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UNITED STATES OF AMERICA

**The Center for Integration and
Interoperability**

Integration Strategies

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1. INTRODUCTION

This section describes the purpose of the document, the missions assigned to the Center for Integration and Interoperability (CFI&I), background related to the CFI&I's role in the Department of Defense's (DoD's) information management improvement initiative, the strategic objectives related to CFI&I's missions, and an overview of the remainder of the document.

The CFI&I is one of the several Centers within the Defense Information Systems Agency's (DISA's) Joint Interoperability and Engineering Organization (JIEO). JIEO will lead in providing technical services for DoD information management and in engineering effective, interoperable, integrated, and affordable DoD information systems to support the joint warfighter.

1.1 PURPOSE

The purpose of this document is to convey to the community of functional and technical application managers the CFI&I strategic plan for carrying out its missions. The community will thus become aware of how the plan will help achieve effective and cost-efficient integration and interoperability of DoD information systems.

1.2 CFI&I MISSIONS

The CFI&I has three missions as follows:

- Serve as the integrator of DoD corporate information management systems for all DoD mission/functional domains.
- Serve as the technical authority for the Joint Staff for the certification of requirements applicable to the interoperability, compatibility, and integration of command and control (C2) information systems.

- Support the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (OASD (C31)) in the implementation of the information management (IM) program as it relates to the system migration strategies, integration goals, and objectives of the DoD.

Subsumed within these missions are the CFI&I's responsibilities for support of policies, procedures, and documents required by the DoD concerning the life-cycle management (LCM) of information systems; the certification of the compatibility, interoperability, and integration of C31 systems; and functional process improvement. For example, the CFI&I would provide support, as appropriate, for the LCM of information systems, especially Major Automated Information System Review Council (MAISRC) support. These procedures and documentation requirements are found in the DoD documents listed in Appendix A.

1.3 BACKGROUND

The DoD is facing the 1990s with significantly reduced resources. Included in the several efforts launched by the DoD to meet this challenge is an initiative, referred to as the Corporate Information Management (CIM) initiative, to improve the way information is managed in the DoD. The CIM initiative is based on a business process improvement model that uses a top-down approach to business process reengineering. According to the model, business methods and measures of performance for those methods are derived directly from top-level policies that define the basic goals of the enterprise. These business methods and performance controls are then modeled to determine the specific processes and data needed to meet the business goals of the organization. Only after the business process and data requirements have been identified should automated information systems be designed to realize the productivity gains afforded by information technology. Figure 1.1 depicts the business process improvement model.

<GRAPHIC: CII11.PCX>

(Graphic files were not included on the original disk.)

Figure 1.1. The Business Process Improvement Model

The DoD prescribes a three-phase functional management process (FMP) strategy for improving management of DoD information. Phase 1 is the establishment of a functional architecture and a strategy for meeting functional requirements. Phase 2 is the establishment of baselines for processes, data, and information systems. This phase entails selecting information systems, which are then designated "migration systems" to support existing business processes. Phase 3 is the improvement of functions, data, and information systems. This phase entails business process reengineering and information technology enhancement. Figure 1.2 depicts the FMP.

<GRAPHIC: CII12.PCX>

Figure 1.2. Functional Management Process (DoD 8020.1-M)

A significant component of Information management improvement is the development of an integrated computing and communications infrastructure based on standards that are applicable in all parts of the DoD and that facilitates the coordination of work and information flow across organizational boundaries. The JIEO has a major role in this effort. The CFI&I's part of that role focuses on information system integration and interoperability, and, accordingly, the CFI&I's missions apply specifically to Phases 2 and 3 of the FMP. This strategic plan focuses on these two phases.

