
DoD's Logistics EDI Programs Management Office.
Responsibilities under this tasking include all actions incident
to coordinating, implementing and expanding the EDI effort;
providing functional and technical support to the Services and
Defense Agencies; and representing the DoD on appropriate EDI
standards committees.

      Since the principal focus of the EDI efforts to date has
been on transportation, the MILSTAMP office within DLSSO and the
supporting MILSTAMP Committee will begin functioning in this
capacity immediately. To provide the necessary resources to
move rapidly into the EDI environment, a moratorium is being
placed on changes to MILSTAMP. Any exceptions to this
moratorium must be approved by the Chief, DLSSO.

In view of these changes, it is recommended that you and your subordinate elements review your participation on the MILSTAMP committee and make adjustments as necessary to support the EDI program.

DLSSO will also initiate development of a program and schedule for expanding the EDI orientation beyond transportation and MILSTAMP to all DoD logistical applications and associated logistics standard systems committees. This will be accomplished in coordination with the components' logistics organizations.

We solicit your full cooperation in supporting DLSSO in carrying out this responsibility.

John A. Mittino
Deputy Assistant Secretary
(Logistics)

i

PRODUCTION AND
LOGISTICS

(L/SD)

NOV 12 1987

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
ASSISTANT SECRETARY OF THE NAVY (S&L)
ASSISTANT SECRETARY OF THE AIR FORCE (R)
DIRECTOR, LOGISTICS, JOINT STAFF
DIRECTOR, DEFENSE COMMUNICATION AGENCY
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Concept for the Modernization of the Defense
Logistics Standard Systems (MODELS)

The MODELS program is a major pillar of the planned
logistics system of the future. MODELS, in conjunction with our
other major efforts to redesign the DoD distribution system and
to initiate supply management procedures based on weapon system
requirements, will place the business of Defense logistics into
the efficient and responsive mode required for our entry into
the 21st century.

The enclosed MODELS Concept and Plan establishes the policy
and basic methodology for executing the transition from our
current method of logistics information interchange to the
MODELS. The Military Departments and Defense Agencies have been
asked to participate more actively in the MODELS development
effort through membership on joint MODELS development teams.
More specific details of the design, test, and transition will
be made available through the actions of the development teams.

Your continued support of the MODELS process is crucial to
the success of the total effort to revitalize our logistics
processes.

Robert B. Costello

Enclosure

PRODUCTION AND
LOGISTICS

APR 2 1 1988

(L/SD)

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (I&L)
                ASSISTANT SECRETARY OF THE NAVY (S&L)
                ASSISTANT SECRETARY OF THE AIR FORCE (RS)
                DIRECTOR, LOGISTICS, JOINT STAFF
                DIRECTOR, DEFENSE COMMUNICATIONS AGENCY
                DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Modernization of the Defense Logistics Standard
         Systems (MODELS) Prototype Test Program

     The MODELS program is currently progressing on several
levels. Defense Logistics Standard Systems (DLSS) transactions
are being redesigned using variable length Electronic Data
Interchange (EDI) formats. The technical aspects of the
communication process are being examined in the context of
alternative network structures. To evaluate and validate the
effectiveness of functional redesign, we will develop and
prototype test machine-independent software packages for
translating from current formats and data elements to the MODELS
standards.

     Representatives of the Military Services, Defense Agencies,
and the Joint Staff are participating in the functional and
technical redesign of the system. To ensure that the prototype
test program continues the established policy of involving all
of the principal users of the DLSS in the development and
evaluation process, your participation in the MODELS prototype
test is requested.

     The test will begin with two sites and a single transaction
(preferably a basic document, such as the requisition) in late
1988, and expand its scope over a two-year period. When the
test is completed, transactions from multiple logistics func-
tions (e.g., supply, transportation, contract administration and
billing) will have been tested. Participation in the test will
include a site from each Service and Agency to assure that all
required functions are tested.

The central functions of the test will include:

o   Verification that the new transactions:

    o   encompass the functionality of the current DLSS.

    o   convey all additional information not currently
       supported by the DLSS but required by the Services
       and Agencies.

o   Evaluation of the effectiveness, portability, and
    maintainability of the machine-independent software
    used to translate between current transactions and EDI
    transactions.

o   Evaluation of the ability of the revised structure to
    support changes resulting from new DoD information
    requirements or modernization actions by the Services
    and Agencies.

To assist in developing the detailed criteria to assess
the MODELS design, Services and Agencies should propose the test
sites and the DLSS transactions to be included. The proposal
may include transmitting information (e.g., weapons systems or
contract data), not supported by the current DLSS, that can be
incorporated into the new variable length formats. Full
participation in the MODELS test will enable development of
transactions which are compatible with ongoing modernization
efforts, thus minimizing the need for Service and Agency system
revisions to accommodate the revised DLSS.

Approved software will be used in the evaluation of
alternative network solutions and will be used in all MODELS
implementations. Your proposals regarding test sites,
transactions, and other aspects of the MODELS Prototype Test
should be forwarded to the Defense Logistics Standard Systems
Office (DLSSO) by May 13, 1988, to ensure continued progress of
the MODELS schedule.

