
Program Manager's Desktop Guide for Continuous Acquisition and Life-Cycle Support (CALS) Implementation

14 March 1997

Distribution Statement

A: Approved for public release,
distribution is unlimited.

Not Measurement Sensitive

Foreword

1. This guide was developed by the military services with the assistance of the Department of Defense, federal agencies, and industry and can be used by all Departments and Agencies of the Department of Defense.
2. This guide provides information and guidance for applying the CALS strategy to the acquisition, management, and use of digital data in support of defense weapon systems and equipment. Service specific information is provided in the appendices of this guide.
3. Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this guide should be addressed to:

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Introduction

Continuous Acquisition and Life-cycle Support (CALS) is a DoD and industry strategy to accelerate the pace at which high quality information flows within DoD and between DoD and its business partners, and at the same time providing an opportunity to reduce information management overhead costs. The DoD's overarching goal in CALS is to develop a seamless defense enterprise in which the knowledge products of the acquisition process are immediately and rapidly accessible to all users while maintaining near

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immediate currency and quality of information. Application of the best technologies, processes, and standards for the development, management, exchange, and use of business and technical information among and within governmental and industrial enterprises will generate an Integrated Data Environment (IDE). This IDE represents the end state of all participants in the life cycle process execution for defense systems and material. Those in the government and industry implementing the CALS strategy realize the following vision:

"The Armed Forces of the United States operate in an information rich electronic environment the integrates technical and tactical information. Technologies and doctrine are rapidly developed and deployed. Readiness and warfighting capabilities are continuously improved to maintain our superiority over any potential adversary.

We provide an integrated data environment and the implementing processes for the people who design, acquire, use and support weapon systems. This gives them the technical and management information needed to field, operate and sustain affordable, effective weapon systems. Ready access to accurate acquisition and logistics information improves weapon systems life cycle management enabling mission performance at lower cost.

The integrated data environment is further characterized by: broad-based, multi-functional industry and government teams, use of international standards throughout the product life cycle, use of an international information highway to provide access to the integrated data throughout the global industrial base, flexibility to grow with and adapt to user information needs and appropriate levels of security."

This DoD's *Desktop Guide for CALS Implementation* compiles numerous specifications, manuals, and documents pertaining to CALS and the acquisition of digital technical data. This guide contains both background and working information about the use of CALS in the acquisition process. It also provides a compilation of the DoD's direction and intent for the incorporation of CALS into defense system programs.

Also included (Figure Intro-1) is a model for the DoD perspective of "CALS in the Acquisition Process." The intent of this Acquisition Process Model and this Desktop Guide is to assist you in providing synergy among CALS, the acquisition process, and the DoD's commitment to improving business processes.