1.4. CFI&I STRATEGIC OBJECTIVES

The CFI&I has derived two broad strategic objectives from its three missions. The first objective is to consolidate the large number of functionally redundant (i.e., legacy) applications that exist in the DoD to a much smaller, more manageable, and cost-effective set of DoD standard applications amenable to subsequent functional process improvement and technical enhancement or reengineering. In this regard, the CFI&I intends to establish the DoD information systems baseline (Phase 2 of the FMP) as quickly as possible to achieve greater automated information systems effectiveness and to advance subsequent functional and technical reengineering. The elimination of redundant information systems resulting from the establishment of this baseline will help DoD achieve cost avoidance. The second objective is to achieve full cross-functional integration and interoperability as the DoD information systems baseline evolves towards the DoD's vision of an open systems environment throughout the DoD that is also standards based (Phase 3 of the FMP).

The activities associated with attaining these strategic objectives define the CFI&I's two roles in the FMP. These roles are migration management and integration management. Figure 1.3 depicts the CFI&I's roles in the FMP.

Directly applicable to these roles are the CFI&I's responsibilities for providing consulting services and for coordinating the activities of other organizations as these services and activities relate to the migration and integration of DoD information systems.

<GRAPHIC: CII13.PCX>

Figure 1.3. CFI&I's Role in the Functional Management Process

1.5. OVERVIEW

This document contains five additional sections and two appendices. Section 2 discusses how the CFI&I plans to meet its first strategic objective (i.e., migration management). Section 3 discusses how the CFI&I plans to meet its second strategic objective (i.e., integration management). Section 4 describes the consulting services the CFI&I will provide to the DoD as well as the CFI&I's coordinating responsibilities related to the migration and integration of DoD information systems. These services and coordinating responsibilities are related to both strategic objectives. Section 5 describes the support tools used to help the CFI&I meet its strategic objectives. Section 6 uses the development of the Global Command and Control System (GCCS) to illustrate an implementation of the CFI&I strategic plan. Appendix A lists the DoD documents on which the CFI&I's responsibilities for support of policies, procedures, and documents required by the DoD are based, and Appendix B defines the acronyms used in the text.

2. MIGRATION MANAGEMENT

The CFI&I has defined a strategy for performing migration management that extends the basic legacy application consolidation requirements outlined in DoD 8020.1-M. Figure 2.1 depicts these requirements.

<GRAPHIC: CII21.PCX>

Figure 2.1. Functional Management Process: Migration Management

The CFI&I strategy consists of five major activities that result in rapid consolidation of redundant legacy applications, which is the strategic objective. These activities are as follows:

- Developing a portfolio of approaches for legacy system migration.
- Assessing the legacy system environment.

- Providing specific migration solutions estimates, and risk assessments for executive decision support.
- Producing detailed implementation plans for legacy system migration.
- Monitoring the DoD's overall information systems migration efforts.

Figure 2.2 shows this strategy as the CFI&I's migration management role in the FMP.

<GRAPHIC: CII22.PCX>

Figure 2.2. CFI&I's Role in Migration Management

2.1. MIGRATION APPROACHES

The CFI&I will develop a portfolio of migration approaches that can be used to solve particular migration problems. These approaches should range from near-term ("quick fix") approaches designed to quickly reduce the number

of redundant and expensive legacy applications to longer-term solutions that achieve significant integration as part of the migration effort. Migration approaches may include the following:

- Selecting a complete legacy system for migration.
- Selecting a partial legacy application for migration with a modified infrastructure and database.
- Combining several legacy applications with a single infrastructure and database.
- Selecting and combining partial legacy applications.

2.2. LEGACY SYSTEM ASSESSMENT

The CFI&I will support Functional Activity Program Managers (FAPMS) in the assessment of legacy systems as candidates for migration. The CFI&I will assemble baseline information on systems in each functional area. Support will include functional requirements review, functional capability review, cross-functional analysis, and migration assessment.

Functional requirements review determines the extent to which the existing process and data baselines define requirements that can be clearly related to capabilities in the information system baseline. The review will also identify similar functional requirements in different functional areas, thereby facilitating cross-functional analysis.

