Audit Report

OFFICE OF THE INSPECTOR GENERAL

SUMMARY REPORT ON THE DOD IMPLEMENTATION OF ELECTRONIC COMMERCE/ELECTRONIC DATA INTERCHANGE IN CONTRACTING FOR SMALL PURCHASES AND THE FEDERAL ACQUISITION COMPUTER NETWORK

Report No. 97-103 March 4, 1997

Department of Defense

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Acronyms

CCR	Central Contractor Registry
DISA	Defense Information Systems Agency
EC/EDI	Electronic Commerce/Electronic Data Interchange
ECPN	Electronic Commerce Processing Nodes
ECRC	Electronic Commerce Resource Center
FACNET	Federal Acquisition Computer Network
NEP	Network Entry Point
VAN	Value Added Network

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

March 4, 1997

MEMORANDUM FOR DEPUTY UNDER SECRETARY OF DEFENSE (LOGISTICS)

SUBJECT: Summary Report on the DoD Implementation of Electronic Commerce/ Electronic Data Interchange in Contracting for Small Purchases and the Federal Acquisition Computer Network (Report No. 97-103)

We are providing this audit report for review and comment. Management comments on a draft of this report were considered in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. As a result of management comments, we deleted one draft recommendation to develop an overall Federal Acquisition Computer Network implementation plan and establish action based milestones for the resolution of problems with the Federal Acquisition Computer Network. We request that the Deputy Under Secretary of Defense (Logistics) provide additional comments on the recommendation in response to the final report by May 2, 1997.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Ms. Kimberley A. Caprio, Audit Program Director, at (703) 604-9210 (DSN 664-9210) (KCaprio@DODIG.OSD.MIL). See Appendix E for the report distribution. The audit team members are listed on the inside back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 97-103 **March 4, 1997**
(Project No. 5CA-3002.02)

Summary Report on the DoD Implementation of Electronic Commerce/Electronic Data Interchange in Contracting for Small Purchases and the Federal Acquisition Computer Network

Executive Summary

Introduction. Electronic commerce and electronic data interchange offer opportunities for drastically streamlining the procurement process. To further this effort, President Clinton signed an Executive Memorandum, "Streamlining Procurement through Electronic Commerce," October 26, 1993, that required complete Government-wide implementation of electronic commerce. The Federal Acquisition Streamlining Act of 1994 established the simplified acquisition threshold of $100,000 and required the development and Government-wide implementation of the Federal Acquisition Computer Network (FACNET). This report summarizes nine separate assessments of DoD efforts to implement electronic commerce with a focus on FACNET. The Deputy Under Secretary of Defense (Acquisition Reform) was responsible for FACNET implementation until February 1997 when responsibility was transferred under the Deputy Under Secretary of Defense (Logistics).

Audit Objectives. The overall objective was to review the DoD implementation of electronic commerce/electronic data interchange for small purchases. The specific objectives were to identify impediments to timely and effective implementation of electronic commerce/electronic data interchange through FACNET.

Audit Results. Despite intensive efforts, DoD has experienced delays in the successful implementation of FACNET for small purchases and significant issues still need to be resolved. As a result, the benefits anticipated by the Act of lower prices, reduced processing time, and improved access to DoD procurements, are not yet being achieved.

Summary of Recommendations. We recommend that the Deputy Under Secretary of Defense (Logistics) perform an analysis of FACNET and alternative electronic commerce vehicles to identify how and when each electronic commerce vehicle should be used.

Management Comments. The Director, DoD Electronic Commerce, nonconcurred with the draft report recommendations, stating that her office and the Defense Information Systems Agency continue to review all new technology advances pertaining to electronic commerce. Further, the Defense Information Systems Agency is in the process of building the required capability for Internet access and the DoD is currently sponsoring a prototype for raising the international merchant purchase authorization card threshold. Also the comments stated that the DoD Electronic Commerce in Contracting Implementation Plan includes the plans and milestones for all phases of electronic commerce implementation. See Part I for a summary of management comments and Part III for the complete text of management comments.

Audit Response. We commend the efforts to identify alternatives to FACNET. However, the intent of our draft recommendations was to ensure that the DoD recognizes the evolution of new technological capabilities, incorporates them into overall electronic commerce planning, and clarifies when each electronic commerce vehicle should be used by DoD buyers and potential vendors. For clarity, we reduced the number of recommendations to one. We request that, in response to this report, the Under Secretary of Defense (Logistics) confirm that the ongoing reviews will address the intent of our recommendation(s).

Table of Contents

Executive Summary i

Part I - Audit Results

Audit Background 2
Objectives 3
DoD Implementation and Use of FACNET 4

Part II - Additional Information

Appendix A. Scope and Methodology 16
Appendix B. Summary of Prior Audits and Reviews 18
Appendix C. Report Distribution 22

Part III - Management Comments

Director, DoD Electronic Commerce Comments 26

Part I - Audit Results

Audit Background

Purpose. The purpose of this report is to summarize the results of nine audits conducted by the Office of the Inspector General (IG), DoD. The audits addressed various aspects of the implementation of electronic commerce/electronic data interchange (EC/EDI) in contracting for small purchases within DoD. Electronic commerce is the electronic exchange of business information. Electronic data interchange is the computer-to-computer exchange of business information between organizations using standardized business formats. EC/EDI allows the Government and vendors to communicate through a paperless environment. Seven of the nine audits placed special emphasis on the implementation of the Federal Acquisition Computer Network (FACNET) within DoD. FACNET is a Government-wide EC/EDI infrastructure for acquisition. See Appendix B for a listing of reports issued in the EC/EDI area.

