

file

## PART FIVE

## FUNCTIONAL RESPONSIBILITIES, PROCESSES, AND METHODS

## Section A -- Functional Management Process for Implementing Corporate Information Management

## References:

- (a) DoD Directive 8000.1 (draft), "Defense Information Management (IM)," Xxxxx xx, 1992

## 1. PURPOSE

Section 5A of this Department of Defense (DoD) Instruction defines the overall corporate information management (CIM) process that the Office of the Secretary of Defense (OSD) Principal Staff Assistant (NOTE) is responsible for executing. Central to success of the Defense information management (IM) program and the CIM initiative is the concept that OSD Principal Staff Assistants, as senior functional proponents supporting the Secretary of Defense, exercises all necessary authority and responsibility to define functional requirements; evaluate current business processes, data requirements, and supporting information systems; develop streamlined and standardized alternatives to current processes; and implement the improved processes across the Department of Defense.

NOTE: Reference (a) defines "OSD Principal Staff Assistant" as "the Under Secretaries of Defense; the Assistant Secretaries of Defense; the General Counsel, Inspector General, and Comptroller of the DoD; the Assistants to the Secretary of Defense, and the OSD Directors or equivalents who report directly to the Secretary or Deputy Secretary of Defense."

## 2. OVERVIEW

This paragraph summarizes the material addressed in the remainder of Section 5A. The referenced paragraphs can be located as follows:

<u>Topic</u>	<u>Page</u>
1. Purpose	1
2. Overview	1
3. Background and Scope	4
4. Functional Scope of CIM	6

5.	Establish the Functional Architecture	10
6.	Develop the Strategic Plan	16
7.	Select the Migration System	17
8.	Perform Business Process Modeling	21
9.	Perform Data Modeling	26
10.	Develop Improvement Options	28
11.	Prepare the Functional Economic Analysis	29
12.	Prepare the Data Management Plan	33
13.	Prepare the Technical Management Plan	35
14.	Execute the Approved Changes	37
15.	Information System Development	39
16.	Revise Baseline and Seek Further Improvement Opportunities	41
17.	CIM Functional Area Oversight Reviews	42
18.	Documentation	42
19.	Responsibilities and Points of Contact	45

a. Each OSD Principal Staff Assistant is responsible for the development of functional objectives; analysis of the business processes, data, and supporting information systems needed to satisfy those objectives; development of necessary process, data, and systems changes to streamline operations and improve cost effective performance; and implementation of the process, data, and systems changes. Each OSD Principal Staff Assistant must perform this functional management process as an ongoing, iterative activity. The Director of Defense Information and the DISA Center for Information Management provide methods, tools, training, and technical assistance in their application.

b. The CIM functional management process described in this Section of the Instruction is a major subset of the overall corporate IM process. Because the success of CIM depends on improving the way in which DoD conducts its business and mission activities -- not merely on the more efficient application of information technology -- the CIM functional management process is the key element of the Defense IM program. **Paragraph 3 (Background and Scope)** positions the functional management process within the overall corporate IM process.

(1) Functional areas and subordinate business activities are identified for application of the corporate IM process, and the functional proponent -- the OSD Principal Staff Assistant -- is identified as the individual having the responsibility, authority, and accountability for CIM implementation within that functional area. **Paragraph 4 (Functional Scope of Corporate Information Management)**.

(2) The OSD Principal Staff Assistant develops a functional architecture, that defines the scope of the functional area and its business activities; documents current and future business methods, management processes, and data structures; establishes objectives and performance targets; and reflects decisions on the level of process standardization to be achieved. Concurrently, a time-phased implementation plan is established for executing the CIM functional management process within the functional area. **Paragraph 5 (Establish the Functional Architecture)**.

(3) To achieve the functional objectives, the OSD Principal Staff Assistant develops a strategic plan for the functional area, plus supporting strategic and implementation plans for each business activity within the functional area. **Paragraph 6 (Develop the Strategic Plan)**.

(4) Information systems supporting the functional area and business activities are reviewed to select the CIM migration system(s). **Paragraph 7 (Select the Migration System)**.

(5) Business processes within each of the functional area's business activities are examined to eliminate non-value added processes, and to simplify and streamline (redesign) those processes that do support the mission of the Department. Business process redesign is an iterative effort that begins with resolution of outstanding issues to create a process baseline, and continues through formal process modeling to identify and document potential operational improvements. **Paragraph 8 (Perform Business Process Modeling)**.

(6) Data modeling is performed to document the information requirements of the business activity, and to support data element standardization and data administration. **Paragraph 9 (Perform Data Modeling)**.

(7) Business process redesign leads to the identification, evaluation, and selection of improvements to the way each business activity operates, leading step-by-step toward implementation of the OSD Principal Staff Assistant's functional objectives. **Paragraph 10 (Develop Business Process, Data, and Information System Improvement Options)**.

(8) Each decision, beginning with migration system selection and continuing through iterative business process redesign, is made through the use of functional economic analyses (**Paragraph 11**), and supporting data management plans (**Paragraph 12**) and technical management plans (**Paragraph 13**).

(9) The OSD Principal Staff Assistant prototypes and implements the decision. The implementation plan for the business process changes is supported by a statement of work (SOW) defining required information system changes to be executed by a technical developer. **Paragraph 14 (Execute the Approved Process, Data, and System Changes)**.

(10) Information system changes are designed and implemented in accordance with both the OSD Principal Staff Assistant's functional objectives, and architectures and standards that progressively migrate the system toward the corporate IM target technical environment. **Paragraph 15 (Information System Development to Support Business Process Improvement)**.

(11) Each successfully implemented process, data, and system change causes update of the previous baseline, review and

revision of the functional architecture and objectives, and a new sequence of business process redesign steps. Paragraph 16 (**Revise Baseline and Seek Further Improvement Opportunities**). Corporate IM functional area reviews and individual information system life cycle management reviews are conducted as required. Paragraph 17 (**CIM Functional Area Reviews**).

### 3. BACKGROUND AND SCOPE

**NOTE: This paragraph is intended to provide context when Section 5A is separated from the remainder of the Instruction for independent distribution. It would not be included in the published Instruction.**

a. All DoD mission activities depend on complete, accurate, and consistent information being available to decision makers on a timely basis. The Department has long recognized the importance of information management. In the past, however, information resources management in DoD tended to concentrate primarily on automated information systems and their associated technology. Through the Defense information management program, the Department will emphasize the primacy of functional requirements and the supporting role of information technology. The Defense corporate IM initiative implements this Defense IM program emphasis, as well as traditional information resources management requirements.

b. The Department recognizes that important gains can be achieved by continuous critical evaluation and restructuring of the way DoD missions are accomplished and supported. OSD Principal Staff Assistants exercise the authority and responsibility to simplify and streamline functional processes Department-wide. DoD operations will evolve toward integrated Department-wide processes, standard data definitions, and standard information systems in support of the Unified Commanders-in-Chief. Sound business principles will be applied to achieve these objectives.

c. The Defense corporate IM initiative provides the policy and procedural framework to guide the redesign of functional processes, data requirements, and supporting information systems. The Department is establishing Defense-wide standards for data and information technology, and is implementing a centrally-managed infrastructure for computing and communications, supporting responsibility exercised at all levels for information security and system security. The infrastructure and other information technology services will be provided on a fee-for-service basis to the functional officials who receive those services.

d. DoD OSD Principal Staff Assistants have the responsibility and authority to define functional requirements and evaluate current business processes, data, and supporting information systems. This includes development and justification of streamlined and standardized alternatives to current processes, and implementation of the improved processes across the Department. This is an iterative process, beginning with elimination of

non-value added activities, and continuing through increasingly more rigorous analyses to identify changes in the way missions and business activities are accomplished. The OSD Principal Staff Assistant:

(1) Identifies business activities within the functional area, and designates Business Activity Program Managers to perform CIM functional management activities on the OSD Principal Staff Assistant's behalf.

(2) Undertakes an iterative program of business process improvement involving steps to:

(a) Set functional objectives and business activity objectives; determine the business management strategy to be followed in streamlining and standardizing processes; develop data standards and implement standard information systems; and resolve issues that arise among business activities or across functional areas.

(b) Analyze business processes by establishing functional, data, and information system baselines; and conducting formal business process redesign to identify alternatives to the baseline management processes.

(c) Evaluate alternatives both economically (through a functional economic analysis) and technically (through a data management plan and a technical management plan) to select a preferred course of action.

(d) Execute the approved process changes and provide functional oversight of any associated information system changes. Technical developers provide system changes on a fee-for-service basis in response to the OSD Principal Staff Assistant's validated customer requirements, and in conformance with a DoD-wide technical integration strategy.

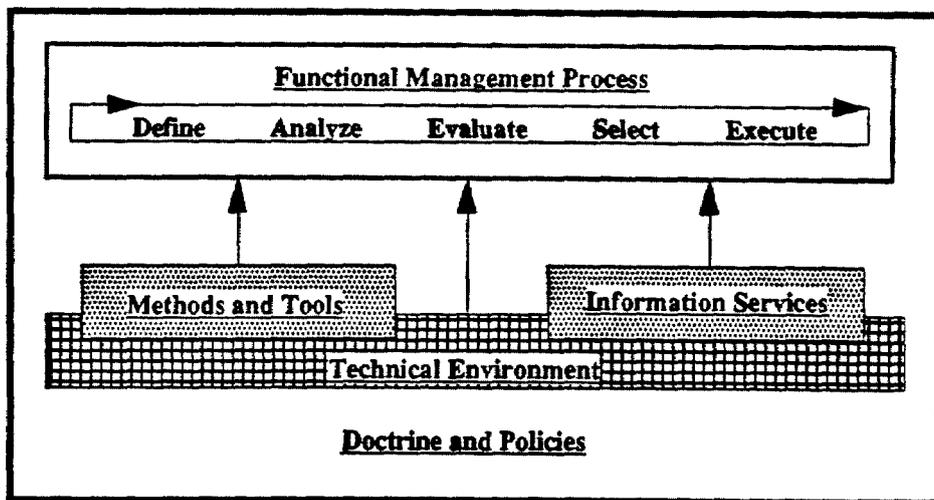


Figure 5.2: ELEMENTS OF THE CORPORATE IM PROCESS

e. Section 5A only addresses the **CIM functional management process**. It does not address all elements of the corporate IM initiative. Other elements of CIM are not covered in detail in this Section. These other elements are addressed elsewhere in this DoD Instruction, and include:

(1) **Doctrine and policies** through which the acquisition, development, implementation, and use of information technology within the Department is centrally managed for purposes of increased effectiveness and efficiency.

(2) Creation of an underlying **technical environment** to guide information system changes toward more effective and efficient management and dissemination of information. This underlying technical environment includes standards for data and information technology, architectures (technical frameworks) that promote system interoperability and information sharing, and standard methods and tools for software engineering.

(3) Programs to provide common **information services** as centrally developed and implemented utilities, so that value-added functions such as communications, data bases, data standards and directories, information and system security, information interchange, software distribution, and appropriate other centrally acquired standard information technology components are provided on a fee-for-service basis to facilitate development of the information system applications that support the functional areas and business activities of the Department.