To provide senior involvement, I am establishing a MODELS
steering group, chaired by Mr. James H. Reay of my staff, with
OSD, Service, and DLA representation. This group will assist
with prioritization, organization and assessment of MODELS
proposals developed by the technical and functional working
level groups. Please provide your representative's name to Mr.
Richard E. Allen (697-3151) of my staff or to Mr. Horace E.
Perdieu, Chief, DLSSO (274-4701).

Jack Katzen
Assistant Secretary of Defense
(Production & Logistics)

2 4 MAY 1988

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
             DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Electronic Data Interchange of Business-Related
         Transactions

     Consistent with our commitments to improve productivity and
move toward a paperless environment, all DOD Components should
make maximum use of electronic data interchange (EDI) for the
paperless processing of all business-related transactions.

     The Assistant Secretary of Defense (Production and
Logistics) will direct the timely, effective and consistent
implementation of EDI between DOD and industry. The American
National Standards Institute X12 uniform standards for
inter-industry electronic interchange of business transactions
will be employed as the standard for EDI, providing a common
approach to implementation and a single, coordinated DOD
position to industry.

     The Assistant Secretary of Defense (Production and
Logistics) will establish program guidance with the goals of
orderly and timely transition to the adopted standard and
acceptance of EDI as the normal way of doing business with DOD
by the early 1990s. Any applications affecting disbursing,
accounting or payment systems will be coordinated with the
Assistant Secretary of Defense (Comptroller).

                              William H. Taft, IV

DEFENSE LOGISTICS
STANDARD SYSTEMS OFFICE

Mr. Earl J. Bass
Chairman, ANSI-X12
EDI Inc.
19630 Clubhouse Rd.
Gaithersburg, MD 20879

Dear Mr. Bass:

As you suggested in your discussions with our support contractor, the Logistics Management Institute (LMI), the Defense Logistics Standard Systems Office (DLSSO) is herein requesting reservation of blocks of numbers for transaction sets, segments, and data elements for DOD use in drafting and designing of variable-length transactions.

As you know, DoD is taking an increasingly active role in the development and use of variable-length transactions to conduct its business internally as well as with the commercial sector. The Modernization of Defense Logistics Standard Systems (MODELS) Program is directed toward the restructuring of the Defense Logistics Standard Systems (DLSS) procedures, formats, and interchange of data. The Defense Transportation Electronic Data Interchange (DTEDI) Project will further the use of EDI techniques between DoD and its supporting commercial carriers. The DLSS prescribe a large number of transactions which support DoD logistics functions (supply, transportation, acquisition, etc.). While many of these transactions are internal to DoD, it is our hope that the conversion of these transactions to variable-length formats will create an environment which will promote the use of EDI between DoD and industry.

DLSSO, with the support of LMI, is converting the present fixed record formats to variable-length formats using the ANSI X12 syntax as a basis. We, therefore, would like to reserve the use of transaction sets 500-599 and data element 1000-1249. In regard to segments, whatever blocks of initials deemed appropriate would be acceptable to DLSSO. Please advise us, at your earliest convenience, of what you, as the ANSI X12 Chairman, consider appropriate in supporting these DoD efforts.

Sincerely,

Director
Defense Logistics Standard
   Systems Office

cc:
DASD(L)SD
DASD(L)TP
LMI

ASC X12-ELECTRONIC DATA INTERCHANGE [EDI]

Accredited Standards Committee
operating under the procedures of the
American National Standards Institute

Earl (Buddy) Bass
ASC X12 CHAIR
(301) 670-0811
Kenneth R. Hutcheson
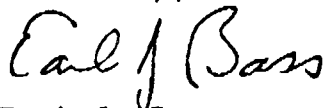ASC X12 VICE CHAIR
(302) 774-2425

Document No.: ASC X12S/88-114

June 1, 1988

Horace E. Ferdieu
Director
Defense Logistics Standard System Office
Office of the Secretary of Defense
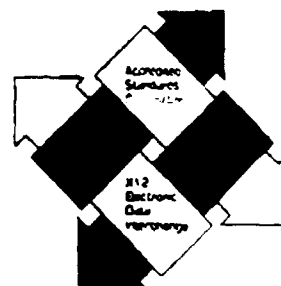6301 Little River Turnpike, Suite 210
Alexandria, VA 22312-5044

Dear Mr. Ferdieu:

Your letter regarding reserving blocks of identifiers for
transaction sets, segments and data elements has been forwarded
to our Technical Assessment Project team. This team (meeting on
June 8) will recommend a response to the ASC X12B subcommittee
which is the responsible body for maintenance of all standards
data. This subcommittee (meeting the week of August 8) will
prepare an official response. The transaction set numbers 500-
599 have been reserved.

Sincerely,

Earl J. Bass
ASC X12 Chair

D-29

DEFENSE LOGISTICS
STANDARD SYSTEMS OFFICE

MEMORANDUM FOR MODELS FUNCTIONAL WORKING GROUP REPRESENTATIVES

SUBJECT: MODELS Program Enhancements

The planned approach in accomplishing the MODELS program has been to address tasks in phases. Phase 1, which translated the current Defense Logistics Standard Systems (DLSS) (with limited enhancements) into EDI Syntax formats, is essentially complete and the transactions are being incorporated into the MODELS test.