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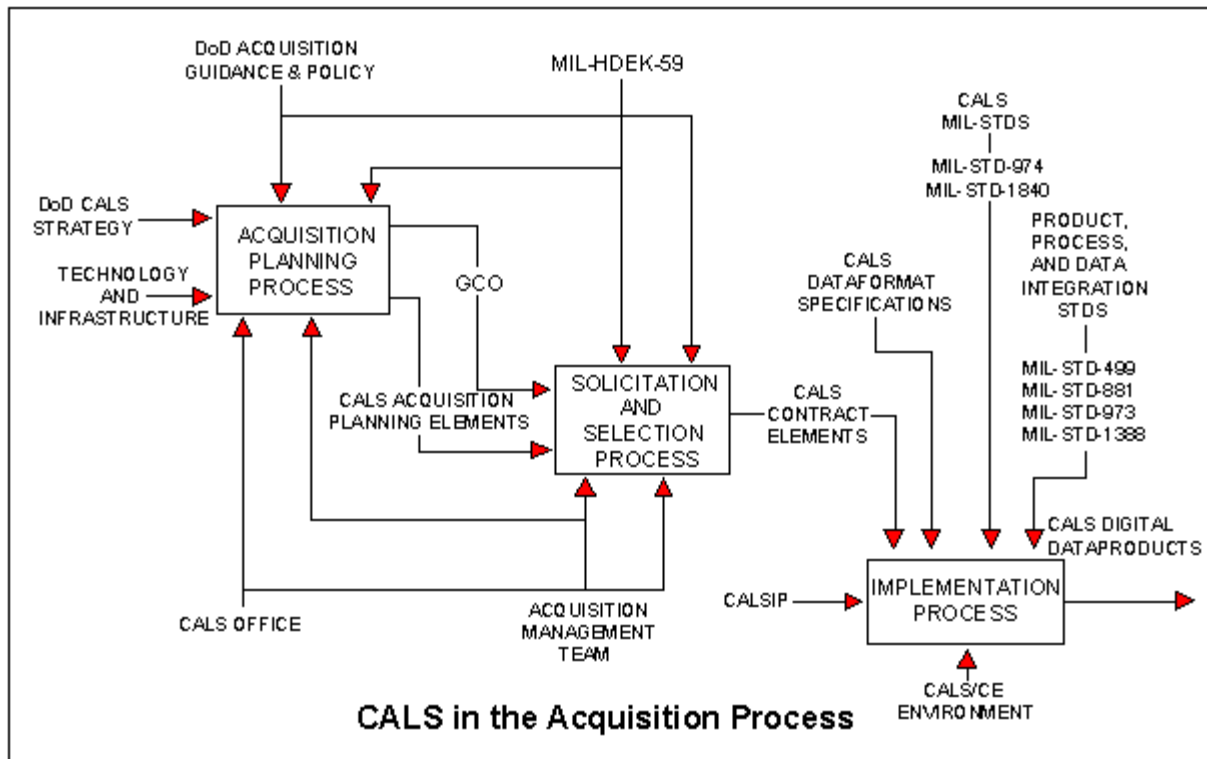


Figure I-1. -- CALS in the Acquisition Process.

DoD DTG Overview

Program Managers DTG Overview

The Program Manager's DTG Overview provides a brief summary of each section contained within the guide. The DoD DTG will provide the acquisition manager with information and guidance for applying the CALS strategy to the acquisition, management and use of digital data in support of defense systems and equipment.

Section 1. -- CALS Guidance Documents

This section includes excerpts from the following CALS guidance documents:

DoD 5000.2-R of 15 March 1996, Defense Acquisition

- . Paragraph 3.3.4.5 "Continuous Acquisition and Life-Cycle Support"
- . Paragraph 4.3, item 4d., refers to integrated data management systems
- . Paragraph 4.3.3.3 "Support Data"
- . Paragraph 1.6 "Integrated Product Teams"

DoD 5000.1 of 15 March 1996, Defense Acquisition

- . Paragraph E 2 f (definition of IPTs)

Program Manager's Desktop Guide for Continuous Acquisition and Life-Cycle Support**FAR**

. FAR Part 1.102 items (c) and (d): Acquisition Teams

DFARS

. 207.105 Contents of written acquisition plans.

. 227.7108 Contractor Data Repositories

PDUSD (A&T) Memo of 4 June 1996: Acquisition of Information in Digital Format

Memo issued 4 June 1996 by the Principal Deputy Under Secretary of Defense directing services to implement digital data strategies.

Appendices **Air Force**, **Army** and **Naval Forces** include additional guidance documents.

Section 2. -- Acquisition Planning

The Acquisition Planning provides information on CALS, developed in accordance with DoD 5000.2, that is to be included in acquisition documents. Examples of the statements to be used in the Acquisition Plan (AP) and the Integrated Program Summary of the Acquisition Strategy Report are included in this section. This section also includes a detailed discussion of CALS insertion into Requests for Proposal (RFPs). Finally, an IDE Implementation Checklist is included to assist the Program Manager in planning and assessing the IDE implementation effort.