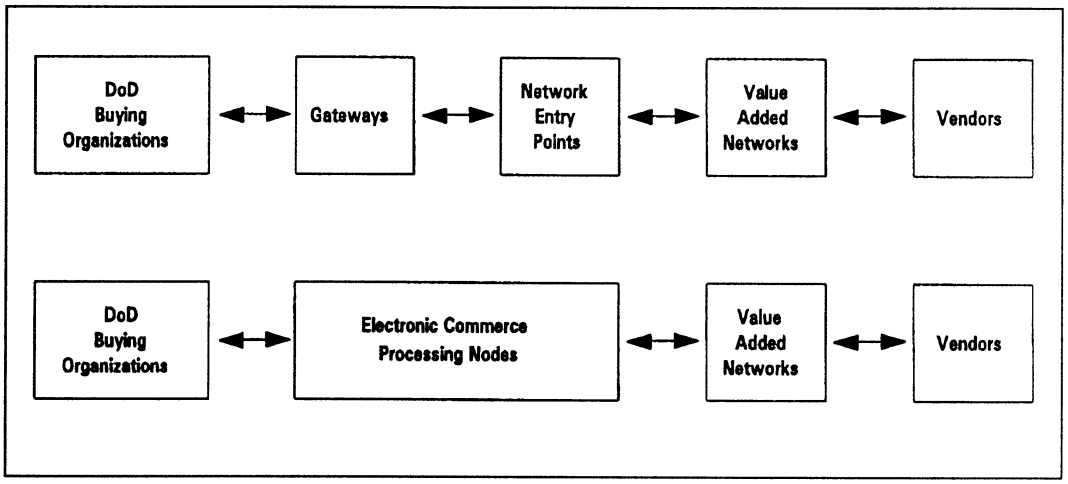
The Electronic Commerce Initiative. The National Performance Review stressed the need for expansion of electronic commerce capabilities in the Federal Government. The National Performance Review resulted in recommendations to raise the small purchase threshold from $25,000 to $100,000 and to establish a Government-wide program for using electronic commerce in Federal procurements. On October 26, 1993, President Clinton signed an Executive Memorandum, "Streamlining Procurement through Electronic Commerce," requiring immediate acquisition reform through rapid implementation of electronic commerce for Federal purchases. The Executive Memorandum required the completion of Government wide implementation of electronic commerce by January 1997. The January 1997 milestone, which was more aggressive than the original DoD proposal, did not permit sufficient time for the Defense Information Systems Agency (DISA) to properly develop and test the FACNET infrastructure. The Federal Acquisition Streamlining Act of 1994, signed into Federal law by President Clinton on October 13, 1994, was a significant first step in reforming the acquisition process and meeting the goals of the National Performance Review. The Federal Acquisition Streamlining Act raised the simplified acquisition threshold to $100,000 and required the development and Government-wide implementation of FACNET capability by January 2000.

DoD FACNET Infrastructure. The DoD FACNET infrastructure goal is to support a "single face to industry" making electronic business transactions available to all vendors using the same standards-based format. The DoD FACNET will facilitate the electronic exchange of procurement information between DoD and vendors, employ recognized data formats, and provide user access through any point of entry. With the single face concept, the vendor can register through the central contractor registry (CCR), and conduct business with all DoD and civilian agencies. The anticipated benefits of FACNET include lower prices, reduced processing time, and improved access to DoD procurements.

The DoD FACNET infrastructure consists of DoD buying organizations, gateways, network entry points (NEPs), value added networks (VANs), and

vendors. Gateways are hardware systems and software that provide electronic data interchange translation services for DoD buying organizations. NEPs are hardware and software systems that provide communications between VANs and gateways. VANs are non-Government communications companies that provide electronic data communication between DoD and its trading partners. The gateways and NEPs are currently being combined into electronic commerce processing nodes (ECPN). The gateway function will be incorporated into the ECPN in the winter of 1997.

The current and future DoD FACNET infrastructure is shown in the table below:



Objectives

The overall audit objective was to review the implementation of EC/EDI by DoD organizations for small purchases. We placed special emphasis on identifying impediments to timely and effective implementation of EC/EDI through FACNET. The purpose of this report is to summarize other reports and draw conclusions about the overall implementation of FACNET.

DoD Implementation and Use of FACNET

DoD has experienced delays in the successful implementation of FACNET for small purchases. Delays occurred because of:

o the overall complexity to integrate various systems and condensed time frames for FACNET implementation,

o unanticipated impediments, and

o lack of vendor awareness and reluctance to implement FACNET.

As a result, DoD is not realizing lower prices and reduced processing time as anticipated, and vendors are not realizing increased access to DoD procurement opportunities. Also, because of the evolution of other electronic commerce alternatives, FACNET may not be the most practicable and cost-effective means of accomplishing electronic commerce.

Background

Goals and Deadlines. In March 1994, DoD announced that, within two years, 80 percent of its small purchases would use electronic commerce. The original timeline for implementation of electronic commerce was:

o define the DoD FACNET infrastructure in March 1994,

o establish an initial electronic commerce capability and begin implementation in September 1994, and

o expand the initial capabilities by July 1995, and to complete implementation by January 1997 (changed to January 1, 2000).

Policy for Use of FACNET. Federal Acquisition Regulation, Subpart 4.5, "Electronic Commerce in Contracting," July 3, 1995, provides the policy for the use of FACNET. The Federal Acquisition Regulation states that the Government shall use FACNET when practicable and cost effective. The regulation also states that FACNET is the preferred method for simplified acquisition purchases, and a contractor must register in the CCR to conduct electronic commerce with the Government. The CCR is intended to allow vendors to register one time to conduct business with any buying organization in the Federal Government.

