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DoD Data Administration

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Same as 7 above

This directive establishes the policies for DoD data administration. It outlines basic data administration concepts and assigns data administration responsibilities.

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Data Administration

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Department of Defense
DIRECTIVE

SUBJECT: DoD Data Administration

References: (a) DoD Directive 5000.11, "Data Elements and Data Codes Standardization Program," December 7, 1964 (hereby canceled)
(b) DoD 5025.1-M, "Department of Defense Directives System Procedures," December 1990, authorized by DoD Directive 5025.1, December 23, 1988
(c) DoD Instruction 5000.12, "Data Elements and Data Codes Standardization Procedures," April 27, 1965
(d) DoD Instruction 5000.18, "Implementation of Standard Data Elements and Related Features," March 17, 1969
(e) through (r), see enclosure 1

A. REISSUANCE AND PURPOSE

93-01759

This Directive:

1. Reissues reference (a).

2. Establishes policies for DoD data administration.

3. Authorizes the establishment of and assigns responsibilities for DoD data administration to plan, manage, and regulate data within the Department of Defense.

4. Authorizes the publication of DoD 8320.1-M, "DoD Data Administration Procedures," in accordance with (IAW) reference (b) that will supersede references (c) and (d).

5. Authorizes the establishment of a DoD Information Resource Dictionary System (DoD IRDS).

B. APPLICABILITY AND SCOPE

This Directive:

1. Applies to the Office of the Secretary of Defense (OSD), the Military Departments (including the National Guard and Reserve components), the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Unified and Specified Combatant Commands, the Inspector General of the Department of Defense, the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as "the DoD Components").

2. Applies to all information systems (ISs) of the DoD Components, whether those systems share data with other systems or not. Hereafter, this

Directive shall use the general term "information system (IS)" to refer to all of the applicable systems and subsystems.

3. Applies to data in the ISs, including data elements, codes and values, and symbols.

4. Applies when levying information reporting requirements IAW DoD Directive 7750.5 (reference (e)).

5. Applies throughout the life cycle of the ISs with management and acquisition reviews implemented in DoD Directives 7920.1 and 5000.1, and DoD Instruction 5000.2, references (f) through (h).

6. Applies to the data elements and data values of systems governed by reference (g), including:

    a. ISs associated with office automation; personnel, business, and administrative systems; financial accounting and contractual information systems; and inventory control associated with acquisition of programs and systems;

    b. Metadata (i.e., data about data) that affects system interoperability or production and logistics support.

7. Applies to data elements and data values under the stewardship (i.e., management responsibility, but not data definition ownership) of the Under Secretary of Defense (Acquisition) including data elements and data values that are required to be unique to the operation of equipment and software that are an integral part of a planned acquisition and deployable weapon or weapons system and related test equipment.

8. Does not apply to data elements and data values that are required to be unique for use in cryptologic activities, but does apply to general signals intelligence reporting and the end-products of cryptologic programs and systems disseminated to noncryptologic activities. Those cryptologic activities shall assist in the development of any bridging techniques.

C. DEFINITIONS

Terms used in this Directive are defined in enclosure 2.

D. CONCEPT

1. DoD data administration must be implemented in ways that enhance mission performance through the effective, economic acquisition and use of data. Two objectives of DoD data administration are to:

    a. Support DoD operations and decisionmaking with data that meets the need in terms of availability, accuracy, timeliness, and quality.

    b. Structure the ISs in ways that encourage horizontal, as well as vertical, sharing of data in the Department of Defense, and with other

Government agencies, private sector organizations, and allied nations, consistent with national security and privacy requirements.

2. Data administration functions include procedures, guidelines, and methods for effective data planning, analysis, standards, modeling, configuration management, storage, retrieval, protection, validation, and documentation.

3. Effective data administration improves interoperability among the ISs and facilitates data exchange, provides the means for data sharing, controls redundancy, minimizes data handling, and improves data integrity by reducing the cost and time required to transform, translate, or research the meaning of differently named but otherwise identical data elements.

4. Data administration improves the way an organization uses data by defining data structuring rules and standards, planning for the efficient use of data, and coordinating data definitions and structures among organizational components.

5. The primary tools of data administration are an IRDS and a functional data structure and rules. That structure and the rules establish a framework within which to determine what data elements should be standardized, describe how data elements should be grouped, and state which data elements should be located in the DoD IRDS. The functional data structure is determined by the data needs of the organization. The DoD IRDS is used to define, structure, and maintain metadata for data administration.

