Defense Logistics Management System (DLMS) Introductory Training

Electronic Data Interchange (EDI) Basics and ASC X12 EDI Definitions and Concepts
DLMS Training Catalog

Module 1 - Introduction to the DLMS
Module 2 - Electronic Data Interchange (EDI) Basics and ASC X12 EDI Definitions and Concepts
Module 3 - DLMS Functionality & Transaction Life-Cycle
Module 4 - DLMS Transaction Supplement Content
Module 4F - DLMS Functional Financial Transaction Life-Cycle
Module 5 - IUID & RFID - Emerging Technologies
Module 6 - Creating/Reengineering DOD Logistics Business Processes
Module 6A - DLMS Configuration Management (stand alone Module)
Module 7 - Enterprise Interoperability Tools
Module 8 - DoD Activity Address Directory (DoDAAD)

http://www.dla.mil/i-6/dlmso
Module Structure

Module 2 - ASC X12 EDI Definitions and Concepts

- EDI Components and Structure
  - Data Elements
  - Data Segments
  - Segment Loops
  - Transaction Sets
  - Functional Groups
  - Interchange Groups
Module 2 Objectives

Students will gain a basic understanding of:

• The components that form the building blocks of ASC X12 EDI

• How the highly structured nature of X12 EDI provides the flexibility and versatility needed to communicate complex functional data content

• How to interpret simple raw data expressed in X12 EDI format
EDI Components
Module 2

Definition of EDI

- **Electronic Data Interchange EDI is:**
  - The computer-to-computer interchange of strictly formatted messages that represent business documents
  - A sequence of messages between two parties, either of whom may serve as originator or recipient
  - The formatted data representing the documents transmitted from originator to recipient via telecommunications
### MILS Format

<table>
<thead>
<tr>
<th>RPs</th>
<th>Field Legend</th>
<th>Sample Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-03</td>
<td>Document Identifier</td>
<td>A01</td>
</tr>
<tr>
<td>04-06</td>
<td>Routing Identifier</td>
<td>SMS</td>
</tr>
<tr>
<td>07</td>
<td>Media and Status</td>
<td>B</td>
</tr>
<tr>
<td>08-22</td>
<td>Stock Number</td>
<td>5910001234567</td>
</tr>
<tr>
<td>23-24</td>
<td>Unit of Issue</td>
<td>EA</td>
</tr>
<tr>
<td>25-29</td>
<td>Quantity</td>
<td>1</td>
</tr>
<tr>
<td>30-43</td>
<td>Document No</td>
<td>FB230093070001</td>
</tr>
<tr>
<td>44</td>
<td>Demand</td>
<td>R</td>
</tr>
<tr>
<td>45-50</td>
<td>Supplementary Address</td>
<td>A</td>
</tr>
<tr>
<td>51</td>
<td>Signal</td>
<td>KZ</td>
</tr>
<tr>
<td>52-53</td>
<td>Fund</td>
<td>9GF</td>
</tr>
<tr>
<td>54-56</td>
<td>Distribution</td>
<td>08</td>
</tr>
<tr>
<td>57-59</td>
<td>Project</td>
<td>FA1<em>DY</em>D340</td>
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<tr>
<td>60-61</td>
<td>Priority</td>
<td>777</td>
</tr>
<tr>
<td>62-64</td>
<td>Reqd. Delivery Date</td>
<td>FA2<em>B5</em>KZ</td>
</tr>
<tr>
<td>65-66</td>
<td>Advice</td>
<td>N1<em>Z4**M4</em>SMS**TO</td>
</tr>
<tr>
<td>67-69</td>
<td>Blank (Date of Rcpt on</td>
<td>SE<em>14</em>00000001</td>
</tr>
<tr>
<td></td>
<td>Referral/Passing Order</td>
<td></td>
</tr>
<tr>
<td>70-80</td>
<td>Blank (Intra-Service use)</td>
<td></td>
</tr>
</tbody>
</table>

### DLMS EDI Format

<table>
<thead>
<tr>
<th>ST<em>511</em>00000001^</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR<em>00</em>A0*20000729*****131708^</td>
</tr>
<tr>
<td>N1<em>OB**10</em>FB2300**FR</td>
</tr>
<tr>
<td>LX*1^</td>
</tr>
<tr>
<td>N9<em>TN</em>FB230093070001^</td>
</tr>
<tr>
<td>PO1<strong>1<em>EA</em></strong>FS*5910001234567^</td>
</tr>
<tr>
<td>DD<em>R</em>74^</td>
</tr>
<tr>
<td>LM*DF^</td>
</tr>
<tr>
<td>LQ<em>0</em>A01^</td>
</tr>
<tr>
<td>LQ<em>78</em>9GF^</td>
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<tr>
<td>LQ<em>79</em>08^</td>
</tr>
<tr>
<td>LQ<em>80</em>2A^</td>
</tr>
<tr>
<td>LQ<em>DE</em>A^</td>
</tr>
<tr>
<td>LQ<em>DF</em>B^</td>
</tr>
<tr>
<td>LQ<em>AL</em>777^</td>
</tr>
<tr>
<td>N1<em>Z4**M4</em>SMS**TO</td>
</tr>
<tr>
<td>FA1<em>DY</em>D340^</td>
</tr>
<tr>
<td>FA2<em>B5</em>KZ^</td>
</tr>
<tr>
<td>SE<em>14</em>00000001^</td>
</tr>
</tbody>
</table>
ASC X12 EDI
Versions/Releases

