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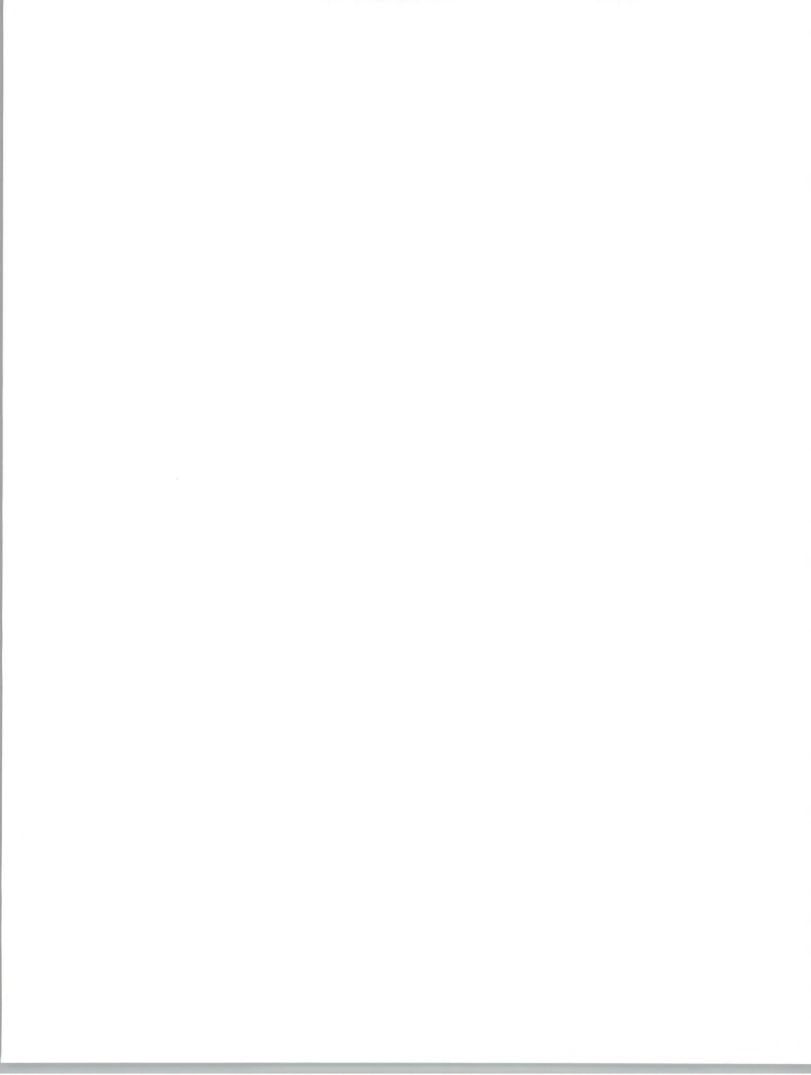
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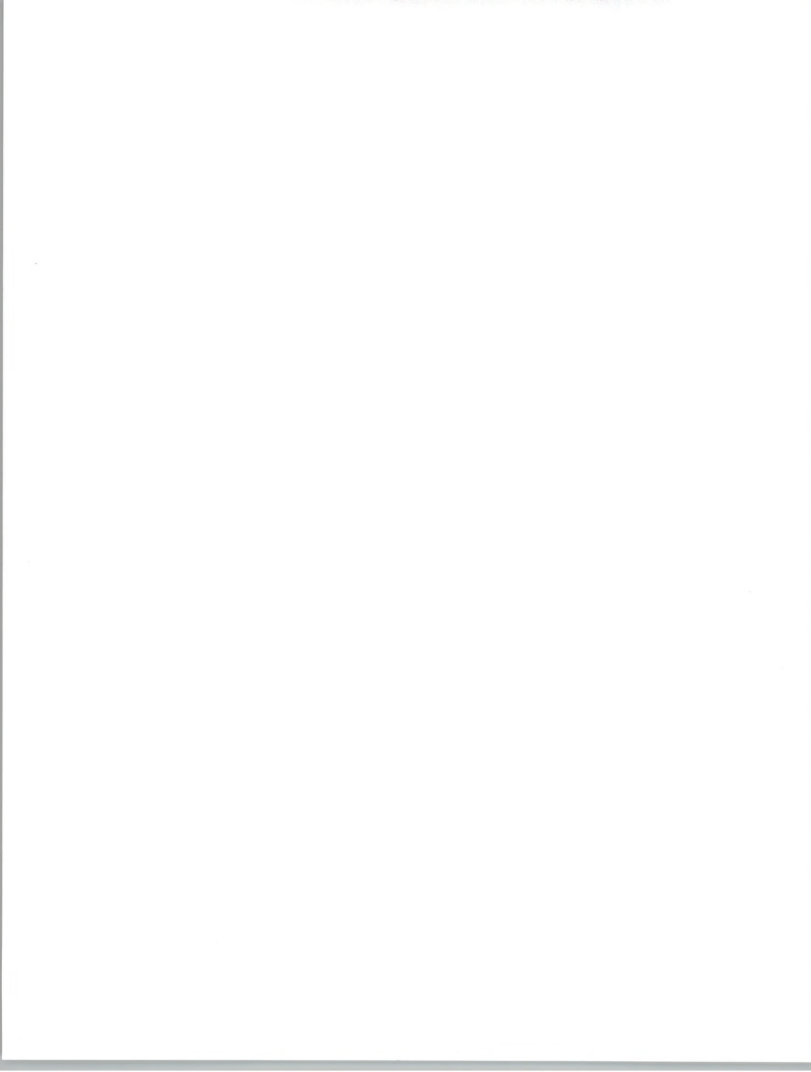**INPUT**

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October, 1993

Dear Colleague:

Attached is the Information Services Market Analysis Program's latest report on the *Federal Government Sector*. It provides a current assessment of the events and issues driving this marketplace, and offers INPUT's forecast of the market size for information services for the period 1993-1998.

This report should be filed with INPUT's other *U.S. Information Services Market Analysis Program* reports, behind the tab marked *Federal Government*. Your INPUT program binders, together with the delivery mode reports, provide a total assessment of the United States market for information services.

Market Analysis Program industry and cross-industry sector reports are prepared annually, and may be in one of two forms. The expanded reports, such as this *Federal Government Sector Report*, contain a detailed industry analysis and supporting forecast data. It will typically be 40-50 pages in length. The forecast update will be a short report, providing a new forecast and summary data to support forecast assumptions. It will generally be 15-20 pages in length. Normally, for each industry and cross-industry market segment, full reports will be produced every other year, with summary reports prepared in the intervening years. The intent of this format is to recognize the value of our clients' time, and provide concise statements of industry activity, supported by rigorous business, technical and competitive analysis, and a five-year industry forecast.

I am certain that you will find the *Federal Government Sector* report to be both informative and useful, and welcome any comments that you have on this document, or any of INPUT's publications.

Sincerely,

Bob Goodwin

Robert L. Goodwin
Manager
Information Services Market Analysis Program

Enc.

VERTICAL MARKET ANALYSIS

FEDERAL GOVERNMENT

1993-1998

U.S. Information Services
Market Analysis Program

FEDERAL GOVERNMENT

INFORMATION SERVICES OPPORTUNITIES & TRENDS

1993-1998

INPUT®

Information Services Market Analysis Program
(MAP)

Federal Government, 1993-1998

*Information Services Opportunities & Trends
1993-1998*

Table of Contents

Exhibits

I

Introduction

A
Purpose

The purpose of this forecast report is to identify key market changes for information services in the federal sector, and to provide the 1993 INPUT forecast for this market.

B
Organization

In addition to this introductory chapter, the report analyzes the information services market and competitive environment in the following sections:

- Chapter II, *Trends, Events and Issues,* discusses how changes, market issues and activities, and competitive factors in the federal sector are impacting the current and future use of information services.

- Chapter III, *Information Services Market Forecast,* presents an analysis of the U.S. federal government market's expenditures for information services by delivery mode and submode.

- Appendix A, which contains the forecast data base, presents a detailed forecast by information services delivery mode and submode for the federal government vertical market. A reconciliation of the previous forecast is also provided with a list of related reports.

