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DEFENSE MANAGEMENT

Impediments Jeopardize Logistics Corporate Information Management

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The Honorable John Glenn
Chairman, Committee on
Governmental Affairs
United States Senate

Dear Mr. Chairman:

This report was prepared in response to your request that we review implementation of the Department of Defense's Corporate Information Management (CIM) initiative. It focuses specifically on progress made to improve the logistics functions of materiel management and depot maintenance under the CIM initiative and identifies impediments to further progress.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days from its issue date. At that time, we will send copies to the appropriate congressional committees; the Secretaries of Defense, the Army, the Navy, and the Air Force; and the Director, Office of Management and Budget. Copies also will be made available to others on request.

If you have any questions, please call me on (202) 512-8412. Major contributors to this report are listed in appendix IV.

Sincerely yours,

Donna M. Heivilin
Director, Defense Management
and NASA Issues

Executive Summary

Purpose

In 1992, the Department of Defense (DOD) projected that its Corporate Information Management (CIM) initiative would enable it to save $36 billion by fiscal year 1997. According to the Joint Logistics Systems Center (JLSC), established to help achieve CIM goals, as much as $28 billion would be saved by improving DOD's logistics functions. Today, however, DOD is neither projecting nor tracking CIM savings. DOD officials acknowledge that the CIM initiative will be difficult to implement, and it may be many years before the majority of savings materialize.

Because of concerns about the CIM progress, the Chairman of the Senate Committee on Governmental Affairs asked GAO to review the CIM initiative, focusing on the DOD logistics function of materiel management. Because DOD had established one organization, JLSC, to oversee the improvement of its logistics functions of materiel management and depot maintenance, this report discusses these two functions. GAO's specific objectives were to identify (1) improvements made to business processes and supporting information systems and (2) impediments, if any, to achieving expected CIM results.

Background

In October 1989, DOD established the CIM initiative to improve business practices, make better use of information technology, and eliminate duplicate administrative systems in areas such as civilian payroll, materiel management, and medical. Since then DOD has significantly broadened the initiative to encompass all DOD functional areas, including procurement, logistics, finance, and command and control. Its primary objective is to dramatically improve the way DOD conducts business, by adopting the best practices used in the public and private sectors. Nevertheless, developing standard information systems to support improved business practices remains an important CIM component.

To implement CIM, DOD directed senior officials within the Office of the Secretary of Defense, called Principal Staff Assistants to identify—through a process known as business process reengineering—major improvements to business practices. At the same time, service and agency managers are taking a bottom-up look to identify and implement business process improvements that have servicewide or agencywide application.

To help identify and implement major improvements in materiel management and depot maintenance, DOD established JLSC. JLSC is staffed with personnel from the military services and the Defense Logistics Agency (DLA) and relies on the active participation of the services and DLA

to accomplish its efforts. This report deals with JLSC's progress toward implementing the CIM initiative, as well as the status of the overall CIM effort.

Results in Brief

The CIM initiative has had little effect on materiel management and depot maintenance business practices. As directed by DOD, JLSC has focused on selecting standard logistics information systems—called migration systems—that the services and DLA are to implement by mid-1997. As a result, business process reengineering efforts (where most savings occur) may be delayed several years. JLSC believes, however, that selecting and implementing migration systems are necessary first steps in the reengineering process.

Although some progress has been made, several impediments have delayed JLSC's first steps. Three critical impediments are (1) some DOD managers in the services and DLA have not fully accepted the initiative, (2) DOD has not integrated its various CIM efforts, and (3) CIM management authority is unclear because of confusing DOD guidance. These impediments indicate fundamental weaknesses in DOD's management of the CIM initiative. For example, until recently DOD had not developed either a strategic plan for improving business operations nor a mechanism to handle cross-functional issues. Also, DOD has not devised a management strategy to encourage the active participation and leadership of functional managers, particularly the service Chiefs of Staff and the DLA Director, nor has it ensured that its employees understand CIM objectives and implementation strategies. As a result, DOD has not made the cultural changes needed to successfully implement CIM.

Principal Findings

Emphasis on Selecting Migration Systems May Delay Major CIM Savings

DOD's focus on selecting migration systems has delayed reengineering efforts. DOD, however, believes that having migration systems is necessary to (1) obtain short-term cost savings to offset recent budget reductions and (2) develop a standard logistics environment across the military services and DLA. By June 1994, JLSC, working with the services and DLA, had selected 32 migration systems for the materiel management and depot maintenance business areas. It has also eliminated service and DLA funding

requests ($22.7 million in 1993 and $320.6 million in 1994) for information system projects it deemed redundant.

Originally, JLSC planned to implement migration systems over a 7- to 8-year period, which exceeded the 3-year milestone mandated by the Deputy Secretary of Defense. Consequently, the Deputy Under Secretary of Defense (Logistics), in March 1994, proposed that a new organization replace JLSC. This new organization, called the Logistics Standard Systems Joint Program Office, is to provide intensive management to meet the Deputy Secretary's 3-year mandate. As of September 1994, this proposed organization change had not been approved. This emphasis on deploying migration systems may further delay significant improvements to the logistics processes. In addition, 3 years may not be enough time to ensure the migration systems meet the services' and DLA's operational requirements.

Impediments to Further Progress

In trying to implement the CIM initiative, JLSC has confronted (1) DOD managers who have not fully accepted the methods for achieving CIM objectives, (2) poor integration of CIM efforts across DOD business areas, and (3) confusion about the authority over development of information systems. These three impediments have delayed JLSC's implementation efforts and may be systemic to the overall DOD CIM initiative.

Although JLSC has tried to get support and commitment of DOD logistics managers, it has encountered a strong bias against CIM. Independent organizations that have studied major reengineering efforts have concluded that to succeed, an organization must make a major shift in culture. As discussed in a recent report on CIM,[1] GAO believes such a shift in DOD requires top management to develop and clearly articulate its vision and goals to all employees. In addition, DOD needs to structure its organization to help transition to the new culture, create a specific management strategy that encourages active participation of functional managers (particularly the service Chiefs of Staff and the DLA Director), and train its employees to help them understand the organization's new business principles and practices.

DOD's efforts to reengineer its functions are to a great extent being made in isolation from one another. For example, in implementing CIM across DOD's materiel management and depot maintenance functions, JLSC has

[1]Defense Management: Stronger Support Needed for Corporate Information Management Initiative to Succeed (GAO/AIMD/NSIAD-94-101, Apr. 12, 1994).

encountered duplication and conflict with other CIM efforts such as procurement. While JLSC has tried to resolve these problems, it does not have the authority to arbitrate disputes among the CIM efforts or enforce integration decisions.

Clear lines of management authority over the development of migration systems have also been a problem. A DOD directive grants service and DLA program managers the sole authority for managing their system development projects. However, JLSC has been directed to manage the design, development, and implementation of materiel management and depot maintenance systems. According to JLSC officials, this dual authority over system development projects has resulted in dissension between JLSC and program managers. While JLSC has sought compromise with and assistance from these managers, conflicting lines of authority remain.

DOD officials told us that they have taken three actions to help overcome these impediments. First, in October 1993, the Deputy Secretary of Defense reemphasized top-level support for CIM and required senior managers to take specific remedial actions within established time frames. Second, DOD established a board, chaired by the Deputy Secretary of Defense, and a supportive council to ensure that cross-functional issues are resolved. Third, on June 13, 1994, DOD issued the CIM Strategic Plan to demonstrate clear, top-level support for the initiative, provide guidance to DOD managers, and establish clear lines of authority over CIM projects.

These latest DOD actions are positive steps toward accomplishing CIM objectives and goals. The success of these actions, however, depends on how they are implemented and whether DOD makes other important changes to improve the management of its CIM initiative.

Recommendations

To correct the fundamental weaknesses in CIM management, GAO recommends that the Secretary of Defense promote understanding and acceptance of cultural changes needed to implement CIM by (1) revising the CIM management strategy to ensure that DOD functional managers, particularly the service Chiefs of Staff and the DLA Director, actively participate and lead efforts to reengineer DOD's business processes under the CIM initiative; (2) training DOD employees at all levels to ensure they understand the organization's business operations, how those operations interrelate, why current business practices must be improved, and what part they should play in making the improvements; and (3) renaming the

initiative to accurately communicate its primary objective to all employees.

Agency Comments

In commenting on a draft of this report, DOD generally agreed with most of GAO's findings. DOD, however, was concerned about the tone of the report and GAO's interpretation of CIM plans, expert advice, and reviews. DOD also disagreed with GAO's recommendation to rename the CIM initiative. GAO changed the report where appropriate based on clarifications to DOD's positions and updates to its efforts. Also, GAO revised recommendations in the draft report to reflect actions DOD has taken to address CIM impediments. Additional comments and responses appear in chapter 4 and in appendix III.

Contents

Tables

Abbreviations

C3I	Command, Control, Communications, and Intelligence
CIM	Corporate Information Management
DLA	Defense Logistics Agency
DMR	Defense Management Report
DOD	Department of Defense
GAO	General Accounting Office
JLSC	Joint Logistics Systems Center
PSA	Principal Staff Assistant

Introduction

The Department of Defense (DOD), faced with constraints on its budget, is seeking ways to improve operations and manage resources more efficiently. The Corporate Information Management (CIM) initiative is a major part of that effort. DOD launched CIM in 1989 as a way to improve business practices, make better use of information technology, and eliminate duplicative information systems across seven administrative areas, including civilian payroll, materiel management, and medical. Initial DOD efforts to implement CIM focused on eliminating separate service systems and providing integrated systems across DOD.

Since that time, the CIM scope has broadened dramatically to include all DOD functional areas, including procurement, logistics, finance, and command and control. Today, its primary objective is to significantly improve business processes of all functional areas through such techniques as business process reengineering and continuous process improvements. Nevertheless, standardization and improvement of DOD's supporting information systems remains a major CIM objective.

The CIM Initiative

CIM has its origins in the recommendations of the President's Blue Ribbon Commission on Defense Management (the Packard Commission). The Commission's overall objectives were to identify ways to streamline and restructure DOD business operations. In July 1989, the Secretary of Defense issued the Defense Management Report (DMR) to implement the Commission's recommendations. DMR estimated that DOD could save about $70 billion by improving its management and organization.

In October 1989, DOD initiated CIM as a management method for achieving DMR objectives. In November 1989, the Deputy Secretary of Defense issued the DMR Decision 925, which announced the initiative. He said, "Corporate Information Management (CIM) will enhance the availability and standardization of information in common areas and provide for the development of integrated management information systems." He characterized CIM activities as a unique opportunity to capture savings while at the same time dramatically improving efficiency and effectiveness of operations.

By eliminating separate service information systems and providing integrated systems across DOD, it expected to avoid the cost of developing and supporting redundant systems designed to perform the same basic functions. For example, each service had developed its own process and system for paying active military personnel. While there were procedural

differences that had evolved among the services, there was no justification for the multiple systems that perform the same function.

On February 26, 1990, the Deputy Secretary of Defense convened the Executive Level Group of high-level industry and DOD officials to evaluate DOD's business practices and suggest an overall direction for the DOD. The group noted that government agencies had traditionally viewed information management as merely automating existing business methods in order to cut costs. Little effort was made to improve the methods, themselves. The group recommended that DOD adopt a management philosophy that emphasized continuous improvement of business methods before identifying specific computing and communication technologies.

It stated, "Forward-looking organizations took a path which put primary emphasis on continuously improved business methods. Computing and communication technology played a subordinate role, and only now is being applied to the superior business methods that have evolved."

In January 1991, the Deputy Secretary of Defense endorsed a plan where DOD would "reengineer," or thoroughly study and redesign, its business processes before it standardized its information systems. DOD believed this CIM implementation concept would emphasize the importance of improving the way it does business rather than merely standardizing old, inefficient business processes. DOD expected this new focus on business improvement to offer opportunities for substantial savings.

In April 1992, DOD projected that these efficiency and productivity improvements would account for $36 billion of the more than $70 billion in anticipated DMR savings. A number of studies[1] have since found that these DMR and CIM projections were overly optimistic. DOD now acknowledges that this $36 billion estimate is obsolete and no longer projects CIM savings. There is agreement, however, that CIM improvements can save DOD tens of billions of dollars over the next 10 years.

In November 1992, DOD shifted CIM's implementation emphasis back to information systems. Looking for ways to offset significant defense budget reductions, the DOD Comptroller recommended that CIM implementation efforts in the logistics functional area focus on selecting standard, or "migrating," information systems that could be used departmentwide.

[1]See FY 1994-99 Future Years Defense Plan, Defense Science Board Task Force (May 1993); Acquisition Reform: Defense Management Report Savings Initiatives (GAO/NSIAD-91-11, Dec. 4, 1990.); and Defense ADP: Corporate Information Management Savings Estimates Are Not Supported (GAO/IMTEC-91-18, Feb. 22, 1991).

Under this new implementation strategy, business process improvements would be done concurrently with the selection and implementation of the migration systems. DOD has since implemented this CIM migration strategy across all CIM efforts.

CIM Involves Both a Top-Down and a Bottom-Up Look at DOD

The Assistant Secretary of Defense for Command, Control, Communication, and Intelligence (C3I) is responsible for providing overall technical direction for the CIM effort. Principal Staff Assistants (PSA) are responsible for providing guidance and oversight for implementing the initiative within their assigned functional areas.[2] PSAs are to develop a "corporate" view of their areas and identify major changes to improve business processes. DOD believes that this top-down review offers the best opportunity for innovative improvements that have the greatest potential for significant cost savings.

Meanwhile, under the DOD enterprise model,[3] service and Defense Logistics Agency (DLA) managers are taking a bottom-up look at their organizations to identify and implement business process improvements that have service or agencywide application. While such improvements have smaller cost savings potential, they usually can be achieved sooner. They also help achieve acceptance of CIM changes by actively involving more managers and staff in the change process.

Joint Office Created to Improve DOD's Materiel Management and Depot Maintenance

In November 1991, the PSA for logistics[4] established the Joint Logistics System Center (JLSC) to achieve CIM goals for the materiel management and depot maintenance business areas. Simply stated, JLSC's charter is to work with the services and DLA to identify business process improvements and the appropriate application of information systems. Under this concept, JLSC serves primarily as a facilitator; the services and DLA design, develop, integrate, and implement the new corporate logistics systems.

[2]PSAs include the Under Secretaries, Assistant Secretaries, General Counsel, Inspector General, Comptroller, Assistants to the Secretary of Defense, and the Office of the Secretary of Defense Directors or equivalents, including the Chairman of the Joint Chiefs of Staff, who report directly to the Secretary or Deputy Secretary of Defense.

[3]In January 1994, DOD issued the "DOD Enterprise Model" to provide a common view of all defense activities. The model is the principal mechanism for senior managers to understand their missions and functions, plan and direct improvements from a DOD-wide perspective, and measure overall progress toward CIM goals.

[4]When JLSC was created, the PSA for logistics was the Assistant Secretary of Defense for Production and Logistics. Following a reorganization in the Office of the Secretary of Defense, the PSA for logistics is now the Deputy Under Secretary of Defense for Logistics.

Recognizing the importance of active participation by the services and DLA in the CIM process, the PSA staffed JLSC with about 250 personnel from all four military services and DLA. In addition, the services and DLA provide experts to ensure JLSC fully addresses mission requirements.

