Audit Report

OFFICE OF THE INSPECTOR GENERAL

ACQUISITION OF COMPUTERS THAT PROCESS CORPORATE INFORMATION

Report No. 96-081 March 5, 1996

Department of Defense

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Acronyms

CIM	Corporate Information Management
GAO	General Accounting Office

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

March 5, 1996

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE)

SUBJECT: Audit Report on Acquisition of Computers That Process Corporate Information (Report No. 96-081)

We are providing this audit report for your information and use. We considered management comments on a draft of this report in preparing the final report.

As a result of management comments and additional audit work, we deleted a draft report recommendation to revise DoD information infrastructure policy to include management of midtier computers that process corporate information because Office of Management and Budget Bulletin 96-02, "Consolidation of Agency Data Centers," should correct that issue. Management comments on the finding and remaining recommendation conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, additional comments are not required.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Ms. Mary Lu Ugone, Audit Program Director, at (703) 604-9529 (DSN 664-9529) or Ms. Cecelia A. Miggins, Audit Project Manager, at (703) 604-9542 (DSN 664-9542). See Appendix F for the report distribution. The audit team members are listed inside the back cover.

Robert J. Lieberman

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 96-081 **March 5, 1996**
(Project No. 5RE-0035)

Acquisition of Computers That Process Corporate Information

Executive Summary

Introduction. The Secretary of Defense announced the Corporate Information Management initiative on November 16, 1990, to establish a DoD-wide concept for managing computer, communications, and information management functions. Subsequently, the Deputy Secretary of Defense signed Defense Management Report Decision 918, "Defense Information Infrastructure," on September 15, 1992, to provide policy for the management of the computers and communications networks that process corporate information. In addition, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) issued a memorandum on June 23, 1994, that established the Technical Architecture Framework for Information Management as the single source of guidance for the integration of DoD information systems.

On October 13, 1993, the Deputy Secretary of Defense directed the Principal Staff Assistants to select standard, DoD-wide systems to process corporate information. As part of the development process for the standard systems, DoD program managers are acquiring computers to support their information processing requirements.

Objective. The audit objective was to determine whether the acquisition of automatic data processing equipment is consistent with the intent of the Corporate Information Management initiative as it relates to streamlining the Defense information infrastructure. We also reviewed the management control program as it applied to the primary audit objective.

Audit Results. The DoD Components did not sufficiently coordinate the acquisition and management of computers that process corporate information because the requirements of Defense Management Report Decision 918, "Defense Information Infrastructure," which focused on mainframe computers, have not been integrated with the standards of the Technical Architecture Framework for Information Management, to include midtier (minicomputer) computers. As a result, planned acquisitions of midtier computer equipment, costing $200 million, may result in excess computer processing capabilities. In addition, the audit identified a management control weakness in that there is a gap in policy for the acquisition and management of computers that process corporate information (Appendix A).

Policy changes that result from Office of Management and Budget Bulletin 96-02, "Consolidation of Agency Data Centers," October 4, 1995, and the recommendation in the report, if implemented, will ensure that DoD has a comprehensive policy for managing its information infrastructure and will correct the management control weakness. See Part I for a discussion of the audit results and Appendix D for a summary of the potential benefits resulting from the audit.

Summary of Recommendations. We recommend establishment of procedures for evaluating and providing corporate information processing and storage requirements on a DoD-wide basis.

Management Comments. The Deputy Assistant Secretary of Defense (Information Management) concurred and stated that implementation of Office of Management and Budget Bulletin 96-02, "Consolidation of Agency Data Centers," provides a sound foundation for better computer capacity planning and DoD-wide data sharing.

Audit Response. Management comments were responsive. We deleted the recommendation to revise information infrastructure policy to include management of midtier computers because the implementation of Office of Management and Budget Bulletin 96-02 should correct this issue.

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Part I - Audit Results

Audit Background

Corporate Information Management Initiative. On November 16, 1990, the Secretary of Defense assigned responsibility for implementing the Corporate Information Management (CIM) initiative to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). The purpose of the CIM initiative is to establish a conceptual framework for the management of DoD computer, communication, and information management functions. The CIM initiative has four goals: common information systems; shared, standard data; reengineered processes; and a computer and communications infrastructure. To implement CIM, senior DoD managers have issued Defense Management Report Decision 918, the Technical Architecture Framework for Information Management, and the DoD Strategic Plan.

Defense Management Report Decision 918. On September 15, 1992, the Deputy Secretary of Defense signed the Defense Management Report Decision 918, "Defense Information Infrastructure," to improve information management capability in DoD. Decision 918 supports the information management goal of providing a centralized computer and communications infrastructure for mainframe processing. DoD information management policy is in DoD Directive 8000.1, "Defense Information Management Program," October 27, 1992.

Technical Architecture Framework for Information Management. On June 23, 1994, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) issued a memorandum that established the Technical Architecture Framework for Information Management as the single guide for the integration of DoD information systems. The guide defines common services, standards, and configurations, including support applications, computer platforms, and communications networks for the DoD information infrastructure.