• Versions are released approximately every five (5) years

• New releases of ASC X12 Draft Standards for Trial Use (DSTU), referred to as the ‘Standards’, are published annually

• DLMS based on ASC X12 release 4010 and 4030
EDI is the computer-to-computer exchange of routine business info in a standard format. ASC X12 EDI provides a means for exchanging information between dissimilar computer systems via a standard file structure.

The information, in the form of a transaction set, is generally patterned after a conventional document, such as a requisition or invoice.
Transaction Set Detail
Hierarchy of Relationship

Transaction Set

Data Segment

Data Elements
Standard File Structure
Data Elements

• The data element is the smallest named unit of information in the standard

• Each data element is identified by a number

• Data elements can represent a code, a value, or text (such as a description)

• Each data element has both a minimum and maximum length

• Data elements can be mandatory, optional, or relational
Data Element Types

There are seven types of data elements:

AN - Alphanumeric string including special characters

B - Binary (example: 010101101)

DT - Date in YYMMDD or CCYYMMDD format based on EDI version being used (DLMS Baseline is 004010)

ID - Identifier (works with a code list specified by the dictionary)

Nn - Numeric (implies the number of decimal points, e.g., N2 would be two decimal positions)

R - Decimal Numeric (decimal points must be transmitted if used)

TM - Time in HHMMSSDD format
Data Element Size
How Does It Work?

Indicating Min: 6
Max: 6/6
must be
12345
6 positions

Or
Where
Min: 4
Max: 6
4/6
must be
or
1234
or
12345123456

Length of Field
Data Element Use

Data Elements may be:

- M = Mandatory
- O = Optional
- X = Syntax note applies
- Z = Semantic note applies
- Combinations may be applicable
Simple and Component Data Elements

Data elements are identified as either:

- Simple
- Component

✓ Used to form composite data structures -- a group of two or more component (simple) data elements linked together to form a single data element

✓ The component data elements may be optional, mandatory, or relational
Data Element Dictionary Example

98  Entity Identifier Code

TYPE = ID, MIN = 2, MAX = 3

Code identifying an organizational entity, a physical location, or an individual

SEGMENTS USED IN:
N1, ........20 segment codes listed

TRANSACTION SETS USED IN:
511,838,850,....145 transaction sets listed

CODE DEFINITIONS & EXPLANATION:

Over 700 codes listed

- There are more than 1800 Data Elements in the ASC X12 Data Element Dictionary - about 196 of which are used by DLMS

<table>
<thead>
<tr>
<th>CODE</th>
<th>DEFINITIONS AND EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS</td>
<td>Bill and Ship To</td>
</tr>
<tr>
<td>BT</td>
<td>Bill To</td>
</tr>
<tr>
<td>OB</td>
<td>Ordered By</td>
</tr>
<tr>
<td>ST</td>
<td>Ship To</td>
</tr>
<tr>
<td>Z3</td>
<td>Potential Source of Supply</td>
</tr>
<tr>
<td>Z4</td>
<td>Owning Inventory Control</td>
</tr>
<tr>
<td>Z5</td>
<td>Management Control</td>
</tr>
<tr>
<td>Z7</td>
<td>Mark-for Party</td>
</tr>
</tbody>
</table>
Standard File Structure

- Interchange
  - Functional Group
    - Transaction Set
      - Segment Loop
        - Data Segment
          - Data Element
  - Outer Envelope
    - Folder
      - Written
        - Document
          - Paragraph
            - Sentence
              - Word
Data Segment

The data segment is an intermediate unit of information in a transaction set.

Each data segment is composed of:

- A unique segment ID
- One or more logically related data elements

The data segment is used to convey a grouping of functionally-related user information.
Data Segment Characteristics

The data is organized in a defined sequence within the segment.

Each data element in the segment is identified by a reference designator composed of the unique segment identifier and the element’s sequence number.

Each data element is separated by a data element delimiter character.