Logistics Improvements Expected to Provide Significant CIM Savings

JLSC expects that improvements to DOD's logistics functions will provide most of the CIM-related cost savings. Logistics is the acquisition, management, movement, and maintenance of the material in the DOD inventory. This report focuses on two logistics functions: materiel management and depot maintenance.[5]

Materiel management includes deciding what supply items to stock, determining how many of each are needed, purchasing needed items from private vendors or manufacturing agencies within DOD, storing the items, and tracking them from the time they are ordered until they are used. Depot maintenance includes manufacturing, overhauling, and repairing parts, assemblies, subassemblies, and end items such as aircraft, ships, and tanks.

Objectives, Scope, and Methodology

The Chairman of the Senate Committee on Governmental Affairs asked us to review DOD's implementation of the CIM initiative. In response to his request, we focused our review on the logistics functions of materiel management and depot maintenance because the Committee had expressed particular interest in materiel management and because one organization, JLSC, had been established to oversee the implementation of CIM in these two areas. Our specific objectives were to identify (1) CIM improvements made to business processes and supporting information systems and (2) impediments, if any, to achieving expected CIM results.

To identify CIM improvements in materiel management and depot maintenance, we analyzed implementation plans, project information maintained by JLSC managers, and progress briefings given to senior DOD officials. Further, we interviewed DOD officials who are implementing CIM across DOD, officials who are managing CIM efforts in the logistics areas, and project managers responsible for specific efforts under the initiative. We also examined analyses that JLSC used to establish cost and benefit projections, budget documents, and updates of cost and benefit estimates.

[5]DOD logistics also includes the areas of distribution and transportation. DOD has the CIM efforts ongoing in each of these areas.

We did not independently validate JLSC's savings estimates for its initiatives.

To identify major impediments to achieving expected CIM results, we reviewed guidance provided by the Deputy Under Secretary of Defense (Logistics), including DOD's logistics objectives, strategic business plans, the Logistics CIM Migration Master Plan, and DOD memorandums establishing and implementing the initiative. Also, we interviewed JLSC officials responsible for the overall progress of the implementation and reviewed correspondence and briefings concerning delays. We also reviewed independent studies and prior audits and held discussions with DOD officials responsible for overall CIM implementation, as well as those responsible for logistics processes.

We performed our work at the Office of the Assistant Secretary of Defense for C3I, Washington, D.C.; the Office of the Assistant Secretary of Defense for Production and Logistics, Alexandria, Virginia; and the Joint Logistics Systems Center, Wright-Patterson Air Force Base, Ohio. We conducted our work between October 1992 and July 1994 in accordance with generally accepted government auditing standards.

DOD Directed JLSC to Develop Migration Systems

When activated, JLSC took actions to achieve quick, identifiable cost savings through CIM, primarily by facilitating the deployment of business processes and supporting information systems from one of the services or DLA—where they had been successfully implemented—to the others. JLSC identified 20 of these near-term projects during late 1992 and early 1993 and had begun implementing 7 of them before it was directed by DOD to refocus its efforts.

As directed by DOD, JLSC focused its CIM implementation efforts on selecting and testing migration information systems for materiel management and depot maintenance. This strategy runs counter to expert advice received by DOD concerning how to best improve its business practices. DOD believes the selection and implementation of migration systems is necessary to achieve quick cost savings and critical to forming a foundation upon which major business process improvements can be made. While we have no basis to question the need for migration systems, we are concerned that the implementation strategy may delay significant improvement of the logistics processes, result in the deployment of information systems that do not meet services' and DLA's operational requirements, and divert funds from ongoing improvement projects.

JLSC Selected and Deployed Near-Term Initiatives

In March 1992, JLSC identified 20 improvement projects—15 in materiel management and 5 in depot maintenance—that it termed near-term initiatives. JLSC selected these projects because they could make current business processes more efficient and effective and because they were doable; that is, they could be quickly implemented at a few service and DLA sites to achieve quick cost savings. According to JLSC, it was also important to have some early successes to get the services and DLA to accept the CIM concept. These projects primarily involved the expanded deployment of business processes and supporting information systems that were used successfully by one service or DLA. Overall, JLSC projected that implementation of the 20 projects would save the services more than $2 billion over time periods ranging from 5 to 20 years.

As of October 1992, JLSC had begun implementing seven of the near-term initiatives (five materiel management and two depot maintenance). Before JLSC could implement the remaining 13 near-term initiatives, however, DOD officials questioned the viability of the near-term strategy and redirected JLSC's implementation approach to CIM. According to JLSC, the initiatives had saved at least $7.7 million and located previously lost or unaccounted government assets worth about $12.7 million by October 1993. Although

additional savings may have accrued, JLSC had not validated all cost and benefit projections. Following are two examples of the seven near-term initiatives that have been implemented. (App. I describes all seven initiatives.)

Cataloging Tools On-Line

This initiative is a materiel management productivity aid for DOD catalogers. When DOD introduces a new supply item into its inventory, the item is listed in a catalog provided to the services and DLA. Currently, catalogers use paper technical drawings, specifications, vendor catalogs, guidebooks, procedural manuals, and regulations to complete cataloging steps such as writing a brief description of the supply item, using drawings, and assigning it a stock number.

Cataloging Tools On-Line, a DLA system, enables the cataloger to electronically access reference documents, simultaneously compare technical data with drafted descriptions, and automatically check for errors. Catalogers using this automated aid are expected to create catalog entries much faster and more accurately than is currently done.

JLSC projects that the 10 new sites receiving the Cataloging Tools On-Line system will save about $71.7 million over the next 8 years through the elimination of manual processes, reduced rejection rates of transactions, and better availability of and access to cataloging information.

Depot Maintenance—Hazardous Material Management System

This depot maintenance initiative is intended to reduce the amount of money maintenance depots spend for hazardous materials such as paint thinner, oils, and chlorine. Currently, the depots spend more than $300 million each year to buy hazardous materials used in the repair and maintenance of end items. Officials acknowledge that a significant portion of these materials is wasted.

In 1992, the Air Force implemented the Depot Maintenance—Hazardous Material Management System at its Ogden Air Logistics Center to provide information about who received hazardous materials; which and how much they received; and when, where, and how the materials were used. With this information, Ogden managers identified wasteful practices, such as workers receiving more material than needed for the job. In addition, they found that workers were storing excess material in their lockers and that stored materials were being improperly sealed.

Depot management subsequently changed the methods for handling hazardous materials. For example, materials are now issued only in the amount needed. As a result, Ogden reduced the amount of hazardous materials purchased in 1992 by nearly 39 percent, or a $7.7 million net cost savings.

JLSC plans to install the Depot Maintenance—Hazardous Material Management System at 27 maintenance depots and projects that they will save between $83.3 million and $202.3 million over a 6-year period. As of September 1993, the system had been installed at seven sites.

JLSC Directed to Refocus on a Migration Strategy

In October 1992, the Acting DOD Comptroller (responsible for reviewing the justification for any requests for capital budget funding) expressed concern that JLSC's CIM approach would not produce the cost savings needed to help offset significant defense budget reductions. He favored an approach where JLSC would quickly select and implement standard information systems. By doing this, the Comptroller hoped that DOD could transition to a standard logistics system within a reasonable period of time at an affordable cost. The Comptroller recommended that JLSC immediately select a functionally and technically integrated information system from those being operated by one of the services and DLA for each of the materiel management and depot maintenance business areas.

In November 1992, the PSA for logistics (at that time the Assistant Secretary of Defense for Production and Logistics) issued the Logistics CIM Migration Master Plan. This plan established the selection of migration systems as the CIM implementation strategy within the logistics area. As a result, JLSC shifted its focus from implementing the near-term initiatives to selecting migration systems for materiel management and depot maintenance. Although JLSC continued to implement the 7 near-term initiatives it had started, it incorporated the remaining 13 projects into the analysis used to select migration systems.

JLSC also developed a three-step strategy designed to gradually evolve the services and DLA from their multiple and often redundant materiel management and depot maintenance business practices to a single, or corporate, DOD logistics process. As presented in its DOD Logistics CIM Migration Plan, the three steps of the migration strategy are as follows:

- Select and deploy migration systems—either single information systems or groups of information systems—in each functional area. The systems are to be linked together to satisfy users' total requirements.
- Improve current business processes and add new functions to fill voids.
- Combine the improved and new business processes with the new information systems to form a corporate logistics process.

Once the selected migration systems are deployed (step 1 of the strategy), JLSC plans to work with the services and DLA to add needed functions and make incremental improvements to logistics business processes (step 2). Developing a corporate logistics process (step 3) is where JLSC expects to use such tools as reengineering to identify and implement major and innovative changes in the logistics area. While the strategy appears to be sequential, JLSC is concurrently working on all three steps. Later in this report, we discuss JLSC's work to identify how to improve current materiel management and depot maintenance business processes.

In October 1993, the Deputy Secretary of Defense, noting the necessity to offset declining resources, reemphasized the priority given to information systems by directing that senior DOD managers accelerate the selection and deployment of migration systems. The Deputy Secretary stated, "We must accelerate the pace at which we define standard baseline process and data requirements, select and deploy migration systems, implement data standardization and conduct functional process improvements, reviews and assessments (business process re-engineering) within and across all functions of the Department."

Although he stated that the acceleration of all these actions was key to containing the functional costs of performing the DOD mission within constrained budgets, he established specific milestones only for the selection and implementation of migration systems and the completion of data standardization. The Secretary stated that "our near-term strategy requires: the selection of migration systems within six months, with follow-on DOD-wide transition to the selected systems over a period not to exceed three years." He also stated that data standardization was to be accomplished within 3 years. The remaining activities such as functional process improvement were to continue on an expedited basis, but their completions were not to be "prerequisites" to implementation of the migration systems and data standardization acceleration strategy.

Because JLSC's migration strategy would take 7 to 8 years to complete, the Deputy Under Secretary of Defense (Logistics) in March 1994 proposed

changing JLSC's management structure and mission. He recommended the replacement of JLSC with a Logistics Standard Systems Joint Program Office. This new office would be staffed with personnel specializing in automated information systems to provide intensive focus on information systems improvement and deployment. At the end of our audit work in July 1994, the services and DLA were commenting on this proposal.

Experts Advise DOD to Focus on Business Processing Reengineering

Industry experts who have studied organizations that have successfully improved their business practices advised DOD to focus its efforts on reengineering its business processes before improving the automated information systems supporting these processes. Reengineering, these experts believe, offers DOD the best opportunity to move to a new plateau of performance

As stated in chapter 1, this was articulated by the Executive Level Group in November 1989, when CIM was being initiated. The group recommended that DOD adopt a management philosophy that emphasized continuous improvement of business methods before identifying specific computing and communications technologies. This recommendation was endorsed by the Information Technology Association of America, in its July 1993 study on "enterprise integration" within DOD.[1] According to the study, companies that had experience in enterprise integration took steps to ensure that their corporatewide focus was on process improvement first and on technology improvements last. They stated that "Reengineered business processes reflect how the corporation truly functions. Automation was applied only after processes were analyzed and cross-functional integration achieved."

In reviewing the CIM initiative, the association observed that DOD's definition of enterprise integration did not differ from the industry's. DOD's view on implementation and objectives, however, is different. The association stated, "For instance, the Corporate Information Management initiative in DOD seems to be primarily driven by cost avoidance, rather than on BPR [business process reengineering] in order to meet mission requirements." Noting DOD's migration phase focused on near-term cost avoidance, the association recommended that DOD accelerate out of this migration phase as quickly as possible and move directly into their target objective phase. According to the association, the sooner DOD makes this

[1]Enterprise Integration in the Department of Defense (July 1993). Enterprise integration embraces CIM principles and calls for redesigning the existing DOD (the enterprise) mission activities to eliminate redundant or low-value functions and processes, enhance war-fighting capabilities, and achieve significant cost savings.

move the more money it will save and the sooner war-fighting capability will be enhanced.

We also reported on potential problems DOD faces if too much emphasis is placed on improving information systems, rather than business process reengineering. In our 1992 report,[2] we concluded that business improvements needed to be made concurrent with technology selection. To select technology alone invited risk and created only an illusion of progress. We also concluded that by selecting information systems before improving business processes, DOD may be wasting money modifying and implementing systems to support old, inefficient ways of doing business.

DOD, in its early estimates, acknowledged that business process improvements held the greatest potential for significant cost savings. In April 1992, DOD officials projected that CIM-related business process improvements would provide about $30 billion, or 83 percent, of cost savings expected, whereas better use of information technology would account for only $6 billion, or 17 percent, of these savings.

Although DOD no longer projects CIM savings, it concluded in the January 1994 DOD enterprise model that information systems alone could not yield the dramatic business improvements necessary to achieve a new plateau of performance required to respond to major new challenges of the post-Cold War era. Yet, DOD continues to focus on information technology and migration systems. As described in the following section, DOD believes that selecting a common set of information systems is necessary to make functional integration and interoperability possible so that all DOD activities can work together more efficiently and effectively.

DOD Believes Migration Systems Are Critical to Business Process Improvement

In its Logistics CIM Migration Master Plan, DOD gives two reasons why the selection and implementation of migration systems are critical first steps toward business process improvement. First, they provide needed quick cost recoveries. Second, they establish a common business environment to reengineer business processes.

According to JLSC, the CIM migration strategy resulted from a request from the service secretaries. The service secretaries, concerned about the slow progress of the CIM effort and the amount of funding stripped from their fiscal years 1993 through 1997 budgets as a result of multiple DMR savings

[2]Defense ADP: Corporate Information Management Must Overcome Major Problems (GAO/IMTEC-92-77, Sept. 14, 1992).

targets, asked the DOD Comptroller to come up with a technique for getting more immediate cost savings. This request was the genesis for the CIM strategy of studying current information systems and selecting a few for use across DOD.

DOD officials have stated that the vast number of different logistics processes and supporting information systems in DOD must be reduced before it can make significant improvements. For example, the Deputy Director for Materiel and Logistics Functional Information Management stated, "While it is the intent of the Corporate Information Management (CIM) program to determine the Business Process Improvements (BPI) prior to automation efforts, in the case of the Logistic systems, we must first 'standardize' the existing process to be improved." The Deputy Director cited the experience of General Telephone and Electronics Corporation as support for this position. He said that in moving toward an integrated system the company first selected a single migration system.

JLSC supports the migration system concept as a necessary tool to eliminate multiple information systems supporting the same business functions. According to the migration plan, standard information systems will form the foundation upon which significant improvements to current logistics practices can be made. This foundation of migratory systems will eliminate the need to implement significant changes across the multitude of systems and processes that exist throughout the services and DLA. More importantly, the resulting standardization of the best of the existing logistics processes across DOD will, in itself, result in significant business process improvements.

Concerns About the Migration System Strategy

Although DOD and JLSC believe that selecting migration systems is a necessary first step in the reengineering process, we have several concerns about this strategy. First, people familiar with business process reengineering believe that the focus should be on process improvement first and on technology improvements last. We believe that by doing otherwise DOD increases the risk of locking itself into inefficient ways of doing business and not achieving the cost savings that it needs in the current environment of shrinking budgets.

Second, DOD's requirement to select and implement migrating systems within 3 years adds a new dimension of risk to the CIM process. Without some flexibility in this schedule, the services and DLA may have to implement migration systems that are not capable of meeting their needs.

DLA officials told us, for example, that the migration system for materiel management—as currently configured—does not meet its operational requirements. Unless additional capabilities are added to this system to handle DLA's requirements, these officials predicted that it will be a major failure.