Strategic Plans and Implementing Directives. The Deputy Secretary of Defense approved the DoD Strategic Plan, "Corporate Information Management for the 21st Century," on June 13, 1994. The Strategic Plan expands CIM planning to include plans for the Principal Staff Assistants and DoD Components. The Strategic Plan also serves as the basis for issuing DoD policy and directives on information management.

DoD Directive 8120.1, "Life-Cycle Management of Automated Information Systems," January 14, 1993, states that it is DoD policy for program managers to develop automated information systems in accordance with strategic plans. The Directive aids DoD Component program managers in developing standardized systems.

Audit Objectives

The primary audit objective was to determine whether the acquisition of automatic data processing equipment was consistent with the intent of the Corporate Information Management initiative as it related to streamlining the Defense information infrastructure. We also reviewed the Assistant Secretary of Defense (Command, Control, Communication, and Intelligence) management control program as it applied to the primary audit objective. See Appendix A for a discussion of the audit scope and methodology and the review of the management control program, and see Appendix B for a summary of prior coverage related to the audit objectives. Appendix C discusses the central design activities and the effect that the management and control of those organizations have on streamlining the Defense information infrastructure.

Acquisition and Management of Computers That Process Corporate Information

The DoD Components did not sufficiently coordinate their acquisition and management of computers that process corporate information to ensure effective and efficient DoD-wide use of computer resources. Coordinated acquisition and management were not achieved because requirements stated in Defense Management Report Decision 918, which focused on mainframe computers, have not been integrated with the standards of the Technical Architecture Framework for Information Management to address midtier[1] computer processing. As a result, the DoD Component's planned acquisitions of midtier computer equipment, costing about $200 million, may result in excess processing capabilities within the DoD.

DoD Policy and the Standards for Information Infrastructure Design

Infrastructure Policy and Standards. The Defense information infrastructure is intended to be a seamless web of communications, networks, computers, software, applications, and corporate data that support DoD information processing requirements. However, the policy on acquiring and managing the proper mix of mainframe and midtier computers to process corporate data is incomplete. Management policy in Defense Management Report Decision 918 has not been applied to midtier computers that process corporate data, but midtier computers are and will continue to be a key component in the DoD information infrastructure. The need for clear policy and procedures for the acquisition and management of midtier computers is especially critical, because those computers are becoming the program manager's most frequent solution for complying with DoD requirements for developing computer systems. Further, as the DoD information infrastructure expands with midtier computer processing capabilities, the potential for excess processing capabilities in DoD increases, unless policy and procedures for acquiring and managing both mainframe and midtier computers are established.

Defense Management Report Decision 918. The Defense Management Report Decision 918 requires DoD to manage and control corporate information processing systems. Decision 918 states in part:

[1]Also known as a midrange computer or a minicomputer, a midtier computer is a medium-scale computer that functions as a multi-user system with several hundred terminals.

> . . . the DISA [Defense Information Systems Agency] becomes central manager of the defense information infrastructure which is defined as all DoD communications support networks requiring systems integration. e.g. [for example], interfaces with defense communications systems, including local access switches, network control centers, central data processing operations, and software development for all applications managed under the Corporate Information Management initiative.

Defense Management Report Decision 918 also states that the Defense Information Systems Agency responsibilities include development and enforcement of information technology standards, management of data processing installations, and consolidation of all data processing installations into a small number of megacenters. Defense Management Report Decision 918 specifically excludes information processing functions and facilities associated with strategic and tactical command, control, and intelligence. As of September 30, 1994, the reported acquisition value of megacenter computer assets totaled $891.5 million.[2]

Technical Architecture Framework for Information Management. The guidance and standards in the Technical Architecture Framework for Information Management are "the glue" of the open systems architecture. The phrase "open systems" describes computer applications that can communicate with each other across a network and across computer applications that use a common operating system interface. The Technical Architecture Framework for Information Management defines open systems as those that permit computer applications software to operate on a wide range of computer equipment. The Technical Architecture Framework for Information Management does not require a specific architecture, hardware solution, or operating system. However, the UNIX[3] computer operating system has become the basis for defining open systems standards, and the primary computer equipment for UNIX computer applications is the minicomputer.

Midtier Computer Systems. In open systems, the minicomputer normally operates at the midtier, a level between the workstation and the mainframe computer. Accordingly, the minicomputer is called a midtier computer.

Use of midtier computer equipment has increased because computer vendors are moving from proprietary to open systems, and the market solution to open systems is the minicomputer. Therefore, selection of the minicomputer, or midtier computer, has become the primary method for the DoD program manager to meet user functional requirements and to comply with the Technical Architecture Framework for Information Management.

On March 30, 1995, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) reiterated the DoD requirement to comply

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[2]Amount was shown in Footnote 15 to the Defense Business Operations Fund-Defense Information Services Organization Financial Statements for FY 1994.