A segment terminator character identifies the end of the segment.
Data Segment Diagram

**Module 2**

**DLMS Introductory Training**

N1 Name

- N101 Entity Identifier Code
  - 98

- N102 Name
  - 93

- N103 Identification Code Qualifier
  - 66

- N104 Identification Code
  - 67

- N105 Entity Relationship Code
  - 706

- N106 98 Entity Identifier Code
  - 70

Separator = Element Delimiter

Data Segment Terminator
Data Segment Diagram

Reference Designator

- N101: Entity Identifier Code
  - M
  - ID
  - 2/3
  - 98
- N102: Name
  - X
  - AN
  - 1/60
  - 93
- N103: Identification Code Qualifier
  - X
  - ID
  - 1/2
  - 66
- N104: Identification Code
  - X
  - AN
  - 2/80
  - 67
- N105: Entity Relationship Code
  - O
  - ID
  - 2/2
  - 706
- N106: Entity Identifier Code
  - O
  - ID
  - 2/3
  - 98
Data Segment Diagram

Data Element Number

N1

N101 Entity Identifier Code
M ID 2/3

N102 Name
X AN 1/60

N103 Identification Code Qualifier
X ID 1/2

N104 Identification Code
X AN 2/80

N105 Entity Relationship Code
O ID 2/2

N106 Entity Identifier Code
O ID 2/3
Data Segment Diagram

Type of Data Element

- Identifier
  - ID
  - Number: 2/3
  - Name: N1
  - Identification

- Name
  - AN
  - Number: 1/60
  - Identification

- Entity
  - ID
  - Number: 1/2
  - Identification

- Identification
  - AN
  - Number: 2/80
  - Identification

- Entity
  - ID
  - Number: 2/2
  - Identification

- Entity
  - ID
  - Number: 2/3
  - Identification
Data Segment Diagram

- **N101 Entity Identifier**: 2/3
- **N102 Name**: 1/60
- **N103 Identification Code**: 1/2
- **N104 Identification**: 2/80
- **N105 Entity Relationship**: 2/2
- **N106 Entity Identifier**: 2/3

**Data Element Length**

- **M**: 2/3
- **X**: 1/60
- **X**: 1/2
- **X**: 2/3
Data Segment Use

M = Mandatory
O = Optional
X = Syntax note applies
Z = Semantic note applies

Combinations may be applicable
## Data Dictionary Format

**N1 Name**

To identify a party by type of organization, name and code.

### Transaction Sets used in:

- 104
- 110
- 120
- 128
- 130
- 131
- 135
- 140
- 180
- 511
- 517
- 527
- 536
- 561
- 567
- 568
- 810
- 812
- 824
- 830
- 842

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Ele. No.</th>
<th>Name</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>98</td>
<td>Entity Identifier Code</td>
<td>M ID 2/3</td>
</tr>
<tr>
<td>02</td>
<td>93</td>
<td>Name</td>
<td>X AN 1/60</td>
</tr>
<tr>
<td>03</td>
<td>66</td>
<td>Identification Code Qualifier</td>
<td>X ID</td>
</tr>
<tr>
<td>04</td>
<td>67</td>
<td>Identification Code</td>
<td>X AN 2/80</td>
</tr>
<tr>
<td>05</td>
<td>706</td>
<td>Entity Reference Code</td>
<td>O ID 2/2</td>
</tr>
<tr>
<td>06</td>
<td>98</td>
<td>Entity Identifier Code</td>
<td>O ID 2/3</td>
</tr>
</tbody>
</table>
## Data Segment Diagram

### N1 Name
To identify a party by type of organization, name and code

### Transaction Sets used in:
- 104
- 110
- 120
- 128
- 130
- 131
- 135
- 140
- 180
- 511
- 517
- 527
- 536
- 561
- 567
- 568
- 810
- 812
- 824
- 830
- 842

### Order of Element

<table>
<thead>
<tr>
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</tbody>
</table>
**Data Segment Diagram**

**N1 Name**
To identify a party by type of organization, name and code

**Transaction Sets used in:**

<table>
<thead>
<tr>
<th>104</th>
<th>110</th>
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<th>130</th>
<th>131</th>
<th>135</th>
<th>140</th>
<th>180</th>
<th>511</th>
<th>517</th>
</tr>
</thead>
<tbody>
<tr>
<td>527</td>
<td>536</td>
<td>561</td>
<td>567</td>
<td>568</td>
<td>810</td>
<td>812</td>
<td>824</td>
<td>830</td>
<td>842</td>
<td></td>
</tr>
</tbody>
</table>

**Data Element Number**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Ele. No.</th>
<th>Name</th>
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</tr>
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</tr>
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<td>O</td>
</tr>
<tr>
<td>06</td>
<td>98</td>
<td>Entity Identifier Code</td>
<td>O</td>
</tr>
</tbody>
</table>

**Attributes**:
- M: Mandatory
- X: Required
- O: Optional
- ID: Integer
- AN: Alphanumeric
- 1/3: 1 digit and 3 digits
- 1/60: 1 digit and 60 digits
- 2/80: 2 digits and 80 digits
- 2/2: 2 digits
# Data Segment Diagram