(4) Development of **methods and tools**, and the expertise to assist the OSD Principal Staff Assistant in conducting business process redesign; evaluating process, data, and information system alternatives; and managing the technical transition toward the approved functional objectives and business activity objectives.

f. Directly or indirectly, the OSD Principal Staff Assistant is a customer for these other elements of CIM. The OSD Principal Staff Assistant participates in setting requirements and priorities that these aspects of CIM must address, and depends on their availability to implement successfully the functional management process for CIM. This Section of the Instruction addresses how the OSD Principal Staff Assistant uses or benefits from these other elements of CIM, but does not describe how they are accomplished.

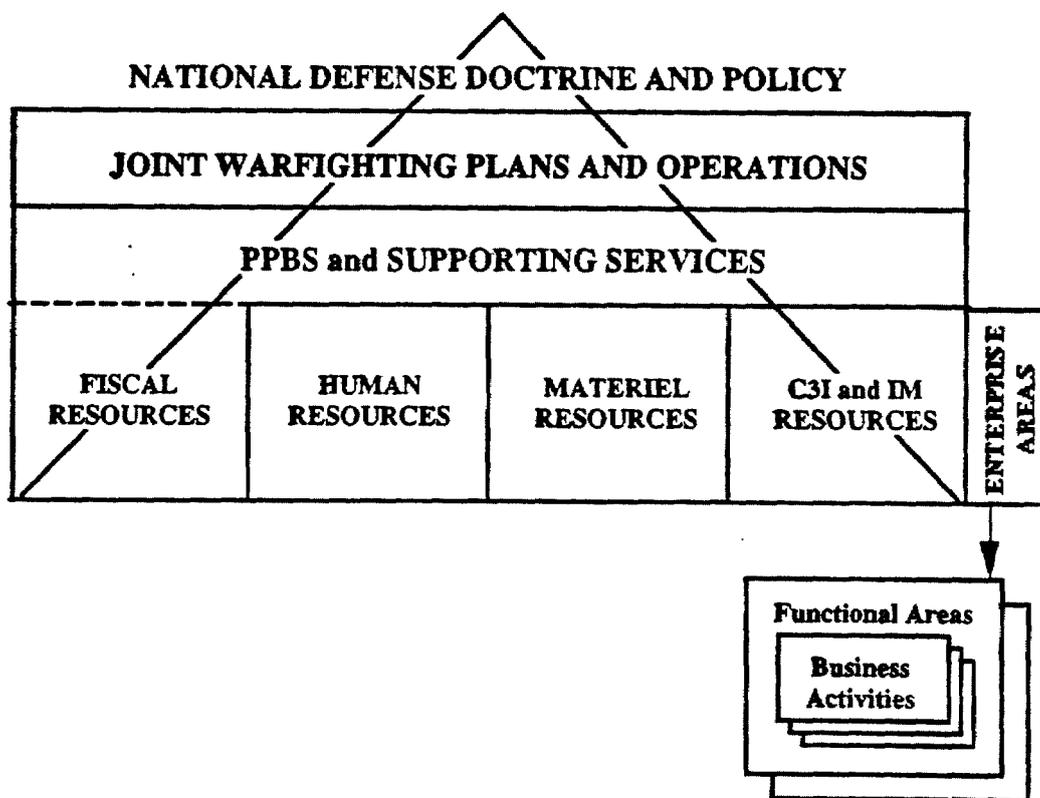
#### **4. FUNCTIONAL SCOPE OF CORPORATE INFORMATION MANAGEMENT**

The corporate IM initiative does not yet address all functional areas of the Department. The intent of the Defense IM program is that the functional scope of the CIM initiative will be progressively extended until it encompasses all areas of DoD operations.

a. Initially, eight "functional groups" were identified for inclusion in the CIM initiative: civilian payroll, contract payment, financial operations, government furnished materiel, civilian personnel, medical, distribution centers, and materiel management. As the DoD Enterprise Model (depicted below; see Section 5D of this Instruction) was developed, it became apparent that these were not primary functions of the Department, but rather parts of functions.

b. The DoD Enterprise Model provides structure and definition to the relationships within and among the major enterprise areas and their constituent elements. It also illustrates the overall relationship between the joint warfighting mission of the Department and the major enterprise areas (and their constituent functional areas and business activities) that provide essential support to joint warfighting requirements. Four major enterprise areas have been defined, each made up of one or more functional areas. In turn, each functional area is made up of one or more business activities. The four enterprise areas are:

- Provide Fiscal Resources
- Provide Human Resources
- Provide Materiel Resources
- Provide Command, Control, Communications, Intelligence, and Information Management Resources



**Figure 5.3: DoD ENTERPRISE MODEL**

c. Within the four enterprise areas, seven functional areas have currently initiated CIM activity.. To support identifica-

tion of OSD Principal Staff Assistants, these seven CIM functional areas had to be directly linked to a responsible Assistant Secretary of Defense or other OSD proponent. The current CIM functional areas and their OSD Principal Staff Assistants are:

<u>Functional Area</u>	<u>Enterprise Area</u>	<u>OSD Principal Staff Assistants</u>
Human Resources	Provide Human Resources	ASD, Force Management and Personnel
Medical	Provide Human Resources	ASD, Health Affairs
Reserve Affairs	Provide Human Resources	ASD, Reserve Affairs
Finance	Provide Fiscal Resources	Comptroller of the DoD
Procurement	Provide Materiel Resources	Dir, Defense Procurement
Materiel	Provide Materiel Resources	ASD, Production and Logistics
C <sup>3</sup> I	Provide C3I/IM Resources	ASD, C <sup>3</sup> I

d. Within the seven functional areas that have initiated corporate IM activity, specific business activities have been identified for the initial CIM focus. The business activities identified for this initial CIM focus only partially encompass the overall scope of these CIM functional areas. The initial CIM business activities are:

<u>Functional Area</u>	<u>Business Activities</u>
Human Resources	Civilian Personnel
Medical	Core Medical Activities Medical Logistics Dental Activities Blood Management Theater Medical Management
Reserve Affairs	Reserve Affairs
Finance	Civilian Payroll Travel Payments Military Retiree Payroll Military Annuitant Payroll Military Pay (Active/Reserve Forces) Contract Payment Finance Operations
Procurement	Procurement Contract Administration

Materiel

Materiel Management  
Distribution Operations  
Depot Maintenance  
CALs, EDI, and Electronic Commerce  
Environment  
Food Service Management

C<sup>3</sup>I

Command, Control, Communications  
Intelligence

e. Roles and responsibilities for CIM implementation are addressed in reference (a) and in Section 4A of this Instruction. The key functional participants are:

(1) The OSD Principal Staff Assistant, who exercises final responsibility, authority, and accountability for business process improvement within the functional area.

(2) The Business Activity Program Manager (see paragraph 5), who is designated by the OSD Principal Staff Assistant, and who is responsible for executing the functional management process within the specified business activity.

(3) The Functional Steering Committee, which is established by the OSD Principal Staff Assistant to provide a forum for Component participation, coordination, and approval of business process improvement undertaken within the functional area.

(4) The Information Policy Council (IPC) and its Corporate Functional Integration Board (CFIB), which provide forums for functional and information managers to exchange a full range of views about Defense IM policies and their application within the functional areas of the Department.

f. The decision to initiate CIM activity in additional functional areas is jointly agreed to by the OSD Principal Staff Assistant and the DoD Senior IM Official. Identification (or re-definition) of additional business activities within a CIM functional area is the responsibility of the OSD Principal Staff Assistant and the Functional Steering Committee, with the concurrence of the Director of Defense Information (DDI). The role played in these decisions by the DoD Senior IM Official and the DDI in these decisions stems from the requirement to plan and prioritize the application of IM technical resources (staff and funding) to support the OSD Principal Staff Assistant in CIM implementation within the functional area.

g. Issues will arise concerning inter-functional boundaries. These issues may relate to business processes that share use of a single information system such as that used for contract administration (part of the Procurement functional area) and contract payment (part of the Finance functional area), or to the need for multiple business activities to use data created in another functional area (such as the need for military personnel data to support business processes in the Finance, Medical, and Reserve Affairs functional areas).

(1) Since inter-functional integration of business processes and data requirements is a common aspect of CIM implementation, special standing or ad hoc groups will be established as necessary to develop a coordinated approach that is then implemented within each affected functional area.

(2) The affected OSD Principal Staff Assistants will resolve outstanding issues in a timely manner. Any issues that cannot be resolved will be staffed through the DoD Senior IM Official (the ASD(C<sup>3</sup>I)) to the Deputy Secretary of Defense for resolution.

## **5. ESTABLISH THE FUNCTIONAL ARCHITECTURE**

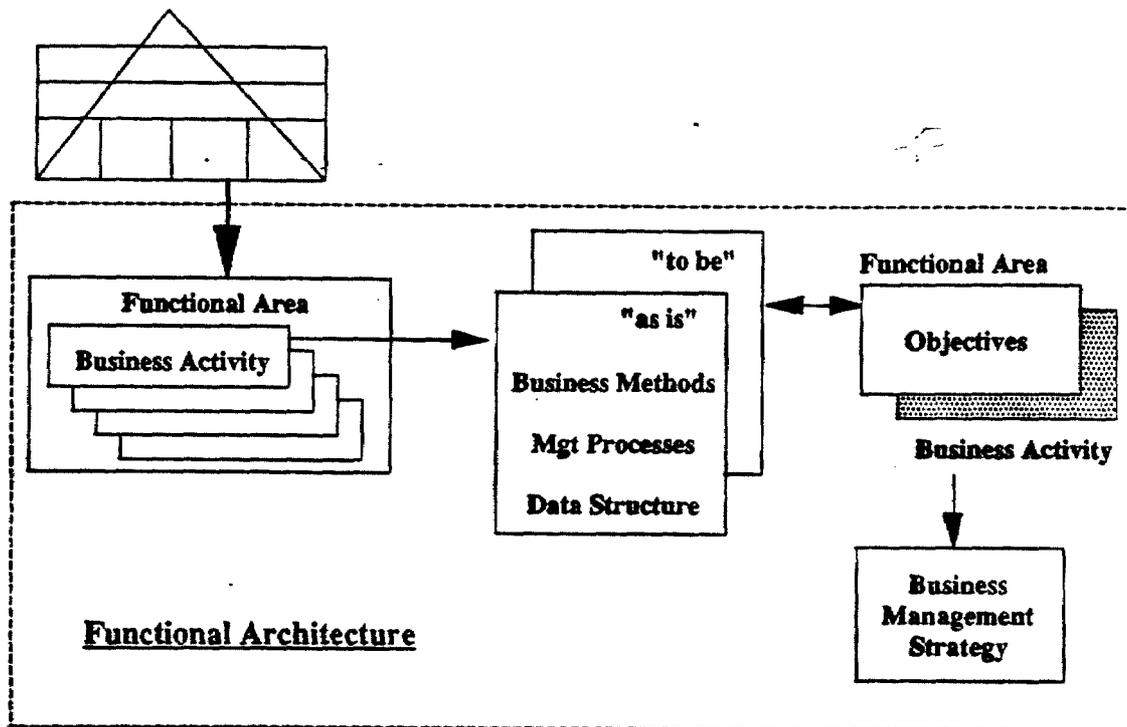
a. The first step in the CIM functional management process is development of the functional architecture by the OSD Principal Staff Assistant.. The functional architecture defines both the baseline "as is" environment, and the target "to be" environment for the functional area, plus any intermediate states that may be appropriate. Initially, this is done at a very high level of aggregation. As business process redesign proceeds, the functional architecture evolves to greater degrees of detail and precision. The functional architecture is composed of several parts, each of which is maintained under configuration control by the OSD Principal Staff Assistant. The functional architecture:

(1) Defines the overall scope and mission of the functional area and its subordinate business activities within one of the four enterprise areas of the DoD Enterprise Model.