C
Methodology

Much of the data on which this report is based was gathered during 1992 and early 1993 as part of INPUT's ongoing Federal Information Procurement Program, and the Federal Information Technology Market Program. Trends, market sizes, and growth rates are based primarily on agency budgets and IT plans, and on in-depth interviews with federal agency officials and the IT vendors participating in the federal sector. INPUT maintains ongoing relationships with, and continually updates a data base of all users, contracting officers and vendors that it interviews.

The research portion of this report is based on the results of the current year's interviews and analyses of diverse government documentation. The official Budget of the United States for Fiscal Year 1994, related portions of agency detailed budgets in response to the Office of Management and Budget Circular A-11, FY 1993 and FY 1994 editions, Congressional Committee oversight and apportionment meeting records, and over 35 computer and general business periodicals were used to develop the foundation for calendar 1992 base year, 1993 current year, and 1994-1998 budget request user expenditures.

Each year, INPUT converts the government's fiscal year (October to September) expenditures—also called outlays—and budget requests into calendar year expenditures, to conform with the MAP baseline. The forecasts are derived from an INPUT-developed budget model. The model parameters are modified to reflect the views of the agency officials and vendors interviewed for other delivery mode reports produced by INPUT. Future (out-year) values are tested against agency long-range forecasts, the OMB/GSA Five-Year Information Technology Report, and specific congressional committee actions.

The federal government's budget request and outlay documents do not provide detailed expenditure values broken out into INPUT's defined delivery modes. Additionally, agencies and vendors use different service categories to describe contractor services. INPUT uses particular programs and contracts to verify the values selected. INPUT assures that totals for delivery modes equal the total dollar amounts specified in the government documentation. The specific values of delivery modes and submodes are forecasted on a best-effort basis. The forecast dollar amounts should be viewed as indicators of general patterns and trends, and not as precise values.

II

Trends, Events, and Issues

A

General Federal Trends, Events, and Issues

In addition to problems associated with fulfilling unique missions, most federal agencies currently face the same business pressures:

• Public demands for improved government services
• New priorities from the Clinton administration
• Cost containment/productivity needs
• Slow political appointments
• Continued budget uncertainty

Public demands to improve government's delivery of services and Clinton administration pressures to "reinvent" government are the primary drivers pushing federal agencies to improve how they fulfill their missions and provide services to the U.S. population. Customer service issues are getting more attention than lip service in many civil agencies, such as Housing and Urban Development, and Health and Human Services. Agencies actually fear they will lose some of their functionality and personnel if their customers are not satisfied.

Pressures to improve operational efficiency not only demand changing work processes but usually require the latest technology to implement. Business process re-engineering invariably necessitates changing IT approaches to performing business functions. Obsolete equipment must be replaced because of inherent operating inefficiencies. New equipment can address many operational problems. Training becomes more critical within agency organizations as personnel shifts are brought about by agencies refocusing how they do business.
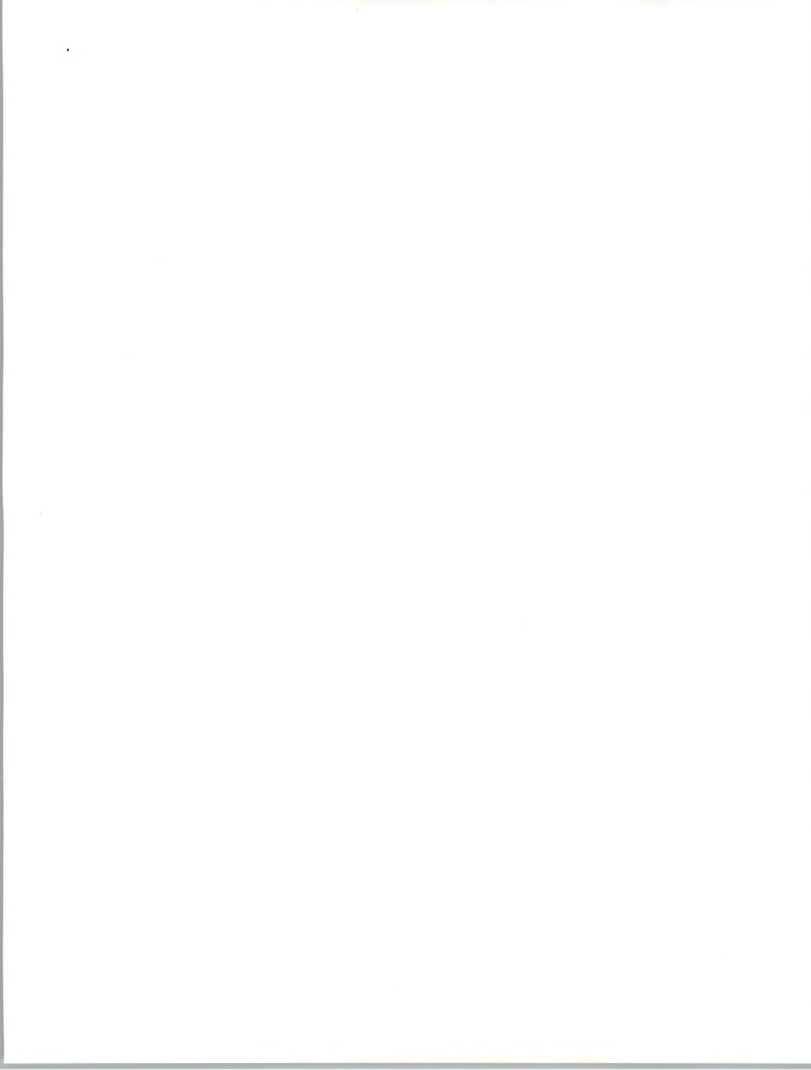
The first major evidence of the federal government's direction to improve operational efficiency was found within the DoD, through its Corporate Information Management initiative. The post-Cold War DoD intended to evaluate functional processes, consolidate operations, and implement new work patterns that would result in cost savings necessitated by a declining budget. This practice is still expected to proceed despite the departure of many key officials associated with implementing the CIM initiative, and the recent hold placed on some consolidation directions under the Defense Information Systems Agency (DISA) by William Perry, the new Deputy Secretary of Defense. The DoD under the Clinton administration is voicing commitment to the spirit of CIM and consolidation efforts (under DMRD 918), but implementation methods are under review and may be less aggressive than originally planned.

In 1992 and 1993, INPUT's research directed at various federal studies points to civil agencies refocusing how they do business. Business process re-engineering is becoming increasingly evident, and is receiving more attention than its earlier touted counterpart, TQM. The new administration is also encouraging a more business-management approach to the workings of government under the rubric of "reinventing government."

Underlying the drive to improve operational efficiency is the pressure to reduce overall operating costs at all levels (personnel, buildings, services, hardware and software, etc.). Improvements to information technology are viewed as the chief way agencies can lower much of their operating capital across the board.

Government spending for personnel, or full-time equivalent (FTEs) positions is down, primarily within the DoD, as a result of functional downsizing and consolidation of data processing centers. Civil agencies, too, complain that loss of FTEs is a recurrent problem that is not expected to abate despite increased service and processing requirements.

At the writing of this report, despite initial claims from the Clinton administration in support of information technology initiatives, uncertainty exists at the practical level regarding actual spending for the remainder of FY 1993 and anticipated spending for FY 1994.

The delay in political appointments to policy level positions had slowed and in some cases stopped spending on critical IT projects at several agencies. Agencies were uncertain what directions new senior management would initiate, once appointed. One year into the administration, the broad budget picture remains unclear, as the new administration attempts to address the budget deficit problem and battles with the Congress for implementation of proposals.

INPUT does not expect integration of legacy systems to play a significant role in federal agencies' information technology plans in the next few years. Best-value procurements may play a significant role, depending on an agency's ability to support them. In theory, this type of procurement allows the federal government to pay a premium price for superior goods and services. A properly conducted best-value procurement will include an empirically based cost/technical trade-off analysis to determine whether the proposed technical superiority is worth the price. The award decision is not based on intuitive judgment.

Agencies often express that they would like the vendor community to find an economical way to upgrade and save existing legacy hardware and software systems. But in reality, agencies realize this is a pipe dream for a couple of reasons. First, hardware and software technology is changing significantly. The upgrades and fixes that can be applied to legacy systems are often more expensive than replacement technology, and do not match the functionality of more recent alternatives. Second, a lack of available documentation on many older systems makes it infeasible to attempt extensive modifications to run a downsized end-user environment.