Functional capability review determines the extent to which a legacy system supports the process and data baseline within a functional area. The systems selected as migration candidates must provide equivalent functionality and data to that provided by the legacy systems. Functional capability review thereby helps to ensure that the information system baseline will fully support the process and data baselines.

Functional capability review identifies the following characteristics of legacy systems:

- Functional support and data provided by each legacy system.
- Redundancy in functional support and data provided between legacy systems.

- Deficiencies in functional support and data provided among legacy systems.

Cross-functional analysis Identifies redundancy in functional support and data provided between legacy systems across functional areas, and identifies migration candidates that are used in more than one functional area or can satisfy deficiencies across functional areas. The CFI&I will regularly perform cross-functional impact analyses of the DoD legacy system environment to identify opportunities for cross-functional integration during the second phase of the FMP.

The selection of a candidate migration system must be based on its functional and technical adequacy. Migration assessment includes a technical analysis of migration candidates to ensure that legacy system migration will result in an information system baseline technically sufficient to support subsequent functional and technical improvement activities.

To validate the technical sufficiency of a candidate migration system, the CFI&I will assess each legacy application within a Functional Activity (or Sub-Activity) in terms of relevant functional, technical, data-handling, and programmatic criteria. Migration assessment will consider the degree to which the legacy application conforms to the DoD Technical Architecture Framework for Information Management (TAFIM). This assessment also addresses the suitability of the designated migration system to accommodate subsequent process and data improvement.

2.3. MIGRATION SOLUTIONS

The CFI&I will develop specific legacy application migration solutions to produce an information system baseline from migration candidates identified in legacy system assessment. The solutions will be derived from the portfolio of migration approaches and will be incorporated into an Integration Decision Paper (IDP) that accomplishes the following:

- Defines the migration strategy being proposed for the legacy system consolidation effort.
- Demonstrates the cost effectiveness of the proposed migration strategy.

- Identifies and evaluates the risks associated with the migration strategy.

The IDP will be suitable for incorporation as the principal technical document into an Evaluation Decision Package, in accordance with 8020.1-M, for review and approval by the FAPM.

2.4. TACTICAL INTEGRATION PLANNING

The CFI&I will develop Tactical Integration Plans (TIPS) that translate the migration strategy of the IDP into a specific action plan. The TIP may be incorporated into an Approval Decision Package, in accordance with DoD 8020.1-M, for review and approval by the Principal Staff Assistant (PSA). The purpose of the TIP is three-fold: (1) to provide a detailed road map for the integration of legacy applications into a designated migration system; (2) to demonstrate the technical and budgetary feasibility of a timely migration effort; and (3) to ensure cross-functional integration issues are addressed during the migration effort. The TIP will include the following:

- Description of all significant migration tasks, including staff requirements and proposed methods and tools.
- Identification of organizations responsible for execution of migration tasks.
- Description of cross-functional integration issues.
- Cost estimates.
- Schedule.

The CFI&I will manage or coordinate the execution of the approved TIP, as requested.

2.5. MIGRATION TRACKING

The CFI&I will monitor the migration process to determine if DoD migration goals are being met in a timely manner. The CFI&I will assess the significance of technical problems and the difference between actual and planned expenditures to apprise senior management of the updated technical and budgetary feasibility of the overall DoD migration effort.

3. INTEGRATION MANAGEMENT

The CFI&I has defined a strategy for performing integration management as the Information system baseline evolves towards a fully integrated, open systems environment. The CFI&I strategy consists of three major activities that lead to full cross-functional integration and interoperability of the information systems baseline, which is the strategic objective. These activities are as follows:

- Assessing information system plans and operations.
- Promoting hardware, software, communications, and security standards.
- Monitoring the progress of DoD integration efforts.

Figure 3.1 illustrates the iterative process improvement phase prescribed by DoD 8020.1-M.

