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A279 468*

**DOD LOGDESMAP
DEPARTMENT OF DEFENSE**

LOGISTICS

DATA

ELEMENT

STANDARDIZATION AND

MANAGEMENT

PROGRAM

PROCEDURES

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**DEPARTMENT OF DEFENSE
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(LOGISTICS)**

19961023 257

DTIC QUALITY INSPECTED 1



DoD 4000.25-13-M

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DLMSO

IN REPLY
REFER TO

19 JUN 1996

FOREWORD

This manual is published by direction of the Deputy Under Secretary of Defense (Logistics) under the authority of the Department of Defense Directive 4140.1, Materiel Management Policy. The purpose of this manual is to provide uniform procedures for operation of the DoD Logistics Data Element Standardization and Management Program (LOGDESMAP) as prescribed by DoD Directive 8320.1, Department of Defense Data Administration, September 26, 1991 and its implementing procedures, DoD 8320.1-M-1, Department of Defense Data Element Standardization Procedures, January 1993. This manual also provides guidance and procedures for the standardization and management of data elements used in DoD-wide and joint Service/Agency logistics systems, authoritative issuances and procedures.

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ACRONYMS AND ABBREVIATIONS

Acronyms and Abbreviations Include the following:

<u>ACRONYMS OR ABBREVIATIONS</u>	<u>DEFINITION</u>
ADUSD (L) (LBS&TD)	Assistant Deputy Under Secretary of Defense for Logistics Business Systems and Technology Development
AIS	Automated Information System
ANSI	American National Standards Institute
ASC X12	Accredited Standards Committee X12
ASCII	American Standard Code for Information Interchange
CCB	Configuration Control Board
CDAd	Component Data Administrator
DAAS	Defense Automatic Addressing System
DAASC	Defense Automatic Addressing System Center
DAd	Data Administrator
DBMS	Database Management System
DDI	Director, Defense Information
DDN	Defense Data Network
DDRS	Defense Data Repository System
DED/D	Data Element Dictionary/Directory
DEPRA	Defense Program for Redistribution of Assets
DI	Document Identifier

<u>ACRONYMS OR ABBREVIATIONS</u>	<u>DEFINITION</u>
DISA	Defense Information Systems Agency
DLMS	Defense Logistics Management System
DLMSO	Defense Logistics Management Standards Office
DLSS	Defense Logistics Standard Systems
DoD	Department of Defense
DODAAD	Department of Defense Activity Address Directory
DSN	Defense Switched Network
DTIC	Defense Technical Information Center
DUSD (L)	Deputy Under Secretary of Defense of Logistics
EC	Electronic Commerce
EDI	Electronic Data Interchange
FDAd	Functional Data Administrator
FIPS	Federal Information Processing Standards
ID	Identifier
IRM	Information Resource Management
LDM	Logistics Data Manager
LMARS	Logistics Metric Analysis Reporting System
LOGDESMAP	Logistics Data Element Standardization and Management Program
LOGDRMS	Logistics Data Resource Management System
MAPAD	Military Assistance Program Address Directory
MILSBILLS	Military Standard Billing System
MILSCAP	Military Standard Contract Administration Procedures

<u>ACRONYMS OR ABBREVIATIONS</u>	<u>DEFINITION</u>
MILSPETS	Military Standard Petroleum System
MILSTEP	Military Supply and Transportation Evaluation Procedures
MILSTAMP	Military Standard Transportation and Movement Procedures
MILSTRAP	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MODELS	Modernization of Defense Logistics Standard Systems
NBS	National Bureau of Standards
NIST	National Institute of Science and Technology (Formally National Bureau of Standards)
NTIS	National Technical Information Service
OSD	Office of the Secretary of Defense
PRC	Process Review Committee
S/A	Service(s)/Agency(ies)

References

References Include the following:

- (1) DoD 4000.25-M, "Defense Logistics Management System (DLMS) Standards and Procedures," 14 Feb 96
- (2) DoD 4000.25-1-M, "Military Standard Requisitioning and Issue Procedures (MILSTRIP), Changes 1-9," May 87
- (3) DoD 4000.25-1-S1, "MILSTRIP Routing Identifier and Distribution Codes," Aug 94
- (4) DoD 4000.25-1-S2, "Defense Program for Redistribution of Assets (DEPRA) Procedures, Changes 1-3," Aug 87
- (5) DoD 4000.25-2-M, "Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP), Changes 1-4," May 87
- (6) DoD 4000.25-3-M, "Military Supply and Transportation Evaluation Procedures (MILSTEP)," Sep 87
- (7) DoD 4000.25-5-M, "Military Standard Contract Administration Procedures (MILSCAP), Changes 1-2," Mar 93
- (8) DoD 4000.25-6-M, "Department of Defense Activity Address Directory (DoDAAD, Part I. Activity Address Code Sequence, Part II. ZIP Code Sequence, Part III. Civil Agency Addresses," Apr 95
- (9) DoD 4000.25-7-M, "Military Standard Billing System (MILSBILLS), Changes 1-4," Jan 85
- (10) DoD 4000.25-8-M, "Military Assistance Program Address Directory (MAPAD) System, Changes 1-13," Mar 93

DoD 4000.25-13-M

(11) DoD 4000.25-13-M, "Department of Defense Logistics Data Element Standardization and Management Program (DoD LOGDESMAP) Procedures," Jan 84

(12) DoD 4140.1-R, "DoD Materiel Management Regulation," Jan 93

(13) DoD Directive 8000.1, "Defense Information Management (IM) Program," Oct 27, 1992

(14) DoD Directive 5200.28, "Security Requirements for Automated Information Systems (AISs)," Mar 21, 1988

(15) DoD Directive 8320.1, "DoD Data Administration," Sep 26, 1991

(16) DDRS End User Manual, Sep 1, 1994

Definitions

1. **Application Data Element.** A data element used in an automated information system. (An application data element may, or may not, be a standard data element.)
2. **Attribute.** A property or characteristic of one or more entities; for example, COLOR, WEIGHT, SEX. Also, a property inherent in an entity or associated with that entity for database purposes.
3. **Class Word.** A word in the name of a data element describing the category to which the data element belongs; e.g., "date," "name," "code." The word establishes the general structure and domain of a standard data element.
4. **Data.** A representation of facts, concepts, or instructions in a formalized manner suitable for communications, interpretation, or processing by humans or by automatic means.
5. **Data Administration (DAdm).** That function of the organization which oversees the management of data across all functions of the organization, and is responsible for central information planning and control.
6. **Data Administrator (DAd).** A person or group that ensure the utility of data used within an organization by defining data policies and standards, planning for the efficient use of data, coordinating data structures among organizational components, performing logical database design, and defining data security procedures.
7. **Data Attribute.** A characteristic of a unit of data such as length, value, or method of representation.
8. **Data Dictionary.** A specialized type of database containing metadata that is managed by a data dictionary system; a repository of information describing the characteristics of data used to design, monitor, document, protect, and control data in information systems and databases; and application of data dictionary system.

9. **Data Element.** A named identifier of each of the entities and their attributes that are represented in a database.

10. **Data Element Standardization.** The process of documenting, reviewing and approving unique names, definitions, characteristics and representation of data elements according to established procedures and conventions.

11. **Data Entity.** An object of interest to the enterprise, usually tracked by an automated system.

12. **Data Model.** In a database, the user's logical view of the data in contrast to the physically stored data, or storage structure. A description of the organization of data in a manner that reflects the information structure of an enterprise.

a. **Logical Data Model.** A model of the data stores and flows of the organization derived from the conceptual business model.

b. **Physical Data Model.** A representation of the technologically independent requirements in a physical environment of hardware, software, and network configurations representing them in the constraints of an existing physical environment.

13. **Data Steward.** The person or group that manages the development, approval, and use of data within a specified functional area, ensuring that it can be used to satisfy data requirements throughout the organization.

14. **Data Structure.** The logical relationships which exist among units of data and the descriptive features defined for those relationships and data units; an instance or occurrence of a data model.

15. **Dictionary.** See Data Dictionary.

16. **Domain.** The set of permissible data values from which actual values are taken for a particular attribute or specific data element. In a relational database, all of the permissible tuples for a given relation.

a. **General Domain.** The permissible data values allowed in representations of a data element defined in terms of the character set which can be used; e.g., A-Z, 0-9, etc.

b. **Specific Domain.** An enumerated set of values allowed in data representations of a data element; e.g., Friday, Saturday, Sunday.

17. **Entity.** See Data Entity.

18. **Generic Element.** A generic element is the part of a data element that establishes a structure and limits the allowable set of values of a data element. A generic element has no functional or application context other than to define a general class of data and ensure consistency in structure and domain.

19. **Information.** Any communication or reception of knowledge such as facts, data, or opinions, including numerical, graphic, or narrative forms, whether oral or maintained in any medium, including computerized databases, paper, microforms, or magnetic tape.

20. **Information System.** The organized collection, processing, maintenance, transmission, and dissemination of information in accordance with defined procedures, whether automated or manual.

21. **Metadata.** Information describing the characteristics of data; data or information about data; descriptive information about an organization's data, data activities, systems, and holdings.

22. **Migration Data.** Data from or within a migration system. See also Migration System.

23. **Migration System.** An existing automated information system, or a planned and approved automated information system, that has been officially designated to support standard processes for a functional activity applicable DoD-wide or Component-wide.

24. **Modifier.** A word which helps define and render a name unique within the database, which is not the prime or class word.

25. **Nonstandard Data Element.** Any data element that exists in a system or application program and does not conform to the conventions, procedures, or guidelines established by the organization.

26. Prime Word. A word included in the name of a data entity which represents the logical data grouping (in the logical data model) to which it belongs.

27. Property Modifier. A word (adjective) that may occur in a data element name between the prime word and the class word modifiers. Property modifiers result directly from the attributes of a data model entity and further refine the prime word, or the class word, but do not dictate the structure of the data element. Normally, property modifiers are related to the generic element.

28. Qualitative Data. A data value that is a non-numeric description of a person, place, thing, event, activity, or concept.

29. Quantitative Data. Numerical expressions that use Arabic numbers, upon which mathematical operations can be performed.

30. Standard Data Element. A data element which has been submitted formally for standardization in accordance with the organization's data element standardization procedures.

CHAPTER 1

INTRODUCTION

A. AUTHORITY

This Manual is authorized by DoD Directive 4140.1 and 4140.1-R, Materiel Management, January 1993.

B. PURPOSE

1. This Manual promulgates the procedures for data administration required to support the policies of the Department of Defense Data Administration Program established by DoD Directive 8320.1, September 26, 1991 and provides guidance and uniform procedures for DoD data element standardization under guidelines provided in DoD 8320.1-M-1, January 1993.

2. This Manual also provides procedures for electronic interchange of data across the Military Services, Defense Agencies other Federal Agencies, foreign national governments, international government organizations, and with non-government participants utilizing American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X12 procedures.

C. SCOPE AND APPLICABILITY

1. The provisions of this Manual apply to all DoD Component organizations involved in the development, design or modification of DoD-wide and joint Military Service/DoD Agency automated logistics systems and authoritative issuances which prescribe the collection, reporting or interchange of logistics data.

2. For the purposes of this Manual, logistics encompasses responsibilities assigned to the Deputy Under Secretary of Defense for Logistics (DUSD(L)). Any exemptions to the policies expressed herein must be requested from and granted by the Assistant Deputy Under Secretary of Defense for Logistics Business Systems and Technology Development (ADUSD(L)(LBS&TD)).

D. OBJECTIVES

1. Support DoD logistics operations and decision-making with data that meets the needs of the DoD Logistics community in terms of availability, accuracy, timeliness and quality.
2. Structure the supporting information system, the DoD Logistics Data Resource Management System (LOGDRMS) in ways that encourage horizontal, as well as vertical, sharing of data in the Department of Defense, with Government Agencies, private sector organizations and allied nations, consistent with national security and privacy requirements.
3. Improve business methods, measure improvements and evolve to more efficient, effective and economic data and system environment architectures.

E. STRATEGY

Pursuant to the stated objectives, this Manual describes an integrated DoD Logistics community-wide data administration structure and procedures for managing data as a DoD resource. It includes the criteria and rules for standardization of data elements and their attributes throughout DoD. It is the intent of DoD logistics data administration, through this Manual, to:

1. Develop logistics data standards to satisfy DoD Component mission needs and operational capabilities requiring the collection, storage and exchange of data.
2. Develop an awareness of the value of data and of the need for uniform description and representation of data. Accordingly, information derived from this can be used in effective decision-making that supports the concept of decision support and executive information systems.
3. Encourage the use of DoD logistics data standards to improve program effectiveness both to the program and to the DoD Logistics community as a whole, through self-enforcement and cooperation among program and data administrators.
4. Promote interoperability and data sharing among DoD logistics systems while ensuring that data security and integrity are maintained.

5. Specify appropriate methods and techniques for the management and control of data throughout the DoD Logistics community.

6. Develop common data requirements and formats for elimination of redundancies.

7. Interface the data elements developed for the DoD Data Element Standardization Program with ANSI ASC X12 standards for EDI thereby providing a common basis for communicating shared business information.

F. POLICIES

1. DoD standard or DoD logistics standard data elements will be used in the development or redesign of DoD-wide and joint Service/Agency systems and issuances that fall within the scope of the DoD LOGDESMAP.

2. The use of prescribed data item codes will be rigidly applied for machine processing and electronic data transmission.

3. All data elements employed in systems and issuances within the scope of the DoD LOGDESMAP which have not been standardized in accordance with DoD 8320.1-M-1, DoD Data Element Standardization Procedures, will be standardized as DoD logistics standard data elements under the procedures prescribed in this Manual.

4. A DoD Logistics Data Element Dictionary/Directory is available for on-line access by all participating DoD Components. See Chapter 9 for instructions.

G. RESPONSIBILITIES

Specific responsibilities of each DoD Component are covered in the individual parts of this Manual under specific procedures or guidance.

H. EFFECTIVE DATE

This Manual is effective upon formal publication.

CHAPTER 2

DOD DATA ADMINISTRATION PROGRAM

A. DATA ELEMENT CONCEPTS

The concepts discussed in this chapter are fundamental to the development, identification, and definition of standard generic elements and standard data elements. This information provides a basis for understanding the development, approval, and maintenance procedures for generic elements and data elements.

B. DATA ELEMENT

1. A data element is a basic unit of information having a name, meaning, and subcategories (data items) of distinct units and values. Through its name and definition a data element must convey a single, informational concept.

2. Data elements are derived from data entities and their attributes identified in data models. Each data element is the physical representation of a data model entity attribute.

3. A data element name consists of a prime word, a class word, and modifiers.

4. Any data element that has been identified as a functional data requirement in a validated, approved Component or functional data model, which can be related to the DoD data model, and is used by more than one application or information system will be standardized.

5. Any data element that has been prescribed by information system computer program specifications to support internal system processing requirements only, will not be standardized (e.g. logic flow control, counters, subscripts, "flags").

6. All standard data elements must be documented in accordance with the DoD standardization procedures and naming conventions established in Chapter 3, below. There are five possible components of a data element:

a. Prime Word

(1) A prime word is the noun designation given to an entity identified in a data model. For example, a company may need to maintain information about customers, so an entity "Customer" could exist. The prime word for this entity would be called "Customer." The prime word identifies the object to which the data element refers.

(2) Prime words are centrally controlled and maintained by the DoD DAd. Proposals for new prime words must be based on an explanation of the DoD Data Model and submitted through the appropriate Component or Functional Data Administrator to the DoD DAd for approval. Words used as prime words in some data element names may be used as modifiers in other data element names.

b. Prime Word Modifier

Prime word modifiers are adjectives which further refine and categorize the prime word. They designate the name of a data subentity in the data model and distinguish it from other subentities of the same data entity. They are needed to distinguish that data subcategory from other subcategories of data represented by the data entity. For example, a company may be interested in information about two distinct groups of customers, "Retail Customers" and "Wholesale Customers." The prime word modifiers "Retail" and "Wholesale" are used to distinguish between these two types of customers

c. Class Word

(1) A class word is a noun that prescribes a definition for a general category of data. A class word designates the category of data into which a data element fits. Examples of class words are: "Code," "Name," and "Quantity."

(2) Class words are centrally controlled and maintained by the DoD DAd. DoD class words are listed in Appendix A, below, together with Figure A-1 to assist in class words selection. Proposals for new class words must be submitted through the appropriate Component or Functional Data Administrator to the DoD DAd for approval. Class words are restricted and cannot be used as prime words or modifiers in a data element name.

d. Class Word Modifiers

A class word modifier is a word (adjective) that is used to further refine or describe a class word. When used, a modifier must distinguish one data element from another and normally will narrow the range of the allowable values established by a class word.

Example: Month Name

Here, "Month" is modifying the class word "Name" and restricts the possible range of values from all possible names of anything to names of months.

e. Property Modifiers

The second group of modifiers that may occur in a data element name are between the prime word and the class word modifiers. They are property modifiers. They result directly from the attributes of a data model entity and further refine the prime word, or the class word, but do not dictate the structure (maximum size or data type; e.g., real, integer, character) of the data element. Normally, they are modifiers to the generic element, discussed in Section C., below.

Example: Carrier Destination Geographic Location Code

Here, "Carrier" is the entity, and the property modifier is "Destination." While "Destination" does further modify "Geographic Location Code," it should not be merged to form a new generic element because "Destination" does not restrict the domain or structure of "Geographic Location Code." (See subsection C.1., below.)

C. GENERIC ELEMENT

1. A generic element is the part of a data element that establishes a structure (maximum size/length and data type) and limits the allowable set of values of a data element. A generic element has no functional or application context other than to define a general class of data and ensure consistency in structure and domain. The domain (permissible set of values) of a generic element may be specific or general.

2. Each data element must include one and only one generic element to identify the class of data and the allowable values that may represent the data element. A data element may use all or part of the generic element domain, but may not exceed the domain.

3. A generic element consists of a class word and, if necessary, modifiers.

Example:

The data element "Individual Citizenship Month Code" in which the generic element is "Month Code."

Data element name:	Individual Citizenship Month Code
Data element domain:	01 - January
	02 - February
	03 - March
	etc.

4. A generic element may consist of only a class word (i.e., a single word generic element that establishes the structure and range of values for a data element). For example the single word generic element "Name" consists only of a class word and is defined as: "A designation of an object or entity expressed in a word or phrase." The established domain for the generic element "Name" or a subset of that domain can be used to form many data elements.