(2) Defines the baseline ("as is") and target ("to be") business methods, management processes, and data structure for each business activity.

(3) Establishes the functional objectives, and the functional performance measures and targets for the functional area, and each of its constituent business activities.

(4) Determines the business management strategy to be adopted in defining and implementing streamlined business processes across the Department.



**Figure 5.4: DEFINING METHODS, OBJECTIVES, AND STRATEGY**

b. Scope and mission of the functional area and its business activities.

(1) The functional area must be well defined and well bounded within one of the DoD Enterprise Model's four enterprise areas. Issues of scope and mission for the functional area must be resolved (insofar as possible) before the OSD Principal Staff Assistant begins business process improvement. It is essential to establish responsibility and accountability before work begins.

(2) After defining the scope of the functional area and addressing any boundary issues, the OSD Principal Staff Assistant identifies and defines the business activities within the functional area. The business activities must be totally exhaustive and mutually exclusive within the functional area, even though business process improvement may not be undertaken concurrently or at the same pace in each activity. Definition of the business activities should not only consider the current organizational and operational perspectives within the functional area, but must also consider other ongoing "management structure" activities such as unit cost definitions and Defense Business Operations Fund (DBOF) business activity definitions.

(3) For each business activity, the OSD Principal Staff Assistant designates a Business Activity Program Manager who is responsible for execution of the functional management process within the specified business activity. A Business Activity

Program Manager may be responsible for more than one business activity.

c. Baseline and target business methods, management processes, and data structure.

(1) Business methods, management processes, and data structures and rules are next defined for each business activity, and integrated across the functional area. Initially, the business methods and management processes are expressed as a set of qualitative statements, which later are iteratively transformed during business process redesign into a set of formal process models (see paragraph 8 of this Section). Initially, the data structure and rules are probably a set of references to existing data documentation; these are replaced through both business process redesign and ongoing data standardization efforts with a set of formal data models (see paragraph 9 of this Section).

(a) Baseline "as is" business methods, management processes, and data structures and rules document how the business activity operates now, and define the environment from which business process redesign proceeds.

(b) Target "to be" business methods, management processes, and data structures and rules represent how the business activity will operate in the future when business process improvement actions have been implemented. Intermediate targets may also be appropriate, depending on the nature and scope of the improvement actions.

(2) The functional architecture is the repository for process models developed during business process redesign. The OSD Principal Staff Assistant is responsible for ensuring integration of these process models across the business activities within the functional area. Integration and coordination of process models between and among functional areas is accomplished by the affected OSD Principal Staff Assistants, and reflected in appropriate changes to each functional architecture impacted. The DoD-wide Enterprise Model, maintained by DISA, is the central repository for management of approved "as is" and "to be" process models.

(3) Because data modeling and data element standardization is a DoD-wide activity conducted as part of the DoD data administration program, the functional architecture is not the principal repository for data models developed during business process redesign. The DoD data repository stores and manages data models under configuration control. The functional architecture may contain copies of these data models, or references to them. The functional data administrator (FDAd) integrates data models into a functional information architecture (or data architecture). The Business Activity Program Manager and the FDAd share the responsibility of reconciling the process models in the functional architecture and the data models in the functional information architecture.

(4) Comparison of baseline and target business methods and management processes provides input for development of functional objectives and business activity objectives, and are revised or refined when those objectives are established and approved.

d. Functional objectives, business activity objectives, performance measures, and performance targets.

(1) Functional objectives document the intentions and commitment of the OSD Principal Staff Assistant to improve the operations of the functional area. Functional objectives (sometimes referred to as the Functional Vision) must be linked to joint warfighting requirements established by the Chairman of the Joint Chiefs of Staff and the Combatant Commanders-in-Chief, as well as planned improvements in peacetime effectiveness and efficiency, and must address both seamless peace-to-war/contingency transition and post-wartime/contingency return to a peacetime environment.

(a) Functional objectives provide the framework for accomplishing the missions and business activities of the functional area in the future (employing the target "to be" business methods, management processes, and data structures), define the planned organizational structure and describe required information system support. Functional objectives are developed from the top down, not assembled upwards from sub-objectives created at lower levels of operation within the functional area.

(b) Functional objectives must support a long range view (10+ years) of the operation of the functional area within the Department, but must also focus specifically on the OSD Principal Staff Assistant's operational goals for the next five year period. This provides a consistent management framework within which the OSD Principal Staff Assistant can direct improvements in business processes. This framework is also used to establish the priorities for review of specific business activities within the functional area, as well as the specific midterm and long range objectives for each subordinate business activity.

(2) The functional objectives next must be translated into supporting business activity objectives to serve as the focus for execution of the CIM functional management process within each business activity. Business activity objectives document what the Business Activity Program Manager must accomplish to support the OSD Principal Staff Assistant's functional objectives.

(3) Performance measures are defined so that a quantifiable and verifiable basis will exist for assessing progress toward achieving the functional objectives and business activity objectives (see Section 5G of this Instruction). For a unit cost business activity, the performance measures must include all unit cost measures, as well as others appropriate to the business activity. For each performance measure, performance targets (and baseline actuals) are established for the full ten-year planning

horizon of the functional objectives and business activity objectives.

(4) The functional objectives, business activity objectives, performance measures, and performance targets must be developed with the participation of functional staff representatives from the DoD Components, as well as from the OSD staff.

e. Business management strategy.

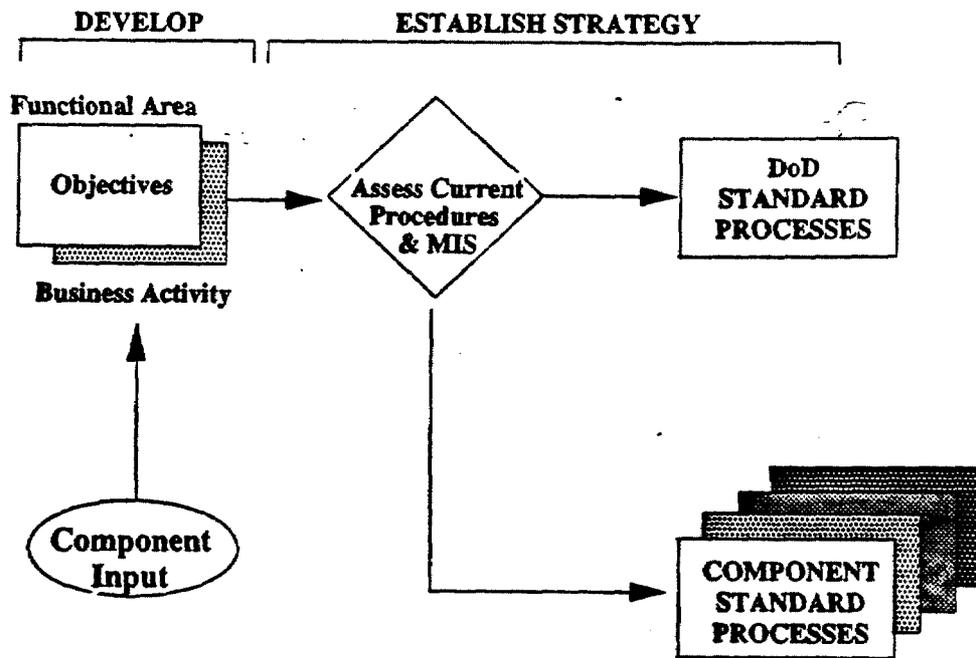
(1) The business management strategy reflects the OSD Principal Staff Assistant's decision on the scope of business process standardization across the Department of Defense. The business process standardization decision may be made for an entire functional area, but is normally made individually for each business activity. The presumption is that processes will be standard DoD-wide unless specific analysis justifies standardization at the DoD Component level. Component-level standardization decisions are made individually. For example, one DoD Component may be authorized by the OSD Principal Staff Assistant to retain Component-level standard processes, while all other Components must implement common processes.

(a) No matter whether DoD-wide or Component-wide business processes are approved, the OSD Principal Staff Assistant retains responsibility, authority, and accountability for management oversight of the functional area. Responsibility, authority, and accountability cannot be delegated simply because business processes are not standard at the DoD-level.

(b) The scope of information system standardization is a separate decision addressed in paragraph 7 of this Section. DoD-wide data standardization and a DoD-wide standard technical environment are applicable, regardless of decisions on process or system standardization.

(2) Standardization of business processes is not accomplished for the sake of standardization alone. Standardization is accomplished when the OSD Principal Staff Assistant and Component counterparts determine that mission responsibilities and business operations will be performed more effectively and more efficiently through the use of standard processes. The presumption in favor of Department-wide standardization of business processes reflects the belief that use of non-standard processes generally reduces overall effectiveness and efficiency.

(3) Following its development, the OSD Principal Staff Assistant presents the business management strategy to the Information Policy Council, together with the time-phased plan for proceeding with migration system selection and business process redesign (see paragraph 6 of this Section).



**Figure 5.5: DETERMINE THE BUSINESS MANAGEMENT STRATEGY**

(4) Responsibility for implementation of business process improvement follows from the business management strategy decision.

(a) When the business management strategy involves establishing DoD-wide standard business processes, the OSD Principal Staff Assistant directs the near-term DoD-wide standardization of operating procedures and data elements, plus establishment of a DoD-wide standard automation baseline (the migration system) from which information system support for the functional area or business activity will transition to the DoD-wide standard technical environment.

(b) When the business management strategy involves retention of separate standard processes within a Component, the Component develops Component-wide functional standards for the business activity, and supports the functional data administrator in developing DoD-wide data standards for the business activity. The Component is responsible for execution of CIM business process redesign, and for development, justification, and resourcing of necessary productivity enhancing process changes. The OSD Principal Staff Assistant is responsible for ensuring that the CIM process is followed and that all relevant CIM standards (functional, technical, and data) are complied with. The OSD Principal Staff Assistant approves proposed changes to Component business processes to ensure compatibility and integration with DoD-wide business processes, within the functional area.

f. Development of the functional architecture is the responsibility of the Business Activity Program Managers designated by

the OSD Principal Staff Assistant. The functional architecture is reviewed and approved by the Functional Steering Committee, and then given final approval by the OSD Principal Staff Assistant.

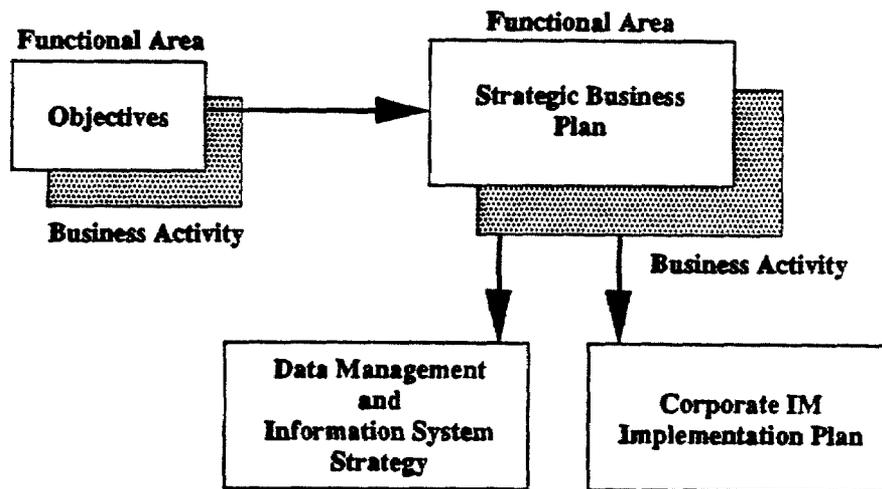
**6. DEVELOP THE STRATEGIC PLAN**

a. Approval of the functional architecture leads to development of a series of time-phased strategic planning documents through which the corporate IM process will be executed to achieve the functional objectives and business activity objectives.

