

DoD Corporate Information Management Functional Information Management Plan

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Introduction and Background

The Department of Defense (DoD) spends approximately \$300 billion annually to carry out its mission. Many of these vast resources are applied to functional areas such as financial management, materiel management, payroll, and a host of other functions necessary to maintaining a quality military capability. A long standing and continuous priority of the Department is to reduce the costs of doing business by improving the effectiveness and efficiency of its operations. Part of these operations under scrutiny are the multiple management information systems in the functional areas. These systems generally satisfy specific component, agency, or local command needs, rarely meeting centrally-defined standard functional requirements, rarely providing common or standardized data. As a result, systems performing the same functional service in different Military Departments or Commands often process data that is not comparable or easily shared, and therefore, is not readily usable for decisionmaking at the "corporate" level. There is great likelihood that economies of scale, functional improvements, and similar efficiencies are being missed as a consequence of continuing to design, develop, and operate independent, functionally equivalent information systems throughout the Department.

Along these lines, the President directed the Secretary of Defense to implement the Defense Management Report (DMR) developed by the Department. One of the DMR decisions made in October 1989 by the Deputy Secretary of Defense (DepSecDef) established the Corporate Information Management (CIM). This decision was driven by the recognition that the Department could benefit from private sector successes of streamlining and consolidating various functions and integrating its information management functions. It raised to the highest priority, the effective use of information systems.

The CIM initiative has four key premises. First, the Department needs an overall DoD strategy for managing information. By pursuing a defensewide strategy for information management, the Department can make significant inroads into the \$9 billion DoD spends annually on information technology. Second, success depends on the commitment of senior-level managers throughout the Department and strong leadership from both the functional and information technology community. Third, information management in major business areas needs to be focused, structured, and visionary. To reduce redundancy, a concerted effort must be made to development common data requirements and formats, as requisite steps in the development of integrated management information systems for those areas of most utility to the sound management of the entire Department. Fourth, the talent for successfully implementing such an initiative resides in the Department and the challenge is to harness this expertise and provide the framework for "doing the right things and doing these things right."

This plan describes the management approach to developing standard functional requirements that will be used for DoDwide integrated information systems. The development of IS must be driven by well-defined functional requirements and must support the business policies and methods established by the Office of the Secretary of Defense's (OSD) and Components' senior functional managers. It is critical that these functional requirements be developed in a disciplined manner, with the full commitment and participation of those most affected, the functional policy and operational managers.

Mission

The mission of the DoD CIM program is to establish functional information management based on a disciplined approach to documenting business methods within a framework of information management, standards, architecture, and common process and data models. CIM is the catalyst for the functional community to examine current practices and to evaluate and adopt new and better ways of doing business.

Scope

The scope of functional information management includes the administrative/business functional areas of the Department of Defense. Functional information management includes development, maintenance and interpretation of enterprise models, function and process models, data models, and all documentation essential to baselining of business methods/practices and functional requirements for information systems/applications. Initial focus will be on the following functional areas:

- Distribution Centers
- Civilian Payroll
- Civilian Personnel
- Financial Operations
- Medical
- Materiel Management
- Government Furnished Materiel
- Contract Payment

It is envisioned that the strategies and approaches used in conducting structured and disciplined reviews of the above 8 areas will be generally applicable to all DoD functional areas. There are no plans currently to include command and control areas.

Guiding Principles

Guiding principles are statements of the management philosophy that reflect the general concepts, values, beliefs, and attitudes under which the CIM initiative will be managed and executed. Accordingly, CIM will be implemented within the following guiding principles:

- Business methods are the domain of the user community, therefore, strong functional leadership and participation are critical to the success of functional information management.
- Business methods and current practices are to be assessed as a basis for recommending changes to achieve better, more efficient, and more effective ways of doing business. Innovative functional processes must be developed to frame functional data and process models. CIM is to serve as a catalyst for the functional community to evaluate and adopt new and better ways of doing business.
- Information systems should only be developed to support functional needs and functional policies.
- Establishing well-defined functional requirements which include common process and data models are prerequisites to implementing common information systems.
- Standard data definition and a dictionary/repository are essential to defining stable data and process models.
- Benefit to cost considerations will be emphasized when prioritizing or assessing functional requirements.