Phase 2 is to collect and analyze potential DLSS enhancements. A list of enhancements identified by the MODELS Functional Working Group (FWG) is attached (Attachment 1). Request that this list be forwarded to your applicable functional/technical experts for review and comment. In addition, request FWG representatives query their Service/Agency for additional enhancements using the attached format (Attachment 2). Enhancements should not be constrained by any current limitation of the DLSS. The only requirement is that proposed enhancements be based on a justifiable need.

Some factors to consider when submitting responses are:

o We anticipate that the initial MODELS Baseline target date will be established in late 1991.

o In the MODELS environment there will be greater ability to support Service/Agency unique data to include data that is exchanged via intra-Service/Agency transactions.

o Not all Services/Agencies need to implement a feature at the same time.

o Recommended enhancements may be either major or minor and may apply to current or new transactions.

o Enhancements that a Service/Agency can utilize to support the MODELS Baseline target date should be identified as near-term enhancements.

o Enhancements which would require significant changes in DoD policy, extensive revision of Service/Agency logistics procedures, or supporting ADP systems should be identified as long-term enhancements.

Our intent in Phase 2 is to implement as many Service/Agency needed enhancements as possible. Enhancements that we are not able to implement in Phase 2 will be considered for the recommended redesign of the DLSS to be submitted for DoD's consideration in late 1990.

Request that all enhancements be submitted to DLSSD, ATTN: DLSSD-B, no later than 16 June 1989. We will coordinate the responses and prepare them for a combined Functional/Technical working group review meeting to be held 28-30 June 1989.

This is an important step in the MODELS effort toward making the DLSS responsive to both OSD and Service/Agency logistics information requirements and we appreciate your cooperation. If we can provide any assistance or additional information, please contact Mr. Jim Lewis, 202-274-6062 (AUTOVON 284-6062).

HORACE E. PERDIEU
Director
Defense Logistics Standard
Systems Division

Attachments:
1. MODELS Phase 2
2. DLSS Enhancement Proposal

cc:
TWG Chairman
DTEDI Chairman

ASC X12-ELECTRONIC DATA INTERCHANGE (EDI)

Accredited Standards Committee
operating under the procedures of the
American National Standards Institute

Kenneth R. Hutcheson
ASC X12 CHAIR
(302) 774-2425
James D. Sykes II
ASC X12 VICE CHAIR
(415) 544-1421

ASC X12X/90-178
April 2, 1990

James H. Reay
Director, Supply Management Policy
Office of the Assistant Secretary of Defense for
    Production and Logistics (L/SD)
Washington, DC 20301-8000

Dear Mr. Reay:

As Chair of the ANSI Accredited Standards Committee X12, I am writing to ask whether the Department of Defense intends to submit to ASC X12 the transaction sets it is developing under the MODELS project.

Since the 1988 Taft memorandum and the 1989 draft FIPS both mandate the use of ASC X12 standards, we have assumed that DoD EDI would be based on these standards. With this understanding, Mr. Earl Bass, the previous ASC X12 Chair, agreed last year to reserve the 5XX series of transaction set ID's for DoD's use. But, while we understand that the MODELS transaction sets under development use the ASC X12 syntax, segments, elements and codes, we have not seen anything yet.

Does DoD intend to operate under ASC X12 or publish and maintain its own standards? If DoD intends to use ASC X12, we need to set a timetable so we can prepare adequately. We also need to stay current to avoid overlap in data element and segment identifiers. If DoD intends to stay outside ASC X12, we are concerned that DoD will ask the private sector to exchange data in a DoD-specific format that duplicates functions that are already standardized in X12. We would also need to release the 5XX series transaction set ID's for use elsewhere within ASC X12.

I look forward to clearing up the uncertainty over this issue and to working with the DoD hopefully to incorporate its needs into the family of X12 standards.

Sincerely,

Kenneth R. Hutcheson
Kenneth R. Hutcheson
ASC X12 Chair

cc: ASC X12 Steering Committee

RECEIVED

-8 1990

D-33
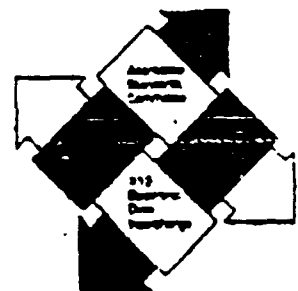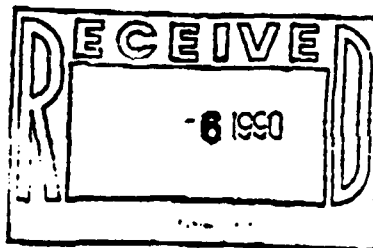
PRODUCTION AND
LOGISTICS

May 7, 1990

(S/AS&T)

MEMORANDUM FOR DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Executive Agent Assignment for Electronic Data Interchange
and Data Protection

The Department of Defense (DoD) is dedicated to creating an
electronic (paperless) environment for conducting commerce and
achieving significant gains in quality, responsiveness, and savings
afforded by such an environment. In support of this goal, I am
designating the Defense Logistics Agency to act as DoD's Executive
Agent for implementing and maintaining Defense-wide programs for; (a)
Electronic Data Interchange (EDI) in accordance with DepSecDef
memorandum of May 24, 1988, subject: Electronic Data Interchange of
Business-Related Transactions; and (b) Protection of Logistics
Unclassified/Sensitive Systems (PLUS) in accordance with ASD(P&L)
memorandum of November 21, 1989, subject: Production and Logistics
Task Group for Data Protection.