[3]A multi-user computer operating system developed by Bell Laboratories.

with the Technical Architecture Framework for Information Management and the open systems concept. The requirement also applies to migration systems.[4] A migration system is an automated information system designated to support DoD Component-wide or DoD-wide standard business processes.

Implementing Solutions in Support of DoD Information Management Goals

The Deputy Secretary of Defense directed in the October 13, 1993, memorandum, "Accelerated Implementation of Migration Systems, Data Standards, and Process Improvements," that the Principal Staff Assistants select standard, DoD-wide, migration systems. For this audit, we reviewed the computer hardware of four migration systems under development that will process corporate information: two logistics systems, one personnel system, and one procurement system. Specifically, those systems are the Depot Maintenance Standard System, the Materiel Management Standard System (both logistics standard systems), the Defense Civilian Personnel Data System, and the Standard Procurement System. The hardware solutions for those systems could create redundant data processing centers because DoD policy on managing midtier computers is unclear.

Logistics Standard Systems. On February 13, 1992, the Assistant Secretary of Defense (Production and Logistics)[5] approved the charter for the Joint Logistics Systems Center. In the memorandum, "Joint Logistics Systems Center Charter," the Assistant Secretary tasked the Joint Logistics Systems Center to implement Corporate Information Management principles and concepts for DoD logistics functions. To accomplish that task, the Joint Logistics Systems Center manages the design and development of two DoD logistics standard systems, the Depot Maintenance Standard System and the Materiel Management Standard System.

Upon implementation of the systems, the mainframe computers for the Depot Maintenance and Materiel Management Standard Systems will be owned and operated by the Defense Information Systems Agency. However, responsibility for acquiring midtier computers has not been consistent. Midtier computer acquisitions changed each year from FYs 1993 through 1995. The Defense Information Systems Agency was funded to acquire midtier computer hardware for FY 1993. However, in FY 1994 the funding for midtier computer hardware

[4]Migration systems are those automated information systems designated for interim use for functional processes on a DoD-wide basis during the transition from numerous existing (legacy) and nonstandard automated information systems to functional standard systems.

[5]After a subsequent reorganization, the duties of the position that are relevant to this discussion were assumed by the Deputy Under Secretary of Defense for Logistics.

was withdrawn from the Defense Information Systems Agency and given to the Joint Logistics Systems Center. For FY 1995, Program Budget Decision 401, "Business Operations Corporate," December 19, 1993, directed that DoD Components rather than the Joint Logistics Systems Center acquire midtier computers.

The Defense Information Systems Agency received a total of $117.8 million in FY 1993 to buy computer equipment for the DoD logistics standard systems. In FY 1994, the Joint Logistics Systems Center received $91.2 million to purchase computer equipment. The Joint Logistics Systems Center estimated FYs 1995 through 1997 funding requirements for midtier computers and computer workstations at $70.4 million to support the Depot Maintenance Standard System and at $108.6 million to support the Materiel Management Standard System.

Depot Maintenance Standard System. The Depot Maintenance Standard System consists of eight subsystems and has an estimated life-cycle cost of $2.8 billion. The subsystems support the three major depot maintenance business processes of project management, repairable management, and specialized support, such as tracking hazardous materials. Three sites began implementation of the Depot Maintenance Standard System in FY 1995. Further, the program manager anticipates full operating capability at 20 major depots in FY 2002. The Depot Maintenance Standard System will use both mainframe and midtier computers to process data.

Materiel Management Standard System. The Materiel Management Standard System consists of 10 subsystems and has an estimated life-cycle cost of $4.4 billion. The system supports four major materiel management business processes: asset management, supply data, technical data, and requirements determination. The Materiel Management Standard System will support $77.5 billion in national-level inventories at 17 inventory control locations and will process about 2.2 billion transactions annually. The 10 subsystems will operate on a combination of mainframe and midtier computers.

Defense Civilian Personnel Data System. The Deputy Secretary of Defense established the Civilian Personnel Management Service and on August 30, 1993, tasked it to modernize the civilian personnel system. Program Budget Decision 711, "Corporate Information Management (CIM) Initiatives," December 5, 1994, created the Defense Civilian Personnel Data System modernization program. The program will consolidate all DoD civilian personnel data into a single, standardized data base. The personnel data base will serve 23 regional service centers and 330 customer service units. The program manager estimated the program's life-cycle costs at $157 million and that initial operational capability would occur in FY 1998. Upon full operational capability, ownership of a specialized midtier computer used to process the central data base will transfer to the Defense Information Systems Agency. The 23 regional service centers and 330 customer service units will acquire, operate, and maintain the midtier computers needed to support operations, which the program manager estimated will total about $22 million.