(1) The strategic business plan for the functional area identifies the significant actions that will be taken across the entire functional area over the ten-year planning horizon addressed by the functional objectives.

(2) The strategic business plan for the business activity identifies in greater detail the actions that will be taken within the individual business activity to achieve the business activity objectives, and to support the strategic business plan for the overall functional area.

(3) The data management and information system strategy is a summary-level technical document describing the objectives and the significant actions that will be taken in the areas of data standardization, data management, and information system modernization/migration to support the strategic business plan for the business activity. This document integrates and summarizes the technical plans developed by the functional data administrator (FDAd) and the Technical Integration Manager (TIM), and specifically relates those plans to the elements of the strategic business plan that they support.



**Figure 5.6: STRATEGIC PLANNING**

b. The strategic business plans are developed by the Business Activity Program Manager and Component counterparts, reviewed and

concurrent with by the Functional Steering Committee, and approved by the OSD Principal Staff Assistant. The data management and information system strategy is developed jointly by the Business Activity Program Manager, the FAd, and the TIM. It is reviewed and concurred with by the Functional Steering Committee and the DoD Senior IM Official, and approved by the OSD Principal Staff Assistant.

c. Time-phased CIM implementation plans for each business activity in the functional area are prepared concurrently with the functional architecture and the strategic business plans. These plans specifically address the near-term actions that will be taken to implement corporate IM policies and procedures within the business activity. CIM implementation is expected to proceed unevenly, with work in some business activities and business processes well advanced over work in others. These plans are developed by the Business Activity Program Manager, reviewed by the DDI for IM resource implications, and approved by the OSD Principal Staff Assistant.

## **7. SELECT THE MIGRATION SYSTEM**

a. Migration system selection reflects the OSD Principal Staff Assistant's decision on the scope of information system standardization across the Department of Defense. The presumption is that information systems supporting a business activity will be standard DoD-wide unless specific analysis justifies standardization at the DoD Component level. DoD-wide standard information systems may be appropriate, even though business processes are standardized at the Component level. DoD-wide data standardization and the DoD-wide standard technical environment are applicable, regardless of decisions on the level of process or system standardization. Migration system selection is based on preparation of an abbreviated functional economic analysis (FEA), a data management plan (DMP), and a migration system technical management plan (TMP) as described in paragraph 7g.

b. "CIM systems" are those information systems within a CIM functional area which have been formally designated as either "CIM migration systems" or "CIM standard systems" based on application of the functional management process described in this Section of the Instruction. Designation as a CIM system is a result of applying the functional management process, not a delimiter of the business processes to which the Defense IM program and the corporate IM initiative are applied. The categories of information systems within a CIM functional area are:

(1) A "CIM migration system" is an information system within a CIM functional area that has been selected and designated as the standard system to support standard business processes for a business activity. However, a CIM migration system has not yet undergone transition to the standard technical environment and data standards being established through the corporate IM initiative, and must "migrate" toward that standard environment. Migration systems can exist at DoD-level or at Component-level.

If the business activity has DoD-level standard processes, then it should be supported by a DoD-level migration system. If the OSD Principal Staff Assistant's business management strategy calls for Component-level standard processes, then a DoD-level migration system may still be appropriate.

(2) A "CIM standard system" is a migration system within a CIM functional area that has completed the transition to the DoD-wide standard technical environment and data standards.

(3) All other information systems. These systems are either: (a) Awaiting review; (b) In the process of being reviewed; or (c) Have been reviewed and found to be either functionally unacceptable, or competitive with a designated CIM migration system or CIM standard system.

c. Information systems awaiting review in current CIM functional areas are equivalent in all respects to information systems outside current CIM functional areas. Defense IM program technical requirements including DoD data standards and data administration (see Section 6C1 of this Instruction), information technology standards established in the Technical Reference Model (see Section 6C4), the DoD standard software engineering environment (see Section 6D3), and information service utilities (see Section 6D7) apply fully. The business processes supported by these "awaiting review" systems will be addressed in accordance with the OSD Principal Staff Assistant's time-phased CIM implementation plan, at which point the information systems will be reviewed and dispositioned.

d. If there is only one existing information system for a given business activity, and it is acceptable functionally for application by all users, it is -- de facto -- a CIM migration system and becomes the "as is" technical baseline for the CIM process.

e. When there are multiple existing information systems supporting the same process(es) within a business activity, the OSD Principal Staff Assistant selects one as the CIM migration system. Migration system selection is based on a review of the adequacy of existing business processes, data standards, and information systems to serve as the "as is" functional and technical baselines for business process redesign. The selection is made in full consideration of the functional and technical aspects of the CIM functional objectives and the time-phased implementation plan to achieve them:

(1) If the business management strategy is to adopt DoD-wide standard processes, then a DoD-wide standard system is selected to support those processes, and all information processing operations are moved to the DoD-wide standard system.

(2) If the business management strategy is to adopt Component-level standard processes, then each Component expeditiously identifies its proposed Component migration system, obtains OSD Principal Staff Assistant approval, and moves all operations to the standard system. Before approving a Component standard

system, the OSD Principal Staff Assistant reviews the Component proposals to determine whether or not a single DoD-wide standard system should be designated.

(3) Upon designation of a DoD-level or Component-level migration system, no further development and modernization funding (except that required to meet externally directed "fact of life" changes) is applied to the competing information system(s) that were not selected, and are to be phased out.

f. If, upon review of all existing information system alternatives, the OSD Principal Staff Assistant determines that, although a DoD-wide standard information system is appropriate, none of the existing systems are acceptable as the DoD-wide migration system, then no migration system is established for the business activity. In these cases, all information system development/modernization (except that required to meet externally directed "fact of life" changes) is deferred. After completion of the full business process improvement program and preparation of functional economic analyses, data management plans, and technical management plans, development and modernization funds are made available to support the new, approved DoD-wide CIM standard system.

g. An abbreviated functional economic analysis (see paragraph 11 of this Section), a data management plan (see paragraph 12 of this Section), and a migration system technical management plan (see paragraph 13 of this Section) are developed to support the migration system decision.

(1) The abbreviated functional economic analysis documentation required to support the designation of a CIM migration system (or a CIM standard system) includes the material described in paragraph 11 of this Section of the Instruction, with particular emphasis on:

(a) Discussion of the relevant functional objectives; the business processes, data use/interchange, and information systems evaluated; the evaluation methodology, and the functional and technical factors used as decision criteria.

(b) The decision: (i) a DoD-wide migration system; (ii) Component-wide migration system; (iii) selection not appropriate. An explanation addresses all relevant issues in the decision process.

(c) Timeline for transition, and cost deltas from baseline processes by year, appropriation, and funding organization. Transition includes any modernization to meet the minimum functional needs of the users of the system, as well as termination of alternative systems not selected, and conversion of the user community from the terminated system to the designated system.

(2) The data management plan includes:

(a) The impact of migration system selection on the "as is" (baseline) functional data architecture for the functional area or business activity.

(b) An assessment of the extent of data element standardization within the information system, timeline and cost for transition of the system to use of standard data elements, and impact of data element standardization on migration of the system toward the DoD-wide standard technical environment.

(c) Scope (functional area, business activity, or multiple business activities) and level-of-detail (entity-relationship, key based) descriptions of any data model that supports the selection.

(3) The migration system technical management plan includes:

(a) Existing information system documentation of systems selected as DoD-wide or Component-wide migration systems.

(b) Technical baseline and post-transition technical baseline: Site, information technology characteristics, hardware, operating environment, communication network capabilities, data standardization, interfaces to other applications or systems.

(c) Conversion dates for each site to the migration system technical solution.

h. A single POM/budget process, which recognizes that that CIM will ultimately address the functional requirements of all major DoD activities, applies to all DoD information system (see Section 8A of this Instruction). Systems are differentiated by the Information Technology Category (ITC) to which they are assigned, in accordance with current POM Preparation Instructions. As these categories are currently defined, CIM migration systems and CIM standard systems would be classified as ITC B or ITC C systems, based on their designation as DoD-standard or Component-standard systems. All other information systems within a CIM functional area would be classified as ITC D or ITC F. Information systems in functional areas not yet addressed by CIM would be classified as ITC E or ITC F.

i. To support DoD-level resourcing of the designated migration system (both DoD-level and Component-level), Component resources associated with information system development and modernization will be transferred to Defense agency accounts at the first available PPBS event (Program Decision Memorandum or Program Budget Decision). The Comptroller of the Department of Defense, in coordination with the ASD(C<sup>3</sup>I), will take appropriate action to realign execution year funds.

## 8. PERFORM BUSINESS PROCESS MODELING

a. Through modeling, a rigorous and structured methodology is applied to develop and document the baseline ("as is") and target ("to be") business processes and information requirements of a business activity. The Business Activity Program Manager applies a standard methodology called IDEF (Integrated DEFinition language) to develop two types of models, using procedures and standard software tools provided by the Director of Defense Information: Technical assistance in all aspects of CIM implementation is available to the OSD Principal Staff Assistant on a fee-for-service basis from the DISA Center for Information Management.

(1) Process models (or activity models) of the processes that make up the business activity. Process models show inputs, outputs, controls, and mechanisms (tools) through which the business activity is conducted, and become part of the functional architecture (see paragraph 5 of this Section). Activity costs are linked to the process models to provide data needed for preparation of functional economic analyses. Business process modeling procedures and methodology are discussed in Section 5E of this instruction.

(2) Data models define the entities, their attributes, relationships, and the integrity constraints through which the information created and used by the business activity are managed. Data models are a primary source of information for DoD-wide data element standardization. Data modeling is discussed in paragraph 9 of this Section and in Section 5F.

b. Process modeling supports business process improvement and redesign, and is performed in several stages with increasing levels of detail. Process improvement actions are normally accomplished at the business activity level (rather than the functional area level), and usually are not accomplished at the same pace, emphasis, or priority across all of the business activities within the functional area.

(1) The "as is" business process, data, and information system baselines are established and documented. Known problems and flaws in the business processes are eliminated so that the baselines are in fact a meaningful starting point for business process improvement.

(2) Business processes are evaluated to identify "non-value added" and "limited value added" processes. These are addressed iteratively to obtain the greatest initial savings with the minimum amount of detailed analysis.

(3) Remaining business processes are evaluated in detail to identify and implement more complex process improvements.

c. Initial business process modeling to document the process, data, and information system baselines.

(1) Within the CIM functional management process, certain initial steps are necessary to establish the "as is" baseline for the business activity. Subsequent recurring steps are then taken to implement the incremental improvements needed to achieve simplified, standardized, and streamlined operation of the business activity. Each incremental change redefines the baseline against which subsequent business process redesign is accomplished.