Example:

Generic element name:	Name
Generic element domain definition text:	A general domain comprised of the alphabetic characters in the ASCII character set.
Data element name:	Individual Eye Color Name
Data element domain definition text:	A specific domain comprised of the ASCII characters: A-Z

Data element domain	Blue
value identifier:	Brown
	Gray
	Green
	Hazel

D. DOMAIN

A domain is a set of valid data values approved for use with generic element or a data element. Domains for generic elements and data elements must be approved by the data steward (a designated FDA) of the element. A domain can be either specific or general.

1. Specific Domain

A specific domain has a finite definition and an enumerable set of data representations as shown in the example below. A specific domain is defined by naming the acceptable values allowed in a prescribed set of data representations.

Example

Data element name:	Individual Eye Color Name
Data element domain	Blue
domain value identifier:	Brown
	Gray
	Green
	Hazel

2. General Domain

A general domain has a broad definition and a large (possibly infinite) set of acceptable values that cannot be enumerated within reason. A general domain is described by establishing a set of possible values, but does not list all the possible values. Certain values or characters may be restricted. An example of a general domain is shown below:

Example:

Data element name:	Individual Pulse Rate
Data element domain definition text:	A general domain comprised of the ASCII characters 0-9.

E. METADATA

1. Data elements have definitive characteristics that quantify, identify, or describe a representational, administrative, or relational concept. Metadata are data about data. In the context of data elements, metadata are data (or facts) about data elements or generic elements.

2. Generic elements and data elements are maintained in the DDRS and are described by metadata. For example, generic elements and data elements and data elements have names, definitions, and domains. Unit of measure, e.g., feet, tons, miles per hour, etc., is also a characteristic of a data element and such is an item of metadata.

3. A list and description of DDRS metadata is provided in Appendix B.

F. DATA ELEMENTS STANDARDIZATION PHASES

Generic elements and data elements evolve through the following standardization phases (prime words and class words have corresponding phases)

1. Developmental. Generic elements and data elements that have been created but not yet been released by the originator for standardization review. The requirement for a data element is normally identified during data modeling or through analyzing new functional requirements such as those required by new legislation. (See Chapter 3, below.)

2. Candidate. Generic elements and data elements that have been submitted by the Logistics Functional Data Administrator (FDAd) or Component Data Administrator (CDAd) for formal review. (See Chapter 4, below.)

3. Approved. Generic elements and data elements that have been coordinated through the standardization process as specified in Chapter 5.

4. Disapproved. Generic elements and data elements that have been coordinated through the standardization process specified in Chapter 5, and whose use has been disapproved.

5. Modified. Generic elements and data elements that were previously approved and are currently being considered for change. These elements go through the same formal review as candidate standard generic and data elements.
(See Chapter 6, section C.)

6. Archived. Generic elements and data elements that were formerly approved, but are no longer needed to support the information needs of the Department of Defense.
(See Chapter 6, section D.)

CHAPTER 3

DATA ELEMENT DESIGN, DEFINITION, AND NAMING

A. PURPOSE

This chapter provides guidance for designing, defining, and naming data elements that can be used throughout the Department by multiple functional communities. Implementation of this guidance is covered under the processes discussed in Chapters 4, 5, and 6, below.

B. DATA ELEMENT DESIGN

The quality of the data element is the key to the sound foundation for all data structures. Proper emphasis on the creation, naming, and definition of data elements will improve the quality of the entire data structure. Standard data elements should be based upon the data entities and data entity attributes identified in the DoD data model, or recommended for expansion of the DoD data model from a lower level data model, to ensure maximum shareability and interoperability of data throughout the Department of Defense. Several considerations are important to the quality of the data element.

1. Data elements must be designed:

- a. To represent the attributes (characteristics) of data entities identified in data models. A model-driven approach to data standards provides a logical basis for and lends integrity to, standard data elements.
- b. According to functional requirements and logical, and not physical, characteristics. Physical characteristics include any connotations regarding technology (hardware or software), physical location(databases, records, files, or tables), organization (data steward), or application (systems, applications, or programs).
- c. According to the purpose or function of the data element rather than how, where, and when the data element is used or who uses it. It indicates what the data element represents and ensures common understanding.
- d. So that it has singularity of purpose. Data elements must not have more than one meaning. A data element should reflect a single concept to promote shareability

and data independence from applications using the data element.

e. With generic element values (domain) that are mutually exclusive and totally exhaustive when the class word "Code" is used.

2. Data elements should not be designed with:

a. Value (domain) that may be confused with another value in the same domain. For example, mixing similar numbers and letters such as O/O, 1/1, 2/Z, U/V and 5/S.

b. Values (domain) that have embedded meaning or intelligence within part of the code when the class word "Code" is used. For example, do not develop a multiple-character code wherein the value of one or more of the characters in the code have special meaning (i.e., a benefits plan code such as "201," "202," "204," or "205," where the last digit identifies a particular option within the benefit plan).

c. Overlap or redundancy among the purpose or use of different data elements (e.g., "Birth Date," "Current Date," and "Age").

C. DATA ELEMENT DEFINITION

The definition and naming of a data element is an iterative design process with the data element definition often being modified as the data element is being developed.

1. Data element definitions must:

a. Be based on the definitions of data entity attributes established in the DoD data model or established in an approved data model linked (mapped) to the DoD data model.

b. Have a structure which centers around the generic element of the data it describes. Developing a standard data definition using a structure minimizes "writer's block" and facilitates the development of consistent and meaningful definitions that can be accepted by all users.

c. Define WHAT the data is, not HOW, WHERE, or WHEN data are used or WHO uses the data.

d. Be more than just a reiteration of the data element name. The definition must add meaning to the name and not merely rephrase the name. The class word is an exception, its meaning does not need to be redefined in each definition.

e. Describe its purpose and usefulness and must not contain physical characteristics. The definition must describe logical, not physical, qualities.

f. Have one and only one interpretation and must not be ambiguous. Terms with differing or varying connotations must have their meanings clearly explained in the definition.

2. Data element definitions must not:

a. Contain conjunctions or phrases indicating multiplicity of purpose of a data element, ambiguity of definition, or process orientation.

b. Contain technical jargon that may be unfamiliar to the reader.

c. Contain acronyms and abbreviations.

d. Restate the characteristics of the data element. For example, do not use statements or phrases such as "... seven characters in length..." or "... an alpha-numeric code..." in the definition.

e. Restate a process definition that describes how a data element is calculated, derived, assimilated, or manipulated.

f. Contain information about the valid values or domain of the data elements.

g. Be circular. A situation cannot exist where one definition points to a second definition for further explanation and the second definition points back to the original definition.

D. DATA ELEMENT NAMING

The set of guidelines for naming data elements establishes a naming convention, or classification scheme, that will make it easier to determine if a data requirement is already being met within the Department of Defense or if it is a new requirement that needs to be fully defined and the data collected and distributed as necessary.

1. The names of data elements should:

a. Be based on the names of data entity attributes identified in the DoD data model or an approved data model linked (mapped) to the DoD data model.

- b.** Be clear, accurate, and self-explanatory.
 - c.** Be named according to logical, and not physical considerations. Physical characteristics include any connotations regarding technology (hardware or software), physical location (databases, files, or tables), organization (data steward), or function (systems, application, or programs).
 - d.** Consist of the minimum number of words that categorize the data element. Fewer words may be too general while more words may be too narrow or restrictive. Modifiers may be used with class words, generic elements, and prime words to fully describe generic elements and data elements. Modifiers are often derived from the data entity attribute names and the entity names identified in the DoD data model or an approved model linked (mapped) to the DoD data model.
 - e.** Include only alphabetic characters (A-Z, a-z), hyphens (-), and spaces().
 - f.** Have each component of the name separated by a space.
 - g.** Have multiple word prime words connected with hyphens. Examples of multiple prime words might be "Purchase-Order," "Medical-Facility," or "Civilian-Government."
- 2.** The following are not permitted in data element names:
- a.** Words which redefine the data element or contain information that more correctly belongs in the definition.
 - b.** Class words used as modifiers or prime words.
 - c.** Abbreviations or acronyms. (Exceptions to this rule may be granted by the DoD DAd in the case of universally accepted abbreviations or acronyms. The DDRS will contain a list of approved abbreviations and acronyms.)
 - d.** Names of organizations, computer or information systems, directives, forms, screens, or reports.
 - e.** Titles of blocks, rows, or columns of screens, reports, forms, or listings.
 - f.** Expression of multiple concepts, either implicitly or explicitly.
 - g.** Plurals of words.

h. The possessive forms of a word, i.e., a word which denotes ownership.

i. Articles (e.g., a, an, the).

j. Conjunctions (e.g., and, or, but).

k. Verbs.

l. Prepositions (e.g., at, by, for, from, in, of, to).

CHAPTER 4

LOGISTICS DATA ELEMENT DEVELOPMENT PROCEDURES

A. INTRODUCTION

1. Data requirements are identified by users of logistics information who need to make decisions or conduct operations, or by system developers who support users. Data elements are not developed by data administrators or users working in isolation. Data elements are developed by users working together with logistics functional experts and data administrators to assist in defining and meeting the users data requirements. In many cases it will be discovered that the users requirement is already being met within the Department of Defense Logistics Community and the problem is to make the data available only to the "new" user of the data element. A quick review of standard data elements in the DDRS can often result in identification of a data element which meets the user's requirement and saves development time.

2. Data elements are named in the context of the organization's data model and with a view towards integration of the data element into the DoD data model. Awareness of the DoD data model will facilitate naming data elements, help avoid duplication, and support consistency throughout the Department of Defense.

B. PURPOSE

1. The procedures presented in this Chapter have been established to facilitate the efficient development of DoD Logistics standard data elements. After completing these procedures, data elements will be ready to enter the DoD data element standardization approval process.

2. These procedures are applicable when developing new DoD Logistics standard data elements, reverse engineering, or reengineering existing logistics data elements in migration or other existing systems to develop DoD standard data elements.

3. Before going through the development of a logistics standard data element it is wise to have a complete understanding of the data requirement. A quick review of

existing DoD standard data elements might result in finding the standard data element already exists. The standard data element should then be used, or if necessary, a modification to it can be prepared. This can save considerable time and effort. If no adequate standard data element exists, the steps outlined below should be followed.

C. ASSEMBLE SOURCE DOCUMENTATION

1. Gather all available documentation that may provide information for, or assist in, completing the DoD Logistics standard metadata of the generic element(s) and/or data element(s) to be proposed for standardization. The DoD data model and the DDRS are primary sources of information for developing a DoD Logistics standard data element. Additional references and resources including the following:

- a. Functional information resources.
- b. Functional or component data models and process models.
- c. Functional and Component data dictionaries that may exist.
- d. Federal information processing standards (FIPS).
- e. "Dictionary of Business Terms."
- f. Unabridged dictionary.
- g. U.S. Military Dictionary (Dictionary of Military Term/Acronym).
- h. Thesaurus.
- i. Notes from interviews with business and systems analysts.
- j. DoD Publications, Manuals, Directives and/or Instructions.
- k. System documentation.
- l. Technical writing guide.
- m. DDRS End User Manual.

2. A data element development worksheet may be prepared for documenting data element attributes. On-line development of data elements in the DDRS is strongly encouraged.

3. Access to the DDRS may be direct or through functional dictionaries or Component dictionaries.

D. IDENTIFY PRIME WORD NAME (MANDATORY) WITH MODIFIER NAME(S) (OPTIONAL)

1. Identify Prime Word Name

a. From the DoD data model, identify the data entity of the attribute for which the data element is being developed (e.g., airport, individual, vehicle). These are represented by the prime words listed in the DDRS.

b. If no entity in the DoD data model seems appropriate, a candidate DoD data model entity must be prepared and submitted through the appropriate CDAd or FAd to the DoD DAd. The candidate entity will often come from a lower level data model that maps to the DoD data model, and will be the source of the prime word. The candidate standard data element may be prepared and submitted simultaneously with the candidate entity submission.

2. Identify Prime Word Modifier Name(s)

a. The addition of modifiers to further describe the data entity for which data is to be collected is optional.

b. The number of prime word modifiers should be minimized.

c. The modifiers are normally selected from the entity names of the next two higher level entities in the DoD data model.

d. The DDRS contains a list of modifiers that have been previously been approved. This restricted vocabulary should be used whenever possible.

3. Combine the prime word modifier name(s) and the prime word name. Order multiple modifiers from right to left, general to specific. (See "Data Element Naming Rules" in Chapter 3, section D, above.)

4. There may be times when a prime word modifier more logically should follow the prime word rather than precede it. This is allowable but should be done with discretion. These modifiers were referred to as property modifiers in Chapter 2.

E. DEVELOP DEFINITION OF PRIME WORD AND MODIFIERS

1. Review the definitions of the data entity in the source data model and the associated attribute for which the data element is being developed and relate it to the associated data entity in the DoD data model.

2. Formulate a definition for the prime word with its modifier(s).

3. Make the definition a logically sequenced, grammatically and structurally correct, simple sentence. (See "Data Element Definition Rules" in Chapter 3, section C.)

4. Edit and refine the definition according to the standards of English writing.

F. DEVELOP GENERIC ELEMENT NAME (MANDATORY)

1. Identify Class Word Name

a. Identify the category of data associated with the data entity attribute for which the data element is being developed (e.g., code, name, and amount). This will come from the class word name list contained in Appendix A.

b. If no class word on the list seems to be appropriate, a candidate word may be submitted through the appropriate CDAd or FDAd to the DoD DAd. The candidate standard data element may be prepared and submitted simultaneously with the candidate class word submission.

2. Identify Class Word Modifier Name(s)

a. The addition of modifiers to further describe and restrict the category of data to be collected is optional.

b. A minimum number of words should be selected as modifiers to describe the class word name.

c. The modifiers should be selected from the data entity attribute name in the DoD data model whenever possible.

d. The DDRS contains a list of modifiers which have previously been approved. This restricted vocabulary should be used whenever possible.

3. Combine the class word modifier name(s) and the selected class word name to form the generic element name. Order multiple modifiers from right to left, general to specific. (See "Data Element Naming Rules" in Chapter 3, section D.)

G. DEVELOP GENERIC ELEMENT DEFINITION (MANDATORY)

If the standard generic element already exists, go directly to section J, below.

1. Select the generic element definition structure for the class word to be used in the generic element. (See Appendix A.)

2. Formulate a definition for the class word modifiers and incorporate the modifier definition into the generic element definition structure.

3. Make the definition a logically sequenced, grammatically and structurally correct, simple sentence definition. (See "Data Element Definition Rules" in Chapter 3, section C.)

4. Edit and refine the generic element definition according to acceptable English writing conventions.

H. IDENTIFY GENERIC ELEMENT NAME (MANDATORY) WITH PROPERTY MODIFIER (OPTIONAL)

1. Sometimes generic elements require additional modifiers. These were referred to as property modifiers in Chapter 2.

2. The addition of such modifiers is optional and should be avoided whenever possible.

3. The DDRS contains a list of modifiers that have previously been used. This restricted vocabulary should be used whenever possible.

4. Combine the property modifier(s) and the generic element name.
5. Unit of measure is not allowed as part of a generic element name.

I. DEVELOP DEFINITION OF GENERIC ELEMENT AND MODIFIER(S)

1. Formulate a definition for the generic element modifier(s) and incorporate the modifier(s) definition with the generic definition structure.
2. Make the definition a logically sequenced, grammatically and structurally correct, simple sentence definition. (See "Data Element Definition Rules" in Chapter 3, section C.)
3. Edit and refine the generic element with modifier(s) definition according to acceptable English writing conventions.

J. DEVELOP DATA ELEMENT NAME (MANDATORY)

1. Combine the prime word name with its modifier(s) and the generic element name with its modifier(s) to form the data element name. (See "Data Element Naming Rules" in Chapter 3, section D.)
2. Ensure that the domain of the data element is consistent with, or a subset of, the domain of the generic element.

K. DEVELOP DATA ELEMENT DEFINITION (MANDATORY)

1. Incorporating the prime word with modifier(s) definition into the generic element with modifier(s) definition.
2. Make the definition a logically sequenced, grammatically and structurally correct, simple sentence definition. (See "Data Element Definition Rules" in Chapter 3, section C.)
3. Edit and refine the data element definition according to the standards of English writing.

L. RESEARCH EXISTING ELEMENTS

1. Following the procedures in the DDRS End User Manual, search the DDRS to locate generic element(s) having a name the same as, or similar to, the generic element name just developed.
2. If no approved, modified, candidate, or archived generic element is identified, continue development of a new generic element (section M).
3. For each generic element found in the DDRS, list the standard data elements in the DDRS whose names contain the same or similar prime word with modifier(s) name.
4. Compare the name being developed with the names on the list from the DDRS.
5. Identify the name of each data element from the DDRS that describes the same concept as the name being developed.
6. Compare the definition of the data element under development with the definition of each data element identified in the step 5., above.
7. Identify the name of each data element having a matching definition.
8. Review the value domain of each data element identified in step 7., above.
9. Identify the name of each data element having a domain, that either matches, includes all of the values of (superset), or approximates the intended domain of the data element under development. If more than one is identified, determine which represents the data element under development.
10. Review the mandatory attributes of each data element identified in step 9., above.
11. Identify the name of each data element having required attributes that either match or approximate the intended attribute values of the data element under development.
12. Select the data element from the previous step having mandatory attribute values nearest those of the data element under development. This procedure should result in no more than one approved, modified, candidate or archived data element.

13. If no data element will fulfill the requirements of the data element under development, continue development, continue development of the new data element (See section O).

14. If an approved, modified, or candidate data element will fulfill the requirements of the data element under development, prepare and submit the attributes required to register a new application of the existing data element according to the procedures in Chapter 6, section B.

15. If an approved or archived data element can be modified to fulfill the requirements of the data element under development, prepare the required modifications to the selected element and submit these changes to the appropriate FDA or CDA for coordination and preliminary review, as described in Chapter 5.

16. If an archived data element will fulfill the requirements of the data element under development, reinstate the archived data element according to the procedures in Chapter 6, section E.

M. IDENTIFY GENERIC ELEMENT DOMAIN (MANDATORY)

Skip section M if a new generic element is not being developed.

1. Record the generic element domain definition text to describe the overall meaning or general characteristics of the generic element domain.

