United States General Accounting Office

GAO

Report to the Ranking Minority Member, Committee on Governmental Affairs, U.S. Senate

July 1998

DEFENSE NETWORKS

Management Information Shortfalls Hinder Defense Efforts to Meet DISN Goals

GAO/AIMD-98-202

GAO

United States
General Accounting Office
Washington, D.C. 20548

Accounting and Information
Management Division

B-276998

July 30, 1998

The Honorable John Glenn
Ranking Minority Member
Committee on Governmental Affairs
United States Senate

Dear Senator Glenn:

The military services and Defense agencies have long procured and operated multiple long-haul telecommunications systems to meet their individual mission needs. As a result, Defense's communications environment has been fragmented and redundant. To eliminate costly duplication and improve the effectiveness and efficiency of its communication services, Defense began in 1991 to plan and implement the Defense Information Systems Network (DISN) as the common-user, long-haul telecommunications network for all Defense components.[1]

To ensure the success of the DISN program, the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD/C3I) established policies that (1) directed Defense components to develop comprehensive inventories of their own long-haul telecommunications networks and directed the Defense Information Systems Agency (DISA) to develop a Defense-wide inventory of long-haul networks, (2) directed DISA to report annually on telecommunications services acquisitions, trends, and associated costs, (3) mandated components to use common-user networks—such as DISN or FTS 2000[2] —for long-haul communications, and (4) directed DISA to establish a waiver process to let components procure independent networks when their telecommunications needs could not be met by common-user networks.

This report responds to your request that we (1) identify those Defense long-haul telecommunications networks operating outside of the common-user DISN, (2) evaluate the Department of Defense's progress in implementing its policies for managing DISN, and (3) evaluate Defense's

[1]A common-user long-haul network is one which provides long-distance communications service to a large, general population of users, rather than being dedicated to a small and specialized community.

[2]The Federal Telecommunications System (FTS 2000) program provides long-distance services to the federal government. It is managed by the General Services Administration (GSA).

progress in developing performance measures for DISN, which Defense agreed to do in response to our previous review of the DISN program.[3]

Results in Brief

Although Defense has been implementing the DISN program for 7 years, numerous networks continue to exist without DISA's knowledge. Our own survey found that the military services are operating at least 87 independent networks that support a variety of long-haul telecommunications requirements. The Services reported costs on 68 of these networks totaling more than $89 million annually.

Defense's inability to restrict the number of networks operating across the department stems from its failure to implement basic telecommunications management policies established at the beginning of the DISN program and its failure to develop objective performance measures for the program. First, DISA has not developed a comprehensive inventory of telecommunications networks throughout Defense nor have the military services developed inventories of their own networks. Second, DISA has not reported on telecommunications acquisitions, trends (volumes and types of traffic) and costs throughout Defense, and it lacks the data to develop such reports. Third, Defense has not effectively enforced the use of common-user services, such as DISN, nor were ASD/C3I officials clear on how enforcement would occur. Fourth, Defense has only recently begun to implement an interim waiver process to exempt Defense components from using common-user networks—a final process has yet to be implemented. Fifth, Defense has not developed performance measures for the DISN program even though it agreed with our previous report that these measures were essential to ensuring DISN was efficiently and effectively managed.

By not implementing the above, Defense lacks the basic management controls to ensure that it can achieve its goal for an interoperable and cost-effective telecommunications environment. Specifically, it lacks a foundation for identifying "stovepiped" and redundant networks that are not interoperable and cannot share information, and replacing them with mandated common-user services; it lacks a basis for maximizing the efficiency and cost-effectiveness of DISN; it cannot quantify problems; and it cannot learn from mistakes. As a result, Defense's stated goals for DISN are at risk, and Defense cannot ensure that DISN is the most cost-effective solution to Defense's telecommunications service requirements.

[3]Defense Communications: Performance Measures Needed To Ensure DISN Program Success (GAO/AIMD-97-9, November 27, 1996).

Objectives, Scope, and Methodology

Our objectives were to (1) identify those Defense long-haul telecommunications networks operating outside of the common-user DISN, (2) evaluate the Department of Defense's progress in implementing its policies for managing telecommunications services, which include: developing a comprehensive inventory of telecommunications equipment and services, reporting on telecommunications services acquired, trends, and costs, mandating the use of common-user networks, and developing a waiver process to grant exceptions from using common-user networks, and (3) evaluate Defense's progress in developing performance measures for DISN to ensure effective and efficient use of the department's telecommunications resources.

To determine what long-haul telecommunications networks were planned or operating in Defense, we reviewed applicable Defense directives, instructions, and memorandums regarding the use of common-user networks. We met with officials from DISA and OASD/C3I to assess Defense's progress in developing a comprehensive inventory of telecommunications equipment and services. We met with representatives of the Joint Staff for Command, Control, Communication and Computers (J-6); the Department of Defense's Office of Inspector General; the Army, the Navy, the Marines, the Air Force, the Defense Logistics Agency, and the Defense Commissary Agency to assess component efforts to develop inventories. When we learned that no comprehensive inventories of networks exist at the department or component level, we sent a questionnaire to the four military services requesting that, for every non-DISN long-haul network, they report: the name of the network; functional description; types of telecommunications services supported; estimated annual costs; whether the network was planned or operational, and if planned, its status, life-cycle costs, and whether it was scheduled to be replaced by DISN, and when. We did not independently verify the information provided by the Services. However, we consulted with them to confirm our understanding of their responses and to discuss and ask questions we had about information they provided. Appendix I details the results of our survey.