6. The DoD IRDS provides a medium for defining metadata, cross-referencing, and consistency checking, and supports the standardization of data element names, definitions, and relationships. Metadata includes a wide variety of data element information such as data element access name, descriptive name, alternate names, data element definition, data type, data length, storage format, data validation rules, and the functional area or the IS that is the source of the data element.

7. Data elements are the fundamental unit of data used in the ISs. Standardization of data elements will result in efficiently storing data in databases and files, and in effectively accessing and using DoD standard data elements by multiple users.

E. POLICY

It is DoD policy to:

1. Implement data administration aggressively in ways that provide clear, concise, consistent, unambiguous, and easily accessible data DoD-wide, and that minimize the cost and time required to transform, translate, or research differently described, but otherwise identical, data.

2. Standardize and register data elements to meet the requirements for data sharing and interoperability among ISs throughout the Department of Defense.

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3. Use applicable Federal, national, and international standards before creating DoD standards or using common commercial practices.

4. Promote standardization of data elements in the Department of Defense in a manner consistent with requirements for sharing data among the OSD Principal Staff Assistants, the Heads of the DoD Components; and with the other Federal Agencies and organizations and other nations under treaty or international agreements.

5. Levy the burden and cost of conversion to DoD standard data, regardless of the origin of the requirement for information, on the Head of the DoD Component responsible for the DoD IS using nonstandard data, unless otherwise mutually agreed by all parties involved, and the DoD Data Administrator (DoD DA) is informed of the agreement.

6. Coordinate applicable standards for information, information processing, and telecommunications IAW DoD data administration procedures.

F. RESPONSIBILITIES

1. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, as the designated senior DoD information management (IM) official, shall:

    a. Prescribe DoD data administration policies, procedures, criteria, rules, and terms for use by the Heads of the DoD Components and monitor compliance by the Heads of the DoD Components.

    b. Issue and maintain DoD data administration procedures in coordination with appropriate DoD officials.

    c. Designate or assign a DoD DA. Responsibilities of the DoD DA are in enclosure 3.

    d. Review and approve the DoD Data Administration Plan submitted by the DoD DA.

    e. Be the final authority for determining the resolution of DoD data administration issues.

    f. Represent the Department of Defense to other Government agencies, standards developing organizations, and industry on matters pertaining to the development and adoption of data standards or delegate such representation to the DoD DA or the appropriate functional data administrator (FDAd).

2. The OSD Principal Staff Assistants, within their areas of responsibility, shall:

    a. Represent their interests to the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence and the DoD DA on all matters about data administration.

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    b. Designate a FDAd or exercise FDAd responsibilities for their functional categories of data listed in enclosure 4. Responsibilities for a FDAd are in enclosure 3.

    c. Plan and provide resources necessary to effectively carry out assigned functional data administration responsibilities.

    d. Review, approve, and submit to the DoD DA their portion of the DoD Data Administration Plan.

  3. The <u>Heads of the DoD Components</u> shall:

    a. Designate a DoD Component DA (CDAd) who shall exercise CDAd responsibilities, consistent with section E., above, and DoD data administration procedures. Responsibilities for the CDAd are in enclosure 3.

    b. Represent their interests to the OSD Principal Staff Assistants, the DoD DA, and the FDAd on all matters for data administration.

    c. Plan and provide resources necessary to effectively execute CDAd responsibilities.

    d. Manage data IAW section E., above, and DoD data administration procedures.

G. PROCEDURES

  1. The DoD data administration procedures shall:

    a. Implement the policy in section E., above.

    b. Define and implement strategies and criteria for converting from nonstandard data elements to DoD standard data elements.

    c. Develop requirements for methods and capabilities that permit rapid generation and manipulation of data models.

    d. Apply to all data elements that are used in, but are not limited to, the functional areas listed in enclosure 4.

  2. DoD data administration procedures shall provide uniform instructions for implementing DoD data administration. These procedures shall:

    a. Identify planning, reporting, and resources requirements for effective DoD data administration.

    b. Establish DoD standard data element naming conventions and uniform procedures to define and maintain all DoD standard data elements.

    c. Describe the means to satisfy all data requirements for new or modified ISs through the use of standard data elements.

d. Describe the detailed administrative relationships among the DoD
DA, the FDAds, the CDAds, and the users of data.

        e. Provide guidance for IRDS users, including how to access and use
the metadata.

        f. Identify the mechanism to structure, store, collect, and maintain
metadata within the Department of Defense so that metadata:

            (1) Is readily accessible to and understood by the Heads of the
DoD Components.