These programs shall be administered under the guidance and
direction of the ASD(P&L), who shall work with other OSD offices to
ensure appropriate direction, coordination, and oversight of these
efforts. DLA will establish a joint program office to oversee the
implementation of these programs. The Director, DLA shall ensure
compliance with policies and standards, provide standard
implementation guidelines, establish support agreements, and maintain
controls over standard support components for use throughout DoD.
Where appropriate, DLA shall provide common user systems, facilities,
services, and shall ensure a "single face to industry" for these
programs.

Based upon the attached guidance, please submit an Executive
Agent Plan within 30 days from the date of this letter and initiate
action to incorporate this assignment into the DLA Charter.

David J. Berteau
Principal Deputy

Attachment

D-35

EXECUTIVE AGENT TASKING

Overall:

Provide coordinated approach for implementation of Protection of Logistics Unclassified/Sensitive (PLUS) and Electronic Data Interchange (EDI) throughout DoD and with industry.

Detailed functions:

o   Maintain and promulgate implementation guidelines for PLUS and EDI.

o   Provide common user support standards and services including directories, dictionaries and commercial contracts to ensure consistent and available support for all DoD users.

o   Maintain configuration control of related standards and common support packages (e.g. versions of X.12 and PLUS algorithms employed), participate in the standards process, and ensure compliance with approved standards.

o   Actively promote implementation of both EDI and PLUS within DoD and with industry.

o   Establish and promulgate aggressive implementation plans and schedules consistent with OSD direction and in coordination with all DoD components. Give special attention to supporting Defense Management Review actions (e.g. Contract Management) and ensuring that EDI implementation is coordinated and consistent with related initiatives such as Modernization of the Defense Logistics Systems (MODELS) and Computer-aided Acquisition Logistics Support (CALS). Ensure early implementation of EDI and PLUS in DLA.

o   Work with DoD components and industry to extend EDI implementation focusing on broad DoD/industry implementation (e.g. by industry, commodity, dollar value, function, transaction set) giving special attention to small business involvement.

o Establish and maintain a standard mechanism for data
   protection and user authentication, (e.g. key
   management and control under PLUS).

o Develop and propose Executive Agent management
   initiatives that would promote efficient, timely,
   responsive, and standard EDI/PLUS implementations.
   Include the appropriate application of modern
   technologies such as facsimile, bulletin boards, E-mail
   and ISDN.

o Budget and support all Executive Agent functions
   including common support services (e.g. value added
   networks) ensuring that funds programmed for the
   Executive Agent function are spent for the purpose.

o In conjunction with the OASD(P&L) focal point, keep all
   appropriate DoD offices and steering groups apprised of
   plans and progress. In particular keep the DoD
   Comptroller informed about any applications affecting
   disbursing, accounting, and payment.

DEFENSE LOGISTICS
STANDARD SYSTEMS OFFICE

0 3 JUL 1990

Mr. Kenneth R. Hutcheson
Chair, ANSI ASC X12
1800 Diagonal Road, Suite 355
Alexandria, VA 22314

Dear Mr. Hutcheson:

Your letter, ASCX12X/90-178 of April 2, 1990 requested certain information concerning transaction sets being developed under the Modernization of Defense Logistics Standard Systems (MODELS) program.

The Director, Supply Management Policy, Office of the Deputy Assistant Secretary of Defense (Logistics), in response to your request of May 17, 1990, indicated that a firm baseline of MODELS transaction sets, data segments and data elements would be available on July 1, 1990.

A copy of the MODELS baseline documentation developed by the Logistics Management Institute (LMI), under the direction of this office, is attached herewith for your information and as a basis for inclusion in appropriate ANSI ASC X12 standards.

Please note that the Defense Logistics Management System (DLMS) is the name of the system planned to utilize the developed transaction sets commencing in October 1991.

Requests for clarification or additional information concerning the baseline should be directed to the Director, Defense Logistics Standard Systems Division, telephone 274-4701.

Sincerely,

HORACE E. PERDIEU
Director
Defense Logistics Standard
Systems Division

Attachment:
As stated

D-39

ASC X12-ELECTRONIC DATA INTERCHANGE (EDI)

Accredited Standards Committee
operating under the procedures of the
American National Standards Institute

Kenneth R. Hutcheson
ASC X12 CHAIR
(302) 774-2425
James D. Sykes II
ASC X12 VICE CHAIR
(415) 544-1421

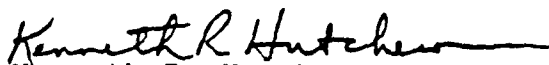ASC X12X/90-434
July 19, 1990

Mr. Horace E. Perdieu
Director, Defense Logistics Standard Systems Div.
Office of the Assistant Secretary of Defense for
   Defense Logistics Standard Systems
6301 Little River Turnpike, Suite 210
Alexandria, VA   22312-5044

Dear Mr. Perdieu:

   I have received your submission of the transaction
sets, data segments and data elements developed for the
MODELS program. This material will be officially logged in
and forwarded to the X12 Technical Assessment Subcommittee
for assignment to a subcommittee (probably the X12
Government Subcommittee) for processing through the X12
Committee.

