

**BY ORDER OF THE COMMANDER
AIR EDUCATION AND TRAINING
COMMAND**

AF INSTRUCTION 33-110

**AIR EDUCATION AND TRAINING COMMAND
Supplement 1**

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Communications and Information

DATA ADMINISTRATION PROGRAM



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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AFI 33-110, 1 January 1997, is supplemented as follows:

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4.2. To determine whether changes of 30 percent or more are made in an existing system where lines of code are not a characteristic of the development medium, a corresponding characteristic such as number of tables or objects can be used. System developers will submit standard data element proposal packages early in the system life cycle. Figure 4.1 (Added-AETC), Integration of Data Administration (DA) into the System Engineering Process Architecture (SEPA), displays the system life cycle phases as defined by Military Standard 498, *Defense System Software Development*; DoD Directive 5000.1, *Defense Acquisition*; and DoD Regulation 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems*. System developers will integrate data standardization into the system life cycle based on the milestones, phases, and corresponding process and product deliverables in figure 4.1(Added-AETC). The process for developing standard data is addressed in detail in chapters 4 and 5, DoD 8320.1-M-1, *Data Element Standardization Procedures*. The developer will coordinate proposal package during development with the corresponding Air Force functional data coordinator. (**NOTE:** If the functional data coordinator does not exist at the Air Force level, coordinate directly with the DoD functional data administrator. For example, since training and education data do not have an Air Force-level functional data coordinator, coordinate with the Office of the Under Secretary of Defense [Personnel & Readiness].) More detailed DA requirements and procedures are as follows:

4.2.1. The top level IDEF1X model will be completed during systems requirement analysis and will be an attachment to the functional economic analysis (FEA) (figure 4.1[Added-AETC]). The fully attributed IDEF1X model will be completed during the software requirements analysis and software design iterative process (figure 4.1 [Added-AETC]).

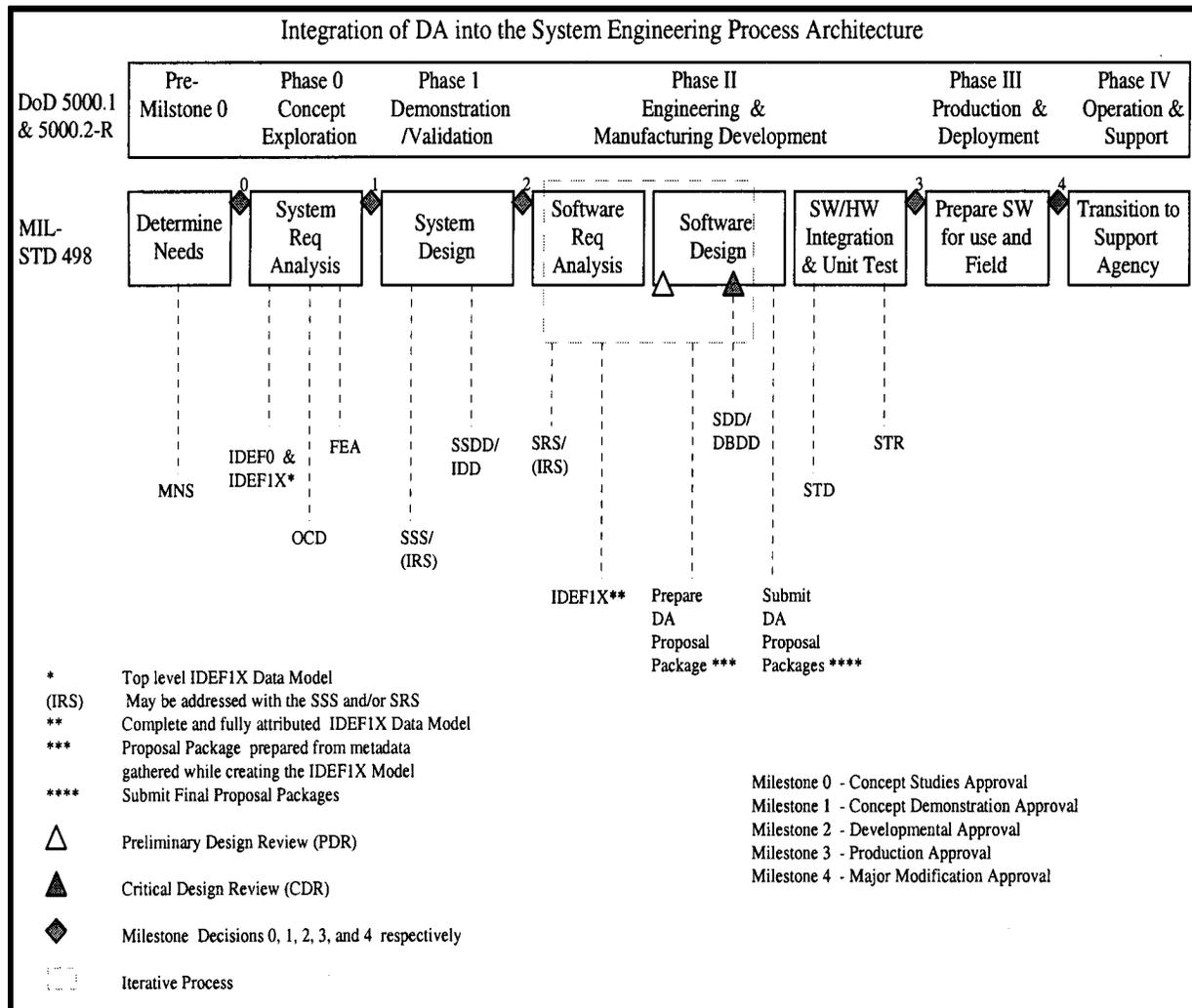
4.2.2. Metadata will be collected prior to or during the development of the complete and fully attributed IDEF1X model.