DoD Responsibilities in Electronic Commerce Implementation. DoD has primary responsibility for developing, operating, and supporting the FACNET infrastructure as well as developing the CCR data base to be used in conjunction with FACNET and other electronic commerce capabilities. The DoD Electronic Commerce Office, established by the Deputy Under Secretary of Defense (Acquisition Reform) [DUSD(AR)], was responsible for managing the implementation of EC/EDI, including FACNET at 244 installations within DoD during this audit. These installations initiate at least 80 percent of DoD's small purchases. As of February 1997, the DoD Electronic Commerce office has moved under the Deputy Under Secretary of Defense (Logistics) [DUSD(L)]. The DoD Electronic Commerce Director certifies that buying organizations are FACNET capable based on technical certification provided by DISA. The DoD Electronic Commerce Office is also responsible for facilitating the implementation of EC/EDI across all functional lines of DoD.

Defense Information Systems Agency Responsibilities in Electronic Commerce Implementation. DISA assists the DoD Electronic Commerce Office in the implementation of FACNET. Specifically, DISA is responsible for implementation, operation, maintenance, and management of the DoD FACNET infrastructure. In addition, DISA is responsible for verifying that each DoD buying organization meets the technical requirements for FACNET certification and for certifying VANs for all Government organizations, including DoD.

Education as Part of Electronic Commerce Implementation. In the DoD EC/EDI Contracting Report, December 20, 1993, the DUSD(AR) emphasized that Government and industry education is an essential part of the implementation of electronic commerce in contracting. The DUSD(AR) further emphasized that timely implementation of high quality education would optimize the benefits realized by participants. The DUSD(AR) report stated that industry and private resources would be used to accomplish education objectives.

Implementation of FACNET

DoD has experienced delays in the successful implementation of FACNET for small purchases. In March 1994, DoD announced that within 2 years 80 percent of its small purchases would use electronic commerce. The General Accounting Office estimated that in 1995, less than 2 percent of about 2 million federal procurement actions above the micro-purchase threshold and below the simplified acquisition threshold ($2,501 and $100,000) were made through FACNET. DoD made up 97 percent of the FACNET purchases in 1995. However, 2 percent is substantially below the overall 80 percent goal for March 1996.

Vendor registration in the CCR data base is another gauge to determine successful FACNET implementation. In October 1995, to increase vendor participation, the DoD Electronic Commerce Office informed approximately

208,000 DoD vendors that FACNET will become the preferred method of contracting for small purchases. As of October 25, 1996, the CCR data base had only 4,193 active and validated vendors registered (only 2 percent).

Although initiatives have been made for fully implementing FACNET, DoD may not achieve full implementation by January 2000 because of the overall complexity of integrating various systems within condensed time frames, unanticipated impediments, reluctance to implement FACNET, and a lack of vendor awareness of FACNET.

FACNET Implementation Time Frame

Problems are to be expected when a huge undertaking, such as developing and implementing FACNET, is required to be accomplished quickly. Initially, the Executive Memorandum signed October 26, 1993, required Government-wide electronic commerce implementation by January 1997. The original milestone proved unrealistic, because it did not permit DISA sufficient time to properly develop and test the FACNET infrastructure. The Federal Acquisition Streamlining Act of 1994 changed the implementation deadline to January 2000.

FACNET users have reported numerous malfunctions about interrupted or inefficient service in sending and receiving transactions, as evidenced by the number of problems and complaints made by VANs, vendors, and DoD buying activities. Further, DoD, as well as other Federal agencies, cited the lack of a sound operational infrastructure as the problem impeding the efficient and effective implementation of FACNET.

Problems with the FACNET infrastructure are attributed to the design complexity. The FACNET infrastructure requires transactions to pass through five separate entities that function both independently and in conjunction with each other, including the Government buying organizations, the gateways, NEPs, VANs, and the vendor. Because of the complexity involved with integrating numerous entities and the condensed time frame for implementation, DISA was unable to adequately test the infrastructure prior to its implementation to ensure the design would function properly. The complexity of the task is evident as shown by the FACNET implementation problems. DoD implementation of complex systems typically includes steps to develop and test a system, and incrementally implement the system prior to full-fledged use.

DISA is presently redesigning the FACNET infrastructure by combining the NEPs with the gateways, as well as building in functions to monitor and resolve potential system problems. Though software problems are currently causing delays, redesign should be complete by winter 1997. DISA officials anticipate that the redesign of the infrastructure should reduce the operational problems,

as well as improve their ability to more expeditiously identify and resolve problems. In addition, the DoD Electronic Commerce Office and DISA anticipate successful implementation of DoD FACNET capabilities by January 1, 2000.

FACNET Implementation Impediments

The DoD Electronic Commerce Office, DISA, the Army, Navy, and Air Force made a tremendous effort to successfully implement FACNET. However, impediments that could not be anticipated occurred because of the magnitude of the project, the number of parties involved, the use of new technology, and the need to integrate numerous entities. Specifically,

o certification procedures for DoD buying organizations and VANs were not effective;

o the VAN license agreement was not being monitored and enforced;

o vendors were not registering in the CCR; and

o problems were being experienced with data transmission through the infrastructure that were not being resolved.

Certification of Buying Organizations and VANs. DoD buying organizations were tested and certified but some were not capable of transmitting and receiving transactions through FACNET. Consequently, those sites did not use FACNET and as a result limited the use of FACNET by potential vendors. In the Inspector General, DoD, draft report for Project No. 6CA-0013, we found that 5 of 13 DoD certified buying organizations that we reviewed were not capable of sending and receiving FACNET transactions. These buying organizations were inappropriately certified because technical certifications were completed at the automated information system level, rather than at the buying organization level. The certification testing at the automated information system level did not detect existing technical problems at the buying organization which precluded it from effectively using FACNET.