**N1 Name**

To identify a party by type of organization, name and code

**Transaction Sets used in:**

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>104</td>
<td>110</td>
<td>120</td>
<td>128</td>
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<td>135</td>
<td>140</td>
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<td>511</td>
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<td>568</td>
<td>810</td>
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<td>824</td>
<td>830</td>
<td>842</td>
</tr>
</tbody>
</table>

### Data Element Name

<table>
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<tr>
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<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>98</td>
<td>Entity Identifier Code</td>
<td>M ID 2/3</td>
</tr>
<tr>
<td>02</td>
<td>93</td>
<td>Name</td>
<td>X AN 1/60</td>
</tr>
<tr>
<td>03</td>
<td>66</td>
<td>Identification Code Qualifier</td>
<td>X ID 1/2</td>
</tr>
<tr>
<td>04</td>
<td>67</td>
<td>Identification Code</td>
<td>X AN 2/80</td>
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</tr>
</tbody>
</table>
### Data Segment Diagram

#### N1 Name
To identify a party by type of organization, name and code

<table>
<thead>
<tr>
<th>Transaction Sets used in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>104 110 120 128 130 131 135 140 180 511 517 527 536 561 567 568 810 812 824 830 842</td>
</tr>
</tbody>
</table>

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<td>06</td>
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<td>Entity Identifier Code</td>
<td>O ID 2/3</td>
</tr>
</tbody>
</table>

**Element Usage**
Data Segment Diagram

N1 Name
To identify a party by type of organization, name and code

Transaction Sets used in:

<table>
<thead>
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<td>Entity Identifier Code</td>
<td>O ID 2/3</td>
</tr>
</tbody>
</table>
Data Segment Notes

Three types of segment level notes:

• Syntax: Define dependencies based on the presence or absence of other data elements in the segment

• Semantic: Provide additional information about the data element including any dependence based on the data value in another data element in the segment

• Comments: Clarify the intended use of the segment - comments are not part of the standard
Data Elements Within a Segment

The same data element may be used in many different segments.

Most data elements are generic with their meaning determined by either the context of the segment they are used in or by the presence of a qualifier data element within the segment.
## Generic Data Elements

### Example 1 - Generic data element 373, Date, used with a semantic note.

<table>
<thead>
<tr>
<th>BR01</th>
<th>BR02</th>
<th>BR03</th>
<th>BR04</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>35</td>
<td>640</td>
<td>373</td>
<td>67</td>
</tr>
<tr>
<td>M</td>
<td>M</td>
<td>M/Z</td>
<td>X</td>
</tr>
<tr>
<td>ID</td>
<td>ID</td>
<td>DT</td>
<td>AN</td>
</tr>
<tr>
<td>2/2</td>
<td>2/2</td>
<td>8/8</td>
<td>2/80</td>
</tr>
</tbody>
</table>

**Semantic Note:** BR03 is the date of the transaction set preparation.
Generic Data Elements

Example 2 - Generic data element 373, Date, used with a qualifying data element.

Date Qualifier type = ID (codes list available)
(e.g. “68” = Requested Delivery Date, or “BD” = Required By)
Relational Conditions

Defines a relationship between two or more data elements in a segment

Expressed in syntax note by letter code followed by the last two digits of the reference designator of the effected data elements (e.g. P0203)

- P (Paired): If any specified data element is present, then all the specified data elements must be present
- R (Required): At least one of the specified data elements must be present
- E (Exclusive): Not more than one of the specified data elements may be present
- C (Conditional): If the first specified data element is present, then all other specified data elements must be present
- L (List Conditional): If the first specified data element is present, then at least one of the remaining specified data elements must be present
**N1 Segment**

To identify a party by type of organization, name and code.

Syntax:

1. N102 0203 – At least one of N102 or N103 is required.
2. N103 0304 – If either N103 or N104 are present, then the other is required.

Comments:

3. This segment, used alone, provides the most efficient method of organizational identification. To obtain this efficiency the “ID Code” (N104) must provide a key to the table maintained by the transaction processing party.
4. N105 and N106 further define the type of entity in N101.
Module 2

Data Segments

N1*Z4**M4*N35**TO^*

Z4 = “Owning Inventory Control Point”

M4 = “Routing Identifier Code (RIC)”

N35 = “Naval ICP Mechanicsburg PA”

TO = “Message To”
Composite Data Structure Within a Segment

Example – Composite data element C040, Reference Identifier, used in N9, Reference Identification segment
Standard File Structure

Interchange

Functional Group

Transaction Set

Segment

Loop

Data Segment

Data Element

Outer Envelope

Folder

Written Document

Paragraph

Sentence

Word
Repeating Data

Specific sets of data may be used in multiple occurrences to support a functional requirement or to enhance efficiency of communications

- Items requisitioned by a single activity
- Dates applicable to a particular process
- Addresses – shipper, receiver, bill-to, status recipients

ASC X12 transactions provide multiple methods to accomplish this:

- Repetition of a single segment
- Loop of a group of segments
- Hierarchical loops
Segment Repetition

A single segment may sometimes be repeated in multiple occurrences.