2. For a generic element with a specific domain, record each value (generic element domain value identifier) and the definition for each value (generic element domain value definition text). (If the domain is excessively large, an extract sample list should be given along with the source document for the complete list in lieu of the entire domain list.)

3. For all quantitative class words, record the allowable range of the domain values (generic element low-range identifier and generic element high-range identifier).

N. RECORD REMAINING GENERIC ELEMENT ATTRIBUTES

Skip section N, if a new generic element is not being developed.

Record values for each of the remaining mandatory attributes and any appropriate

optional attributes for the new generic element. Refer to the detailed standard generic element attribute descriptions in Appendix B.

O. IDENTIFY DATA ELEMENT DOMAIN (MANDATORY)

1. Enter the data element domain definition text to describe the overall meaning or general characteristics of the data element domain.

2. For a data element with a specific domain, enter each value (standard data element domain value identifier) and the definition for each value (standard data element domain value definition text). The domain values must be the same or a subset of the domain values of the associated generic element. (If the domain is excessively large an extract sample list should be given along with the source document for the complete list in lieu of the entire domain list.)

3. For all quantitative class words (see page A-6), enter the allowable range of the domain values (standard data element low-range identifier and standard data element high-range identifier). The low-range and high-range values must be equal to or a subset of the low-range and high-range values of the associated generic element.

4. If a standard generic element exists that contains some, but not all the domain values of the data element being developed, prepare and submit the required modifications as a modified standard generic element. The candidate standard data element may be prepared and submitted simultaneously.

P. RECORD REMAINING DATA ELEMENT ATTRIBUTES

Record values for each of the remaining mandatory attributes and any appropriate optional attributes for the data element. Refer to the detailed standard data element attribute descriptions in Appendix B.

Q. SUBMIT PROPOSED ELEMENT(S) FOR APPROVAL

Submit the developmental generic element and/or data element information to the appropriate FDA or CDA for coordination and preliminary review, as described in Chapter 5.

CHAPTER 5

STANDARDIZATION APPROVAL PROCESS

A. PURPOSE

This Chapter describes the procedures to be used when generic elements or data elements are being considered for adoption as approved standards. The approval process for data elements and generic elements is identical. Prime words and class words have a corresponding process. All references to "data element" in this chapter pertain equally to generic elements and data elements except where noted separately.

B. COORDINATION PROCEDURES

1. Any DoD information system user or developer within the DoD may propose a data element for standardization and submit it through Component or functional channels for approval.

a. Data elements originated in support of the functional area of logistics will be processed, in accordance with the procedures established by the logistics FAd. These procedures must conform to the policies and procedures of DoD Directive 8320.1. The logistics FAd's may require their respective functional users or system developers to submit development data elements into a functional data dictionary, a functional partition of the DDRS, or require that they be submitted to the Logistics FAd in a prescribed electronic or nonelectronic format.

b. Developmental data elements originated in support of a DoD Component requirement will be processed within the Component in accordance with the procedures established by the CAd. These procedures must conform to the policies and procedures of DoD Directive 8320.1. The CAd's may permit their Component users or system developers to enter developmental data elements into a Component data dictionary, a Component partition of the DDRS, or require that they be submitted in a prescribed electronic or nonelectronic format.

2. The CAd will review developmental data elements proposed at the DoD

Component level to ensure compliance with the rules and procedures described in Chapters 3 and 4, above, before submitting the data element as a candidate standard. The Component's functional representatives are encouraged to discuss the data element with their DoD functional counterparts before submitting the data element to the CDAd and during Component review.

3. The Logistics FAd will review the developmental data elements proposed at the OSD functional level to ensure compliance with the rules and procedures described in Chapters 3 and 4 before submitting the data element as a candidate standard. The FAd will discuss the data element with functional counterparts in the Components before submitting the data element as a candidate standard data element.

C. PRELIMINARY REVIEW

Developmental logistics data elements will be reviewed in accordance with Component and/or functional procedures for adherence to technical and functional requirements before being forwarded to the Logistics FAd for submission as candidate or modified standard data elements. Logistics FAd will validate and submit each developmental data element through the following process:

1. Review developmental data elements for adherence to the following technical and functional requirements:

- a. The data element requirement must be derived from a data model approved by ADUSD(L)(LBS&TD) that can be mapped to the DoD data model.
- b. The definition of the data element must fully describe the data requirement and convey only one concept, as outlined in Chapter 3 above.
- c. The data element name must conform to the data element naming guidelines described in Chapter 3, above.
- d. The mandatory metadata attributes of the data element must be fully described.
- e. The generic element associated with the data element must be contained in the DDRS in an approved, candidate, or modified status before the data element can be submitted as a candidate or modified standard data element; or a candidate or modified generic element must be developed and submitted at the same time as the data element.

2. Review developmental generic elements for adherence to the following technical and functional requirements:

a. The generic element is required in a developmental data element because no existing standard generic element is sufficient.

b. The definition of the generic element must describe the kind of data stored in all associated data elements.

c. The generic element name must conform to the data element naming guidelines described in Chapter 3.

d. The mandatory metadata attributes of the generic element must be fully described.

3. Return to the originator any data element that does not meet the criteria in Chapter 4, with the reason(s) for the rejection.

4. For data elements that meet the criteria in Chapter 4:

a. Confirm that a suitable data element does not already exist by reviewing all standard data elements in the DDRS that have the same or similar names or descriptions. (This includes archived standard data elements.)

b. If the attributes of the data element are identical or similar to a standard data element in the DDRS, return the developmental or modified data element to the originator for further review of the existing standard data element(s).

(1) The developmental data element originator should review the existing standard data element(s) to determine if a new data element is required. If the existing standard data element is suitable, the originator may either use the existing standard data element, as defined, or propose a modification to the existing standard data element or an existing standard generic element.

(2) If an existing standard data element is to be used as defined, the developer/user must identify the additional system(s) that will use the standard data element and request that the Logistics FAd register the application(s) that use the standard data element in the DDRS.

5. Enter the validated developmental data element(s) into the DDRS as candidate or modified standard data elements to begin the approval process. The logistics FAd designated as the data steward of each of the candidate standard data elements and the DoD DAd automatically will be notified that new candidate or modified standard elements are awaiting their review.

D. FORMAL REVIEW

The DoD DAd and the Logistics FAd must approve or disapprove the data element within 30 working days of notification that the candidate data element has been submitted for review. Requests for time waivers must be sent electronically to the DoD DAd with reason why more time is required. The DoD DAd and the designated FAd (data steward) will conduct concurrent reviews of candidate standard elements as described, in subsections D.1. and D.2., below. The DoD DAd will allow a minimum of 20 working days before approving a data element to permit the Logistics FAd time to review and comment on the data element.

1. Technical Review

a. The DoD DAd reviews the candidate or modified standard data element within 30 working days and determine if the candidate standard element conforms to DoD Data Administration policy and does not conflict with existing standard data elements.

b. The DoD DAd will review the data element metadata attributes for completeness and conformance with current DDRS technical requirements as specified in the DDRS End User Manual.

c. The DoD DAd will validate the data element by confirming conformance to the DoD data model.

d. Recommendation for technical approval will be annotated in comments on the data element in the DDRS.

e. Recommendation for technical rejection and supporting reasons will be annotated in comments on the data element in the DDRS for resolution by the designated data steward.

2. Functional Review

a. The Logistics FAd reviews the candidate or modified standard data element within 20 working days for consistency within the functional area and for conformance with cross-functional integration requirements. The FAd validates the data element metadata attributes to ensure that the data element is functionally accurate and complete. If the FAd believes that some other FAd should be the data steward, that change will be made and a comment explaining the rationale will be provided. The 20 working day review period begins again any time the data steward is changed.

b. The Logistics FAd will coordinate with appropriate FAdS and CAdS to ensure that the data element will meet all functional and Component data requirements. The FAd will coordinate efforts to resolve any technical deficiencies. The FAd must review their functional area data model and assess the potential configuration changes. If another FAd believes that the data steward designation was incorrectly made, an electronic comment should be immediately generated to the Logistics FAd and the DoD DAd for resolution.

c. The Logistics FAd must coordinate modified standard data elements with the other FAdS and functional counterparts within the Components that will be affected by the change to the existing data element. Users of the existing standard data element are indicated by the information systems registered in the DDRS as application of the standard data element.

d. The Logistics FAd does not obtain concurrence from all respondents, the FAd may still elect to approve the data element. All nonconcurrences, however, must be noted in the DDRS for review by the DoD DAd. The issue may be brought to the attention of the DoD DAd for resolution or elevated to a higher level for resolution as discussed in paragraph D.3.a., below.

e. If the Logistics FAd determines that the data element is not consistent with , or conflicts with, existing standard or modified data elements within the functional area, the FAd notifies the DoD DAd by annotating the reasons for rejection in the DDRS.

f. If no conflicts exist, the Logistics FAd recommends approval of the data element and notifies the DoD DAd by annotating the approval in comments on the data element in the DDRS.

3. DoD DAd Evaluation and Final Approval

a. The DoD DAd evaluates the recommendations from the technical and

functional reviews and obtains consensus on a final recommendation within 10 working days after completion of the technical and functional reviews.

(1) If the technical and functional review recommendations are not the same, the DoD DAd will coordinate with the FAd to resolve the conflict.

(2) If the conflict cannot be resolved by the DoD DAd, the DoD DAd will forward the issue, together with respective recommendations, to the Directorate of Defense Information (DDI), DISA, for resolution.

(3) If the conflict cannot be resolved by the DDI it will be forwarded to the DoD Senior Information Resource Management (IRM), DISA, official for final resolution.

b. When the final recommendation is for approval, the status of the data element is changed to approved.

c. When the final recommendation is for disapproval, the status of the data element is changed to disapproved and the Logistics FAd that submitted the data element is automatically notified of the disapproval. After notification of disapproval, the submitting FAd may either delete the data element from the DDRS or make appropriate changes and resubmit the data element.

CHAPTER 6

DATA ELEMENT MAINTENANCE PROCEDURES

A. PURPOSE

Approved standard generic and data elements can be implemented or modified for use in various applications or information systems, or they may be archived when no longer required. Archived standard generic and data elements may be reinstated for use. The following maintenance procedures describe the processes for registering use of a data element by an application, modifying approved data elements, archiving standard generic and data elements, and reinstating archived standard generic or data elements.

B. REGISTERING DATA ELEMENT APPLICATIONS

All new information systems and migration information systems must be registered in the DDRS. Upon completion of the system interface definition prescribed by MIL-STD-2167-A (reference(24)) or database specifications prescribed by DoD Directive 7935.1 (reference(23)), data element attributes in the DDRS must be updated to identify the information system(s) and/or application(s) using each standard data element.

Register applications of each standard data element according to the following procedures. More detailed procedures can be found in the DDRS End User Manual.

1. New Applications and/or Information Systems and Migration Systems Using Standard Data Elements

a. Record the standard data element name for which the application is being registered.

b. Record the standard data element component code.

c. Record the identification of the application ("Automated information software system identifier").

d. Record the name of the application ("Automated information software system name").

e. Record the standard data element access name.

2. Migration Systems Not Using Standard Data Elements

This information is required to assist in the evolutionary transition to the use of standard data elements.

a. Data migration information systems will be registered as application data elements by the Component or OSD staff owning the migration information system(s).

b. Review the DDRS to identify the DoD standard data element corresponding to the existing system data element, if one exists; if none exists, go to section e., below.

c. Record the DoD standard data element name for which the application is being registered.

d. Record the standard data element component code.

e. Record the identification of the application ("Automated information software system identifier").

f. Record the name of the application ("Automated information software system name").

g. Record all variances between the metadata attribute values of the data element for which the application is being registered and the metadata attribute values of the standard data element. (This might include a formula or algorithm used to derive the data element.)

h. Record the data element attributes (metadata) that do not correspond to the standard data element.

i. Record data element access name.

(1) Data element access names provide the direct link between the standard data elements defined in the DDRS and the application of those standard data elements in automated information systems.

(2) The length of access names (i.e., identification of data fields in database and file structure) is important to analysts, designers, and programmers who must produce documentation and program code using standard data elements.

C. MODIFYING EXISTING STANDARD DATA ELEMENTS

1. Modifications may be proposed for any standard data element. The conventions, rules, guidelines, and procedures that apply to developmental data elements also apply to proposed modifications of standard data elements.

2. Based on the attributes of the standard data element to be modified, follow the same procedure as for creating a developmental data element (Chapter 4) using the steps relating to the data element(s) proposed for modification. A review of the standard data elements in the DDRS may preclude the need to develop a modified standard data element.

3. The current version of the standard data element being modified will be automatically archived upon approval of the modified standard data element.

D. ARCHIVING STANDARD DATA AND GENERIC ELEMENTS

Standard data elements and their associated generic elements may be changed to an archived status based on the recorded use of the standard data elements. The archived standard generic and data elements are retained in the DDRS for historical reference and possible reinstatement based on changing functional information requirements. Standard generic elements and data elements are changed to an archived status through the following process:

1. Standard Data Elements

a. The Logistics FAd will identify standard data elements that are no longer used or needed by information systems based on changes in functional information requirements and notify the appropriate FAd (data steward).

b. The Logistics FAd will notify the affected CDAs and FAdS of standard data elements to be deleted from information systems supporting the respective Component or functional areas based on the using Components and using systems registered in the DDRS.

c. When the FAd(s) establish the effective date for deleting a data element(s) from an information system(s), the data steward for the data element will notify the DoD DAd of the affected data element(s) and the effective date for deletion.

d. The DoD DAd will delete the affected information system(s) and associated Component(s) from the list of users registered in the DDRS on the effective date for deletion.

e. If no information systems or Components remain on the list of users registered in the DDRS for a standard data element, the DoD DAd will notify the appropriate FAd (data steward) and recommend that the standard data element be archived.

f. Based on the DoD DAd recommendation to archive a standard data element, the FAd will assess the functional or technical need to retain the standard data element.

g. If the FAd determines that the standard data element should not be archived, the data steward will notify the DoD DAd to retain the standard data element in the DDRS in its existing status rather than archiving it.

h. If the FAd determines that there is no technical or functional need to retain the standard data element, the data steward will notify the DoD DAd to change the status of the standard data element to an archived standard data element. There will be a general announcement in the DDRS when this is to occur.

2. Standard Generic Elements

a. When a standard data element is archived, the DoD DAd will review the list of remaining standard data elements associated with the corresponding standard generic element.

b. If there are no remaining standard data elements associated with the corresponding standard generic element, the DoD DAd will assess the functional or

technical need for retaining the approved standard generic element.

c. If the DoD DAd determines that the approved standard generic element should be retained, the approved standard generic element will remain in the DDRS.

d. If the DoD DAd determines that the approved standard generic element should not be retained, the DoD DAd will change the status of the approved standard generic element to an archived standard generic element. There will be a general announcement in the DDRS when this is to occur.

E. REINSTATING ARCHIVED STANDARD DATA AND GENERIC ELEMENTS

A review of the DDRS during the Logistics data element development or modification process may locate an archived standard data element that is suitable for use. In such a case, the archived standard data element and the associated standard generic element, if necessary, should be reinstated. Archived standard generic and data elements may be reinstated for use through the following process:

1. Notify the Logistics FAd (data steward) that the archived standard data element exists and recommend that the archived standard data element be reinstated as a standard data element.

2. The FAd will review the archived standard data element for applicability and accuracy.

3. If the archived standard data element is accepted by the data steward, the data steward will notify the DoD DAd that the archived standard data element and the associated standard generic element, if necessary, is to be reinstated and the effective date for reinstatement.

4. Based on the approval and notification by the data steward, the DoD DAd will change the status of the archived standard data element and its associated standard generic element, if necessary, to an approved standard data element and an approved standard generic element, respectively.

5. After the archived standard data element has been reinstated as an approved standard data element, the application using the reinstated standard data element must be registered in the DDRS, as described in subsection B.1., above.

CHAPTER 7

ANSI ASC X12 TRANSACTION SETS/DATA SEGMENTS/DATA ELEMENTS

A. PURPOSE/APPLICABILITY

The Defense Logistics Management System (DLMS) uses the American National Standards Institute's Accredited Standards Committee X12 (ANSI ASC X12) standards for EDI to exchange DoD Logistics data. The ASC X12 standards are formally established, maintained, and published under ASC X12 to provide a common basis for communicating shared business information.

The ASC X12 standards define the specific rules of syntax for using EDI constructs and defines the universe of components that can be used. However, because the X12 standards are intentionally designed to be very flexible to meet the need of a wide variety of users, additional documentation is necessary to define how to use the standards within a specific user community. This documentation is called implementation conventions.

The implementation conventions define for the DLMS which ASC X12 transaction sets are used. Within each transaction set they define the segments, data elements, and codes which are used. Most importantly, they also define specific rules and formats for the contents of data within the data elements.

The DLMS implementation conventions are organized by logistics functional area: supply, transportation, finance, acquisition, requirements, and maintenance. The purpose of this chapter is to assist the reader in understanding the basics of ASC X12 EDI standards. It defines X12 structure, terms, and concepts as applied under the DLMS.

B. DATA ELEMENT

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

are identified as either simple or component. The context in which the data element is used determines which of these types apply. Data elements which are connected to form a composite data element structure are referred to as components. Use of composite data elements within the DLMS is very limited and their structure is discussed separately below.

Data elements are uniquely identified by reference number. Data elements within a segment are also identified by the segment identifier and position within the segment. Data elements appear in a predefined sequence within a segment as established by the standard. Data elements may be used in more than one segment and multiple occurrences of the same data element may be used in the same segment.

Basic attributes of a data element are length and type.

1. Data Element Reference Number

The data element reference number is a unique one to four digit number used to identify data elements within the ASC X12 data element dictionary. The number corresponds to the sequence of the data element as it occurs within the dictionary.