To assess progress in reporting on telecommunications services acquired, trends, and costs, we reviewed applicable Defense directives, instructions, and memorandums and discussed Defense's implementation of these requirements with officials from ASD/C3I and DISA. We analyzed information on costs maintained by DISA and reviewed a recent contractor evaluation of DISA business processes.

To assess Defense's progress in enforcing its policy mandate that Defense components acquire services from common-user networks, we reviewed applicable Defense directives, instructions, and memorandums and met with officials from ASD/C3I, DISA, and the Defense components. During these interviews we asked for documentation showing that existing policies on telecommunications management and the use of common-user networks were being implemented and enforced. We obtained and analyzed network plans, requirements, and other acquisition documentation to determine if Defense components were complying with telecommunications management policies.

To assess Defense's progress in developing a waiver process to grant exceptions from using common-user networks, we reviewed applicable Defense directives, instructions, and memorandums. We met with officials from ASD/C3I and DISA to discuss their plans to implement an interim waiver process and to develop a strategy detailing how and when independent networks will be replaced by their common-user counterparts. Because the interim process began during our review, we met again with DISA officials in April 1998 to assess the agency's progress to date in granting waivers.

To assess Defense's progress in developing performance measures for DISN, we met with officials from DISA and reviewed DISA's draft documentation on the issue, which consisted of draft performance measures for information technology acquisitions. We reviewed the Clinger-Cohen Act of 1996, the Federal Acquisition Streamlining Act of 1994, the Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, and the Paperwork Reduction Act of 1995 to determine applicable legislative requirements for developing performance measures. We relied on work we performed in developing our recent guide on performance measurement, Executive Guide: Measuring Performance and Demonstrating Results of Information Technology Investments (GAO/AIMD-98-89, March 1998). In addition, we examined network performance measurements used in the private sector.

Our review was conducted from December 1996 through April 1998 in accordance with generally accepted government auditing standards. We obtained written comments from Defense on a draft of this report. These comments are discussed in the "Agency Comments and Our Evaluation" section of this letter and are reprinted in appendix II.

Background

The military services, Defense agencies, and other Defense components have traditionally acquired and operated many unique telecommunications networks to support a range of mission requirements. As a result, Defense components operate many stovepiped telecommunications systems that are not interoperable and cannot share information across functional and organizational boundaries. For example, between 1988 and 1992 Defense reported several interoperability problems including some arising during the Persian Gulf War. Defense components were unable to use their telecommunications networks and information systems to coordinate the issuance of air tasking orders, the use of air space, and the use of fire support for joint operations.

To improve the interoperability of its military communications services as well as to reduce costs associated with operating redundant systems, Defense began in 1991 to plan and implement DISN to serve as the department's primary worldwide telecommunications and information transfer network. The DISN strategy focuses on replacing older data communications systems, using emerging technologies and cost-effective acquisition strategies that provide secure and interoperable voice, data, video, and imagery communications services. Under the DISN program, the military services and Defense agencies are still responsible for acquiring telecommunications services for their local bases and installations as well as deployed communications networks. DISA is responsible for acquiring the long-haul services that will interconnect these base-level and deployed networks within and between the continental United States, Europe, and the Pacific.

Defense issued a number of policies and directives in 1991 aimed at ensuring that the department could identify and replace redundant networks with DISN and manage DISN efficiently and effectively. These policies

- directed components to develop comprehensive inventories of their telecommunications equipment and services, and DISA to develop a comprehensive Defense-wide inventory;
- directed DISA to report annually on telecommunications equipment acquisitions, trends, and associated costs;
- mandated the use of common-user networks; and
- directed DISA to develop a waiver process to grant exceptions from using common-user networks when these networks could not satisfy Defense components' requirements.

In a previous review of the DISN program,[4] we found that Defense was not doing enough to ensure that the program would be managed efficiently and effectively. Specifically, the department lacked performance measures that would help Defense track whether DISA was meeting its objectives, efficiently allocating resources, and learning from mistakes. In response, Defense agreed to establish measures for the program.

Defense Does Not Know How Many Independent Networks It Is Operating

In order for the DISN program to work, Defense needs to know how many networks are operating in the department and what functions they support. This is the foundation for identifying redundant and stovepiped networks and ensuring that they are replaced by DISN. However, Defense lacks the basic information necessary to determine how many networks are operating in the department, what functions they support, or what they cost. In order to estimate the number and cost of networks that are operating outside of DISN, we conducted our own survey, which identified 87 such networks operated by the military services alone. DISA initiated a similar data call to the military services and Defense agencies after we began our survey and identified 153 networks planned or operating throughout Defense.[5] The results of our survey are presented in appendix I and summarized in table 1.