<GRAPHIC: CII31.PCX>

Figure 3.1. Functional Management Process: Process improvement

Figure 3.2 shows this strategy as the CFI&I's integration management role in the FMP.

<GRAPHIC: CII32.PCX

Figure 3.2. CFI&I's Role in Integration Management

3.1. PLANS AND OPERATIONS ASSESSMENT

The CFI&I will review process improvements to ensure that process changes in one functional area are reflected, as appropriate, in other functional areas. The review will also identify functional requirements that are derived from process improvements, and will ensure that the functional requirements are consistent with technical capabilities to satisfy them. The CFI&I will provide central storage of process improvements with access to the user community.

The CFI&I will review Functional Area information systems plans to ensure that they conform to the DoD technical environment as prescribed by the

TAFIM. In addition, the review will ensure that the plans consider opportunities for integration and interoperability, both within and across functional areas.

The CFI&I will periodically assess Functional Area information system operations to determine the degree of application integration and interoperability and the degree of compliance with the DoD technical environment as prescribed by the TAFIM.

The CFI&I will certify interoperability of C41 systems and interfaces to the Interoperability Test Panel (ITP) of the Military Communications Electronics Board (MCEB) and to the developmental and operational testing organizations of DoD components for new or major modifications to C41 systems. Certification will be in accordance with the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01.

3.2. STANDARDS PROMOTION

The CFI&I will promote hardware, software, communications, and security standards. The CFI&I will develop mechanisms to stay fully apprised of industry and DoD standards and best practices, and to communicate those standards and practices dealing with integration and interoperability to the DoD information systems community.

The CFI&I will certify the implementation of standards of C41 systems and interfaces to the ITP of the MCEB and to the developmental and operational testing organizations of DoD components for new or major modifications to C41 systems. This certification also is in accordance with CJCSI 6212.01.

3.3. INTEGRATION TRACKING

CFI&I will monitor the integration activities associated with on-going functional process improvement to ensure that DoD goals for information technology are being met.

4. CONSULTING SERVICES AND COORDINATION

The CFI&I will provide consulting services related to information system integration and interoperability to specific DoD entities. In addition, the CFI&I coordinates the various internal activities, within DISA and JIEO, as well as external activities, as these activities relate to the migration and integration of DoD information systems.

4.1. CONSULTING SERVICES

The CFI&I will provide consulting services (on a fee-for-service basis) to the Office of the Secretary of Defense (OSD) PSAs, FAPMs, and Functional Integration Managers (FIMs) on technical planning for integration. Typically, this support will include the following specific services:

- Assess the current degree of integration and interoperability among existing legacy applications within a Functional Area, given requirements established by the functional community.
- Develop appropriate integration strategies for specific legacy application integration and interoperability efforts.
- Develop IDPs to support a customer's evaluation process.
- Develop TJPs to support a customer's approval decision process.
- Provide tools to facilitate a specific integration and interoperability effort.
- Provide information and decision support tools and services to enable the sound evaluation of proposed information system programs within DoD Functional Areas.
- Assist the functional and technical communities outside of the DISA in formulation of proofs of concept and prototypes dealing with technology enhancements such as creation of shared databases, separation of data from applications, and use of a common infrastructure.

4.2. COORDINATION

DISA has both internal and external coordination requirements related to DoD information management. The CFI&I guides the mechanism for providing coordination across the agency and with organizations outside the DISA. In this coordination role, the CFI&I performs the following services:

- Provides technical input to the strategic planning process.
- Coordinates across DISA organizations through consultations, forums, and task management.
- Provides coordination between DISA activities and migration efforts in the DoD functional communities.
- Provides a single point of interface for external customers when tasks cross DISA organizational boundaries.

