STRATEGIC MARKET PERSPECTIVE

Federal E-Mail Systems Market

Federal Market Analysis Program

Federal E-mail Systems Market 1995

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Abstract

E-mail has long been accepted in the business and academic environments, and has also been used in the government. Recently its use has come into the forefront as a significant enabler to enhance the way in which government does business. Its growth and expanse both inter and intra agency is facilitated by the growth in communications capability made available by FTS 2000, Internet, NREN, and a host of other networks.

Key to understanding E-mail in the federal government is the recognition that its definition is broader than expected. In this context, E-mail is much more than two-way communications. It includes inquiries against and downloads of information from the myriad databases that are available through the multitude of networks in use today.

Government directives require that every workstation in the government have E-mail by the end of 1996. A major challenge is to establish standards and procedures that will accommodate this requirement. In the interim, Internet is becoming the standard.

Overall office automation is a priority item with many agencies and E-mail is but one part of this activity. Industry should be prepared to meet the challenge of increase use of E-mail systems and products as a part of overall office automation. Records management and security are two key issues that will also require significant attention.

This report, *Federal Electronic-Mail (E-mail) Systems Market,* offers insight to vendors and integrators as to the business challenge and potential necessary for the federal government to meet its goals and objectives and how E-mail may contribute.

Table of Contents

Exhibits

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I

Introduction

Federal Electronic-Mail (E-mail) Systems Market is a new INPUT report. It has been prepared because of the growing importance of E-mail throughout the federal government, the business and academic communities and the general population as well. The availability of E-mail has become so common that it is difficult to find a federal office that cannot be reached by E-mail.

E-mail's ubiquity is in large part due to the remarkable growth and acceptance of interconnected telecommunications networks. Internet alone connects about 40 million users. Internet is so vast that many prospective users are intimidated and choose to ignore it, believing that it is too complicated to use. This report is not a review of how Internet works. This report focuses on acquisition and use of federal E-mail systems, but the fact that so much federal E-mail passes via the Internet requires the inclusion the Internet in the discussions.

Federal Electronic-Mail (E-mail) Systems Market is presented in the issue-paper format which INPUT first used in 1990's federal program. It covers market issues and agency surveys without surveying vendors for their thoughts.

This paper was prepared as a part of INPUT's Federal Information Systems and Services Program (FISSP). Market analyses issued through this program are designed to assist INPUT's U.S. industrial clients in planning how to satisfy future federal government needs for computer-based information systems and services. The report's findings are based on research and analysis of several sources including:

- Interviews with federal agency E-mail users and managers

- Interviews with federal oversight agency representatives

- INPUT's Procurement Analysis Reports (PARs)

- Federal guidelines and reports on E-mail

- The Federal IRM Directory

- Various secondary research sources

A
Scope

Material in this report provides a specialized supplement to previous INPUT reports on various subjects including networking, communications, software, professional services, systems integration, and computer equipment. It is intended to give INPUT's clients a description of the current status and future trends in the federal E-mail market. It also identifies some of the key vendors now serving this market.

This report focuses on the government's approach to E-mail usage from both the users' and the policy officials' viewpoints. This report also presents a view of the next two years trends based on issued mandates of the government's central policy agencies. This view takes into account the sudden enthusiasm for use of E-mail in government that enhances this market, and the tightening budget constraints that may restrict it.

B
Methodology

INPUT used several sources and methods to develop this report. These included surveys of agency officials, analysis of federal procurements involving E-mail, analysis of federal guidelines and recommendations, and collection and synthesis of available secondary research.

INPUT developed a questionnaire for agency E-mail administrators and users (see Appendix E). It addressed agency applications, buying methods, and perceptions of E-mail. The responses assist in forecast development and provide anecdotal characterizations of the federal E-mail market.

The survey for this report was done via E-mail. This is the first time INPUT has used E-mail as a survey medium. It was thought that the response rate would be higher than usual because it is so easy to respond on the electronic form and send it back directly from the respondent's desk. It turned out that the response rate was somewhat lower than using traditional paper questionnaires with phone follow up.

The explanation for this seems to be primarily because it is easy to ignore E-mail (just press the "delete" button). Unless the originator is known or the correspondence is important to the recipient, there is little motivation to take even a moment to answer. There is no piece of paper in hand and

the electronic wastebasket has infinite capacity. A secondary reason for a low response rate is that the survey took place during the holiday season in December. Many people were not at work to respond to their E-mail. This reason would apply to traditional survey techniques as well.

On the positive side, those who did respond tended to be more candid and expansive than they would be using paper as a medium. A few responses developed into exchanges of phone calls, faxes, and other E-mail messages to clarify points of interest. The rapid turnaround possible with E-mail encourages people to be more expansive. It is not unusual to have several exchanges of E-mail between geographically widely separated correspondents in less than a day. This seldom happens using paper or phone media.

There are no doubt special techniques that would increase E-mail survey response rates. INPUT will continue using this approach to try to find out how to make it more compelling to respond.

INPUT also reviewed E-mail working group findings and recommendations for actions to develop details of expected agency actions and anticipated growth and usage of Internet. These sources permit a better understanding of market direction.

C
Report Organization

In addition to this Introduction and the Appendices, this report consists of four Chapters.

- Chapter II presents an executive overview describing the major points and findings in this report.

- Chapter III presents a market analysis and forecast.

- Chapter IV addresses the main issues surrounding federal E-mail and reports on the results of agency surveys.

- Chapter V shows the consolidated responses to INPUT's survey of government E-mail administrators.

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II
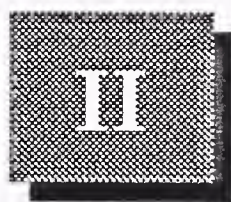
Executive Overview

A
Definition

The technical definition E-mail or electronic messaging is elementary: E-mail is a means of two-way communication between geographically separated people using a computer-connected terminal as the sending and receiving device.

However, the definition of E-mail as perceived within the federal government is broader than this. E-mail in this arena includes inquiries against, and downloads of, information from the myriad of databases that are available through the Internet and other existing networks. It also includes accessing "help" desks which may or may not be staffed, to learn such things as how to use the networks.

For purposes of this report, INPUT accepts and uses this broader definition of E-mail.

B
Federal Market Pressures

The federal E-mail market is undergoing a stimulated growth period. The government E-mail capability is intended to link all government agencies, companies, educational institutions, and private citizens as completely as is now the case for telephones. Pronouncements from the White House, from agency representatives, and from several working groups are uniformly supportive of moving to E-mail.

The political view that has been endorsed by Vice President Gore is that E-mail is an enabling technology of the National Information Infrastructure (NII--the "Information Superhighway") that facilitates the reengineering and reinvention of government. E-mail is therefore accepted as a necessary tool to improve the performance of government through direct interface between citizens and government employees.

This gives both importance and urgency to a simple tool that is normally considered a routine addition to the office tool kit.

Recent directives from the Office of Management and Budget in the Executive Office of the President require that every workstation in the government have E-mail capability by the end of 1996. Many agencies have appointed E-mail "postmasters" to respond to questions about the acquisition and use of E-mail in the agency and to interface with outsiders interested in the agency's E-mail activities and capabilities. Employees are enthusiastic to acquire and use E-mail throughout government.

The rush to become E-mail users is creating some confusion due to a lack of a universal government standard. Rather than await this development, the Internet's standards are rapidly becoming the de facto standards for government. Policy pronouncements have supported this growth and the Internet-supported, CCITT X.400 message addressing standard is the announced government approach.

There is a substantial effort underway to develop and provide a publicly accessible directory of E-mail addresses. This directory is badly needed and the lack of it is seen as a current E-mail problem area.

C
Market Forecast

A few agencies are long-time E-mail users and represent a sophisticated and nearly saturated market. Defense, Energy, and NASA are examples of this. Most civil agencies, on the other hand, are expanding their E-mail capabilities quickly. In some cases there is little or no central control over these acquisitions and individual employees are able to transact their own small purchases.

Because E-mail systems are nearly always only a small part of larger office support systems, there has been no consistent tracking of spending specifically for E-mail. OMB has mandated reporting of agencies' E-mail spending beginning in fiscal year 1996. When this mandate has been implemented, it will be possible to assess the size and value of this government market.

The best market forecasts are for growth in the numbers of users and the connect time of users on Internet. Although Internet growth is not the same as E-mail growth, there is believed to be a positive correlation between their growth rates. Internet is reportedly growing at the explosive rate of about 10% per month (according to the "Description of Internet," available on-line from Internet through "Internet Introduction," December 1994). This rate would compound to produce a doubling in size

about each seven months. Such a growth rate is clearly too high to sustain indefinitely, but while it continues, there is room for many suppliers in the Internet access market and companies are now rushing into this market.

D
E-mail Vendors

The result of companies rushing to enter the Internet access market is that prices of on-line time are beginning to fall from the force of competition. At least one service (NetCruiser from NetComm, Inc. of San Jose, CA) offers up to 40 hours of on-line Internet time per month for $19.95 plus $2 per additional hour on-line during "prime time" (9 am to midnight ET, Monday through Friday) with unlimited free access during all non-prime time. At 50 cents per hour, price is no longer a barrier for almost anyone with a PC or Mac and the falling prices are turning E-mail and Internet access into a very consumer-oriented market.

Market leaders are still able to charge much more than this example, but competition is expected to drive all prices down to a relatively uniform and much lower level than is the case now.

Exhibit II-1

Representative List of Leading
E-mail Services Sources

Consumer-oriented: (Internet dependent)

- America On-line
- CompuServe
- Genie
- Prodigy

Business-oriented: (Not dependent on Internet)

- AT&T
- Banyan
- DEC
- IBM
- Lotus
- MCI
- Novell
- Sprint

Exhibit II-1 lists a few of the more prominent sources of E-mail service vendors. These are grouped into companies that are most focused on the consumer market and those which are generally serving larger businesses

and government agencies. Those which are consumer oriented are nearly all selling access to the Internet. The business-oriented companies generally sell access to their own established networks but include gateways to the Internet. In both cases, these companies do not really sell E-mail services, they sell network access with software to implement a group of special services including use of E-mail.

E
E-mail Selection Criteria

There is no formal set of selection criteria for government E-mail systems beyond the reasonable requirement that the system must operate on currently installed equipment. E-mail capability cannot be used to justify computer purchases. It is the other way around: a suitable computer's existence justifies the acquisition of E-mail connection.

However, the study group reporting to the Office of Management and Budget did list the characteristics to look for when acquiring E-mail capability as shown in Exhibit II-2.