Nevertheless, JLSC believes that the accelerated migration system schedule is what the CIM initiative needed. The JLSC Commander stated that the accelerated schedule forced JLSC and others to stop their analysis and actually begin to implement change. He conceded that the first versions of the migration systems will not likely include all the capabilities the services and DLA need or desire. His goal, however, is to make the systems functional for all users before they are deployed in 3 years. Under CIM's continuous improvement concept, additional capabilities can be incorporated in later versions of the systems.

As discussed previously, DOD has proposed a major reorganization of JLSC to meet its accelerated CIM schedule. Under this proposal, the number of personnel assigned to the new joint program office would be reduced from about 250 (JLSC staffing) to 120. It is unclear how this new smaller office will be able to deploy materiel management and depot maintenance migration systems in half the time planned by JLSC.

Third, some DLA managers also believe that CIM in general, and JLSC's focus on selecting and implementing migration systems in particular, is affecting their ability to implement business process improvements. DLA, for example, is attempting some innovative pilot projects to find better, more efficient ways of doing business. Encouraged by a series of reports we issued over the past 3 years, which compared DLA practices to the best in the private sector, DLA is looking at concepts such as direct vendor delivery and supplier parks. If these concepts prove successful, DLA could significantly reduce its inventories, storage space requirements, and the number of supply depots. Eventually, DLA may be able to eliminate supply depots altogether—at least as DOD knows them today.

To effectively carry out the pilot projects, however, DLA officials said they will need funds to develop supporting information systems or help from JLSC to ensure the selected migration systems satisfy their new process requirements. At the time we met with DLA officials, however, they said that JLSC had not provided assistance. They were concerned that the pilot projects might have to be stopped or significantly curtailed. Subsequent to our meeting with DLA officials, JLSC officials told us they had met with DLA

officials and were taking steps to arrive at a mutual solution to the problem.

JLSC Has Made Progress Implementing the Migration Systems

As directed by DOD, JLSC selected migration systems for materiel management and depot maintenance functions. JLSC also began documenting current logistics processes to identify opportunities for improvements, although it has not yet made major changes to current processes. Finally, in accordance with its mandate, JLSC eliminated service and DLA funding requests ($22.7 million in 1993 and $320.6 million in 1994) for information system projects that it deemed redundant.

JLSC Has Selected Migration Systems

By June 1994, JLSC—in cooperation with teams of service and DLA experts—had selected 32 migration systems from among the more than 200 information systems currently being used to support major materiel management and depot maintenance business processes.

Before the systems were selected, JLSC gave each service and DLA the opportunity to identify the system (or combination of systems) that it used to support its logistics business area. Service and DLA experts for materiel management and depot maintenance presented their candidate systems in an open forum for consideration. These presentations included detailed information on their systems' capabilities, interfaces with other logistics systems, and other information, such as cost, benefit, and technical data.

On the basis of this information, service, DLA, and JLSC representatives reached consensus on 32 candidate systems—24 for materiel management and 8 for depot maintenance. The selections of these systems was later approved by Deputy Under Secretary of Defense for Logistics. (App. II describes each of the 32 selected systems.)

Materiel Management Migration Systems

The 24 migration systems for materiel management support the four major materiel management business processes: asset management, supply and technical data, and requirements determination. Together, they form what JLSC calls the Materiel Management Standard System. JLSC planned to deploy the first version—functional release 1—of this combined system at one site—the Marine Corps Logistics Base, Albany, Georgia—beginning in July 1994. Upon successful deployment of this first version, JLSC will assist the services and DLA in implementing the new DOD standard system at additional sites.

As of September 1993, on the basis of a preliminary functional economic analysis, JLSC projected that improved business processes and reductions in the number of systems would help the services and DLA recover as much

as $12 billion over a 10-year period ending in fiscal year 2005. While we did not review the support behind this estimate, JLSC cautioned that it is their first look at potential savings.

JLSC must do much additional data collection and analysis before cost recoveries can be predicted with any certainty. However, it believes that the standard system will eventually result in numerous improvements to materiel management business processes, primarily because it incorporates general business improvements from DOD initiatives such as DMR, prior CIM efforts, and a compilation of best practices identified in numerous DOD, service, and DLA initiatives.

Depot Maintenance Migration Systems

The eight migration systems selected for depot maintenance support the three major depot maintenance business processes of project management (planning and allocating labor, material, and capital resources for repairing major end items, such as airplanes, ships, and tanks), reparables management (activities for making labor and equipment more productive on the shop floor), and specialized support (various individual functions such as tracking hazardous materials, tools and test samples). These eight migration systems, along with a system yet to be selected, form the Depot Maintenance Standard System. JLSC plans to test this combined system at the Warner-Robbins Air Logistics Center beginning in January 1995. Upon successful completion of the test, JLSC will assist the services' and DLA's implementation of the new system at additional sites.

On the basis of a preliminary functional economic analysis completed in January 1994, JLSC expected that improvements to depot maintenance processes and reductions in the number of systems would help the services and DLA recover as much as $4 billion over the period ending in fiscal year 2003. This estimate, however, assumed a 7-year implementation period, not the 3-year period later mandated by DOD.

JLSC Has Begun Preliminary Work for Improving Business Processes

While it facilitated the selection of migration systems under the first step of its CIM implementation strategy, JLSC also took preliminary steps to identify how it could improve current materiel management and depot maintenance business processes—the second step of its CIM implementation strategy. As of September 1993, JLSC, in conjunction with service and DLA representatives, had developed models documenting 484 logistics practices used by the services and DLA to accomplish materiel management and depot maintenance activities. Service and DLA officials

are now analyzing these JLSC models to further define their current business environment, establish business requirements, and identify the best business practices.

When complete, these models are to serve two purposes. In the near term, they form a basis for understanding and discussing logistics processes, evaluating their effectiveness, and identifying opportunities for improvement. In the longer term, JLSC plans to use the models to help reengineer business processes, control this evolution, integrate new technologies, and communicate new functions of reengineered business processes.

JLSC Reduced Budget Requests for Information Systems

As part of the CIM strategy, the Assistant Secretary of Defense for Production and Logistics gave JLSC review authority over the services' and DLA's budget requests for development of new materiel management and depot maintenance information systems. Under this authority, JLSC is to identify funding that could be eliminated from a budget request for any information system development project that duplicates a project or operational system of another service.

JLSC reviewed the services' and DLA's requests and justifications for fiscal year 1993 project funds and compared the proposed new information systems to those (1) already existing or being developed by other services and (2) selected by JLSC as near-term initiatives. As shown in table 3.1, JLSC reduced the requests by $22.7 million, or about 36 percent.[1]

Table 3.1: JLSC Reductions of Fiscal Year 1993 Budget Requests

Dollars in millions

Component	Amount requested	Amount approved	Difference
Air Force	$16.9	$8.1	$8.8
Army	12.5	5.2	7.3
DLA	20.2	14.1	6.1
Navy	13.7	13.2	0.5
Marine Corps	0	0	0
Total	**$63.3**	**$40.6**	**$22.7**

In 1993, JLSC performed the same type of analysis on fiscal year 1994 budget requests from the services and DLA. The only difference was that

[1]Fiscal year 1992 funds were used to fund near-term initiatives in early fiscal year 1993. Additionally, the services and DLA made their fiscal year 1993 budget requests before JLSC was established.

JLSC analyzed these requests to determine if any systems overlapped with the systems selected as the migration systems for materiel management and depot maintenance. As shown in table 2.2, JLSC reduced the budget requests by $320.6 million, or about 96 percent.

Table 3.2: JLSC Reductions of Fiscal Year 1994 Budget Requests

Dollars in millions

Component	Amount requested	Amount approved	Difference
Air Force	$70.6	$3.4	$67.2
Army	203.7	4.4	199.3
DLA	22.4	1.8	20.6
Navy	34.6	3.1	31.5
Marine Corps	2.3	0.3	2.0
Total	**$333.6**	**$13.0**	**$320.6**

According to JLSC officials, the reduction of these requests may not directly equate to cost savings of the same amount because (1) the requests could have been overstated (which sometimes happens early in a budget request cycle), (2) the requested funds may not have been approved by DOD under the traditional budget process, and (3) the services or DLA may have received funding for their projects through other budget submissions.

JLSC, however, believes this type of drastic reduction in budget requests can be sustained only for a short period of time—2 or 3 years. According to the JLSC commander, the downsizing of DOD has resulted in the services and DLA having fewer people to run their current business processes. Over the short term, he believes that the services and DLA can manage the situation. It cannot, however, be sustained over the longer term. For this reason, the commander said that JLSC must provide more efficient materiel management and depot maintenance information systems to the services and DLA or, once again, allow them some amount of funding to improve or replace their existing systems.

Impediments to Further Progress

Three critical impediments are jeopardizing JLSC's ability to successfully implement its strategy for improving business practices. First, some DOD functional and technical managers have not fully accepted CIM. Second, DOD has not integrated its various CIM efforts, including those of JLSC. Third, program management authority is unclear because of confusing DOD guidance. These impediments are not confined to materiel management and depot maintenance but cut cross DOD's overall management of the CIM initiative.

To help resolve these impediments, DOD has taken several actions, including issuance of a strategic plan to demonstrate top-level support for the initiative and guide its implementation and creation of a board chaired by the Deputy Secretary of Defense to exchange views about cross-functional issues. These actions are good "first steps," but more must be done. Private companies that have successfully reengineered their business operations generally agree that changing their organizational cultures to support new ways of doing business was critical to their success. While DOD recognizes that it needs to change its organizational culture to overcome CIM's impediments, it has been slow to make these changes.

DOD Officials Have Not Fully Accepted CIM

Independent studies have shown that for major improvement initiatives such as CIM to succeed, employees from all levels in an organization must accept and actively participate in the changes. For example, the Information Technology Association of America, in its July 1993 report, said that DOD must ensure that all parties buy into the enterprise integration effort and are willing to work wholeheartily to form and implement the enterprise integration plan. Similarly, the Policy Analysis Center of the Institute of Public Policy, in its November 1993 report, Functional Process Improvement Implementation: Public Sector Reengineering, stated that even the best constructed improvement plans are likely to fail unless employees are involved at all stages of the reengineering effort.

Recognizing that "buy in" was a critical success factor, JLSC took actions to involve the services and DLA in implementing CIM. For instance, more than 250 logistics personnel from the services and DLA were brought together to work at JLSC. Also, JLSC has tried to maintain a continual dialogue with the Office of the Secretary of Defense, service, and DLA managers responsible for DOD logistics. Nevertheless, JLSC officials said they have still encountered a strong institutional bias against the changes posed by CIM,

primarily because managers view these changes as a threat to their authority over logistics business decisions.

This lack of acceptance, according to JLSC officials, has slowed implementation of CIM. For example, during the evaluation of the Air Force's Combat Ammunition System as a proposed migration system, JLSC representatives visited the Air Force program office developing the system to obtain needed cost and requirements data. However, program management officials were unwilling to provide the data because, according to the JLSC Deputy Commander, Air Force officials would have to relinquish some of their authority and control over the system's development. Air Force officials eventually provided the data but only after the JLSC Commander notified them that due to the lack of cooperation JLSC intended to select a competing Army system. JLSC officials did not estimate the length of delay caused by this lack of cooperation.

Resistance to the CIM initiative is not limited to JLSC's efforts. The DOD Inspector General, in its report, Defense Corporate Information Management Initiative, Program Evaluation (Jan. 1993), concluded that the lack of consensus and support for the overall CIM initiative by DOD functional and technical managers had severely hampered its implementation. The Inspector General attributed this lack of support to the absence of an overall CIM plan that was clearly presented to and understood by the managers. The Inspector General stated:

> "Based on our interviews with both functional and technical areas managers, we found there is no clear and consistent definition or understanding of the CIM initiative and its respective elements . . . While they accept the broad precepts of the CIM Initiative, they are reluctant to give full support until they see and fully understand the complete CIM plan. That reluctance manifested itself in two broad areas—support for organizational realignments and for selection of technical solutions."

Because this impediment appeared to affect more than JLSC's efforts within materiel management and depot maintenance, we discussed it with DOD officials responsible for implementing CIM across logistics areas, as well as those responsible for all CIM efforts. These officials confirmed that service and DLA managers agree with the intent of CIM, which is to improve business operations, but not with the manner in which it was being implemented.

DOD officials in C3I agree that for CIM to succeed, employees should understand the nature of the changes that must be made. They did not

agree, however, that the lack of consensus and support for the overall CIM initiative by DOD managers was hampering its implementation. They said that executive level commitment, involvement, and authority were sufficient for CIM to succeed and that the Secretary of Defense, the Deputy Secretary of Defense, their Principal Staff Assistants, and the military departments strongly supported the initiative. On October 13, 1993, for example, the Deputy Secretary of Defense issued a memorandum that reemphasized top-level support for CIM and required senior managers to take specific actions within established milestones to help implement the initiative. DOD officials also noted that clear, top-level support and guidance for the initiative were given in the CIM Strategic Plan issued on June 13, 1994.

While DOD may have top-level management support and commitment for CIM, which are critical prerequisites for a major reengineering effort, we do not believe that is enough to overcome the type of cultural barriers impeding the initiative. If CIM is to succeed, we believe that DOD needs to change its management strategy to get service and DLA managers, particularly the service Chiefs of Staff and DLA Director, more actively involved in managing CIM and leading the reengineering efforts. This action is particularly important for DOD to undertake because service secretaries and other top-level managers in the Office of the Secretary of Defense, who are currently leading the CIM initiative, typically change on a regular basis. Because CIM is a long-term effort that will likely transcend many management reorganizations, it is important to have support of CIM principles and ideals throughout all levels of the organization, particularly in the military services and DLA.

In February 1992, for example, we reported that private companies that had undergone massive changes (such as DOD is proposing in its CIM initiative) had to overcome cultural barriers. Those companies that succeeded in changing their cultures[1] not only had top-management support and commitment but also created specific management styles and organizational structures that were compatible with and reinforced their desired visions and goals. They also trained their employees to instill in them the organizations' new missions, values, and guiding principles.

Our studies of organizational change also support more active participation by functional managers in major reengineering efforts. In our

[1]Organization Culture: Techniques Companies Use to Perpetuate or Change Beliefs and Values (GAO/NSIAD-92-105, Feb. 27, 1992).

April 1994 report[2] on the CIM initiative, for example, we stated that "unless Defense's executive-level leadership and mid-level managers take a more active and visible role, broad acceptance and understanding of CIM will not occur and cultural opposition to change will continue." The importance of functional managers to the overall success of major reengineering efforts was again highlighted in a recent executive guide[3] we prepared on using information technology to improve mission performance. We observed that in every successful organization studied, senior executives realized that getting managers to work differently meant putting them in charge of the change process. The Information Technology Association of America in its study on enterprise integration in DOD also noted that in the view of functional managers, CIM efforts are being directed by DOD's information technology offices. In private industry, information technology is used as a tool to facilitate enterprise integration, not as an end in itself. Functional managers must lead the effort with the information technology community in support.

DOD, in its June 13, 1994, strategic plan and elsewhere, has recognized the need to change its culture and management strategy to build consensus throughout the Department, but implementation (and actual change) has been slow. For example, today the Assistant Secretary of Defense for C3I is responsible for implementing CIM—overseeing and integrating business process innovation within and across all DOD functional areas. The Assistant Secretary, however, is also the Senior Information Management Official for DOD. We believe that this has contributed to functional managers' misunderstanding of the CIM initiative and has reenforced their view that CIM is primarily an information technology initiative.