In theory, both agencies and vendors prefer more best-value procurements, but this is not a practical reality in the foreseeable future. For the most part, agencies are ill-equipped to conduct successful best-value procurements. Personnel require specific training and guidance on how to run such procurements. The few best-value procurements that have occurred have resulted in protest actions because the agency failed to delineate selection criteria in the solicitation document (RFP). Theoretically, these procurements appeal more to vendors. Vendors believe functional solutions should play a stronger role in deciding who wins a contract, not the lowest bid. However, poorly executed best-value procurements are offering vendors opportunities to protest. This causes more delays in the lengthy federal procurement process.

B

Technology Trends, Events, and Issues

Although IT has played a critical role in agency programs for several years, its role is becoming more vital as a means to solve many of the operational and budget problems plaguing the federal government. In short, the federal government has no choice but to use technology to do more with less money and fewer people. Fortunately, price/performance ratios for newer technologies are improving.
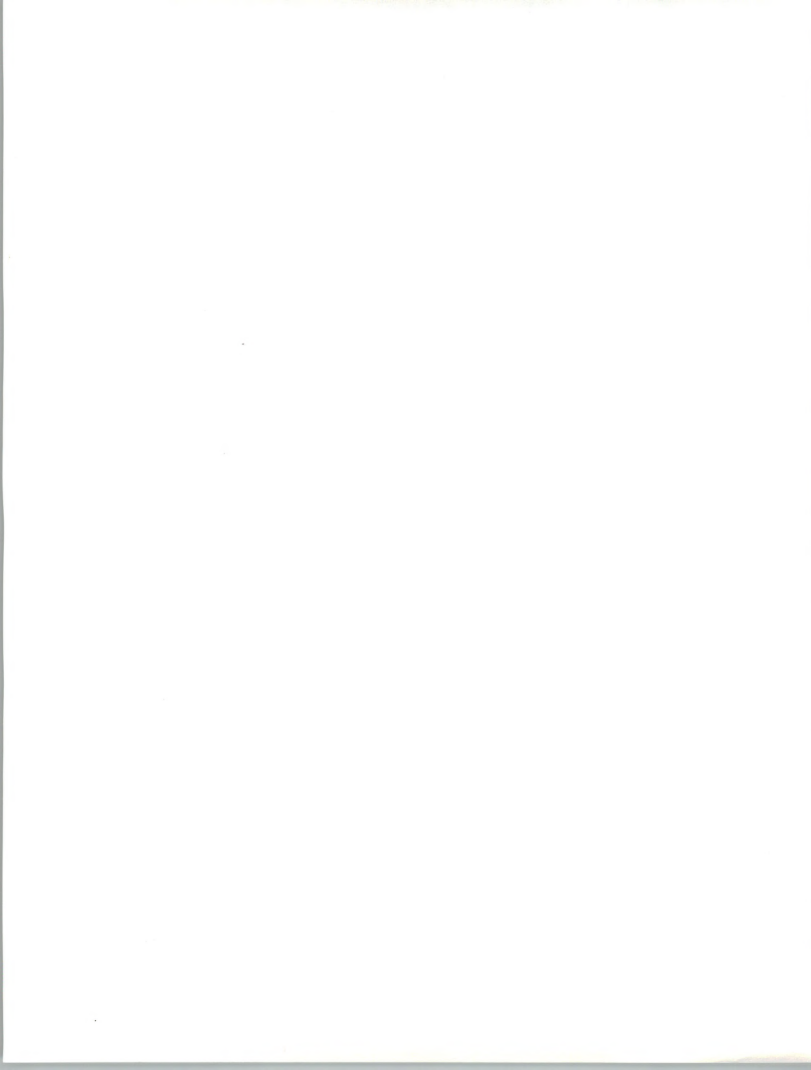
The thrust of technology directions is improving access of information. Power at the desktop is enhanced. Power to the user of the information, whether a government worker or a private citizen, is expanded. Network computing is becoming the new "platform" for the balance of the decade.

To achieve power at the desktop, the technology focus of federal agencies centers around:

- Interoperability
- Standards
- LANs/WANs
- Distributed and client/server processing

All of the above technology issues are interrelated. They require new equipment and the technical expertise of vendors to implement. The heart of network computing relies on achieving interoperability, adherence to standards, and effective management of LANs/WANs for distributed or client/server processing.

Interoperability across multiple platforms from various manufacturers, standards definition, and implementation must be adhered to. Although the federal government has taken steps to develop and mandate standards, installed systems do not demonstrate conformity.

The realities of implementing network computing requires solving communications problems between systems. Because of the availability of cheap and powerful smaller class hardware, agencies are downsizing operations and buying new equipment (enhanced microcomputers) and software that meet present and projected standards needs. Even at the PC level, communications issues between newer software packages are no longer an issue. The manufacturers have and are continuing to develop packages that are compatible with other manufacturers' applications.

Improving user access to information is made possible through the LANs and WANs that tie together distributed or client/server networks within government agencies.

Other specific technologies that agencies hope will be utilized and implemented on a widespread basis include:

- Electronic commerce/EDI
- Imaging
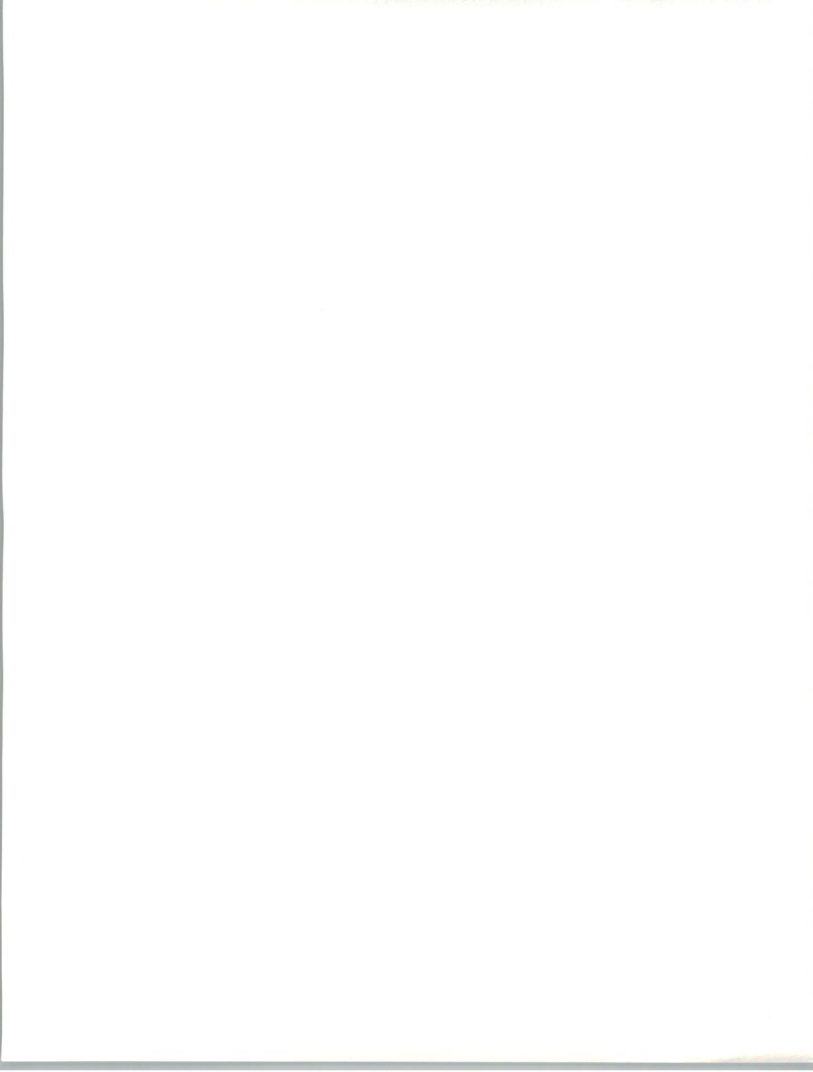
Electronic commerce/EDI potentially has wide applicability for the procurement of "commodities," benefits dispersals, drawings, filing of legal documents, and numerous other forms of data. Use of EDI promises reduced paperwork and greater automation of many administrative processes. EDI applications usually require professional contractor services for implementation and can run in established networked environments. However, the standards issue is causing delays in some EDI applications. The X.12 protocol was made a FIPS EDI standard in 1990. However, EDIFACT is the international standard, and some government agencies such as the U.S. Customs Service have no choice but to use it with electronic trading partners worldwide.