In addition to its DISA-wide coordination role, the CFI&I has a coordination role for systems engineering within JIEO. coordination is necessary when complex tasks require the participation of multiple centers within JIEO. In this coordination role, the CFI&I performs the following services:

- Ensures requirements are comprehensively met.
- Coordinates across JIEO centers through consultation, forums, and task management.
- Oversees issue resolution.
- Ensures effective interface with enterprise and DISA-wide integration activities.
- Provides a single point of coordination to the customer for tasks involving multiple centers.
- Provides technical support to the MAISRC and the Joint Requirements Oversight Panel (JROC) on integration and interoperability.

5. DEFENSE INTEGRATION SUPPORT TOOLS

The CFI&I will develop a set of migration and integration support tools, including a broad-based executive information and decision support system, to facilitate the migration and integration of information systems throughout the DoD. This set of tools is known as the Defense Integration Support Tools (DIST). DIST is an integrated database and associated set of automated tools to provide decision makers and technical analysts with the information and analytical capabilities necessary to effectively manage the migration and integration of the information systems in the DoD IM environment. Existing functionality falls under three major categories: an Executive Information System (EIS), a Decision Support System (DSS) and a Data Maintenance (DM) facility. The existing major functional categories of the DIST are discussed below.

Figure 5.1 depicts the existing and envisaged functionality of this critically important tool.

<GRAPHIC: CII51.PCX>

Figure 5.1. Defense Integration Support Tools

Figure 5.2 illustrates the way DIST provides direct automated support for the CFI&I migration management role.

<GRAPHIC: CII52.PCX>

Figure 5.2. DIST Support for Technical Migration Management

5.1. EXECUTIVE INFORMATION SYSTEM

The EIS component of DIST provides extensive information about DoD's legacy applications, communications, and infrastructure.

5.2. DECISION SUPPORT SYSTEM

The DSS component of DIST is designed to serve both CFI&I in the exercise of its integration management responsibilities and the functional and technical management community within DoD functional areas and activities. The DIST will provide four major decision support functions: (1) a Legacy System Assessment facility, (2) a set of technical planning tools to support Migration Strategy Development, (3) a Tactical Integration Planning tool, and (4)

a Migration Tracking capability. Eventually the DIST will provide an automated interface to Functional Economic Analysis (FEA) information developed by FAPMs during migration and/or functional process improvement efforts. These support functions are described as follows:

- Legacy System Assessment includes both Migration Assessment and Cross-Functional Analysis. Migration Assessment is the process of identifying a legacy system to serve as the designated migration system within a Functional Activity (or Sub-Activity). The DIST currently offers a Migration Assessment Tool that can be used to score and rank legacy applications as migration system candidates. The DIST can also be used to support cross-functional analysis of the legacy application environment. The DIST can identify applications used by two or more Functional Areas or used in multiple Functional Activities within the same Functional Area. The DIST can identify those applications that may be targeted for elimination in one Functional Area but which were designated as a migration system in another. Any such apparent cross functional incompatibilities can then be resolved by the cognizant Technical Integration Manager (TIM).
- Migration Strategy Development comprises IDP development, Migration Cost Summarization, and (in the future) Finance/Budgeting and an interface to Functional Economic Analyses.
- Tactical Integration Planning supports the development of specific action plans to implement a migration strategy
- Migration Tracking provides the CFI&I with the ability to monitor the progress of the overall migration process. The utility enables the CFI&I to track the following:
 - Development of overall migration plans
 - Development of the technical products (Migration Assessment Reports, IDPS, and TIPs) needed in the technical planning phase of FMP

- Milestones during the actual consolidation effort.

5.3. DATA MAINTENANCE

The DIST is intended to capture and maintain current information regarding the DoD legacy system environment. Accordingly, the DM capabilities of DIST support regular data entry and update facilities, and periodic downloading of data from existing DoD repositories.

6. EXAMPLE OF PLAN IMPLEMENTATION

The development of the GCCS is an implementation of the CFI&I strategic plan that can be used as an illustrative example to help clarify aspects of this strategic plan. Although necessarily limited because the development of GCCS is still at an early stage, the example, which addresses only actions accomplished, on-going, or planned for the near-term, does give a sense of how the plan will be executed.