Table 1: Independent Networks Reported by Military Services

(Dollars in thousands)

Service	Number of independent networks reported	Annual recurring costs reported
Army	37	$25,097
Navy	20	$4,987[a]
Marine Corps	4	$1,800[b]
Air Force	26	$57,733[c]

[a]The Navy provided annual recurring cost information for three networks.

[b]The Marine Corps provided annual recurring cost information for three networks.

[c]The Air Force provided annual recurring cost information for 24 networks.

To manage telecommunications cost effectively, Defense must know what networks are operating in the department. In 1991, Defense directed DISA

[4]GAO/AIMD-97-9, November 27, 1996.

[5]DISA's list includes networks operated by Defense agencies as well as those reported by the military services. According to Defense officials, DISA discovers independent networks by various means and has included this information in compiling the list of 153 networks mentioned here.

to establish a central inventory of all long-haul telecommunications equipment and services in Defense, and directed the heads of Defense components to do likewise. However, the central inventory was never established and DISA staff are still discovering new networks as they process new telecommunications service requests from Defense components.

Defense components have also failed to develop inventories of their own networks. During our initial meetings, Army, Navy, and Air Force officials stated that they could not readily identify all of their networks or describe what their functions are because they do not centrally manage their telecommunications resources. Our experience with the Navy illustrates the depth of this problem. The Navy's initial response to our survey only identified three independent long-haul networks.[6] Other Navy networks known to exist, such as the Naval Aviation Systems Team Wide Area Network (NAVWAN), were not reported in the survey.[7] Navy's headquarters telecommunication staff acknowledged that they were unable to identify all of the Navy's long-haul networks.

Careful analysis is needed to determine whether any of the independent networks identified in our survey can or should be replaced by DISN common user services. However, on the basis of our interviews with the military services and our survey results, we were able to determine that overlaps exist between telecommunications services offered by independent networks and services offered by DISN. For example:

- NAVWAN offers its users data communications services using Internet Protocol (IP); similar services are provided by DISA on DISN's Unclassified but Sensitive (N-Level) IP Router Network (NIPRNET).
- The Army's Installation Transition Processing (ITP) Network also offers IP router services similar to those provided by DISN's NIPRNET.
- The Navy Sea Systems Command's Enterprisewide Network (NEWNET, now known as Smart Link) relies on asynchronous transfer mode-based data communications services; similar services are now offered by DISA on a limited basis.
- The Army's planned Regional Transition Network (ARTNET, now known as the Circuit Bundling Initiative) also relies on asynchronous transfer mode-based data services, similar to services offered by DISA.

[6]Navy officials subsequently furnished our office with a copy of their input to DISA's data call, which identified an additional 17 networks.

[7]Navy officials identified additional networks in the DISA data call that was conducted after our survey. However, this particular network was not reported to either GAO or DISA.

DISA Does Not Have Data to Develop Required Reports on Telecommunications Acquisitions, Trends, and Costs

To ensure that a common-user network is efficiently and effectively managed, it is essential to closely monitor its acquisitions of telecommunications services, costs, and trends in usage, that is, the volumes and types of traffic it carries. This monitoring helps an agency ensure that the network is properly sized (i.e., neither oversized nor undersized) and offers cost-effective services. Since 1991, DISA has been required to report annually on telecommunications services acquired, trends (volumes and types of traffic), and associated costs throughout Defense. However, it has not done so, and it lacks the data needed to begin developing such reports.

For example, as noted previously, DISA lacks a comprehensive inventory of telecommunications equipment and services across the department. Therefore, it cannot effectively report annually on acquisitions. In addition, DISA has not collected data that would help it identify trends in network traffic throughout Defense, which in turn would help it plan for future growth and identify the need for new telecommunications services. This would include data on the number of anticipated users, the nature of business functions requiring telecommunications support, and the potential costs and benefits of new technologies.

Further, Defense managers lack reliable cost information on their networks. For example, senior Defense managers rely on Defense components to voluntarily report telecommunications resource requirements during annual budget preparations. But because communications resources are embedded in noncommunications budget items, this process does not allow Defense to identify costs by network or to identify costs for services obtained by users outside of DISA channels. In addition, DISA does not have a cost accounting system or any other effective means of determining DISN's actual operating costs.

Until Defense managers have good data on status and trends in telecommunications equipment and services, acquisitions, and costs, they will not have a sound basis for making decisions on reducing telecommunications costs across the department, improving network operations, and reliably determining how efficiently and cost effectively to meet user needs.

Defense Has Not Effectively Enforced the Use of Common User Networks

Under Title 10 of the United States Code, the military services have wide latitude to expend resources to train and sustain their forces.[8] Because the mandate to use DISN restricts this latitude, compliance will only be achieved if Defense institutes an effective enforcement process. Since it began the DISN program in 1991, Defense has never effectively enforced the use of common-user networks.