In addition, DISA did not establish an adequate certification process for VANs. In Inspector General, DoD, Report No. 96-172, "Certification and Management of Value Added Network," June 21, 1996, we reported that the evaluations performed on 25 certified VANs showed that 15 were certified even though the adequacy of their financial resources was questionable. Poor financial data at the start of the contract is often an indicator of future problems. In Inspector General, DoD, Report No. 96-105, "Contract Award Decisions Resulting in Contract Termination for Default," April 29, 1996, we reported that poor financial information resulted in contractor defaults. DISA certification of VANs with questionable financial resources could result in similar problems. To address this problem, DISA issued a new VAN license agreement in August 1996. Under the new VAN license agreement, procedural changes should

improve the certification process by requiring more stringent functional tests. DISA relies on the credibility of the VANs being demonstrated through the successful completion of extensive functional testing.

Monitoring and Enforcing the VAN License Agreement. Inspector General, DoD, Report No. 96-172, also stated that DISA did not adequately monitor and enforce the VAN license agreement for the 25 DoD certified VANs. The report showed that DISA did not perform reviews to verify that each VAN maintained audit trails of transactions, backed up all data for full data recovery capabilities, and had an internal quality monitoring program to assure maintenance of reliable communication lines. Relaxed monitoring procedures by DISA may result in a potential loss of business by DoD and its trading partners, because certified VANs may not be capable of handling the transaction workload that would be required for the full implementation of FACNET. DISA is addressing these issues. According to DISA, as of March 1996, the DoD Electronic Commerce Office had the capability to monitor all Government transactions being transmitted to the various VANs.

Central Contractor Registry. The intent of the CCR is to provide a single point of registry for vendors desiring to do business with the Federal Government. The CCR is a centralized database for use by DoD and other Federal agency buying organizations. An integral step in the FACNET process is for vendors to register with the CCR to conduct transactions using FACNET. The CCR is intended to expedite the use of FACNET as well as other future electronic commerce processes.

Despite the Federal Acquisition Regulation requirement to register with the CCR, vendors are not actively registering because of problems in the development of the data base and in submitting information for registration. Buying organizations, VANs, and vendors expressed concerns about the ability of vendors to become a part of the CCR. These concerns were caused by the lack of defined roles and responsibilities of the CCR. VANs further stated that procedures that are used to include vendors in the CCR were not clear and that a lack of communication existed between VANs and DISA about the CCR. In addition, no clear procedure identifies who is responsible for registering vendors. Also, in Inspector General, DoD, Report No. 97-002, "Vendor Participation in the Federal Acquisition Computer Network," October 4, 1996, we reported that 9 of 100 vendors surveyed, stated that the CCR was not effective in providing feedback on whether their registrations for the CCR were received and validated.

Since the CCR is not heavily populated or easily accessible, agencies often must award contracts to unregistered vendors. This occurs because the CCR does not have enough registered vendors to supply the full range of products and services needed. However, improvements have been made in the CCR registration process. For example, the DUSD(AR) provided access to register in the CCR through the World Wide Web as of October 1, 1996.

The Chair of the Government-wide CCR Financial Working Group requested that Inspector General, DoD, conduct a review of the CCR program. Under Project No. 6CA-0700, we are reviewing the CCR program to evaluate the

progress that DISA has made in implementing the program, determining why few contractors have registered, and reviewing controls over sensitive contractor information contained in the program's database.

FACNET Transactions. DoD organizations, VANs, and vendors are not relying on FACNET due, in part, to recurring transmission problems. In Inspector General, DoD, Report No. 97-002, "Vendor Participation in the Federal Acquisition Computer Network," October 4, 1996, 14 of 100 vendors sampled indicated that FACNET was not reliable because transactions were not timely, standard data was not being transmitted, and adequate feedback on transactions was not being provided. In addition, in the Inspector General, DoD, Report No. 97-010, "Defense Information Systems Agency Management of Trouble Tickets for Electronic Commerce/Electronic Data Interchange," October 28, 1996, 65 percent of 130 trouble tickets reviewed showed recurring problems with invalid transactions (33 percent), late and lost transactions (29 percent), and lack of functional acknowledgments of transaction receipt (4 percent). Recurring problems identified through the trouble ticket process are difficult to resolve, because FACNET has no automated capability to track transactions through the network system. As a result, DISA's ability to provide timely responses to users who inquire about transaction problems have been limited. DISA is working toward resolving some of the FACNET transaction problems. The ECPN should include a transaction audit trail, a functional acknowledgment summary, and automatic retransmission of messages when FACNET identifies a transmission error. These changes should facilitate more expeditious tracing, and resolution of late, lost, or invalid transactions.

Efforts to Resolve Impediments to FACNET Implementation. FACNET can not be relied upon to process small purchase transactions until the problems with FACNET are resolved. The Director, DoD Electronic Commerce and DISA have been aware of the problems associated with the implementation of FACNET, and are taking actions to correct the problems. DISA, for example, is working toward correcting transmission, CCR, and tracking problems through the implementation of the new infrastructure. Specifically, the ECPN should include capabilities for system monitoring, the incorporation of the CCR, and transaction tracking capabilities. The system monitoring feature will visibly identify transmission problems to the ECPN administrator and allow for quick reaction.

Milestone Dates for Corrective Actions. The corrective actions by the DUSD(AR) and DISA have slipped in meeting their milestones. Because of the problems being experienced, it is questionable whether the proposed implementation dates will be achieved. For example, DISA was experiencing communication problems with the ECPN causing a delay in the implementation. Implementation of the new version of the CCR database is already one year behind schedule.

Vendor Awareness

Limited and delayed implementation of FACNET is also partially caused because of the lack of awareness of FACNET. The Federal Government funds various outreach programs whose mission, in part, is to make vendors aware of and encourage participation in EC/EDI which includes FACNET. For example, the Small Business Administration funds more than 1,000 Small Business Development Centers who provide information, assistance, and support to small businesses in a variety of areas. In addition, DoD funds 11 regional Electronic Commerce Resource Centers (ECRC) and 109 Procurement Technical Assistance Centers. The mission of the ECRCs is to help vendors and Government organizations implement and use EC/EDI technologies. The Procurement Technical Assistance Centers provide assistance to vendors in marketing goods and services to DoD organizations including outreach, counseling and marketing opportunities, and EC/EDI assistance.