In addition to changing the CIM management strategy and providing training to all employees, DOD may need to rename the initiative. Contrary to what its name implies to many DOD managers, CIM is much more than an information technology initiative. As designed, CIM is supposed to be a major effort to reengineer business processes, with information technology being a necessary support function. As discussed previously, however, many defense managers view it as either a budget-cutting or information technology initiative and have not given it their full support and cooperation. While top-level support, strategic planning, changing management strategy, and training would help solve this problem, we

[2]Defense Management: Stronger Support Needed for Corporate Information Management Initiative to Succeed (GAO/AIMD/NSIAD-94-101, Apr. 12, 1994).

[3]Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology (GAO/AIMD-94-115, May 1994).

believe a name change would also give the improvement effort a fresh start.

CIM Efforts Remain Isolated From One Another

In draft CIM guidance dated January 1993, DOD recognizes that no DOD function can be accomplished in isolation from other functions. For example, improvements to weapon systems management could cut across several business areas, including logistics, finance, and procurement. Consequently, when trying to improve DOD functions, it is important to address all related business areas.

We found that the CIM improvement efforts are to a great extent being made in isolation from one another. According to JLSC officials, there is continual overlap of CIM issues across the efforts underway in the different DOD business areas. However, the integration requirements of the related business areas have not been fully identified and established. Nor is any one office overseeing the integration of CIM business process improvements across these areas. While JLSC has sought to resolve integration issues among CIM efforts and maintains liaisons with offices responsible for CIM efforts in finance and procurement, it does not have the authority to arbitrate disputes between CIM efforts or enforce integration decisions.

Because of this isolation, or "stovepiping," CIM improvements made in one business area can duplicate or conflict with those made in another business area even though the function being improved is common to both. According to JLSC officials, stovepiping impeded its progress in selecting migration systems for the materiel management and depot maintenance business areas. For example, JLSC reviewed the practices involved in buying supply items. Functions involved in preparing procurement requests, such as determining the type and amount of supplies needed, fall under the logistics CIM effort. Functions performed after a supply contract is awarded are the responsibility of the procurement CIM effort.

In consultation with service and DLA representatives, JLSC chose the Integrated Technical Item Management and Procurement information system as the migration system for supply contract pre-award practices. However, the Procurement CIM Council reviewed the practices performed after a supply contract is awarded and chose the Defense Procurement and Contracting System. Although the pre-contracting and

post-contracting activities are part of the larger procurement process, the logistics and procurement CIM efforts were not integrated.

While they did not estimate the resources involved, JLSC officials stated that much time has been spent working on such integration issues with various service and DLA representatives. Without some direct attention by top-level management in this area, we believe that DOD will likely develop, deploy, operate, and maintain two automated systems to provide information on different parts of the procurement process. Such a result would be inconsistent with the stated CIM purpose of streamlining business processes and standardizing their supporting information systems.

Recognizing the need to integrate CIM efforts, DOD established a number of boards and councils to facilitate their integration, but these efforts have not succeeded. For example, DOD established the Information Policy Council to facilitate the integration of information management functions, activities, and systems. According to DOD officials, this Council was not successful because it did not meet frequently enough and did not include in its membership the officials needed to decide integration issues, nor did it have decision-making authority. Also, in January 1992, the Assistant Secretary of Defense for C3I established the Corporate Functional Integration Board to build more active CIM participation. While this Board has identified some cross-functional issues, DOD said that a higher level body with decision-making authority was needed to successfully resolve integration issues.

DOD, in April 1994, established the Enterprise Integration Executive Board, chaired by the Deputy Secretary of Defense, to resolve cross-functional integration issues. As established, this Board and its supporting Enterprise Integration Corporate Management Council are to exchange information and views about cross-functional management concepts, policies, and plans to achieve CIM goals. With membership of DOD senior-level managers, service secretaries, and the Chairman of the Joint Chiefs of Staff, this Board has the membership and authority to make decisions on cross-functional and integration issues.

Commenting on a draft of this report, DOD officials stated that DOD is moving aggressively to integrate its CIM efforts. They cited the Deputy Secretary of Defense's issuance of the DOD Enterprise Integration Implementing Strategy to support the CIM Strategic Plan as evidence of actions being taken.

These latest actions, we believe, are important steps toward resolving cross-functional issues. According to DOD officials, the success of the Enterprise Integration Executive Board and its supportive Enterprise Integration Corporate Management Council will depend on the level of interest and commitment from the members, as well as the quality and implementation of their decisions. Success of additional actions also will depend on their quality and implementation.

Program Authority Is Unclear

With the establishment of JLSC, DOD created two separate lines of authority for managing the development of logistics information systems. DOD Directives 5000.1, "Defense Acquisition," and 5000.2, "Defense Acquisition Management Policies and Procedures," grant service program managers sole authority for managing their assigned programs. However, under authority granted by the Assistant Secretary of Defense for Production and Logistics, JLSC is to manage the design, development, implementation, and maintenance of logistics information systems and to exercise funding control over these acquisitions.

According to JLSC officials, this dual authority has resulted in dissension between JLSC and program offices about which office has overall authority over the development and implementation of information systems. For example, the Air Force's Depot Maintenance Management Information System was selected as a migration system to be installed at the Warner-Robbins Air Logistics Center test site in January 1995. The Air Force project manager, however, believed that the development project is under the Air Force acquisition program and, as such, must follow the direction of the senior project manager.

Under this direction, the new information system could not be exported to other installations until it passed 90 days of operational testing and evaluation and obtained approval from the Major Automated Information Systems Review Council. The operational tests, originally scheduled for August 1993, were delayed until December 1993. As of April 1994, the data collection phase of the test was complete but the final report had not been issued and reviewed by the Major Automated Information Systems Review Council. According to the Deputy Under Secretary of Defense (Logistics) official responsible for logistics CIM, this program authority problem will be remedied by making JLSC, not the Air Force, responsible for managing the system project.

In late 1993, a DOD logistics review group found that current program management direction divides the responsibility and accountability for developing CIM migration systems. The core issue, the review group said, was the need to "minimize management layering and delegate review and milestone approval authority commensurate with the resources and risks involved." Although the group reviewed the problem within logistics, it identified four options for assigning program management responsibilities in all CIM efforts to a particular organizational unit or senior DOD manager.

In its comments on a draft of this report, DOD officials said they did not agree that the current guidance was conflicting; it was just misunderstood by those responsible for implementing it. However, DOD cited the issuance of its CIM Strategic Plan as a recent effort that should clarify program authority under the CIM initiative.

Private industry and our studies show that a strategic plan that clearly articulates responsibilities and describes how the initiative fits with other organizational priorities is critical. We have stated in the past that the Office of Secretary of Defense would need to provide strong leadership and establish a stable organization with clear lines of authority and accountability for CIM to succeed.[4] To the extent that DOD's CIM Strategic Plan establishes clear lines of authority, we believe that it can successfully resolve conflicts over who manages projects to develop migratory information systems.

Conclusions

The impediments JLSC faces illustrate fundamental problems in DOD's management of the overall CIM initiative. While DOD has taken some important steps to address these problems, more needs to be done. First, DOD needs to ensure that functional service and DLA managers actively participate in the management and implementation of the initiative with the information technology community in support. Private companies that have reengineered their business operations cite the active participation of their line managers as critical to their success.

Second, DOD needs to take specific action to build the support and commitment of all DOD employees for the cultural changes that must be made to implement CIM. Although DOD has taken actions to demonstrate top-level support and commitment to the initiative, the DOD employees are the ultimate key to CIM's success. As private companies have learned by

[4]Defense ADP: Corporate Information Management Must Overcome Major Problems (GAO/IMTEC-92-77, Sept. 14, 1992); and Defense Management: Stronger Support Needed for Corporate Information Management Initiative to Succeed (GAO/AIMD/NSIAD-94-101, Apr. 12, 1994).

implementing massive changes in their organizations, employee support and commitment is essential to overcome deeply entrenched barriers to change. To build this support and commitment, employees must be trained to ensure that they understand why business practices need to be changed, how changes will improve business operations, and what they must do to implement needed changes.

While training may be the most comprehensive method for ensuring employee understanding, renaming the initiative could greatly increase its acceptance. Because of the evolution of the initiative and the shifts in its emphasis, many employees are confused and misunderstand CIM's primary purpose. Renaming the initiative to clearly communicate its primary objectives, would help remove employees' confusion and serve as a first step for building their support and commitment.

Recommendations to the Secretary of Defense

To overcome the fundamental weaknesses in the management of the CIM initiative and to further encourage cultural changes needed to support the new DOD business operations, we recommend that the Secretary take the following actions:

- Revise the CIM management strategy to ensure that functional managers, particularly the service Chiefs of Staff and DLA Director, actively participate and lead efforts to reengineer DOD's business processes under the CIM initiative.
- Train DOD employees at all levels to promote understanding and acceptance of changes needed to their current ways of doing business.
- Change the name of the CIM initiative to lessen the confusion created as the initiative has evolved and to more accurately communicate the primary CIM objective.

Agency Comments and Our Evaluation

DOD appreciated our overall support for the CIM initiative and our recognition that JLSC had made progress toward developing logistics standard systems and reengineering processes in support of the materiel management and depot maintenance functions. DOD, however, was concerned about the tone of the report and the differences between our and its interpretation of CIM plans, expert advice, and reviews. Consequently, we modified our draft report where appropriate. A number of modifications were designed to present a balanced view of the CIM initiative while others were made to clarify our interpretation of CIM plans, expert advice, and reviews. When differences in interpretation remained,

we added DOD's view to the report. Finally, DOD has taken several actions since we completed our audit work that addressed strategies to management and implement CIM. In view of these actions, we deleted two recommendations and modified a third to more precisely identify the actions we believe the Secretary should take.

DOD concurred with our recommendation on training but did not concur with our recommendation on renaming the initiative. According to DOD, renaming the initiative would create confusion because it would signal a change in the initiative or in management that has not taken place. Our review showed, however, that DOD managers are already confused about the initiative's primary objective. This confusion has resulted in a negative perception about CIM and the failure by many service and DLA managers to fully accept and support the effort. Despite DOD arguments, we continue to believe that renaming the initiative to more accurately communicate its primary objective would promote understanding and acceptance. The risk of creating some additional confusion is more than offset by the advantages that a name change should produce. Additional DOD comments and our responses appear in appendix III.

Description of Ongoing Near-Term Initiatives

This appendix provides a brief description of the five materiel management and two depot maintenance near-term initiatives that are being implemented through the logistics Corporate Information Management (CIM) initiative. Each description includes information on the purpose, expected costs and benefits, and schedule.

Materiel Management Initiatives

Cataloging Tools On-Line

This initiative is a materiel management productivity aid for the Department of Defense (DOD) catalogers. When DOD introduces a new supply item into its inventory, the item is listed in a catalog provided to the services and the Defense Logistics Agency (DLA). Currently, catalogers use paper technical drawings, specifications, vendor catalogs, guidebooks, procedural manuals, and regulations to complete cataloging steps such as writing a brief description of the supply item and assigning it a stock number.

Cataloging Tools On-Line, a DLA system, enables a cataloger to electronically access reference documents, simultaneously compare technical data with drafted descriptions, and automatically check for errors. Catalogers using this automated aid are expected to create catalog entries much faster and more accurately than is currently done.

The Joint Logistics System Center (JLSC) projects that the 10 sites receiving the Cataloging Tools On-Line system will save about $71.7 million over the next 8 years through the elimination of manual processes, reduced rejection rates of transactions, and better availability of and access to cataloging information.

Commercial Asset Visibility

This initiative enables DOD supply item managers to better monitor the repair of government-owned equipment by private contractors. DOD routinely contracts with private companies to repair government equipment and usually provides the equipment and the material a contractor needs to make the repairs. The Commercial Asset Visibility system, which combines parts of automated systems operational at Navy and Air Force sites, provides item managers with automated records on a contractor's repair process. Using these automated records, item

managers can compare on a daily basis contractor and government records of equipment status, condition, location, and quantity.

JLSC expects that with more timely and accurate information, the Army, which currently does this process manually, will gain better visibility over its assets that are located at contractor sites. As a result of this increased visibility, the Army might be able to reduce its equipment losses by one-third (from 1.5 percent of the total value of reparables to 1 percent). JLSC projects that this reduction will save the Army about $22.8 million over a 20-year period.

Also, item managers can use equipment status information in the system to ensure contractors are provided with the right material needed to repair the equipment in a more timely manner. Based on a preliminary analysis, JLSC believes this can reduce the average time Army contractors spend making repairs from 120 days to 118 days. This 2-day reduction could save the Army about $5.5 million over a 20-year period.

As of September 1993, the Commercial Asset Visibility system was operating at 10 Army contractor sites. As a by-product of this implementation, item managers have found that contractors had about $12.7 million more in government-owned equipment than shown in DOD records. JLSC is assessing whether this found equipment can be used to reduce the amount of equipment the Army expected to buy for use by the contractors.

Configuration and Logistics Information Program

This program enables service users to make more accurate and timely purchases of replacement and repair parts for weapon systems and equipment. The services maintain various versions (configurations) of the same weapon system and equipment tailored to a unit's specific mission requirements. Each of these configurations require unique replacement and repair parts. Currently, most service users rely on manual documentation, which is often inaccurate and out of date.

The Configuration and Logistics Information Program is an automated information system used by the Marine Corps and the Navy. It provides users with detailed information to build, procure, maintain, and repair each of the various weapon system and equipment configurations. It enables the users to purchase the right parts for each weapon system or piece of equipment. Although JLSC expects the system to be installed at various sites across all services, it has not yet projected the overall cost

savings. However, as of September 1993, it had projected that one Marine Corps site would save from $1.8 million to $2.8 million from fiscal years 1992 through 2000.

Defense Expert Supply System

This initiative is intended to enable supply centers to provide better customer service with fewer employees. Currently, supply center customers can order supplies, check stock numbers, and receive status information on their supply orders over the telephone. However, they must wait for supply personnel to become available to manually query the automated supply information system.

The Defense Expert Supply System, in operation at some DLA supply centers, allows customers using touch-tone telephones to directly access the automated supply system for answers to their questions. As of September 1993, the system had been installed at 4 of the 10 planned sites. Although system benefits have not yet been validated, JLSC expects that customer service costs at each of these sites will be reduced by about $400,000.

Integrated Technical Item Management and Procurement

This initiative decreases the time needed to prepare and award contracts for commonly used supplies such as nuts, bolts, fuses, and electronic parts. Currently, most services must manually obtain and compile documents into purchase requests needed to buy supplies from manufacturers; identify manufacturers that produce the supply items; solicit bids from available manufacturers; select the manufacturer to be used; and print, sign, and award contracts. Because of the manual intervention required to develop and compile these purchase requests, the process is time-consuming and error prone.

The Integrated Technical Item Management and Procurement system, being used by two Navy inventory control points, automates the DOD supply contract development and award process. The system consolidates information on the quantity, quality, and type of supply items being purchased; the manufacturers of the item; and the contract bid and award procedures. It allows supply managers to automatically develop supply contracts and send them to manufacturers.

As of September 1993, the latest version of the system had been installed at two Navy and one Marine Corps sites. Data were being collected to validate costs and benefits at these sites.

Depot Maintenance Initiatives

Depot Maintenance—Hazardous Material Management System

This depot maintenance initiative is intended to reduce the amount of money maintenance depots spend for hazardous materials such as paint thinner, oils, and chlorine. Currently, the depots spend more than $300 million each year to buy hazardous materials used in the repair and maintenance of end items. Officials acknowledge that a significant portion of these materials is wasted.