While OASD/C3I staff stated that financial pressure could be brought to bear in the budget process to enforce the mandate, they were unable to articulate how this enforcement would occur. Further, even though the military services have implemented several major long-haul networks during the past 5 years, OASD/C3I staff were unable to identify a single instance in which they formally analyzed the military services' plans for acquiring long-haul networks and insisted that common-user networks be used instead.

In May 1997, ASD/C3I issued a memorandum that reiterated Defense policy mandating the use of common-user networks for long-haul telecommunications and reaffirming DISA's role as the manager and sole provider of long-haul telecommunications. Defense is now preparing an update to this memorandum that it states will reflect the department's changing organization and mission, and changes in telecommunications technology. However, unless Defense defines and implements a process to enforce this policy, it will remain ineffective.

Defense Components Are Ignoring DISA's Interim Waiver Process

In August 1997, DISA began implementing an interim waiver process which outlined the steps that Defense components must follow to operate independent networks:

- First, operators of all independent long-haul networks must, as of August 1997, request a waiver to policy mandating common-user networks.
- Second, DISA must assess the request and issue a waiver in those cases where telecommunications requirements cannot currently be technically or economically satisfied by DISN or another common-user system such as FTS 2000/2001.[9]

[8]The Secretaries of the Army, Navy and Air Force are responsible for and have the authority to conduct all affairs of their respective services, including organizing, equipping and training their forces. 10 U.S.C. § 3013 (Army), 10 U.S.C. §5013 (Navy), and 10 U.S.C. § 8013 (Air Force).

[9]FTS 2001 refers to the FTS 2000's successor program, currently in the procurement phase.

Neither of these steps, however, is well-defined. For example, the guidance does not describe data that the required justifications should include or criteria DISA will use in evaluating them. In addition, it does not specify how DISA will determine if components' requirements can be cost effectively satisfied by DISN or FTS 2000/2001.

To date, the Services and Defense agencies have largely ignored the interim waiver process. Only 9 percent of the operators of the 131 non-DISA-managed independent networks that DISA identified in its survey has requested a waiver from use of DISN services.

Defense Still Lacks Performance Measures for DISN

Performance measures are central to effectively managing any significant information system undertaking and are required by several federal statutes, including the Federal Acquisition Streamlining Act (FASA) of 1994 and the Clinger-Cohen Act of 1996. For example, under FASA, the Secretary of Defense is required to establish and approve the cost, performance, and schedule goals for major defense acquisition programs and for each phase of the acquisition cycle. Under Clinger-Cohen, agencies must define mission-related performance measures before making information technology investments, and must determine actual mission-related benefits achieved from this information technology, to help ensure an adequate return on investment. For the DISN program, appropriate performance measures would be those that facilitate comparisons between DISN and the independent networks, as well as those that identify potential problems (for example, network reliability, network availability, and measures of customer service, including responsiveness to customer requests for maintenance or for new services).

In our 1996 report on the DISN program, we recommended that Defense establish performance measures for DISN. Although it agreed to develop performance measures in response to that review, Defense has never developed measures for the DISN program. Until it does so, Defense will not be able to demonstrate to the Services and other components that DISN is a better choice than their various independent networks, nor will it be able to target and direct management attention to problem areas.

Conclusions

In the 7 years that it has been implementing the DISN program and striving to improve telecommunications management in the department, Defense has done very little to implement the basic management controls it

believed were needed to ensure success. Numerous independent networks continue to exist without DISA's knowledge; Defense does not have a comprehensive inventory of telecommunications equipment and services; DISA does not collect data and report on acquisitions, trends, and costs; Defense does not enforce the use of common-user networks; Defense has not implemented an effective waiver process that includes the objective evaluation of alternative telecommunications solutions; and Defense has not established good performance measures. As a result, Defense has not achieved its goals for an interoperable telecommunications environment, cannot support any claims that the long-haul networks it operates are cost-effective, and cannot determine which independent long-haul networks should be replaced by common user networks such as DISN or FTS 2000/2001.

Recommendations

We recommend that the Secretary of Defense direct the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence to ensure that existing policies are clearly defined, documented, and enforced. Specifically, ASD/C3I should

- develop and maintain a comprehensive inventory of Defense's telecommunications equipment and services;
- track acquisitions of telecommunications services throughout Defense, the actual costs of those services, and trends in usage (that is, the volumes and types of traffic that networks carry);
- define and institute an effective process for evaluating the cost-effectiveness of Defense networks and mandating the use of common-user networks for long-haul telecommunications where appropriate. As part of this process, define the criteria that DISA will use to make waiver determinations, including how DISA will measure technical, economic, and customer service factors in granting waivers.

In addition, we recommend that the Secretary direct the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence to develop and adopt user-based provisioning, pricing, and performance metrics as minimum performance measures for DISN.

Agency Comments and Our Evaluation

The Senior Civilian Official for the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD/C3I) provided written comments on a draft of this report. Defense concurred with all of our recommendations. However, Defense expressed

concern that the body of the draft report may lead the reader to believe that Defense has done nothing to implement or enforce its own long-haul telecommunications policies.