Section 3. -- Infrastructure Requirements For The Creation, Management, And Use of Digital Data

This section provides an overview of hardware, software, telecommunication, and network program requirements in a CALS environment. This section addresses the considerations for a computer infrastructure such as:

. Computer Architecture	. Computer Operating System
. Storage Devices	. Output Devices
. Computer Graphics and Monitors	. Network Devices
. Application Software	. Software Licensing
. Local Area Networks (LANs)	. Wide Area Networks (WANs)
. Network Protocols	. Automated Information Systems
. Internet/Intranet	(e.g., JCALS, JEDMICS)
. Data Process	. Security

Section 4. -- CALS Resources and Points-of-Contact (POC)

The CALS Resources and Points-of-Contact section provides information to the Program Manager on resources and key personnel available to provide assistance/direction in the development and implementation of acquisition guidance in the CALS environment. The Points-of-Contact list includes the point-of-contact and their telephone, FAX number, E-Mail Address, and home page address if available,

for Department of Defense personnel. Additional Service POCs are listed in the appendices.

Section 5. -- Guide for Developing a CALS Government Concept of Operations (GCO)

This document provides guidance to acquisition managers and others who have an interest in applying CALS to the acquisition of data products in support of weapons systems. This guidance is in the form of a Government Concept of Operation (GCO), and identifies typical user's needs for technical data throughout all life cycle activities of weapons systems management, design, manufacture, and support functions. The GCO section walks the program manager through the eight-step GCO development process, and provides details regarding the type of information needed for each step and how to obtain that information. The two attachments to this document include a sample GCO questionnaire and sample GCO. The sample questionnaire will assist the manager in gathering the necessary GCO information, and is presented in a format that can be copied and distributed during the data call process with only minor modification. The sample GCO provides typical language and data tables.

Section 6. -- Contractor Integrated Technical Information Service (CITIS)

The CITIS section provides the acquisition manager with information on the acquisition and implementation of a CITIS. This document provides guidelines for the decision to require CITIS, including data deliverable, programmatic, and economic considerations. After the decision to require a CITIS is made, acquisition managers are instructed on how to select the services and functions that should be included in their CITIS. Guidance is then provided on how to require a CITIS and a sample CDRL for delivery/access of data via CITIS. The CITIS section also includes discussions on development issues such as data delivery and infrastructure. Finally, some of the legal issues unique to CITIS are presented.

Section 7. -- Sample Statement of Work (SOW) Language and Source Selection Criteria

This section provides sample generic CALS Statement of Work (SOW) language and CALS source selection criteria to assist the acquisition manager in the implementation of CALS for a program. This CALS-related language should be used in developing the functional requirements within each applicable section of the Request for Proposal (RFP). Detailed SOW language is also included for the development and implementation of a CITIS. This CITIS SOW includes both sample language and supplemental information to assist the program manager in designing the CITIS and developing the CITIS SOW. Finally, section 7 contains discussions of source selection topics including the source selection process, general evaluation criteria, and the Contractor's Approach to CALS (CAC) evaluation.

Section 8. -- Applying CALS to the Creation, Management, and Use of Technical Data

This section is intended to provide the acquisition manager with an overview of business practices for the creation, management, and use of Technical Data (TD), including Technical Data Packages (TDPs), in a CALS environment. This section also provides information on various digital data media, format, and content options available for obtaining TD. The planning process for the creation, management, and use of TD in a CALS environment needs to take advantage of the capabilities provided by the automation and integration of information systems.

Section 9. -- Applying CALS to the Creation, Management, and Use of Technical Manuals

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This section is intended to provide the acquisition manager with an overview of business practices for the creation, management, and use of Technical Manuals/Technical Orders (TMs/TOs) in a CALS environment. The section also provides information on various digital data media, format, and content options available for obtaining TMs/TOs. Various format options are available for the delivery of TMs/TOs that are needed to define and support a defense system. This section contains information on the deliverable media and digital data format for TMs/TOs. The different classes of Electronic TMs (ETMs) and Interactive Electronic TMs (IETMs) are presented in detail in this section as the currently preferred type of TM/TO.

Section 10. -- CALS Standards Overview

This section presents a brief summary of CALS standards including their purpose, application, current status, and implementation issues.