In 1992, the Air Force implemented the Depot Maintenance—Hazardous Material Management System at its Ogden Air Logistics Center to provide information about who received hazardous materials; which and how much they received; and when, where, and how the materials were used. With this information, Ogden managers identified wasteful practices, such as workers receiving more material than needed for the job. In addition, they found that workers were storing excess material in their lockers and that stored materials were being improperly sealed. Depot management subsequently changed the methods for handling hazardous materials. For example, materials are now issued only in the amount needed. As a result, Ogden reduced the amount of hazardous materials purchased in 1992 by nearly 39 percent, or a $7.7 million net cost savings.

JLSC plans to install the system at 27 maintenance depots and projects that they will save between $83.3 million and $202.3 million over a 6-year period. As of September 1993, the system had been installed at seven sites.

Programmed Depot Maintenance Scheduling System

This initiative is intended to streamline the planning, scheduling, and production repair, overhaul, and modification of major end items by maintenance depots. Currently, many depots use manual procedures or antiquated automated systems to plan, schedule, and manage their repair activities. Accordingly, these plans and schedules are not easily changed. They must include extensive and detailed information such as descriptions of work tasks to be performed, time required for the work, skills and materiel needed to do the work, and the sequence in which the work should be done to optimize available resources.

To manage the repair activities, managers track information such as the status of work done, work planned, resources used, and resources

available. However, the depots often experience unanticipated changes such as an increase in work to be done, fewer resources available to do the work, or a shift in work priorities. These changes usually result in significant delays to the repair work.

The Programmed Depot Maintenance Scheduling System, operating at the Air Force's San Antonio Air Logistics Center, automates and integrates the maintenance depot's repair planning, scheduling, and management information processes. Using the system, depot management can plan and schedule the most optimum use of available resources to perform repair work. As unanticipated changes to workload, resources, and work priorities occur, the system allows depot managers to quickly develop new plans and schedules that optimize operations. In addition, the system provides managers with up-to-date status information, including work completed, resources used, work to be done, and resources needed to do it.

Based on the then-planned workloads at the specific depots, JLSC projected that use of the automated system at 16 maintenance depots would reduce DOD costs by at least $126.8 million over the 6-year period ending in fiscal year 1997. As of September 1993, the system had been installed at seven maintenance depots. JLSC was collecting cost and benefit data at these operational sites to validate its savings projections.

Description of Migration Systems

This appendix provides brief descriptions of the 27 CIM migration systems selected to support the logistics functions of materiel management and depot maintenance.

Materiel Management

Automated Inventory Management Support System: Enables item managers to automatically process recommended buys, simulate changes, and view historical data. Provides the capability to modify recommended acquisition quantities or levels and add or delete delivery/storage locations.

Cataloging System (DO43): Receives on-line descriptions of federal and service supply items and sends them to the Defense Logistics Service Center.

Cataloging Tools On-Line: Automates paper copy guidebooks, procedures, and regulations needed to catalog new consumable items.

Central Secondary Item Stratification: Automates the retrieval, analyses, adjustment, and arrangement of supply requirements data used to budget procurement and repairs, report inventory, stratify assets by need (operational, war reserve, long supply), display readiness of supply position, and manage the inventory.

Commercial Asset Visibility: Enables users to monitor the status of government-owned equipment in the possession of commercial contractors. Automates the reconciliation of contractor and government records of equipment condition, location, and quantity.

Configuration and Logistics Information Program: Allows users to collect and record engineering data, engineering change proposals, and directives; provides documentation and technical data for every configured item; and enables users to record the implemented configuration on weapon systems and equipment.

Defense Supply Expert System: Allows users to requisition supply items over the telephone. Users can create and modify asset requisitions, access asset requisition status and stock availability, and reach a customer service representative.

Deficiency Reporting System: Automates the collection, processing, and storage of deficiency and discrepancy data on weapon systems and equipment.

Generic Configuration Status Accounting System: Provides status of accounting information and interfaces with retail-level maintenance systems. Changes made to aircraft configurations are also captured and forwarded to a data repository.

Integrated Technical Item Management and Procurement: Automates pre-procurement functions, including purchase request processing, and passes validated requirements information to procurement personnel.

Interactive Computer Aided Provisioning System: Automates initial provisioning functions and allows users to track design change notices on a personal computer.

Initial Provisioning Management Information System: Develops and supports contract and planning information used to track initial provisioning schedules and milestones. Provides the capability to review funding and item requirements.

Logistics Planning and Requirements Simplification System: Provides provisioning, processes data item selection sheets, and generates logistics support plans.

Joint Engineering Data Management Information Control System: Stores engineering drawings in a standardized format for use by all services.

Maintenance Planning and Execution System: Automates the computation of repair schedules and budgets; gives workload management data; tracks the value of unserviceable assets; serves as the central repository for depot-level maintenance requirement and resource data, including schedule rates, staff-hours, and dollar requirements; and provides program status for aircraft, missiles, and support equipment.

Modification Management Information System: Tracks engineering change proposals from their initiation through the approval process and, if approved, through implementation.

Multi-User Engineering Change Proposal Automated Review: Automates the receipt and storage of proposed engineering changes made by contractors and the government.

Pre-Procurement Support System (J090A/B): Enables logistics personnel to develop and move a complete procurement requirements package from requirements identification to contract approval.

Repair Priority and Distribution: Allows item managers to prioritize repairs by item, optimize weapon system availability through marginal analysis, and direct redistribution of repaired items. Reallocates assets in support of weapons.

Requirements Determination and Execution System: Automates the calculation of requirements for procurement cycles and safety level of supplies.

Statistical Demand Forecasting System: Enables item managers to track observed demands against expected demands and indicates which significant dollar items have legitimate changes in demand pattern. Identifies items requiring reforecasting using statistical and workload parameters.

Stock Control System: Processes information from requisitions and receipts; assists in requirements determination; integrates materiel management, depot maintenance, and retail data; provides requisition status, disposal management, financial inventory reporting, pricing and tracking, and deficiency reporting; and serves as a repository for information necessary for transportation links.

Technical Data Management System: Builds supply requests, screens transactions, creates and modifies federal catalog items, maintains freight data, and processes annual price changes.

Total Asset Visibility: Provides for total visibility of assets from storage, production, and repair to delivery during both wholesale and retail activities.

Depot Maintenance

Depot Maintenance Management Information System: Provides depot maintenance managers with an automated capability to forecast workloads; schedule repair activities; track and control inventories;

program staffing, materials, and other resources; and track and manage production costs.

Enterprise Information System: Provides the ability to interface to existing data sources, extract relevant data, and package the information to support decisionmakers with timely summary information.

Facilities and Equipment Maintenance: Provides an integrated tracking and control system for equipment and facility maintenance, preventive maintenance, and calibration of precision measurement equipment.

Hazardous Material Maintenance System: Records the receipt and issue of all hazardous material within a maintenance depot. Provides inventory visibility of all hazardous material to control the issue of hazardous material to authorized users.

Interservice Material Accounting and Control System: Tracks Depot Maintenance Interservice Support agreements and visibility and control for interservice workloads.

Laboratory Information Management System: Monitors and controls laboratory data such as sample order status, order tracking, backlog, scheduling, location tracking, workload prediction, pricing, and invoicing. Automates tracking and archiving for depot material samples and test results.

Programmed Depot Maintenance Scheduling System: Supports the planning, scheduling, and management of programmed depot maintenance of major end items.

Tool Inventory Management Application: Provides total inventory tracking and accountability of both hard and perishable (consumable) tools and tooling assets. Tracks issues and receipts of assets to both individuals and in tool kits.

Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-3040

COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE

August 18, 1994

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and
International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "DEFENSE MANAGEMENT: Impediments Jeopardize Logistics Corporate Information Management," dated May 27, 1994 (GAO Code 398141, OSD Case 9660). The Department partially concurs with the report.

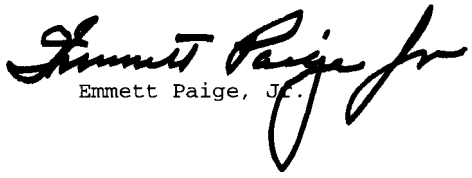
The Department appreciates the overall support for the Corporate Information Management initiative and the recognition that the Joint Logistics Systems Center has made progress toward developing logistics standard systems and re-engineering processes in support of the material materiel management and depot maintenance functions. The Department is, however, concerned about the negative tone of the report and the differences between the GAO and the Department in interpretation of Corporate Information Mangement plans, expert advice, and reviews.

While the Department generally concurs with most of the report findings and recommendations, the Department does not concur with Finding J--related to acceptance of the Corporate Information Mangement initiative--and the related Recommendation 3 to change the name of the initiative. Department managers--including those at the highest level--support the Corporate Information Management initiative and the Department does not see the benefit from a name change. The objectives are clearly stated. A name change would only serve to create confusion. The Department is pursuing the Corporate Information Management initiative with an appropriate balance of activities such as process re-engineering, enterprise integration, systems migration, data standardization, and information infrastructure support. These are the major activities within the Corporate Information Management initiative that DoD is actively

engaged in and described in the Corporate Information Management Strategic Plan, approved by the Deputy Secretary of Defense on June 13, 1994.

The DoD appreciates the opportunity to review and comment on the draft report. The detailed comments on the draft report findings and recommendations are provided in the enclosure.

Sincerely,



Emmett Paige, Jr.

Enclosure

GAO DRAFT REPORT - DATED JULY 1, 1994
(GAO CODE 398141) OSD CASE 9660

"DEFENSE MANAGEMENT: IMPEDIMENTS JEOPARDIZE LOGISTICS CORPORATE INFORMATION MANAGEMENT"

DEPARTMENT OF DEFENSE COMMENTS

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FINDINGS

- **FINDING A: Corporate Information Management Initiative.** The GAO noted that the Corporate Information Management (CIM) initiative was launched in 1989 as a way to improve business practices, make better use of information technology, and eliminate duplicative information systems across seven administrative areas, including civilian payroll, material management, and medical. The GAO noted that, initially, DoD efforts to implement Corporate Information Management focused on eliminating separate service systems and providing integrated systems across the department. The GAO pointed out that, since that time, the scope of Corporate Information Management has broadened dramatically to include all Defense functional areas, including procurement, logistics, finance, and command and control. The GAO also pointed out that, today, the primary objective of that effort is to significantly improve business processes of all DoD functional areas through such techniques as business process engineering and continuous process improvements; however, standardization and improvement of the DoD supporting information systems remain a major Corporate Information Management objective. The GAO reported that the DoD projected the Corporate Information Management initiative would enable the DoD to achieve efficiency and productivity improvements to save $36 billion by FY 1997. In addition, the GAO pointed out that the Joint Logistics Systems Center--established to help achieve Corporate Information Management goals for logistics functions--expected improvements to logistics functions to provide as much as $28 billion of the savings total.

  The GAO reported that, to implement the Corporate Information Management effort, the DoD directed senior officials within the Office of the Secretary of Defense--i.e., the Principal Staff Assistants--to develop a "corporate" view of their assigned functional areas and to

Enclosure

identify, through a process known as business process re-engineering, major improvements to current business practices. The GAO pointed out that, at the same time, Military Service and Defense Agency managers were taking a bottom-up look to identify and implement business process improvements having service-wide or agency-wide application. The GAO also pointed out that, to assist in identifying and implementing major improvements in materiel management and depot maintenance, the DoD established the Joint Logistics Systems Center. The GAO explained that the Center was staffed with personnel from the Military Services and the Defense Logistics Agency--and relies on the active participation of the Services and Defense Logistics Agency to accomplish its Corporate Information Management efforts. (pp. 3-4, pp. 12-19/GAO Draft Report)

Now on pp. 2-3 and 10-13.

DOD RESPONSE: Partially concur. Although the DoD agrees with most of the GAO statements, the DoD does not agree with the GAO depiction of the evolution of the Corporate Information Management initiative. The GAO also does not differentiate in its assessments between those attributes of the Corporate Information Management initiative which are unique to the DoD and those attributes which pertain to virtually all process re-engineering efforts or major organizational changes. That differentiation is crucial, since it would indicate which portions of the initiative are atypical and are indicative of either lagging performance--thereby pointing to areas where DoD should modify its approach--or exceptional performance, pointing to implementation techniques or policies that should likely be replicated further in the DoD and perhaps in other Government agencies.

See comment 1.

See comment 2.

The DoD has not changed the aims of the Corporate Information Management initiative since its inception in 1989. While the Department pursues major business process improvements, some of which may take many years to accomplish, it has also looked to reduce costs and eliminate duplication in information systems and data, which will have quicker payback. Reports that preceded the Corporate Information Management initiative, such as the Senate Appropriations Committee Report 101-132, September 1989, on the FY 1990 DoD Appropriations Bill asserted that the DoD annual automated data processing costs "could likely be reduced significantly through more consolidation and elimination of redundancy." In addition, early progress reports on the initiative show the ground-breaking work done under the initiative in business process re-engineering, including the early use of benchmarking with private industry. Those reports include the DoD April 1991 report

See comment 1.

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to the Congress on the status of the Corporate Information Management initiative and the April 1991 GAO report "DEFENSE ADP: Corporate Information Management Initiative Faces Significant Challenges" (GAO/IMTEC-91-35/OSD Case 8677).

See comment 3.

The GAO cites savings estimates for the Corporate Information Management initiative that are not supported by current analyses. While the GAO cites the April 1992 date of the estimate, the GAO does not mention subsequent studies, most notably the 1993 Defense Science Board Task Force on Fiscal Year 1994-99 Future Years Defense Plan ("The Odeen Panel"), which looked into the accuracy of the Defense Management Report Decisions savings estimates. The DoD previously explained the fallacies of using the old cost estimates in its March 24, 1994, response to the GAO draft report, "DOD BUDGET: Evaluation of Defense Science Board Task Force Report" (OSD Case 9629). The DoD anticipates significant savings and process improvements from the Corporate Information Management initiative, but does not consider the estimate cited by the GAO to be useful.

See comment 4.

The draft report repeats, verbatim, GAO descriptions of the work of the Executive Level Group from the September 1992 GAO report "DEFENSE ADP: Corporate Information Management Must Overcome Major Problems" (GAO/IMTEC-92-77/OSD Case 9235). In its March 3, 1993, response to that report, the DoD conveyed its disagreement with those descriptions, explaining that the descriptions were loose paraphrases of the Executive Level Group that did not convey the contents of the Group's assumptions or work. The GAO should clarify in its report those descriptions that are its own rather than those made by the DoD or the Executive Level Group.

- **FINDING B: Joint Logistics Systems Center Selected and Deployed Near-Term Initiatives**. The GAO observed that, in March 1992, the Joint Logistics Systems Center identified 20 improvement projects--15 in materiel management and 5 in depot maintenance--that were termed near-term initiatives and projected that implementation would save the Military Services more than $2 billion over a 5 to 20 year period. The GAO explained that the projects were selected because the projects could make current business processes more efficient and effective and could be quickly implemented at a few Service and Defense Logistics Agency sites to achieve quick cost savings.

  The GAO further observed that, as of October 1993, the Joint Logistics Systems Center had begun implementing seven of the near-term initiatives (five materiel management and two

depot maintenance). The GAO reported that the Center claimed savings of at least $7.7 million and located previously lost or unaccounted Government assets worth about $12.7 million. The GAO reported that, although additional savings might have accrued, the Center had not yet validated all cost and benefit projections. The GAO noted that, before the Center could implement the remaining 13 near-term initiatives, DoD officials questioned the viability of the near-term strategy and redirected the implementation approach to Corporate Information Management. The GAO pointed out the following two examples of the seven near-term initiatives that have been implemented.