Surveys we conducted on two audits indicated that DoD outreach programs have not been effective in increasing awareness, participation, and use of FACNET and other EC/EDI technologies. In Inspector General, DoD, Report No. 97-002, "Vendor Participation in the Federal Acquisition Computer Network," October 4, 1996, we surveyed 100 vendors and determined that DoD-funded outreach programs were not effective in making vendors aware of and encouraging participation in FACNET. Forty-six of 100 vendors surveyed were not aware of FACNET. Only 10 of the 54 vendors that were aware of FACNET learned about FACNET through the DoD-funded ECRC. In Inspector General, DoD, Report No. 97-090, "Audit of Electronic Commerce Resource Center," February 11, 1997, we surveyed 100 ECRC customers on whether they had implemented or increased their use of EC/EDI as a result of support received from an ECRC. Based on the survey, we determined, that only 8.6 percent of the organizations that received ECRC assistance implemented or increased their use of EC/EDI technologies to conduct business with the Federal Government.

DoD officials plan to re-evaluate the functions performed by the ECRCs. Some options requiring further examination include, redirecting the ECRC program to provide more hands on EC/EDI training, and channeling ECRC assistance to key DoD vendors.

Anticipated Benefits of FACNET

In approving the Federal Acquisition Streamlining Act, lawmakers anticipated benefits of FACNET that are not being realized. The anticipated benefits included improved competition and lower prices to the Government, reduced processing time for both the Government and vendors, and improved access for vendors to DoD procurement opportunities. In fact, in 1993, the National Performance Review indicated that procurements performed electronically could result in Government-wide savings of up to $500 million per year.

These benefits are not being realized because the FACNET infrastructure has not been reliable in transmitting transactions between Government buying organizations and vendors. Because of the unreliability of the infrastructure:

o Government buying organizations are reluctant to post procurement actions through FACNET.

o Vendors are reluctant to expend funds to pay for the investment in computer software, and hardware, that can range from $2,100 to $5,800 or for VAN services that generally include a start-up fee of up to $1,200 and recurring monthly charges.

Electronic Commerce Alternatives

The overall complexity of FACNET, and condensed implementation schedule, as well as unanticipated impediments, and lack of vendor awareness has resulted in DoD not meeting the original implementation deadline of January 1997 for full FACNET implementation. In the interim, because of rapidly evolving technology, alternative vehicles to FACNET for electronic commerce are increasingly being explored for widespread use. These alternative electronic commerce procurement methods include, for example, use of electronic bulletin boards, electronic catalogs, and use of Government issued commercial credit cards. In addition, expansion of the use of the Internet for electronic commerce is also an alternative that is being pursued.

Each of these alternatives potentially includes its own set of issues and impediments to successful implementation of electronic commerce. However, the benefits of each may outweigh the issues and impediments and each alternative could prove to be more practical and cost-effective than FACNET for individual DoD organizations. Electronic bulletin boards allow procurement officials and vendors to exchange information electronically through a telephone line, and in some cases, allow vendors to submit electronic bids to procurement officials. Electronic catalog users indicate that electronic catalogs reduce the time customers require to find needed products, has faster order placement, and improved delivery time. Use of the Government-wide commercial purchase card facilitates electronic commerce capabilities. When used in conjunction with other electronic purchasing methods, the purchase card can reduce the number of purchase orders awarded, avoid processing costs, simplify buying by making it easier for the Government to keep track of expenses, and speed payment to vendors. The use of the Internet is being pursued as well because the Internet reaches millions of users, is inexpensive to use, and allows for the transfer of large amounts of data.

Re-examining FACNET

Because of the continuing evolution of computer technology, the feasibility of FACNET as the best or singular alternative for electronic commerce for small purchases is questionable. The Director, DoD Electronic Commerce, DISA, Military Departments, and Defense agencies acknowledge the rapid growth of technology and are addressing the potential for and impact of alternatives to FACNET as originally designed. The Director, DoD Electronic Commerce, acknowledges that technology is creating alternatives to FACNET as the single mechanism for EC/EDI procurements. Considering the significant problems that have been experienced while trying to make FACNET work, management should review whether FACNET is still a viable solution for EC/EDI and explore other alternatives in conjunction with FACNET. Further, based on the lessons learned as a result of the implementation of FACNET, FACNET and other electronic commerce alternatives should be:

o analyzed and evaluated as a business decision to determine whether they will efficiently and effectively assist DoD in conducting business and achieving electronic commerce goals as a whole, and

o adequately planned for and implemented on an incremental basis to allow for the resolution of technological or other impediments on a small scale prior to full implementation.

Conclusion

FACNET implementation deadlines were difficult to meet because of the magnitude and technological complexity of implementation, unanticipated impediments, and lack of vendor awareness and reluctance to implement FACNET. Despite the difficulties, DISA and the DoD Electronic Commerce Office anticipate being able to successfully implement FACNET by January 2000. With that goal, the DOD Electronic Commerce Office should continue to coordinate with DISA to resolve the remaining problems that are identified in this report. In addition, to achieve the anticipated benefits of implementing electronic commerce, the DoD Electronic Commerce Office should re-examine the viability and cost benefit of FACNET in comparison with other electronic commerce alternatives as well as clarify how and when each electronic commerce vehicle should be used.

Deleted Recommendations

The Director, DoD Electronic Commerce Office, provided comments to a working draft report that had 3 recommendations. The actual draft report

contained only 2 recommendations. However, because the intent of the recommendations did not change from the working draft, and because management stated that the comments to the working draft were consistent with those of the draft, we agreed to accept their working draft comments in response to the draft report.