Exhibit II-2

Desired Characteristics of Government E-mail Systems

• Cost effectiveness	• Reliability
• Security	• Accountability
• Ease of use	• Directories
• Connectivity/Interoperability	• Public accessibility
• Fast, quality implementation	• Performance

F
Recommendations to Vendors

These recommendations are based on the desired characteristics mentioned above, on interviews with government E-mail administrators, on INPUT's knowledge of the federal market, and on accepted practices in this market.

The growth of E-mail usage and number of new vendors make niche capabilities and quality of services of increased importance. Vendors must provide innovative services that are almost intuitive to use without any instruction manual or extensive training requirement, and they must provide these efficiently and at competitive prices.

Successful vendors will develop adaptive products to serve the diverse requirements of individual agencies. They will remain flexible enough to interconnect with networks operating under industry or de facto standards and accommodate any government standards or special requirements. And they will aggressively seek subcontracts with vendors who are responding to government requests for proposals that could include E-mail capabilities.

Two factors that are of much higher importance to government users are security and accountability. Many government offices exchange sensitive and sometimes classified correspondence. Vendors who recognize this and include provisions for handling such correspondence will be more acceptable than those who treat all E-mail as open documents. Likewise, the government's proclivity to account for usage of systems along with the mandate to report E-mail spending will favor products that include line item accounting and audit trails, and options for secure communications.

Vendors should establish strategic alliances with designated E-mail contacts throughout government to learn and understand the special needs of the federal government. Low-profile co-sponsorship of meetings or conferences for these contacts is an easy, inexpensive way to develop these alliances.

Wherever possible, proposals for office systems should include E-mail capabilities as a no-cost option with a schedule of charges for on-line time only when the capability is actually in use.

Finally, the declared intent of government to have two-way access among virtually all Americans suggests that products that are easily adapted to business, educational, and personal use and are sold to groups including state and local governments in a unified way will be leaders in the federal government E-mail market.

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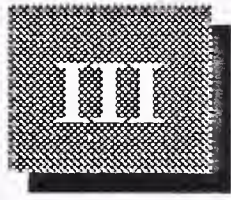
Market Analysis and Forecast

This chapter discusses INPUT's market forecast, planned government spending, and factors impacting market conditions. It also makes recommendations for vendors currently participating or considering entry into the E-mail market. For this report, E-mail is broadly defined as a communications system based on computer hardware and software to connect individuals with other individuals and with available information sources. E-mail is not bound to any particular subject or application area any more than are letters or phone calls. It is one of the least expensive methods for two-way communication between people who are properly equipped and trained for its use.

E-mail is of unusually high interest throughout government and is widely accepted by most agencies. It is also eagerly anticipated by people in agencies that haven't yet provided this capability. One main reason for this acceptance is that government groups and task forces have declared that E-mail is an enabling technology for reengineering and reinventing the federal government.

A

Market Forecast

The E-mail market is unusual. The capability to use E-mail is a small part of what is acquired by prospective users. Total centralized expenditures projected for the entire federal government are $3 million for fiscal year 1995 and $6 million for fiscal year 1996. By most government standards, these are very modest numbers but the 100 percent growth in spending from 1995 to 1996 suggests that the government sees this as a major market segment in the future.

An anticipated, centralized spending for E-mail systems is primarily for the proposed E-mail Program Office at the OMB to oversee migration to the GOSIP-compliant CCITT X.400 standards while simultaneously supporting Internet access to government-wide E-mail in cooperation with the National Institute for Standards and Technology (NIST); as well as

for the creation and maintenance of a comprehensive directory of E-mail addresses under joint leadership of the U.S. Postal Service and NASA with significant cooperation from the Departments of Energy, Agriculture, Health and Human Services, Commerce, and other major agencies. The Office of Management and Budget has overall management policy direction of centralized E-mail activities.

Exhibit III-1

Centralized Government Spending for E-mail

FY	Program Office	Value Added Services	Support Services	Directory Services	Common Components
1995	$1 M	$500 K	$500 K	$1 M	-
1996	$1 M	$1 M	$1 M	$1 M	$2 M

INPUT believes that these government spending estimates for centralized E-mail capabilities are substantially understated. For example, other needed E-mail-connected requirements identified by government working groups include security, help desks, training, public access, legal issues associated with records management, and overall system engineering. These kinds of requirements are inherently costly, particularly when they are connected with a comprehensive technology-based system that is to be usable by essentially anyone in the United States (and uncountable others). The groups who estimated these centralized spending numbers expect that much of the costs will be borne by individual agencies and may not be visible in total.

B
Total Government Market Forecast

Spending for E-mail capabilities for government employees has not and probably cannot be estimated accurately. (This should change when OMB's mandate to report E-mail spending beginning in FY 1996 becomes effective.) One reason for this inability to estimate current E-mail spending is that E-mail access is a small part of what is purchased: interactive access to a large number of information systems and databases. Another reason is that government employees are generally encouraged to provide themselves with E-mail capability and these individual or office-level purchases are for very small amounts of money. Like many office expenses, they are below the spending levels at which costs are tracked.

Exhibit III-2

Estimates of Total Agencies E-mail
Spending 1995-1999 ($ Millions)

1995	1996	1997	1998	1999
$24	$26	$28	$30	$33

The potential total spending for E-mail may be very roughly estimated as a percentage of total government spending for software and network services contracts. Exhibit III-2 shows a five year projection, assuming that E-mail amounts to one percent of this total.

The large and visible costs associated in part with E-mail are for connect time. These costs are rising as the numbers of network users rise and as the time experienced network users spend connected to networks increases. The only estimates of this spending are imputed from growth rates in the number of Internet users. This rate is currently given as about 10 percent per month. This growth rate implies a doubling of the number of users about every seven months! Such a growth rate cannot persist indefinitely, but as long as it is, the growth market associated with E-mail is for network connectivity and on-line time.

Government purchasing of E-mail products is growing at a much more modest rate with a few agencies reporting near zero growth rates in product purchases. E-mail is already used throughout most agencies. In many other agencies, E-mail has been available for many years; it is simply a matter of showing more people how to use it. (Mainframe E-mail like IBM's PROFS-mail and the VAX PMDS-mail are examples of this use of existing capabilities.) In spite of these existing capabilities, government-wide purchases of products and services to obtain E-mail capabilities are estimated to be growing at about 10-15% per year.

A large number of companies are now entering this market. All that is needed to get into business is a gateway to Internet and a relatively simple software package for PCs and Macs. A pricing-strategy of providing the software free and charging a fixed fee for some number of connect hours plus an hourly fee for excess hours is already in wide use. Because Internet connection is fast becoming a consumer market, it should not be surprising to see "price wars" develop that will reduce prices to a fairly uniform, competitive level. Survivors in such markets are typically the most efficient and innovative companies. Neither the size nor the age of a company is normally a lasting advantage.

People in and out of government who already use E-mail are actively looking for the cheaper sources of on-line access hours for themselves and

for colleagues interested in becoming E-mail, or more specifically, Internet users.

C

Defense Agency Forecast

The Department of Defense and the military services are believed to account for at least 50% of the government's E-mail usage. Some individuals estimate that DoD's total E-mail spending may be closer to 75% of the government's total but both of these percentages are more anecdotal than attributable. DoD (along with the Department of Energy and the National Aeronautics and Space Administration) is a different market than most civil agencies because a large share of the DoD/DoE/NASA traffic requires secure handling. Of DoD's E-mail products, services, and connect time spending, more than half is believed to be for secure products and services.

In addition, the DoD invented the network that became Internet in 1969 more than 30 years ago (as ARPAnet in 1961), and trained a large number of people to use E-mail as a routine part of doing their jobs. Beyond this, DoD was the first developer and sponsor of the TCP/IP communications protocols which are among the standards used by the Internet. DoD owns the wires and invented the methods to use them. It is a very sophisticated market. Explosive growth of E-mail usage in DoD, DoE, and NASA took place during the late 1980s along with the widespread adoption and use of technical workstations. It now has a very flat growth rate because it is near the practical saturation point. DoD is much more a replacement market for components of E-mail systems than it is for supplying new users.

D

E-mail Services Vendors

The first vendors in the E-mail market were mainframe manufacturers like IBM and DEC, and suppliers of technical workstations (Sun, Intergraph, DEC, et al.). Most workstations used the UNIX operating system and E-mail (more generally, network connectivity) was included as an operating system feature. Users of these workstations have long had free access through existing government networks, so spending here is limited to existing, highly specialized maintenance and upgrade contractors. Connection time to reach commercial, educational, and private sources represents the largest opportunity for suppliers entering the DoD/DoE/NASA E-mail market.

The E-mail market among most civil agencies is more like the general public market, and this government sector is now undergoing growth of

impressive, if not explosive rates. Here the market is for PC- and Mac-based systems, high-speed (usually 14,400 bps) modems, communications software, and connection time. The products most often mentioned by agency interviewees include: ATTmail, cc:mail, MS:mail, Novell GroupWise (formerly WordPerfect Office), Banyan E-mail, SuperTCP Mail, Eudora, Nupop, UNIX OFS1, and others. There are more than 1,400 E-mail products included in the trade news. It is reasonable to say that at least one copy of most of these products has been bought somewhere in government.

Connectivity services such as America On-line, CompuServe, Genie, Prodigy, and more, are also purchased, mostly on a one-at-a-time basis, throughout the government. But central buying power, availability of government owned networks, agency-wide access to Internet, and in-house training on network usage tend to limit new growth of such purchases even though there is no general prohibition against them.

A popular method for acquiring E-mail capability is through existing vehicles such as the government's "Desktop IV" and "FTS-2000" contracts. Another method of selling E-mail connectivity that is growing in popularity is inclusion of networking capabilities in operating systems or as upgrades to operating systems and office products, often at little or no initial cost, but with monthly usage charges for on-line time.

Because of the very low cost of E-mail capability to each individual, it is rare to find a government Request for Proposals (RFP) specifically for this capability. Rather, the RFP would be for communications or network services, or for office computers and software products.

E

E-mail Products and Services

The products needed to use E-mail include almost any desktop or notebook computer with a modem or connection to another computer that has access to external networks, and communications software that supports E-mail. Services include on-line connection time and training.