In its response, the department notes that it has: (1) established the Defense Information Systems Database (DISD) as a comprehensive inventory of long-haul telecommunications networks throughout Defense, (2) clarified existing policy by issuing an ASD/C3I memorandum dated May 5, 1997, that reaffirms DISA's role as the sole manager and provider of long-haul telecommunications systems and services, (3) developed a process for determining how individual telecommunications requirements can best be satisfied, (4) developed a process for granting temporary waivers, and (5) begun the process of establishing performance metrics for DISN. We incorporated additional information in the report to more clearly reflect actions DISA has initiated.

However, while these plans are a necessary first step, they must be effectively implemented to bring about real improvements in telecommunications management, which is the focus of the body of our report. Defense recognizes this in its discussion and expresses its commitment to effectively implementing our recommendations.

Defense's comments are presented in appendix II. Detailed GAO responses follow in the same appendix.

We will send copies of this report to the Chairman of your Committee; the Chairmen and Ranking Minority Members of the House Committee on Government Reform and Oversight, the House and Senate Appropriations Committees, the House National Security Committee, the Senate Armed Services Committee, and other interested congressional committees; the Secretary of Defense; and the Director of the Office of Management and

Budget. Copies will be made available to others upon request. Please contact me at (202) 512-6240 if you or your staff have any questions. Major contributors to this report are listed in appendix III.

Sincerely yours,

Jack L. Brock, Jr.
Director, Governmentwide and Defense
Information Systems

Contents

Abbreviations

ARNET	Army's Regional Transition Network
ASD/C3I	Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
DISA	Defense Information Systems Agency
DISD	Defense Information Systems Database
DISN	Defense Information Systems Network
FASA	Federal Acquisition Streamlining Act
FTS 2000	Federal Telecommunications System
GSA	General Services Administration
IP	Internet Protocol
ITP	Installation Transition Processing
J-6	Joint Staff for Command, Control, Communication and Computers
NAVWAN	Naval Aviation Systems Team Wide Area Network
NEWNET	Navy Sea Systems Command's Enterprisewide Network
NIPRNET	(N-Level) IP Router Network
OASD/C3I	Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence

Results of Survey

Table I.1: U.S. Army Networks

(Dollars in thousands)

Network	Type of service	Recurring costs
Army Recruiting Accession Data System	data	$515
Weather Teletype	data	141
Weather Activities	data	53
Army/Air Force Exchange Service	voice/data	604
National Guard Network (NGNET)	data	1,116
DOD Satellite Education Network	video	543
Test and Evaluation Analyses Plan (TEAMUP)	data	106
Management Information Services	data	231
Medical Activities (MEDACT)	data	1,249
Army CALS (ACALS)	data	120
Command and Control, Misc. (C2)	voice/data	321
Intelligence	data	7,765
Automated Instructional Management System	data	50
Installation Transition Processing Network	data	374
Worldwide Military C2 System (WWMCCS)	data	226
Engineer Information Systems Network	data	33
Defense Intelligence Agency Communications	data	499
Defense Technical Information Center	data	14
Digital Storage & Retrieval Engineering Documents (DSRDS)	data	80
UASREUR Community Automation System	data	75
Automatic System for Transportation Data	data	353
Army Interoperability Network (AIN)	data	859
Admin. Activities-Misc. (not true network)	voice/data	346
CC Reserve Forces	data	16
Developmental Readiness & Mobilization System	data	123
Remote Alarm Intrusion System	data	27
Armed Forces Radio/TV Service	voice/data	761
Army Training Requirements & Resources System (ATRRS)	data	100
Reserve Component Automation System (RCAS)	voice/data	987
Army Supercomputer Network	data	4,802
Streamlining Information Services Operations Consolidation (SISOCS)	data	106
Department of Army Standard Systems for Depots (DASSD)	data	149
Scientific and Engineering	data	68
TRADOC Decision Support System (TDSS)	data	89
USAREUR Data Network	data	369
Army Standard Information Management System	data	398
Video Teleconferencing Network	video	1,428

Table I.2: U.S. Navy Networks

(Dollars in thousands)

Network	Type of service	Recurring costs
Naval Education & Training Management Systems Network (NETMSN)	data	$643
Naval Reserve Network (NAVRESNET)	data	750
NAVSEA Enterprise Wide Area Network (NEWNET/Smart Link)	voice/data/video	3,590
Puget Sound Metropolitan Area Network (MAN)	voice/data/video	[a]
Tidewater Metropolitan Area Network (MAN)	voice/data/video	[a]
Naval Facilities Engineering Command Wide Area Network (NAVFAC WAN)	data/video	[a]
NAVCOM TELCOM Video Teleconferencing	video	[a]
NCTS Pensacola Video Teleconferencing	video	[a]
Pensacola Metropolitan Area Network (MAN)	voice/data/video	[a]
Corpus Christi Video Teleconferencing	video	[a]
Corpus Christi Metropolitan Area Network (MAN)	voice/data/video	[a]
NCTAMS LANT Det. Video Teleconferencing	video/data	[a]
NCTAMS LANT Det. Advanced Digital Multiplexer System (ADMS)	voice/data/video	[a]
NCTAMS LANT Det. U.S. Atlantic Command Net (USACONNET)	data	[a]
NCTAMS LANT Det. Navy C2 System (NCCS)	data	[a]
NCTS NOVA System	message	[a]
NCTS Micronet 8	message	[a]
Guam Unclassified Metropolitan Area Network (MAN)	data	[a]
Guam Administrative Telephone Switching System	voice	[a]
Planned — San Diego Metropolitan Area Network (MAN)	voice/data/video	[a]