(2) After the functional objectives and business activity objectives have been established, and performance targets have been prescribed, the business processes in use both within OSD and in each of the DoD components must be documented and assessed. The purpose of this assessment is to determine the acceptable process, data, and information system baselines from which to begin business process redesign. There is no point in launching a major business process improvement project until known (or easily identifiable) problems have been addressed. Defining the baselines sets a mature, stable set of processes and data, and a functionally adequate information system as the starting point for the redesign effort. The baselines incorporate easily achievable efficiencies, but are not the optimally efficient process/system; likewise they are adequately, but not optimally, effective.

(3) The process, data, and information system baselines must be established based on both peacetime operations and anticipated wartime operations, to ensure full support of the wartime operational requirements validated by the Joint Staff. In addition, the baselines must address the transition from peacetime to mobilization/wartime operations, and demobilization from wartime to peacetime operations, in terms of both functional operations, data management, and information systems support.

(4) The business process, data, and information system baselines are documented through process modeling in accordance with the business process redesign methodology described Section 5E of this Instruction. Process modeling at this stage is done only at a very high level of aggregation.

d. Initial business process redesign to eliminate non-value added and limited value added processes.

(1) Once the process, data, and system "as is" baselines have been established, the business activity is evaluated to identify streamlining opportunities, consistent with the overall functional objectives and business activity objectives. As opportunities to improve business processes are identified, the appropriate incremental changes to the migration system are also defined. The Business Activity Program Manager documents the required system changes in a Statement of Work (SOW) that is brokered by the Technical Integration Manager (TIM) to a DoD Central Design Activity (CDA) or other Technical Developer (see paragraph 13 of this Section).

(a) The first reviews concentrate on the rapid elimination of "non-value added" processes, allowing the most immediate recoupment of potential savings. An abbreviated functional economic analysis is prepared to document costs and to project/track savings, but is not required to "justify" elimination of the process. A technical management plan is needed if information system changes are involved.

(b) Also sought are "limited value added" processes, which may be necessary for accomplishment of the business activity, but which can be significantly simplified or streamlined.

(c) These changes (and supporting information system changes, if appropriate) may require some level of process and data modeling, but are by definition clearly and easily definable.

(d) With implementation of each set of process, data, and system changes, the baselines are updated and become the new "as is" starting point for business process redesign. This continues iteratively until no further non-value added or limited value added processes can be identified, at which point attention shifts to simplification and restructuring of value added processes.

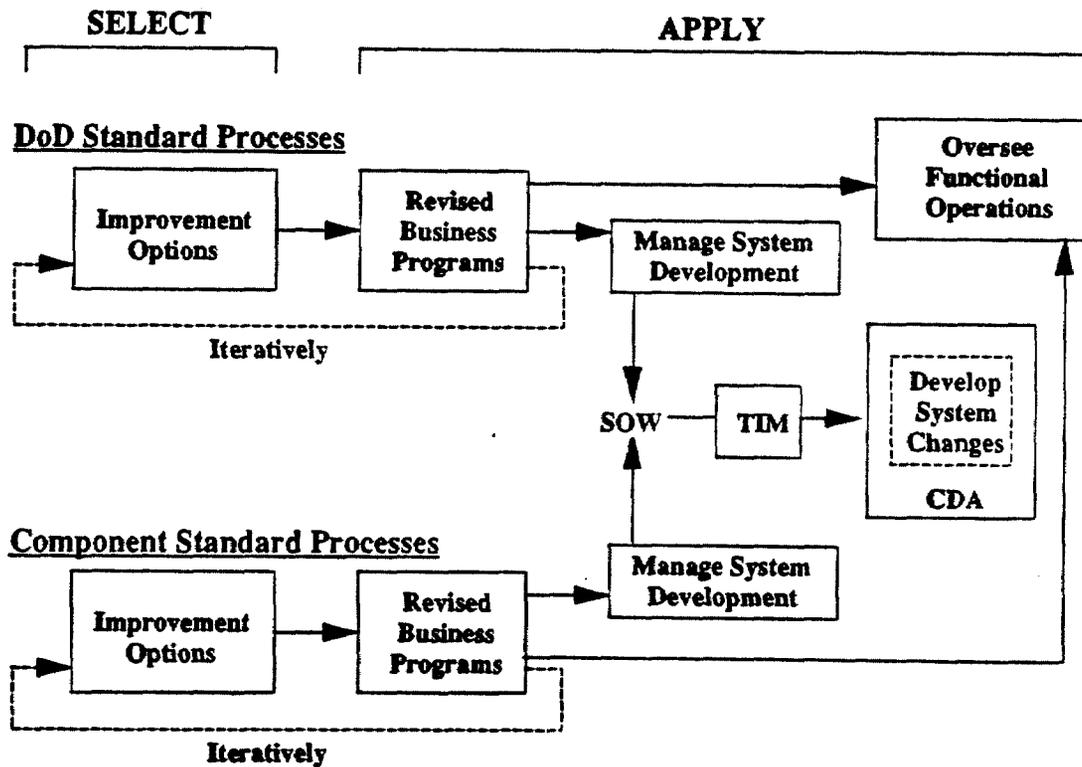


Figure 5.7: ITERATIVE REVIEW PROCESS

(2) Business process redesign continues as long as the business activity supports the DoD mission. In each case, changes are proposed and evaluated, approved changes are implemented, the baselines are revised, and the review is refocused on the relative effectiveness and efficiency of the remaining processes. Each time a proposed business process change is identified, the necessary change(s) to data requirements and the supporting information systems are defined. Thus, CIM system development is accomplished through the rapid application of a series of incremental change packages rather than through the grand design and implementation of an "objective (target) system" over an extended time period.

e. Progressing from eliminating non-value added processes to more complex redesign efforts.

(1) Note that in the early reviews of the business activity, it is possible to identify opportunities for process improvement without completing the full, detailed process and data modeling required in later phases of business process redesign. Use of the streamlined procedures is encouraged to identify high-payoff initial improvements without over-engineering the process.

(2) When all the non-value added and limited value added processes have been reviewed and eliminated or simplified, business process redesign proceeds to the next, more difficult phase of the cycle. This phase uses comprehensive process and data modeling to develop detailed proposals for process streamlining.

(a) Procedures for process modeling are covered in Section 5E. Business activities are modeled to analyze and document their interrelationships, business methods, costs, information systems and related data requirements. The IDEF methodology is used as the standard business process improvement language for producing business process and data models. The objective is to construct a rigorous model of an existing "as is" business process and, by questioning prior assumptions and rules, to design a model of the target "to be" desired future environment of that process from which one or more change proposals can be developed. The target environment should address business methods and practices, data requirements, and information system support needs.

(b) These proposals are then evaluated through preparation of a functional economic analysis (FEA), a data management plan (DMP), and a technical management plan (TMP) to select the preferred proposal. Additional information such as manpower requirements (e.g., skills), desired organizational structure, and capabilities of the underlying technical environment may be needed to prepare these documents. The FEA, DMP, and TMP are then used to manage the implementation process. As changes are identified, justified, and implemented, revised baselines are established and the business redesign cycle continues.

(c) Another critical component of process improvement is the development of measures of activity based cost, as well as measures of quality, productivity, and time-based performance. These measures are linked to the process model and provide a source of information for FEA development (see paragraph 11 of this Section). They also facilitate benchmarking against the best comparable achievements in the public and private sector. Benchmarking helps to identify desirable changes, eliminate inadequate proposals, and assess the reasonableness of costs and savings projected for those proposals that are brought forward for consideration.

(3) Concurrent with business process redesign, the Technical Information Manager (TIM) evaluates information systems supporting the business activity for technical improvements that do not involve changes in business processes. Technical improvements are intended to improve the operational efficiency of the information systems, and to migrate the systems toward an open systems environment that supports fully the interoperability and data sharing objectives of the corporate IM initiative.

(a) Technical improvements are introduced to the migration system through an iterative review, justification, and implementation cycle that mirrors the iterative cycle of business process improvements. The objective is evolutionary transition toward the corporate IM standard data and technical environment.

(b) In each case, these purely technical enhancements to the information systems supporting the business activity are justified through the same functional economic analysis, data management plan, and technical management plan review that is required of a business process improvement proposal.

(c) Wherever possible, technical enhancements are accomplished in conjunction with information system changes supporting the process improvements. However, in preparing a functional economic analysis that covers both process change-related system improvements and unrelated technical enhancements, the costs and benefits of each are segregated so that the OSD Principal Staff Assistant can properly evaluate the changes proposed.

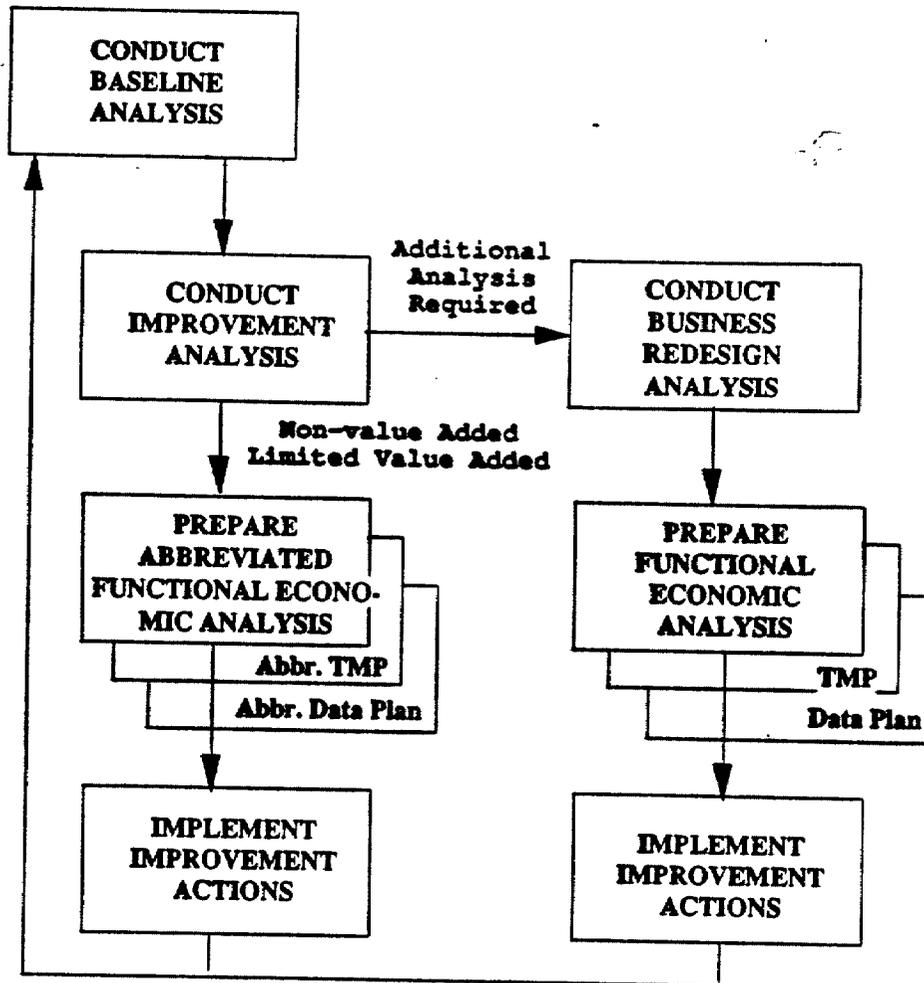


Figure 5.8: BUSINESS IMPROVEMENT PROCESS

## 9. PERFORM DATA MODELING

a. The information requirements needed to support business processes are captured in data models. Data modeling (addressed in Section 5F of this Instruction) serves two purposes:

(1) Data modeling complements process modeling, identifies "as is" and "to be" data and information requirements to support the operations of the business activity, and provides an initial definition of information system requirements that is input to formal software engineering activity.