There are a large number of companies now furnishing these products and services. The most publicized of these vendors include America On-line, CompuServe, Genie, and Prodigy. Major communications suppliers in the government market are AT&T, MCI, and Sprint. Software suppliers are too numerous to mention. The list of companies that have expressed interests in helping the government reach its E-mail goals by responding to the E-mail working group's request for information (RFI) is impressive. They include: AT&T Communications Services; Banyan Systems; Boeing, Booz, Allen and Hamilton; CommPower; Computer

Data Systems, Inc.; Computer Sciences Corp.; Control Data Systems, Inc.; Digital Equipment Corp.; Falcon Microsystems; GTE Electronic Defense Systems; Harris Corp.; IBM Corp.; MCI Telecommunications Corp.; Oracle; Soft-Switch; Software AG; Sprint; Sterling Software; UNISYS Government Systems Group; and Wheat International Communications Corp.

IV
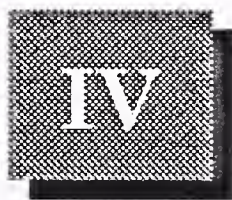
Agency Issues

This chapter covers the results of the agency surveys completed by INPUT, the government position on E-mail as presented in the "Federal Information Resources Management Directory," government activities to encourage use of E-mail as discussed in "A Unified Federal Government Electronic Mail Users Support Environment" (MUSE), and government policies being developed for E-mail systems described in the Electronic-Mail Task Force's report, "Government-wide Electronic-Mail."

A
Current Applications

The use of E-mail by the federal government has become routine in most large and many smaller agencies. Agencies and offices throughout the government have designated individuals to respond to questions from their fellow employees about the acquisition, installation, and use of the various E-mail services and products. Several agencies have as their policies the provision of desktop E-mail capability to essentially all employees. There is enthusiasm throughout government about use of E-mail.

Current applications of E-mail are much like those of interoffice phone systems and internal memoranda. The overwhelmingly number one application named was "interoffice correspondence." However, nearly all users of internal E-mail also have some electronic access to the outside world, and these connections are more and more heavily used for external correspondence. "Internet access" is widely available and it is used increasingly for contacting, conferencing, and collaborating with the outside world.

Exhibit IV-1

Government Applications of E-mail

Application	Value
1. Interoffice correspondence	High
2. Meetings	High
3. External correspondence	Medium
4. Exchange technical information	Medium
5. Learning about networks	Medium
6. Access to publications and databases	Low
7. Scheduling meetings	Low
8. Developing mailing lists	Low

It is questionable whether some of the named E-mail applications are really uses of E-mail at all. For example, accessing databases is more like an application of an information system than of a mail bag. The ubiquity and power of Internet make it difficult to compartmentalize a simple tool like E-mail. In a broad sense, nearly every use of Internet services could be categorized as a form of E-mail. The intent was to emphasize the view that E-mail is from one person to another (or to several others) rather than including database inquiries, downloads of existing files, or perusals of "canned" information, but survey respondents name database access as one of their top applications. Thus, respondents' definitions led to the listing of database access among the government's applications of E-mail.

One category of E-mail application that is quite common treads the line between a new kind of mail and a new approach to using computers and communications. That is using E-mail to reach a "help desk" for learning about the available networks and information systems. There is usually a person at each end of this usage, but the "helper" typically has a tool kit of canned responses and references to network or paper sources for full explanation of the points of interest to the one seeking help. It is like a computer-augmented human response. This category is also accepted, then, as an E-mail application.

These borderline applications are given consideration because so many people are becoming Internet users in order to exchange E-mail but then begin taking advantage of the wealth of information available. It is the resultant growth in on-line time and number of users that is explosive (estimated for Internet at about 10% per month).

B

Agency Perceptions

All agencies interviewed now use commercial, off-the-shelf software and hardware products for E-mail. Nearly all acquired E-mail capability along with some general-purpose office or network product. None reported any current projects to customize software to use E-mail.

E-mail is regarded as essential throughout the government and its acceptability rating among interviewed agencies is high: 4 on a 1-to-5 scale. The strongest criticism of E-mail was that it is sometimes difficult or impossible to connect with remote sites or with certain addresses. The most common complaint was the lack of a comprehensive directory of E-mail addresses. Agencies that are new E-mail users complained that more training was needed than had been expected. Other complaints included delays in connecting to internal communications servers; long delivery times for incoming E-mail; incorrect addresses; and receiving and interpreting encoded files.

None considered its complaints to be significant in the long term, just temporary stumbling blocks. All agencies were generally satisfied with the functioning of the myriad E-mail systems within their own agencies. One agency representative admitted that the agency's announced internal policy is that everyone in the agency is expected to get and use E-mail and that all users are free to acquire whatever E-mail service they prefer.

One limitation placed on acquisition of E-mail is that the package and service must support the computer system available to the person acquiring the capability. Outside the DoD/DoE/NASA realm, that generally means the E-mail product must be compatible with an IBM-PC or a Macintosh system.

C

Government Position on E-mail

The federal government's position on E-mail was firmed up in the "Federal IRM Directory" earlier this year. The directory contains information and policy positions on communication among agencies using E-mail. The E-mail section of this directory was expanded to include information on where to obtain help and information on the leading initiatives in the federal government. Portions of the article announcing new policy and common E-mail questions within government from this IRM directory follow. Government E-mail contacts in this directory are listed in Appendix A.

Federal IRM Directory Article extract:

> E-mail between agencies and with non-federal entities has exploded over the last year. The reasons for this include the publicity given by the Clinton Administration to the Internet and to electronic communication in general. Another reason is the establishment of E-mail initiatives by federal agencies. A growing number of agencies now have X.400 gateway or direct Internet connections that allow communication outside their organizations.

> E-mail is now essential in the federal government and is rapidly becoming a standard way to communicate along with phones and faxes. Agency E-mail contacts and addresses are now included in the IRM directory. This directory gives sources for help and for answers to questions about using E-mail to communicate outside an agency.

> Because several vendors' products are used to send mail from one individual to another in a different agency, and since standards for address formats within X.400 and Internet mail are relatively loose, there may be slight variations between the way addresses in the directory are shown and the exact way you have to enter them in your E-mail system. If you have addressing problems, ask the individual listed as the organization's E-mail contact, or call the GSA Interagency E-mail Help Desk at (816) 926-3333.

> Following are questions and answers describing a few interagency E-mail issues.

Questions Frequently Asked about E-mail by Government Users

Q: How do I communicate with other agencies via E-mail?

A: Check with your local E-mail administrator. In some cases, you may already be connected and just need to learn your local conventions for sending external mail; in other cases, you may have to ask to have external access specifically set up. To contact another agency, you and the other person must each have an X.400, Internet, or other public E-mail address (CompuServe, MCIMail, etc.). Classified and sensitive information must not be sent via E-mail unless appropriate security measures have been taken.

If you are not sure who your E-mail administrator is, check the IRM directory for your agency's E-mail contact.

Q: What is an X.400 E-mail address?

A: X.400 is an international standard for messaging (E-mail). An X.400 address contains elements (for example: "S=Smith" means "surname is Smith") that should be recognized by all X.400 compliant E-mail systems. The standard assures that each E-mail address is unique. Following is an example of an X.400 format address:

S=Smith;G=Martin;P=GOV+ITC; A=ATTMAIL; C=US

Q: What is an Internet address?

A: The Internet is the de facto electronic infrastructure for unclassified military research and education, and increasingly, for commercial and home use. It provides a great number of network services to a worldwide community. Many federal users in agencies involved in research and education have Internet access and use Internet E-mail, which is generally based on the Simple Mail Transfer Protocol (SMTP.) An SMTP address consists of two parts connected by "@". The first part is the name of a user's mailbox (usually some variation on the person's name). The second part uniquely identifies the host for that mailbox (the computer containing the mail box). This is an example of a valid Internet address:

neils@ospamm.ssw.dhhs.gov

Q: Can I send mail from X.400 address to an SMTP address on the Internet?

A: Yes. There are "gateways" between the Internet and the public commercial X.400 E-mail network (used under the FTS-2000 contract) so that messages can be exchanged between them. A user on the commercial network with an X.400 address who wants to send a message to an SMTP address on the Internet must create an X.400 address with the Internet address imbedded in it. The X.400 "envelope" gets the mail to the proper gateway, and then passes the SMTP address and the message itself to the Internet system. For example, an SMTP address being accessed from the GSA cc:Mail system using an X.400 gateway to

GSA's FTS-2000 vendor (Sprint-Telemail) would look like this:

/C=US/A=TELEMAIL/P=INTERNET/

DT=RFC-822/DV=NEILS@OSPAMM.SSW.DHHS.GOV

Other local E-mail systems may format X.400 addresses slightly differently. Contact your agency E-mail administrator for the exact format for your system.

An Internet user who wants to send a message to a user on the commercial X.400 network must create an Internet-style address with an X.400 address imbedded in it. An X.400 address (in this case on the Sprint Telemail system) being accessed from an Internet system would look something like this:

/G=martin/S=smith/O=ec/P=gov+itc/A=telemail/C=us/@SPR INT.COM

Q: Can I send attachments via E-mail to external organizations?

A: On most agency E-mail systems, the sender can add attachments, including binary attachments such as spreadsheets or word-processing documents containing non-ASCII formatting codes. For interagency E-mail over the FTS-2000 network (ATTMail and Sprint's Telemail), binary attachments may or may not be supported, depending on the capabilities of the agencies' E-mail gateways to the network. This limitation should disappear as gateways incorporating up-to-date versions of the X.400 standard are installed. For Internet (SMTP) mail, binary attachments are not supported but a more advanced Internet mail standard—MIME —does support them indirectly. Binary attachments are not supported where the sender is on the commercial network and the receiver is on the Internet, or vice versa.

Trial and error may be the quickest way to discover whether binary attachments are supported between you and a specific X.400 correspondent in another agency. Your local administrator or the GSA Help Desk may be able to advise you, too. If binary attachments are not supported, or if you or your correspondent are SMTP users, you may

have to convert attachments to a text-only (ASCII) form for transmission.

Q: How can I assure that my E-mail is filtered and I don't get junk mail?

A: It is unlikely that you will receive much electronic junk mail. One reason for this is that mail sent from a commercial network must be paid for by the sender. If junk mail becomes a problem, it can be disposed of at the touch of a keyboard and there are steps that can be taken. Rules may be implemented in the configuration of the agency's E-mail gateway software to restrict incoming mail to a list of approved senders. At the individual level, there are E-mail programs that let you program your mailbox to check sender's names, message, subject, or contents, etc., to decide if they are junk or high-priority messages, and handle them accordingly.

Q: Is an E-mail message sent between agencies private?