Image technology is playing a larger role in reducing paperwork and automating manual tasks. The storage and transmission of digital documents promises to alleviate much of the burden of administrative functions in many agencies. The Patent and Trademark Office Automation Project is one major example that has been under way for years. Various applications of imaging technology have been successful in reducing operating costs and improving operational efficiencies at the U.S. Postal Service. Potentially, image technology can change the way the federal government conducts much of its business.

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III

Information Services
Market Forecast

INPUT separates the federal IT budget elements and recombines them into
more convenient industry terms. INPUT's forecast provides an overall
perspective of what the federal government will spend on goods and
services for seven information services (IS) delivery modes as defined by
INPUT.

A

Total Market Forecast, 1993-1998

The market for information services expenditures in the federal govern-
ment is expected to grow to $15.2 billion in 1998. As shown in Exhibit
III-1, the compound annual growth rate for the period 1993-1998 is 7%.

Because the federal information services market includes expenditure
categories not tracked by INPUT in its seven traditional service delivery
modes, Exhibit III-2 offers an expanded view of this marketplace, and
includes an additional $7.2 billion in 1993 expenditures and $9.1 billion in
1998. These additional revenues reflect the federal government's expendi-
tures for computer systems, other hardware, systems software and leased
communications circuits - all items not included in INPUT's seven tradi-
tional delivery modes. This market sizing is offered here in order to
present a more complete view of total federal IT expenditures. The bal-
ance of this chapter, and the tables in Appendix A, will address only the
traditional IS expenditures.

EXHIBIT III-1

Federal Government
Information Services Market, 1993-1998

EXHIBIT III-2

Federal Government
Information Services Market, 1993-1998
(Includes Computer Systems, Hardware, Systems Software
and Communications)
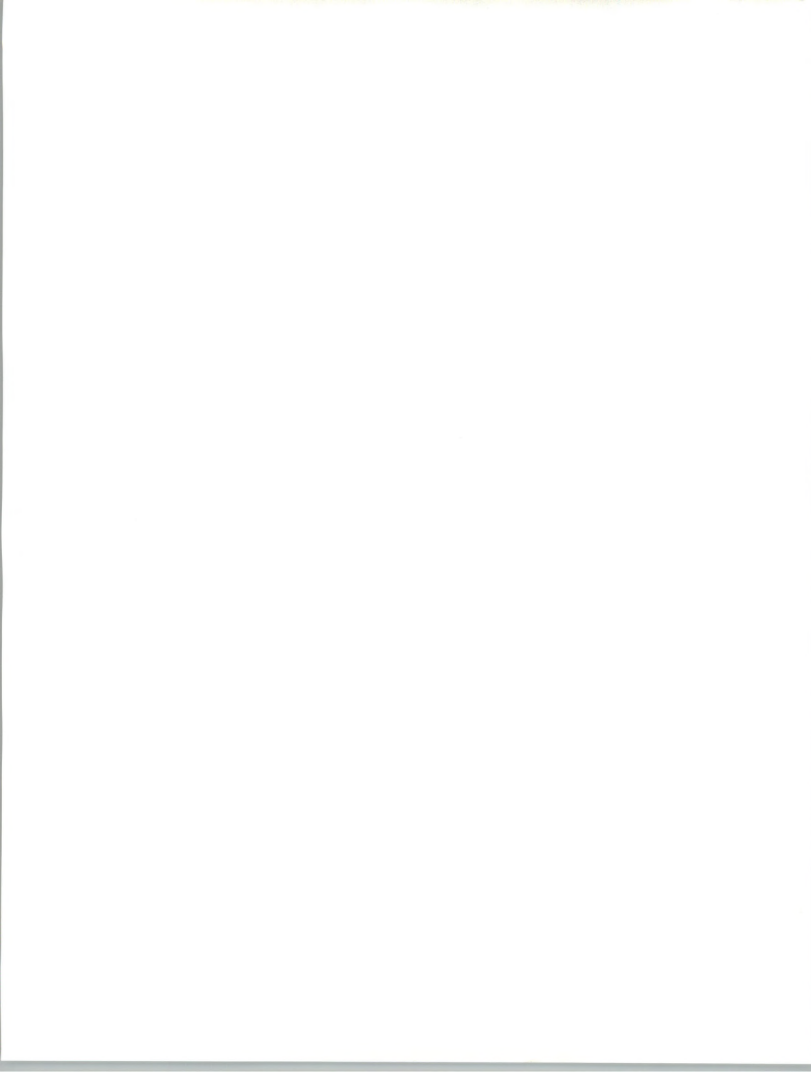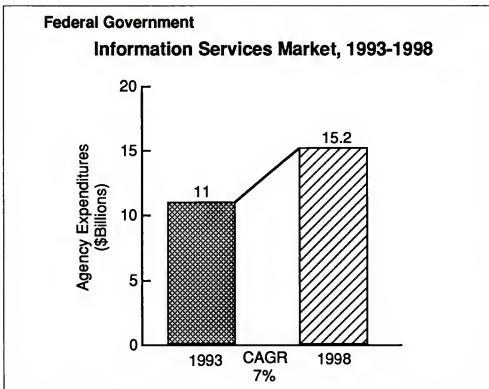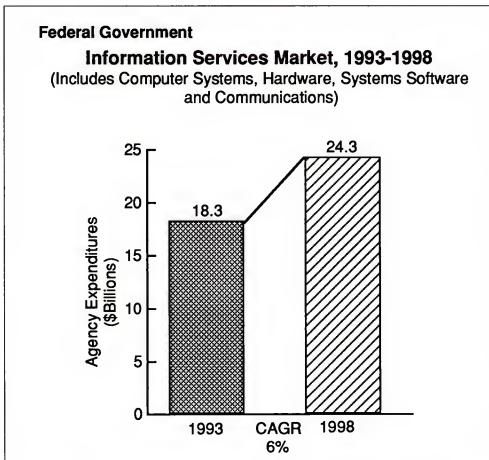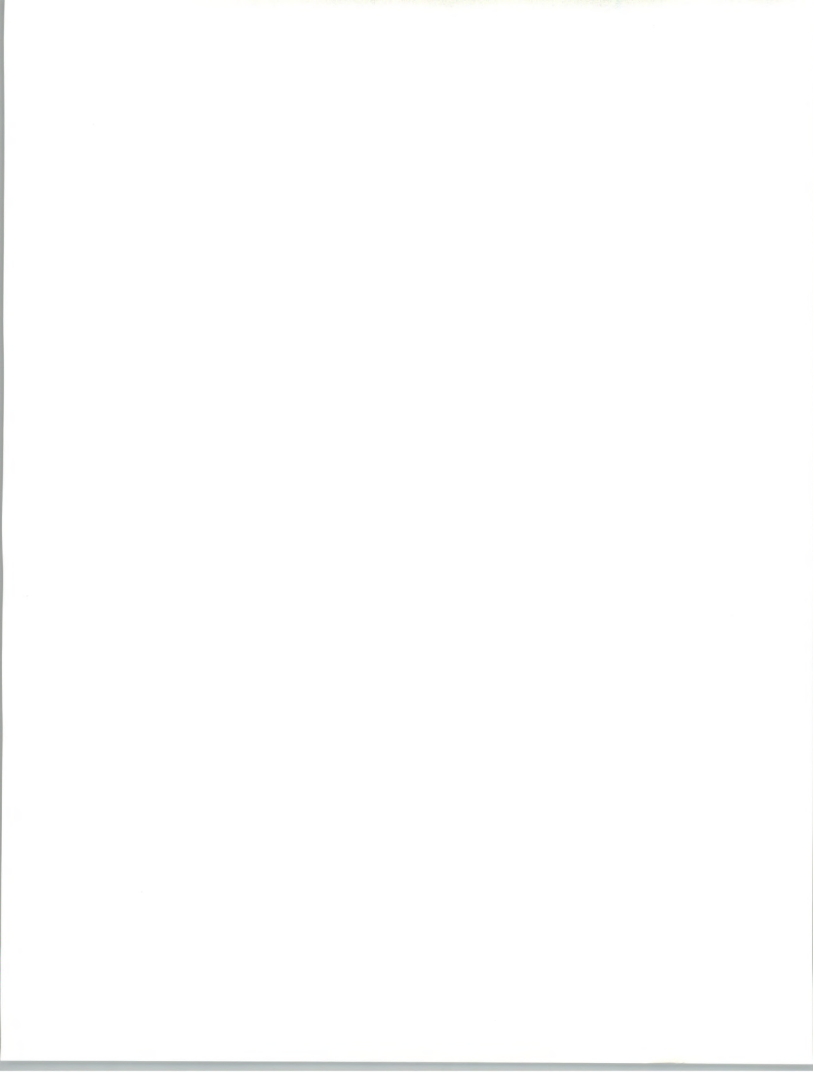
B

Forecast by Delivery Mode

The 1993-1998 forecast of user expenditures by delivery mode for the federal government sector is shown in Exhibit III-3. Values in the exhibit are rounded to the nearest $10 million. References in the text reflect the actual values shown in Appendix A. Discussion of the individual forecasts for delivery modes follows this exhibit.