(2) Data modeling provides a rigorous, structured model of the data (entity definitions, attributes, relationships, and integrity constraints) used by a functional area and business activity, and is the basis for creation of data standards.

b. In conducting business process redesign, data modeling using the standard IDEF modeling methodology should be accomplished to the same level of depth and detail as the process modeling which

it supports. Data modeling as a source for the creation of data standards must be accomplished to the level of a fully attributed, normalized logical data model; this resource intensive degree of modeling should only be undertaken after a business process change has been validated and approved. Existing standard data elements should be used to the maximum extent possible in developing new or revised data models for a business activity. Functional data administrators should use approved data models as a primary source for development of proposed standard data elements under the DoD data administration program, in accordance with the data management plan developed to support implementation of approved changes in processes, data, and information systems.

c. Data modeling should not be accomplished without prior process modeling, which provides a vital context within which to create and validate the data model. Data modeling also frequently identifies necessary or desirable improvements in the process model on which it is based. Often, the creation and refinement of process and data models is itself an iterative process.

d. The DoD Data Administration program identifies the roles and responsibilities of the DoD data administrator, functional data administrators, and Component data administrators. Data modeling in support of business process redesign should not be accomplished in isolation of this management structure.

(1) The same joint functional/technical team that develops the process models supporting the business process improvement project also develops the data models. The functional data administrator (FDAd) for the functional area serves as an advisor, consultant, and reviewer of the data modeling work.

(2) The functional data administrator validates any data model for conformance to the functional architecture before its incorporation in a formal business process change proposal. The OSD Principal Staff Assistant approves the data model as part of the decision made on the business process change proposal.

(3) It is a primary responsibility of the FDAd to integrate data models (and data standards derived from them) across business activities within a functional area, and to work with FDAd's in other functional areas to coordinate and integrate data models and standards across functional areas. Inter-functional area issues that cannot be resolved among affected FDAd's are elevated to the DoD Data Administrator for resolution when they do not affect business processes, and are elevated to the involved OSD Principal Staff Assistants in accordance with paragraph 4 of this Section when business processes are affected.

e. The approved data model is a source for other data standardization activities described in Section 5F and Section 6C1 of this Instruction. These actions result in the creation of approved standard data elements and other standardized data (entities, relationships, etc.) published through the DoD Data Repository. These actions may result in the identification of

changes to the originating data model(s) and implementing information systems. Any such changes become a part of the ongoing business process improvement program managed by the OSD Principal Staff Assistant.

#### 10. DEVELOP BUSINESS PROCESS, DATA, AND INFORMATION SYSTEM IMPROVEMENT OPTIONS

a. In proposing improvement options, it is the responsibility of the Business Activity Program Manager and the OSD Principal Staff Assistant to ensure that the options are feasible from both a functional and technical perspective. Further, when the process changes involve mobilization or wartime support activities, they must obtain the approval of the Joint Staff to ensure that wartime operational requirements can be fully supported with the revised processes and systems.

b. A proposal involves a qualitative and quantitative comparison of the baselines with one or more alternatives. The number of alternatives presented is a professional judgment, and is unique to each situation. Normally, a proposal includes at least two alternatives to the baselines; however, too many alternatives suggests that inadequate preliminary analysis has been conducted to eliminate the less beneficial, higher risk, or inconsequentially different options.

(1) Business process improvement alternatives and investments are evaluated based on value-added unit cost measures, risk assessment, and alignment with functional objectives and business activity objectives. The TIM reviews technical aspects of the information system changes required to support the business process improvement alternatives for conformance to open systems guidelines, technical architectures, and standards, as described in paragraph 15 of this Section. The functional economic analysis (paragraph 11 of this Section and Section 5H of this Instruction) is the basis for choosing among alternatives which have been determined to be both functionally and technically feasible.

(2) Assessment of the improvement options must specifically address how, when implemented, they will enhance the performance of the business activity. This is accomplished through articulation of the "as is" functional performance targets and the new "to be" functional performance targets after implementation of the improvement option. Functional performance here represents measures of customer satisfaction. For example, if responding to a customer's inquiry requires a technical specialist to manually prepare a customized response, then reducing computer processing of the inquiry notice from ten seconds to five seconds is not a legitimate performance measure (see Section 5G of this Instruction). At the least, functional performance should remain constant while operational costs are reduced; optimally functional performance should be improved and operational costs reduced. Reduced functional performance may be traded off for significant cost savings, but only if consistent with the OSD Principal Staff Assistant's functional objectives.

(a) If the business activity is resourced under either unit cost procedures or through the Defense Business Operations Fund, the functional performance targets must be consistent with those used by the Comptroller to evaluate functional and fiscal performance.

(b) If the business activity is not resourced under those procedures, the targets that are established must be quantifiable measures of performance, measurable through existing information systems, and executable within available resources.

(3) Qualitative analysis supplements but does not substitute for the quantitative analysis provided in the functional economic analysis. A dichotomy between these two perspectives suggests that inadequate preliminary analysis has been conducted, and that further effort is required before a fully substantiated set of alternatives is ready for the OSD Principal Staff Assistant's consideration.

(4) The data management plan (paragraph 12 of this Section) and the technical management plan (paragraph 13 of this Section and Section 5I of this Instruction) are evaluation and implementation management tools for the data usage and information system changes proposed to support the business process improvement alternatives. Cost data contained in the data management plan and the technical management plan are input to the functional economic analysis.

c. The Business Activity Program Manager is responsible for completion and submission of the functional economic analysis, the data management plan, and the technical management plan to the OSD Principal Staff Assistant. Through the DISA technical integration management organization, the functional data administrator and the DoD data administration structure, and the Department's existing cost analysis staff, the Program Manager has access to the specialized expertise required to develop sound documentation.

d. The OSD Principal Staff Assistant is responsible for validation and approval of the functional economic analysis, the data management plan, and the technical management plan. The concurrence of the Director of Defense Information (acting as the designee of the DoD Senior IM Official) is required before implementation of information system changes required to support the approved business process improvements. Concurrence of the Director of Defense Information is provided based on an independent review conducted by the DoD data administrator, the TIM, and other elements of the DISA Center for Information Management.

## **11. PREPARE THE FUNCTIONAL ECONOMIC ANALYSIS**

a. A functional economic analysis (FEA) is a decision package that evaluates actions proposed to achieve the functional objectives and business activity objectives, including selection of

migration systems, implementation of business process changes, and (where appropriate) the justification for information system changes needed to support the proposed process changes. An FEA is developed by the Business Activity Program Manager, coordinated with the functional area's Functional Steering Committee, and presented to the OSD Principal Staff Assistant for approval. It is used (1) to present the business case for approving and implementing the proposed action, and (2) to re-examine at appropriate decision points (eg, MAISRC milestones) the business case for continuing or re-directing those actions.

b. An FEA includes an analysis of business process needs or problems, proposed solutions, assumptions and constraints, alternatives, life cycle costs, benefits/cost analysis, and investment risk analysis. An FEA is consistent with and amplifies existing DoD economic analysis policy, with special emphasis on capturing the full risk-adjusted costs and benefits to business activities of proposed changes in processes and systems.

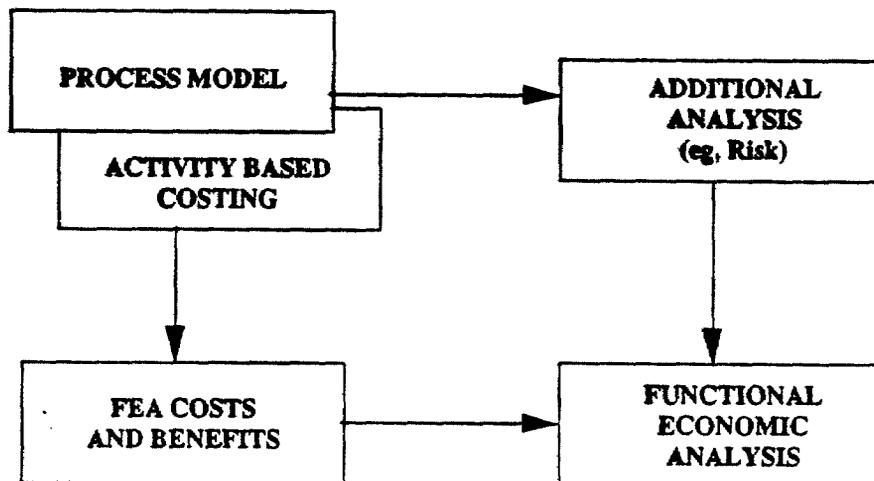


Figure 5.9: PROCESS MODELING, FEA'S, AND ACTIVITY BASED COSTING

c. FEA's are developed both to support decision-making, and to support analysis of benefits achieved against those projected. Business process improvement alternatives and investments are evaluated based on value-added, unit cost measures, risk assessment, and alignment with strategic goals and objectives. Comparison of actual costs and benefits against those projected is a primary basis for decisions on program continuation or redirection.

d. Visibility of projected savings and benefits is established early in business process improvement efforts. This allows early adjustments during execution based on actual benefits achieved. The benefits associated with each alternative being considered are expressed in cash terms, with consideration of program risk. The FEA's for a specific business activity comprise an integrated family of analyses, which link individual efforts and results at various levels to a discrete DoD function or mission. Overall

financial impacts at all levels, both planning and execution, are derived from the roll-up of more detailed FEA's.

e. Both functional managers and financial managers must validate all FEA's. Functional managers validate the complete document, i.e. the need for the investment, completeness of the financial information (both costs and benefits), measurement and reporting methods and schedules, etc. Financial validation includes verification of budget information and verification that anticipated benefits can be measured and do not duplicate benefits projected from actions external to the activity being analyzed.

f. The Business Activity Program Manager refines and updates the FEA as events warrant, reflecting continuing management accountability for costs and benefits and the continued viability of the investment. The functional economic analysis requires a best estimate of anticipated benefits, followed by vigorous, intensive measurement and analysis to ensure realization of the benefits, or early recognition of shortcomings so adjustments can be made.

g. Three types of functional economic analyses have been identified to address a range of applications. These are: (1) the abbreviated FEA, (2) the conventional or comprehensive FEA, and (3) the update FEA.

(1) The abbreviated FEA is a streamlined form which identifies financial information to support initial decisions including: (a) Migration system selection; (b) Elimination of non-value added processes and (c) Simplification of limited value added processes. The abbreviated FEA may also be used internally by the OSD Principal Staff Assistant or the Business Activity Program Manager for "rough order of magnitude" comparisons among process improvement alternatives. This FEA is expected to be prepared using available financial information, and is used to assess and justify new projects, preliminary or threshold decisions, and selections from among competing alternatives where simplified business process redesign/analysis procedures have been followed. The abbreviated FEA follows all the rules of a comprehensive functional economic analysis, but at a reduced level of detail.

(2) The conventional or comprehensive FEA refines and expands upon the abbreviated FEA. The comprehensive functional economic analysis is also used to support a detailed business redesign or information systems design proposal.

(a) The baseline identifies the resources required to perform a business activity, assuming none of the proposed process or system changes are implemented. The preferred method of determining the baseline activity costs uses activity analysis and activity-based accounting principles. Information technology costs should be included but only to the extent that they support the business process.