- . MIL-STD-1840, Automated Interchange of Technical Information
- . MIL-SPEC 28000 Series (IGES, SGML, Raster, and CGM)
- . ISO 10303 STEP (Standard for the Exchange of Product Model Data)
- . ISO 10744 HyTime (Hypermedia Time-based Document Structuring Language)
- . Electronic Data Interchange Format (EDIF)
- . IETM Specifications
- . Adobe's Portable Document Format (PDF)
- . Metafile for Interactive Documents (MID)

(See Appendix NATO for NATO CALS Standards Overview)

Appendix -- Air Force

This appendix includes additional guidance documents developed specifically for the Air Force. It also includes descriptions of AF Automated Information Systems.

Appendix -- Army

This appendix includes additional guidance documents and points-of-contact developed specifically for the Army. It also includes descriptions of Army Automated Information Systems.

Appendix -- Naval Forces

This appendix includes additional guidance documents and points-of-contacts developed specifically for the Naval Forces. It also includes descriptions of Navy Automated Information Systems.

Appendix -- NATO

This appendix includes additional CALS Standards specifically for NATO.

Section 1

CALS Guidance Documents

Program Manager's Desktop Guide for Continuous Acquisition and Life-Cycle Support**1.0 -- Introduction**

This section reflects a composite of selections from the documents listed below. The information provided includes guidance and regulations for CALS, as well as for Acquisition Teams and Integrated Product Teams (IPTs). Both Acquisition Teams and IPTs are important for development and implementation of a successful CALS strategy.

DoD 5000.2-R of 15 March 1996, Defense Acquisition

- . Paragraph 3.3.4.5 "Continuous Acquisition and Life-Cycle Support"
States the DoD policy for preference for on-line services for data access and delivery.
- . Paragraph 4.3, item 4d., refers to integrated data management systems
- . Paragraph 4.3.3.3 "Support Data"
- . Paragraph 1.6 "Integrated Product Teams (IPTs)"

DoD 5000.1 of 15 March 1996, Defense Acquisition

- . Paragraph E 2 f (definition of IPTs)

Federal Acquisition Regulation (FAR)

- . FAR Part 1.102 items (c) and (d): Acquisition Teams
Describes the makeup of Acquisition Teams and their responsibilities.

Defense Federal Acquisition Regulation Supplement (DFARS)

- . 207.105 Contents of written acquisition plans.
Lists the Logistics-related contents of acquisition plans, including CALS.
- . 227.7108 Contractor Data Repositories
Discusses data rights and responsibilities for contractor data repositories, including both paper and digital data storage.

PDUSD (A&T) Memo of 4 June 1996: Acquisition of Information in Digital Format

Memo issued 4 June 1996 by the Principal Deputy Under Secretary of Defense directing services to implement digital data strategies.

Appendix **Air Force** includes the following guidance documents:

1. AF Digital Data Strategy -- June 1996

Appendix **Army** includes the following guidance documents:

1. DoA Memo of 24 October 1995: Digitized Acquisition Data Policy
2. Army CALS Implementation Plan

Appendix **Naval Forces** includes the following guidance documents:

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1. DoD 5000.2-R excerpt
2. SECNAVINST 5000.2B excerpt
3. DoN Memo of 2 July 1996: Acquisition of Information in Digital Format
4. IETM Process Plan

2.0 -- Guidance Documents**2.1 -- CALS Guidance**

**DoD 5000.2-R Paragraph 3.3.4.5:
"Continuous Acquisition and Life-Cycle Support"**

Beginning in FY97, all new contracts shall require on-line access to, or delivery of, their programmatic and technical data in digital form, unless analysis shows that life-cycle time or life-cycle costs would be increased by doing so. Preference shall be given to on-line access to contractor developed data through contractor information services rather than data delivery. No on-going contract, including negotiated or priced options, shall be renegotiated solely to require the use of digital data, unless analysis shows that life-cycle costs would be reduced.

Acquisition strategies and plans shall describe the extent of implementation of these requirements in accordance with DFARS 207.105. Solicitations shall require specific proposals for an integrated data environment to support systems engineering and logistics activities. The PM shall ensure compatibility of data deliverables with existing internal information systems, and augment such systems as required to provide timely data access and distribution consistent with DFARS 227 and 252.