   Because you have submitted a large package for us to
consider and particularly because this package proposes new
transaction sets, segments and data elements that appear to
duplicate existing X12 counterparts, I strongly suggest that
you ensure that MODELS representatives are assigned to work
with X12. Because X12 provides an open-forum, consensus
process, I cannot guarantee that your package will be
approved as submitted; your active participation will ensure
that X12 will meet your needs in the final approved package.
Please contact Ray Hipsher to coordinate your participation.

   Sincerely,

Kenneth R. Hutcheson
ASC X12 Chair

cc: X12 Steering Committee
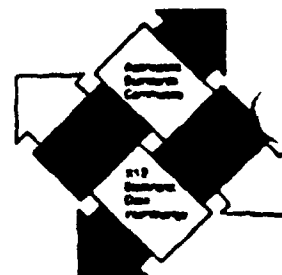
APPENDIX E

MODELS TRAINING PERFORMED

MODELS TRAINING PERFORMED

The table below lists the MODELS training provided to various Service or agency activities.

TABLE E-1

MODELS TRAINING

Date	Organization/Audience	Location
8 – 9 Mar 88	MODELS Working Group Representatives	Washington, DC
22 – 23 Mar 88	USAF AFLC, DAASO	Dayton, OH
24 – 25 Mar 88	USMC MCLB	Albany, GA
28 – 29 Mar 88	USN Supply Systems Command	Washington, DC
30 – 31 Mar 88	DLA	Washington, DC
23 Jun 88	USN Ships Parts Control Center/FMSO	Mechanicsburg, PA
13 Dec 88	DLA	Washington, DC
21 – 23 Feb 89	USN Comptroller Standard Systems Activity	Pensacola, FL
20 Jun 89	Army Logistics Center	Petersburg, VA
29 Jun 89	Army Systems Integrated Management Agency	Letterkenney, PA
6 Jul 89	Army Materiel Command	Washington, DC
8 – 11 Aug 89	Army Systems Integrated Management Agency	St. Louis, MO
10 – 13 Sep 89	Army Information Systems Command	Ft. Huachuca, AZ
26 Sep 89	Army Material Systems Readiness Agency	Lexington, KY
14 Nov 89	USAF Standard Systems Center	Montgomery, AL
31 Jul 90	Service and agency Central Design Agencies	Washington, DC
16 Aug 90	USN Ammunition Central Design Agencies	Crane, IN

TABLE E-1

MODELS TRAINING (CONTINUED)

Date	Organization/Audience	Location
7 Sep 90	USN FMSO	Mechanicsburg, PA
14 Sep 90	USCG HQ	Washington, DC
28 Sep 90	USN Naval Materiel	Norfolk, VA
10 Oct 90	USMC MCLB	Albany, GA
15 Jun 91	USN Naval Material Transportation Office	Norfolk, VA
22 Apr 91	USN Ramp Facility	Charleston, SC
29 Apr 91	USCG, Supply Activities	Bethesda, MD

APPENDIX F

SERVICE AND AGENCY PARTICIPATION

SERVICE AND AGENCY PARTICIPATION

In this appendix, we explain how the Military Services and Defense agencies can prepare for the Defense Logistics Management System (DLMS). We describe how they can become DLMS participants, connect typical sites to the new transaction network, and develop a plan of action. We also suggest some initial steps a participant should take, and we present a preparation checklist. The Services and agencies should tailor the guidance in this chapter to their needs and incorporate DLMS into their own long-term logistics processes and information systems plans.

BECOMING A MODELS PARTICIPANT

Several ground rules underlie DLMS participation. Besides complying with these rules, new participants should also maintain software compatibility, allocate material resources (prepare a site), and assign staff to prepare for Defense Logistics Standard Systems (DLSS) modernization.

Ground Rules

Participation in the MODELS program is based on the following conditions:

- Participants do not have to be electronic data interchange (EDI)-capable when the DLMS becomes operational. The new system will support both fixed- and variable-length formats for a long transition period. Participants should use that period to select pilot systems for conversion, collect new data, revise procedures, and extensively test application programs.

- Participants must give Defense Logistics Standard Systems Division (DLSSD) their implementation/conversion plans and keep the logistics community informed of their progress in meeting those plans.

- Participants must remain informed of the status of other logistics activities, especially the ones with whom they share information.

- Participants must abide by the transaction formats, procedures, and network specifications published by DLSSD.

- The DLSS modernizations are directed at buffering changes in the functional transaction and procedure baseline from applications in the field.

However, to take full advantage of MODELS, those field applications must capture and process the data specified in the DLMS.

By adhering to these ground rules, the Services and agencies can establish methods for initiating and supporting compatibility with the DLMS.

Applications Software Compatibility

Logistics activities must support the Local Gateway Node (LGN) application program (server) interface software on their host computers and keep their applications compatible with the DLSS. To support the server interface, a Service or agency host computer must incorporate the LGN interface protocol. To communicate with an LGN or central logistics gateway node (CLGN), applications will need software links to the LGN via application program interfaces. Defense Automated Addressing System Office (DAASO) will publish and distribute the specifications for the interface software. Once an application supports this interface, central design activities must ensure that future releases of the application software maintain them as well.