(b) Alternatives are identified together with their impacts on the baseline, both quantifiable and unquantifiable. Business process alternatives precede consideration of technical alternatives. Normally, a minimum of three environments must be addressed: the baseline and two alternatives. Additional significant alternatives are encouraged. Costs, benefits, and risks are addressed in accordance with the procedures in Section 5H of this Instruction.

(3) The update FEA provides updated decision monitoring and oversight information for use by IM and functional management at key decision points to determine if any redirection of the approved business improvement program is appropriate. The update FEA, of course, only addresses the original alternative that was approved for implementation. When costs, benefits, and schedules are proceeding as planned, the original decision need not be revisited. However, if costs are escalating and benefits and milestones are being delayed, a review is required to re-evaluate the original decision, identify redirection or new alternatives, or cancel the program. If benefits are being realized faster or at higher rates of return, an additional commitment to the alternative may be considered, such as investing more resources to accelerate the implementation schedule.

h. A functional economic analysis contains the following sections, regardless of its type:

(1) Section 1: Strategic business plan for the functional area. A summary of the strategic business plan for the entire functional area. It should be the first part of every FEA within the functional area.

(2) Section 2: Strategic business plan for the business activity. A summary of the strategic plan for the business activity that shows how business process improvement within the business activity supports the overall functional objectives and the strategic business plan for the functional area.

(3) Section 3: Business activity performance measures and targets. Explicit identification of the performance measures established for the business activity, and the target values set for each measure -- what they are now, and what they should be at the five and ten year marks (See Section 5G of this Instruction).

(4) Section 4: Proposed business activity improvement program (or migration system selection). A description and explanation of each of the alternatives being evaluated. The explanation specifically addresses how the alternative supports the strategic business plan for the business activity (Section 2 of the FEA), and how (quantitatively as well as qualitatively) the alternative will contribute to achieving the performance measure improvements for the business activity (Section 3 of the FEA).

(5) Section 5: Economic analysis of the proposed business process improvement program (or migration system selection). A

comparison of each of the proposed alternatives to the baseline. The analysis is performed at the overall functional area level, and justifies taking action to implement the business process improvement. The analysis reflects the payback time and the improvement in performance/cost ratios to be achieved.

(6) Section 6: Data management and information system strategy for the business activity. A summary of the overall technical strategy to provide effective data standardization, data management, and information system support for the business activity, addressing issues such as decentralized vs. centralized data entry/management, data currency and accuracy, information and system security, etc.

(7) Section 7: Data and system changes to support the business activity improvement program. A summary of the technical changes to data element standardization and information system support that will be required to implement each of the business process improvement alternatives described in Section 4 of the FEA. This is developed by the functional data administrator and the TIM, validated by the Business Activity Program Manager, and presented to and approved by the Functional Steering Committee.

(8) Section 8: Data management and system cost analysis. The detailed cost analysis of data management and information system changes for each alternative, at the level of detail required to support MAISRC review of the information system. This information is primarily drawn from the data management plan and the technical management plan. The summary of these costs and benefits is included in the overall economic analysis contained in Section 5 of the FEA. This information is a breakdown of the information in Section 5; it is not additive to that information.

i. With the concurrence of the Functional Steering Committee, the OSD Principal Staff Assistant exercises final approval authority for those sections of the FEA that deal with business process improvement decisions. This means that the OSD Principal Staff Assistant is the final approval authority for Sections 1-5 of the FEA. With the concurrence of the Functional Steering Committee, the OSD Principal Staff Assistant recommends approval by the DoD Senior IM Official of those sections of the FEA that deal with data management and information system decisions. This means that the DoD Senior IM Official is the final approval authority for Sections 6-8 of the FEA. Approval is provided based on existing automated information system life cycle management review procedures, which includes evaluation of compliance with corporate IM policies and objectives for the DoD data and information system technical environment.

## **12. PREPARE THE SUPPORTING DATA MANAGEMENT PLAN**

a. The data management plan (DMP) identifies the impact of proposed actions on the "as is" functional data architecture for

the functional area or business activity, and on existing plans and schedules for implementation of the DoD data administration program. The DMP contains information to support migration system selection, streamlining, iterative business process improvement, and DoD data standardization.

b. DMP's support implementation of DoD-wide data standardization and a DoD-wide standard technical environment. A DMP is submitted with the functional economic analysis and the technical management plan, and is required regardless of previous decisions on process standardization or system standardization.

c. The functional data administrator (FDAd) develops the DMP, with support from the DoD data administrator and Component data administrators. The DMP should reflect the results of intra-functional and inter-functional integration. The DoD data administrator is available to assist the FDAd and Component data administrators in the resolution of intra-functional and inter-functional issues. The DMP is validated functionally by the Business Activity Program Manager, who recommends it to the OSD Principal Staff Assistant as part of the FEA decision package. The DMP is validated technically by the DoD data administrator to ensure conformance with the DoD data model and DoD data standardization initiatives.

d. When changes in the "as is" (baseline) functional data architecture are proposed to the OSD Principal Staff Assistant as a part of a business improvement alternative, the accompanying FEA contains the costs and benefits associated with those changes.

e. The DMP should include:

(1) An assessment of the impact of the proposed business process improvement alternative on the "as is" (baseline) functional data architecture for the functional area or business activity, including the cost and timeline to implement data element standardization changes required to implement the alternative.

(2) An assessment of the extent of data element standardization within affected information system(s), and the timeline and cost for transition of the system(s) to use of standard data elements to support the business process alternative.

(3) Scope (functional area, business activity, or multiple business activities) and level-of-detail (entity-relationship, key based, fully attributed and normalized) descriptions of the data model that supports the selection.

(4) Scope (functional area, business activity, or multiple business activities) and level-of-detail (entity-relationship, key based, fully attributed and normalized) descriptions of the data model supporting the proposed alternative. Where the level-of-detail of the data model is less than a fully attributed and normalized logical data model, the DMP should contain appro-

private timelines, schedules, and costs necessary to complete data modeling to this level.

f. Following approval, the DMP becomes part of the ongoing business process improvement program managed by the OSD Principal Staff Assistant. In addition, the functional data administrator and Component data administrators use the DMP as supplementary guidance for management of changes to the functional area data architecture and associated rules.

### **13. PREPARE THE SUPPORTING TECHNICAL MANAGEMENT PLAN**

a. Information system options and opportunities that support the business management strategy and business process improvement efforts are evaluated based on technical feasibility, cost, schedule, performance, risk, and conformance to architectural guidelines and standards. Cost effective, low risk, rapid transition to the CIM standard technical environment is desired. However, no information system decision is made in isolation from its impact on the functional area or business activity that the system supports. The technical management plan (TMP) provides the top level technical document to evaluate, plan, guide, and control information system changes, including migration system selection, streamlining, and iterative business process improvement. The TMP provides information to support an FEA-based decision-making process.

b. Every functional area is covered by a TMP composed of material contributed by both functional and technical communities. This TMP presents an integrated view of the tasking to automated information system developers by the OSD Principal Staff Assistant and the Business Activities Program Managers, including information system objectives, architecture, individual system development and modernization projects, and systems integration for the functional area. In essence, this TMP is a master plan for the functional area's information systems.

c. TMP's also support the internal documentation and control needs of the technical community responsible for managing and integrating the IM technical environment within or across functional areas. This latter set of TMP applications is not addressed in this Section of the Instruction. See Section 5I for a complete discussion of TMP scope, contents, and application. One such application is preparation and continuing update of the information system baseline, including system documentation, configuration control, resource requirements and application, and operational performance data. Pertinent portions of this technical baseline become part of the TMP developed to support information system changes developed through the corporate IM functional management process.

d. The Business Activity Program Manager and the Technical Integration Manager (TIM) jointly develop the TMP. Preparation involves iteration between functional requirements and potential technical solutions (including both system development/moderniza-

tion and information service utilities) to achieve the best overall business solution. The TIM (supported as appropriate by other elements of DISA/CIM) reviews and validates the TMP for inter-functional integration and conformance with architecture guidelines and standards. The Business Activity Program Manager validates the TMP functionally, and recommends it to the OSD Principal Staff Assistant as part of a decision package involving proposed business process, standard data, and information system changes.

e. Except in the rare case where no data standardization or information system changes are involved, each functional management decision point requiring an FEA also requires a TMP and a DMP. These documents are prepared at a comparable level of detail -- abbreviated FEA's supported by summary-level TMP's and DMP's, comprehensive FEA's supported by detailed TMP's and DMP's. Categories of TMP's do not match FEA categories on a one-for-one basis because information system decisions may vary -- for example, a business process improvement proposal involving an information system new start, vs. one involving incremental change of an existing system. TMP categories are:

(1) The migration system TMP evaluates migration system alternatives for their ability to support standard procedures, near-term process improvements, and evolution to meet target architecture guidelines and standards. It addresses transition of new users to the migration system and phaseout of non-selected systems, required changes to the selected system and its technical environment, and all impacts on operating sites, interfacing systems, users, performance/responsiveness, etc.

(2) The elimination/streamlining TMP identifies the information system impact (if any) resulting from the elimination of non-value added processes and the streamlining of limited value added processes. These impacts might include termination of system support or disruption of interfaces to other systems.

(3) The business process improvement TMP identifies information system changes and options associated with a business process improvement project. Each process redesign option may have several data and system options associated with it, each requiring TMP analysis to a level of detail sufficient to choose a preferred system option. The TIM evaluates options and opportunities against both functional criteria established by the Business Activity Program Manager, and technical criteria established by the TIM. Where technical criteria become cost drivers that significantly impact the business process improvement FEA, they are presented to the OSD Principal Staff Assistant for review and validation.

(4) The new start TMP defines requirements for a new information system when no existing system adequately supports the functional requirements of the business management strategy. The TMP provides the information needed for Milestone I approval of a new start, in the form of a Decision Coordinating Paper (DCP), Test and Evaluation Master Plan (TEMP), and other supporting

documents. New start systems shall adhere to all CIM architecture guidelines and standards, and make maximum use of CIM methods, tools, and acquisition products and services.

f. Following its approval, the TMP becomes the master document controlling individual project plans that are prepared for development, installation, and operation of specific information systems or subsystems. The TMP is updated, and reconciled with the update/monitoring FEA, to reflect performance against these plans, other business process improvement actions, and changes to information systems or the technical environment outside the immediate scope of the TMP.

#### **14. EXECUTE THE APPROVED PROCESS, DATA, AND SYSTEM CHANGES**

a. When incremental business process changes are identified, evaluated, and approved, they are applied to the operation of the business activity. The Business Activity Program Manager develops and executes a time-phased implementation plan to first prototype and then broadly implement the approved process changes.

(1) Prototyping is accomplished in a timely, cost effective manner as provided for in the functional economic analysis. A primary objective of business process redesign is to rapidly implement incremental changes to business processes to achieve maximum benefits with reduced risk. Extensive, time-consuming, and costly prototyping is inconsistent with this objective.