EXHIBIT III-3

Federal Government

**Information Services Market
by Delivery Mode, 1993-1998**

Delivery Mode		CAGR (Percent)
Professional Services	2,150 / 2,850	6
Systems Integration	3,750 / 5,300	7
Systems Operations	1,500 / 1,800	4
Processing Services	180 / 170	-2
Network Services	1,250 / 2,300	13
Applications Software	690 / 850	4
Turnkey Systems	1,500 / 1,900	5

▨ 1993
☑ 1998

0 1000 2000 3000 4000 5000 6000
User Agency Expenditures ($ Millions)

1. Professional Services

Professional services is growing at about the same CAGR foreseen two years ago. Its market pace is not increasing due to greater financial constraints on federal agencies, and because of some high-value contracts being signed in 1993.

The federal government is the largest user group for a variety of professional services in the U.S. INPUT's forecast for professional services is restricted to consulting, design, education and training, and software development only. This segment does not include the professional services associated with systems integration, outsourcing and telecommunications contracts.

Federal agencies have traditionally looked to outside contractors to design and develop new systems for their mainframe environments. Now contractor assistance is needed to enable computing in downsized networked environments. Implementation of newer technologies requires the technical expertise of contractors.

Systems design, consulting and software development services are still required by many agencies despite increased reliance on COTS software. Unique agency missions and a perceived lack of internal talent require agencies to seek vendors for programming services. Interoperability pressures—specifically the ability to exchange data—drives the use of contractors in software development.

A necessary part of most software development contracts is associated education and training on the new systems. Agencies also regularly contract for education and training services to keep personnel up to date on new software packages and maintenance procedures.

Some major upcoming projects include:

- Agriculture's Infoshare, valued at $680 million in 1995

- An ADP/IRM Support Services Contract from Agriculture in 1994, with an estimated value of $80 million

- The IRS Software Development Environment Contract in 1994, valued at $50 million

- Goddard Space Flight Center's IV&V Support Services Contract in 1994 for $75 million

- NAVAIR's Phase II-Tactical Combat Training System in early 1994, valued between $100-$270 million

- A SETA contract for the Air Force Flight Test Center in late 1994 for $40 million

- DISA's SETA contract for the National Military Command System in early 1995, with estimated value between $7 million and $12 million

2. Systems Integration

Systems integration growth has slowed considerably in the past two years. It is depressed by delays in program implementation caused by the budget problems and by the impact of DMRD 918 and CIM within the Defense Department. Other factors reducing the strength of this market include:

- Procurements for large SI contracts that include large hardware components are rarely conducted in the federal government today. Smaller, modularly scoped contracts are used for services.

- Large commodity buy contracts for hardware and COTS software are hurting the equipment portion of the systems integration market, even though many agencies are upgrading equipment in response to networking needs.

- The price of hardware and software keeps falling, while MIPS and functionality keep increasing.

- The software products component of SI has remained stable since INPUT's 1991 forecast. The drop in software costs is offset by increased volume in purchases.

- Intense competition for the remaining contracts has in effect lowered prices for agencies buying SI services.

In spite of the factors dampening this market, the federal government's dependence on SI services—or the professional services associated with SI contractors—will continue. Federal agencies have a long way to go before integrated processing exists within an agency and intergovernmental sharing can occur across agencies that use the same or similar data.

Lacking internal resources, agencies will turn to vendors to solve integration problems for existing systems, to develop new systems based on new technologies, and to create their downsized networked environments.
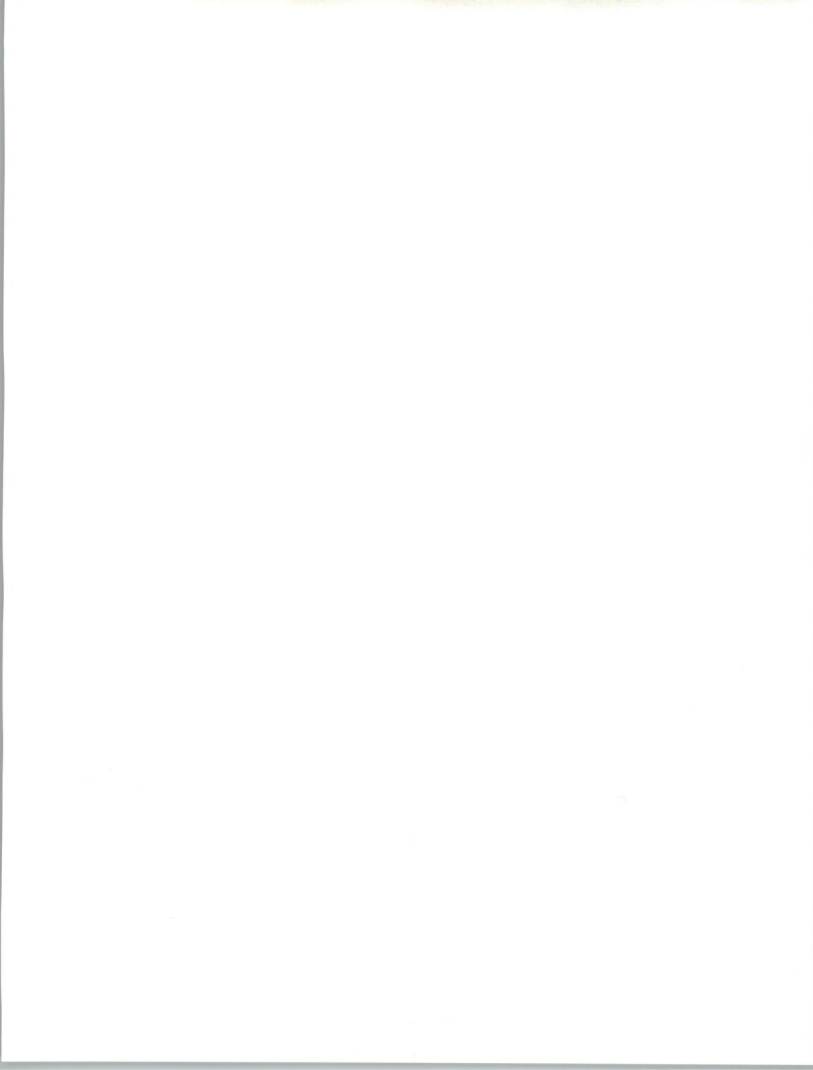
Some of the active systems integration programs include:

- Commerce's Patent Applications Management System, estimated at $20 million, to be awarded in FY 1994

- The U.S. Coast Guard's Mission Oriented Information System Engineering, scheduled for award in FY 1993, with estimated value of $75 million

- The Service Center Support Contract offered by the IRS has a potential value of $2.2 billion and is scheduled for award in June 1994

3. Systems Operations

Two forms of systems operations, COCO (contractor-owned, contractor-operated) and GOCO (government-owned, contractor-operated) contracts, exist in the federal sector. The two modes are combined in this report to allow comparisons with other vertical-industry sectors.

Overall the federal systems operations/outsourcing market is expected to increase from $1.5 billion to $1.8 billion by 1998. The CAGR for the period is weaker, only 4%, compared to last year's estimate of 11%. This market is primarily affected by the rate of personnel retention of the government, and performance pressures on federal agencies. At this time, service cutbacks are unlikely. On the other hand, government personnel are not trained to handle newer equipment and software that will be used to improve operational efficiencies.

The professional services portion (GOCO) of the market is the leading systems operations segment. Its growth improved in the past two years, but is expected to decline again at a CAGR of 4% through 1998. Data center consolidation efforts under way as a result of DMRD 918 in the Defense Department are primarily responsible for the drop in the growth rate. The largest GOCO contracts awarded are for laboratory and experimental centers support, where consolidation efforts will not be felt.