As a result of the comments to the working draft, we deleted Recommendation 2 in the draft report. Recommendation 2 stated that the DUSD(AR) develop an overall FACNET implementation plan with action based milestones for the resolution of problems with FACNET as identified in this report. We deleted the recommendation because the Director, DoD Electronic Commerce identified a series of efforts taken since the draft report that address the problems. Therefore, we consider their comments to be responsive.

Recommendation, Management Comments, and Audit Response

We recommend that the Deputy Under Secretary of Defense (Logistics): Perform an analysis of the Federal Acquisition Computer Network as well as alternative electronic commerce vehicles to identify how and when each electronic commerce vehicle should be used.

Director, DoD Electronic Commerce Comments. The Director, DoD Electronic Commerce, stated that both her office and the Defense Information Systems Agency continue to review all new technology advances pertaining to electronic commerce including a review of Federal Acquisition Computer Network as a "fee for service" program, the implementation of "firewalls" to facilitate Internet access, and an evaluation of a prototype to raise the dollar threshold for international merchant purchase authorization card.

Audit Response. The management comments were partially responsive. We commend the Director, DoD Electronic Commerce on the projects identified. The intent of our recommendation, however, was to recognize the broader electronic commerce vehicles being developed and used both in the commercial sector and the Federal Government as a result of the evolution of new technological capabilities, including use of the Internet, electronic catalogs, electronic malls, and the like. In addition, acquisition reform efforts have relaxed formerly restrictive procurement regulations allowing DoD organizations to purchase from other Federal agencies' vehicles using international merchant purchase authorization cards, or other innovative techniques. The intent of our recommendation was to ensure that the DoD Electronic Commerce Office recognizes these evolutionary changes and incorporates them into overall electronic commerce planning as well as clarifies when each is appropriate. Our audit indicated that both DoD buyers and potential vendors were unclear as to how and when to use the Federal Acquisition Computer Network or alternative electronic commerce vehicles.

Therefore, we request the Deputy Under Secretary of Defense (Logistics) to provide comments by May 2, 1997 that confirm that the ongoing reviews have the broad focus intended by our recommendation.

Part II - Additional Information

Appendix A. Scope and Methodology

We reviewed nine audit reports on the implementation of electronic commerce by the Department of Defense, Inspector General Office. Seven of the nine reports discussed the implementation of the FACNET. The Department of Defense, Inspector General conducted, the audits at various periods during calendar years 1995 and 1996.

The audits generally involved determining whether FACNET was effective for electronic commerce within the Department of Defense. Reviews completed for the audits included the following:

o reviewing the current and proposed VAN License Agreement, and documents submitted prior to certification by VANs for compliance with appropriate regulations;

o examining selected security controls for the FACNET at two network entry points and three gateways;

o judgmentally selecting buying organizations that had been interim FACNET certified, examining supporting documentation for the interim certifications, and testing capabilities of transmitting data through FACNET;

o reviewing the procedures for recording and resolving trouble tickets and developing a summary of statistics on progress made in resolving the trouble tickets;

o conducting telephone surveys of vendors from December 1995 through February 1996, to determine whether vendors were familiar with FACNET and to determine what their experiences were using FACNET.

At each of the organizations visited, we conducted interviews with appropriate personnel to discuss experiences with FACNET. We solicited ideas for improvements to FACNET. We also discussed FACNET implementation with responsible personnel at the offices of the DUSD(AR), DISA and the Military Departments.

Limitation of Review Scope. For purposes of this report, we did not assess the adequacy of the management control program as it applied to the objectives because the management control program was addressed in each of the nine audit reports summarized in this report.

Use of Computer Processed Data. For audit reports reviewed, limited testing was conducted on the reliability of computer-processed data. Errors were not found in the computer-processed data that would preclude the use of data to meet the audit objectives.

Audit Period, Standards, and Locations. This program audit was conducted from June through November 1996 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD.

Contacts During the Audit. We visited or contacted individuals and organizations within the DoD and the General Accounting Office. Further details are available on request.

Appendix B. Summary of Prior Audits and Reviews

The Office of the Inspector General, DoD, has issued eleven final audit reports related to electronic commerce.

Inspector General, DoD

Report No. 97-090, "Electronic Commerce Resource Centers," February 11, 1997. The report states that the electronic commerce resource center program has not been efficient or cost-effective in promoting the implementation or increased use of EC/EDI between Government organizations and vendors. As a result, DoD obligated approximately $81.5 million for FY 1994 through the first quarter of FY 1996 that did not greatly increase the implementation and use of EC/EDI technologies. The report recommended that the Deputy Under Secretary of Defense (Logistics) seek additional time to implement the congressional direction to establish five new electronic commerce resource center sites and restructure the entire electronic commerce resource center program.

Report No. 97-010, "Defense Information Systems Agency Management of Trouble Tickets for Electronic Commerce/Electronic Data Interchange," October 28, 1996. The report states that DISA has not resolved recurring trouble ticket process in the FACNET system. As a result, users who reported trouble tickets are dissatisfied with the trouble ticket system, trading partners have filed protests when bids have arrived too late to be considered, and the future success of the trouble ticket process in FACNET cannot be assured. DISA is redesigning the FACNET infrastructure and believes that redesign will resolve many of the identified recurring problems. The report recommended that the Director, DISA, establish milestones for implementation of the redesign of the FACNET infrastructure to provide prompt capability to fix systemic problems. The report also recommended that DISA implement interim procedures to correct systemic problems related to invalid transactions, lost and late transactions, the inability to track transactions, and the lack of an acknowledgment for receipt of transactions. The Director, DISA, concurred with the recommendations and stated that DISA has implemented or plans to implement corrective actions.