Standard Procurement System. The Standard Procurement System will operate at the Defense Supply Centers to automate the development, review, approval, printing, and issuance of solicitations and contract awards. The system will replace 9 major preaward procurement systems used by about 25,500 users at 546 sites. The Defense Logistics Agency program manager estimated life-cycle costs for the Standard Procurement System at $1.1 billion. The Defense Logistics Agency is developing the system incrementally, with full operational capability planned for FY 2000. The Standard Procurement System will use mainframe computers at three Defense megacenters to store and process the central data base. The Standard Procurement System program office also planned to acquire midtier computers to process corporate data. However, according to the Deputy Program Manager, the Standard Procurement System program office will not acquire midtier computers for the DoD Components. The DoD Components will acquire any needed midtier computers.

Effects of the Hardware Solutions for the Four Information Systems. The Depot Maintenance Standard System, the Materiel Management Standard System, the Defense Civilian Personnel Data System, and the Standard Procurement System all relied on or will rely very heavily on the midtier computer to meet corporate information processing requirements. In total, program managers plan to acquire about $200 million[6] in midtier computer equipment for their systems. Without clear policy, those systems, developed in compliance with the Technical Architecture Framework for Information Management, may be used to create data processing centers that will result in excess computer information processing capacity in the DoD.

DoD Guidance on Storing and Processing Corporate Information

Effects of CIM Plan on CIM Goals. A goal of the DoD Corporate Information Management Strategic Plan (the Plan), June 1994, is to "tie DoD together through the use of common, shared data." The Plan includes interoperability in DoD among different functional areas as well as minimizing expenditures for computer equipment to process the functional data. For DoD to meet those goals, the Plan requires DoD managers to provide for the efficient capture, collection, processing, storage, and dissemination of data. However, the Plan does not specify procedures for DoD managers to use in accomplishing those tasks.

Data Processing and Storage Efficiencies in Support of the CIM Plan. Efficient data processing and storage are elements of a DoD strategic goal, yet specific policy, such as DoD Directive 8120.1, "Life-Cycle Management of Automated Information Systems," January 14, 1993, implements guidance for

[6]Depot Maintenance Standard System-$70.4 million, Materiel Management Standard System-$108.6 million, Defense Civilian Personnel Data System-$22 million.

compliance on a program-by-program basis. In other words, as illustrated by the four major information systems reviewed for this report, DoD strategic goals are specified on a global basis, but implemented on an individual program basis and, therefore, do not necessarily support management strategy. Additionally, DoD Instruction 8120.2, "Automated Information System Life-Cycle Management Process, Review, and Milestone Approval Procedures," January 14, 1993, does not require a functional economic analysis, which includes proposed hardware solutions across DoD functional areas.

DoD Managers Need to Coordinate. Although the program managers developed computer hardware solutions in compliance with existing DoD policy, they did not coordinate their requirements with other systems program managers. The program managers did not coordinate requirements because the DoD did not have a policy that integrated midtier computer policy requirements with mainframe policy requirements. We believe that the DoD could improve coordination of corporate information processing needs.

Coordinating Corporate Information Processing Needs

Coordination of corporate information processing requirements would better support DoD information management goals. Specifically, we believe that improving the coordination of the acquisition and management of computers that process corporate information would provide:

o more effective use of the open systems infrastructure concept to resolve operational problems;

o more efficient tracking and reporting of information management costs on a DoD-wide basis;

o better management of the transition from existing, outdated systems to migration systems;

o more effective management of computer security through use of standard software and setup procedures, consistent monitoring of user access authority, and application of specialized tools to address common security weaknesses;

o common and consistent support, diagnosis, and repair;

o uniform operational policies, standards, and procedures;

o new technology identification and transition assistance;

o central validation of quality suppliers for computer software, hardware, and services; and

o common training of users.

Consolidation of Data Centers

On October 4, 1995, the Office of Management and Budget issued Bulletin No. 96-02, "Consolidation of Agency Data Centers," to provide guidelines for reducing the number of agency data centers and the total cost of data center operations Government wide. The Bulletin calls for agencies to:

o reduce the total number of agency data centers during the next 24 months,

o collocate small and midtier computing platforms in larger data centers,

o modernize remaining data centers to improve services, and

o contract out information processing requirements to other Federal or commercial data centers if the aggregate installed base is below minimum target sizes.

The Bulletin requires the head of each agency to complete consolidations by June 1998.

On November 6, 1995, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) issued a memorandum for Directors of the Defense Agencies to provide guidance on responding to the requirements of Bulletin No. 96-02. The memorandum lists three tasks that must be accomplished by the DoD: prepare an inventory of data centers; develop a data center consolidation strategy; and submit a detailed implementation plan to the Office of Management and Budget.

Summary

The DoD does not yet have a clear policy on the acquisition and management of the infrastructure that supports corporate information data processing requirements. Specifically, a management policy gap exists between the guidance in Defense Management Report Decision 918 and guidance in the Technical Architecture Framework for Information Management. However, the recent Office of Management and Budget initiative to consolidate agency data centers will result in policy changes affecting the management of midtier computers.