Civil agencies are expected to turn increasingly to contractors for outsourcing management of their data processing needs because of recent emphasis on business process re-engineering and improving service to the citizens. Although civil agencies are under less pressure to reduce spending than Defense agencies, areas that can be managed more cost effectively will not be ignored. Resources can be redirected to other areas where information technology can improve the delivery.
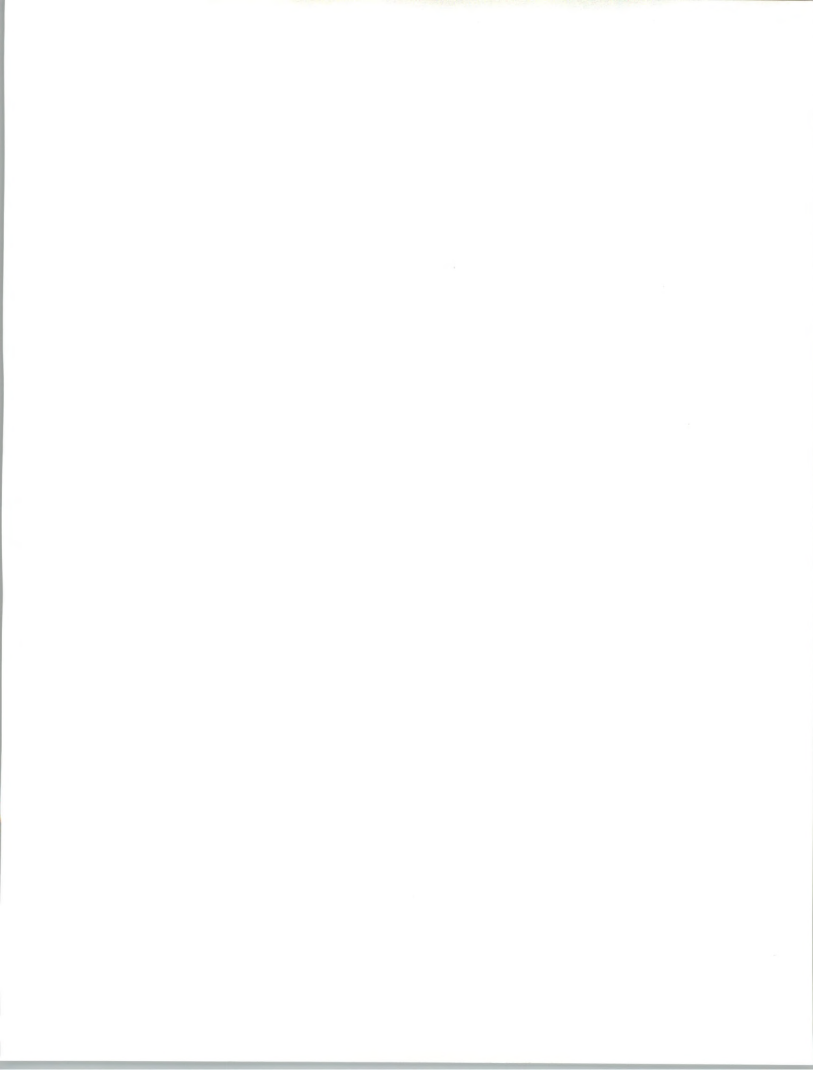
Desktop services assistance is helping to drive the need for GOCO-level services from vendors because of downsizing and moves to client/server and distributed processing environments. Demands for network management services may be somewhat dampened as FTS 2000 continues to be the major vehicle for fulfilling networking needs in the federal government.

COCO opportunities—traditionally fewer in number because agencies still view them as irrevocable decisions—are still expected to grow at a CAGR of 4% for several reasons that make using contractor facilities very attractive. Agencies lack funds for disaster recovery facilities. It makes more sense to totally contract out data center operations and have the contractor assume disaster recovery responsibilities.

Agencies want to take advantage of new technologies that automate manual tasks, or promise to improve current systems. They would also like to be in a position that allows them to quickly adopt future technologies on a timely basis. This is becoming especially critical as technology changes evolve at an amazing rate of rapidity. COCO contracts allow agencies to circumvent large investments in new equipment and the lengthy procurement process. COCO contracts that include technology refreshment clauses place the burden of hardware investment on the vendor.

Data center costs are also more predictable and less subject to fluctuations in outsourcing arrangements. Agencies have more control over their actual operating expenditures in these contracts.

Some of the major outsourcing procurements currently scheduled by federal agencies include:

- The Goddard Space Flight Center recompete of its Systems Engineering and Analysis Services Contract in 1995, valued at $185 million

- Goddard's Operations and Analysis Support Contract for $37 million, scheduled for 1994

- U.S. Customs' Data Center Facilities Management Support Services Contract in 1994, valued at $44 million

- Operations and Maintenance of ADP and Communications for the Department of Energy's Las Vegas site in late 1993, for $13 million

- Agriculture's Cotton Inventory Management System Operations and Management Contract, scheduled for 1995, valued at $12 million
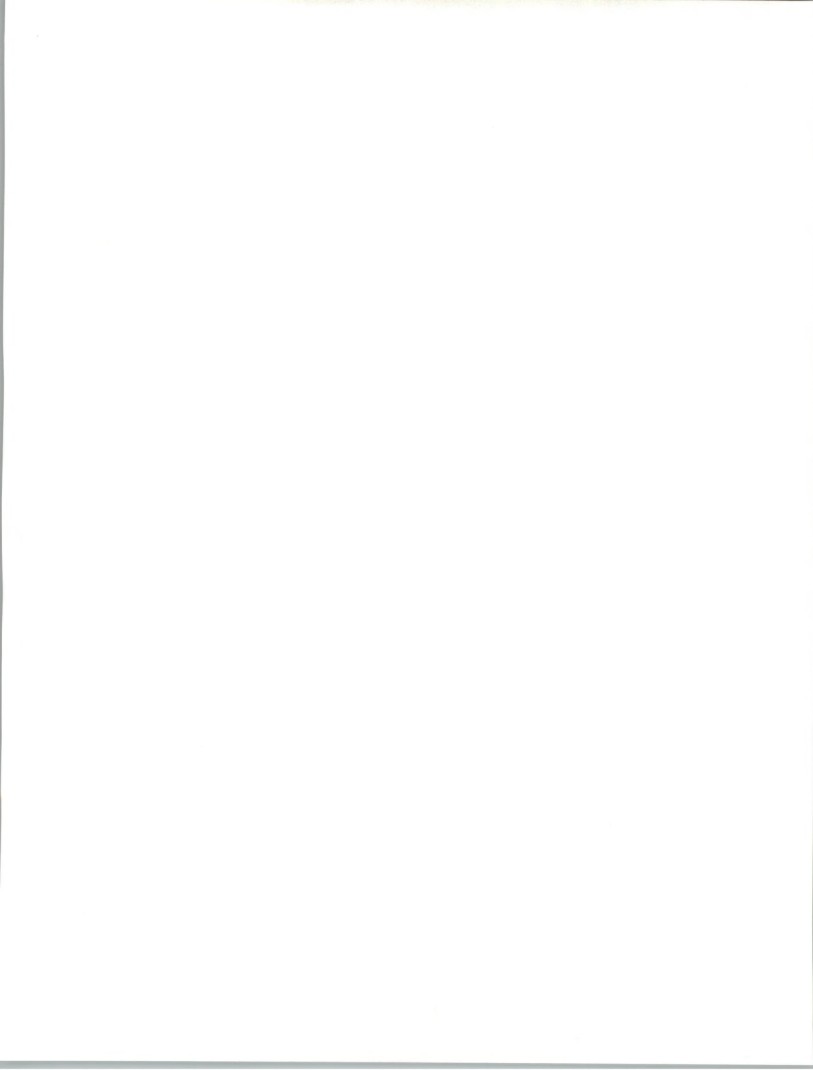
4. Processing Services

INPUT defines processing services to include transaction processing with some batch-mode workloads. It previously included systems operations or outsourcing (facilities management) on contractor-owned equipment (COCO). COCO is now included in INPUT's systems operations/out-sourcing delivery mode.

The processing services market has reached the "no-growth stage," and may actually decline further toward the end of the decade if innovative applications are not offered. The processing services delivery mode continues to decline in the federal sector due to two main factors. The installation of new distributed processing systems and PCs continue to depress the need for outside processing services. In addition, federal agencies are getting into the processing services business themselves and becoming more fee-for-service oriented, especially within the DoD. At civil agencies, larger federal data centers are adding capacity to take on processing for other agencies.