Goals

A coherent and strong information management program is required to accomplish the Department of Defense mission. Functional information management will support such a program through realization of the following specific goals:

- Improve standardization, quality, and consistency of data among DoD's multiple information systems.
- Improve the effective use of information systems in the Department.
- Reduce duplicative information systems supporting the same functional requirements.
- Develop and maintain functional requirements for common information systems or applications to meet common functional requirements.
- Increase management efficiencies in the functions that support the DoD primary mission -- national defense.
- Improve information management to realize savings in the annual information technology expenditures and in the DoD business areas this technology supports.

Visions of the Future

The view of information management in the Department of Defense in the next decade will contain the following scenarios.

- Functional information management is institutionalized in DoD and accepted as the strategy for simplifying functional processes and practices. It has served as the catalyst for the functional community to make changes and adopt more efficient and effective ways of doing business.
- Business methods and associated functional information requirements for all functional areas have been consistently documented across the department.
- Stable process and data models form the basis for common information systems/applications in support of all functional areas.
- Standard data definition and formats are used across the Department.

Situation Analysis

DoD Components have multiple information systems in virtually all administrative and functional areas. Continuing to design, develop, and operate a myriad of independent information systems that serve the same function is at best imprudent, at worst, wasteful. Below are some of the issues.

- Information management is not widely implemented in the Department of Defense. More generally, information management is viewed in the context of the technical infrastructure.
- Business methods are not generally documented in a consistent fashion, within or among Department functional areas. Today's information systems generally implement and often optimize outdated and cumbersome functional processes and practices.
- Many activities have performed business area analyses, and other process or data modeling techniques, but the focus is on current activities and not on improvements in business methods as a prerequisite to definition of functional information requirements.
- There is a strong tendency for each DoD Component to preserve tradition and culture in business methods/practices.
- External review and oversight groups have frequently faulted the DoD for not adequately performing functional requirements definition and analysis.
- Multiple information systems supporting the same functional requirements are common occurrences today.
- There is no consistent capturing or reporting of data among the DoD Components within the same functional area or across functional areas where appropriate.
- Standardization of data within the same functional area, across the DoD Components, has not yet been achieved.
- Communication across functional areas or Components is very difficult in the absence of standard data and/or common nomenclature.
- Complex external DoD relationships exist with respect to information management with Congress, the Government Accounting Office, the Office of Management and Budget, the General Services Administration, the National Institutes of Standards and Technology, and others.
- New management initiatives (e.g., Defense Management Review Decisions, Consolidation Studies, OSD Working Groups) have created a dynamic environment across DoD Components.

Objectives

Accomplishment of the stated vision in light of the current situation in the Department is initiated through satisfaction of fiscal year 1991 objectives:

- Document current and future business methods and supporting functional information requirements in selected functional areas to implement functional information management.
- Develop quantifiable performance measures for assessing the progress of functional groups that are documenting current and future business methods and functional information requirements, and apply these to the products of existing groups.
- Enhance the functional information management approach based on performance assessments and Executive Level Group recommendations.

Strategies

- Establish functional groups charged with the task of developing functional requirements based on a detailed documentation of current business methods, assessment of those business methods in light of a functional vision, and detailed documentation of future business methods and related information requirements. These groups are to be led by senior OSD policy officials, with full time participation from the functional experts in policy, management, operation, and user communities.
- Develop common functional information system/application requirements based on common business methods/practices, consisting of stable data and process models, and related documentation.
- Use a consistent process methodology to assess all functional areas. Use the methodology to develop functional visions based on agreed-to policies and guiding principles.
- Emphasize use of standard data and naming conventions.
- Emphasize development and presentation of the business case for making management decisions about information system investments.

Programs

Implementation of Functional Information Management includes the following programs:

- Enterprise Model/Information Architecture Program. This program encompasses development and maintenance of a Department of Defense Enterprise Model, a corporate information architecture, and operation of a FIM data standardization program.
- The enterprise model provides a view of the organization's functions and information needs at the highest level and reflects Defense top level vision, mission, goals and objectives. It provides the top level definition of Defense business areas which form the basis for the Functional Requirements Development Program. It also establishes the framework for FIM integration.
- The information architecture provides the unifying, coherent framework that demonstrates how the parts (business areas/functions) participate in the whole (the Department of Defense). The architecture consists of a data model and a process model which evolves through consolidation and integration of similar models developed for each individual Defense business area by the Functional Requirements Development Program.
- The data standardization program focuses on integration and interoperability by managing information about information (metadata) at the data element level, providing a common framework for organizing data and information Departmentwide. The program maintains a data dictionary for the FIM program and integrates the dictionary within the Department's Data Administration Program.
- The Functional Integration Program. This program develops and maintains the Functional Information Management process, a standard set of steps and procedures to be followed in documenting a vision for each business area, evaluating today's business practices, exploring alternative practices and strategies for reaching defined vision, and documenting information requirements in the form of process models, data models, and supporting details sufficient to begin design of standard information systems/applications. Figure 9-1 arrays the steps of this process which is documented in detail in the "Corporate Information Management Process Guide," August 1990.

This program supports improved business practices across business area/function boundaries and assists in the identification, assessment and documentation of opportunities to improve business practices across business area boundaries. The program also ties the work of the architecture program and functional requirements development together by ensuring the outputs of CIM Functional Groups fit together in the high level Department information architecture, and comply with data standardization requirements. This program provides for quality assurance of products, ensuring that defined functional requirements are complete and consistent, and for assistance in predesign analysis.

- The Functional Requirements Development Program. This program establishes and operates functional groups within each functional area of the Department who execute the FIM process under the policy direction of CIM Functional Steering Committees chaired by senior policy officials of the Department. Figure 9-2 illustrates major milestones for each Functional Information Management Program element.
- The Data Integration Program. An element of the departmentwide data standardization program, the data integration program provides the framework for data management by the functional groups. The program encourages an evolutionary implementation in parallel with standard systems development.

Resources

Current manpower resources for each Functional Information Management Program are shown at Figure 10-1.

Additional contract resources are provided to each Program element as needed to support maintenance and use of the CASE (Computer Assisted Systems Engineering) software tools adopted in support of the CIM Process.

Organization

In establishing CIM, the DepSecDef charged the DoD Comptroller with the responsibility to develop a plan for managing the initiative. The Deputy Comptroller (Information Resource Management) is the designated office of primary responsibility for this action. In addition to the Comptroller's Office, guidance and advice are provided by the Executive Level Group (ELG), the CIM Council, and the Functional Steering Committees. The actual development of future functional requirements for selected business areas, and the assessment of the current system capabilities supporting these areas are the responsibilities of the CIM Functional Information Management functional groups.

The charts below show the relationships among these entities (Figures 11-1,2,3).

The ELG, composed of private sector and DoD experts, was established to focus on the broad management aspects of corporate information management within DoD, and not on individual functional areas or programs. The ELG will recommend to the DepSecDef an overall approach, to include an action plan for managing information throughout the Department. The ELG expects to submit its recommendations in late 1990.

The CIM Council was established to provide a forum for CIM issues. The Council is composed of the senior level (flag level or Senior Executive Service) Information Resources Management representatives of the Services, Defense Logistics Agency, the Joint Chiefs of Staff, the Office of the Secretary of Defense, and other DoD Components. The Council, chaired by the Deputy Comptroller (Information Resources Management), advises on technical issues and provides CIM issue points of contact. It generally serves also as a two-way communications link between CIM and the DoD agencies and Components.

The Functional Information Management Program is directed by the Corporate Information Management Task Force which provides management and technical guidance and support to functional groups. Functional groups are led by a Flag (or equivalent) representative from the OSD functional policy office, and include a functional information manager from the CIM Task Force who acts as group deputy, a facilitator from the National Defense University Information Resources Management College, and participants from all affected DoD Components. Specifically, the core of each group comprises managers from the Military Departments and appropriate Defense Agencies that have policy, systems, and operational knowledge and experience about how the function is managed in DoD. These groups are asked to

- Develop a vision of the future for the function,.
- Review, evaluate, and recommend revisions to the function's business practices and policies,
- Develop information requirements for supporting the function, and
- Define standard and consistent functional requirements for which a standard, integrated information system(s) can be developed.

Management oversight of the Program is provided by the Senior Information Resource Management Official of the Department, and by CIM Functional Steering Groups and the CIM Council. Functional Steering Committees in particular, will provide functional policy direction, oversight, and review and approval of functional group products. Established for each functional area of interest, the Functional Steering Committees are chaired by an Assistant Secretary of Defense (or equivalent).

Implementation Issues