**DoD 5000.2-R Paragraph 4.3,
Item 4d Referring to Integrated Data Management Systems:**

PMs shall use existing information systems and data formats rather than DoD-unique systems and formats provided they can readily meet the program's information requirements and do not pose compatibility issues with operational DoD information systems and data.

**DoD 5000.2-R Paragraph 4.3.3.3:
"Support Data"**

Data requirements shall be consistent with the planned support concept and represent the minimum essential to effectively support the fielded system. Government requirements for contractor developed support data shall be coordinated with the data requirements of other program functional specialties to minimize data redundancies and inconsistencies.

DoDI 5000.1 Paragraph D 1 i (use of performance specifications):

- i. ***Performance Specification.*** In solicitations and contracts, standard management approaches or manufacturing processes shall not be required. Performance specifications shall be used when purchasing new systems, major modifications, and commercial and nondevelopmental items. Performance specifications include DoD performance specifications, commercial item

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descriptions, and performance-based non-government standards. If it is not practicable to use a performance specification, a non-government standard shall be used. There may be cases when military specifications are needed to define an exact design solution because there is no acceptable non-government standard or because the use of a performance specification or non-government standard is not cost-effective, not practical, or does not meet the user's needs. In these cases, the use of military specifications and standards is authorized as a last resort, with an appropriate waiver or exception from the MDA.

DFARS 207.105 Contents of written acquisition plans:**(12) *Logistics considerations.***

- (i) Describe the extent of integrated logistics support planning to date, including references to approved plans.
- (ii) Discuss the mission profile, reliability, and maintainability (R&M) program plan, R&M predictions, redundancy, qualified parts lists, parts and material qualification, R&M requirements imposed on vendors, failure analysis, corrective action and feedback, and R&M design reviews and trade-off studies.
- (iv) See DoDD 5000.1, Defense Acquisition, and DoDI 5000.2, Defense Acquisition Management Policies and Procedures, for procedures on standardization and on the DoD Parts Control Program. See MIL-STD-965, Parts Control Program, for procedures on the Standardized Military Drawing Program (S-70). Describe the extent of Computer-Aided Acquisition and Logistics Support (CALS) implementation (see MIL-HDBK 59, Department of Defense Computer-Aided Logistics Support (CALS) Program Guide, and MIL-STD-1840A, Automated Interchange of Technical Information).

DFARS 227.7108 Contractor data repositories:

- (a) Contractor data repositories may be established when permitted by agency procedures. The contractual instrument establishing the data repository must require, as a minimum, the data repository management contractor to --
 - (1) Establish and maintain adequate procedures for protecting technical data delivered to or stored at the repository from unauthorized release or disclosure;
 - (2) Establish and maintain adequate procedures for controlling the release or disclosure of technical data from the repository to third parties consistent with the Government's rights in such data;
 - (3) When required by the contracting officer, deliver data to the Government on paper or in other specified media;
 - (4) Be responsible for maintaining the currency of data delivered directly by Government contractors or subcontractors to the repository;

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- (5) Obtain use and non-disclosure agreements (see 227.7103-7) from all persons to whom government purpose rights data is released or disclosed; and
 - (6) Indemnify the Government from any liability to data owners or licensors resulting from, or as a consequence of, a release or disclosure of technical data made by the data repository contractor or its officers, employees, agents, or representatives.
- (b) If the contractor is or will be the data repository manager, the contractor's data management and distribution responsibilities must be identified in the contract or the contract must reference the agreement between the Government and the contractor that establishes those responsibilities.
 - (c) If the contractor is not and will not be the data repository manager, do not require a contractor or subcontractor to deliver technical data marked with limited rights legends to a data repository managed by another contractor unless the contractor or subcontractor who has asserted limited rights agrees to release the data to the repository or has authorized, in writing, the Government to do so.
 - (d) Repository procedures may provide for the acceptance, delivery, and subsequent distribution of technical data in storage media other than paper, including direct electronic exchange of data between two computers. The procedures must provide for the identification of any portions of the data provided with restrictive legends, when appropriate. The acceptance criteria must be consistent with the authorized delivery format.