5. Network Services

The network services market in the federal sector is expected to sustain the highest CAGR over the forecast period, 13%, up considerably from INPUT's forecast in 1992 of 4%. The market should now reach $2.3 billion by 1998.

The high growth rate is primarily attributed to DoD agencies requesting more realistic network services budgets. Previously, POTS (purchase of telephone and services) and local circuits were often paid with operational funds. However, now a critical Congress is questioning every dollar requested by DoD agencies. Fear of losing dollars is causing the DoD to justify all expenses, including those for bulletin-board and on-line network services.

Agencies are using more network services as they downsize and extend computing platforms within their organizations. Requirements are also becoming more demanding and sophisticated, either riding FTS 2000, or through their own requirements-type contracts. Agencies seek to take advantage of teleconferencing and electronic message distribution as a way to reduce travel and other costs.

Some major scheduled procurements are:

• U.S. Customs' Treasury Communications System, valued at $350 million in 1993

• Navy's ITACEN GOSIP Gateways Contract in 1993, valued at between $20 and $30 million
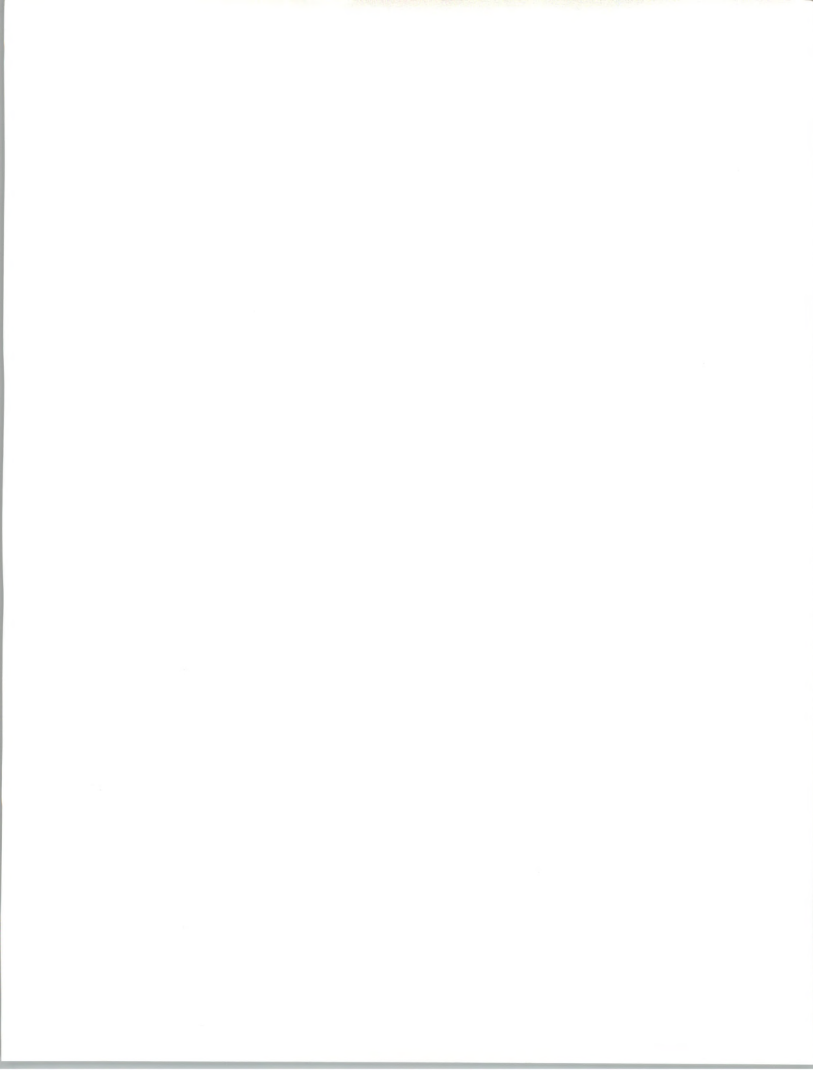
- The Social Security Administration's Connectivity Acquisition in 1993 for $27 million

- DISA's Defense Message System, also at $13 million, in 1993

6. Applications Software Products

Applications software products include office automation, accounting, human resources, procurement, and mission-unique support software. INPUT predicts this market will grow at a 4% CAGR to reach $851 million by 1998. The growth rate has dropped significantly from last year's (11%), primarily as a result of the large number of applications acquired through hardware IDIQ contracts and lower competitive pricing practices by vendors. Continued reduction in vendor pricing practices and frequent product upgrades are impacting this market.

Outlays for applications software are driven by the existing large PC inventory, purchases of high-end PCs and workstations, networking requirements, upgrades of mainframe suites, and increased pressure from GSA to rely on less expensive commercially available software. GSA, GAO and NIST also encourage agencies to purchase commercial off-the-shelf (COTS) software whenever possible.

7. Turnkey Systems

Turnkey systems are holding on to approximately the same growth that has occurred over the past several years, 6% (CAGR). Turnkey systems are value-added packaged hardware and software solutions for specific applications requirements that satisfy, with few modifications, federal agencies' needs.

Scientific and engineering applications in the DoD, Commerce, NASA and Energy continue to have the greatest need for turnkey systems. Engineering applications, especially those employing 3D characteristics, continue to be in high demand.

Document handling or image processing systems should have wide applicability across civil agencies. Many commercially available models are readily adaptable to a wide range of government document problems.

New financial applications based on service levels and asset management are expected to be more active.

The price of some of the systems permits many of the acquisitions to fall within thresholds not requiring notification in OMB's A11-43A. Agencies are also encouraged by the Office of Management and Budget (OMB) and GSA to look for readily adaptable commercially available systems when possible.

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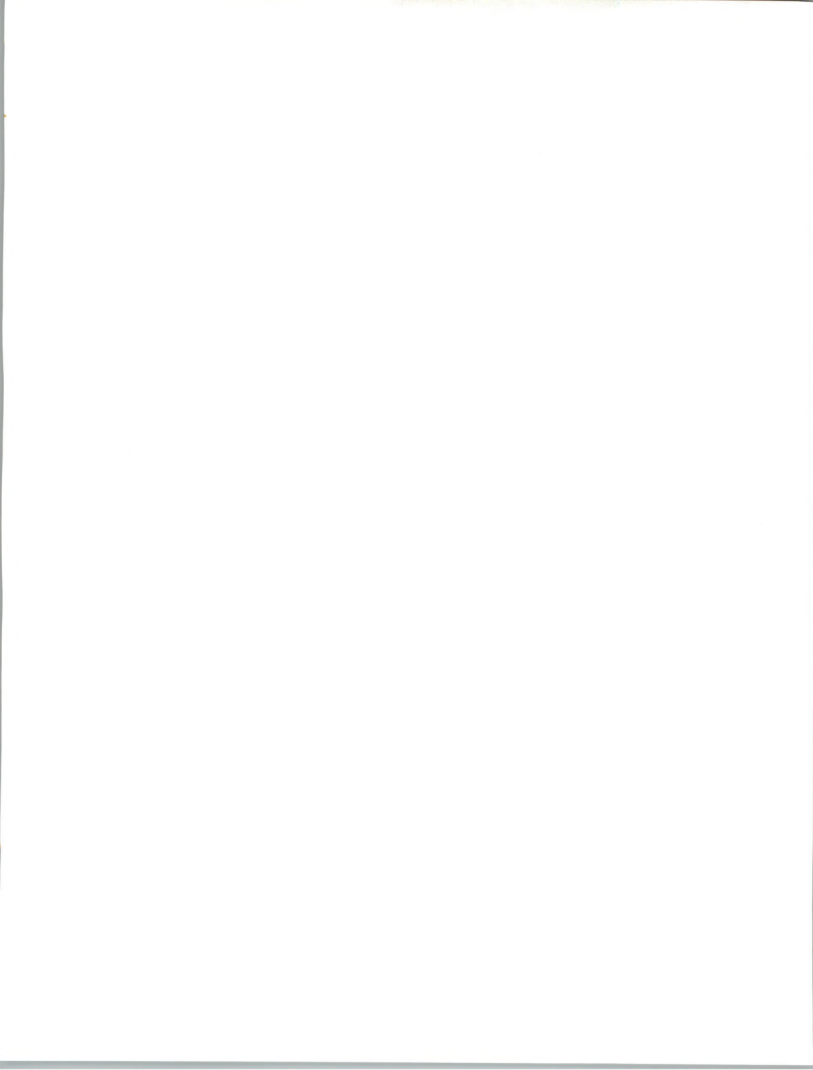
Forecast Data Base

INPUT did not produce a 1992 report for the federal government sector, although a 1992 financial forecast was developed for this marketplace and used to create the 1992 Information Services Market Forecast. To provide continuity for the hierarchy of federal sector financial forecasts, the 1992 forecast is included as a section C of this Appendix. Due to the fact that this analysis is recent, the only reconciliation provided is between the two most recent forecasts—the periods 1993-1998 and 1992-1997.