A Service or agency must keep its applications compatible with the server interface software distributed by DAASO. After the enhanced functional baseline (DLSS Version 2) becomes operational, the server interface will not change significantly. However, merely keeping applications compatible with the interface will not guarantee the benefits of future enhancements to transactions or procedures. Activities will need to change their applications to take advantage of these improvements.

Site Preparation

All DLMS participants must fund their own LGNs (if needed) and a connection to the Defense Data Network (DDN).

LGN Procurement

Participants in the DLMS must furnish the LGN hardware[1] for sites that meet the requirements for a local LGN; DAASO will publish specifications for the local LGN software and also provide the server interface software that connects the host to

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[1]The current estimate for the cost of LGN hardware is $25,000 for a typical site.

the LGN. Finally, participants must furnish the LGN-host connection hardware that the server and client interface software control.

DDN Access

A 1983 OSD directive requires that DDN provide data communications services for all DoD systems such as the DLSS. Defense Information Systems Agency (DISA) coordinates the subscription process explained below:

- The prospective DDN subscriber completes a requirement questionnaire and submits it to DISA through the subscriber's Service or agency DDN focal point. (The questionnaire includes findings from the requirements analysis recommended in the "Getting Started" section below.) DISA will enter the information from the questionnaire into its DDN user requirements data base.

- DISA reviews Service or agency DDN requirements and evaluates them against available and planned network resources. The review lasts approximately 8 months.

- Once DISA approves a DDN connection, a Service or agency must submit a "request for service" to begin circuit installation. Depending on the type of connection and available resources, users can expect an operational circuit about 12 months after requesting service.

- The DDN connection becomes operational after the subscriber access circuit, host software, and connection hardware successfully pass acceptance testing. Subscribers can expect an operational connection within 2 years of the time a questionnaire is submitted.

In order to bring key sites up as rapidly as possible, there are interim alternatives to DDN such as Service or commercial networks which are compatible with DDN.

Staff

Participants in the MODELS program should establish conversion project teams to develop and execute an implementation or conversion plan. Team members will also perform or manage the following tasks:

- Redesigning and modifying operating procedures to comply with the new DLMS

- Redesigning and modifying host applications to comply with the DLMS

- Conducting liaison activities to coordinate the functional and technical modifications

- Coordinating with their Functional Working Group (FWG) representatives and DLMS focal points to stay informed and to keep modernization authorities informed

- Performing DDN host administrator or node site coordinator duties as required by DISA.

MAKING THE CONNECTION: ONE SCENARIO

This section describes the steps needed to connect a typical site to the new transaction network. It makes the following assumptions:

- The site will have a local LGN.

- The site has a DDN connection across a local area network (LAN).

- The LGN will connect to the host across the LAN.

- The host application has been modified to send its transactions to the LGN via application program interfaces rather than directly to Defense Automated Addressing System (DAAS) on Automatic Digital Network (AUTODIN). (The application need not be EDI-capable.)

The following checklist summarizes the steps to be taken in connecting this site to the new network:

[ ] Procure an LGN with a LAN option according to the hardware specifications published by DAASO

[ ] Acquire LGN software through the contract established by DLSSD.

[ ] Install DoD-provided software on the LGN

[ ] Connect the LGN to the LAN

[ ] Test the LGN-LAN connectivity with hardware diagnostic utilities and the LGN communications management software.

[ ] Test the LGN-DDN connectivity with hardware diagnostic utilities, LGN communications software, and the DDN gateway software

[ ] Acquire the host computer server interface software with a LAN option

[ ] Install server interface software on the host computer

[ ] Test the LGN-host-computer connectivity with hardware diagnostic utilities and LGN communications software

[ ] Test the LGN-host-computer application connectivity with LGN communications and host software

[ ] Test host-to-host transaction exchanges by sending and receiving transactions through the DDN gateway and across the LAN.

DEVELOPING A PLAN OF ACTION

This section offers advice to a prospective MODELS participant on how to develop a plan of action. The plan outlines the steps a particular activity might take to convert to the new transactions and procedures. As a minimum, the plan should include the following:

- Participation objectives

- Implementation strategies

- Actions

- Suspense dates

- Responsibilities.

Participation Objectives

A Service or agency must first establish its objectives for participating in the DLMS. Those objectives should relate an organization's logistics mission to its level of DLMS participation. In establishing its objectives, the Service or agency should answer the following questions:

- Can we meet the requirements of becoming a DLMS participant? What is the most cost-effective way to do so? How soon can we meet them?

- How easily can our central design activity modify our host computer applications? Are modifications currently under way? If so, how do those modifications relate to modernizing the DLSS?

- Which transactions will we include; will we handle only the baseline transactions? Which Service- or agency-unique information will be included? How will we accept information not available in the current DLSS?

- How will we make the transition from the DLSS to the new DLMS? Site by site? Command by command? All at once?