2.2 -- Integrated Product Team (IPT) and Acquisition Team Guidance**FAR Part 1.102 items (c) and (d): Acquisition Teams**

- (c) The Acquisition Team consists of all participants in Government acquisition including not only representatives of the technical, supply, and procurement communities but also the customers they serve, and the contractors who provide the products and services.
- (d) The role of each member of the Acquisition Team is to exercise personal initiative and sound business judgment in providing the best value product or service to meet the customer's needs. In exercising initiative, Government members of the Acquisition Team may assume if a specific strategy, practice, policy or procedure is in the best interests of the Government and is not addressed in the FAR, nor prohibited by law (statute or case law), Executive order or other regulation, that the strategy, practice, policy or procedure is a permissible exercise of authority.

DoDI 5000.1 Paragraph E 2 f (definition of IPTs):

The Integrated Product Team (IPT) is composed of representatives from all appropriate functional disciplines working together with a Team Leader to build successful and balanced programs, identify and resolve issues, and make sound and timely recommendations to facilitate decision-making. There are three types of IPTs: Overarching IPTs focus on strategic guidance, program assessment, and issue resolution. Working Level IPTs identify and resolve program issues, determine program status, and seek opportunities for acquisition reform. Program IPTs focus on program execution, and may include representatives from both government, and after contract award, industry.

DoD 5000.2-R Paragraph 1.6: "Integrated Product Teams (IPTs)"

The Secretary of Defense has directed that the Department perform as many acquisition functions as possible, including oversight and review, using IPTs. These IPTs shall function in a spirit of teamwork with participants empowered and authorized, to the maximum extent possible, to make commitments for the organization or the functional area they represent. IPTs are composed of representatives from all appropriate functional disciplines working together to build successful programs and enabling decision-makers to make the right decisions at the right time. IPTs operate under the following broad principles:

1. Open discussions with no secrets
2. Qualified, empowered team members
3. Consistent, success-oriented, proactive participation
4. Continuous "up-the-line" communications
5. Reasoned disagreement
6. Issues raised and resolved early

When IPTs include representatives from organizations other than the federal government, PMs shall comply with the Federal Advisory Committee Act (FACA). In addition, PMs shall also remember that the participation of a contractor or a prospective contractor on a IPT should be in accordance with other statutory requirements, such as procurement integrity rules. Prospective contractor involvement on IPTs shall be reviewed by the Component's legal advisor.

**Principal Deputy Under Secretary of Defense
3015 Defense Pentagon
Washington DC 20301-3015**

Jun 4 1996

Memorandum For Secretaries of the Military Departments
Chairmen, Joint Chiefs of Staff
Under Secretaries of Defense
Director, Defense Research and Engineering
Assistant Secretaries of Defense
Director, Operational Test and Evaluation
Directors, Defense Agencies

Subject: Acquisition of Information in Digital Format

The acquisition of data in digital format offers numerous benefits to the Department, most which translate directly into cost savings. To take full advantage of these benefits, I ask you to ensure your existing contracts are reviewed for data delivery format and, where non-digital formats are specified, that you modify your contracts to require digital format when it is mission-effective and cost-effective to do so.

Many existing contracts pre-date digital requirements and specify data delivery on paper, aperture cards, and microfiche. More often than not, these may be changed to digital format with no loss in customer

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suitability and security, and with all of the accompanying gain in supportability and cost savings. Naturally, changes to digital format must be compatible with Government information processing systems, but contractor data systems and formats should be used whenever they satisfy program needs.

I realize many agencies have already begun moving in this direction, but to gain speed and consistency I believe we should pursue a more formal effort. Please communicate this to your program managers and contracting officers. Monitor their progress and give them your enthusiastic support -- this is a good source of savings and efficiency.

\Signed\
R. Noel Longuemare

[Next Section](#)