Recommendation, Management Comments, and Audit Response

Revised Finding and Deleted Recommendation. After the draft report was issued on September 25, 1995, we met with representatives of the Deputy Assistant Secretary of Defense (Information Management) to discuss management comments. The primary focus of the discussion was the effects of Office of Management and Budget Bulletin No. 96-02 (the Bulletin), on the draft recommendations. Among other actions, the Bulletin requires the consolidation of small and midtier computing platforms into larger data centers. The DoD is required to develop an inventory of data centers by March 1, 1996, and to complete consolidations by June 1998. The Deputy Assistant Secretary of Defense (Information Management) believes that because data center consolidation will occur as a result of requirements in the Bulletin, additional policy in managing midtier computers is not needed at this time. Therefore, based on management comments and additional audit review, we added a section to the final report entitled "Consolidation of Data Centers" to explain the effects of the Bulletin and we deleted draft report Recommendation 1. to revise DoD information infrastructure policy to include management of midtier computers that process corporate information.

We recommend that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) establish procedures for evaluating and providing corporate information processing and storage requirements on a DoD-wide basis rather than on an individual program basis.

Management Comments. The Deputy Assistant Secretary of Defense (Information Management) concurred with the recommendation. While senior DoD management placed limitations on further centralization of corporate information processing and storage requirement efforts required by Defense Management Report Decision 918, the Deputy Assistant Secretary stated that, in the near term, the implementation of the Bulletin would provide a sound foundation for better planning for computer capacity and DoD-wide data sharing. Decisions on changing information infrastructure policy will have to be deferred until the data center consolidation requirements of the Bulletin are complete. The Assistant Secretary nonconcurred with our identification of a material management control weakness, stating that the weakness is not well defined and that redundant computing capacity is not necessarily an example of waste, fraud, and abuse.

Audit Response. We consider management comments responsive to the intent of the recommendation. Because the Bulletin includes a requirement for an inventory and consolidation of midtier computers into data processing centers, we agree with the Deputy Assistant Secretary of Defense (Information Management) that ongoing actions will provide data on the quantity and location of computer platforms, including midtier computers within the DoD, that can be used to establish or revise policy on managing DoD information

infrastructure. We also believe that policy changes resulting from implementation of the Bulletin will correct the material management control weakness identified in the report.

Part II - Additional Information

Appendix A. Audit Process

Scope

Corporate Information Processing Systems. We reviewed the computer software and hardware development of four major DoD standard information systems: the Materiel Management Standard System, the Depot Maintenance Standard System, the Defense Civilian Personnel Data System, and the Standard Procurement System. Specifically, we analyzed the processes to acquire, manage, and operate computers needed to run the standard software.

Methodology

DoD Guidance on Processing and Storage of Corporate Information. We reviewed and analyzed policy and guidance on the operations and design of DoD computer systems. Specifically, we analyzed policy implemented by the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). We also analyzed guidance on the design of open computer systems as explained in the "Technical Architecture Framework for Information Management." We compared the policy and guidance for consistency regarding the use of mainframe and minicomputer systems.

Use of Computer-Processed Data and Statistical Sampling. We did not use computer-processed data or statistical sampling procedures for this audit.

Use of Technical Assistance. Software engineers from the Technical Assessment Division, Office of the Inspector General, DoD, assisted in evaluating technical documentation.

Audit Period, Standards, and Locations. We performed this program audit from March through August 1995 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We included tests of management controls considered necessary. Appendix E lists the organizations we visited or contacted.

Management Control Program

DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987, requires DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of those controls.

Scope of Review of Management Control Program. Specifically, we reviewed management controls established by the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) over policy and procedures relating to the acquisition and management of computers that process corporate information. We interviewed the management control program focal point and the official responsible for policy review and coordination.

Adequacy of Management Controls. We identified a material management control weakness within the Office of Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) as defined by DoD Directive 5010.38 relating to policy and procedures for the acquisition and management of computers that process corporate information. The material management control weakness is the gap in policy for the acquisition and management of computers that process corporate information. Policy changes that will result from Office of Management and Budget Bulletin No. 96-02 and from the report recommendation, when implemented, will correct the weakness and will result in unquantifiable potential monetary benefits (Appendix D). A copy of the final report will be provided to the senior official responsible for management controls in the Office of the Assistant Secretary of Defense (Command, Control, Communication, and Intelligence).

Adequacy of Management's Self-Evaluation. Office of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) did not specifically assess the policy for acquiring and managing computers that process corporate data as part of the self-evaluation of management controls. Therefore, the officials did not identify or report in the Annual Statement of Assurance the material control weakness identified by the audit.

Appendix B. Prior Audits and Other Reviews

During the last 5 years, the General Accounting Office (GAO) and the Office of the Inspector General, DoD, have each issued several reports related to the DoD Corporate Information Management initiative. We reviewed, selected, and summarized the reports most relevant to the scope of this audit.