A: (No, but) E-mail is like other forms of communication: fax, phone calls, letters, etc. It is unlikely that messages in any of these media will be intercepted, but none of them are secure unless appropriate security techniques have been applied. E-mail must not be used for classified messages unless your agency has specifically designed an approved system for this purpose.

Q: Where can we get answers to technical questions about E-mail?

A: The Federal Information Resources Management Policy Council (FIRMPOC) has established an interagency E-mail working group. This group welcomes new members especially E-mail administrators. It is strongly recommended that every agency have at least one participant in this group. For further information call GSA's Customer Requirements Office (202) 501-0108. The working group has established a help desk to assist agencies with E-mail problems. The help desk phone number is (816) 926-3333 and its X.400 E-mail address is:

G=emailhelp;S=interagency;O=gsa2;P=gov+gsa2;

A=telemail;C=us.

Q: What are some of the major interagency or external E-mail communications initiatives in the federal government?

A: There are several major initiatives going on in addition to the FIRMPOC E-mail working group mentioned above. A description and point of contact for each follows:

OMB E-mail Task Force: The task force is developing near-term (2-5 years) and long-term (5+ years) plans for government-wide E. For further information contact Dr. Neil Stillman (202) 690-6162.

National Performance Review, E-mail Laboratory: In partnership with the National Performance Review, GSA is sponsoring a reinvention laboratory with the participation of federal government "pilot groups". GSA will establish "action plans" for pilot groups to move from their current paper processes to electronic mail and will assist them in measuring results. For further information contact (202) 501-0108.

Americans Communicating Electronically: ACE is a group of volunteer citizens, both inside and outside the Federal government, dedicated to open access to information and learning from every home and community across America. For further information contact Tom Tate (202) 720-7155 or E-mail info@ace.esuda.gov.

GSA Agency Procurement Request (APR) Process: GSA desk officers use X.400 messaging to communicate information that GSA and agencies use regarding APRs and Delegations of Procurement Authority. For further information, contact Les Sitzes (202) 501-2392 or E-mail: /C=US/A=TELEMAIL/P=GOV+GSA2/O=GSA/ G=LES/S=SITZES

D

A Unified Federal Government E-mail Support Environment

This section is based on conclusions in the report of a working group on government-wide E-mail of December 1993. The report is in three volumes: Vol. I-Questions and Answers for Agency Personnel; Vol. II-Scenarios; and Vol. III-Operational Characteristics of the E-mail Users Environment. (This report is now mainly of historical interest. It may be downloaded in its entirety through the Internet.) The gist of this report follows.

Information technology professionals from several executive branch departments and agencies prepared the report to bring about a major innovation in the way the government conducts its business and delivers services. The agencies represented included: NSA, EPA, USPS, DOT, Treasury, DoD, USDA, DOI, VA, DOC, AID, GSA, GSA, DOJ, HHS, and NASA. The group worked under the auspices of the Integrated Services Panel, an interagency activity sponsored by the Federal Information Resources Management Policy Council.

A draft report was widely reviewed and the group interviewed senior managers in twelve executive branch organizations to understand plans and needs for electronic services in re-engineering business processes from paper to electronics.

The final report is significant because it encourages government-wide adoption of electronic means of communication for service delivery and for performance of government activities. The new delivery mechanism was seen as important throughout government and it included transition to electronic commerce.

The working group took one established form of electronic communication and viewed it across all agencies and branches of the government. The technology involved was recognized as being so powerful that implementing one capability, E-mail, in a unified way across all agencies could make an enormous impact on the productivity of the government and the speed and quality of its service delivery activities. The investment in E-mail was expected to be paid back many-fold in greatly improved services, in substantially reduced costs of delivering those services, and in such benefits as major reductions in paperwork burdens on business.

The report supported many of the National Performance Review (NPR) recommendations and the recommended actions for a National Information

Infrastructure (NII). It described a communications environment needed for electronic commerce as was called for in the President's memorandum, "Streamlining Procurement Through Electronic Commerce." Adoption and use of E-mail was accepted as one of the few single initiatives which could make a great contribution to reaching the goals of the NPR.

The report defined E-mail as follows: "Electronic Mail, or Messaging refers to a specific technology or manner of communication. Information in one form or another is put into an electronic "envelope" and sent through the electronic equivalent of the postal system. This is called a "store and forward" arrangement because the information is sent to a service point where it is momentarily stored while the service point is

determining what should be done with it. The service point then forwards it to another service point, where the process is repeated until the information reaches its final destination."

This is a very postal-system-oriented definition that is more restrictive than what E-mail now includes. But the broadening of the definition is quite consistent with the spirit of the year-old report. The intent was to set in place a capability that encouraged much more than just simple correspondence. It has clearly succeeded in this regard.

The E-mail process was recognized as useful for many different purposes or applications. These were seen to include such uses as interactive transaction processing like those used for banking applications, ticket reservation applications, retail sales applications, and many governmental applications such as motor vehicle registration. E-mail was accurately viewed as an incredibly versatile process with respect to the applications for which it can be used. E-mail was not seen as being limited to interpersonal messages.

The E-mail process was also seen as being extremely important. The capability to move information electronically the way the postal system moves paper mail was and is expected to lead to the re-engineering of business activities to send data electronically instead of on paper. The new activities and re-engineered processes were dubbed "mail-enabled applications." These new or re-engineered applications were considered possible only to the extent that the E-mail environment could support them

The working group, its reviewers and sponsors reached the conclusion that government agencies should immediately begin to encourage wide use of E-mail throughout all of their diverse offices and branches and should include the facilities needed to allow direct electronic contacts with businesses and ordinary citizens. This gave the necessary impetus to acquire and use E-mail capabilities to solve real problems through free exchange of E-mail with all others.

E

Recommended Government Actions Through FY 1996

This section is primarily based on the "Government-wide Electronic Mail for the Federal Government" report of the interagency E-mail Task Force prepared by the Office of Management and Budget and published in April 1994. This group was tasked to achieve six goals:

- Identify support for, provide advice to, and evaluate the results of E-mail pilot projects underway.

- Issue a Request for Information to industry outlining challenges faced by the government in its progress toward use of E-mail, and asking for possible technical solutions from industry.

- Analyze federal use of Internet and assess its potential contribution to meet government E-mail requirements, and coordinate proposals with the "High Performance Computing" initiative.

- Develop a two-year program plan to assist agencies in improving their capabilities for E-mail and electronic commerce.

- Develop options for long-term government-wide electronic commerce.

- Identify technical, administrative, and policy issues that need resolution.

There is essentially no disagreement between the conclusions of this group and those in the preceding section. This group met the assigned goals and issued several recommendations (see Exhibit IV-2) to the Office of Management and Budget:

Exhibit IV-2

Recommended Government Actions

- Electronic Government
- Government-wide Connectivity
- Government-wide Standards
- Public Access
- Government-wide E-mail Directory
- E-mail Policy
- E-mail Program Office
- E-mail Management Council
- Funding

Electronic Government

OMB should promote use of the existing E-mail infrastructure for conducting interagency business; distribution of reports; briefings; memoranda; policy, and so forth. OMB should take the initiative to establish a "Program for E-mail Priorities" (PEP) and designate lead agencies to address categories such as business processes, contracting, hiring, grant applications, etc.

Government-wide E-mail Connectivity

OMB should require all agencies to connect 75 percent of their workstations to networks by the end of 1995 and 100 percent by the end of 1996, and require that all access to E-mail services for all future workstations assure that the E-mail infrastructure is as fully and widely available as telephones are now.

Government-wide E-mail Standard

OMB should work with the National Institute for Standards and Technology (NIST) to establish an E-mail standard based on the CCITT X.400 message handling system. The government should immediately adopt the DoD Defense Message System (DMS) operational characteristics specifications as a basis for business-quality, government-wide E-mail. Require agency and contractor supported E-mail gateways to be in compliance with government E-mail standards by June 1996, 18 months after award of the DMS contract. DoD should work with vendors to speed development of DMS-compliant commercial products that will maximize utility of X.500 directories by connecting desktop LAN-based systems with a distributed X.500 directory.

Public Access

OMB should direct establishment of common service delivery standards for access to a broad range of government services and E-mail communication to private citizens.

Government-wide E-mail Directory

OMB should assist development of advanced directories of E-mail addresses by requiring all agencies' Senior IRM Officials to provide requested internal E-mail addresses in electronic format when requested and to provide updates at least monthly.

E-mail Policy

OMB should provide a model policy for effective and efficient use of E-mail which agencies can use to formulate policies that are appropriate to their own circumstances.

E-mail Program Office

OMB should direct establishment of a program office with governmentwide responsibility, resources, and authority to facilitate implementation, maintenance, and support of government-wide E-mail.

E-mail Management Council

OMB should charter an interagency council to provide management direction and oversight to the E-mail Program Office.

Funding for Government-wide E-mail

OMB should issue specific budget guidance to include and highlight internal funding of E-mail in agencies' FY 1996 budget requests. OMB should identify a dedicated appropriation fund to the E-mail Program Office and for other common-use resources needed to implement E-mail throughout government. Some resources and services may be billed to agencies.

Finally, this working group enumerated ten desired characteristics of government E-mail systems. These are easily understandable so they are listed here without further explanation:

Exhibit VI-3

Desired Characteristics of Government E-mail Systems

• Cost effectiveness	• Reliability
• Security	• Accountability
• Ease of use	• Directories
• Connectivity/Interoperability	• Public accessibility
• Fast, quality implementation	• Performance

Blank

V
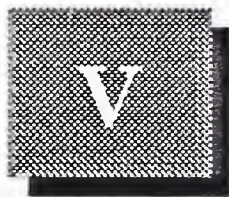
Responses to INPUT's Survey of E-mail Administrators

This chapter presents responses to the INPUT survey that were not addressed in earlier chapters. It is clear from these responses that there is wide acceptance of E-mail and that problems with using it are not very significant.

The location of E-mail addresses and translating them from, particularly, the X.400 standard to Internet addresses is problematic. It should be mentioned that 42 of the 98 E-mail administrators listed in Appendix E have published Internet addresses while only 24 give X.400 addresses (not published in the appendix). Of these 24 with X.400 addresses, 13 also gave Internet addresses. It is both interesting and telling that 43 of the named E-mail administrators don't have (or didn't publish) any E-mail address. A few gave only their internal network's addresses (not published). The government clearly has a long way to go to get to 100 percent availability.