The CFI&I has worked with the command and control community to accomplish the following with respect to the GCCS:

- Develop an overarching integration framework.
- Coordinate functional process improvement efforts in the Joint Staff, the Unified and Specified Commands, and the Services and Agencies.
- Develop a systems and applications baseline in sufficient detail to support migration planning.
- Begin the migration assessment effort.

Work is ongoing to develop specific migration recommendations for each command and control functional domain.

An example of the CFI&I's activities related to coordinating information system management efforts is the assistance being provided to the GCCS Program Manager to coordinate support throughout the DISA for that program. Work done by the CFI&I for the functional community in baseline development and migration assessment and planning is brought into the GCCS planning process. The CFI&I deconflicts external migration efforts with those undertaken in the GCCS development.

In addition, the CFI&I is chairing a JIEO task group to support the GCCS Program Manager with systems engineering support. Every Center in JIEO is represented in this task group. The level of effort of each Center will vary as the support for GCCS proceeds. The CFI&I will coordinate among the Centers to ensure the needs of the Program Manager are met in a timely manner. The CFI&I will also ensure the work in JIEO is consistent with functional migration

decisions made by the Joint Staff and OSD in the enterprise integration effort. Issues between the GCCS development and the command and control functional community in general will be addressed through the Interoperability Improvement Panel of the MCEB. At the same time, evolution of command and control systems under the GCCS effort will be coordinated with the intelligence community through the Intelligence Systems Board.

REFERENCES

REFERENCES

- [1] Department of Defense, DoD 8020.1-M, *Functional Process Improvement*
- [2] Department of Defense, DoD Directive 8120.1, *Life-Cycle Management of Automated Information Systems*.
- [3] Department of Defense, DoD Instruction 8120.2, *Automated Information System Life-Cycle Management Process, Review, and Milestone Approval Procedures*.
- [4] Department of Defense, DoD 8120.2-M, *Automated Information System Life-Cycle Management Manual*
- [5] Department of Defense, DoD Directive 5000. 1, *Defense Acquisition*.
- [6] Department of Defense, DoD Instruction 5000.2, *Defense Acquisition Management Policies and Procedures*.
- [7] Department of Defense, DoD 5000.2-M, *Defense Acquisition Management. Documentation and Reports*.
- [8] Department of Defense, DoD Directive 4630.5, *Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems*.
- [9] Department of Defense, DoD Instruction 4630.8, *Procedures for Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems*.

ACRONYMS

ACRONYMS

| | |
|-------|---|
| C2 | command and control |
| C31 | command, control, communications, and intelligence |
| CFI&I | Center for Integration and Interoperability |
| CIM | Corporate Information Management |
| CJCSI | Chairman of the Joint Chiefs of Staff Instruction |
| | |
| DISA | Defense Information Systems Agency |
| DIST | Defense Integration Support Tools |
| DM | Data Maintenance |
| DoD | Department of Defense |
| DSS | Decision Support System |
| | |
| EIS | Executive Information System |
| | |
| FAPM | Functional Activity Program Manager |
| FEA | Functional Economic Analysis |
| FIM | Functional Integration Manager |
| FMP | functional management process |
| | |
| GCCS | Global Command and Control System |
| | |
| IDP | Integration Decision Paper |
| IM | information management |
| ITP | Interoperability Test Panel |
| | |
| JIEO | Joint Interoperability and Engineering Organization |
| JROC | Joint Requirements Oversight Panel |

| | |
|-----------|---|
| LCM | life-cycle management |
| MAISRC | Major Automated Information System Review Council |
| MCEB | Military Communications Electronics Board |
| OASD(C31) | Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) |
| OSD | Office of the Secretary of Defense |
| PSA | Principal Staff Assistant |
| TAFIM | Technical Architecture Framework for Information Management |
| TIM | Technical Integration Manager |
| TIP | Tactical Integration Plan |