- Cataloging Tools On-Line--The GAO reported that the Cataloging Tools On-Line initiative was a materiel management productivity aid for DoD catalogers. The GAO noted that, when the DoD introduces a new supply item into inventory, the item is listed in a catalog provided to the Military Services and the Defense Logistics Agency. The GAO also noted that, currently, catalogers used paper technical drawings, specifications, vendor catalogs, guidebooks, procedural manuals, and regulations to complete cataloging steps--such as writing a brief description of the supply item, using drawings, and assigning a stock number.

The GAO observed that Cataloging Tools On-Line, a Defense Logistics Agency system, enables the cataloger to access reference documents electronically, simultaneously compare technical data with drafted descriptions, and automatically check for errors. The GAO pointed out that catalogers using this automated aid are expected to create catalog entries much faster and more accurately than is currently done. The GAO reported that the Joint Logistics Systems Center projects that the 10 new sites receiving the Cataloging Tools On-Line system will save about $71.7 million over the next 8 years through the elimination of manual processes, reduced rejection rates of transactions, and better availability of and access to cataloging information.

- Depot Maintenance Hazardous Material Management System --The GAO reported that the depot maintenance initiative was intended to reduce the amount of money maintenance depots spend for hazardous materials--such as paint thinner, oils, and chlorine. The GAO observed that, currently, the depots spend more than $300 million each year to buy hazardous materials used in the repair and maintenance of end items; however, officials acknowledge that a significant portion of the materials was being wasted. The GAO noted that, to provide information about who received hazardous materials, in 1992, the Air Force implemented the Depot Maintenance

Hazardous Material Management System at the Ogden Air Logistics Center--which system tracked how much was received--and when, where, and how the materials were used. With that information, the GAO found Ogden managers identified wasteful practices, such as workers receiving more material than needed. The GAO also pointed out that workers were storing excess material in lockers and that stored materials were being improperly sealed. The GAO observed that depot management subsequently changed the methods for handling hazardous materials. The GAO asserted that, as a result, Ogden reduced the amount of hazardous materials purchased in 1992 by nearly 39 percent, or a $7.7 million net cost savings. The GAO added that the Joint Logistics Systems Center planned to install the Depot Maintenance Hazardous Material Management System at 27 maintenance depots and projected between $83.3 million and $202.3 million would be saved over a 6-year period. The GAO noted that, as of September 1993, the systems had been installed at seven sites. (pp. 21-24/GAO Draft Report)

Now on pp. 15-17.

DOD RESPONSE: Concur.

- **FINDING C: Joint Logistics Systems Center Directed to Refocus on a Migration Strategy**. The GAO reported that, in October 1992, the Acting DoD Comptroller expressed concern that the Joint Logistics Systems Center Corporate Information Management approach would not produce the cost savings needed to help offset significant Defense budget reductions. The GAO asserted that the Comptroller favored an approach where the Center would quickly select and implement standard information systems. The GAO pointed out that, by so doing, the Comptroller hoped that the DoD could transition to a standard logistics system within a reasonable period of time at an affordable cost. The GAO noted the Comptroller recommended that the Center immediately select a functionally and technically integrated information system for each of the materiel management and depot maintenance business areas--from those being operated by one of the Services and the Defense Logistics Agency.

  The GAO also reported that, in November 1992, the Principal Staff Assistant for Logistics issued the Logistics Corporate Information Management Migration Master Plan. The GAO noted the plan established the selection of migration systems as the Corporate Information Management implementation strategy within the logistics area. The GAO pointed out that, as a result, the Joint Logistics Systems Center shifted focus from implementing the near-term initiatives to selecting migration systems for materiel management and depot

maintenance. The GAO observed, however, that the Center continued to implement the 7 near-term initiatives it had started and incorporated the remaining 13 projects into the analysis used to select the migration systems.

The GAO further reported that the Joint Logistics Systems Center also developed a three-step strategy designed to evolve, on a gradual basis, the Military Services and the Defense Logistics Agency from their multiple and often redundant materiel management and depot maintenance business practices to a single, or corporate, DoD logistics process. The GAO pointed out that, while the strategy generally focuses efforts sequentially, some work is done concurrently on all three steps. The GAO explained that the three steps of the migration strategy were:

- select and deploy migration systems--either single information systems or groups of information systems--in each functional area;

- improve current business processes and add new functions to fill voids; and

- combine the improved and new business processes with the new information systems to form a corporate logistics process.

The GAO noted that, once the selected migration systems are deployed (step one of the strategy), the Center planned to work with the Military Services and the Defense Logistics Agency to add needed functions and make incremental improvements to logistics business processes (step two). The GAO continued that developing a corporate logistics process (step three) is where the Center expects to use such tools as re-engineering to identify and implement major and innovative changes in the logistics area. The GAO noted that, according to the DoD, the vast majority of cost savings was most likely to occur in step 3.

The GAO reported that, in October 1993, the Deputy Secretary of Defense, directed that senior Defense managers accelerate the selection and deployment of migration systems, standardization of data, and improvement of functional processes. The GAO noted that, while stating "the acceleration of these actions is key to containing the functional costs of performing the DoD mission within our constrained budget," the Deputy Secretary of Defense established specific milestones only for selection and implementation of migration systems and the completion of data standardization. According to the GAO, the Secretary

Now on pp. 3-4 and 17-19.

See comment 5.

stated that "Our near-term strategy requires the selection of migration systems within six months, with follow-on DoD-wide transition to the selected systems over a period not to exceed three years." The GAO emphasized that complete data standardization was also to be accomplished within three years. The GAO pointed out that the remaining activities--such as functional process improvement--were to be prerequisites to implementation of the migration systems and data standardization acceleration strategy. The GAO also pointed out that, because the migration strategy would take 7 to 8 years to complete--longer than the 3-year maximum set by the Deputy Secretary--in March 1994, the Deputy Under Secretary of Defense for Logistics proposed changing the management structure and mission of the Center. (pp. 5-6, pp. 24-26/GAO Draft Report)

DOD RESPONSE: Partially concur. The GAO draft report implies that the three step process is sequential. That is not correct. The process is performed concurrently on all three steps. Preliminary work by the Joint Logistics Systems Center to improve business processes is underway as discussed in Finding H. The DoD is not singling out the selection of migration systems for emphasis in its implementation of the Corporate Information Management initiative.

The DoD agrees that information systems migration progress is one of the most visible efforts underway at the present, owing the migration system goals set by the Deputy Secretary of Defense (and now Secretary of Defense) in his memorandum, "Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement," dated October 13, 1993. It should be evident even from the title of the memorandum, that the DoD is taking a multiple-pronged approach to advancing the use of information management. The Deputy Secretary of Defense's memorandum is explicit in describing and advocating the broad range of activities of Corporate Information Management:

> "The focus of Corporate Information Management on functional process improvement, migration systems, and data standardization has my full support. We need to get on with the job. In order to offset our declining resources, we must accelerate the pace at which we define standard baseline process and data requirements, select and deploy migration systems, implement data standardization, and conduct functional process improvement reviews and assessments (business process re-engineering) within and across all functions of the Department. The acceleration of these actions is key

to containing the functional costs of performing the DoD mission within our constrained budget."

- **FINDING D: Logistics Corporate Information Management Migration Strategy Runs Counter to Some Experts' Advice.** The GAO explained that some industry experts who have studied the Corporate Information Management initiative have found that the DoD migration system strategy focuses too much on improving automated information systems, rather than on re-engineering business practices. The GAO indicated the experts contended that re-engineering offers the DoD the best opportunity to move to a new plateau of performance, while improving information systems usually results in the automation of old, inefficient ways of doing business.

  The GAO reported that view was articulated by the Executive Level Group back in October 1989, when the Corporate Information Management was initiated. The GAO explained the Group noted that Defense viewed information management as merely automating existing business methods in order to cut costs and the Group recommended that the DoD adopt a new management philosophy that emphasized continuous improvement of business methods before identifying specific computing and communications technologies.

  The GAO reported that the DoD has acknowledged that business process improvements hold the greatest potential for significant cost savings. According to the GAO, early estimates by DoD officials projected that business process improvements enabled under Corporate Information Management would provide about $30 billion, or 83 percent, of the $36 billion in cost savings expected, whereas better use of information technology would account for only $6 billion, or just 17 percent of these savings. (pp. 27-28/GAO Draft Report)

Now on pp. 19-20.

  DOD RESPONSE: Partially concur. The DoD strategy runs counter only to advice provided by the GAO in its cited September 1992 report. The DoD has previously provided its rationale for not following the GAO suggestions in its formal response to the report, dated March 3, 1993. Otherwise, the DoD is adhering closely to advice that it has sought from outside experts in the course of implementing the Corporate Information Management initiative. Adhering exactly to all the advice is not entirely feasible, owing largely to mission priorities and resource constraints. Also, the sheer size of the DoD dwarfs any of the organizations whose experience is used as the basis for the

See comment 6.

advice. Therefore, some of the implementation plans have, of necessity, been modified accordingly.

The GAO has taken out of context statements made by outside experts assisting the Corporate Information Management initiative. The draft report again misstates the work of the Executive Level Group, and compounds errors by citing an inaccurate timeframe for the Group.

The GAO use of a statement from the July 1993 Information Technology Association of America review is a an example where the GAO has taken a quote out of context. Although the quote by the GAO is accurate, it omits the setting for the quote or the subsequent recommendation. The quote is taken from a review of Defense Enterprise Integration activities, rather than a review of the overall Corporate Information Management initiative. As pointed out by the Association, corporations and other organizations pass through a series of "Levels" as they posture themselves for Enterprise Integration, with "Level III" being the highest. The companies cited by the GAO all were listed as "Level III" by the Association. The Association did not criticize the DoD for already being at that "Level," pointing out that Level pertains only to the top five percent of American companies. Instead, the Association makes a recommendation for moving the DoD towards the highest Level. The recommendation is as follows:

> "DoD should accelerate out of the migration phase as quickly as possible (for example, two years) and move directly into the target [Enterprise Integration] phase."

The DoD is following the Association's advice, although the Department has found a two-year timeframe to be unworkable. In that regard, the draft report also agrees, and states that even a three-year timetable may be overly ambitious.

See comment 3.

The GAO concludes this section of the report by again using an obsolete cost estimate as a yardstick for measuring the success of the Corporate Information Management initiative. The DoD nonconcurrence with that usage is presented in the DoD response to Finding A.

- **FINDING E: The DoD Believes Migration Systems Are Critical to Business Process Improvements**. The GAO reported DoD officials recognize that re-engineering logistics practices is the key to obtaining the majority of Corporate Information Management benefits. The GAO noted that, in the

Logistics Corporate Information Management Migration Master Plan, the DoD recognized that the selection and implementation of migration systems was a critical first step toward business process improvement, since the systems provided needed quick cost recoveries and established a common business environment to re-engineer business processes.

The GAO further reported that--according to the Joint Logistics Systems Center--the Service Secretaries, concerned about the slow process of the Corporate Information Management effort and given the amount of funding stripped from the FY 1993 through FY 1997 Defense budgets as a result of multiple Defense Management Review savings targets, asked the DoD Comptroller to come up with another technique for getting more immediate cost savings. The GAO concluded that the request was the genesis for the Corporate Information Management strategy of studying current information systems and selecting a few for use across the Department.

The GAO indicated that, according to DoD officials, the vast number of different logistics processes and supporting information systems in the DoD must be reduced before significant improvements could be made. The GAO concluded that the Joint Logistics Systems Center supported the migration system concept as a necessary tool to eliminate multiple information systems supporting the same business functions. The GAO further concluded that, according to the Center's migration plan, migration systems would form the foundation upon which significant improvements to current logistics practices--estimated to result in a total of $16 billion in savings by 2005--could be made. (pp. 29-30/GAO Draft Report)

Now on pp. 20-21.

DOD RESPONSE: Partially concur. The DoD strategy for selecting standard systems for Defense-wide functions, while a part of the Corporate Information Management initiative, would likely be taking place regardless of the formation of the initiative. As the DoD downsizes, it cannot afford to develop or maintain duplicative or overlapping systems that do not add mission capabilities. Such systems might actually impede mission accomplishment, since they would perpetuate Service- or Agency-unique practices and data that actually stand in the way of integrated, Joint operations. In addition, the Congress is much aware of the problems imposed by dissimilar, unnecessarily redundant information systems, and has urged the DoD to do away with the non-value-added information systems, especially in the logistics arena, since before the beginning of the Corporate Information Management initiative in October 1989. For example:

See comment 7.

10

From the September 1989 Senate Appropriations Committee Report 101-132 on the Fiscal Year 1989 Defense Appropriations Bill: "The Department's annual Automated Data Processing costs could likely be reduced significantly through more consolidation and elimination of redundancy. The current process allows similar requirements between Services, for example tracking supply inventories, to generate totally separate and incompatible computer programs and software."

- **FINDING F: Concerns About the Migration System Strategy**. The GAO expressed several concerns about the strategy of selecting migration systems as a necessary first step in the re-engineering process.

  - The GAO is concerned because those familiar with re-engineering techniques that have studied the Corporate Information Management initiative believe the DoD strategy to standardize information systems before re-engineering its functional processes will not produce cost savings that will approach what the DoD needs in the face of shrinking budgets.

  - The GAO is concerned that the DoD requirement to select and implement migrating systems within 3 years raises a new dimension of risk to the Corporate Information Management process. The GAO concluded that, without some flexibility in the schedule, the Military Services and the Defense Logistics Agency might have to implement migration systems even if the systems are not yet capable of meeting their needs. The GAO noted that, nevertheless, the Joint Logistics Systems Center holds that the accelerated migration system schedule was what the Corporate Information Management initiative needed.

  - The GAO is concerned that some Defense Logistics Agency managers also believe that the Corporate Information Management, in general, and the Joint Logistics Systems Center focus on selecting and implementing migration systems, in particular, is affecting the ability to implement business process improvements. As an example, the GAO cited the Defense Logistics Agency attempt with some innovative pilot projects to find better, more efficient ways of doing business--outside the Corporate Information Management umbrella. The GAO concluded that, if the concepts prove successful, the Defense Logistics Agency could significantly reduce inventories, storage space

Now on pp. 3-4 and 21-23.

See comment 8.

See comment 9.

requirements, and the number of supply depots. The GAO further concluded that, eventually, the Defense Logistics Agency may be able to eliminate supply depots altogether. (pp. 5-6, pp. 31-33/GAO Draft Report)

DOD RESPONSE: Partially concur. The selection and transition to migration information systems, where justified by cost and functional analyses, is needed to eliminate costly, duplicative information systems. With the rapid drop in the Defense budget and the increase in range of international crises that the DoD must respond to, the Department must achieve economies wherever possible. The DoD is making sure that mission requirements remain at the forefront in its move to migration systems. The DoD has already addressed concerns similar to those voiced by the GAO about the three-year goal for implementation of migration systems in the Deputy Assistant Secretary of Defense (Information Management), Office of the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) April 1994 testimony before the House Appropriations Committee, Defense Subcommittee:

> "We clearly recognize that the six months for selection and three years for transition are ambitious time frames. Philosophically, however, we believe we will achieve better results if we set tight time frames with some potential slippage, rather than if we were to continue on our previous course.