Exhibit V-1

Problems Reported by E-mail Users

Problem	Severity
Addressing	Major
Connectivity	Moderate
Decoding or translating	Moderate
Delays	Moderate
Training	Minor

Following are the gist of the survey questions for which a numeric response was requested along with an average of all responses. Some responses may appear inconsistent when compared to others. For example, the second most severe problem shown in Exhibit V-1 is

"connectivity," but when asked how severe the problems are with external and internal connectivity (below), both were assessed as almost no problem at all. This could be interpreted as, "We have connectivity problems often but they aren't significant, or are solved quickly."

Exhibit V-2 shows these questions along with the averages of their responses without futher comment.

Exhibit V-2

E-mail Q&A

Question	Response
Do you like E-mail?	No 1--------2---------3---------4-----|---5 Yes
Do you have problems getting people started using E-mail?	None 1--------2--------3---------4|--------5 Many
How widely used is E-mail?	None 1--------2--------3------|--4---------5 Many
Do you use E-mail at home or away from your office?	No 1---------2----|---3---------4--------5 Yes
What is the growth rate of E-mail in your agency?	None 1--------2--|------3--------4--------5 Rapid
Does your agency have specific policies, rules, standards for acquiring or using E-mail?	None 1---------2-|------3---------4--------5 Many
Do you get "junk" E-mail?	None 1-----|---2--------3---------4--------5 Many
Do you have connectivity problems	
--Externally?	None 1-----|---2--------3---------4--------5 Many
--Internally?	None 1----|----2--------3---------4--------5 Many

A
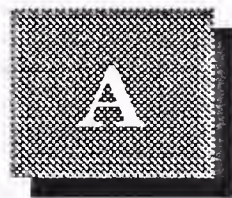
Federal E-mail Contacts

E-mail addresses provided in the IRM directory are already largely out of date. When E-mail connectivity problems are encountered, try the person's voice phone number. If this is invalid, contact the locator for the agency of interest.

AGENCY/ NAME/ E-MAIL ADDRESS	PHONE	FAX
ACTION		
Gregory Dutton	202-606-5191	202-606-5127
Agency for International Development		
Ken Roko	703-875-1805	703-875-1960
kroko@usaid.gov		
Agriculture, Department of		
Craig S. Leavitt	202-720-8246	202-720-8274
cleavitt@sies.wsc.ag.gov		
Architect of the Capitol		
Richard A. Kashurba	202-228-9586	202-228-1893
Arms Control and Disarmament Agency		
Mark E. LeBlanc	202-647-2792	202-736-4446
mel@cais.com		
Army, Department of the		
James King	703-285-6004	703-614-9249
king@pentagon-1dms2.army.mil		
Bureau of Land Management		
Michael Nedd	202-452-0301	202-452-0322
Bureau of Mines		
Sam McCormick	303-236-4832	
SPM@OPN.USBM.GOV		

Bureau of Prisons
Neil Nichols   202-514-5967

Bureau of Reclamation
Norma Schmidt

Centers for Disease Control
Christopher Lynberg   404-639-1385   404-639-1733
CAL5@OPSIRM1.EM.CDC.GOV

Commerce, Department of
Alexander Mutschall   202-482-0224
AlexMutschall@TSD@OIRM

Comptroller of the Currency
John Englund   202-874-4600

Congressional Budget Office
Stacy Newman   202-226-2812   202-226-2601
stacy.sdru@cbo.gov

Consumer Product Safety Commission
Carl Truszynski   301-504-0445   301-504-0122

Customs Service
James J. Ryan   703-440-6086   703-440-6196

Defense, Department of
Frederick Ziegler   703-614-9234
fziegler@mh1.js.mil

Defense Finance and Accounting Service
Bart Hewitt   703-692-5535
Hewittb@cc.ims.disa.mil

Education, Department of
Ernest Graf   202-708-8295   202-708-9346
Ernie_Graf@doed.gov

Energy, Department of
Steven P. Hackman   301-903-6111   301-903-6223
steven.hackman@hq.doe.gov

Environmental Protection Agency
Sandra Martin   202-260-5220
MARTIN.SANDY@EPAMAIL.EPA.GOV

Equal Employment Opportunity Commission
Bill Morris   202-663-4239

Federal Aviation Administration
Kathy Weiner   202-267-8287

Federal Communications Commission
George Lewis   202-254-6040

Federal Crimes Enforcement Network
Emile Beshai   703-905-3597

Federal Energy Regulatory Commission
Timothy Campbell   202-208-0300   202-208-2425

Federal Highway Administration
Lawrence I. Neff   202-366-1212   202-366-3235
lneff@intergate.dot.gov

Federal Labor Relations Authority
Debra L. Bruce   202-482-6690   202-482-6635

Federal Law Enforcement Training Center
Patricia Pike   912-267-2700

Federal Maritime Commission
Vickie Carlisle   202-653-8031   202-653-5247

Federal Reserve Board of Governors
Day W. Radebaugh   202-452-2052
radebaud@frb.gov

Federal Retirement Thrift Investment Board
Jack Best   202-942-1490   202-942-1675

Federal Trade Commission, E-mail
F. Michael Frank   202-326-2217
mike.frank@wpo.ftc.gov

Federal Transit Administration
Kevin Inman   202-366-0452
inmank@tad.dot.gov

Financial Management Service
James Varner   202-874-8237

Fish and Wildlife Service
Brenda McCoy　　　　　　　　　　　　　303-236-8217
McCoyB@mail.fws.gov

Food and Drug Administration
James Davis　　　　　　　　　　　　　301-443-2426
JDAVIS1@FDAEM.SSW.DHHS.GOV

General Services Administration
Marion Royal　　　　　　　　　　　　　202-501-1834
marion.royal@gsa.gov

Geological Survey, U.S.
Paul Celluzzi　　　　　　　　　　　　　703-648-7113
PCELLUZZ@usgs.gov

Government Printing Office
Donald R. Schumann　　　　　　　　202-512-2002　　202-512-1270

Health and Human Services, Department of
John R. Carrick　　　　　　　　　　301-594-1439　　301-594-3212
JCARRICK@Po7.AHCPR.GOV

Health Resources and Services Administration
Lynn Wiley　　　　　　　　　　　　301-443-5036

House of Representatives, U.S.
Doreen Albiston　　　　　　　　　　202-225-0801
Memory Sherard　　　　　　　　　　202-226-6193
msherard@hr.house.gov

Housing and Urban Development, Department of,
Edith Pembleton　　　　　　　　　　202-708-9008
edith_m._pembleton@hud.gov

Indian Health Service
Richard O. Crooke　　　　　　　　　301-443-2554　　301-443-7279

Information Agency, U.S.
David Horak　　　　　　　　　　　　202-619-4306
DHorak@USIA.GOV

Inter-American Foundation
Randa Nour　　　　　　　　　　　　703-841-7466　　703-527-3520

Interior, Department of
John Jones　　　　　　　　　　　　202-208-3021

Internal Revenue Service
Andre Whatley   202-927-5240

Immigration and Naturalization Service
Dave Fickett   202-514-8986   202-514-6884

Joint Financial Management Improvement Program
Frank Kramer   202-376-5415

Justice, Department of
Andy J. Boots   202-514-5440
boots@justice.usdoj.gov

Maritime Administration
Terry V. Jones   202-366-0060

Merit Systems Protection Board
William McDermott   202-653-8878

Minerals Management Service
Sharon Teger   703-787-1263

Mint
Manuel Lavelle   202-874-5882

National Academy of Sciences
Ron Lineman   202-334-3419
RLINEMAN@NAS.EON

National Aeronautics and Space Administration
Andrew Schain   202-358-0066   202-358-3010
ASchain@hq.nasa.gov

National Archives and Records Administration
Stephen Hannestad   301-713-6750   301-713-6910
Larry Hines   301-713-6730
larry.hines@arch2.nara.gov

National Commission on Libraries and Information Science
Peter R. Young   202-606-9200   202-606-9203
PY_NCLIS@inet.ed.gov

National Endowment for the Arts
Nona Milstead   202-682-5754

National Institute of Standards and Technology
Stephen White   301-975-3824   301-963-9137
white@cam.nist.gov

National Institute of Standards and Technology
Linda Pelleu   301-975-3815
ljp@enh.nist.gov

National Labor Relations Board
Samuel Z. Markman   202-273-4030   202-273-4266

National Oceanic and Atmospheric Administration
Clarence Beale   301-763-6300   301-763-6365
cgbeal@rdc.noaa.gov

National Park Service
Thomas Thacher   202-343-4403   202-343-4418

National Railroad Passenger Corporation
George Ray   202-906-4197   202-906-4244

Nuclear Regulatory Commission
James Schaeffer   301-492-9832

National Science Foundation
Anthony Centodocati   703-306-1142   703-306-0234
acentodo@note.nsf.gov   x4612
Mitch Crawford
mcrawfor@nsf.gov

National Telecommunications and Information Administration
Sarah Maloney   202-482-1835   202-482-0979
SMaloney@NTIA.DOC.GOV

Navy, Department of the
LCDR N. Tsougas   703-602-2103

Office of Management and Budget
Paul Tisdale   202-395-5743

Office of Personnel Management
Ivy Ingram   912-744-2110   912-744-2098

Office of the U.S. Trade Representative
Jeff Verbeten   202-395-4990

Office of Surface Mining Reclamation and Enforcement
Charlene von Pawel   202-208-2908

Panama Canal Commission, Panama Office
C.J. Goodwin, Jr.507-52-3460
Panama Canal Commission, DC Office
Linda Towen202-634-6441

Patent and Trademark Office
Kathryn Mihalich703-305-9315703-305-9369

Pension Benefit Guaranty Corporation
Susan Siwerzann202-326-4133

Postal Rate Commission
Cyril J. Pittack202-789-6840202-789-6861

Public Health Service
William Kibby301-443-6420301-443-1823
WKIBBY@OASH.SSW.DHHS.GOV

Railroad Retirement Board
Joseph Hammon, Jr.312-751-4730

Research and Special Programs Administration
Robert Lewis202-366-0091

Secret Service
Thomas Wiesner202-435-5729

Securities and Exchange Commission
Gregory Cobert202-272-3639

Selective Service System
Lenwood Lloyd703-235-2392

Senate, U.S.
John McConnell202-224-2233

Small Business Administration
Diane Gannon202-205-6253

Smithsonian Institution
John Moreci202-357-4949202-357-1462

Social Security Administration
Sharon Thompson410-965-5842410-965-4110
STHOMPSON@SSA.SSW.DHHS.GOV

Substance Abuse and Mental Health Services Administration
Charles Novak301-443-3717

Tennessee Valley Authority
Steven M. Bibee   615-751-2021   615-751-3163
tva!dbeqaz.office@mhs.attmail.com

Transportation, Department of
Jonni Burnham   202-366-5426
JBURNHAM@DOTNEWS.DOT.GOV (or)

Transportation, Department of
Greg Jaeger   202-366-6301

Transportation., Headquarters
John D. Gump   202-366-6371
JGUMP@nhtsa.DOT.GOV (or)

Travel and Tourism Administration
Sandra Taylor   202-482-3811
Sandra Taylor@Admin@USTTA

Treasury, Department of the
Brian Carmen   202-622-1598

Veterans Affairs, Department of
Nada D. Harris   202-233-2275   202-208-1975
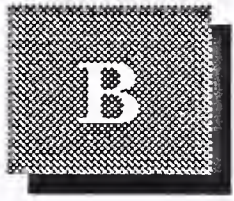
Glossary of Federal Abbreviation

The federal government's procurement language uses a combination of abbreviations, acronyms, phrases and words that is complicated by different agency definitions and interpretations. The government also uses terms of accounting, business, economics, engineering and law with new applications and technology.