2. Data Element Type

Data elements are identified by type as follows. The symbol used to designate type is shown in parentheses.

a. Numeric (Nn). A numeric data element is represented by one or more digits with an optional leading sign representing a value in the normal base of 10. The value of a numeric data element includes an implied decimal point. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data. The symbol for this data element type is Nn where "N" indicates that it is numeric and "n" indicates the number of decimal positions to the right of the implied decimal point. If no decimal positions are allowed, the symbol is written as N. A leading minus sign (-) is used to express negative values. Absence of a sign indicates positive value. Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. The length of a numeric type data element does not include the optional minus sign. For example, where the numeric type is N2 (indicating an implied decimal placement two positions from the right), the value -123.4 would be transmitted as -12340. The length of the value within the data stream is five.

b. Decimal Number (R). A decimal data element contains an explicit decimal point and is used for numeric values that have a varying number of decimal positions. The decimal point is always carried in the transmission unless it occurs at the right end of the value. A leading minus sign (-) is used to express negative values. Absence of a sign indicates positive value. Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. Trailing zeros following the decimal point should be suppressed unless used to express precision. Use of commas within the numeric value is prohibited. The length of a numeric type data element does not include the optional minus sign or the decimal point. For example, the numeric value -1234.45 would be transmitted as -123.45. The length of this entry is five.

c. Identifier (ID). An identifier data element always contains a unique value from a predefined list of values maintained by ASC X12, the DoD, or other responsible organization referenced by the data element dictionary. All code lists employed under DLMS including those maintained by ASC X12 are available via DoD LOGDRMS (see volume 1, References). The contents are left-justified and trailing spaces should be suppressed unless necessary to satisfy a minimum length requirement. Identifier type data elements are frequently used as qualifiers to identify by code the type of information contained in an associated data element. For example, the identifier type data element, Product/Service ID Qualifier, may be transmitted with a value of FS to indicate that the value contained in the associated data element Product/Service ID is a national stock number. In this instance, the list or identifier valid codes is maintained by X12. The conventions normally specify which of these values are permissible entries for the specific usage under DLMS.

d. String (AN). Contents of a string type data element are a sequence of letters, numbers, spaces, and/or special characters. The contents are left-justified and trailing spaces should be suppressed unless necessary to satisfy a minimum length requirement. The Product/Service ID mentioned in the above example is identified as a string type data element.

e. Date (DT). A date data element is used to express the standard date in YYMMDD format in which YY is the year, MM is the month (01 to 12), and DD is the day of the month (01 to 31).

f. Time (TM). A time data element is used to express the time in HHMMSSd.d format in which HH is the hour for a 24-hour clock (00 to 23), MM is the minute (00 to 59), SS is the second (00 to 59) and d.d is the decimal seconds. Seconds and decimal second are optional. Trailing zeros in decimal seconds should be suppressed unless

necessary to satisfy a minimum length requirement or unless necessary to indicate precision.

g. Binary(B). A binary data element is any sequence of octets ranging in value from binary 0000000 to 1111111. This data element type has no defined maximum length. Actual length is specified by the immediately preceding data element. The binary data element type may only exist in the Binary segment and is not used in the DLMS at this time.

h. Fixed-Length String (FS). A fixed-length string is a sequence of any characters. It must be space filled to satisfy its minimum length. Minimum and maximum values for any data element of this type must be equal and the data element must be mandatory in any segment in which it is used. Significant data shall be left justified (leading zeros are significant, trailing spaces are normally not significant).

3. Data Element Length

Each data element is assigned a minimum and maximum length. The length of the data element value is the number of character positions used except as noted for numeric, decimal, and binary elements. A data element may be of variable length within the minimum/maximum range or it may be of fixed length in which the minimum is equal the maximum. Length is expressed by indicating both the minimum and maximum values separated by a slash, i.e., 2/30.

4. Data Element Reference Designator

Each simple data element or composite data structure in a segment is assigned a reference designator indicating the segment in which it is used and its sequential position within the segment. The reference designator is constructed from the segment identifier followed by the two-digit position number. Counting of the position number starts with 01 for the first data element appearing after the segment identifier and is incremented by one for each subsequent data element until the end of the segment. For example, the second data element in the N1 segment has a reference designator of N102.

5. Condition Designator

The condition designator (or requirement designator) is used to define the circumstances under which a data element is required to be present or absent in a particular usage. These conditions are of three basic types: mandatory,

optional, and relational condition. Under DLMS, optional and relational condition designations can be further defined as either recommended or required. Condition designators are identified by symbol as specified in parentheses.

a. Mandatory(M). The designation of mandatory is absolute in the sense that there is no dependency on other data elements within the segment or composite data structure. A mandatory data element must appear in the segment.

b. Optional(O). The designation of optional means that there is no syntactic requirement for the presence of the data element within the segment or composite data structure. Optional data elements may be included or omitted based upon instructions provided by the conventions or at the discretion of the transmitting activity (as applicable).

c. Conditional(X). A relational condition defines a special relationship between two or more data elements within a segment or composite data structure. Relational conditions are based upon the presence of one of those data elements. The specific relationship is defined in a syntax note. The first character of the syntax note identifies one of the following conditions. Note that the ASC X12 segment directory diagrams use the symbol X in the lower left corner of the data element box to indicate that a relational condition applies.

(1) Paired(P). If any specified data element is present, then all of the specified data elements must be present.

(2) Required(R). At least one of the specified data elements must be present.

(3) Exclusion(E). Not more than one of the specified data elements may be present.

(4) Conditional(C). If the specified data element is present, then all other specified data elements must be present. However, any or all of the data elements not specified as the first in the condition may appear when the first is not present.

(5) List Conditional(L). If the first specified data elements is present, then at least one of the remaining specified data elements must be present. However, any or all of the data elements not specified as the first may appear when the first is not present.

d. Recommended. The DLMS convention designation of recommended is used to further define an ASC X12 optional or conditional designation. It indicates that use of a specified data element is functionally advisable, but is not necessary for transmission of the transaction set.

e. Required. The DLMS convention designation of required is used to further define an ASC X12 optional or conditional designation. It indicates that use of a specified data element is optional according to the standards, but is necessary under the DLMS.

C. COMPOSITE DATA STRUCTURE

The composite data structure is an intermediate unit of information in a segment. It consists of two or more component data elements linked together to form a single data structure. Composite data structures are defined in an ASC X12 composite data structure dictionary. Use of composite data structures is very limited under DLMS.

Composite data elements are identified by a unique four-character reference identifier which corresponds to its location within the dictionary. The first character is alpha followed by three numerics assigned in sequence as composite data structures are created. An S in the first position indicates that the composite data structure is used in a control segment. A C indicates use in a data segment.

Component data elements within the composite data structure are assigned a condition designator which defines their requirement within the structure.

D. CODE SOURCES

Code values associated with data elements may be derived from several locations.

Many of the data elements under DLMS requiring use of specific code values list the appropriate code values in the conventions.

Three data entries, **transportation mode /method** (data element number 91, Transportation Method/Type Code), **unit of issue** (data element number 355, Unit or Basis for Measurement Code), and **transportation type pack** (data element 103, Packaging Code) use conversion guides shown at appendices 10B, 10C, and 10D, respectively. For ease of entry, the DLMS will continue to support the familiar code

structures used in the DLSS. Special processing at the input provides conversion from DoD code value to ASC X12 value for transmission of the transaction set. Both the sender and the receiver employ the conversion guide so that the user sees only the familiar DoD code values.

Where numerous code values are assigned to a particular data element and all are applicable to the application, specific codes may not be listed in the DLMS convention. Most code lists which are maintained by DoD or by ASC X12, and are used under the DLMS, are obtainable on-line through the automated DoD LOGDRMS. If the list of code values is too lengthy to include in the LOGDRMS data base, a reference for the code source will be provided. Each code source entry indicates the complete name of the responsible organization and where to obtain a list of codes. See Chapter 9 for access instructions.

E. INFORMATION SYSTEM

The DoD LOGDRMS is the supporting information system that utilizes hierarchical and horizontal relationship criteria to fully define ANSI X12 data elements and relate those data elements to those established for DoD-wide use. See Chapter 9 for LOGDRMS User Guide.

CHAPTER 8

DOCUMENT IDENTIFIER (DI) CODE ASSIGNMENT CONTROL

A. AUTHORITY/PURPOSE

1. DoD Directive 4140.1-R establishes the requirement for the DoD LOGDESMAP to "provide a common base of standard data elements for use throughout DoD Logistics Data Systems." The management and control of document identifier codes are critical to the development, control, and maintenance of DoD Logistics Systems.

2. This chapter provides procedural guidance and prescribes controls governing (1) the development of data codes to represent logistics document formats; (2) the use of such codes in logistics automated data systems and authoritative issuances; (3) the registration of these data codes, their meaning and usage in the DoD LOGDESMAP Data Bank; and (4) the publication of these data codes in DoD 4000.25-13-S2, Listing of DoD Logistics Data System Transaction Documents.

B. SCOPE

1. These Procedures Govern:

a. Preparation, submission, and processing of requests for the reservation and allocation of series of document identifier codes for use in:

(1) DoD-wide and Joint DoD Component Logistics Data Systems; or

(2) Military Services or other DoD Component Logistics Data Systems when such use is prescribed by a DoD-wide or joint Service/Agency logistics system.

b. The registration, within the DoD LOGDESMAP Data Bank, of document identifier codes actually assigned within series reserved for DoD-wide and Joint DoD Component logistics data system use.

C. OBJECTIVES

The procedures and controls described herein:

1. Provide essential guidance to organizational elements engaged in the development and maintenance of logistics data systems.
2. Provide visibility and control of the wide variety of logistics data system documents and their relationships.
3. Eliminate operational problems resulting from (1) duplication of DI codes for different formats; and (2) lack of visibility and understanding of document formats and content.

D. DOCUMENT IDENTIFIER CODE SERIES RESERVATIONS

The DoD LOGDESMAP Administrator maintains a listing of the various blocks of DI codes reserved for use in DoD-wide and Joint DoD Component Logistics Data Systems.

E. GUIDELINE CRITERIA

1. DI codes reserved for use in DoD-wide and Joint DoD Component Logistics Data Systems will not be assigned or used for any purpose other than that specified in the procedural documentation of such systems.
2. Requests for reservation and allocation of new series of DI codes for use in Joint DoD Component Logistics Data Systems will indicate that potential incorporation of the new document formats within existing DoD-wide Logistics Data Systems was fully considered prior to submission of the request.

F. PROCESSING OF REQUESTS FOR THE RESERVATION AND ALLOCATION OF DI CODE SERIES

1. Proponent organization of DoD-wide and Joint DoD Component Logistics Data Systems will:

- a. Determine requirements for additional series of DI codes. (See paragraph E.2. for supplementary action by proponent organizations of Joint DoD Component

Logistics Data Systems.)

b. Prepare and submit correspondence to the DoD LOGDESMAP Administrator requesting reservation of a series of document identifiers.

2. The DoD LOGDESMAP Administrator will:

- a. Reserve and allocate a series of DI codes as requested.
- b. Notify the originating organization of the series of codes reserved.

3. Proponent organizations will:

- a. Apply individual codes to document formats.
- b. Incorporate the newly coded document formats in system documentation.

4. The DoD LOGDESMAP Administrator will:

a. Register the use of each DI code applied to a document format in the DoD LOGDESMAP Data Bank.

b. Distribute, as requested, listings of DI code assignments registered in the DoD LOGDESMAP Data Bank.

CHAPTER 9

DEPARTMENT OF DEFENSE LOGISTICS DATA RESOURCE MANAGEMENT SYSTEM (LOGDRMS)

A. CONFIGURATION

1. The DoD LOGDRMS is an on-line interactive database management system employing an IBM-compatible mainframe computer, Computer Corporation of America System 204 software and application program written in Model 204 user language.
2. On-line interactive capabilities are provided through availability and use of data terminals with direct access to the data bank.
3. Two types of terminals are used:
 - a. Hardwire to the central site, and
 - b. Dial-up (acoustic coupling) connection using conventional telephone lines.
4. Access to the central site requires the use of LOGON procedures including the use of passwords. Such passwords are the means for controlling unauthorized access to the database.
5. A variety of edits and validation checks are included in the interactive communication between the data terminal and the central bank to assure compliance with established procedures and to prevent entry of invalid data or sets of data.

B. GENERAL

LOGDRMS capabilities include options for viewing data from the terminal or printing the information in formatted reports. Accessing the system and obtaining the data requires the precise command entry in order to prevent system hang up or jamming. In most situations resulting from error in command entry, the system will respond with an error message, and reentry of the correct command. However, when the

system stalls or hangs up, use a **K** or **CANCEL** command. If these fail, entry of **CLOSE** or **LOGOFF** commands may be used. The last resort is to disconnect from the system, wait for one minute and access the system from the initial point.

C. ACCESSING THE SYSTEM USING A PERSONAL COMPUTER AND MODEM

1. Connect to the DASC modem pool using a communications software package preferably **PROCOMM PLUS**. Protocol information as follows:

- a. Word Size = 8 Bits
- b. Baud Rate = 9600/14400
- c. Stop Bits = 1
- d. Parity = None
- e. Telephone Numbers = (703) 767-6800 or 1-800-556-6725

2. Depress **<ENTER>** twice until **#** appears.

3. Type password **FTBELVOIR <ENTER>**.

4. At the **XYPLEX** prompt, enter **131.74.1.13 <ENTER>**.

5. Terminal will display information pertaining to the **DLA NETWORK**. Then type **AFJM2PAS <ENTER>**.

6. The next screen is for logging into the database. Type the login as: **LOGIN 8299901<ENTER>**.

7. Enter the password for the system. Type the password as: **DISPENSE**.

8. Open the database for system query. Type: **OPEN LOGREGAL<ENTER>**.

9. Enter password for database. Type the password as: **HQORAY<ENTER>**.

10. The system is now ready for information query/data retrieval.

D. ACCESSING THE SYSTEM USING HARDWARE OR AN OPEN SYSTEM NETWORK (SUCH AS DDN)

Follow above instructions in paragraph 3 above starting with subparagraph c.5.

E. QUERY PROCEDURE

1. The Master LOGDRMS query procedure is identified by program number LQP. Interrogation of the LOGDRMS for retrieval and display of requested information requires a single query procedure. Type either: **INCLUDE LQP or LQP (1 space LQP)**.

2. Response consists of a menu for viewer selection. Select the appropriate option. The screen will appear as follows:

**WELCOME TO DOD LOGDRMS QUERY PROCEDURE.
THIS PROGRAM PROVIDES VIEWING ACCESS ONLY.
PLEASE SELECT AREA OF INTEREST:**

<u>OPTION</u>	<u>DESCRIPTION</u>
1	ANSI ASC X12 (<i>Include Logistics Qualifier Search</i>)
2	(RESERVED)
3	DLSS
4	DOD LOGISTICS DATA ELEMENT
5	TERM/ACRONYM/ABBREVIATION
6	ANSI ASC X12 (OLD ROUTINE)
7	DLMS IMPLEMENTATION CONVENTIONS
8	DOD ACTIVITY ADDRESS
9	UN/EDIFACT MESSAGES

10 QUIT

F. OPTION 1 -- ANSI ASC X12 QUERY PROCEDURE AND MENU SELECTION

1. Select option 1, **ANSI ASC X12**. The full screen application allows for a selection from the following 17 search parameters:

<u>SELECTION NUMBER</u>	<u>NAME</u>
1	TRANSACTION SET
2	SEGMENT
3	DATA ELEMENT
4	DATA CODE
5	TRANSACTION SET KEYWORD
6	SEGMENT KEYWORD
7	DATA ELEMENT KEYWORD
8	DATA CODE KEYWORD
9	ELEMENT (SEGMENT/POSITION)
10	CODE SOURCE
11	CODE SOURCE KEYWORD
12	ANSI STANDARD REFERENCE
13	PROJECT REFERENCE
14	DATA MAINTENANCE (DM) - SET
15	DATA MAINTENANCE (DM) - SEGMENT
16	DATA MAINTENANCE (DM) - DATA ELEMENT
17	LOGISTICS QUALIFIER

2. VERSION CONTROL

All queries contain provisions for entry of a six-position date (yymmdd) which identifies a specific ANSI ASC X12 version publication date. If this option is not exercised, the query automatically defaults to the latest published version and output displays reflect this information.

G. OPTION 2 -- DLMS QUERY PROCEDURE AND MENU SELECTION

1. Select option 7, **DLMS IMPLEMENTATION CONVENTIONS**. The full screen

application allows for a selection from the same search parameters listed in paragraph E.1. above. However, only selection 1 through 9 are applicable to this option.

2. Version Control. A need for version control, while not as critical to DLMS as to the ANSI ASC X12 Directory, is recognized. However, until decisions are made regarding the content, frequency, and criticality of changes, version 2.0 will be cited on all output displays as the latest published version.

H. OPTION 3 -- UN/EDIFACT MESSAGES

Select option 9, UN/EDIFACT MESSAGES. The full screen application allows for a selection from the same search parameters listed in E.1. above. However, only selections 1 through 9 are valid for this option. Also, EDIFACT Messages can be queried via selection number 1.

I. TERMINATION OF SESSION

To terminate your on-line session, enter **LOGOFF**. Then enter **QUIT** to disconnect the **XYPLEX** server. Then use the disconnect procedures for your communication software package.

APPENDIX A

CLASS WORD NAME DEFINITIONS

Proposals for new class words must be submitted through the appropriate CDAd or FDAAd to the DoD DAd for approval.