Report No. 97-002, "Vendor Participation in the Federal Acquisition Computer Network," October 4, 1996. The report stated that 85 out of 100 vendors surveyed identified three major impediments to using FACNET. Vendors were not aware of FACNET, found FACNET to be inappropriate for their needs, and found FACNET to be unreliable. The report recommended that DoD define when FACNET is appropriate and require contracting officials to use it accordingly. The report also recommended that DoD identify and implement effective methods for disseminating information about FACNET and redirect

DoD funding for outreach. The report also recommended that DoD verify that ECPN implementation will correct FACNET's technical problems. The report further recommended that DoD identify interim measures and corrective actions for resolving technical problems.

Report No. 96-124, "Computer Security for the Federal Acquisition Computer Network," August 22, 1996. The report states that DISA had not obtained the digital signatures or encryption for procurement transactions sent over FACNET. The report also states that procedures had not been established for data backup, or continuity of operations and controls were not adequate to protect unauthorized access to FACNET. The report recommended that DISA establish milestones for implementing digital signature and encryption for the FACNET system, develop backup procedures for FACNET gateways, and develop continuity-of-operation plans for the gateways. The report further recommended that DISA enhance network security by implementing a fireball protection mechanism and ensure FACNET compliance with controlled access protection requirements. The Director, DISA concurred with the report recommendations and either has implemented or plans to implement corrective actions. DISA requested redirection to the DUSD(AR) on the recommendation of implementing digital signature and encryption.

Report No. 96-201, "Small Purchases at Defense Logistics Agency Organization," July 29, 1996. The report states that excess costs of $7.4 million were expended awarding purchase orders rather than using the Government-wide commercial credit card. The report further states that procedures for credit card purchases needed improvement. The report recommended that the Defense Logistics Agency develop procedures for allowing contracting officers to use the credit card for purchases for the DoD supply system. The report also recommended that the Defense Logistics Agency issue guidance on approving and documenting purchases made with the credit card. Management nonconcurred with the recommendation to develop procedures for use of the credit card for DoD supply system purchases. The agency published a directive and a standard form to control and document credit card purchases. The agency comments were responsive to the recommendations on credit card purchases.

Report No. 96-172, "Certification and Management of Value-Added Networks," June 21, 1996. The report states that DISA did not establish an adequate Government VAN certification process and did not adequately monitor VANs for compliance with the VAN License Agreement. The report recommended that the Director, DISA, issue policy requiring enforcement of compliance with FAR 9.104, "Contractor Qualifications," and issue policy for monitoring VANs for compliance with the VAN License Agreement, and expedite completion and issuance of the new VAN License Agreement. Management concurred with all the recommendations with the exception of the recommendation on issuing policy for enforcing compliance with FAR 9.104.

Report No. 96-129, "Audit of DoD Implementation of Electronic Commerce in Contracting for Small Purchases," May 24, 1996. The report identifies and summarizes issues related to the implementation of electronic commerce within DoD. The identified issues include realization of the "single face to industry"

concept, adequacy of the transmission of data by the DoD FACNET infrastructure, implementation of security controls, level of vendor participation, adequacy of management controls for FACNET transactions, and adequate development of FACNET implementation plans. The report contained no recommendations. The Deputy Under Secretary of Defense (Acquisition Reform) and the DISA are aware of the issues and are implementing corrective actions.

Report No. 96-109, "Prime Vendor Support of Medical Supplies," May 7, 1996. The report summarizes the implementation of the Prime Vendor Program. A prime vendor is a single distributor of various brand-name medical supplies for a group of hospitals in a geographic area. The Directorate of Medical Materiel designated 24 regions, each having a separate contract for medical and surgical items and pharmaceutical items. The report states that the Prime Vendor Program has been successfully implemented and the program mirrors the commercial business practices for the purchase of medical supplies.

Report No. 96-105, "Contract Award Decisions Resulting in Contract Termination for Default," April 29, 1996. The report states that contracting officers at Warner Robins Air Logistics Center awarded 24 contracts valued at $34.1 million to contractors without obtaining adequate information to support determinations of contractor responsibility or without adequately addressing adverse contractor information that was available before award. As a result, Warner Robins Air Logistics Center paid $13.5 million of unrecoverable unearned progress payments to defaulting contractors. The report recommended that the Commander, Warner Robins Air Logistics Center, establish procedures to ensure contracting officers award contracts only to responsible prospective contractors and that determinations of responsibility are fully supported and documented. The Assistant Secretary of the Air Force (Acquisition) concurred, in general, stating that Warner Robins Air Logistics Center issued guidance to procurement personnel on default terminations and established improved contract award procedures, and that contractor responsibility will be added to the self-inspection programs of appropriate organizations at Warner Robins Air Logistics Center.

Report No. 96-057, "DoD Use of Electronic Bulletin Boards in Contracting," January 8, 1996. The report states that DoD procurement offices were using bulletin boards as an interim means to meet their procurement requirements until the Government-wide FACNET was fully operational. The report made no recommendations. The Deputy Assistant Secretary concurred with the audit results and emphasized the need for a common set of goals and definitions to be used in implementing EC/EDI.

Report No. 97-030 "DoD Interim Federal Acquisition Computer Network Certifications," November 25, 1996. The report states that 5 of 13 buying organizations reviewed were not capable of performing requirements for interim FACNET certification. The report further states that management controls over interim FACNET certification needed improvement. The report recommended that compliance testing be completed at each buying organization level before providing technical certification. The report also recommended that DISA conduct technical compliance testing again and recertify buying organizations

previously certified. DISA partially concurred with the recommendations to conduct testing again at contracting offices that had been previously certified. However, DISA stated that it does not have the authority to test contracting offices because DISA does not have operational control over those contracting offices. As a result of DISA comments, we revised the draft recommendation to encourage cooperation and coordination with the respective Military Departments and Defense agencies, and we redirected the recommendation to the Deputy Under Secretary of Defense (Acquisition Reform), who is designated as the certifying official for implementation of interim FACNET for DoD. The report is in mediation.