Each segment within a transaction set has a specified maximum number of occurrences (e.g. 1 or 100) or may be specified as having an unlimited number of occurrences (noted as “>1”) -- also referred to as the “max use.”
Data Segment Loops

By definition, loops are groups of two or more related segments which may be repeated.

The name of the loop is indicated by the loop ID which is named for the first segment in the loop.

Loops have a specified maximum number of occurrences or may be specified as having an unlimited number of occurrences (noted as “>1”) -- referred to as the loop repeat.

There is a specified sequence of segments in the loop.

The first segment in the loop has a max use of 1 -- all other segments in the loop may be repeated as specified.
Nested Loops

Loops may have subordinate loops nested within them.

The name of the nested loop is indicated by the Loop ID which is named for the first segment in the subordinate loop.

Nested loops cannot begin with the same first segment as the previous (or outer) loop.

Nesting may occur up to an indefinite number of levels.
Loops and Nested Loops

**Data Segments**
- **LX** = Assigned Number
- **N9** = Reference Identification
- **PO1** = Baseline Item Data
- **DD** = Demand Detail
- **LM** = Code Source Information
- **LQ** = Industry Code

**Example Loops and Nested Loops**
- **LX** = Assigned Number
- **N9** = Reference Identification
- **PO1** = Baseline Item Data
- **DD** = Demand Detail
- **LM** = Code Source Information
- **LQ** = Industry Code
Non-ASC X12 Code Lists

DoD/Agency/Industry may reference specific code lists maintained outside ASC X12

Tool to accomplish this provided by the LM Loop

**LM** Code Source Information

To transmit standard code list identification information

**LQ** Industry Code

To transmit standard industry codes

**LM**

- LM Qualifier Code
- Source Sub-qualifier

**LQ**

- LQ01
- LQ02

**COMMENTS:** LM02 identifies the applicable industry code list source information

**SYNTAX NOTES:** C0102 IF LQ is present, then LQ02 is required
Module 2

DLMS Introductory Training

LM Loop

Loop ID - LM

LM Code Source Information

LQ Industry Code

LM*DF

LQ*78*3JZ

LQ*79*04

350 Defense Logistics Management System Manual

SOURCE: DLM 4000.25

AVAILABLE FROM: DLMS office

ABSTRACT: This publication provides a comprehensive set of concepts, general guidance and codes related to EDI processing in the DoD logistics system in ASC X12

LM01  559
Agency Qualifier Code

LM02  822
Source Sub-qualifier

LQ01  1270
Code List Qualifier Code

LQ02  1271
Industry Code

1270  Code List Qualifier Code

CODE DEFINITION AND EXPLANATION

78  Project Code
SEE CODE SOURCE 350

79  Priority Code
SEE CODE SOURCE 350
Hierarchical Level Loops

**HL** Hierarchical Level

To identify dependencies among, and the content of, hierarchically related groups of data segments.

**HL01** 628
Hierarchical ID Number

**HL02** 734
Hierarchical Parent ID Number

**HL03** 735
Hierarchical Level Code

**HL04** 736
Hierarchical Child Code

Diagram:
- **Parent**
- **Child**
- **Shipment**
- **Item 1**
- **Item 2**
- **Item 3**
- **Component 1**
- **Component 2**
Hierarchical Level Loops

**Segment Sequence Within the Transaction**

| HL | LIN | SN1 | TD5 | REF | DTM | N1 | N2 | N3 | N4 |

**HL loop 1 = address information (HL Code V)**

- HL *1**W
- N1 (Originating activity address)

**HL loop 2 = shipment notice information (HL Code W)**

- HL *2**W
- LIN (Material identification)
- SN1 (Quantity shipped)
- TD5 (Mode of shipment)
- REF (Reference numbers)
- N1 (Receiving activity address)
Transaction Set

A group of data segments in a predefined sequence needed to provide all the data required to define a complete transaction

Uniquely identified by a three-digit number and a name

Begins with an ST segment and ends with an SE segment

Must contain a beginning segment
Transaction Set
- Header and Trailer -

ST Segment, Transaction Set Header
✓ Transaction Set ID (e.g., 511, 527, 810)
✓ Control number (assigned by sender’s computer)
✓ Example: ST*511*00000001

SE Segment, Transaction Set Trailer
✓ Segment counts
✓ Same control number used in ST segment
✓ Example: SE*14*00000001
The Beginning Segment

A segment at the beginning of each transaction set which defines the purpose, type and action, date, and unique identification