[a]Information on these networks came from DISA's survey which does not include cost data.

Table I.3: U.S. Marine Corps Networks

(Dollars in thousands)

Network	Type of service	Recurring costs
Defense Megacenter Network Connectivity	data	$800
Marine Corps Data Network (MCDN)	data	500
DISN/Banyan Vines Network	data	500
Marine Corps Reserve Network	data	[a]

[a]The Marine Corps did not provide this information or provided insufficient information to determine costs by fiscal year.

Table I.4: U.S. Air Force Networks

(Dollars in thousands)

Network	Type of service	Recurring costs
AFPC Wide Area Network	data	$4,571
Air Weather Network (AWN)	data	12,301
NEXRAD	data	2,109
Mystic Star Network Management System	data	1,560
Strategic Operations Conference Network	voice/data	568
Robust ACC Virtual Network (RAVN)	voice/data/video/other	1,979
Virtual Circuit Switch (VCS)	data	1,136
Mission Operations Support Center (MOSC)	voice/data	250
AFMC Classified Network (ACN)	data	750
Comp Eng Management System (CEMS)	data	228
Internet Access	data	[a]
Global Positioning System (GPS)	data	378
Defense Satellite Program (DSP)	data	259
Granite Sentry Air Defense	data	1,082
Threat Warning/Attack Assessment (ITW/AA)	data	1,675
Launch and Range	data	3,026
Missile Alert Facility Communications	voice/data	1,453
Strategic Automated Command and Control (SACCS)	data	328
Space Surveillance	data	683
Air Force Satellite Control Network (AFSCN)	data	6,261
Space Air Weather Network (AWN)	data	2,125
JCS Alerting Network	voice	850
Wheelhouse	voice	228
Mystic Star	voice/data	22
Northstar	voice/data	13,911
Contingency Airborne Reconnaissance System (CARS)	voice/data	[a]

[a]The Air Force did not provide this information or provided insufficient information to determine costs by fiscal year.

Comments From the Department of Defense

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

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
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COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE

July 16, 1998

Mr. Gene L. Dodaro
Assistant Comptroller General
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Dodaro:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report dated June 3, 1998, "DEFENSE NETWORKS: Management Information Shortfalls Hinder Defense Efforts to Meet DISN Goals," (GAO Code 511638/OSD Case 1631).

The Department and several of its component organizations have reviewed the audit. Our position with respect to the draft report recommendations is attached. Although we concur with the recommendations, we are concerned that language in the body of the report may lead the reader to believe that the Department has done nothing to implement and enforce consistent policy with respect to the management of its long-haul telecommunications and the achievement of DISN goals. In fact, the Department has taken significant steps to do just that. In May 1997, the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)) clarified and reiterated existing long-haul and regional telecommunications systems and services policy, including the role of the Defense Information Systems Agency (DISA) as the Department's sole manager and provider of long-haul telecommunications systems and services.

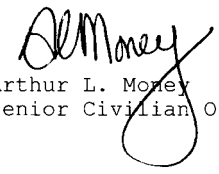
In response to this ASD(C3I) action, DISA, working with the other DoD Components, is developing a process for determining the best solution for a given long-haul telecommunications requirement, e.g., a common-user network solution or a separate acquisition of systems and services. Together, they are planning for migration of requirements to available common-user network solutions where it makes sense from a Department-wide perspective. A process for granting temporary waivers (i.e., subject to reevaluation no less than annually) for requirements that can not now be

technically or economically satisfied by available common-user network solutions is in place. As of June 1998, DISA had evaluated 169 requests for other than available common-user solutions and granted 86 waivers. Concurrently, performance metrics are being negotiated and established so that ASD(C3I) can better monitor progress and performance by DISA and the other Components.

Your message concerning policy enforcement, or lack thereof, comes through loud and clear. We intend to update and significantly strengthen the long-haul telecommunications policy originally promulgated in 1991. Updates will reflect changing technology, organizations, and missions, as well as incorporate the processes that have been developed and implemented since original promulgation. The updated policy will be strengthened substantially with respect to enterprise level visibility into both technical and fiscal aspects of all DoD Component long-haul telecommunications requirements and acquisitions, including the reporting of prescribed performance metrics and the adoption of specific oversight and enforcement mechanisms.