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense Acquisition and Technology
  Deputy Under Secretary of Defense (Logistics)
    Director, Electronic Commerce in Contracting
Under Secretary of Defense (Comptroller)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
Assistant Secretary of Defense (Public Affairs)
Director, Defense Logistics Studies Information Exchange

Department of the Army

Secretary of the Army
Auditor General, Department of the Army

Department of the Navy

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

Department of the Air Force

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

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, National Security Agency
  Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency

Non-Defense Federal Organizations and Individuals

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

Chairman and ranking minority member of each of the following congressional committees and subcommittees:

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

Part III - Management Comment

Director, DoD Electronic Commerce Comments

Final Report Reference

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

20 DEC 1996

MEMORANDUM FOR THE DOD INSPECTOR GENERAL

SUBJECT: Summary Report on the DoD Implementation of Electronic Commerce/ Electronic Data Interchange in Contracting for Small Purchases and the Federal Acquisition Computer Network (Project No. 5CA-3002.02) - Draft - December 6, 1996

The Deputy Under Secretary Defense (Acquisition Reform) [DUSD(AR)] provides the following comments to the subject DoD IG report recommendations:

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1. Develop and centrally manage an overall FACNET implementation plan with action based milestones.

DUSD(AR) Non concurs. The DoD Electronic Commerce in Contracting Implementation Plan approved December 20, 1993, by DEPSECDEF, incorporated milestone plans for all phases of the EC in Contracting recommendations. These milestones have been updated monthly by the respective Office of Primary Responsibility (OPR) to the Director, Electronic Commerce. The Under Secretary of Defense (Acquisition & Technology) [USD (A&T)] was briefed September 20, 1996. There were 31 of the of the original 244 sites remaining to be Interim FACNET certified at the end of the two year period, coordinated in the December 20, 1993 plan. The Director, Electronic Commerce in coordination with the Defense Information System Agency (DISA), and the services and agencies are currently negotiating revised implementation dates for Interim FACNET certification. It is anticipated by this office that completion of the original site implementations will be accomplished not later than 3rd Qtr FY97.

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2. Establish milestones for the resolution of problems with FACNET by October 1, 1997, including certification and management of buying organizations and Value Added Networks, registration in the Central Contractor Registry, data transmission, protection of vendor information and outreach for increasing vendor awareness and participation in FACNET.

DUSD(AR) Non concurs. As referenced above, milestones have been established, and are monitored by the OPRs monthly. FACNET was enhanced November 1, 1996, to ensure 100% accuracy, and 99.9% throughput in accordance with DoD requirements.

Interim certification of buying organizations is referenced above.

DISA issued the second DoD Van License Agreement (VLA) August 1996. All current VANs and prospective Value Added Networks (VANs) are in testing at this time. A total of 29 previously certified VANs will receive priority one, and there are 86 requests for VAN certification on FACNET currently in process.

Registration of Centralized Contractor Registration (CCR) has been operational since August 1996 for the purposes of EC/EDI compliant vendors to register through their Value Added Networks. As of, October 1, 1996, a World Wide Wed (WWW) capability and a direct dial up modem capability facilitates contractor registration free of charge. The Office Under Secretary Defense (Acquisition Reform/Electronic Commerce) [ODUSD(AR/EC)] completed an analysis of the Defense Logistic Service Center (DLSC) Contractor and Government Entity Code (CAGE) repository in October 1996. Additionally, an extensive review of data elements and functionality have been accomplished by an Integrated Process Team (IPT) consisting of representatives from ODUSD(AR/EC), DISA, and DLSC. A Memorandum of Agreement (MOA) has been signed by DUSD(AR), DISA and Defense Logistic Agency (DLA). This MOA provides for the maintenance and sustainment of the CCR, and utilization of over 300K active contractor registration profiles. Additional analysis, and communication with the contractors will be required to ensure current information, and additional information is incorporated to complete the CCR data elements. The department is in the process of coordinating a policy letter on CCR that will require vendors to register prior to the 1st Qtr FY98.

ODUSD(AR/EC) has worked in conjunction with the Small Business Administration (SBA) in the training of 534 SBAs, 11 Electronic Commerce Resource Centers (ECRCs) and 234 Procurement Technical Assistant Centers (PTACs). Additionally, Electronic Commerce/Electronic Data Interchange information has been inserted into the Defense Acquisition University (DAU) curriculums for contracting officer formal training. The ODUSD(AR/EC) has participated in over 76 conferences in the last two years, and has sponsored video and satellite training modules. ODUSD(AR/EC) is in the process of completing an EC in Contracting Educational Strategic Plan, which is anticipated to be completed by 3rd Qtr FY97.

3. Perform an analysis of FACNET as well as alternative electronic commerce vehicles to identify how and when each electronic commerce vehicle should be used.

ODUSD(AR/EC) and DISA continue to review all new technology advances pertaining to electronic commerce. DISA has completed a review of the FACNET Fee for Service, which will allow DoD services and agencies to budget for the year 2000. DISA is in the process of building the required "fire walls" to augment the current capability for Internet access. The department has also approved the utilization of the IMPACT card for procurements under $2,500. DUSD(AR) is currently sponsoring a prototype for raising the IMPACT card threshold at this time.

Dee Smith

Delores "Dee" Smith
Director, DoD Electronic Commerce

Audit Team Members

This report was produced by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD.

Paul J. Granetto
Kimberley A. Caprio
Carolyn R. Davis
Veronica G. McCain
Sylvia R. Powell