Abbreviations and contract terms that INPUT encountered most often in program documentation and interviews for this report are included here, but this glossary should not be considered all-inclusive. Federal procurement regulations (DAR, FPR, FAR, FIRMR, FPMR) and contract terms listed in RFIs, RFPs, and RFQs provide applicable terms and definitions.

Federal agency abbreviations have been included to the extent they are employed in this report.

A

Federal Agency Abbreviations

AAS	Automatic Addressing System
AATMS	Advanced Air Traffic Management System
ACS	Advanced Communications Satellite (formerly NASA 30/20 GHz Satellite Program)
ACT-1	Advanced Computer Techniques (Air Force)
ACWP	Actual Cost of Work Performed
Ada	DoD high-order language
ADA	Airborne Data Acquisition

ADL	Authorized Data List
ADNET	Anti-Drug Network
ADS	Automatic Digital Switches (DCS)
AFA	Air Force Association.
AFCEA	Armed Forces Communications Electronics Association
AFR	Air Force Regulation
AGE	Aerospace Ground Equipment
AIP	Array Information Processing
AIPC	Automated Information Processing Center
AIS	Automated Information System
AMD	Acquisition Management Directorate
AMPE	Automated Message Processing Equipment
AMPS	Automated Message Processing System
AMSDL	Acquisition Management Systems Data List
ANG	Army National Guard
AP(P)	Advance Procurement Plan
Appropriation	Congressionally approved funding for authorized programs and activities of the Executive Branch
APR	Agency Procurement Request
ARB	Acquisition Review Board
ARPANET	DARPA network of scientific computers
ASP	Aggregated Switch Procurement
ASR	Acquisition Strategy Report

ATLAS	Abbreviated Test Language for All Systems (for ATE Automated Test Equipment)
Authorization	In the legislative process programs, staffing and other routine activities must be approved by Oversight Committees before the Appropriations Committee will approve the money from the budget.
AUSA	Association of the U.S. Army
BA	Basic Agreement or Budget Authority
BAFO	Best And Final Offer
Base level	Procurement, purchasing, and contracting at the military installation level
BCA	Board of Contract Appeals
BCE	Baseline Cost Estimate
Benchmark	Method of evaluating ability of a candidate computer system to meet user requirements
Bid protest	Objection (in writing, before or after contract award) to some aspect of a solicitation by a valid bidder
BML	Bidders Mailing List qualified vendor information filed annually with federal agencies to automatically receive RFPs and RFQs in areas of claimed competence
BOA	Basic Ordering Agreement
B&P	Bid and Proposal vendor activities in response to government solicitation/specific overhead allowance
BPA	Blanked Purchase Agreement
Budget	Federal Budget, proposed by the President and subject to Congressional review

BY	Budget Year or Base Year
C2	Command and Control
C3	Command, Control and Communications
C4	Command, Control, Communications and Computers
C3I	Command, Control, Communications and Intelligence
CAB	Contract Adjustment Board or Contract Appeals Board
CADE	Computer-Aided Design and Engineering
CADS	Computer-Assisted Display Systems
CAIS	Computer-Assisted Instruction System
CALS	Continuous Acquisition and Life-cycle Support (formerly, Computer-Aided Acquisition and Logistics Support)
CAPS	Command Automation Procurement Systems
CAS	Contract Administration Services or Cost Accounting Standards
CASB	Cost Accounting Standards Board
CASP	Computer-Assisted Search Planning
CBD	(Commerce Business Daily) U.S. Department of Commerce publication listing government contract opportunities and awards
CBO	Congressional Budget Office
CCEP	Commercial Comsec Endorsement Program
CCDR	Contractor Cost Data Reporting
CCN	Contract Change Notice or Configuration Change Notice

CCPDS	Command Center Processing and Display Systems
CCPO	Central Civilian Personnel Office
CDA	Central Design Activity
CDR	Critical Design Review
CDRL	Contractor Data Requirement List
CFE	Contractor-Furnished Equipment
CFM	Contractor Furnished Material
CFR	Code of Federal Regulations
CICA	Competition in Contracting Act (1984)
CIG	Computerized Interactive Graphics
CIM	Corporate Information Management or Center for Information Management
CINCs	Commanders-in-Chief
CIR	Cost Information Reports
CM	Configuration Management
CMI	Computer-Managed Instruction
CNI	Communications, Navigation and Identification
CO	Contracting Office, Contract Offices, Contracting Officer or Change Order
COC	Certificate of Competency (administered by the Small Business Administration) or Certificate of Compliance
COCO	Contractor-Owned, Contractor-Operated
CODSIA	Council of Defense and Space Industry Associations

COMSAT	Communications Satellite Corporation
CONUS	Continental United States
COP	Capability Objective Package
COSMIC	Computer Software Management Information Center (NASA)
COTR	Contracting Officer's Technical Representative
COTS	Commercial Off-The-Shelf (Commodities)
CP	Communications Processor
CPAF	Cost-Plus-Award-Fee Contract
CPFF	Cost-Plus-Fixed-Fee Contract
CPIF	Cost-Plus-Incentive-Fee Contract
CPR	Cost Performance Reports
CPSR	Contractor Procurement System Review
CR	Cost Reimbursement (Cost-Plus Contract)
CSA	Combat or Computer Systems Architecture
CSIF	Communications Services Industrial Fund
C/SCSC	Cost/Schedule Control System Criteria (also called "C-Spec")
CWAS	Contractor Weighted Average Share in Cost Risk
CWBS	Contract Work Breakdown Structure
DAB	Defense Acquisition Board
DABBS	Defense Acquisition Bulletin Board System
DAC	Defense Acquisition Circular
DAL	Data Accession List

DAR	Defense Acquisition Regulations
DARC	Defense Acquisition Regulatory Council
DARPA	Defense Advanced Research Projects Agency
DAS	Data Acquisition System
DBHS	Data Base Handling System
DBOF	Defense Business Operating Fund
DCA	Defense Communications Agency (see DISA)
DCAA	Defense Contract Audit Agency
DCAS	Defense Contract Administration Services
DCASR	DCAS Region
DCC	Digital Control Computer
DCS	Defense Communications System
DDA	Dynamic Demand Assessment (Delta Modulation)
DDC	Defense Documentation Center
DDL	Digital Data Link - A segment of a communications network used for data transmission in digital form
DDS	Defense Distribution System
DECCO	Defense Commercial Communications Office
DECEO	Defense Communications Engineering Office
D&F	Determination and Findings required documentation for approval of a negotiated procurement
DFARS	DoD FAR Supplement
DFAS	Defense Finance and Accounting Service

DIA	Defense Intelligence Agency
DISA	Defense Information Systems Agency (Formerly DCA)
DHHS	Department of Health and Human Services
DIDS	Defense Integrated Data Systems
DISC	Defense Industrial Supply Center
DITSO	Defense Information Technology Systems Office
DLA	Defense Logistics Agency
DMA	Defense Mapping Agency
DMR	Defense Management Review
DMRD	Defense Management Review Decision
DNA	Defense Nuclear Agency
DO	Delivery Order
DOA	Department of Agriculture (also USDA)
DOC	Department of Commerce
DoD	Department of Defense
DoDD	Department of Defense Directive
DOE	Department of Energy
DOI	Department of Interior
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
DPA	Delegation of Procurement Authority (granted by GSA under FPRs)
DPC	Defense Procurement Circular

DPF	Defense Processing Facility
DQ	Definite Quantity Contract
DQ/PL	Definite Quantity/Price List Contract
DR	Deficiency Report
DRFP	Draft Request For Proposal
DSCS	Defense Satellite Communication System
DSN	Defense Switched Network
DSP	Defense Support Program (WWMCCS)
DSS	Defense Supply Service
DTC	Design-To-Cost
DTIC	Defense Technical Information Center
DTN	Defense Transmission Network
DVA	Department of Veterans Affairs
ECP	Engineering Change Proposal
ED	Department of Education
EEO	Equal Employment Opportunity
8(a) Set-Aside	Agency awards direct to Small Business Administration for direct placement with a small, socially/economically disadvantaged company
EMC	Electro-Magnetic Compatibility
EMCS	Energy Monitoring and Control System
EO	Executive Order issued by the President
EOQ	Economic Ordering Quantity
EPA	Economic Price Adjustment

EPA	Environmental Protection Agency
EPMR	Estimated Peak Monthly Requirement
EPS	Emergency Procurement Service (GSA) or Emergency Power System
ETR	Estimated Time to Repair
ESTSC	Energy Science and Technology Software Center (DOE)
EUC	End-User Computing, especially in DoD
FA	Formal Advertising
FAC	Federal Acquisition Circular
FAR	Federal Acquisition Regulations
FCA	Functional Configuration Audit
FCC	Federal Communications Commission
FCDC	Federal Contract Data Center
FCPC	Federal Computer Products Center.
FCRC	Federal Contract Research Center
FDPC	Federal Data Processing Center
FDR	Formal Design Review
FEDSIM	Federal (Computer) Simulation Center (GSA)
FEMA	Federal Emergency Management Agency
FFP	Firm Fixed-Price Contract (also Lump Sum Contract)
FFRDC	Federally Funded Research & Development Center
FIPR	Federal Information Processing Resource
FIPS	Federal Information Processing Standard