(2) When supporting changes to the migration system are required, they are developed and implemented in accordance with the TMP and the schedule requirements of the implementation plan for the business process changes. Paragraph 15 of this Section addresses procedures for information system development. Standard documentation for automated information system development and life cycle management is made a part of, appended to, or referenced by the TMP, as described in paragraph 15 of this Section.

b. The Business Activity Program Manager and the OSD Principal Staff Assistant are responsible for promulgating the changes to functional policies and procedures through changes to appropriate DoDD's, DoDI's, or other policy and procedure documents. Business process models are documented as functional standards, and are implemented in accordance with the OSD Principal Staff Assistant's business management strategy. Where appropriate, the Business Activity Program Manager recommends modifications to individual training programs administered within the Department to ensure that the approved changes in business processes are included in the program of instruction.

c. Data element standardization and registration is a continuing process conducted through the DoD Data Administration program. The data management plan developed in conjunction with the TMP documents how this process will be performed to meet the

requirements (scope, priorities, and schedule) of the business process changes and information system changes approved by the OSD Principal Staff Assistant. The functional data administrator works in close coordination with both the Business Activity Program Manager, the DoD data administrator, and the TIM to ensure that data standardization progress remains tightly coupled with other changes being implemented.

d. The Business Activity Program Manager prepares a Statement of Work (SOW) to document requirements for development and fielding of the incremental change package for the migration system.

(1) The SOW is consistent with the FEA, the DMP, and the TMP; any substantive change requires update of all three documents, and the review and approval of the OSD Principal Staff Assistant. The DMP and the TMP are primary attachments to the SOW.

(2) The SOW must be prepared in sufficient detail to support its execution through either a federal contract or a fee-for-service agreement with a government-operated central design activity (CDA). The TIM performs as a broker in arranging these services.

(3) SOW preparation leads to an appropriate form of agreement between the Business Activity Program Manager (customer), the Technical Integration Manager (broker and systems integrator), and the Technical Developer (supplier) which defines resources (price on a fee-for-service basis), schedule, deliverables, functional performance characteristics of a successfully implemented system change, and penalty clauses for non-performance.

(4) The Business Activity Program Manager forwards the SOW to the TIM, who ensures incorporation in the SOW or the attached TMP of appropriate requirements for systems integration and configuration management, and compliance with the technical architecture and standards for the functional area (see paragraph 15 of this Section). During system implementation, the TIM acts as technical advisor to the Business Activity Program Manager on these subjects, as well as providing technical integration and configuration management oversight.

(5) In the execution of the SOW (whether by in-house CDA assets or through a contractor), the Business Activity Program Manager serves as "COR and COTR" for the development, reviews and approves functional acceptability, status, schedule, and cost at appropriate intermediate points, and recommends acceptance of the completed system change package to the OSD Principal Staff Assistant.

(6) In the execution of the SOW, the Technical Integration Manager conducts technical in-process reviews of system development as part of an overall system integration and configuration management process. Configuration management ensures that the



independently evaluates these CIM systems both through functional area reviews (see paragraph 17 of this Section) that review the information management strategy and performance of the entire functional area, and through individual information system major automated information system review councils (MAISRC's) that examine CIM migration systems and CIM standard systems as MAISRC special interest items. The OSD Principal Staff Assistant exercises functional responsibility and accountability for these systems whether they support DoD standard processes, approved Component standard processes, or non-standard processes that have not yet been the subject of CIM business process improvement.

b. Business process redesign usually involves changes to data and information systems supporting the business activity. Business Activity Program Managers direct joint functional/technical teams to ensure that fully integrated process, data, and system changes are proposed for OSD Principal Staff Assistant review and approval. Through execution of a memorandum of agreement between the OSD Principal Staff Assistant and the Technical Integration Manager (TIM), the staff of the TIM is available to provide the technical expertise needed by the Business Activity Program Manager to accomplish this task.

(1) Acting as a representative of the Director of Defense Information, the TIM establishes an information system definition/development and configuration management process and structure to meet both the objectives of the OSD Principal Staff Assistant and the technical objectives of the corporate IM initiative. Review procedures and criteria are established to provide continuing technical oversight of data management and information system planning and implementation. This includes both information system management and operation prior to OSD Principal Staff Assistant approval of a business program change, and information system development, prototyping, and implementation after the SOW prepared by the Business Activity Program Manager (see paragraph 14 of this Section) has been turned over to the Technical Developer for execution.

(2) The joint team translates functional objectives and business activity objectives into a set of agreed upon information system objectives and priorities. Guided by these objectives, target and interim information technology architectures and standards are developed by tailoring corporate IM architectures and standards to the specific requirements of the functional area and business activity. The target and interim architectures and standards also consider the data and information system baseline for the business activity, ongoing business process redesign in other functional areas and business activities, and corporate IM objectives and schedules for evolution of overall DoD information management capabilities to a shared data, open systems environment. The target and interim architectures and standards are continuously reviewed and, where appropriate, revised based on business process redesign within the business activity.

c. The tailored target and interim information technology architectures and standards become the basis for information system planning and implementation. TMP development (see paragraph 13 of this Section) uses them as preparation guidelines and as technical evaluation criteria. The SOW for information system development uses them as basic requirements and as acceptance test objectives. However, where these technical criteria become cost drivers that significantly impact the business process improvement FEA, they are presented to the OSD Principal Staff Assistant for review and validation.

d. The TMP is prepared by the joint team and approved by the OSD Principal Staff Assistant as the master document (or document set) to describe and control information system technical objectives, the evolving information system baseline, interim and target technical architectures, migration strategies and plans, interface requirements, utility support requirements, and subordinate project plans.

(1) The TMP integrates specific information system changes into a coherent, consistent top level information system architecture and strategy for change. These architectural guidelines are used to manage implementation projects and control additional changes.

(2) The TMP is provided to the technical developer as a primary attachment to the information system SOW. It is a compliance document for the technical developer, and acceptance test objectives for the OSD Principal Staff Assistant and the Business Activity Program Manager.

(3) The TMP is updated to incorporate, append, or reference all required system development, life cycle management, and MAISRC technical documentation as it is developed, thus providing a single, current, and consistent source of technical documentation for system development/acquisition, review, prototyping, and implementation.

e. Process models (paragraph 8) and data models (paragraph 9) are input to the common software engineering environment established for information system development. The application of I-CASE (Integrated Computer-Aided Software Engineering) to provide this single, common software engineering environment is addressed in Section 6D3 of this Instruction.

## **16. REVISE BASELINES AND SEEK FURTHER IMPROVEMENT OPPORTUNITIES**

a. The OSD Principal Staff Assistant is responsible for establishing the procedures through which improvements in business processes are continuously identified, evaluated and justified, and implemented. Multiple evolutionary changes may be implemented concurrently, if feasible. Each successfully implemented set of improvements defines a new functional baseline, a new data standardization and management baseline, and a new information system baseline. Functional objectives are reviewed and revised

as needed. The "as is" and "to be" functional architectures are updated, and business process redesign continues.

b. The OSD Principal Staff Assistant is accountable for the success of each business process improvement initiative. The update functional economic analysis (FEA) is the management control mechanism through which actual costs and benefits are compared with those projected. Performance improvements are evaluated retrospectively as well as prospectively.

#### **17. CORPORATE INFORMATION MANAGEMENT FUNCTIONAL AREA OVERSIGHT REVIEWS**

a. Information management oversight expands the traditional life cycle management (LCM) process by concentrating on CIM functional area reviews, and assessing information systems in the aggregate. CIM functional reviews include assessment of: functional economic analyses; the use of process and data models; compliance with data standards, information technology, and architecture standards; and post-deployment operational effectiveness. The Department must ensure that:

(1) The OSD Principal Staff Assistant for each CIM functional area has accomplished the necessary actions to effectively and efficiently manage the information required in his/her area.

(2) There exists a justifiable mission need for any new system or modernization/evolution of existing systems--i.e., that such systems are supported by sound functional economic analysis and reflect Departmental mission doctrine.

b. The traditional AIS-oriented oversight process has not been completely eliminated. All CIM systems continue to be subject to existing life cycle management policies and procedures. Oversight is conducted to ensure the acquisition, design, development, deployment and operation of such systems proceed in a coordinated and optimal manner. Following deployment, oversight continues to assess the operational effectiveness and determine the return on investment achieved by a particular CIM system.

#### **18. DOCUMENTATION**

This section lists the key documents required to execute the functional management process for corporate IM, and points to the primary paragraph in this Section of the Instruction where additional information is provided about the actions that lead to preparation of the document. Detailed document preparation procedures and formats are published separately, when they have been established. Not listed in this paragraph are any internal working documents that may be produced to support intermediate actions or situation-unique requirements. Also not listed are consequent or dependent documents that follow from actions taken in accordance with this Section of the Instruction.

- a. Functional area establishment. Paragraph 4f.
- b. Business activity establishment. Paragraph 4f.
- c. Functional architecture. Paragraph 5a.
  - (1) Functional area scope and mission. Paragraph 5b.
  - (2) Business activity scope and mission. Paragraph 5b.
  - (3) Business methods, management processes, and data structures and rules. Paragraph 5c.
  - (4) Functional objectives and performance targets. Paragraph 5d.
  - (5) Business activity objectives and performance targets. Paragraph 5d.
  - (6) Business management strategy. Paragraph 5e.
- d. Functional area implementation plans. Paragraph 6.
  - (1) Strategic business plan for the functional area. Paragraph 6a.
  - (2) Strategic business plan for the business activity. Paragraph 6a.
  - (3) Data management and information system strategy. Paragraph 6a.
  - (4) CIM implementation plan for the business activity. Paragraph 6c.
- e. Process, data, and system baselines. Paragraph 8c.
  - (1) Standardization of business processes. Paragraph 5d.
  - (2) Migration system or standard system selection. Paragraph 7a.
  - (3) Termination of development/modernization funding for non-standard systems. Paragraph 7e-7f.
- f. Business process redesign. Paragraph 8.
  - (1) Technical support memorandum of agreement. Paragraph 15b.
  - (2) Process model. Paragraph 8e.
  - (3) Activity based cost measures. Paragraph 8e.
  - (4) Data model for process improvement. Paragraph 9b.

- (5) Data model for data standardization. Paragraph 9e.
- (6) Process improvement options, including information system change options. Paragraph 10c.
- (7) Information system technical improvement options. Paragraph 8e.
- (8) Functional economic analysis. Paragraph 11.
  - (a) Abbreviated "quick look" functional economic analysis. Paragraph 11g.
  - (b) Conventional or comprehensive functional economic analysis. Paragraph 11g.
  - (c) Update or monitoring functional economic analysis. Paragraph 11g.
- (9) Data management plan. Paragraph 12.
- (10) Technical management plan. Paragraph 13.
  - (a) Migration technical management plan. Paragraph 13e.
  - (b) New start technical management plan. Paragraph 13e.
  - (c) Elimination/streamlining technical management plan. Paragraph 13e.
  - (d) Business process improvement technical management plan. Paragraph 13e.
- (12) Process improvement program decision. Paragraph 10e.
- g. Implementation of the improvement program. Paragraph 14.
  - (1) Program implementation plan. Paragraph 14a.
  - (2) Documentation of functional standards and changes to policies and procedures. Paragraph 14b.
  - (3) Revision of process, data, and system baselines. Paragraph 8c.
  - (4) Information system statement of work. Paragraph 14d.
- h. Information system development process and structure. Paragraph 15b.
  - (1) Information system objectives and priorities. Paragraph 15b.

- (2) Target and interim architectures and standards for the functional area and business activity. Paragraph 15b.
  - (3) Information system MAISRC documentation. Paragraph 11h and 15d.
- i. Functional area oversight review documentation. Paragraph 17.

**19. RESPONSIBILITIES AND POINTS OF CONTACT**

The matrix below identifies the offices to be contacted for additional information on this section. The full titles of these offices may be found in Part 9 of this instruction.

DoD Component	Points of Contact	
	General	Specific
OSD	DDI	DDI/M&L
		DDI/FP&H
		DDI/C3I