The DoD disagrees that the Defense Logistics Agency's innovations are "outside the Corporate Information Management umbrella." Actions such as those taken by the Defense Logistics Agency are what Corporate Information Management is all about. Such business process re-engineering efforts comprise one of the fundamental "pillars" of the initiative.

- **FINDING G**: **Joint Logistics Systems Center Has Selected Migration Systems**. The GAO reported that, by June 1994, the Center selected 32 migration systems from among 200 information systems being used to support major materiel management and depot maintenance business processes--as directed by the DoD and in cooperation with teams of Military Service and Defense Logistics Agency experts. The GAO explained that, prior to the selection of the systems, each Military Service and the Defense Logistics Agency was given the opportunity to identify the system (or combination of systems) used to support the logistics business area. The GAO noted that Service and Defense Logistics Agency experts for materiel management and depot maintenance

presented the candidate systems in an open forum for consideration--which included detailed information on (1) the system capabilities, (2) the system interfaces with other logistics systems, and (3) other information--such as cost, benefit, and technical data. The GAO noted that the Service, Defense Logistics Agency, and Center representatives came to consensus on the selection of 32 candidate systems--24 for materiel management and 8 for depot maintenance--which were later approved by the Deputy Under Secretary of Defense for Logistics.

- Materiel Management Migration Systems--The GAO observed that the 24 migration systems selected for materiel management support the four major materiel management business processes--i.e., (1) asset management, (2) supply, (3) technical data, and (4) requirements determination--together, form the Materiel Management Standard System. The GAO noted that the Center planned to deploy the first version--Functional Release #1--of the combined system at one site--the Marine Corps Logistics Base, Albany, Georgia--beginning in July 1994 and, upon successful completion of the test of the first version, the Center planned to assist the Military Services and the Defense Logistics Agency in implementing the standard system at additional sites.

The GAO reported that, as of September 1993, on the basis of a preliminary functional economic analysis, the Joint Logistics Systems Center projected that improved business processes and reductions in the number of systems would help the Military Services and the Defense Logistics Agency recover as much as $12 billion over the 10-year period ending in FY 2005. The GAO noted the Center cautioned that it is a "first look" at potential savings; however, the Materiel Management Standard System would eventually result in numerous improvements to materiel management business processes-- primarily because it incorporates general business improvements from Defense initiatives such as the Defense Management Review, prior Corporate Information Management efforts, and a compilation of "best practices" identified in numerous DoD, Service, and Defense Logistics Agency initiatives.

- Depot Maintenance Migration Systems--The GAO reported that the eight migration systems selected for depot maintenance supported the three major depot maintenance business processes of (1) project management (planning and allocating labor, material, and capital resources for repairing major end items--ships and tanks), (2) reparables management (activities for making labor and equipment more productive on the shop floor), and (3) specialized support

(various individual functions such as tracking hazardous materials, tools, and test samples). The GAO explained that the eight migration systems, along with a system not yet selected, together form the Depot Maintenance Standard System. The GAO pointed out that the Center planned to test the combined system at the Warner-Robbins Air Logistics Center beginning in January 1995. The GAO noted that, upon successful completion of the test, the Center planned to assist the Military Services and the Defense Logistics Agency in implementation of the new system at additional sites. The GAO reported that, on the basis of a preliminary functional economic analysis completed in January 1994, the Center expected that improvements to depot maintenance processes and reductions in the number of systems would help the Services and the Defense Logistics Agency recover as much as $4 billion over the 10-year period ending in FY 2003. The GAO noted that estimate assumed a 7-year implementation period, not the 3-year period mandated by the DoD. (pp. 4-5, pp. 34-37/GAO Draft Report)

Now on pp. 3-4 and 24-25.

DOD RESPONSE: Concur.

- **FINDING H: Joint Logistics Systems Center Has Begun Preliminary Work For Improving Business Processes**. The GAO reported that, while it facilitated the selection of migration systems under the first step of its Corporate Information Management implementation strategy, the Joint Logistics Systems Center also took preliminary steps to identify how current materiel management and depot maintenance business processes could be improved. The GAO noted that, as of September 1993, the Center--in conjunction with Service and Defense Logistics Agency representatives--had developed models documenting 484 logistics practices used by the Military Services and the Defense Logistics Agency to accomplish materiel management and depot maintenance activities. The GAO observed that Service and Defense Logistics Agency officials were now analyzing the Center models (1) to further define the current business environment, (2) to establish business requirements and (3) to identify the best business practices. The GAO concluded that, when completed, the models will form a basis for understanding and discussing logistics processes; evaluating their effectiveness; identifying opportunities for improvement; and helping re-engineer business processes, control evolution, integrate new technologies, and communicate new capabilities of reengineered business processes. (pp. 5-6, pp. 37-38/GAO Draft Report)

Now on pp. 3-4 and 25-26.

DOD RESPONSE: Concur.

- **FINDING I: Joint Logistics Systems Center Reduced Budget Requests For Information Systems.** The GAO reported that, as part of the Corporate Information Management strategy, the [former] Assistant Secretary of Defense (Production and Logistics) gave the Center review authority over the Services and the Defense Logistics Agency budget requests for development of new materiel management and depot maintenance information systems. The GAO noted that, under such authority, the Center was to identify funding that could be eliminated from a funding request for any information system development project duplicating a project or operational system of another Service. The GAO observed that the Center reviewed the budget requests and justifications for FY 1993 project funds and compared the proposed new information systems to those (1) already existing or being developed by other Services and (2) selected by the Center as near-term initiatives. The GAO pointed out, that the Center reduced the requests for FY 1993 funding by $22.7 million--or about 36 percent. The GAO noted that, in 1993, the Center performed the same type of analysis on FY 1994 budget requests from the Services and the Defense Logistics Agency. The GAO reported that the Center reduced FY 1994 funding requests by $320.6 million--or about 96 percent.

  The GAO pointed out that, according to Center officials, the reduction of the requests might not directly equate to cost savings of the same amount because (1) the requests could have been overstated, (2) the requested funds might not have been approved by the DoD under the traditional budget process, and (3) the Military Services or the Defense Logistics Agency might have received funding for the projects through other budget submissions. The GAO observed the Joint Logistics Systems Center indicated that type of drastic reduction in budget authority can be sustained only for a short period of time--2 or 3 years. The GAO pointed out that, according to the Center Commander, the downsizing of the DoD had resulted in the Services and the Defense Logistics Agency having fewer people to run current business processes. The GAO further pointed out that, over the short term, the situation can be managed--however, it cannot be sustained over the longer term--that either more people would have to be used or the processes would have to be made more efficient. (pp. 6-9, pp. 38-41/GAO Draft Report)

  DOD RESPONSE: Concur.

Now on pp. 3-4 and 26-27.

- **FINDING J: DoD Officials Have Not Fully Accepted Corporate Information Management**. The GAO reported that independent studies had shown that, for major improvement initiatives (such as Corporate Information Management) to succeed, employees from all levels in the organization must understand and accept the changes being made. For example, the GAO noted that, in a July 1993 report, the Information Technology Association of America found that the DoD must ensure that all parties buy into the improvement effort and are willing to work wholeheartedly to form and implement the Corporate Information Management plan. Similarly, the GAO pointed out that the Policy Analysis Center of the Institute of Public Policy, in a November 1993 report, Functional Process Improvement Implementation: Public Sector Re-engineering, found that even the best constructed improvement plans were likely to fail unless employees were involved at all stages of the re-engineering effort.

  The GAO noted that the Center, recognizing that "buy in" was a critical success factor, took actions to involve the Services and the Defense Logistics Agency in implementing Corporate Information Management. The GAO observed that, although more than 250 logistics personnel from the Military Services and the Defense Logistics Agency were brought together to work at the Center and the Center tried to maintain a continual dialogue with responsible managers for Defense logistics, Center officials encountered a strong institutional bias against the changes posed by Corporate Information Management--primarily because managers viewed the changes as a threat to their authority over logistics business decisions. The GAO concluded that the lack of acceptance had slowed the implementation of Corporate Information Management.

  The GAO asserted that resistance to the Corporate Information Management initiative was not limited to the Joint Logistics Systems Center efforts. The GAO noted that the DoD Inspector General, in a report entitled, Defense Corporate Information Management Initiative, Program Evaluation (January 1993), concluded that the lack of consensus and support for the overall Corporate Information Management initiative by DoD managers had severely hampered implementation. The GAO further noted that the DoD Inspector General attributed the lack of support to the absence of an overall Corporate Information Management plan that was clearly presented to, and understood by the managers.

  The GAO observed that, on October 13, 1993, the Deputy Secretary of Defense issued a memorandum that re-emphasized

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top-level support for Corporate Information Management and required senior managers to take specific actions within established milestones to help implement the initiative. The GAO noted that, in June 1994, the DoD issued its Corporate Information Management Strategic Plan which--according to the DoD--provided clear top-level support and guidance for the initiative. The GAO concluded that the October 1993 memorandum and the strategic plan may have provided first steps toward gaining acceptance of Corporate Information Management; however, they alone may not overcome manager resistance.

The GAO concluded that obtaining needed support and commitment from Defense managers might require a name change. The GAO pointed out that the Corporate Information Management is much more than an information technology initiative because many DoD managers perceive it as either a budget-cutting initiative or an effort to standardize information systems. The GAO observed that, consequently, it is not seen as an initiative deserving of support--most managers do not want budget cuts and are more comfortable with the existing systems than a comparable system from another Service. (pp. 6-9, pp. 43-46/GAO Draft Report)

Now on pp. 4-5 and 28-32.
See comment 10.

DOD RESPONSE: Nonconcur. The GAO does not recognize the authority of the Deputy Secretary of Defense in providing top-level support and direct oversight of the Corporate Information Management initiative. The GAO attributes to the Information Technology Association of America a conclusion that they have not made. The fact that the GAO found that some "officials felt threatened by Corporate Information Management because they would have to relinquish some of their authority and control over [a] systems's development" is an indicator of resistance to a Defense need to move to standard, Joint methods of doing business. The DoD is, across the board, moving away from having Service-unique approaches. While the Corporate Information Management initiative and other efforts to support improved, Department-wide processes rely on drawing the best from each of the Services' experience, the DoD is not a collegial organization that makes its decisions by consensus, but rather by top level direction. At this time, universal acceptance of the Corporate Information Management initiative should not be expected since, like all other business process re-engineering efforts, the initiative strives to break procedures away from entrenched, accepted, but inefficient ways of doing business. The DoD is sensitive to the needs of employees, and planning for their adjustments is a crucial part of successful implementation of business process re-engineering.

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See comment 11.

The DoD agrees that Corporate Information Management is more than information technology, but does not agree the name implies the initiative is limited to technology, since that word is deliberately not in the title. The role of information is crucial to process improvements, as indicated by the title of one of the leading books on the subject, Process Improvement: Re-engineering Work Through Information Technology. The avoidance of the word "information" also contradicts the April 1994 GAO report (GAO/AIMD/NSIAD-94-101/OSD Case 9652) "DEFENSE MANAGEMENT: Stronger Support Needed for Corporate Information Management Initiative To Succeed," which advocated assigning significant process re-engineering duties to a position with the title of Chief Information Officer:

> "This official would provide an overall view and understanding of the Department's functional areas and their interrelationships, combined with knowledge of sound information management practices. This official would work closely with senior Department leadership, inducing the Deputy Secretary of Defense, the Military Service secretaries, and the Principal Staff Assistants to help improve Defense's basic business planning, processes, and systems."

The duties recommended by the GAO for a Chief Information Officer are roughly the same as those that the DoD has assigned to its Senior Information Management Official. While the DoD agrees with the concepts, the addition or a change in titles would signal a change in management that has not taken place. Similarly, that is not a compelling reason to change the name of the initiative.

- **FINDING K: Corporate Information Management Efforts Remain Isolated From One Another**. The GAO reported that, in draft Corporate Information Management guidance dated January 1993, the DoD recognized that no Defense function can be accomplished in isolation from other functions. The GAO observed, for example, that improvements to weapon systems management could cut across several business area--including logistics, finance, and procurement. The GAO pointed out that, consequently, when trying to improve Defense functions, it is important to address all related business areas.

  The GAO found that Corporate Information Management improvement efforts were, to a great extent, being made in isolation from one another. The GAO indicated that,

according to Joint Logistics Systems Center officials, there was continual overlap of issues across the efforts underway in the different DoD business areas. The GAO concluded that the integration requirements of the related business areas had not been fully identified and established--or was any one office overseeing the integration of Corporate Information Management business process improvements across the areas. The GAO maintained that, while the Joint Logistics Systems Center has sought to resolve integration issues among Corporate Information Management efforts and did maintain liaisons with offices responsible for efforts in finance and procurement, the Center does not have the authority to arbitrate disputes between the Corporate Information Management efforts or enforce integration decisions.

The GAO reported that the DoD, recognizing the need to integrate Corporate Information Management efforts, established a number of boards and councils--such as the Information Policy Council and the Corporate Functional Integration Board--to facilitate integration. The GAO concluded, however, that the efforts had not succeeded. The GAO noted that, in April 1994, the DoD established the Enterprise Integration Executive Board--chaired by the Deputy Secretary of Defense--to resolve cross-functional integration issues. The GAO explained that the Board and its supporting council would exchange information and views about cross-functional management concepts, policies, and plans to achieve Corporate Information Management goals with the membership made up of DoD senior-level managers, Service Secretaries, and the Chairman of the Joint Chiefs of Staff. The GAO concluded that, while the Board had the membership and authority needed to make decisions on cross-functional and integration issues, its success will depend on the level of interest and commitment from the Board members, as well as the quality and implementation of its decisions. (pp. 6-9, pp. 47-50/GAO Draft Report)

Now on pp. 3-4 and 32-34.
See comment 12.

DOD RESPONSE: Concur. The DoD is moving aggressively to integrate its Corporate Information Management efforts. That is evidenced by the Deputy Secretary of Defense issuance of the DoD Enterprise Integration Implementing Strategy to support the Corporate Information Management Strategic Plan on June 13, 1994.

- **FINDING L: Program Authority Is Unclear.** The GAO reported that, with the establishment of the Joint Logistics Systems Center, the DoD created two separate lines of authority for managing the development of logistics information systems:

(1) DoD Directive 5000.1, "Defense Acquisition," and DoD Directive 5000.2, "Defense Acquisition Management Policies and Procedures," which grant Service program managers sole authority for managing the assigned programs, and (2) under authority granted by the [former] Assistant Secretary of Defense (Production and Logistics), the Center was to manage the design, development, implementation, and maintenance of logistics information systems and to exercise funding control over the acquisitions.

The GAO noted that the dual authority had resulted in dissension between the Joint Logistics Systems Center and program offices about which office had overall authority for the development and implementation of information systems. The GAO further noted that the existence of two separate and conflicting lines of authority for project management of logistics information systems development exemplifies the DoD need to establish the management structure needed for Corporate Information Management to succeed. The GAO pointed out private industry and GAO studies show a strategic plan that clearly articulated responsibilities and described how the initiative fits with other organizational priorities was critical to the success of initiatives like Corporate Information Management (OSD Cases 8677, 9235, and 9652).

The GAO stated that, in late 1993, a Defense logistics review group found that current program management direction divided the responsibility and accountability for developing Corporate Information Management migration systems. The GAO noted that, according to the review group, the core issue was the need to "minimize management layering and delegate review and milestone approval authority commensurate with the resources and risks involved." The GAO also noted that the group identified four options for assigning program responsibilities in all Corporate Information Management efforts to a particular organizational unit or senior DoD manager. The GAO concluded that, while the options might address the immediate case, the DoD must establish clear lines of program management authority and accountability establishing Corporate Information Management priority within other Department priorities. (pp. 6-9, pp. 50-52/GAO Draft Report)

Now on pp. 3-4 and 34-35.
See comment 13.