FIPS PUBS	FIPS Publications
FIRMR	Federal Information Resource Management Regulations
FMS	Foreign Military Sales
FOC	Full Operating Capability
FOIA	Freedom of Information Act
FP	Fixed-Price Contract
FPAF	Fixed-Price Award Fee
FPIF	Fixed-Price Incentive Fee
FP-L/H	Fixed-PriceLabor/Hour Contract
FP-LOE	Fixed-PriceLevel-Of-Effort Contract
FPMR	Federal Property Management Regulations
FPR	Federal Procurement Regulations
FSC	Federal Supply Classification
FSG	Federal Supply Group
FSN	Federal Stock Number
FSS	Federal Supply Schedule or Federal Supply Service (GSA)
FSTS	Federal Secure Telecommunications System
FT Fund	A revolving fund, designated as the Federal Telecommunications Fund, used by GSA to pay for GSA-provided common-user services, specifically including the current FTS and proposed FTS 2000 services
FTSP	Federal Telecommunications Standards Program administered by NCS; Standards are published by GSA

FTS	Federal Telecommunications System
FTS 2000	Replacement of the Federal Telecommunications System
FY	Fiscal Year
FYDP	Five-Year Defense Plan
G&A	General and Administrative (Expense)
GAO	General Accounting Office
GFE	Government-Furnished Equipment
GFM	Government-Furnished Material
GFY	Government Fiscal Year (October to September)
GIDEP	Government-Industry Data Exchange Program
GOCO	Government Owned, Contractor Operated
GOGO	Government Owned, Government Operated
GOSIP	Government Open Systems Interconnection Profile
GPO	Government Printing Office
GPS	Global Positioning System
GRH	Gramm-Rudman-Hollings Act (1985), also called Gramm-Rudman Deficit Control
GS	General Schedule
GSA	General Services Administration
GSBCA	General Services Administration Board of Contract Appeals
HAC	House Appropriations Committee
HASC	House Armed Services Committee
HCFA	Health Care Financing Administration

HHS	(Department of) Health and Human Services
HOL	Higher Order Language
HPA	Head of Procuring Activity
HSDP	High-Speed Data Processors
HUD	(Department of) Housing and Urban Development
I-CASE	Integrated Computer-Aided Software Engineering
IAR	Senior IRM Official
ICA	Independent Cost Analysis
ICAM	Integrated Computer-Aided Manufacturing
ICE	Independent Cost Estimate
ICP	Inventory Control Point
ICST	Institute for Computer Sciences and Technology, National Institute of Standards and Technology, Department of Commerce
IDA	Institute for Defense Analysis
IDAMS	Image Display And Manipulation System
IDEP	Interservice Data Exchange Program
IDIQ	Indefinite Delivery, Indefinite Quantity
IDN	Integrated Data Network
IFB	Invitation For Bids
IOC	Initial Operating Capability
IOI	Internal Operating Instructions
IPS	Integrated Procurement System
IQ	Indefinite Quantity Contract

IR&D	Independent Research & Development
IRM	Information Resources Management
IXS	Information Exchange System
IV&V	Independent Verification & Validation
JCS	Joint Chiefs of Staff
JCALS	Joint Computer-Aided Acquisition and Logistics Support
JFMIP	Joint Financial Management Improvement Program
JIT	Just-In-Time
JOCIT	Jovial Compiler Implementation Tool
JPO	Joint Program Office
JSIPS	Joint Systems Integration Planning Staff
JSOP	Joint Strategic Objectives Plan
JSOR	Joint Service Operational Requirement
JUMPS	Joint Uniform Military Pay System
JWAM	Joint WWMCCS ADP Modernization (Program)
LC	Letter Contract
LCC	Life Cycle Cost
LCMP	Life Cycle Management Procedures (DD7920.1)
LCMS	Life Cycle Management System
L-H	Labor-Hour Contract
LOI	Letter of Intent; Letter of Instruction
LRPE	Long-Range Procurement Estimate
LRIRP	Long-Range Information Resource Plan

LTD	Live Test Demonstration
LSI	Large-Scale Integration
MAISRC	Major Automated Information Systems Review Council (DoD)
MANTECH	Manufacturing Technology
MAPS	Multiple Address Processing System
MAP/TOP	Manufacturing Automation Protocol/Technical and Office Protocol
MASC	Multiple Award Schedule Contract
MDA	Multiplexed Data Accumulator
MENS	Mission Element Need Statement or Mission Essential Need Statement (see DD-5000.1 Major Systems Acquisition)
MILSCAP	Military Standard Contract Administration Procedures
MIL SPEC	Military Specification
MIL STD	Military Standard
MIPR	Military Interdepartmental Purchase Request
MLS	Multilevel Security
MNF	Multi-National Force
MOD	Modification
MOL	Maximum Ordering Limit (Federal Supply Service)
MPC	Military Procurement Code
MTBF	Mean-Time-Between-Failures
MTTR	Mean-Time-To-Repair

MYP	Multi-Year Procurement
NARDIC	Navy Research and Development Information Center
NASA	National Aeronautics and Space Administration
NBS	National Bureau of Standards (replaced by NIST)
NCA	National Command Authorities
NCMA	National Contract Management Association
NCS	National Communications System (evolving to DISN)
NDI	Non-Development Item
NICRAD	Navy-Industry Cooperative Research and Development
NIP	Notice of Intent to Purchase
NIST	National Institute of Science and Technology (was NBS)
NMCS	National Military Command System
NSA	National Security Agency
NSEP	National Security and Emergency Preparedness
NSF	National Science Foundation
NSIA	National Security Industrial Association
NTIA	National Telecommunications and Information Administration, Department of Commerce; (replaced the Office of Telecommunications Policy in 1970)
NTIS	National Technical Information Service
Obligation	"Earmarking" of specific funding for a contract from committed agency funds

OA	Obligational Authority
OBE	Overcome By Events
OCS	Office of Contract Settlement
OFCC	Office of Federal Contract Compliance
Off-Site	Services to be provided near but not in government facilities
OFMP	Office of Federal Management Policy (GSA)
OFPP	Office of Federal Procurement Policy
OIRM	Office of Information Resources Management
O&M	Operations & Maintenance
OMB	Office of Management and Budget
O,M&R	Operations, Maintenance and Readiness
On-Site	Services to be performed on a government installation or in a specified building
OPM	Office of Procurement Management (GSA) or Office of Personnel Management
Options	Sole-source additions to the base contract for services or goods to be exercised at the government's discretion
OSADBU	Office of Small and Disadvantaged Businesses.
OSHA	Occupational Safety and Health Act
OSI	Open System Interconnect
OSP	Offshore Procurement
OTA	Office of Technology Assessment (Congress)
Out-Year	Proposed funding for fiscal years beyond the budget year (next fiscal year)

P-1	FY Defense Production Budget
P3I	Pre-Planned Product Improvement (program in DoD)
PAR	Procurement Authorization Request or Procurement Action Report
PAS	Pre-Award Survey
PASS	Procurement Automated Source System
PCO	Procurement Contracting Officer
PDA	Principal Development Agency
PDM	Program Decision Memorandum
PDR	Preliminary Design Review
PIR	Procurement Information Reporting
PME	Performance Monitoring Equipment
PMP	Purchase Management Plan
PO	Purchase Order or Program Office
POE	Panel Of Experts
POM	Program Objective Memorandum
POSIX	Portable Open System Interconnection Exchange
POTS	Purchase of Telephone Systems
PPBS	Planning, Programming, Budgeting System
PR	Purchase Request or Procurement Requisition
PRA	Paperwork Reduction Act
PS	Performance Specification alternative to a Statement of Work, when work to be performed can be clearly specified

QA	Quality Assurance
QAO	Quality Assurance Office
QBL	Qualified Bidders List
QMCS	Quality Monitoring and Control System (DoD software)
QMR	Qualitative Material Requirement (Army)
QPL	Qualified Products List
QRC	Quick Reaction Capability
QRI	Quick Reaction Inquiry
R-1	FY Defense RDT&E Budget
RAM	Reliability, Availability and Maintainability; Random Access Memory
RC	Requirements Contract
R&D	Research and Development
RDA	Research, Development and Acquisition
RDD	Required Delivery Date
RD&E	Research, Development and Engineering
RDF	Rapid Deployment Force
RDT&E	Research, Development, Test and Engineering
RFB	Request For Bid
RFI	Request For Information
RFP	Request For Proposal
RFQ	Request For Quotation
RFTP	Request For Technical Proposals (Two-Step)
ROC	Required Operational Capability

ROI	Return On Investment
RSI	Rationalization, Standardization and Interoperability
RTAS	Real-Time Analysis System
RTDS	Real-Time Display System
SA	Supplemental Agreement
SAC	Senate Appropriations Committee
SADBU	Small and Disadvantaged Business Utilization
SAR	Selected Acquisition Report
SASC	Senate Armed Services Committee
SBA	Small Business Administration
SB Set-Aside	Small Business Set-Aside contract opportunities with bidders limited to certified small businesses
SCA	Service Contract Act (1964 as amended)
SCN	Specification Change Notice
SDB	Small/Disadvantaged Business
SDI	Strategic Defense Initiative
SDIO	Strategic Defense Initiative Office
SDN	Secure Data Network
SDR	System Design Review
SEC	Securities and Exchange Commission
SE&I	Systems Engineering and Integration
SETA	Systems Engineering/Technical Assistance
SETS	Systems Engineering/Technical Support

SIBAC	Simplified Intragovernmental Billing and Collection System
SIC	Standard Industrial Classification
SIMP	Systems Integration Master Plan
SIOP	Single Integrated Operations Plan
Sole Source	Contract award without competition
Solicitation	Invitation to submit a bid
SOR	Specific Operational Requirement
SOW	Statement of Work
SSA	Source Selection Authority (DoD)
SSAC	Source Selection Advisory Council
SSEB	Source Selection Evaluation Board
SSO	Source Selection Official (NASA)
STINFO	Scientific and Technical Information Program Air Force/NASA
STU	Secure Telephone Unit
SWO	Stop-Work Order
Synopsis	Brief description of contract opportunity in CBD after D&F and before release of solicitation
TA/AS	Technical Assistance/Analysis Services
TCP/IP	Transmission Control Protocol/Internet Protocol
TEMPEST	Studies, inspections and tests of unintentional electromagnetic radiation from computer, communication, command and control equipment that may cause unauthorized disclosure of information; usually applied to DoD and security agency testing programs