Indicates additional processing that may be required
BR Segment

BR  Beginning Segment for Material Management
    To indicate the beginning of a transaction and transmit identifying
    numbers and dates

TRANSACTION SETS USED IN:
511  517  527  536

<table>
<thead>
<tr>
<th>REF</th>
<th>ELE ID</th>
<th>NAME</th>
<th>ATTRIBUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>353</td>
<td>Transaction Set Purpose Code</td>
<td>M  ID 2/2</td>
</tr>
<tr>
<td>02</td>
<td>640</td>
<td>Transaction Type Code</td>
<td>M  ID 2/2</td>
</tr>
<tr>
<td>03</td>
<td>373</td>
<td>Date</td>
<td>M/Z DT 8/8</td>
</tr>
<tr>
<td>04</td>
<td>67</td>
<td>Identification Code</td>
<td>X  AN 2/80</td>
</tr>
<tr>
<td>05</td>
<td>66</td>
<td>Identification Code Qualifier</td>
<td>O  ID 1/2</td>
</tr>
<tr>
<td>06</td>
<td>306</td>
<td>Action Code</td>
<td>O  ID 1/2</td>
</tr>
<tr>
<td>07</td>
<td>128</td>
<td>Reference Identification Qualifier</td>
<td>X  ID 2/3</td>
</tr>
<tr>
<td>08</td>
<td>127</td>
<td>Reference Identification</td>
<td>X  AN 1/30</td>
</tr>
<tr>
<td>09</td>
<td>337</td>
<td>Time</td>
<td>O/Z TM 4/8</td>
</tr>
<tr>
<td>10</td>
<td>128</td>
<td>Reference Identification Qualifier</td>
<td>X  ID 2/3</td>
</tr>
<tr>
<td>11</td>
<td>127</td>
<td>Reference Identification</td>
<td>X  AN 1/30</td>
</tr>
</tbody>
</table>

SYNTAX NOTES
05  C0504  - If BR05 is present, then BR04 is required.
07  P0708  - If either BR07 or BR08 is present, then the other is required.
10  P1011  - If either BR10 or BR11 is present, then the other is required.

SEMANTIC NOTES
03  BR03 is the date of the transaction set preparation.
09  BR09 is the time of the transaction set preparation.
Transaction Set Table Diagram

Identifies the purpose of the transaction set

Identifies all the segments which comprise the transaction set in sequence by position number

Identifies the structure of the transaction set as heading (table 1) or detail (table 2) or summary (table 3)

Identifies the loop and nested loop structure

Indicates which segments are Mandatory or Optional

Indicates the maximum use of repeating segments
### Table 1

<table>
<thead>
<tr>
<th>Pos</th>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>ST</td>
</tr>
<tr>
<td>20</td>
<td>BR</td>
</tr>
<tr>
<td>10</td>
<td>LX</td>
</tr>
<tr>
<td>20</td>
<td>LM</td>
</tr>
<tr>
<td>30</td>
<td>FA2</td>
</tr>
<tr>
<td>40</td>
<td>SE</td>
</tr>
</tbody>
</table>

### Table 1 Summary

<table>
<thead>
<tr>
<th>Pos</th>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>ST</td>
</tr>
<tr>
<td>20</td>
<td>BR</td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th>Pos</th>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>IT1</td>
</tr>
<tr>
<td>20</td>
<td>PID</td>
</tr>
<tr>
<td>30</td>
<td>FA2</td>
</tr>
</tbody>
</table>

### Table 2 Summary

<table>
<thead>
<tr>
<th>Pos</th>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>TDS</td>
</tr>
<tr>
<td>20</td>
<td>SE</td>
</tr>
</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Pos</th>
<th>Id</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>TDS</td>
</tr>
</tbody>
</table>

---
**511 Requisition**

This Draft Standard for Trial Use contains the format and establishes the data contents of the Requisition Transaction Set (511) for use within the context of an Electronic Data interchange (EDI) environment.

### Heading:

<table>
<thead>
<tr>
<th>Pos No</th>
<th>Seg ID</th>
<th>Name</th>
<th>Req Des</th>
<th>Max Use</th>
<th>Loop Repeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>ST</td>
<td>Transaction Set Header</td>
<td>M</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>020</td>
<td>BR</td>
<td>Beginning Segment</td>
<td>M</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### Detail:

<table>
<thead>
<tr>
<th>Loop ID-LX</th>
<th></th>
<th>Loop ID-LM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>LX</td>
<td>270</td>
<td>LM</td>
</tr>
<tr>
<td>20</td>
<td>N9</td>
<td>280</td>
<td>LQ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assigned Number</th>
<th>Reference Identification</th>
<th>Source Information</th>
<th>Industry Code M</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>M</td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

Functional Group: RN
DLMS 511R, Requisition

**PURPOSE:** Used to requisition material and equipment from a supply distribution system for immediate consumption or stockage against projected requirements.