            (2) Can be made available to commercial enterprises proposing or
developing defense systems.

            (3) Is protected IAW the FAR and DoD Directive 5200.1 (refer-
ences (i) and (j)).

        g. Determine the relationships and applicability of DoD data admin-
istration to references (e) through (h) and (k) through (o) that govern the
ISs of the Heads of the DoD Components.

    3. DoD standard data elements shall be used when stating information
requirements and when designing, developing, or modifying the ISs. Com-
pliance shall be determined by officials authorized to review and approve
information systems IAW DoD Directives 7750.5, 7920.1, and 5000.1 (references
(e) through (g)).

    4. Nonstandard data acquired from commercial-off-the-shelf data sources
or other sources external to the Department of Defense shall be converted to
DoD standard data elements only when justified by mission requirements, fea-
sibility analysis, and a cost-benefits analysis.

H. EFFECTIVE DATE

    This Directive is effective immediately.
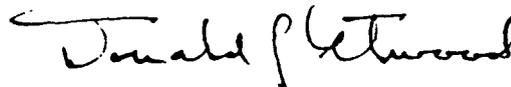
                                        Donald J. Atwood
                                        Deputy Secretary of Defense

Enclosures - 4
    1. References
    2. Definitions
    3. DoD Data Administrators' Responsibilities
    4. OSD Principal Staff Assistant Functional Areas of Responsibility

<u>REFERENCES</u>, continued

(e) DoD Directive 7750.5, "Management and Control of Information Require-
     ments," August 7, 1986
(f) DoD Directive 7920.1, "Life-Cycle Management of Automated Information
     Systems (AISs)," June 20, 1988
(g) DoD Directive 5000.1, "Defense Acquisition," February 23, 1991
(h) DoD Instruction 5000.2, "Defense Acquisition Management Policies and
     Procedures," February 23, 1991
(i) "Federal Acquisition Regulation," current edition
(j) DoD Directive 5200.1, "DoD Information Security Program," June 7, 1982
(k) DoD Directive 5105.19, "Defense Information Systems Agency (DISA),"
     June 25, 1991
(l) DoD Directive 4630.5, "Compatibility and Interoperability of Tactical
     Command, Control, Communications, and Intelligence Systems,"
     October 9, 1985
(m) DoD Directive 2010.6, "Standardization and Interoperability of Weapons
     Systems and Equipment within the North Atlantic Treaty Organization,"
     March 5, 1980
(n) DoD Instruction 7750.7, "DoD Forms Management Program," May 31,1990
(o) DoD 4120.3-M, "Defense Standardization and Specification Program
     Policies, Procedures and Instructions," August 1978, authorized by DoD
     Directive 4120.3, February 10, 1979
(p) Joint Pub 1-02, "Department of Defense Dictionary of Military and Asso-
     ciated Terms," December 1, 1989
(q) NBS Special Publication 500-152, "Guide to Information Resource Dictio-
     nary System Applications: "General Concepts and Strategic Systems Plan-
     ning," April 1988
(r) "American National Standard Dictionary for Information Systems
     (ANSDIS)," ANSI/X3.172-1990, American National Standards Institute

DEFINITIONS

1. <u>Automated Information System (AIS)</u>. A combination of information, computer, and telecommunications resources and other information technology that collects, records, processes, stores, communicates, retrieves, and displays data.

2. <u>Data</u>. Representation of facts, concepts, or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means. Any representations such as characters or analog quantities to which meaning is, or might be, assigned (Joint Pub 1-02 (reference (p))).

3. <u>Data Administration</u>. The responsibility for definition, organization, supervision, and protection of data within an enterprise or organization (NBS Special Publication 500-152 (reference (q))).

4. <u>Data Administrator (DA)</u>. A person or group that ensures 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 data base designs, and defining data security procedures (reference (q)).

5. <u>Database</u>. A collection of interrelated data, often with controlled redundancy, organized according to a schema to serve one or more applications; the data are stored so that they can be used by different programs without concern for the data structure or organization (ANSDIS, ANSI/X3.172-1990 (reference (r))).

6. <u>Database Administrator</u>. A person or group that enforces policy on "how," "where," and "in what manner" data is stored and maintained in each database. Provides information to the DA on organizational use of data within the subject database.

7. <u>Data Dictionary</u>. 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 ISs and databases; an application of a data dictionary system (reference (q)).

8. <u>Data Element</u>. A basic unit of information having a meaning and subcategories (data items) of distinct units and values (reference (p)).