General Accounting Office

GAO Report No. NSIAD-95-28 (OSD Case No. 9660), "Impediments Jeopardize Logistics Corporate Information Management," October 21, 1994, states that the CIM initiative has had little effect on materiel management and depot maintenance business practices. The report recommends that the Secretary of Defense revise the CIM management strategy to ensure that DoD functional managers reengineer DoD business processes, train DoD employees in an organization's business practices, and rename the initiative to accurately communicate its primary objective to all employees.

GAO Report No. NSIAD-94-101 (OSD Case No. 9652), "Stronger Support Needed for Corporate Information Management Initiative to Succeed," April 12, 1994, states that the DoD efforts to reengineer its business processes, to standardize and integrate data, and to improve its information systems under CIM have yielded mixed results. The report recommends that the Secretary of Defense develop a CIM management strategy, obtain the views of outside expert practitioners to provide independent perspectives on CIM, develop a CIM strategic plan, ensure an appropriate balance between efforts to reengineer business practices and to standardize systems, require that migration systems be supported by sound economic and technical analyses, require a cost-benefits assessment, and direct the Principal Staff Assistants to establish plans consistent with the CIM strategic plan.

GAO Report No. AIMD-94-14 (OSD Case No. 9586), "Management Commitment Needed to Achieve Defense Data Administration Goals," January 1, 1994, states that the DoD has not been able to properly determine its corporate data needs. The report recommends that the Secretary of Defense require Principal Staff Assistants to document their business methods and performance measures before developing process and data models.

Inspector General, DoD

Inspector General, DoD, Report No. 95-269, "Oversight Process of the Major Automated Information Systems Review Council," June 30, 1995, states that the Major Automated Information System Review Council review process has not

been reengineered to reflect changes in acquisition methods used to develop or modernize major automated information systems. The report recommends revising DoD regulations to specify procedures to involve the Major Automated Information Systems Review Council in ongoing CIM efforts and to specify procedures for the Council to use in assessing major automated information systems. The Deputy Assistant Secretary of Defense (Command, Control, Communications, and Intelligence Acquisition) generally concurred with the recommendations in the report, and is incorporating recommendations in the revisions to relevant DoD directives and manuals.

Inspector General, DoD, Report No. 3RE-2017, "Report on the Implementation of Defense Management Report Decision 918," June 15, 1994, evaluates the DoD implementation of Defense Management Report Decision 918, "Defense Information Infrastructure." The report summarizes congressional and DoD actions taken from September 15, 1992, the date the Defense Management Report Decision 918 was implemented, through March 1994, the date audit work was completed.

Inspector General, DoD, Program Evaluation Report, "Defense Corporate Information Management Initiative," January 28, 1993, responds to questions from the Director of Defense Information on the status of the CIM implementation plan and how DoD was institutionalizing the CIM initiative. The report concludes that tasks associated with the CIM implementation plan had been completed or incorporated into the duties and responsibilities of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and other DoD Components. On the other hand, the report concludes that institutionalizing the CIM initiative was severely hampered by the lack of an overall CIM plan.

Appendix C. Other Matters of Interest

Central Design Activities. The primary purpose of DoD Component central design activities is to support DoD Component development and maintenance of automated information systems. About 90 percent of the central design activity effort is spent to support existing software systems, and about 10 percent is spent on new system development. In FY 1994, the DoD had 32 central design activities with a budget of about $1.1 billion.

Effective November 1, 1992, Defense Management Report Decision 918 transferred from the DoD Components to the Defense Information Systems Agency all central design activity assets and personnel associated with software design, development, reengineering, maintenance, systems integration, and common support activities. However, on May 7, 1993, the Deputy Secretary of Defense delayed transfer of the central design activities. Subsequently, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) directed the immediate return of the central design activities to the DoD Components on June 28, 1993. Because the development and maintenance of software at the central design activities is separate from the acquisition and management of computer hardware and the Defense information infrastructure, we believe the ability of the DoD to effectively coordinate corporate information processing is hampered.

Appendix D. Summary of Potential Benefits Resulting from Audit

Recommendation Reference	Description of Benefit	Amount and Type of Benefit
1.	Management Controls and Economy and Efficiency. Creates procedures for the acquisition and management of midtier and mainframe computers that do not duplicate processing capabilities already within the DoD.	Undeterminable. Monetary amount would vary according to the site and type of computer equipment.