To determine how and when sites should participate, the Service or agency should assume a phased implementation. It is generally easier to convert site applications to perform current functions in a new environment and later enhance the site with new capabilities. Traditionally, though, developers redesign some aspects of the system during conversion. Regardless of their approach, the Services and agencies should select sites that allow them to test their application-level interfaces with EDI transactions without losing their capability to send and receive fixed-length transactions until the interfaces are verified.

Implementation Strategies

Once the participation objectives are established, the implementation strategies direct an organization in achieving them. Strategies specify the courses of action needed to meet the objectives. These courses of action may include the following:

- Setting policies to govern the conversion process

- Communicating conversion status inside and outside the organization

- Establishing the conversion team by reorganizing staffs and assigning responsibilities for managing the conversion project

- Establishing control and reporting procedures to monitor the conversion progress

- Introducing new information management practices to gain the full benefits of the DLMS

- Collecting and standardizing additional data items

- Revising business practices and procedures

- Providing training on the DLMS to educate internal staff and prospective trading partners

- Converting software and hardware to prepare sites for the new DLSS

- Relating the conversion to modernization efforts already under way.

Actions, Suspense Dates, and Responsibilities

Actions translate the implementation strategies into tasks a particular organization can complete by a given suspense date. The conversion team must decide which actions to take, when to take them, and who will take them on the basis

of the Service or agency's participation objectives and available resources. Testing the new transaction formats and delivery system can begin in the summer of 1992.

Participants should either develop a detailed logistics information systems plan or incorporate DLMS into a current plan. Such a plan documents the organization-wide approach in more detail than the plan of action. The logistics information systems plan discusses budget and manpower requirements; specifies technical modifications to software, hardware, and telecommunications; and addresses the long-term application of technology to meet evolving requirements.

GETTING STARTED

Introduction

This section describes the first steps a prospective DLMS participant should take. We present a preparation checklist that summarizes the entire process. Insofar as schedule is concerned, long lead time activities should receive top priority. The following steps offer typical starting points:

- Review this guide and other supporting DLMS documentation. (Some appropriate documents are listed in the *References* section of this report.)

- Conduct an internal audit to determine your organization's current position: its mission, its resources, and modernization efforts already under way.

- If necessary, perform a system requirements analysis or cost/benefit study to determine your level of MODELS participation.

- Let central design activities in your organization know what applications changes to make.

- Submit your DDN requirement questionnaires and "requests for service."

- Write your plan of action early!

Preparation Checklist

Project Initiation

[ ] Review published DLMS documentation and other EDI-related references

[ ] Determine participation requirements

[ ] Identify current logistics information system status and requirements

[ ] Review current modernization efforts

[ ] Perform cost/benefit analysis

[ ] Assess manpower and budget resources

[ ] Establish participation objectives

[ ] Establish implementation strategies

[ ] List actions to complete

[ ] Assign actions to responsible activities

[ ] Establish suspense dates

[ ] Publish plan of action.

Project Management

[ ] Develop (or update) a logistics information systems plan to reflect the conversion project

[ ] Monitor progress and track resources

[ ] Schedule status review meetings

[ ] Establish testing and quality assurance procedures.

[ ] Establish formal internal communications

[ ] Establish formal communications with MODELS authorities

[ ] Establish conversion standards and procedures.

Host Computer Application Conversion

[ ] Analyze host computer software requirements

[ ] Develop host computer application conversion plan

[ ] Select a pilot application for conversion

[ ] Establish acceptance criteria for the pilot application

[ ] Begin pilot conversion.

Site Selection, Preparation, and Installation

[ ] Select conversion sites

[ ] Develop a site conversion plan

[ ] Analyze site hardware requirements

[ ] Complete DDN requirements questionnaires

[ ] Request DDN connections

[ ] Start procurement for LGNs, software, LGN-host-computer connection hardware, and host-computer-server-interface software

[ ] Select conversion test sites

[ ] Select initial set of activities to test with.

Training

[ ] Analyze training requirements.

[ ] Develop training plan. [Note: DLSSD and Logistics Management Institute (LMI) have provided the Services and agencies with initial training in EDI syntax and DLMS documentation (Appendix D). As Services and agencies approach implementation, they may require more detailed training for their systems analysts and programmers.]

PROGRAMMING APPLICATIONS SOFTWARE

In previous sections, we described the DLMS communications network and the functions the LGN will perform. The LGNs will enable DoD to operate in a mixed DLSS/DLMS mode and thus allow Services and agencies to convert to DLMS at different times. LGNs that must translate DLMS format back into DLSS formats for hosts that are not DLMS-capable will drop off any enhanced data that do not fit on existing DLSS formats (e.g., weapon systems IDs and serial numbers).

Consequently, Services and agencies will not obtain some of the key benefits of the DLMS — processing enhanced data — until they modify their applications software to handle DLMS formats. That software can be modified in a number of different ways. Some Services are upgrading their logistics processing systems and are incorporating DLMS transactions directly into those systems. Other alternatives include procuring commercial EDI translation software[2] or developing custom translation capability.

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[2]Such software must be capable of processing "proprietary" transactions as well as the standard (ASC X12) transaction such as Version 1.1. DLMS transactions are not yet included in the ASC X12 standards.