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Amount	AM	A monetary value. (Includes average, balance, deviation, factor, index, level, mean, mode, scale, and yield.) The generic element definition should begin: "The monetary unit representing..." The data element definition should begin: "The (modifiers) amount of..."
Angle	AN	The rotational measurement between two lines and/or planes diverging from a common point and/or line. (Includes azimuth and heading.) The generic element definitions should begin "The rotational measurement between..." The standard data element definition should begin: "The (modifiers) angle between (modifiers) for a..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Area	AR	The measurement of a surface expressed in unit squares (2-dimensional). The generic element definition should begin: "The area of..." The standard data element definition should begin: "The (modifiers) area of..."
Code	CD	A combination of one or more numbers, letters, or special characters substituted for a specific meaning. Represents finite, predetermined values. (Must have a specific domain.) (Includes category and status.) The generic element definition should begin: "The specific value that represents and/or denotes a..." The standard data element definition should begin: "The (modifiers) code that represents and/or denotes a..."
Coordinate	CN	Designation of the location of a line or plane. (Includes latitude and longitude.) The generic element definition should begin: "The numeric designation identifying the location of..." The standard data element definition should begin: "The coordinate identifying the (modifiers) location of..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Date	DT	The designation of a specific 24-hour period of time. The generic element definition should begin: "The date of and/or when and/or on which a..." The standard data element definition should begin: "The (modifiers) date of and/or when and/or which a..."
Dimension	DM	A measured linear distance (one-dimensional). (Includes altitude, depth, diameter, elevation, height, length, radius, vertex, and width.) The generic element definition should begin: "The one-dimensional linear measurement (length, width, height, radius, or elevation, etc.) of and/or from..." The standard data element definition should begin: "The dimension (length, width, height, radius, or elevation, etc.) of and/or from..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Identifier	ID	A combination of one or more numbers, letters, or special characters that designate a specific object/entity but that have no readily definable meaning. (Must have a general domain.) (Includes designator, key, number.) The generic element definition should begin: "The unique value, or set of characters, assigned to represent ..." The standard data element definition should begin: "The (modifiers) identifier that represents..."
Mass	MS	The measure of inertia of a body. The generic element definition should begin: "The measure of inertia of..." The standard data element definition should begin: "The (modifiers) mass of..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Name	NM	A designation of an object and/or entity expressed in a word or phrase. The generic element definition should begin: "The word(s) that represent(s)..." The standard data element definition should begin: "The name of..."
Quantity	QY	A nonmonetary numeric value. (Includes average, balance, count, deviation, factor, index, level, mean, mode, and scale.) The generic element definition should begin: "The nonmonetary numeric unit representing the count or calculated unit or aggregated unit of..." The standard data element definition should begin: "The (modifiers) quantity of..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Rate	RT	A quantity or degree of something in relation to units of something else (e.g., miles per gallon) (Includes acceleration, density, factor, flow, force, frequency, humidity, impedance, inductance, intensity, magnitude, moment, percent, power, pressure, resistance, scale, speed, tension, torque, velocity, viscosity, and voltage.) The generic element definition should begin: "The relationship that represents (force, speed, or pay, etc.) of..." The standard data element definition should begin: "The rate of..."
Temperature	TP	The measure of heat in an object or space. The generic element definitions should begin: "A number representing the heat of..." The standard data element definition should begin: "The temperature of..."
Text	TX	An unformatted charter string, generally in the form of words. (Includes category and comments.) The generic element definitions should begin: "The freeform narrative that (describes and/or defines)..." The standard data element definition should begin: "The text of..."

CLASS WORD NAME	ABBREVIATION	DESCRIPTION AND/OR DEFINITION STRUCTURE
Time	TM	A designation of a specified chronological point within a period. The generic element definition should begin: "The specific chronological point that designates the occurrence (in the past, present, or future) of..." The standard data element definition should begin: "The time of..."
Volume	VL	Measurement of space occupied by a three-dimensional figure as measured in cubic units. The generic element definition should begin: "The three-dimensional cubic measurement of..." The standard data element definition should begin: "The volume of..."
Weight	WT	The force with which an object is attracted toward the earth and/or another celestial body by gravitation. The generic element definition should begin: "The weight of..." The standard data element definition should begin: "The weight of..."

APPENDIX B

GENERIC AND DATA ELEMENT ATTRIBUTE DESCRIPTIONS

The following alphabetical list of attributes reflects the contents of the DDRS at the date of publication of this Manual. These attributes will change over time through a configuration control process after recommendations are made to the DoD DAd. Refer to the DDRS for the most up-to-date versions of these attributes. This information is included due to its importance. The data elements listed in this Appendix have not been approved but are based on a data model and will be submitted as candidate standard data elements upon approval of the required prime words.

A. AUTOMATED INFORMATION SOFTWARE SYSTEM IDENTIFIER

1. Definition: Identification of the entire set of programs, procedures, and related documentation associated with a computer system.

2. Domain Definition: A general domain comprised of the characters in the ASCII charter set.

3. Length: 35

4. Type: Alpha-numeric

5. Edit: Required attribute

B. AUTOMATED INFORMATION SOFTWARE SYSTEM NAME

1. Definition: The name of a system that maintains (adds, modifies, and deletes) a standard data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

- 3. Length: 250
- 4. Type: Alpha-numeric
- 5. Edit: Required attribute

C. GENERIC ELEMENT AUTHORITY REFERENCE TEXT

- 1. Definition: Freeform text that describes the authority for and/or references supporting the existence of a particular generic element.
- 2. Domain Definition: A general domain comprised of the characters in the ASCII character set.
- 3. Length: 999
- 4. Type: Alpha-numeric
- 5. Edit: Optional attribute

D. GENERIC ELEMENT CLASS WORD NAME

- 1. Definition: The word that identifies a specific category of data (e.g., date, dimension, and code, etc.) that will be represented by data values of a standard data element associated with a particular generic element.
- 2. Domain Definition: A specific domain comprised of the qualitative data values listed in Appendix A, above, of this Manual.
- 3. Length: 80
- 4. Type: Alphabetic
- 5. Edit: Required attribute. The class word must be in class word table in an approved "A" status unless creating a new class word. Prohibit the use of class word by other users until approved for DoD use.

E. GENERIC ELEMENT CLASS WORD POSITION IDENTIFIER

1. Definition: The number identifying the location of the class word in the generic name.
2. Domain Definition: A general domain comprised of up to two of the following integer values: 1-99.
3. Length: 2
4. Type: Integer
5. Edit: Required attribute

F. GENERIC ELEMENT DECIMAL PLACE QUANTITY

1. Definition: The quantity of decimal places allowable for a given generic element value.
2. Domain Definition: A general domain comprised the ASCII characters: 0-99.
3. Length: 2
4. Type: Numeric
5. Edit: Required attribute for generic element only if the generic element type name is fixed-point. This attribute is displayed at the data element level and cannot be changed.

G. GENERIC ELEMENT DEFINITION TEXT

1. Definition: Freeform text that represents the definition of a given generic element.
2. Domain Definition: A general domain comprised of the characters in the ASCII character set.
3. Length: 999

4. Type: Alpha-numeric

5. Edit: Required attribute

H. GENERIC ELEMENT DOMAIN DEFINITION TEXT

1. Definition: Freeform text that describes the overall meaning or general characteristics of the domain of a particular generic element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Required attribute

I. GENERIC ELEMENT DOMAIN VALUE DEFINITION TEXT

1. Definition: Freeform text describes the meaning of a domain value of a given generic element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Required attribute if there are no low-range or high-range identifiers.

J. GENERIC ELEMENT DOMAIN VALUE IDENTIFIER

1. Definition: The unique identifier that represents a particular value within the domain of a specific generic element.

2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, 0-9, hyphen (-), point (.), slash (/), underscore (_), and ampersand (&).

3. Length: 35

4. Type: Alpha-numeric

5. Edit: Required attribute for quantitative data if there are no low-range and high-range identifiers or no source list text.

K. GENERIC ELEMENT HIGH-RANGE IDENTIFIER

1. Definition: The unique identifier that denotes the highest allowable value permitted in the domain range of a given generic element.

2. Domain Definition: A general domain comprised of all real numbers.

3. Length: 15

4. Type: Numeric

5. Edit: Required attribute if there are no domain value identifiers or source list text. If there is a high-range identifier, it must not be greater than the maximum character count quantity.

L. GENERIC ELEMENT LOW-RANGE IDENTIFIER

1. Definition: The unique identifier that denotes the lowest allowable value permitted in the domain range of a given generic element.

2. Domain Definition: A general domain comprised of the following ASCII characters: 0-9, point (.), and minus (-).

3. Length: 15

4. Type: Numeric

5. Edit: Required attribute if there are no domain value identifiers or source list text.

M. GENERIC ELEMENT MAXIMUM CHARACTER COUNT QUANTITY

1. Definition: The maximum quantity of characters that can be stored for a domain value associated with a given generic element.

2. Domain Definition: A specific domain of quantitative data values ranging from 0001-9999.

3. Length: 4

4. Type: Numeric

5. Edit: Required attribute

N. GENERIC ELEMENT NAME

1. Definition: The long standard name of a specific type of data element (generic element) that describes and identifies a generic structure and domain. A generic element has no organizational or application context.

The structured name format comprises zero to n modifiers and one class word.

The general name format comprises: modifier and/or modifier and/or class word.

2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, hyphen (-), and space.

3. Length: 80

4. Type: Alpha-numeric

5. Edit: Required attribute. The class word must be in the class word table unless the user is creating a new class word.

O. GENERIC ELEMENT SECURITY CLASSIFICATION NAME

1. Definition: A code that defines the security classification of the existence of a specific generic element or its metadata.

2. Domain Definition: A specific domain comprised of the following qualitative data values:

NATO (North Atlantic Treaty Organization) Top Secret Atomal
NATO Top Secret
Top Secret
NATO Secret Atomal
NATO Secret
Secret
Secret Restricted
NATO Confidential Atomal
NATO Confidential
Confidential
Confidential Restricted
NATO Restricted
For Official Use Only
Unclassified Sensitive
Unclassified

3. Length: 25

4. Type: Alphabetic

5. Edit: Required attribute. The default is unclassified (may be changed).

P. GENERIC ELEMENT TYPE NAME

1. Definition: The name of the data type associated with a specific generic element.

2. Domain Definition: A specific domain comprised of the following qualitative data values: bit-string, integer, character string, fixed-point, and floating-point.

3. Length: 16

4. Type: Alpha-numeric

5. Edit: Required attribute

Q. INFORMATION ELEMENT JUSTIFICATION CATEGORY NAME

1. Definition: The positional justification of data values within a storage field.
2. Domain Definition: A specific domain comprised of the following qualitative data values: left and right.
3. Length: 5
4. Type: Alphabetic
5. Edit: Required attribute for a generic element and display only for a data element.

R. INFORMATION ELEMENT STANDARDIZATION AUTHORITY CODE

1. Definition: The branch of Service, government, or international organization that approved the element.
2. Domain Definition: A specific domain comprised of the following qualitative data values:

ANSI	American National Standards Institute
DoD	Department of Defense
FIPS	Federal Information Processing Standards
ISO	International Organization for Standardization
NATO	North Atlantic Treaty Organization

3. Length: 4
4. Type: Alphabetic
5. Edit: Optional attribute

S. INFORMATION QUALITATIVE DATA VALUE ACCURACY NUMBER PERCENT RATE

1. Definition: An indicator of how accurate a qualitative data value must be.

2. Domain Definition: A specific domain comprised of qualitative data values (0-9) ranging from 1 to 100.

3. Length: 3

4. Type: Numeric

5. Edit: Required attribute if data is qualitative.

T. INFORMATION QUANTITIVE DATA ACCURACY CODE

1. Definition: A character string indicating how accurate a quantitative data value must be.

2. Domain Definition: A specific domain comprised of the following:

- | | |
|----|-----------------|
| 1 | nearest million |
| 2 | nearest 100,000 |
| 3 | nearest 10,000 |
| 4 | nearest 1,000 |
| 5 | nearest 100 |
| 6 | nearest 10 |
| 7 | nearest 1 |
| 8 | nearest .1 |
| 9 | nearest .01 |
| 10 | nearest .001 |
| 11 | nearest .0001 |
| 12 | nearest .00001 |
| 99 | none |

3. Length: 2

4. Type: Numeric

5. Edit: Required attribute if data is quantitative.

U. PRIME WORD NAME

1. Definition: The name of the primary object (i.e., person, place, thing, or concept) of interest that a given data element describes.

2. Domain Definition: A general domain comprised the ASCII characters A-Z and hyphen (-).

3. Length: 170

4. Type: Alphabetic

5. Edit: Required attribute. The prime word name is a variable length field comprising zero to n modifiers and a prime word.

V. PRIME WORD NAME DEFINITION TEXT

1. Definition: A narrative describing the context of a principal term that has a precise meaning as it relates to a data entity standard.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Required attribute

W. PRIME WORD STEWARD NAME

1. Definition: The designated proponent for each prime word name derived from an information model.

2. Domain Definition: A general domain, e. g.:

USD(A)

USD(P)

ASD(SOLIC)
ASD(C31)
USD(C)
ASD(FMP)
ASD(HA)
ASD(LA)
ASD(RA)
IG, DOD
GC, DOD

3. Length: 10
4. Type: Alpha-numeric
5. Edit: Required attribute

X. PRIME WORD USING PROPONENT MODEL NAME

1. Definition: The name of the proponent for which the prime word name is contained in an information model.
2. Domain Definition: A general domain comprised of the ASCII character set.
3. Length: 10
4. Type: Alpha-numeric
5. Edit: Optional attribute

Y. PRIME WORD MODIFIER NAME

1. Definition: A character string that further describes a characteristic of an object, a relationship between objects or the object itself.
2. Domain Definition: A general domain comprised of the ASCII characters: A-Z, hyphen (-), and underscore (_)
3. Length: 170

4. Type: Alpha-numeric
5. Edit: Optional attribute. Cannot be a class word.

Z. PRIME WORD POSITION IDENTIFIER

1. Definition: The number identifying the location of the prime word name in the data element name.
2. Domain Definition: A general domain comprised of integer values 01-99.
3. Length: 2
4. Type: Numeric
5. Edit: Required attribute

AA. STANDARD DATA ELEMENT ACCESS NAME

1. Definition: An abbreviated name representing a specific data element. An access name is used to reference a data element in a database and must conform to the syntactical requirements of the database management system (DBMS) or programming language of the application in which a data element is used.
2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, 0-9, hyphen (-), underscore (_), and period (.).
3. Length: 30
4. Type: Alpha-numeric
5. Edit: Required at the time a data element is identified for use in an automated system.

BB. STANDARD DATA ELEMENT AUTHORITY REFERENCE TEXT

1. Definition: Freeform text that describes the authority for and/or references supporting the existence of a particular data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Optional attribute

CC. STANDARD DATA ELEMENT COMMENT TEXT

1. Definition: An administrative narrative regarding a generic element, standard data element, or nonstandard data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Optional attribute

DD. STANDARD DATA ELEMENT COMPONENT CODE

1. Definition: A code that denotes the DoD organization that uses a given data element within its systems.

2. Domain Definition: A specific domain comprised of data values identifying the DoD Components. For example:

DCAA	Defense Contract Audit Agency
DFAS	Defense Finance and Accounting Service
DIA	Defense Intelligence Agency
DIS	Defense Investigative Agency
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DLSA	Defense Legal Services Agency

DMA	Defense Mapping Agency
DNA	Defense Nuclear Agency
DRPA	Defense Research Projects Agency
DSAA	Defense Security Assistance Agency
NSA	National Security Agency/Central Security Service
OSD	Office of the Secretary of Defense
SDIO	Strategic Defense Initiative Organization
USAF	United States Air Force
USMC	United States Marine Corps

The above is a partial list of domain data values; the complete list of domain data values is available in the Defense Data Dictionary System (DDDS).

3. Length: 15
4. Type: Alphabetic
5. Edit: Optional attribute

EE. STANDARD DATA ELEMENT DATA VALUE SOURCE LIST TEXT

1. Definition: The source in which a lengthy list of data values is enumerated.
2. Domain Definition: A general domain comprised of the characters in the ASCII character set.
3. Length: 999
4. Type: Alpha-numeric

5. Edit: Optional attribute. For qualitative data if you have source list text, you will not have domain value identifiers.

FF. STANDARD DATA ELEMENT DECIMAL PLACE COUNT QUANTITY

1. Definition: The quantity of decimal places allowable for a given data element.
2. Domain Definition: A general domain comprised of the ASCII characters 0-9.

3. Length: 2

4. Type: Numeric

5. Edit: Required attribute for generic element if element type name is fixed-point. This attribute is displayed at the data element level and cannot be changed. If there is a decimal place count quantity at the generic element level and the element type name is other than fixed-point, the system will display the decimal place count quantity, and it can be changed to be equal to or less than the decimal place count quantity at the generic element level.

GG. STANDARD DATA ELEMENT DEFINITION TEXT

1. Definition: Freeform text that represents the definition of a given data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alph-numeric

5. Edit: Required attribute

HH. STANDARD DATA ELEMENT DOMAIN DEFINITION TEXT

1. Definition: Freeform text that describes the overall meaning or generic characteristics of the domain of a specific data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Required attribute (entered at generic element level and displayed at data element level). It can be changed at data element level.

II. STANDARD DATA ELEMENT DOMAIN VALUE DEFINITION TEXT

1. Definition: Freeform text that describes the meaning of a domain value of a given data element.
2. Domain Definition: A general domain comprised of the characters in the ASCII character set.
3. Length: 999
4. Type: Alpha-numeric
5. Edit: If there are domain value definitions at the generic element level, they will be displayed at the data element level. If the domain value identifier is deleted, the domain value definition will be deleted at the same time. The domain value identifiers and definitions must be the same or a subject of the generic element.

JJ. STANDARD DATA ELEMENT DOMAIN VALUE IDENTIFIER

1. Definition: The unique identifier that represents a value within the domain of a specific data element.
2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, 0-9, hyphen (-), point (.), 0-9, slash (/), underscore (_), and ampersand (&). When the data element is quantitative, allowable values are 0-9 and decimal point (.).
3. Length: 35
4. Type: alpha-numeric
5. Edit: If there are domain value identifiers, there will not be a high-range and low-range identifier. If there are domain value identifiers at the generic element level, the system will display them at the data element level. They can be changed but must be the same set or subset of the generic element.

KK. STANDARD DATA ELEMENT FORMULA DEFINITION TEXT

1. Definition: Freeform text that describes the specific mathematical formula or

process required to calculate the value of a given quantitative data element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 999

4. Type: Alpha-numeric

5. Edit: Optional attribute

LL. STANDARD DATA ELEMENT FUNCTIONAL AREA CODE

1. Definition: An indication of the functional area of responsibility within the Department of Defense.

2. Domain Definition: A specific domain comprised of qualitative data values ranging from 001-999.

3. Length: 3

4. Type: Numeric

5. Edit: Required attribute

MM. STANDARD DATA ELEMENT HIGH-RANGE IDENTIFIER

1. Definition: A unique identifier that denotes the highest allowable quantity permitted in the range of domain values of a given data element.

2. Domain Definition: A general domain comprised of the set of all real numbers.

3. Length: 15

4. Type: Numeric

5. Edit: If there is a high-range identifier at the generic element level, the system will display it. It can be changed to be equal to or less than the high-range identifier of the generic element. If there is a high-range identifier, it must not be greater than the

maximum capable of being stored according to the character count quantity of the data element.

NN. STANDARD DATA ELEMENT LOW-RANGE IDENTIFIER

1. Definition: A unique identifier that denotes the lowest allowable quantity permitted in the range of the domain values of a given data element.
2. Domain Definition: A general domain comprised of the set of all real numbers.
3. Length: 15
4. Type: Numeric
5. Edit: If there is a low-range identifier at the generic element level, the system will display it. It can be changed to be equal to or greater than the low-range identifier of the generic element.