4.2.3. The DA proposal packages will be prepared during the software requirements analysis and software design iterative process and completed after the fully attributed IDEF1X is finalized (figure 4.1 [Added-AETC]). Submit the packages to the MDAd through the software design activity (SDA) or software support activity (SSA) data administrator after the software requirements analysis and software design iterative process is completed (see figure 4.1 [Added-AETC]). System developers outside an SDA or SSA will submit packages directly to the MDAd.

4.2.4. Maintain IDEF1X model and corresponding metadata to reflect any proposal package revisions. Once the logical IDEF1X model and metadata are implemented in the physical model, changes in the physical model's standard data elements must be reflected in the IDEF1X model and metadata throughout the system lifecycle. When modification, addition, or deletion of a logical model's standard data element is required, see instructions in DoD 8320.1-M-1, paragraph C7.6.

4.2.5. A DA deferment due to extenuating circumstances may be granted by the DoD Data Administrator based on an implementation plan that clearly describes a transition to the use of DoD standard data (DoD 8320.1-M-1, paragraph C1.3.2). A deferment request should be made as early in the SEPA process as possible, but before the end of the system design phase (figure 4.1 [Added-AETC]). If contracted out, the deferment request will be made prior to submitting the statement of work to contracting agency. A deferment request will be submitted to HQ AFCA/XPDS through AETC CSS/SCID (MDAd), using the format at attachment 4 (Added-AETC).

Figure 4.1. (Added) Integration of Data Administration (DA) into the System Engineering Process Architecture (SEPA).



4.3. Nonstandard systems sharing data with systems using standard data elements will bear the cost of translation. (These nonstandard systems include commercial off-the-shelf (COTS) and government off-the-shelf (GOTS) software that is based on a data base management system.)

9. DA responsibilities must be included in the MDAd's work plan.

9.5. Systems developers will comply with paragraph 10 of the basic instruction and this supplement.

10. In this command, CDA, SDA, and SSA responsibilities apply to all AETC system developers (even if the developers reside outside the CDA, SDA, or SSA). AETC system developers outside the CDA, SDA, or SSA organization structure and each CDA, SDA, and SSA will provide the DA primary POC to the MDAd. For an enhanced definition of system developer, see attachment 1 (Terms), this supplement.

10.4. Before beginning new system development or reengineering efforts, develop and forward standard data element proposal packages according to DoD Manual 8320.1-M-1 (figure C4-F1) and the proposal

package format provided by the MDAd. The command standard IDEF1X modeling tool is ERwin (a trademark of Logic Works).

10.7.1. (Added) During the requirement review process for new systems or for modified systems with changes of 30 percent or more of existing code, AETC system developers will coordinate all computer system requirements (including contract proposals) with the corresponding SDA or SSA data administrator and the MDAd. (If the developer resides in a non-SDA or SSA organization, he or she will coordinate directly with the MDAd.) When a production decision (milestone 2, figure 4.1 [Added-AETC]) is made to develop a new computer system or modify a current system by 30 percent or more (including current COTS or GOTS modifications), the SDA or SSA and the MDAd must be notified by memorandum. This memorandum will contain the name of the system to be developed, approximate date the standard data element proposal packages will be submitted, and approximate date for system deployment.

10.7.2. (Added) The annual DA Program Office request for DA resource requirements is the vehicle for all system developers to request DA contract support, training, travel, and tool purchase and maintenance. Requirements will be published in the AETC Data Administration Strategic Plan (DASP).

10.8. The system developer will use the DA proposal package format and the DA task statement of work guidance provided by the AETC MDAd.

10.9. (Added) Identify all civilian employees whose duties relate to the Air Force DA Program and revise employee work plans to reflect key DA duties and responsibilities. If necessary, ask the AETC MDAd for suggested duties and standards.

10.10. (Added) In addition to the metrics required in the standard data element proposal package, provide the MDAd with the number of nonstandard data elements documented in the Defense Data Dictionary System (DDDS) and the number of nonstandard data elements matched or mapped to a DDDS standard element officially in the DDDS. (See DoD 8320.1-M-1, appendix AP.3, for DDDS nonstandard data element documentation and matching and mapping requirements.)