**TABLE 1, Header Section.** Contains information common to all requisitions such as; transaction type, transaction set control number, code identifying type of requisition, date and time, etc.

**TABLE 2, Detail Section.** Contains detailed data specific to the specific requisition transaction. Examples of data in the detail section are: identity of ordering activity, item ordered, the quantity, order priority, delivery point, who will pay, etc.

**TABLE 3, Summary Section.** Contains summaries of the details contained in table 2. Most frequently used in financial transactions such as the 810L, Logistics Bill. Table 3 is not used in the 511R, Requisition.
<table>
<thead>
<tr>
<th>Item #</th>
<th>Location</th>
<th>DS 511R Requisition Revision</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>2/N101/180</td>
<td>Add the following qualifier and DLMS note:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>DZ Delivery Zone</strong>&lt;br&gt;DLMS Note: 1. Use to provide the DELIVERY LOCATION indicating where the material is to be staged/stored.&lt;br&gt;2. Authorized DLMS enhancement under DLA industrial activity support agreement. Refer to ADC 381.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>2/N101/180</td>
<td>Update DLMS notes for existing qualifiers XN:</td>
<td>Expands existing usage for Navy BRAC Spiral II requirements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>XN Planning/Maintenance Organization</strong>&lt;br&gt;DLMS Note: 1. Use between Service industrial/maintenance sites and DLA to identify the Shop Service Center (SSC) associated with a requisition. Also used to identify a Shop Store.&lt;br&gt;2. This may be used in the basic requisition, requisition alert or in the Post-Post (DI Code C0A) DLMS 511R submitted to DLA.&lt;br&gt;3. Authorized DLMS enhancement under DLA industrial activity support agreement. Refer to ADC 284A &amp; 381.</td>
<td></td>
</tr>
</tbody>
</table>
EDI Document Structure

The DLSS Fixed Format

<table>
<thead>
<tr>
<th>RPs</th>
<th>Field Legend</th>
<th>FB230093070001</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-03</td>
<td>Document Identifier</td>
<td>ST<em>511</em>00000001^</td>
</tr>
<tr>
<td>04-06</td>
<td>Routing Identifier</td>
<td>BR<em>00</em>A0<em>20000729</em>*****131708^</td>
</tr>
<tr>
<td>07</td>
<td>Media and Status</td>
<td>N1<em>OB**10</em>FB2300**FR^</td>
</tr>
<tr>
<td>08-22</td>
<td>Stock Number</td>
<td>LX*1^</td>
</tr>
<tr>
<td>23-24</td>
<td>Unit of Issue</td>
<td>N9<em>TN</em>FB230093070001^</td>
</tr>
<tr>
<td>25-29</td>
<td>Quantity</td>
<td>PO1<strong>1<em>EA</em></strong>FS*5910001234567^</td>
</tr>
<tr>
<td>30-43</td>
<td>Document No</td>
<td>DD<em>R</em>74^</td>
</tr>
<tr>
<td>44</td>
<td>Demand</td>
<td>LM*DF^</td>
</tr>
<tr>
<td>45-50</td>
<td>Supplementary Address</td>
<td>LQ<em>0</em>A01^</td>
</tr>
<tr>
<td>51</td>
<td>Signal</td>
<td>LQ<em>78</em>9GF^</td>
</tr>
<tr>
<td>52-53</td>
<td>Fund</td>
<td>LQ<em>79</em>08^</td>
</tr>
<tr>
<td>54-56</td>
<td>Distribution</td>
<td>LQ<em>80</em>2A^</td>
</tr>
<tr>
<td>57-59</td>
<td>Project</td>
<td>LQ<em>DE</em>A^</td>
</tr>
<tr>
<td>60-61</td>
<td>Priority</td>
<td>LQ<em>DF</em>B^</td>
</tr>
<tr>
<td>62-64</td>
<td>Required Delivery Date</td>
<td>LQ<em>AL</em>777^</td>
</tr>
<tr>
<td>65-66</td>
<td>Advice</td>
<td>N1<em>Z4**M4</em>SMS**TO^</td>
</tr>
<tr>
<td>67-69</td>
<td>Blank (Date of Rcpt on Referral/Passing)</td>
<td>FA1<em>DY</em>D340^</td>
</tr>
<tr>
<td>70-80</td>
<td>Blank (Intra-Service use)</td>
<td>FA2<em>B5</em>KZ^</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SE<em>14</em>00000001^</td>
</tr>
</tbody>
</table>
Transaction Set Composition