OO. STANDARD DATA ELEMENT MAXIMUM CHARACTER COUNT QUANTITY

1. Definition: The maximum quantity of characters that can be stored for a data element.
2. Domain Definition: A general domain comprised of integer values ranging from 1 to 9999.
3. Length: 4
4. Type: Numeric
5. Edit: Required attribute. This is a display field brought over from the generic element. This field can be less than the length of the generic element.

PP. STANDARD DATA ELEMENT NAME

1. Definition: The long standard name that describes and identifies a given data element. Structured name format will consist of a prime word name and a generic element name.

2. Domain Definition: A general domain comprising the following ASCII characters: A-Z and hyphen (-).

3. Length: 250

4. Type: Alpha-numeric

5. Edit: Required attribute. Generic element name indicated must be a DoD-approved element. The data element name cannot already exist in the DDRS.

QQ. STANDARD DATA ELEMENT ORIGIN OFFICE NAME

1. Definition: The name of the office that originated or proposed the metadata about a specific element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 100

4. Type: Alpha-numeric

5. Edit: Required attribute

RR. STANDARD DATA ELEMENT REVIEW COMMENT TEXT

1. Definition: A narrative that provides remarks pertinent to the evaluation of a candidate element.

2. Domain Definition: A general domain comprised of the characters in the ASCII character set.

3. Length: 9999

4. Type: Alpha-numeric

5. Edit: Optional attribute

SS. STANDARD DATA ELEMENT SECURITY CLASSIFICATION NAME

1. Definition: A code defines the security classification of the existence of a given data element and its metadata.

2. Domain Definition: A specific domain comprised of the following qualitative data values:

NATO top secret atomal
NATO top secret
Top secret
NATO secret atomal
NATO secret
Secret
Secret restricted
NATO confidential atomal
NATO confidential
Confidential
Confidential restricted
NATO restricted
For official use only
Unclassified sensitive
Unclassified

3. Length: 25

4. Type: Alphabetic

5. Edit: Required attribute. Default is unclassified.

TT. STANDARD DATA ELEMENT STEWARD NAME

1. Definition: The name of the office responsible for managing the metadata of a specific data element.

2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, hyphen (-), point (.), and 0-9.

3. Length: 250

- 4. Type: Alpha-numeric
- 5. Edit: Required attribute

UU. STANDARD DATA ELEMENT TIMELINESS CODE

- 1. Definition: An indication of how often data values must be updated.
- 2. Domain Definition: A specific domain comprised of the following qualitative data values:

AR	As Required
A	Annually
BI	Biennially
BM	Bimonthly
BW	Biweekly
D	Daily
H	Hourly
M	Monthly
OT	One Time
Q	Quarterly
QDY	Quarter Day
QI	Quinquennially
QD	Quadrennialty
RT	Real Time
SA	Semiannually
TD	Twice Daily
TH	Twice Hourly
TRA	Thrice Annually
TRI	Triennially
Z	None

- 3. Length: 3
- 4. Type: Alphabetic
- 5. Edit: Required attribute

VV. STANDARD DATA ELEMENT UNIT MEASURE NAME

1. Definition: The word or combination of words that express the designation of how the data values for a data element are measured (e.g., Inches, Pounds, Dollars, Gallons).

2. Domain Definition: A general domain comprised of the following ASCII characters: A-Z, hyphen (-), and slash (/).

3. Length: 30

4. Type: Alpha-numeric

5. Edit: Required attribute for elements containing quantitative class names.

Attachment

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INDEX OF ATTRIBUTE DESCRIPTIONS

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APPENDIX C

DATA STANDARDIZATION DETAILED PROCEDURES

A. CONCEPTS AND TERMS

1. Abbreviations and Acronyms

a. The use of abbreviations and acronyms provides a convenient mechanism interrogating a database. Full words require an excessive number of keystrokes and can be difficult to spell correctly.

b. Abbreviations and acronyms will be used to reduce full word names to appropriate environment constrained names (data-names). Reducing the length of data-names is important to analysts, designers and programmers who must produce documentation and code using standard data-names.

c. In addition, the use of abbreviations and acronyms will:

- (1) Promote consistency
- (2) Promote shareability
- (3) Facilitate accuracy of automated queries
- (4) Minimize deviations
- (5) Promote data integrity
- (6) Minimize redundancy
- (7) Reduce keystroke entry

d. Proposed abbreviations and acronyms must be submitted to the DoD DAd according to the procedures in "To Be Developed."

2. Class Name

a. A class name is a word which defines the specific class of data (e.g., DIMENSION, IDENTIFIER, CODE, etc.) that will be stored in data items of a standard data element associated with a particular generic element. Each generic element name (and thus, each standard data element name, by default) must have one and only one class name.

b. Most, if not all, data entities can be classified into specific categories of information. A specific category may be thought of as the answer to the question "What is it?" The answer might be a "code," a "date," an "amount," or, a line of "text." These words are known as class names.

c. With class names we can conceptualize what type of data composes the data composes entity. For example:

(1) Code	Symbolic representation (Numbers, letters and/or special characters)
(2) Amount	Dollars, currency, money
(3) Text	Free-flow of words and/or alphanumeric characters

Example:	Data entity=BUDGET
Question	= What is the information being maintained about the BUDGET?
Answer class name	= The data the budget was effective = DATE
Answer class name	= the total dollars budgeted = AMOUNT
Answer class name	= A brief description of each major item = TEXT

d. Class names should be mutually exclusive and totally exhaustive.

e. A predetermined list of class names will be centrally controlled and maintained by Data Administration. Restricting the number of class names to certain predetermined words allows greater rigor in the control of synonyms.

f. Requests for additions and/or deletions must be submitted to Data Administration according to the procedures in "To Be Developed."

3. Data Definition

a. A data definition provides a means for achieving uniform and consistent identification of data having a common interpretation throughout the organization.

b. This commonality and shareability will be achieved by describing the data in terms of what it is; rather than how it is used, where it is used, when it is used, who uses it or how it is constructed. How used, where used, when used, who uses or how constructed are additional pieces of important information that will be captured as separate attributes, not part of the definition.

c. A rigorous data definition will ensure that data will reflect a cohesive concept. Cohesion means that there is one and only one concept that has one and only one function. By maximizing cohesion, we design more modular, reusable and portable data.

d. A rigorous data definition will also ensure data integrity. Integrity means that data will be defined and used for one and only one purpose.

4. General Element

A generic element is a structure that identifies the specific domain of data items or data values used to specify a concept which facilitates understanding to all observers of the data in use. Its name and definition must reflect what the generic element is rather than how, when, or where it is used to describe some object. A generic element must have at least one standard data element (use) to be valid. A generic element alone has no functional or application context. For example, "DATE" may be a generic element; its structure would be YYYYMMDD (where "Y" represents a year digit, "M" represents a month digit, and "D" represents a month digit, and "D" represents the day-or-month digit). Any standard data element that uses the generic element "DATE" has the same structure.

5. Modifier

A modifier is a word that describes, modifies, or further explains a noun. Modifiers are used to fully explain data and make each data entity name unique.

6. Prime Object Name (PON)

a. A prime object name is a noun used to identify the primary object (entity) (i.e., person, place, thing, or concept) of interest. Not all nouns are prime object names. Ideally, prime object names are determined during an information engineering effort (enterprise models, logical models, etc.) as those objects in which the organization has significant interest.

b. Including the entity/subentity in a data entity name:

(1) Establishes a Horizontal Integration of data.

(Example: All data entities relating to the entity EMPLOYEE will carry EMPLOYEE as a prime word.)

(2) Establishes an audit trail throughout the entire resource development life cycle. (Strategic -> Tactical -> Operational -> Historical)

(3) Provides a basis for developing a general-to-specific classification scheme based on business usage.

(4) Provides a primary search identifier when querying a database system.

c. A predetermined list of prime object names will be centrally developed, controlled, and maintained by DoD Data Administration. Restricting the number of prime object names to certain predetermined words allows greater rigor in the control synonyms.

d. Requests for additions and/or deletions must be submitted to Data Administration according to the procedures in "To Be Developed".

7. Qualifier

A qualifier is a word or combination of words used to further describe the

characteristics of how the data values specified by the class name are measured (e.g., INCHES, POUNDS, BARRELS, PER-MAN, etc.). All quantitative class names - AMOUNT, AREA, DIMENSION, TEMPERATURE, VOLUME and WEIGHT - require a qualifier. RATE may require a qualifier.

8. Standard Data Element

A data element describes a single characteristic of an object and consists of one data value, never a set of values or a concatenation of values. That one data value is taken from a range of values (a domain). A standard data element is a data element which has been made standard by the fact that it was derived from a data model and the standard data element's attributes were standardized according to the data standard outlined in this appendix.

B. DATA STANDARDS AND CONVENTIONS

1. Abbreviation Standardization Rules/Guidelines

a. Abbreviation Rules

(1) R1: If the word has an abbreviation that has been approved by the DoD Data Administrator, use the abbreviation.

(2) R2: If the word has no approved abbreviation, use the following guidelines to formulate a candidate abbreviation.

b. Abbreviation Guidelines

(1) G1: Avoid developing abbreviations for words of four or fewer characters.

(2) G2: Each abbreviation must be unique.

(3) G3: An abbreviation will not duplicate an approved acronym.

(4) G4: Do not develop abbreviations for Product acronyms (i.e., do not abbreviate AMDAHL, COBOL, etc.).

(5) G5: The abbreviation of a single word will not contain hyphens,

underscores or other special characters.

(6) G6: The abbreviation of a word should begin with the same letter as the word being abbreviated. The order of characters in the abbreviation should parallel the order of letters in the word.

(7) G7: Generally, an abbreviation is formed by eliminating the vowels from a word, unless the vowel begins the word.

(8) G8: If a double consonant appears in the abbreviation, drop one of the consonants.

(9) G9: If the abbreviation contains a "ck", drop the "c" (except when "c" begins the word).

(10) G10: If the word contains a hyphen, drop the hyphen and derive an abbreviation for the concatenated word.

(11) G11: Alternatively, check an abbreviation reference source such as, *Acronyms, Initialisms, and Abbreviation Dictionary*, edited by Julie E. Towell and Helen E. Sheppard, Grace Research Company, Detroit, MI.

2. Acronym Standardization Rules/Guidelines

An acronym is derived from the initial letter or letters of successive parts of a compound term (e.g., RADAR, for Radio Detecting and Ranging). Often, acronyms result in a "catch phrase" that is more easily said aloud than its full words. Acronyms significantly reduce the number of characters used in creation of the abbreviated name.

a. Acronym Rules

(1) R1: If the compound term has an acronym approved by the DoD Data Administrator, use the acronym.

(2) R2: If the compound term has no approved acronym, use the following guidelines to formulate a candidate acronym.

b. Acronym Guidelines

- (1) G1: Do not develop a new acronym for the same series of words if an acronym has already been accepted.
- (2) G2: Do not develop an acronym that duplicates an approved abbreviation.
- (3) G3: Do not develop an acronym that duplicates a class name abbreviation. Class names and class name abbreviations are reserved.
- (4) G4: Do not develop an acronym that duplicates a prime object name or prime object name abbreviation.
- (5) G5: Acronyms must not contain hyphens, underscores, or special characters.
- (6) G6: Accepted Product acronyms (e.g., AMDAHL, COBOL, etc.) may be used.
- (7) G7: Develop acronyms by simply using the first letter of each fully spelled word.
- (8) G8: An acronym must not be developed for a single word. An acronym may be developed for two or more words.
- (9) G9: An acronym must be developed from words that have a single concept, central theme, central idea, or represent one thing or one object.
- (10) G10: An acronym will not be developed merely for individual convenience.
- (11) G11: Generally to be approved, candidate acronyms must be established, (i.e., listed in a published reference source such as Acronyms, Initialisms, and Abbreviation Dictionary, edited by Julie E. Towell and Hein E. Sheppard, Grace Research Company, Detroit, MI).

3. Class Names

Approved class names, their associated abbreviation, and their definitions are listed below. This list will be maintained and updated by the DoD DA in the DoD data dictionary. This list will be the authoritative source of all approved class names and their abbreviations.

Class Name	Abbreviation	Qualifier Required	Description
Amount	AMT	Yes	A monetary value (Includes: Average, Balance, Deviation, Factor, Index, Level, Mean, Mode, Scale, Yield)
Angle	ANGL	No	The rotational measurement between two lines/planes diverging from a common point/line (Includes: Azimuth, Heading)
Area	AREA	Yes	The measurement of a surface expressed in unit squares [two-dimensional]
Code	CD	No	Combination of one or more numbers, letters, special characters which is submitted for a specific meaning. Represents finite, predetermined values. [Must have a specific domain] (Includes: Category, Status, Abbreviations)
Coordinate	COORD	No	Designation of the location of a line or plane. (Includes: Latitude, Longitude)
Date	DT	No	The notion of a specific period of time

Class Name	Abbreviation	Qualifier Required	Description
Dimension	DMSN	Yes	A measured linear distance [one-dimensional] (Includes: Altitude, Depth, Diameter, Distance, Elevation, Height, Length, Radius, Width, Vertex)
Identifier	ID	No	Combination of one or more numbers, letters, special characters which designate a specific object/entity, but has no readily definable meaning. [Must have a general domain] (Includes: Designator)
Mass	MASS	No	The measure of inertia of a body
Name	NM	No	A designation of an object/entity expressed in a word, phrase or abbreviation
Quantity	QTY	No	A non-monetary value (Includes: Average, Balance, Deviation, Factor, Index, Level, Mean, Median, Mode, Scale)
Rate	RT	Yes	A quantity, amount or degree of something in relation to units of something else [e.g. miles/gallon] (Includes: Acceleration, Density, Factor, Flow, Force, Frequency, Humidity, Impedance, Inductance, Intensity, Magnitude, Moment, Percent, Power, Pressure, Resistance, Scale, Speed, Tension, Velocity, Viscosity, Voltage)
Temperature	TP	Yes	The measure of heat in an object

Class Name	Abbreviation	Qualifier Required	Description
Text	TXT	No	An unformatted character string, generally in the form of words (Includes: Abbreviation, Category, Comments)
Time	TM	No	A notion of a specified chronological point within a period
Volume	VOL	Yes	Measurement of space occupied by a three-dimensional figure as measured in cubic unites [three-dimensional]
Weight	WT	Yes	The force with which an object is attracted toward the earth and/or other celestial body by gravitation

4. Data Definition Rules

a. Definition Rules

(1) R1: The data name must not be repeated verbatim in its own definition, although the words within the data name may be incorporated within the definition.

(2) R2: The standard data definition must have one and only one interpretation. A standard data definition must be ambiguous.

(3) R3: Terms with differing or varying connotations must have their meanings clearly explained in the standard data definition.

(4) R4: A standard data definition must be written in language common to all users within the organization.

(5) R5: Data definitions must not contain acronyms or abbreviations.

(6) R6: Data definitions must not contain processing or editing instructions.

(7) R7: Data definitions must not refer to hardware, software, or language conventions or constraints.

(8) R8: A data definition must define WHAT data is. A data definition does not define HOW, WHERE, or WHEN it is used or WHO uses it.

b. Definition Structure:

Generic Element Example	(NAME, DEFN)
Standard Data Element Example	(NAME, DEFN)

5. Element Name Rules

a. Both Generic Element and Data Element Rules

(1) R1: No abbreviations or acronyms are permitted in a generic element or standard data element name.

(2) R2: Only alphabetic characters (A-Z, a-z), hyphens (-), and permitted in generic element and standard data element names.

(3) R3: Hyphens may be used to connect multiple words in a prime object name or a qualifier. A space is used to separate each component of a data element name.

(4) R4: Modifiers may be used to fully describe a generic element and a standard data element.

(5) R5: Class names will be reserved; class names will not be used as modifiers, qualifiers or prime object names.

(6) R6: Plurals are not permitted. (Exception: Plurals may be used as qualifiers.)

(7) R7: Possessives are not allowed in the standard data element name.

(8) R8: "PER" is the only preposition that may be used in a generic element or standard data element name as part of the class name qualifier. No other

prepositions (at, by, for, from, in, of, to, etc.) are permitted.

(9) R9: Articles (a, an, the, etc.) are not permitted in generic element or standard data element names.

(10) R10: Conjunctions (and, or, but, etc.) are not permitted in generic element or standard data element names.

(11) R11: Names of organizations, computer or information systems, directives, forms, screens, or standard data element names.

(12) R12: Titles of blocks, rows, or columns of screens, report, or listings are not permitted in generic element or standard data element names.

(13) R13: Generic and Standard Data Element names will not contain verbs.

(14) R14: Generic and Standard Data Element names will not contain/reference:

(a) Hardware, software or language

(b) Physical placement or use

(c) Storage format information or characteristics (exception: Qualifier/ "Measured in")

(d) Numbers or counts used to indicate multiple occurrences of the same data entity.

(15) R15: Generic element and standard data element names must be clear and accurate, and self-explanatory.

(16) R16: Generic element and standard data element names must not be multi-purpose or multi-use.

b. Generic Element Rules

(1) GE1: The sequence of words in the Generic Element full word name will be:

MODIFIERS(S)+	CLASS NAME+	QUALIFIER
[optional]	[required]	[optional]
[0..N]	[1]	[0 or 1]

(2) GE2: Each generic element name must contain only class name. [Note: By restricting the generic element name to one class name, the standard data element is formulated to describe only one type of information collected about an object.]

(3) GE3: A unit of measure qualifier must be applied to the generic element names of all class names that describe a numeric quantity, i.e., AMOUNT, AREA, DIMENSION, TEMPERATURE, VOLUME, and WEIGHT. A qualifier may be added to RATE. Qualifiers will not be applied to qualitative class names.

c. Data Element Rules

(1) DE1: The sequence of words in the Data Element full word name will be:

PRIME+	PRIME+	GENERIC+	GENERIC
OBJECT	OBJECT	ELEMENT	NAME
ELEMENT	NAME	MODIFIER(S)	NAME
MODIFIER(S)			
[optional]	[required]	[optional]	[required]
[0...N]	[1]	[0...N]	[1]

(2) DE2: Each standard data element name must include its related generic name.

(3) DE3: Each standard data element name will describe only one concept and contain only one designated prime object name. [Note: By requiring a standard data element name to have one designated prime object name, the standard data element is formulated to explicitly describe only one object or concept. If the standard data element contains two words that may be considered as prime object names, only one of them will be designated as the prime object name.]