In addition to an ability to support the formats, the internal applications software must be able to support the additional data elements incorporated in the DLMS but are not in the existing DLSS. In many cases, Service or agency software already utilizes these data and is transmitting them in Service-unique transactions. Support and maintenance for some of these Service-unique transactions can probably be dropped after adoption of the DLMS standards.

ESTABLISHING AN INITIAL OPERATING CAPABILITY

The OSD has scheduled the initial DLMS operating capability for summer of 1992. By then, the following actions should be completed:

- DAASO will have implemented its DAASO Network Central System (DNCS) modernization and be capable of operating as a CLGN.

- The Lawrence Livermore National Laboratory will have distributed the remote software to the first four sites.

- DLSSD will have distributed the DLMS formats and procedures to guide the Services and agencies implementing DLMS.

The initial operating activities will include both DAAS sites and at least two Service sites. OSD is encouraging the Services and agencies to utilize the DLMS as soon as possible but is not mandating a specific schedule. Service and agencies can begin basic operations by procuring LGN hardware and obtaining DDN nodes for their LGNs and connections to DAASO. Full implementation will require the application software modification, which the Services and agencies can do at their own pace and under their own budget, independent of the other Services and agencies.

APPENDIX G

GLOSSARY

GLOSSARY

ADP	=	automatic data processing
ADPE	=	automatic data processing equipment
AFLC	=	Air Force Logistics Center
ALMC	=	Army Logistics Management Center
ANSI	=	American National Standards Institute
ASC	=	Accredited Standards Committee
AUTODIN	=	Automatic Digital Network
CAO	=	contract administration officer
CIM	=	(DoD) Corporate Information Management
CLGN	=	central logistics gateway node
CML	=	commercial
DAAS	=	Defense Automatic Addressing System
DAASO	=	Defense Automatic Addressing System Office
DASD(L)	=	Deputy Assistant Secretary of Defense (Logistics)
DBMS	=	data base management system
DCA	=	Defense Communications Agency (see DISA)
DDN	=	Defense Data Network
DES	=	Data Encryption Standard
DFAS-IN	=	Defense Finance and Accounting Service – Indianapolis Center
DISA	=	Defense Information Systems Agency (formerly DCA)
DLA	=	Defense Logistics Agency
DLMS	=	Defense Logistics Management System
DLSC	=	Defense Logistics Support Center

DLSS	=	Defense Logistics Standard Systems
DLSSD	=	Defense Logistics Standard Systems Division
DMA	=	Defense Mapping Agency
DMRD	=	Defense Management Report Decision
DNCS	=	DAASO Network Control System
DSN	=	Defense Switched Network
EA	=	executive agent
EDI	=	electronic data interchange
EDIA	=	Electronic Data Interchange Association
EDIFACT	=	Electronic Data Interchange for Administration, Commerce, and Transportation
FAA	=	Federal Aviation Agency
FAX	=	facsimile
FEP	=	front-end processor
FIPS	=	Federal Information Processing Standard
FMSO	=	Fleet Material Support Office
FSS	=	Federal Supply Services
FWG	=	Functional Working Group
GBL	=	Government bill of lading
GOSIP	=	Government Open Systems Interconnection Profile
GSA	=	General Services Administration
HQMC		Headquarters, Marine Corps
ICP	=	inventory control point
IMM	=	integrated material manager
IOC	=	initial operating capability
IP	=	Internet Protocol
JCS	=	Joint Chiefs of Staff

JITI	=	just-in-time inventory
LAN	=	local area network
LGN	=	logistics gateway node
LIPS	=	Logistics Information Processing System
LLNL	=	Lawrence Livermore National Laboratory
LMI	=	Logistics Management Institute
LOGDESMAP	=	Logistics Data Element Standardization and Management Program Procedures
LOGDRMS	=	Logistics Data Resource Management System
LSIS	=	Logistics Standard Information System
MCLB	=	Marine Corps Logistics Base
MILNET	=	Military Network
MILSBILLS	=	Military Standard Billing System
MILSCAP	=	Military Standard Contract Administration Procedures
MILSPETS	=	Military Standard Petroleum System
MILSTAMP	=	Military Standard Transportation and Movement Procedures
MILSTEP	=	Military Supply and Transportation Evaluation Procedures
MILSTRAP	=	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	=	Military Standard Requisitioning and Issue Procedures
MIS	=	management information system
MODELS	=	Modernization of Defense Logistics Standard Systems
MRO	=	material release order
NAVSUP	=	Naval Supply Systems Command
NAVMASSO	=	Naval Management Systems Support Office
NSA	=	National Security Agency

OSD	=	Office of the Secretary of Defense
PKE	=	public key encryption
PLUS	=	Protection of Logistics Unclassified/Sensitive Systems
PQDR	=	Product Quality Deficiency Report
PSN	=	packet-switching node
ROD	=	Report of Discrepancy (now SDR)
SDR	=	Supply Discrepancy Report (formerly ROD)
TACOM	=	Tank and Automotive Command
TCP	=	Transmission Control Protocol
TDR	=	Transportation Discrepancy Report
TWG	=	Technical Working Group
USA	=	United States Army
USAF	=	United States Air Force
USCG	=	United States Coast Guard
USMC	=	United States Marine Corps
USN	=	United States Navy
USTC	=	U.S. Transportation Command
WAN	=	wide area network
WORM	=	write once/read many