Effective long-haul telecommunications systems and services are critical to the readiness of the Department. It is in the best interests of the Department that the policies governing acquisition and management of these systems and services be up-to-date and enforceable. To this end, we are proceeding with actions to make that happen. These actions will result in the availability of complete and consistent management information necessary to ensure successful accomplishment of DISN goals and objectives, including the provision of cost effective common-user network services that ensure interoperability, positive DoD control, and information protection under all conditions, to support our Nation's warfighters. We appreciate and commend the GAO findings that support our on-going efforts in this endeavor.

Sincerely,



Arthur L. Money
Senior Civilian Official

Enclosure

GAO DRAFT REPORT - DATED JUNE 3, 1998
(GAO CODE 511638) OSD CASE 1631

"DEFENSE MANAGEMENT: Management Information Shortfalls Hinder Defense Efforts to Meet DISN Goals"

RECOMMENDATIONS

Recommendation 1: The GAO recommended that the Secretary of Defense direct the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)) to ensure that existing policies are clearly defined, documented, and enforced. Specifically, ASD(C3I) should:

- Develop and maintain a comprehensive inventory of Defense's telecommunications equipment and services;
- Track acquisitions of telecommunications services throughout Defense, the actual costs of those services, and trends in usage(that is, the volumes and types of traffic that networks carry); and,
- Define and institute an effective process for evaluating the cost-effectiveness of Defense networks and mandating the use of common-user networks for long-haul telecommunications where appropriate. As part of this process, define the criteria that DISA will use to make waiver determinations including how DISA will measure technical, economic, and customer service factors in granting waivers. (p. 20/GAO Draft Report)

DoD Response: Concur.

The Department has already begun the process of updating the December 5, 1991, Directive (DoDD 4640.13) entitled, "Management of Base and Long-Haul Telecommunications Equipment and Services." This policy was clarified last year by ASD(C3I) Memorandum, "Policy Clarification Letter - Long-Haul and Regional Telecommunications Systems and Services for the Department

See comment 1.

of Defense," dated May 5, 1997. The clarification reaffirmed the existing policy that the Defense Information Systems Agency (DISA) is the manager and sole-provider of long-haul telecommunications systems and services for the Department. In addition, it defined long-haul telecommunications to be all voice, data, video, integrated telecommunications, wire, or radio leaving or entering a DoD Component site (post, camp, station, base, installation, headquarters, or Federal building), to include the on-site edge device, or Service Delivery Node. This definition includes, as part of long-haul telecommunications, appropriate Asynchronous Transfer Mode (ATM) edge devices (switches) and all inter-site Metropolitan Area Networks (MANs) and regional telecommunications networks.

In addition to clarifying the existing policy, the May 5, 1997, ASD(C3I) Memorandum tasked DISA to develop a process for determining which long-haul requirements will be satisfied by: Defense Information System Network (DISN) services; General Services Administration's Federal Technology Service (FTS) provided services; or, commercial lease or newly acquired service, in that order of preference, subject to applicable DoD policy and legislative statute, e.g., the Clinger-Cohen Act. The process is to be based on the basic need for interoperability, positive DoD control, information protection, and economical costs at the enterprise level. This latter does not always equate to the most economical out-of-pocket costs for the individual Component. Furthermore, DISA was tasked to establish a process for temporarily waiving those requirements that could not, presently, be technically or economically satisfied by either DISN or FTS-provided services. These waived requirements would be the only ones eligible for commercial lease or new acquisition solutions. The waived requirements are to be reevaluated at least annually, for subsequent migration to either DISN or FTS services. A rudimentary process for determining which requirements will be satisfied by DISN services has been developed, along with a waiver process. Neither has, as yet, been incorporated in Department policy.

The Department is preparing, now, to republish an updated version of this clarification along with a call to participate in the updating and strengthening of the current (1991) long-haul telecommunications policy. This

See comment 2.

action will be designed to bring the policy up-to-date with respect to changing technology, organization, and mission. A key requirement will be technical and fiscal visibility, at the Department level, of all long-haul telecommunications services requirements and acquisitions. The updated policy will include specific processes, rules and criteria, enforcement mechanisms, and performance metrics. It will address the following specific areas noted in the above recommendation:

Comprehensive Inventory: Policy currently calls for the establishment and maintenance of a central database of long-haul telecommunications equipment and services accessible by the DoD Components. The Defense Information Systems Database (DISD), maintained by DISA, was developed to satisfy this requirement, in part. It captures all equipment and services acquired through DISA. It does not capture information about equipment and services acquired from other sources, approved (waived by DISA) or otherwise. Maintenance of database accuracy requires positive action on the part of the DoD Components who have the requirement for the equipment and services contained in the DISD. These requirements must be periodically validated by the Components. If a specific requirement becomes or is found to be no longer valid, the responsible Component must take steps to modify or deactivate the DISD entry (the inactive requirement should be maintained for history purposes). This is current policy which, as the report notes, is not being followed by the Department. Consequently, the database, as it exists today, is of little use for this purpose. Additional guidance is required to ensure that this validation is accomplished in a timely and effective manner. Furthermore, procedures must be put in place to ensure that all Component requirements for long-haul telecommunications equipment and services, whether acquired by DISA or not, are captured and maintained in the database.