6. Data Definition Structure By Class Name

A data definition structure (generic or standard data element) centers around the class name of the data it describes. Developing a standard data definition using a structure minimizes "writer's block" and facilitates the development of consistent and meaningful definitions which can be accepted by all users.

*If the class
name is...*

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

AMOUNT

The generic element definition should begin...
The monetary unit representing...

Example: The cost amount, given in United States dollars, of an
object.

GE: AMOUNT UNITED-STATES-DOLLARS

The standard data element definition should begin...
The [modifiers] amount, given in [United States dollars, etc.] of...

Example: The cost amount, given in United States dollars, of a
particular ammunition component.

**SDE: AMMUNITION-COMPONENT COST UNITED-
STATES-DOLLARS**

*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

ANGLE

The generic element definitions should begin...
The rotational measurement between...

Example: The rotational measurement between two lines extending
from the same point or by two planes diverging from a
common line.

GE: ANGLE

The standard data element definition should begin...
The [modifiers] rotational measurement of [two lines from a
common point or two planes diverging from a common line] for a ...

Example: The rotational measurement between the geographic
meridian and local magnetic meridian, indicated as
degrees plus (+) to the east, or degrees minus (-) to
the west, of the geographic meridian for a specific
airport.

SDE: AIRPORT MAGNETIC VARIATION ANGLE

AREA

The generic element definitions should begin...
The two dimensional surface measurement of...

Example: The two dimensional surface measurement of a
specific place.

GE: AREA SQUARE-FEET

The standard data element definitions should begin...
The [modifiers] two dimensional surface measurement given in
[square feet, square meters, etc.] of...

Example: The total two dimensional surface measurement, in
square feet, available for parking aircraft at a given
airport.

**SDE: AIRPORT AVAILABLE AIRCRAFT PARKING
AREA SQUARE-FEET**

*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

CODE

The generic element definition should begin...
The specific value that represents/denotes...

Example: The specific value that represents/denotes the
classification characteristic of a berth.

GE: BERTH CLASSIFICATION CODE

The standard data element definitions should begin...
The [modifiers] specific value that represents/denotes a...

Example: The unit type's specific value that represents
whether a unit is designated as combat or
noncombat.

SDE: UNIT TYPE COMBAT INDICATOR CODE

COORDINATE

The generic element definition should begin...
The set of numbers that locate the [modifier] position of...

Example: The set of numbers that locate the latitude position
of a specific object.

GE: LATITUDE COORDINATE

The standard data element definition should begin...
The set of numbers that locate the [modifiers] position of...

Example: The set of numbers that locate the latitude position of a
specific airport.

**SDE: AIRPORT GEOGRAPHIC-LOCATION
LATITUDE COORDINATE**

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

DATE

The generic element definition should begin...

The specific period of time of/when/on which/a...

Example: The specific period of time when an event occurs,
occurred, or will occur.

GE: DATE

The standard data element definition should begin...

The [modifiers] specific period of time of/when/on which/a...

Example: The [modifiers] specific period of time when a
specific carrier is scheduled to leave the port of
embarkation.

SDE: CARRIER EMBARKATION DATE

DIMENSION

The generic element definition should begin...

The one dimensional linear measurement [length, width,
height, radius, elevation, etc.] of/from...

Example: The one dimensional linear measurement of the height
in feet of an object.

SDE: HEIGHT DIMENSION

The standard data element definition should begin...

The one dimensional linear measurement [length, width, height,
radius, elevation, etc.] given in [feet, inches, meters, miles, etc.]
of/from...

Example: The one dimensional linear measurement of the length,
given in inches, of a particular supply item.

**SDE: SUPPLY-TYPE-ITEM LENGTH DIMENSION
INCHES**

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

IDENTIFIER

The generic element definitions should begin...

The unique value, or set of characters, assigned to represent...

Example: The unique value, or set of characters, assigned to
represent an object.

SDE: IDENTIFIER

The standard data element definition should begin...

The unique value, or set of characters, assigned to represent...

Example: The unique value, or set of characters, assigned to
represent a particular operations plan.

SDE: OPERATION PLAN IDENTIFIER

MASS

The generic element definitions should begin...

The measure of inertia of...

Example: The measure of inertia of a specific object

GE: MASS

The standard data element definition should begin...

The [modifiers] measure of inertia of...

Example: The measure of inertia of a particular planet in the
universe.

SDE: PLANET MASS

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

NAME

The generic element definition should begin...

The [word/words] that express the designation of ...

Example: The [word/words] that express the designation of a
particular object.

GE: NAME

The standard data element definition should begin...

The [word/words] that express the designation of...

Example: The [word/words] that express the designation of a
particular harbor.

SDE: HARBOR NAME

QUANTITY

The generic element definition should begin...

The non-monetary unit representing the count of...

Example: The non-monetary unit representing the count of a group
of identical objects.

GE: QUANTITY

The standard data element definition should begin...

The [modifiers] non-monetary unit representing the count of...

Example: The non-monetary unit representing the count of a
particular type of taxiway being defined at a given airport.

SDE: AIRPORT TAXIWAY COUNT QUANTITY

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

RATE

The generic element definition should begin...

The relationship, given in [qualifier, units per...] that represents
[force, speed, pay, etc.] of...

Example: The relationship, given in pounds per square inch, that
represents the applied force of an object.

GE: RATE POUNDS-PER-SQUARE-INCH

The standard data element definitions should begin...

The [modifiers] non-monetary unit representing the count of...

Example: The relationship, given in pounds per square inch, that
represents the average block speed rate of a specific
type of aircraft for a given leg critical range distance.

**SDE: AIRCRAFT AVERAGE BLOCK SPEED RATE
NAUTICAL-MILES-PER-HOUR**

TEMPERATURE

The generic element definition should begin...

A number given in [degrees Fahrenheit, Celsius, etc.] representing
the heat of...

Example: The number, in degrees Fahrenheit, representing the
heat of an object.

GE: TEMPERATURE DEGREES-FAHRENHEIT

The standard data element definitions should begin...

A number given in [degrees Fahrenheit, Celsius, etc.]
representing the heat of ...

Example: The number, in degrees Fahrenheit, representing the
monthly minimum temperature for a specific location.

**SDE: GEOGRAPHIC-LOCATION MONTHLY MINIMUM
TEMPERATURE DEGREES-FAHRENHEIT**

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

TEXT

The generic element definition should begin...

The free-form narrative that [describes/defines]...

Example: Free Form text which describes an object.

GE: TEXT

The standard data element definitions should begin...

The free-form narrative that [describes a particular complete round
of ammunition.]

SDE: AMMUNITION-ROUND DESCRIPTION TEXT

TIME

The generic element definitions should begin...

The specific chronological point that designates the occurrence [in
the past, present, or future] of...

Example: The specific chronological point that designates the
occurrence [in the past, present, or future] of an event.

GE: TIME

The standard data element definitions should begin...

The free-form narrative that [describes/defines]...

Example: The specific chronological point that designates when in
the future a specific carrier is scheduled to leave the port
of embarkation.

SDE: CARRIER EMBARKATION DATE

***If the class
name is...***

**[Examples are provided for generic elements (GE) and
standard data elements (SDE)]**

VOLUME

The generic element definition should begin...

The three dimensional cubic measurement [in petroleum, oil, and
lubricant barrels; gallons, etc.] of...

Example: The three dimensional cubic measurement in gallons of a
liquid.

GE: VOLUME GALLONS

The standard data element definition should begin...

The free-form narrative that [describes/defines]...

Example: The three dimensional cubic measurement in gallons of
the total storage capacity of water at a given airport.

**SDE: AIRPORT TOTAL WATER STORAGE
VOLUME GALLONS**

WEIGHT

The generic element definition should begin...

The mass of ... times the acceleration of gravity, given in [short
tons, pounds, grams, etc.] of...

Example: The mass times acceleration of gravity in short tons of an
object.

GE: WEIGHT SHORT-TONS

The standard data element definition should begin...

The free-form narrative that [describes/defines]...

Example: The mass times the acceleration of gravity, given in short
tons, of a particular item of cargo for a given operation
plan force requirement.

**SDE: OPERATION FORCE REQUIREMENT CARGO
WEIGHT SHORT-TONS**

C. METADATA ATTRIBUTES

1. Entity Attributes

The following attributes are used to describe an entity. A complete description of each of the entity attributes follows this list.
[The entity attribute list is currently being standardized.]

a. Generic Element Attributes

The following attributes are used to describe a generic element. A complete description of each of the generic element attributes follows this list.

- Generic-Element Abbreviated Name¹
- Generic-Element Class Name¹
- Generic-Element Decimal Place Count Quantity¹
- Generic-Element Definition Text¹
- Generic-Element Domain Definition Text¹
- Generic-Element Domain Value Definition Text¹
- Generic-Element Domain Value Identifier¹
- Generic-Element High Range Identifier¹
- Generic-Element Maximum Character Count Quantity¹
- Generic-Element Name¹
- Generic-Element Origin Office Name¹
- Generic-Element Previous Name
- Generic-Element Previous Standardization Status Code
- Generic-Element Previous Standardization Status Date
- Generic-Element Security Classification Code¹
- Generic-Element Standardization Status Code¹
- Generic-Element Standardization Status Date¹
- Generic-Element Type Name¹
- Generic-Element Updated Name
- Generic-Element Updated Standardization Status Code
- Generic-Element Updated Standardization Status Date

b. Non-Standard Data Element Attributes

The following attributes are used to describe a non-standard data element. A complete description of each of the non-standard data element attributes follows this list.

¹Must be completed for submission to CDAd.

Non-standard-Data-Element Abbreviated Name
Non-standard-Data-Element Application Name²
Non-standard-Data-Element Authority Reference Text
Non-standard-Data-Element Decimal Place Count Quantity
Non-standard-Data-Element Definition Text
Non-standard-Data-Element Maximum Character Count Quantity
Non-standard-Data-Element Name²
Non-standard-Data-Element Remark Text
Non-standard-Data-Element Responsible Steward Name
Non-standard-Data-Element Type Name

c. Standard Data Element Attributes

The following attributes are used to describe a standard data element. A complete description of each of the standard data element attributes follows this list.

Generic-Element Name³
Standard-Data-Element Authority Reference Text
Standard-Data-Element Component Code³
Standard-Data-Element Definition Text³
Standard-Data-Element Domain Definition Text³
Standard-Data-Element Domain Value Definition Text³
Standard-Data-Element Domain Value Identifier³
Standard-Data-Element Eight Abbreviated Name³
Standard-Data-Element Eighteen Abbreviated Name³
Standard-Data-Element Formula Definition Text
Standard-Data-Element High Range Identifier³
Standard-Data-Element Low Range Identifier³
Standard-Data-Element Maximum Character Count Quantity³
Standard-Data-Element Name³
Standard-Data-Element Origin Office Name³
Standard-Data-Element Previous Name
Standard-Data-Element Previous Standardization Status Code
Standard-Data-Element Previous Standardization Status Date

²Must be completed for submission to CDAd.

³Must be completed for submission to CDAd.

Standard-Data-Element Prime Object Name³
Standard-Data-Element Security Classification Code³
Standard-Data-Element Standardization Status Code³
Standard-Data-Element Standardization Status Date³
Standard-Data-Element Steward Name³
Standard-Data-Element Thirty Abbreviated Name³
Standard-Data-Element Updated Name
Standard-Data-Element Updated Standardization Status Code
Standard-Data-Element Updated Standardization Status Date

D. DATA ELEMENT STANDARDIZATION DETAILED PROCEDURES

1. Step 1. Know the Data

The foundation for information sharing is standardized data.

When standardizing a data element, ASK...

What is the data?
What does the data look like?
What is the business purpose?
What is the business usage?
What business question is answered?

2. Step 2. Gather Resources

Obtain all available information about the definition, domain, and other attributes of the data requirement or non-standard data element, based on the data model that describes the data requirement.

Possible references and resources include:

- * FIPS (Federal Information Processing Standards)
- * Dictionary of Business Terms
- * Unabridged Dictionary
- * Thesaurus
- * Notes from Interviews with Business & Systems Analysts
- * Manuals/Directives
- * System Documentation

3. Step 3. Get the Data Element Standardization Worksheet

The third step is to get the Data Element Standardization Worksheet. A copy is provided at the end of this section (Appendix C; Section D). **If available use a data dictionary or other automated facility at each succeeding step while filling out the worksheet to save time and effort...**

4. Step 4. Identify the Class Name

The Class Name is a mandatory attribute.

Step 4.1. Identify the Class Name

The description of each Class Name may be found in Appendix C; Section A-Terms/Concepts.

The class name must be selected from the DoD Approved Class Name List in Appendix C; Section B-Data Standards and Conventions.

Procedure:

(1) Determine the class name by reviewing the data requirement to identify what will be stored in the development standard data element (i.e., a code, a name, a monetary amount, etc.).

(2) Enter the appropriate Class Name on the Data Element Standardization Worksheet. **(If you have a data dictionary or other automated tool of generic and standard data elements, it is normally advisable to wait until you have identified the Prime Object Name (step 5) before querying it. Otherwise, for instance at step 4, the universe of "hits" on Class Name alone will generally be too broad for effective use.)**

Example:

If a money value is stored, then the Class Name is AMOUNT.

5. Step 5. Identify the Prime Object Name

The Prime Object Name is a mandatory attribute.

Step 5.1. Identify the Prime Object Name

The description of a Prime Object Name may be found in Appendix C; Section A- Terms/Concepts.

Procedure:

(1) From the data model, identify the prime object name that reflects the entity (object) to which the name is related and about which information is being collected (e.g., airport, unit, individual, vehicle, etc.). (NOTE: Ideally, prime object names are determined during an information engineering effort (enterprise models, logical models, etc.) which identifies those objects in which the organization has significant interest.) The prime object name adds specificity to the standard data element definition by ensuring that the class name describes the object of interest.

(2) Enter the appropriate Prime Object Name on the Data Element Standardization Worksheet. **(Query for existing generic and standard data elements containing this combination Class Name and Prime Object Name. See if the definitions of generic element and standard data element definitions meet your requirements. It is also advisable to check the allowed data values (domain) of the generic element. If these existing elements are appropriate or at least helpful, use the information from the data dictionary to help fill out the worksheets 6-10 and 11-12 respectively. If not, continue to use the worksheet. You have the option of pursuing steps 6-10 if you wish to develop the generic element first or to proceed with steps 11-12 to develop the standard data element first. However, remember that you must have an approved standard data element which must contain an appropriate generic element; so you must complete both of these sections of the worksheet.)**

Example:

If the object of interest is Vehicle, then the Prime Object Name is
VEHICLE.

6. Develop the Generic Element Definition

The Generic Element Definition is a mandatory attribute.

a. Step 6.1. Select the Definition Structure for the Class Name.

The Generic Element Definition Structures by Class Name may be found in Appendix C; Section B-Data Standards and Conventions.

Procedure:

Enter the generic element definition structure associated with the class name selected on the Data Element Standardization Worksheet.

Example:

The Generic Element Definition Structure by Class Name for AMOUNT is "The monetary units representing..."

b. Step 6.2. Identify the Class Name Qualifier.

If the class name is quantitative, determine the appropriate qualifier.

Quantitative class names are identified in Appendix C; Section B-Data Standards and Conventions; Approved Class Names.

Procedure:

(1) List Candidate class name qualifiers on the Data Element Standardization Worksheet.

Ask: What is the measure of this data?

(2) Select the Key class name qualifier.

Ask: What is the most accurate measure of this data?
What is the most interoperable measure of this data?

(3) Edit the Key class name qualifier.

Spell out all Acronyms and Abbreviations
Define/Explain any specialized or functional terms

(4) Enter the edited key qualifier on the Data Element Standardization Worksheet.

Example:

Because the class name AMOUNT is identified as Quantitative, and the most accurate/interoperable measure of this data is United States currency, the Edited Key Qualifier = United-States-Dollars

c. Step 6.3. Identify the Class Name Modifier (s)

The addition of modifiers to further explain/describe the class name is optional. However, keep the modifiers general to maximize the use of roles and domains. Specificity will be added when developing the standard data element definition.

Procedure:

(1) List the Candidate Class Name modifier(s) on the Data Element Standardization Worksheet.

Ask: What word(s) best describe this data?
What kind of or type of (class name)?

(2) Select the Key class name modifier(s).

Ask: What words best describe the class name?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other generic element attributes.

Select the Key class name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used
- * How it is used
- * When it is used
- * How it is constructed
- * Who uses it

(b) Crossing out phrases and words that reference:

- * Processing Instructions
- * Editing Instructions
- * Hardware Conventions/Constraints
- * Software Conventions/Constraints
- * Language Conventions/Constraints

(c) Crossing out Data-Names

(3) Edit Key class word modifier(s) by:

- (a) Spelling out all Acronyms and Abbreviations**
- (b) Reducing each noun to its singular form**
- (c) Defining any specialized or functional terms**

Example:

To determine a cost basis, we need to know the total depreciation allowed or allowable. Therefore, class name modifier(s) and definition(s) are:

Candidates:

Total - sum; aggregate

Depreciation - a reasonable allowance for the exhaustion of property used in a trade or business, or property held for the production of income; loss in value of an asset whether due to physical changes, obsolescence, or factors outside of the asset.

Key Modifiers:

Neither one will be selected because they are not general or generic.

d. Step 6.4. Formulate the Generic Element Definition

Edit and refine the generic element definition according to the standards of English writing.

Procedure:

(1) Assemble, as applicable, the components developed in steps 4.2 thru 4.4 as follows:

Generic Element Definition Structure by Class Name +
"Measured in" + Qualifier +
Class Name Modifier (s) Definitions (s)

(2) Formulate logically sequenced, grammatically and structurally correct sentences:

Example:

(a) The monetary units representing...
Measured in ... United States dollars

(b) The monetary units in United States dollars

e. Step 6.5. Ensure Compliance with the Data Definition Rules

Compare the completed definition to the Data Definition Rules in Appendix C: Section B-Data Standards and Conventions; Data Definition Rules.

Revise as necessary.

f. Step 6.6. Document

GENERIC-ELEMENT DEFINITION TEXT

7. STEP 7 Develop the Generic Element Name

The Generic Element Name is a mandatory attribute.

All the components for the Generic Element Name were developed in Step 4 Identify the Class Name and Step 6- Develop the Generic Element Definition.