- 511 Requisition

ST*511*00000001
BR*00*A0*20000110******131708
N1*OB**10*FB6012**FR
LX*1
N9*TN*N0036793070001
PO1**1*EA***FS*5910001234567
DD*R*74
LM*DF
LQ*80*2A
LQ*0*A0A
LQ*AL*777
LQ*DF*S
LQ*DE*A
LQ*78*XZZ
LQ*79*02
LQ*A9*YBLDG1
LQ*AK*F
N1*Z4**M4*DMK**TO
N1*Z1**10*FB6012
N1*Z1**10*FB6012
N1*BT**10*FB6012
FA1*DY*D340
FA2*B5*KZ
SE*24*00000001
Envelopes

Envelopes are specialized segments that enclose groups of documents or transaction sets

Envelopes provide:

- Verification of proper transmission
- Time and date stamping of transmission
- Routing information
- Version control information

There are two levels of envelopes....
Functional Group Envelope

The inner envelope is used to group like documents or transaction sets within a transmission.

This envelope is defined by the Functional Group Header (GS) and Functional Group Trailer (GE) segments:

- Contains a functional group ID (e.g., RN (511), MD (527))
- Contains transaction set counts and functional group control numbers
- Contains a time/date stamp of when the group was generated
- Provides format, version, and release specifications of the transactions within the group
Functional Group Envelope

Folder = Functional Group

GS*RN*APPSENDERCODE*AP
PRCVRCODE*20010110*1653
*000000044*X*004010D511R0
ST*511*1001
.
.
.
SE*17*1001
GE*3*0000000044
Standard File Structure

Interchange

- Functional Group
  - Transaction Set
    - Segment Loop
      - Data Segment
        - Data Element

Outer Envelope

- Folder
  - Written
    - Paragraph
      - Sentence
        - Word
Interchange Envelope

The outer envelope is used to group one or more folders or functional groups within a transmission.

This envelope is defined by the Interchange Control Header (ISA) and Interchange Control Trailer (IEA) segments:

- Contains the structured mailbox address of the sender and the receiver.
- Contains control numbers and counts of the different types of folders or functional groups inside.
- Contains a time/date stamp.
- Specifies the format and version of the interchange envelopes.
- Specifies what characters are being used for data element delimiters (separators) and segment terminators.
Interchange Envelope

Envelope = Interchange

DLA ICP
[electronic address]

ABC Company
[electronic address]

ISA*00*0000000000*01*HAPPYDAYS2*01
*SENDERDUNSNUMBR*01*RECVRDUNSNUMBER*010110*1653*U*00400*000000030
*0*P*\GS...
ST...
.
SE...
GE...
IEA*1*123456789^
EDI Data Levels

- Interchange Control Header
- Functional Group Header
- Transaction Set Header
- Transaction Set Detail
- Transaction Set Trailer
- Functional Group Trailer
- Interchange Control Trailer

- ISA
- GS
- GE
- GS
- IEA
- GS
- ST
- SE
- ST
- SE
- ST
- SE
- ST
- SE
- ST

Document Data

- Requisition
- Material Release
Module 2 Summary

What’s been covered:

- The components and structure of EDI
  - Data Elements
  - Data Segments
  - Segment Loops
  - Transaction Sets
  - Functional Groups
  - Interchange Groups
Data Element within a Data Segment

Data Element Reference Designator: N101
Data Element Identification Number: 98
Data Element Name: Entity Identifier
Data Element Type: “Identifier”
MIN / MAX: 2/3
### 511 Requisition

This Draft Standard for Trial Use contains the format and establishes the data contents of the Requisition Transaction Set (511) for use within the context of an Electronic Data Interchange (EDI) environment.

#### Heading:

<table>
<thead>
<tr>
<th>Pos No</th>
<th>Seg ID</th>
<th>Name</th>
<th>Req Des</th>
<th>Max Use</th>
<th>Loop Repeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>ST</td>
<td>Transaction Set Header</td>
<td>M</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>020</td>
<td>BR</td>
<td>Beginning Segment</td>
<td>M</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Detail:

<table>
<thead>
<tr>
<th>Loop ID-LX</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>LX</td>
<td>Assigned Number</td>
<td>O</td>
<td>&gt;1</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>N9</td>
<td>Reference Identification</td>
<td>M</td>
<td>&gt;1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loop ID-LM</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>270</td>
<td>LM</td>
<td>Code Source Information</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>280</td>
<td>LQ</td>
<td>Industry Code</td>
<td>M</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Module 2 Quiz

Question 1: Which of the EDI Components is equivalent to a written document?
   a) Interchange groups
   b) A novel
   c) Transaction set

Question 2: The three types of segment level notes are:
   a) Fictional
   b) Syntax
   c) Comments
   d) Semantic

Question 3: Using pages from the X12 511R handout, describe the meaning of the following X12 string of characters:
   a) N1*Z4**M4*DMK**TO^ 
   b) 2/N101/180
   c) PO1**1*EA***FS*5910001234567^ 
   d) N9*TN*FB230093070001^
End of Module 2