Attachment 1, References. Change the reference in the basic instruction as follows:

DoD Manual 8320.1-M-1, *Data Element Standardization Procedures*, April 2, 1998.

Attachment 1, Abbreviations and Acronyms. Add the following abbreviations and acronyms to those in the basic instruction:

COTS--commercial off-the-shelf software

GOTS--government off-the-shelf software

IDEF0--Integrated DEFinition for Activity Modeling (process models)

Attachment 1, Terms. Add the following terms to those in the basic instruction:

Data Base Design Description (DBDD)—Describes the design of a data base; that is, a collection of related data stored in one or more computerized files in a manner that can be accessed by users or computer programs via a data base management system (DBMS). It can also describe the software units used to access or manipulate the data. The DBDD is used as the basis for implementing the data base and related software units. It provides the acquirer visibility into the design and provides information needed for software support.

Functional Economic Analysis (FEA)—Provides recommended options with cost for customers approval.

Interface Design Description (IDD)—Describes the interface characteristics of one or more systems, subsystems, hardware configuration items (HWCI), computer software configuration items (CSCI), manual operations, or other system components. An IDD may describe any number of interfaces.

Interface Requirements Specification (IRS)—Specifies the requirements imposed on one or more systems, subsystems, HWCI, CSCIs, manual operations, or other system components to achieve one or more interfaces among these entities. An IRS can cover any number of interfaces.

Operational Concept Description (OCD)—Describes a proposed system in terms of the user needs it will fulfill, its relationship to existing systems or procedures, and the ways it will be used. It is used to obtain consensus among the acquirer, developer, support, and user agencies on the operational concept of a proposed system.

Software Design Description (SDD)—Describes the design of a CSCI. It describes the CSCI-wide design decisions, the CSCI architectural design, and the detailed design needed to implement the software. The SDD may be supplemented by DBDDs. The SDD, with its associated DBDDs, is used as the basis for implementing the software. It provides the acquirer visibility into the design and provides information needed for software support.

Software Requirements Specification (SRS)—Specifies the requirements for CSCI and the methods to be used to ensure each requirement has been met. Requirements pertaining to the CSCI's external interfaces may be presented in the SRS or in one or more IRSs referenced from the SRS. The SRS, possibly supplemented by IRSs, is used as the basis for design and qualification testing of a CSCI.

System/Subsystem Design Description (SSDD)—Describes the system- or subsystem-wide design and the architectural design of a system or subsystem. The SSDD may be supplemented by IDD and is used as the basis for further system development.

System/Subsystem Specification (SSS)—Specifies the requirements for a system or subsystem and the methods to be used to ensure that each requirement has been met. Requirements pertaining to the system or subsystem's external interfaces may be presented in the SSS or in one or more IRSs referenced from the SSS. The SSS is used as the basis for design and qualification testing of a system or subsystem.

Software Test Description (STD)—Describes the test preparations, test cases, and test procedures to be used to perform qualification testing of a CSCI, software system, or software subsystem. The STD enables the acquirer to assess the adequacy of the qualification testing to be performed.

Software Test Report (STR)—A record of the qualification testing performed on a CSCI, a software system or subsystem, or other software-related item. The STR enables the acquirer to assess the testing and its results.

System Developer (supplemented)—In addition to the definition in the basic instruction, this term means any organization outside the CDA, SDA, and SSA responsible for the development, maintenance, or integration of automated information systems (AIS).

Attachment 4 (Added)

DEFERMENT REQUEST FORMAT

(Date)

MEMORANDUM FOR MAJCOM DATA ADMINISTRATOR
HQ AFCA/XPDS
DISA
IN TURN

FROM: (SDA/SSA/system developer's office symbol and mailing address)

SUBJECT: Request for Deferment of Compliance with DoD 8320.1-M-1, Data Element
Standardization Procedures

1. Deferments due to exceptional circumstances may be granted by the DoD DAd based on an implementation plan that clearly describes a transition to the use of DoD standard data elements. [DoD 8320.1-M-1, chapter 1, paragraph C1.3.2]
2. Request a deferment for compliance with Data Element Standardization Procedures for the (*State name of software system in question*) which must be released by (*Date*).
3. (*State justification for deferment, to include but not limited to manpower, cost, and operational requirements.*)
4. (*State impact, to include what is gained by a deferment to release software by the must-release date versus complete DA compliance before release if not deferred.*)
5. Attached is the implementation plan for transition to the use of DoD standard data elements.

Signature Block
(SDA/SSA/System Developer's OPR)

Attachment

1. Implementation Plan (*Identifies milestones after the must-release date for transition to the use of DoD standard data elements*)

Commitment for Completion

System Name	Manpower	Man-hours	Funding	Proposed Release Date
<i>ABCDE</i>	3	3,168	FY98/FY99	1999/04/15
<i>DEFG</i>	2	1,408	FY98	1998/05/15

HENRY J. DARIES, Colonel, USAF
Director of Communications and Information