Acquisitions of Services: The inventory validation procedure described above, if fully effective, will address the capture of data on all acquisitions of telecommunications systems and services. This will permit tracking of acquisitions and analysis of usage trends. All long-haul telecommunications requirements must be evaluated for provision on the common-user networks (i.e., DISN and FTS). Only those requirements that cannot be technically or economically satisfied, at this particular

time, should be waived for acquisition outside of the common-user networks. The waiver must be temporary (recallable), however, as the requirement should be provisioned onto the common-user network as soon as it is both technically possible and economically desirable to do so. This is the purpose of the DISA waiver process, above. This means that any acquisition of long-haul telecommunications systems and services by Components other than DISA must have supporting waiver documentation. If not, action should be suspended, immediately, and until such waiver is obtained or the subject requirement(s) is provisioned to a common-user network.

Evaluating Requirements and [where appropriate] Mandating Use of Common-User Networks: The process for determining the appropriate solution for any given requirement should be made available to all DoD Components for self-evaluation of requirements and as a tool in requesting long-haul telecommunications services from DISA. Today, the evaluation of alternative solutions for a specific requirement is addressed too early in the process. DoD Components come to DISA with solutions in hand, not with requirements to be satisfied. Efforts to evaluate other solutions (e.g., common-user networks) often are difficult, if not impossible, because DISA does not have visibility into Component costs and base-level infrastructures (or, long-haul infrastructures acquired and maintained outside of the DWWCF). DISA, in exercising its Department-wide acquisition authority (i.e., sole provider of long-haul telecom-munications systems and services), has challenged the validity of separate networks and denied waiver requests. By developing and employing a standard evaluation process, the Department, with DISA as its Executive Agent, will gain the visibility into total costs and liabilities required to make the most cost effective decision for satisfying individual requirements and maintaining interoperability, positive DoD control, and information protection, as required. Evaluation of alternative solutions (and selection of the appropriate solution) will be a standard, data- and criteria-driven process accomplished by DISA and the Component. Criteria and processes will be specified in the updated policy (or in related documents).

See comment 3.

Recommendation 2: In addition, the GAO recommended that the Secretary of Defense direct the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence (ASD(C3I)) to develop and adopt provisioning, pricing, and performance metrics as minimum performance measures for DISN. (p. 20/GAO Draft Report)

DoD Response: Concur.

DISA has established performance measures that can be found within the Agency's strategic plan. Also, metrics such as network reliability and network availability are monitored and reported daily as part of network operations. Metrics like this, however, have not been adopted by the ASD(C3I) as Department-wide metrics of interest at the enterprise level. As part of Defense Reform Initiative Decision #23, the DoD Comptroller required a Performance Contract with DISA that includes performance metrics for DISN. This contract, to be monitored by the ASD(C3I), is currently in negotiation. Final approval is to be completed concurrent with the President's budget to Congress in February 1999. These metrics, and others yet-to-be-identified will be adopted and promulgated by the ASD(C3I) as Department-wide metrics of interest at the enterprise level, for all long-haul telecommunications, regardless of how it is acquired, funded, or managed.

See comment 4.

The following are GAO's comments on the Department of Defense letter dated July 16, 1998.

GAO Comments

1. We acknowledge in this report that ASD/C3I has clarified existing long-haul telecommunications policy by issuing a May 5, 1997, memorandum. We have added information regarding Defense's update of 1991 policy that will reflect changes in technology, organization, and mission. Nevertheless, Defense's actions remain preliminary, and unless that policy is properly implemented and enforced it will remain ineffective.

2. As indicated in the reply, Defense does not maintain a comprehensive inventory of independent long-haul telecommunications networks, and therefore does not know how many networks are operating throughout the department or what functions they support. As Defense notes in its comments, additional guidance and procedures are needed to ensure that all requirements for long-haul telecommunications equipment and services are identified and placed in the Defense Information Systems Database.

3. Defense affirms in its comment what we state in this report, that DISA currently lacks well-defined steps for determining whether a long-haul telecommunications requirement can be most effectively satisfied by a common-user network. We note Defense's plan to develop and employ a standard requirements evaluation model. This model, if properly developed and implemented, could assist Defense in making cost-effective decisions on individual telecommunications requirements. However, the model may not be effective without the cooperation of Defense components, which may choose not to submit their requirements through DISA. The model may also not be effective if other steps mentioned in this report, such as adequate data gathering on telecommunications trends and costs, and use of performance measures, are not taken.

4. Two years ago we highlighted the need for DISN performance measures in a report on the DISN program (GAO/AIMD-97-9, November 27, 1996). We recognize that Defense now intends to take action on our recommendation that it implement user-based performance measures for DISN, and we agree that such metrics should be applied to all long-haul telecommunications. We are unable to make further comment, however, until Defense takes concrete steps to implement these performance measures.

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