Appendix E. Organizations Visited or Contacted

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller), Washington, DC
Assistant Secretary of Defense (Command, Control, Communications and Intelligence), Washington, DC
Deputy Under Secretary of Defense (Logistics), Washington, DC
Director, Program Analysis and Evaluation, Washington, DC

Department of the Army

Headquarters, Department of the Army, Washington, DC

Department of the Navy

Headquarters, Department of the Navy, Washington, DC

Department of the Air Force

Air Force Military Personnel Center, Randolph Air Force Base, TX

Other Defense Organizations

Joint Logistics Systems Center, Wright-Patterson Air Force Base, OH
DoD Civilian Personnel Management Service, Washington, DC

Defense Agencies

Defense Information Systems Agency, Arlington, VA
Defense Information Systems Agency, Western Hemisphere, Denver, CO
Defense Information Systems Agency, Western Hemisphere, Fort Ritchie, MD
Defense Logistics Agency, Alexandria, VA

Appendix F. Report Distribution

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Department of the Army

Auditor General, Department of the Army

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Auditor General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Department of the Air Force

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, National Security Agency
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Non-Defense Federal Organizations and Individuals

Office of Management and Budget
Technical Information Center, National Security and International Affairs Division, General Accounting Office

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Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on National Security, Committee on Appropriations
House Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal Justice, Committee on Government Reform and Oversight
House Committee on National Security

Part III - Management Comments

Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) Comments

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
6000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-6000

COMMAND, CONTROL, COMMUNICATION AND INTELLIGENCE

NOV 29 1995

MEMORANDUM FOR DIRECTOR OF READINESS AND OPERATIONAL SUPPORT, DOD IG

SUBJECT: Audit Report on Acquisition of Computers That Process Corporate Information (Project No. 5RE-0035)

This is in response to your memorandum, dated September 25, 1995, on the above subject.

Consistent with your request, attached are comments on the findings, conclusions, and recommendations contained in the subject report. You will note that we continue to have some concerns about the centralization implications of the report. The provision of corporate information processing and storage requirements on a DoD-wide basis will likely require further centralization such as that envisioned under the final implementation of Defense Management Report Decision (DMRD) 918. However, due deliberation and consultation among senior management within the Department resulted in limitations being placed on further DMRD 918 activity. Consequently, any DoD-wide evaluation and provision of information processing and storage requirements will need to proceed with care.

Questions regarding this matter may be directed to Ms. Scarlett Curry, (703) 614-1953, of my staff.

C Kendall

Cynthia Kendall
Deputy Assistant Secretary of Defense
(Information Management)

Attachment

Final Report Reference

COMMENTS
ON
AUDIT REPORT ON ACQUISITION OF COMPUTERS THAT PROCESS CORPORATE INFORMATION (PROJECT NO. 5RE-0035)

Page 2, Paragraph 1: The Corporate Information Management initiative was "announced" in a memorandum, signed by the Deputy Secretary of Defense and dated October 4, 1989. Key elements of this memorandum were:

- the objective of improving the standardization, quality, and consistency of data from DoD's multiple management information systems, and
- the establishment of an executive level group to recommend an overall approach and action plan to enhance the availability and standardization of information in common areas through a Corporate Information Management program.

Revised Page 2

The Secretary's memorandum, "Implementation of Corporate Information Management Principles," dated November 16, 1990 (e.g., the memorandum cited in the audit report) announced the completion of the executive level group's work, and assigned certain implementation responsibilities to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence).

Page 2, Paragraph 2: The Deputy Secretary of Defense signed the Defense Management Report Decision 918, "Defense Information Infrastructure," rather than the Secretary of Defense as stated in the report.

Revised Page 2

Page 4, Paragraph 1: Reference the sentence, "Coordinated acquisition and management were not achieved because requirements stated in Defense Management Report Decision 918, which focused on mainframe computers, have not been integrated with the standards of the Technical Architecture Framework for Information Management to address midtier computer processing."

This statement is confusing, lacks substance and rationale, and requires further clarification. Specifically, what DMRD 918 requirements have not been, but need to be, integrated with the standards of the TAFIM? Even if some requirements of DMRD 918 were integrated with the standards of the TAFIM, it is not clear how this, in and of itself, would result in the coordinated acquisition and management of certain computers. Further, although there maybe a need for a midtier computer policy, or perhaps more appropriately DoD-wide computer capacity planning, the TAFIM is not necessarily the place for such policy. As currently written, the statement implies that the TAFIM is lacking with regard to a vague policy issue.

We do not believe the focus of DMRD 918 was limited to mainframe computers. For example, the intent of DMRD 918 was to make DISA "responsible for ...DPIs ... including distributed office automation systems." Similarly, according to the Defense Information Infrastructure Implementation Plan, dated January 14, 1993, "the approach herein focuses on reducing the number of mainframe and minicomputer sites ..." The intent was to address DPI and mainframe assets in Phase I of Stage I; other computing resources would be addressed in follow-on Phases/Stages of DMRD 918 implementation.

Finally, the statement, when viewed in conjunction with Recommendation 1, implies that DMRD 918 should be revised. The Secretary of Defense and the ASD(C3I) in memoranda, dated May 1993 and June 1993, respectively, directed the final disposition of DMRD 918 -- both of which limited further DMRD 918 activity. It is unlikely that DMRD 918 will be revised.