9. <u>Data Item</u>. A subunit of descriptive information or value classified under a data element (reference (p)).

10. <u>Data Model</u>. Identifies the data, their attributes, and relationships or associations with other data.

11. <u>Data Value</u>. A value associated with a data element. One of the allowable values of a data element. Synonym of "a data item."

12. <u>Functional Area</u>. A range of subject matter grouped under a single heading because of its similarity in use or genesis.

13. <u>Imagery</u>. Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media (reference (p)).

14. <u>Information</u>. The meaning that a human assigns to data by means of the known conventions used in their representation (reference (p)).

15. <u>Information Resource Dictionary System (IRDS)</u>. A set of standard specifications for a data dictionary system resulting from U.S. Federal and national standards efforts; a computer software system conforming to those standards that provides facilities for recording, storing, and processing descriptions of an organization's significant information and information processing resources (NBS Special Publication 500-152 (reference (q))).

16. <u>Information System (IS)</u>. A combination of information, information technology, and personnel resources that collects, records, processes, stores, communicates, retrieves, and displays either manually or with varying degrees of automation.

17. <u>Metadata</u>. Information describing the characteristics of data; data or information about data; and descriptive information about an organization's data, data activities, systems, and holdings (reference (q)).

18. <u>Nonautomated</u>. Manual, without benefit or hindrance of machines.

19. <u>OSD Principal Staff Assistants</u>. The Under Secretaries of Defense, the Assistant Secretaries of Defense, the General Counsel of the Department of Defense, the Inspector General of the Department of Defense, the Comptroller of the Department of Defense, the Assistants to the Secretary of Defense, the OSD Directors who report directly to the Secretary or Deputy Secretary of Defense, and the DoD Coordinator for Drug Enforcement Policy and Support.

20. <u>Signals Intelligence (SIGINT)</u>. A category of intelligence information, either individually or in combination, comprising all communications intelligence, electronic intelligence, foreign instrumentation signals intelligence, and telemetry intelligence (reference (p)).

21. <u>Standard</u>. An exact value, a physical entity, or an abstract concept established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results. A fixed quantity or quality (reference (p)).

22. <u>Standard Data Element</u>. Data element registered IAW DoD data administration procedures.

23. <u>Symbology</u>. Any graphic representation of concepts or physical objects.

DOD DATA ADMINISTRATORS' RESPONSIBILITIES

A. The DoD Data Administrator shall:

1. Implement and manage the DoD data administration policies and proce-
dures IAW section E., above, of this Directive and DoD data administration
procedures.

2. Interpret DoD data administration policies, procedures, and stan-
dards, and coordinate FDAd and CDAd procedures with the DoD data administra-
tion procedures.

3. Register metadata from functional areas assigned as DoD standard
data.

4. Develop, operate, and maintain a DoD IRDS that is easily accessible
to all the Heads of the DoD Components and users, and supports the DoD data
administration procedures.

5. Review and approve or disapprove proposed changes to DoD standard
data elements, when existing standard data elements do not satisfy new
requirements.

6. Annually review and submit the consolidated and updated DoD Data Ad-
ministration Plan to the DoD Senior IM official IAW DoD data administration
procedures, and DoD 4120.3-M (reference (o)).

7. Plan and provide resources necessary to effectively carry out DoD
data administration responsibilities, giving consideration not to abridge the
authority and responsibility of the OSD Principal Staff Assistants.

B. A Functional Data Administrator shall:

1. Implement data administration procedures, IAW section D., above, of
this Directive and DoD data administration procedures, for the functional area
assigned.

2. Approve metadata in the respective functional areas of responsibility
listed in enclosure 4, and for proposed DoD standard data elements, only when
an existing standard does not support the new requirement.

3. Annually review, update, and prepare the portion of the DoD Data
Administration Plan that addresses the functional area assigned, and submit
to the DoD DA, through the OSD Principal Staff Assistants.

4. Recommend functional data elements for standardization.

C. A Component Data Administrator shall:

1. Manage the DoD Component Data Administration IAW section E., above,
of this Directive and the DoD data administration procedures.

2. Review proposed changes to DoD standard data elements and forward changes to the DoD DA and the appropriate FDAd for approval.

3. Identify the interface between the users, database administrators, and application developers of the ISs within the DoD Component and act as the liaison to the DoD DA and the FDAds.

4. Represent CDAd interests to the OSD Principal Staff Assistants, the DoD DA, and the FDAds.

5. Annually review, update, and submit to the DoD DA the portion of the DoD Data Administration Plan that addresses DoD Component data administration.