DOD RESPONSE: Partially concur. In any transition from an established way of doing business to a different approach, an organizational realignment is not a simple matter, nor a task done quickly. The DoD has established clear lines of authority through the DoD Directives systems and other policy documentation, such as the Assistant Secretary of

Defense (Command, Control, Communications and Intelligence) policy memorandum, "Program Manager Guidance Promulgated in the Department of Defense Directive 8120.1, 'Life-Cycle Management of Automated Information Systems,' dated January 14, 1993," June 17, 1993. The GAO did not recognize that memorandum or its underlying directive in citing DoD policy governing the management of automated information systems. The June 17, 1993, memorandum is an example of the steps the DoD is taking to clarify program authority. Another recent effort that should further assist in clarification is the issuance of Corporate Information Management Strategic Plan on June 14, 1994.

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RECOMMENDATIONS

- **RECOMMENDATION 1:** The GAO recommended that, in order to overcome the fundamental weaknesses in the Corporate Information Management initiative, as demonstrated by the impediments to the Joint Logistics Systems Center progress, the Secretary of Defense take actions to encourage cultural changes supporting the new Defense business operations. (p. 9, p. 54/GAO Draft Report)

Now on pp. 5-6 and 36.

DOD RESPONSE: Concur. The Department believes that it is taking the appropriate actions in approving the Corporate Information Management Strategic Plan and establishing the Enterprise Integration Executive Board and supporting Enterprise Integration Corporate Management Council.

- **RECOMMENDATION 2:** The GAO recommended that, to ensure the full commitment and support of all members of DoD to the successful implementation of Corporate Information Management, the Secretary of Defense train DoD employees (at all levels) to promote understanding and acceptance of changes needed to their current business practices. (p. 9, pp. 55-56/GAO Draft Report)

Now on pp. 5-6 and 36.

DOD RESPONSE: Concur. This agreement is stated in the Enterprise Integration Implementing Strategy, approved by the Deputy Secretary of Defense, June 13, 1994: "Effective re-engineering . . . requires 'change management' to retrain workers and overcome cultural barriers to change, and motivate people to use new technologies and systems." DoD employees need to be consulted on decisions to change their current business practices; training is also important.

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Now on pp. 5-6 and 36.

See comment 11.

- **RECOMMENDATION 3:** The GAO recommended that, to ensure the full commitment and support of all members of the DoD to the successful implementation of Corporate Information Management the Secretary of Defense change the name of the Corporate Information Management initiative to (1) lessen the confusion that has been created as the initiative has evolved and (2) more accurately communicate the primary objective of the initiative. (p. 9, p. 56/GAO Draft Report)

  DOD RESPONSE: Nonconcur. The Department agrees that the Corporate Information Management initiative is more than information technology, but does not agree the name implies the initiative is limited to technology, since that word is deliberately not in the title. The role of information is crucial to process improvement, as indicated by the title of one of the leading books on the subject, Process Improvement: Re-engineering Work Through Information Technology. The avoidance of the word "information" also contradicts the April 1994 GAO report (GAP/AIMD/NSIAD-94-101/OSD Case 9652), "DEFENSE MANAGEMENT: Stronger Support Needed for Corporate Information Management Initiative To Succeed," which advocated assigning significant process re-engineering duties to a position with the title of Chief Information Officer. While the DoD agrees with the concepts, the addition or change in title would signal a change in the initiative or in management that has not taken place. Similarly, that is not a compelling reason to change the name of the initiative. (Also see the DoD response to Finding J.)

The following are GAO's comments on the Department of Defense's letter dated August 18, 1994.

GAO Comments

1. DOD disagrees with our depiction of the evolution of the CIM initiative and believes it is a properly balanced program that has not changed objectives or emphasis since its inception in October 1989. However, the facts do not support that position. We agree that the current objectives of the CIM initiative are to improve DOD business practices, make better use of information technology, and eliminate duplicative information systems. Early in its implementation, however, DOD clearly emphasized information systems improvement. As early as November 1989, the Deputy Secretary of Defense in the Defense Management Report Decision 925, stated that "Corporate Information Management (CIM) will enhance the availability and standardization of information in common areas and provide for the development of integrated management information systems." Further, in his March 6, 1990, testimony before the Senate Committee on Governmental Affairs, the Deputy Secretary stated that he had launched a "Corporate Information Management initiative to integrate the data flow within common functional areas." Stating that Defense Management Report and CIM initiatives were changing management techniques and structures, as well as information system requirements, he identified seven initiatives that described "efforts intended to eliminate separate Service systems and provide integrated systems that can relate to each other, as well as across all DOD." Finally, the fact CIM started as an information technology initiative was supported in the DOD Enterprise Model, Volume II: Using the DOD Enterprise Model—A strategic View of Change in DOD—A White Paper, January 1994. In this model, DOD states:

"The Office of the Secretary of Defense established the Corporate Information Management (CIM) program to leverage DOD information resources to help make the activities of the Department far more effective and efficient. ASD (C3I) has been assigned to lead this program. In response to the major new challenges and opportunities facing the Department, the CIM initiative has broadened its focus to address strategic re-engineering of defense activities using a DOD-wide approach and enterprise model."

In January 1991, as cited in our report, the Deputy Secretary of Defense endorsed a plan where DOD would reengineer its business processes before standardizing its information systems. We believe this plan shifted more emphasis to business process improvement. In October 1993, however, the Deputy Secretary established specific milestones for the selection and deployment of information systems. This direction reemphasized the

priority given to information systems. Our analysis of JLSC's activities demonstrates the changes in priorities and emphasis that have occurred throughout the history of the CIM initiative. As described in chapters 2 and 3 of our report, JLSC was directed to change its priorities several times and it is clear that its current focus is on selecting and implementing migratory information systems. In addition, DOD is currently considering a reorganization that would concentrate on information technology standardization.

2. We agree that it is important to compare the DOD initiative with the process reengineering efforts of other organizations. We made such comparisons throughout the report and used "lessons learned" by industry as a basis for our recommendations. We recognized in our report that DOD may have unique attributes by providing DOD's position when it differed from industry.

3. We agree with DOD that the $36 billion estimate has no basis in fact. It was apparently developed with little or no analysis, which DOD quoted (as late as April 1992) in several CIM documents and communications with the Congress. We understand DOD's desire to disassociate itself from this estimate and, contrary to DOD's comments, have pointed out in chapter 1 that the estimate is no longer supported by DOD. We continue to cite the estimate, however, for two reasons. First, it is a part of CIM history, which we describe in chapter 1 so the reader fully understands the evolution of the initiative. Second, DOD does not have a more current estimate of potential CIM savings and, as we point out in our report, is not attempting to track savings that result from CIM efforts. Therefore, it is the only information that helps put the CIM savings potential into some type of perspective. Finally, contrary to DOD's comment, our report also contains specific reference to the 1993 Defense Science Board Task Force on Fiscal Year 1994-1999 Future Years Defense Plan ("The Odeen Panel").

4. We revised our draft report to use the same terminology as did the Executive Level Group. Our position, however, remains unchanged. We also modified our draft report to include the Executive Level Group's statement that "Forward-looking organizations took a path which put primary emphasis on continuously improved business methods. Computing and communication technology played a subordinate role, and only now is being applied to the superior business methods that have evolved."

5. We agree with DOD that our report describes JLSC's logistics migration strategy in three steps. We presented the strategy as it is contained in DOD's Logistics CIM Migration Plan and as described to us by JLSC managers. However, we also state in our report that while the strategy generally focuses efforts sequentially, some work is done concurrently on all three steps. We revised our draft report to more clearly state that JLSC is concurrently working on all three steps.

We agree that DOD is doing some work to improve business processes. DOD said, however, that it is not singling out the selection of migration systems for emphasis in implementing the CIM initiative. We disagree. To support its position, DOD cites the Deputy Secretary of Defense's October 1993 memorandum. However, as stated in chapter 2, the Deputy Secretary established time frames for the selection and implementation of migrations systems and the completion of data standardization. He did not establish milestones for the completion of process improvements. On the contrary, he stated that the remaining activities such as functional process improvement were to continue on an expedited basis, but were not to be "prerequisites" to implementation of the migration systems and data standardization acceleration strategy.

We should point out that we had many interviews with JLSC officials who said that the Deputy Secretary's memorandum placed primary emphasis on system consolidation. As they explained to us, JLSC only has a certain number of resources. If DOD wanted to emphasize the reengineering of business processes, it could do that. But, that was not the direction they had been given.

We also recently talked with several DOD officials responsible for implementation of the Depot Maintenance Standard System. Because of DOD's insistence that the CIM initiative was not singling out the selection of migration systems for emphasis, we specifically asked about their perception of the CIM program. They said it is unusual that DOD would officially take this position because it was clear to them that they were directed to emphasize system selection and implementation.

6. Despite DOD's comments, we did not take the statements of outside experts out of context. In fact, we provided direct quotes we believe represented the underlying theme of the experts' reports to DOD. These experts advised DOD that successful organizations have focused on reengineering their business processes before emphasizing information systems. While the Information Technology Association of America did

recommend that DOD accelerate out of its migration phase, unlike DOD, we do not view this recommendation as support for DOD's migration strategy. On the contrary, the Association is telling DOD that it must conclude this migration phase as soon as possible so that it can focus on reengineering—where most savings can be made.

7. We recognized in our draft report DOD's view that the selection and deployment of migratory information systems were critical to business process improvement. We agree that DOD cannot afford to develop or maintain duplicative or overlapping systems. In fact, we have long recommended that DOD consolidate and standardize its information systems for common functions, such as military pay. However, we disagree with the emphasis DOD has placed on information systems under an initiative with the primary objective of business process improvement.

8. As stated in our report, we recognize that DOD needs to eliminate costly, duplicative information systems. We continue to believe, however, that if DOD is to achieve a maximum amount of savings from the CIM initiative, it should emphasize business process reengineering first and information system improvement last.

We agree with DOD that the mandated 6-month selection and 3-year transition periods for migratory system are ambitious. However, we disagree with DOD's philosophy that it is better to set tight time frames with some potential slippage. The former Director of Defense Information, Principal Deputy Assistant Secretary of Defense for C3I, and member of the Executive Level Group; in his October 17, 1993, memorandum to the Deputy Secretary of Defense (now Secretary of Defense) stated:

". . . I feel obligated to tell you that DOD cannot possibly deliver the stated results within three years. The existing software technology platforms, software engineering practices and technical management skills are inadequate to cope with the challenge of migrating approximately 11,000 major applications and perhaps as many as 50,000 data bases to a lower cost, interoperable and integrated schema. The current DOD inventory of software code exceeds well over 500 million lines. The CIM goal to reverse engineer this inventory is 20 to 50 times bigger and twice as fast than anything ever attempted in the commercial sector. Software errors and costs escalate exponentially with the scope of the effort. The DOD record to date in delivering on time even one million lines of code on schedule and on budget shows a 100% failure rate."

Over the past 10 years, we have issued several reports that deal with unsuccessful DOD attempts to develop major information systems.

Consistently, DOD has significantly exceeded schedules and budgets and failed to develop systems capable of performing as they were originally intended. Based on our experience on these assignments, we agree with the former Director's view of DOD's 3-year migration strategy.

9. DLA officials we spoke to did not view their innovative projects as part of the CIM initiative. In fact, they were concerned that DOD's emphasis on migration systems would slow or even halt their efforts. Recognizing that these officials do not have the authority to determine what projects DOD will consider to be under its initiative, we removed the phase "outside the CIM umbrella" from our draft report.

10. Contrary to DOD's position, we recognized in our draft report that top-level management support and commitment were "critical prerequisites" for success of any major reengineering effort—including DOD's CIM initiative. However, we believe that executive level support and commitment alone are not sufficient to overcome the cultural barriers we found. The Association (on p. 8 of its report) states, "DOD must ensure that all parties buy into EI [enterprise integration] and are willing to work wholeheartedly to form and implement the EI plan." Further, the Association notes that "It is important that the principals participate in the creation of the plan. This will prevent the plan from being 'imposed' on the services, PSAs, and CINCs by an external organization." As cited in the draft report, organizations that have successfully reengineered their business operations realized early-on that getting active participation by line managers and the support and commitment of all their employees were critical factors to their success.

We have modified the draft report to clarify our position on the importance to CIM success of DOD obtaining active participation by service and DLA managers and support and commitment from all employees at all levels. Also, we modified our proposed recommendations to include revising the CIM management strategy to ensure active participation by functional Defense managers.

11. We believe that the initiative's name reenforces negative views currently held by many Defense managers. Because of the evolution of the initiative (during which CIM has undergone dramatic changes in scope and emphasis, as well as management) many service and DLA managers perceive CIM as either a budget-cutting initiative or an effort to standardize information systems. By renaming the initiative, DOD could more clearly communicate the primary objective of CIM and lessen the negative views of

these managers. This, in turn, could help DOD gain needed participation of service and DLA managers and the support and commitment from DOD employees.

Concerning our April 1994 recommendation that DOD establish a Chief Information Officer, DOD has misinterpreted the role we envisioned for this position with regard to business process reengineering. As stated in our April 1994 report, the primary duties of the Chief Information Officer would be to help strengthen DOD's information technology management. While the Chief Information Officer would also support DOD's reengineering efforts, we anticipated that senior DOD leadership, including the Deputy Secretary of Defense, the military services, and the Principal Staff Assistants would lead DOD's reengineering efforts. In fact, industry experts consistently state that it may not be appropriate for an organization's chief information resources management official to manage the agencies' reengineering efforts. Doing so may cause the agencies to place too much emphasis on technological solutions to problems rather than attempting to reengineer their processes.

12. We have added information in the report to cite additional actions that DOD has taken to more aggressively integrate its CIM efforts.

13. We agree that we did not cite the Assistant Secretary of Defense for C3I 1993 memorandum in our draft report. We did cite, however, the guidance causing the conflict between JLSC and the Air Force's Depot Maintenance Management Information Systems' project office. Also, we do not believe that the memorandum and the directive cited by DOD provided clear guidance because (1) officials from these organizations, as well as a Defense logistics review group that also found program authority was unclear, did not use this guidance to resolve their confusion about project management authority and (2) DOD states that it recently issued the CIM strategic plan to "clarify program authority."

We modified our draft report to recognize DOD's latest actions to clarify program management authority under its CIM initiative.

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Defense Transportation: Commercial Practices Offer Improvement Opportunities (GAO/NSIAD-94-26, Nov. 26, 1993).

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Commercial Practices: DOD Could Save Millions by Reducing Maintenance and Repair Inventories (GAO/NSIAD-93-155, June 7, 1993).

DOD Food Inventory: Using Private Sector Practices Can Reduce Costs and Eliminate Problems (GAO/NSIAD-93-110, June 4, 1993).

DOD Medical Inventory: Reductions Can Be Made Through the Use of Commercial Practices (GAO/NSIAD-92-58, Dec. 5, 1991).

Commercial Practices: Opportunities Exist to Reduce Aircraft Engine Support Costs (GAO/NSIAD-91-240, June 28, 1991).

Defense Logistics: Observations on Private Sector Efforts to Improve Operations (GAO/NSIAD-91-240, June 13, 1991).

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