Page 5, Paragraph entitled, "Defense Management Report Decision 918": The relevance of this paragraph is unclear. Further, any discussion of DMRD 918 should be within the context of its accompanying resource and implementation plans as well as the May 1993 and June 1993 memoranda cited above. For example, while the goal of DMRD 918 was to consolidate all data processing installations resources as well as other computing assets under the control of the DISA, subsequent restrictions were put on some of this activity.

Page 5, Paragraph entitled, "Technical Architecture Framework for Information Management": Within DoD, UNIX is not the basis for defining open systems standards. POSIX is the fundamental standard for operating systems. POSIX and UNIX are not synonymous. The TAFIM does not mention UNIX, and does not deal with a specific brand of operating system.

Page 9: The two fundamental issues of the report are alluded to on page 9 -- (1) whether the Department has established adequate procedures consistent with its policy of data sharing, and (2) whether the Department has done a reasonable job of corporate-wide computer capacity planning irrespective of the size of the computer used.

The issue is not midtier policy requirements; rather, it is one of ensuring that DoD has adequate procedures and guidelines that deal with corporate-wide capacity planning, ensuring that such procedures are incorporated into the acquisition process for all systems, and that adequate management controls are instituted to avoid unnecessary duplication.

Final Report Reference

Currently, DoD policy and a variety of other regulatory issuances require an evaluation of existing capacity before acquiring new information technology. The report suggest that these policies have not been effective. But issuing more policies, resurrecting DMRD 918, and instituting an impractical approach of having each program manager consult or coordinate with every other program manager before acquiring information processing capability would not appear to be solutions.

The report indicates that "DoD strategic goals are specified on a global basis, but implemented on an individual program basis and, therefore, do not necessarily support management strategy." Yet, a recommendation is to revise and issue policy which is also global in nature. The inference being that globally issued policy which is implemented on an individual basis somehow will necessarily be a solution.

Recommendation 1: Revise DoD information infrastructure policy to include management of midtier computers that process corporate information.

Deleted

Response: Nonconcur. The basis for this position is as follows:

- Revision of the DoD information infrastructure (DII) policy implies that such a policy exists. However, the key DII policy alluded to in the report is DMRD 918, "Defense Information Infrastructure." Hence, it would appear that the recommendation is suggesting that DMRD 918 be revised. Such an action is unlikely and impractical.

- The recommendation infers that a globally issued policy on midtier computers which is implemented on an individual program basis will necessarily support management strategy and be effective. Even the report suggests that this may not be the case.

- The recommendation is vague, too narrowly focused, and provides limited insight regarding what such a policy would espouse beyond the general notion of improving the coordination process for acquiring and managing midtier computers.

- Existing DoD policy applies to midtier computers. These policies include DoD Directive (DoDD) 8000.1, DoDD 8120.1, DoD Instruction 8120.2, and the ASD(C3I) memorandum of March 1995 requiring compliance with the TAFIM. Furthermore, as stated earlier, DMRD 918 applied to midtier computing.

Final Report Reference

Recommendation 2: Establish procedures for evaluating and providing corporate information processing and storage requirements on a DoD-wide basis rather than on an individual program basis.

Response: Concur. However, we continue to have some concerns about the centralization implications of this recommendation. Provision of corporate information processing and storage requirements on a DoD-wide basis will likely require further centralization such as that envisioned under the final implementation of Defense Management Report Decision (DMRD) 918. However, due deliberation and consultation among senior management within the Department resulted in limitations being placed on further DMRD 918 activity. Consequently, any DoD-wide evaluation and provision of information processing and storage requirements will need to proceed with care.

Added Page 10

In the near-term, the implementation of OMB Bulletin 96-02, "Consolidation of Agency Data Centers," provides a sound foundation for better computer capacity planning and DoD-wide data sharing. Among other things, the goals of this document are to reduce the total number of DoD data centers, collocate small and midtier computing platforms in larger data centers, and/or outsource certain information processing requirements.

Management Control Program: We do not agree that the purported "gap in policy for the acquisition and management of computers that process corporate information" is a material management control weakness, and Recommendation 1 and 2, when implemented, will correct the weakness. First, the weakness as described in the report is not well-defined. Secondly, we nonconcur with Recommendation 1; consequently, we do not believe implementation of both recommendations will result in the solution of an ill-defined problem. Finally, if one believes that a part of the real problem is potentially redundant computing capacity, this is not necessarily an example of waste, fraud, and abuse.

Audit Team Members

This report was prepared by the Readiness and Operational Support Directorate, Office of the Assistant Inspector General for Auditing, DoD.

Thomas F. Gimble
Salvatore D. Guli
Mary Lu Ugone
Cecelia A. Miggins
Haskell I. Lynn
Karim Malek
Joseph R. Mickley
Margaret B. Bennardo
Nancy C. Cipolla
Cristina Maria H. Giusti

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Inspector General, Department of Defense
400 Army Navy Drive (Room 801)
Arlington, VA 22202-2884

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