GENERIC ELEMENT NAME STRUCTURE

CLASS NAME	CLASS NAME	QUALIFIER
MODIFIER(S)		
OPTIONAL [O...N]	REQUIRED [1]	REQUIRED [1]

a. Step 7.2. Formulate the Generic Element Name

Enter the information on the appropriate lines of the Data Element Standardization Worksheet.

An example of ordering the "components" coming from the worksheet follows:

AMOUNT	UNITED-STATES-DOLLARS
(1) Class Name (Step 4.1.)	= AMOUNT
(2) Qualifier (Step 6.2.)	= UNITED-STATES-DOLLARS
(3) Modifier (Step 6.3.)	= Not Applicable

b. Step 7.3. Ensure Compliance

Compare the completed Generic Element Name to the Element Name Rules in Appendix C: Section B-Data Standards and Conventions.

Revise as necessary.

c. Step 7.4. Document

GENERIC-ELEMENT CLASS NAME
GENERIC-ELEMENT NAME

8. Step 8 Develop the Generic Element Abbreviated Name

The Generic Element Abbreviated Name is a mandatory attribute.

a. Step 8.1. Formulate the Generic Element Abbreviated Name

Procedure:

- (1) Substitute the approved class name abbreviation for the class name.
- (2) Substitute the approved abbreviation for the qualifier, if required.
- (3) Substitute the accepted acronym(s) for the class name modifiers.
- (4) Substitute the approved abbreviations for the remaining full word(s).
- (5) Enter a hyphen in each blank space separating the words.
- (6) Count the characters, including hyphens

If the length of the abbreviated name is greater than 12 characters, including hyphens, contact your CDAd:

Example:

- (a) Substitute the approved class name abbreviation for the class name
AMT
- (b) Substitute the approved abbreviation for the qualifier, if required.
UNITED STATES=US;
DOLLARS--->
DOLLARS--->
DLR =====>

US-DLR

(c) Substitute the accepted acronym(s) for the class name modifiers

(d) Substitute the approved abbreviations for the remaining full word(s)

(e) Enter a hyphen in each blank space separating the words.
AMT-US-DLR

(f) Count the characters, including hyphens.
10

b. Step 8.2. Document

GENERIC-ELEMENT ABBREVIATED NAME

9. Step 9. Develop the Generic Element Domain

The Generic Element Domain attributes are mandatory.

a. Step 9.1. Identify the Generic Element Domain

Procedure:

Document only one of the following three categories:

(1) If the Class Name is CODE, then enter each specific code and meaning on the Data Element Standardization Worksheet.

GENERIC- ELEMENT DOMAIN VALUE IDENTIFIER
(Code)

GENERIC-ELEMENT DOMAIN VALUE DEFINITION TEXT
(Meaning)

(2) If the Class Name is IDENTIFIER or is Quantitative, enter the ranges on the Data Element Standardization Worksheet.

GENERIC-ELEMENT LOW RANGE IDENTIFIER
(Lowest/Minimum/Smallest Value)

GENERIC-ELEMENT HIGH RANGE IDENTIFIER
(Highest/Maximum/Largest Value)

(3) If the Class Name is other than those above, complete

GENERIC-ELEMENT DOMAIN DEFINITION TEXT

Example:

Number 2 applies because Class Name AMOUNT is quantitative.

GENERIC-ELEMENT LOW RANGE IDENTIFIER =0000000001
GENERIC-ELEMENT HIGH RANGE IDENTIFIER =9999999999

10. Step 10. Document the Remaining Mandatory Generic Element Attributes

The Remaining Mandatory Generic Element attributes must be documented.
Refer to the detailed generic element attribute descriptions in Appendix C:
Section C--Data Entity Attributes.

GENERIC-ELEMENT TYPE NAME
(Data Type)

GENERIC-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY
(Maximum Logical Length)

GENERIC-ELEMENT DECIMAL PLACE COUNT QUANTITY
(If the GENERIC-ELEMENT TYPE NAME is Real, then determine the maximum
number of decimal places the number will contain)

GENERIC-ELEMENT SECURITY CLASSIFICATION CODE
(Highest level of security required)

GENERIC-ELEMENT ORIGIN OFFICE NAME

GENERIC-ELEMENT STANDARDIZATION STATUS CODE

GENERIC-ELEMENT STANDARDIZATION STATUS DATE

Example:

GENERIC-ELEMENT TYPE NAME=Real
(Data Type)

GENERIC-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY=14
(Maximum Logical Length)

GENERIC-ELEMENT DECIMAL PLACE COUNT QUANTITY=2
(If the GENERIC-ELEMENT TYPE NAME is Real, then determine the maximum number of decimal places the number will contain)

GENERIC-ELEMENT SECURITY CLASSIFICATION CODE=U
(Highest level of security required)

GENERIC-ELEMENT ORIGIN OFFICE NAME=DIA

GENERIC-ELEMENT STANDARDIZATION STATUS CODE=D

GENERIC-ELEMENT STANDARDIZATION STATUS DATE=19910601

11. Step 11. Develop the Standard Data Element Definition

The Standard Data Element Definition is a mandatory attribute.

a. Step 11.1. Identify the Prime Object Name Modifier(s)

The addition of modifiers to further explain/describe the Prime Object Name is optional.

Procedure:

- (1) Enter the Candidate Prime Object Name modifier(s) on the worksheet.

Ask: What word(s) best describe this prime object?
What kind of or type of (prime object name)?

(2) Select the Key prime object name modifier(s)

Ask: What words are not essential/do not belong?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other data element attributes.

Select the Key class name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used
- * How it is used
- * When it is used
- * How it is constructed
- * Who uses it

(b) Crossing out phrases and words that reference:

- * Processing Instructions
- * Editing Instructions
- * Hardware Conventions/Constraints
- * Software Conventions/Constraints
- * Language Conventions/Constraints

(c) Crossing out Data-Names

(3) Edit Key prime object name modifier(s)

(a) Spell out all Acronyms and Abbreviations

(b) Reduce each noun to its singular form

(c) Define/Explain any specialized or functional terms

Example:

VEHICLE does not require modifiers.

b. Step 11.2. Identify the Generic Element Modifier(s)

Procedures:

(1) Enter the Candidate generic element modifier(s) on the worksheet.

Ask: What word(s) best describe this generic element?
What kind of or type of (generic element name)?

(2) Select Key generic element name modifier(s)

Ask: What words are not essential/do not belong?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other data element attributes.

Select the Key generic element name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used
- * How it is used
- * When it is used
- * How it is constructed
- * Who uses it

(b) Crossing out phrases and words that reference:

- * Processing Instructions
- * Editing Instructions
- * Hardware Conventions/Constraints
- * Software Conventions/Constraints
- * Language Conventions/Constraints

(c) Crossing out Data-Names

(3) Edit prime object name modifier(s)

(a) Spell out all Acronyms and Abbreviations

(b) Reduce each noun to its singular form

(c) Define/Explain any specialized or functional terms

Example:

Potential modifiers were identified in Step 6.3.:

To determine a cost basis, we need to know the total depreciation allowed or allowable. Therefore, generic element modifier(s) and definition(s) are:

Candidates:

Total-sum; aggregate

Depreciation- a reasonable allowance for the exhaustion of property used in a trade or business, or property held for the production of income; loss in value of an asset whether due to physical changes, obsolescence, or factors outside of the asset

Key Modifiers:

Total; Depreciation

c. Step 11.3. Formulate the Data Element Definition

Edit and refine the standard data element definition according to the standards of English writing.

Procedures:

(1) Assemble, as applicable, the components developed in Step 5.1-Identify the Prime Object Name; Step 6.6-Document the Generic Element Definition, Step 11.1-Identify the Prime Object Name Modifiers; and Step 11.2-Identify the Generic Element Modifiers as follows:

Generic Element Definition+

Generic Element Modifiers/Modifier Definitions+

Prime Object Name Modifier(s)+

Prime Object Name

(2) Formulate logically sequenced, grammatically and structurally correct sentences.

Procedures:

(a) Assemble, as applicable, the components developed in Step 5.1.- Identify the Prime Object Name; Step 6.6-Document the Generic Element Definition, Step 11.1.-Identify the Prime Object Name Modifiers; and Step 11.2.- Identify the Generic Element Modifiers as follows:

Generic Element Definition+
Generic Element Modifiers/Modifier Definitions+
Prime Object Name Modifier(s)+
Prime Object Name

(b) Formulate logically sequenced, grammatically and structurally correct sentences.

Example:

The monetary units measured in United States dollars+
Total/Loss in value due to physical changes, obsolescence or outside
factors+
Vehicle

The monetary units measured in United States dollars representing the
total loss in value due to physical changes, obsolescence or outside
factors of a vehicle OR

The monetary units measured in United States dollars representing the
total loss in value of a vehicle due to physical changes, obsolescence or
outside factors.

d. Step 11.4. Ensure Compliance

Compare to the completed definition to the Data Definition Rules in Appendix C: Section B-Data Standards and Conventions; Data Definition Rules.

Revise as necessary

e. Step 11.5. Document

STANDARD-DATA-ELEMENT DEFINITION TEXT

12. Develop the Standard Data Element Name

The Standard Data Element Name is a mandatory attribute.

a. Step 12.1. Identify the Components

The generic element name associated with a standard data element must be included in its entirety and in the same word order in the standard data element name.

All the components for the Standard Data Element name were identified in Step 5- Identify the Prime Object Name; Step 7-Develop the Generic Element Name; and Step 11- Developing the Standard Data Element Definitions.

b. Step 12.2. Formulate the Standard Data Element Name

Enter the information on the appropriate lines of the Standard Data Element Worksheet. Order multiple modifiers from (right to left) general to specific.

Example:

VEHICLE TOTAL DEPRECIATION AMOUNT UNITED-STATES-DOLLARS

(1) Generic Element Name (Step 6.6) = AMOUNT UNITED-STATES-DOLLARS

(2) PRIME OBJECT NAME (STEP 5.1) = VEHICLE

(3) Key Prime Object Name Modifier(s) (Step 11.1) = Not applicable

(4) Key Generic Element Modifier(s) (Step 11.2) = TOTAL; DEPRECIATION

c. Step 12.3. Ensure Compliance

Compare the completed Standard Data Element Name to the Element Name Rules in Appendix C: Section B-Data Standards and Conventions Revise as necessary.

d. Step 12.4. Document

STANDARD-DATA-ELEMENT NAME

13. Step 13. Develop the Standard Data Element Abbreviated Names

The Standard Data Element Abbreviated Names are mandatory attributes.

a. Step 13.1. Develop the 30-Character Abbreviated Name

Procedure:

- (1) Enter the 12-character Generic Element abbreviated name
- (2) Substitute the approved prime object name abbreviation for the prime object name
- (3) Substitute the accepted acronyms
- (4) Substitute approved abbreviations for all the remaining full words
- (5) Enter a hyphen in each blank separating the words
- (6) Count the characters, including hyphens. If the length of the abbreviated name is greater than 30, including hyphens, revisit the Standard Data Element Definition and Standard Data Element Name to ensure that unnecessary modifiers have not been used.

If the number of characters still exceeds 30 characters, contact the CDA.

Example:

- (a) Enter the 12-character Generic Element abbreviated name
AMT-US-DLR
- (b) Substitute the approved prime object name abbreviation for the prime
object name
VHCL
- (c) Substitute the accepted acroynms
- (d) Substitute approved abbreviations for all the remaining full words
TOTAL--->TL
DEPRECIATION--->DEPRECIATE--->DPRCT
- (e) Enter a hyphen in each blank separating the words
VHCL-TL-DPRCT-AMT-US-DLR
- (f) Count the characters, including hyphens
24

b. Step 13.2. Document

STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME

c. Step 13.3. Develop the 18 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name in Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 18 characters use it as is.

(2) If the length is greater than 18 characters, then an alogorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated generic element abbreviated name (less than or equal to twelve characters), and randomly generating a three-character identifier.

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 18 characters.
The algorithm yields; VHLAMT-US-DLR001 (16Characters)

d. Step 13.4. Document

STANDARD-DATA-ELEMENT EIGHTEEN ABBREVIATED NAME

e. Step 13.5. Develop the 8 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name is Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 8 characters use it as is.

(2) If the length is greater than 18 characters, then an algorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated generic element abbreviated name (less than or equal to twelve characters), and randomly generating a three-character identifier.

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 18 characters. The
algorithm yields: VHLAMT-US-DLR001 (16 characters)

f. Step 13.4. Document

STANDARD-DATA-ELEMENT EIGHTEEN ABBREVIATED NAME

g. Step 13.5. Develop the 8 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name in Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 8 characters use it as is.

(2) If the length is greater than 8 characters, then an algorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated class name approved abbreviation (two characters), and randomly generating a three-character identifier.

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 8 characters. The algorithm yields: AMT-US-DLR (greater than 8 characters) and eventually VHLAM001 (8 characters)

h. Step 13.6. Document

STANDARD-DATA-ELEMENT EIGHT ABBREVIATED NAME

14. Step 14. Document the Remaining Mandatory Standard Data Element Attributes

The Remaining Mandatory Standard Data Element Attributes must be documented. Refer to the detailed Standard Data Element attribute descriptions in Appendix C: Section C-Data Entity Attributes.

STANDARD-DATA-ELEMENT COMPONENT CODE

STANDARD-DATA-ELEMENT DOMAIN DEFINITION TEXT

STANDARD-DATA-ELEMENT DOMAIN VALUE DEFINITION TEXT

(If the generic element class name, associated with the standard data element, is "CODE")

STANDARD-DATA-ELEMENT DOMAIN VALUE IDENTIFIER

(If the generic element class name, associated with the standard data element, is "CODE")

A standard data element domain value identifier (and its standard data element domain value definition text) must be identical to a generic element domain value identifier (and its generic domain value definition text) within the domain of that standard data element's associated generic element.

STANDARD-DATA-ELEMENT HIGH RANGE IDENTIFIER

The standard data element high range identifier must be less than or equal to (or within the upper bound of) its associated generic element high range identifier.

STANDARD-DATA-ELEMENT LOW RANGE IDENTIFIER

The low range identifier of a standard data element must be greater than or equal to (or within the lower bound of) its associated generic element low range identifier.

STANDARD-DATA-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY

The standard data element maximum character count quantity (size) must be less than or equal to its associated generic element maximum length quantity.

STANDARD-DATA-ELEMENT ORIGIN OFFICE NAME

STANDARD-DATA-ELEMENT STANDARDIZATION STATUS CODE

STANDARD-DATA-ELEMENT STANDARDIZATION STATUS DATE

STANDARD-DATA-ELEMENT STEWARD NAME

15. Step 15. Review and Validate the Standard Data Element

Review and Validate the Standard Data Element

Procedure:

(1) Find all approved, modified, and candidate standard data elements whose names contain the prime object name and class name (and qualifier, if appropriate) identified above.

(2) Review the resulting list and complete the following steps:

(a) Compare approved, modified, and/or candidate standard data element names with the naming worksheet. Identify all approved, modified, and/or candidate standard data element names that seem to describe the same concept as the developmental standard element.

(b) Compare the definitions of the approved, modified, and/or candidate standard data elements identified in the above step with the definition of the

developmental standard data element. Identify all approved, modified, and/or candidate standard data elements whose definition describes the developmental standard data element.

(c) Compare the domain of the approved, modified, and/or candidate standard data elements identified in the above step with the domain of the developmental standard data element currently being considered. Identify all approved, modified, and/or candidate standard data elements whose domain matches, includes all of the values (is a superset) of, or approximates the domain of the developmental standard data element.

If all appropriate choices have been exhausted, go to Step 4.

(3) Select the approved or candidate standard data element whose attributes are closest to that of the developmental standard data element. Complete the comparison of the existing approved, modified, or candidate standard data element with the developmental standard data element by reviewing each of the mandatory attributes of a standard data element. For example, verify that the maximum character count quantity of the developmental standard data element can be accommodated by the existing approved, modified, or candidate standard data element.

If necessary, work with a functional expert and determine the required modifications to the selected approved, modified, or candidate standard data element and submit these changes as a modified standard data element and/or modified generic element.

If no modifications are necessary, use the selected approved, modified, or candidate standard data element to satisfy the data requirement. (NOTE: This procedure should determine no more than one candidate, modified, or approved standard data element. If more than one is identified, review the remaining approved, modified, and/or candidate standard data elements to determine which best represents the developmental standard data element data requirement.) This is an iterative process. As a data element progresses through standardization, it is moved upward through the echelons of DoD. At each level, the DA will review the outcome of the previous level, repeat as many of the above steps as necessary.

(4) Find all approved, modified, and/or candidate generic element names that contain the developmental standard data element class name (and qualifier, if appropriate).

(5) Review the resulting list and complete the following steps:

(a) Compare approved, modified, and/or candidate generic element names with the naming worksheet. Identify all approved, modified, and/or candidate generic element names that seem to describe the general structure of the developmental standard data element.

(b) Compare the definitions of the approved, modified, and/or candidate generic elements identified in the above step with the definition of the developmental standard data element currently being worked. Identify all approved, modified, and/or candidate generic elements whose definition describes the developmental standard data element.

(c) Compare the domain of the approved, modified, and/or candidate generic elements identified in the above step with the domain of the developmental standard data element. Identify all approved, modified, and/or candidate generic elements whose domain matches, is a superset of, or approximates the domain of the developmental standard data element.

Repeat this procedure until an appropriate generic element is found or until all appropriate choices are exhausted. If all appropriate choices have been exhausted, go to Step 6.

(6) Select the approved, modified, or candidate generic element whose attributes are closest to the required structure for the developmental standard data element attributes.

If required, work with a functional expert and determine necessary modifications to the selected approved, modified, or candidate generic element and submit these changes as a modified generic element.

If no modifications are necessary, use the chosen approved, modified, or candidate generic element in the developmental standard data element name. Complete the standardization of all the attributes of the developmental standard data element. Work with a functional expert to ensure that the developmental standard data element is functionally accurate and submit the developmental standard data element as a candidate for approval by the appropriate DA.

(7) Determine the developmental generic element by reviewing the definition, the domain, and the class name of the developmental standard data element. Complete the standardization of all of the attributes of the developmental standard data element, as well as those of the developmental generic element. Work with a functional expert to ensure that the developmental generic element and the developmental standard data element are functionally correct and submit them as candidates for approval by the appropriate DA.

This is an iterative process. As a data element progresses through standardization, it is moved upward through the echelons of DoD. At each level, the DA will review the outcome of the previous level, repeat as many of the above steps as necessary, and forward.