TILO	Technical and Industrial Liason Office Qualified Requirement Information Program Army
TM	Time and Materials contract
TOA	Total Obligational Authority (Defense)
TOD	Technical Objective Document
TQM	Total Quality Management
TR	Temporary Regulation (added to FPR, FAR)
TRACE	Total Risk Assessing Cost Estimate
TRCO	Technical Representative of the Contracting Offices
TREAS	Department of Treasury
TRM	Technical Reference Model
TRP	Technical Resources Plan
TVA	Tennessee Valley Authority
UCAS	Uniform Cost Accounting System
UPS	Uniform Procurement System
USA	U.S. Army
USAF	U.S. Air Force
USC	United States Code
USCG	U.S. Coast Guard
USMC	U.S. Marine Corps
USN	U.S. Navy
USPS	United States Postal Service
USRRB	United States Railroad Retirement Board

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VA	Veterans Affairs Department
VE	Value Engineering
VHSIC	Very High-Speed Integrated Circuits
VIABLE	Vertical Installation Automation Baseline (Army)
VICI	Voice Input Code Identifier
VTC	Video Teleconferencing
WAM	WWMCCS ADP Modernization Program
WBS	Work Breakdown Structure
WGM	Weighted Guidelines Method
WIN	WWMCCS Intercomputer Network
WITS	Washington Interagency Telecommunications System
WIS	WWMCCS Information Systems
WPI	Wholesale Price Index
WS	Work Statement Offerer's description of the work to be done (proposal or contract)
WWMCCS	WorldWide Military Command and Control System

B

General and Industry Abbreviations

ADAPSO	Association of Data Processing Service Organization, now the Computer Software and Services Industry Association (See ITAA)
ADP	Automatic Data Processing
ADPE	Automatic Data Processing Equipment
ANSI	American National Standards Institute

BOC	Bell Operating Company
CAD	Computer-Aided Design
CAM	Computer-Aided Manufacturing
CASE	Computer-Aided Software Engineering
CBEMA	Computer and Business Equipment Manufacturers Association
CCIA	Computers and Communications Industry Association
CCITT	Comite Consultatif Internationale de T_l_graphique et T_l_phonique; Committee of the International Telecommunication Union
COBOL	Common Business-Oriented Language
COS	Corporation for Open Systems
CPU	Central Processor Unit
DMBS	Data Base Management System
DRAM	Dynamic Random Access Memory
EIA	Electronic Industries Association
EPROM	Erasable Programmable Read-Only Memory
IEEE	Institute of Electrical and Electronics Engineers
ISDN	Integrated Services Digital Networks
ISO	International Organization for Standardization; voluntary international standards organization and member of CCITT
ITAA	Information Technology Association of America (Formerly ADAPSO)
ITU	International Telecommunication Union
LSI	Large-Scale Integration

MFJ	Modified Final Judgement
PROM	Programmable Read-Only Memory
RBOC	Regional Bell Operating Company
UNIX	Proprietary Operating System developed by AT&T; and now owned by UNIX Systems Laboratory, Novell, Inc.
UPS	Uninterruptable Power Source
VAR	Value-Added Reseller
VLSI	Very Large-Scale Integration
WORM	Write-Once-Read-Many times

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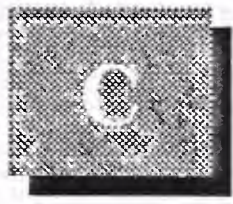
Policies, Regulations and Standards

A
OMB Circulars

A-11	Preparation and Submission of Budget Estimates
A-49	Use of Management and Operating Contracts
A-71	Responsibilities for the Administration and Management of Automatic Data Processing Activities
A-109	Major Systems Acquisitions
A-120	Guidelines for the Use of Consulting Services
A-121	Cost Accounting, Cost Recovery and Integrated Sharing of Data Processing Facilities
A-123	Internal Control Systems
A-127	Financial Management Systems
A-130	Management of Federal Information Resources
A-131	Value Engineering

B
GSA Publications

The FIRMR as published by GSA is the primary regulation for use by federal agencies in the management, acquisition and use of both ADP and telecommunications information resources.

C

DoD Directives

DD-5000.1	Major System Acquisitions
DD-5000.2	Major System Acquisition Process
DD-5000.11	DoD Data Administration (C3I)
DD-5000.31	Interim List of DoD-Approved, High-Order Languages
DD-5000.35	Defense Acquisition Regulatory Systems
DD-5200.1	DoD Information Security Program
DD-5200.28	Security Requirements for Automatic Data Processing (ADP) Systems
DD-5200.28-M	Manual of Techniques and Procedures for Implementing, Deactivating, Testing and Evaluating Secure Resource Sharing ADP Systems
DD-7920.2	Major Automated Information Systems Approval Process
DD-7935	Automated Data Systems (ADS) Documentation
DoDD 3405.1	Computer Programming Language Policy
DoDD 5000.11	DoD Data Administration (C31)
DoDI 5000.12	Data Elements and Data Codes Standardization Procedure
DoDI 5000.18	Implementation of Standard Data Elements and Related Features
DoDD 5105.19	Defense Information Systems Agency
DoDD 5110.4	Washington Headquarters Services
DoDD 5118.3	Comptroller of the Department of Defense

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DoDD 5137.1	Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
DoDD 7740.1	DoD Information Resources Management Program
DoD 7740.1-G	DoD ADP Internal Control Guideline
DoDD 7740.2	Automated Information System (AIS) Strategic Planning
DoDI 7740.3	Information Resources Management (IRM) Review Program
DoDD 7750.5	Management and Control of Information Requirements
DoDI 7750.7	DoD Forms Management Program
DoDI 7920.2-M	Automated Information Systems (AIS) Life-Cycle Manual
DoDI 7920.4	Baselining of Automated Information Systems (AISs)
DoDI 7920.5	Management of End-User Computing (EUC)
DoDI 7930.1	Information Technology Users Group Program
DoDI 7930.2	ADP Software Exchange and Release
DoDD 7950.1	Automated Data Processing Resources Management
DoD 7950.1-M	Defense Automated Resources Management Manual of Information Requirements

D

Standards

ADCCP	Advanced Data Communications Control Procedures; ANSI Standard X3.66 of 1979; also NIST FIPS 71
CCITT G.711	International PCM standard

CCITT T.0	International standard for classification of facsimile apparatus for document transmission over telephone-type circuits
DEA-1	Proposed ISO standard for data encryption based on the NIST DES
EIA RS-170	Monochrome video standard
EIA RS-170A	Color video standard
EIA RS-464	EIA PBX standards
EIA RS-465	Standard for Group III facsimile
EIA RS-466	Facsimile standard; procedures for document transmission in the General Switched Telephone Network
EIA RS-232-C	EIA DCE to DTE interface standard using a 25-Pin connector; similar to CCITT V-24
EIA RS-449	New EIA standard DTE to DCE interface that replaces RS-232-C
FED-STD 1000	Proposed federal standard for adoption of the full OSI reference model
FED-STD 1026	Federal Data Encryption Standard (DES) adopted in 1983; also FIPS 46
FED-STD 1041	Equivalent to FIPS 100
FED-STD 1061	Group II facsimile standard (1981)
FED-STD 1062	Federal standard for Group III facsimile; equivalent to EIA RS-465
FED-STD 1063	Federal facsimile standard; equivalent to EIA RS-466
FED-STDs 1005	Federal standards for DCE coding and 1005A-1008 modulation
FIPS 46	NIST Data Encryption Standard (DES)

FIPS 81	DES Modes of Operation
FIPS 100	NIST standard for packet-switched networks; subset of 1980 CCITT X.25
FIPS 107	NIST standard for local-area networks, similar to IEEE 802.2 and 802.3
FIPS 146	Government Open Systems Interconnection (OSI) Profile (GOSIP)
FIPS 151	NIST POSIX (Portable Operating System Interface for UNIX) standard
IEEE 802.2	OSI-Compatible IEEE standard for data-link control in local-area networks
IEEE 802.3	Local-area network standard similar to Ethernet
IEEE 802.4	OSI-compatible standard for token bus local-area networks
IEEE 802.5	Local-area networks standard for token ring networks
IEEE P1003.1	POSIX standard, similar to FIPS 151
MIL-STD-	Physical interface protocol similar to RS-232 and 188-114CRS-449
MIL-STD-1777	IP-Internet protocol
MIL-STD-1778	TCP - Transmission Control Protocol
MIL-STD-1780	File transfer protocol
MIL-STD-1781	Simple mail transfer protocol (electronic mail)
MIL-STD-1782	TELNET - virtual terminal protocol
MIL-STD-1815A	Ada programming language standard
SVID	UNIX System Interface Definition
X.12	ANSI standard for electronic data interchange

X.21   CCITT standard for interface between DTE and DCE for synchronous operation on public data networks

X.25   CCITT standard for interface between DTE and DCE for terminals operating in the packet mode on public data networks

X.75   CCITT standard for links that interface different packet networks

X.400   ISO application-level standard for the electronic transfer of messages (electronic mail)

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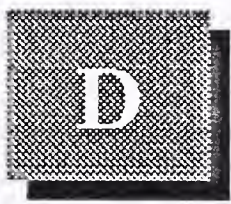
Agency Questionnaire

INPUT is preparing a report on Federal Government Agencies' use of E-mail and needs your help. Would you please respond to the following questionnaire and E-mail it back ASAP?

1. Are you the designated E-mail contact for your agency?
(If not, please answer the questions but also include the name, E-mail address, and phone number of the designated contact.)

2. Which E-mail products or packages are in use throughout your agency? Platforms?

3. What are your current E-mail applications?

4. How do people in your agency acquire E-mail capabilities?

5. What are the most frequent problems brought to your attention by regular E-mail users?

6. How widely used is E-mail?
Never 1--------2--------3---------4--------5 Always

7. Do you have difficulties getting people started using E-mail?
None 1--------2--------3---------4--------5 Lots

8. Does your agency have any specific policies, rules, standards for acquiring or using E-mail?
None 1--------2--------3---------4--------5 Many

9. Do you have connectivity problems--
... Internally?   None 1--------2--------3---------4--------5 Many
... Externally? None 1--------2--------3---------4--------5 Many

10. How much undesired material do you receive on E-mail?
None 1--------2--------3---------4--------5 Many

11. What is the growth rate of E-mail in your agency?
None 1·········2·········3··········4·········5 Rapid

12. Do you use E-mail at home?   No 1·········2·········3··········4·········5 Yes

13. Do you like E-mail?   No 1·········2·········3··········4·········5 Yes