A

Forecast Data Base

Exhibit A-1 presents the detailed 1993-1998 forecast for the federal government sector.

EXHIBIT A-1

Federal Government Sector—
Market Size Forecast by Delivery Mode, 1993-1998

| Delivery Modes	1992 ($M)	Growth 92-93 (%)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	1998 ($M)	CAGR 93-98 (%)
Sector Total	10,875	1	11,029	11,669	12,557	13,458	14,359	15,202	7
Professional Services	2132	1	2,155	2,212	2,355	2,509	2,681	2,847	6
- IS Consulting	420	1	426	437	464	494	528	560	6
- Education & Training	358	-4	344	342	317	314	311	312	-2
- Software Development	1,354	2	1,385	1,433	1,574	1,701	1,842	1,975	7
Systems Integration	3,778	0	3,750	4,002	4,376	4,736	5,049	5,294	7
- Equipment	1662	30	2,159	2,302	2,502	2,698	2,846	2,962	7
- Software Products	264	5	278	305	350	391	431	454	10
- Applications Software	158	4	164	171	189	203	217	218	6
- Systems Software	106	8	114	134	161	188	214	236	16
- Professional Services	1,700	-33	1,138	1,199	1,298	1,390	1,488	1,583	7
- Other	152	15	175	196	226	257	284	295	11
Systems Operations	1,667	-10	1,507	1,625	1,650	1,689	1,747	1,822	4
- Platform Operations	517	-13	452	488	495	490	507	510	2
- Applications Operations	800	-10	723	764	743	743	733	765	1
- Desktop Services	200	-10	181	211	215	220	227	237	6
- Network Management	150	0	151	162	197	236	280	310	15
Processing Services	196	-8	180	179	176	173	168	165	-2
- Transaction Processing	196	-8	180	179	176	173	168	165	-2
Network Services	1,213	3	1,252	1,364	1,562	1,786	2,036	2,278	13
- Electronic Information Svcs	315	3	326	355	391	429	488	548	11
- Network Applications	898	3	926	1,009	1,171	1,357	1,548	1,730	13
Applications Software	774	-10	693	703	764	806	827	851	4
- Mainframe	139	-25	104	98	99	105	89	94	-2
- Minicomputer	201	-14	173	169	183	185	174	179	0
- Workstation/PC	434	-4	416	436	482	516	564	578	7
Turnkey Systems	1,115	34	1,492	1,584	1,674	1,759	1,851	1,945	5
- Equipment	524	28	671	697	720	704	740	778	3
- Software Products	413	37	567	601	653	686	743	781	7
- Applications Software	351	40	493	523	575	604	654	687	7
- Systems Software	62	19	74	78	78	82	89	94	5
- Professional Services	178	43	254	286	301	369	368	386	9
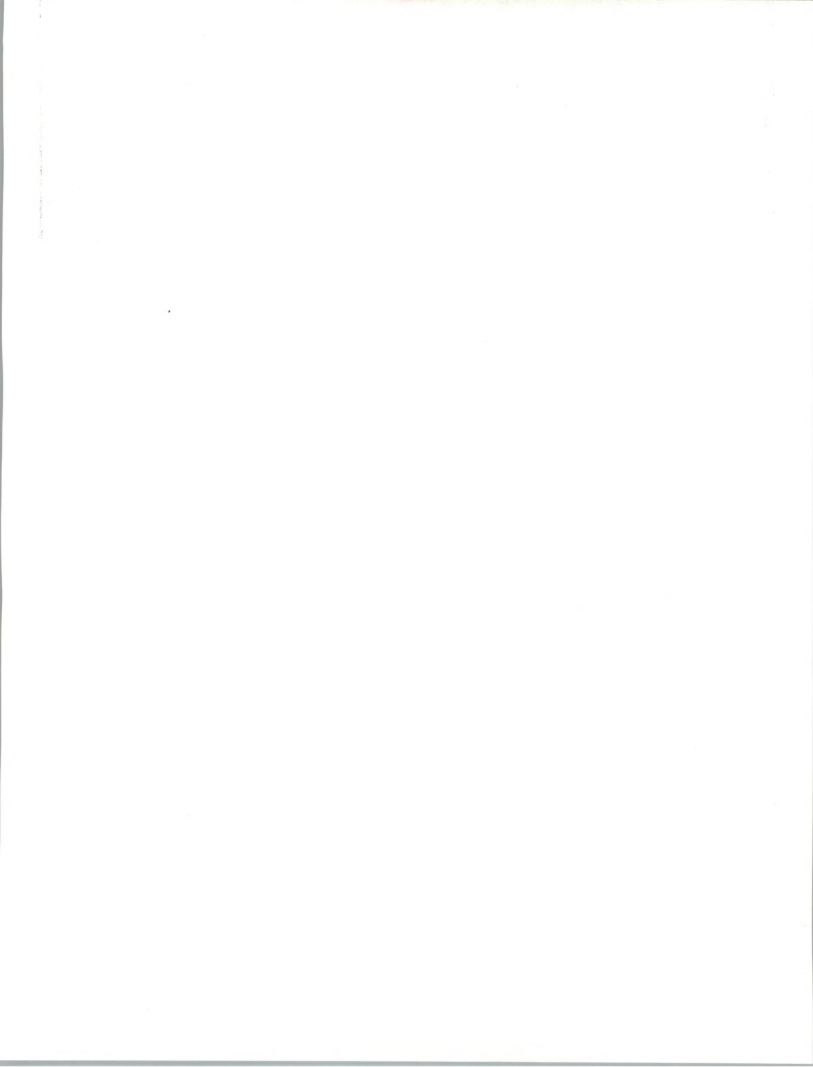
B

Forecast Reconciliation

Exhibit A-2 presents the detailed 1992-1997 forecast reconciliation for the federal government sector.

EXHIBIT A-2

Federal Government Sector—
1993 MAP Data Base Reconciliation

Delivery Modes	1992 Market				1997 Market				92-97 CAGR per data 92 Rpt (%)	92-97 CAGR per data 93 Rpt (%)
	1992 Report (Fcst) ($M)	1993 Report (Actual) ($M)	Variance from 1992 Report		1992 Report (Fcst) ($M)	1993 Report (Fcst) ($M)	Variance from 1992 Report			
			($M)	(%)			($M)	(%)		
Total	10,760	10,875	115	1	17,030	14,359	-2,671	-16	10	6
Professional Services	2,100	2,132	32	2	2,830	2,681	-149	-5	6	5
Systems Integration	3,790	3,778	-12	0	7,105	5,049	-2,056	-29	13	6
Systems Operations	1,505	1,667	162	11	2,585	1,747	-838	-32	11	0
Processing Services	175	196	21	12	175	168	-7	-4	0	-3
Network Services	1,275	1,213	-62	-5	1,530	2,036	506	33	4	11
Applications Software	790	774	-16	-2	1,355	827	-528	-39	11	1
Turnkey Systems	1,125	1,115	-10	0	1,450	1,851	401	28	5	11

The reconciliation shows a considerable variance in overall expenditures by 1997, of approximately $2.7 billion. The overall CAGR has dropped from 12% forecasted in 1992, to 6% forecasted in the 1993 report for the period 1992-1997. Agency expenditures for applications software, systems operations and systems integration services are expected to be considerably less than anticipated a year ago. Continued budget problems, further defense cuts and consolidated efforts are the prime reasons why this market is dampening.

The processing services CAGR reflect slightly more decline in the 1993 forecast than shown in the 1992 forecast. Downsizing of computing platforms and the rise of fee-for-service federal agencies are having a slightly stronger impact on this market than originally anticipated.
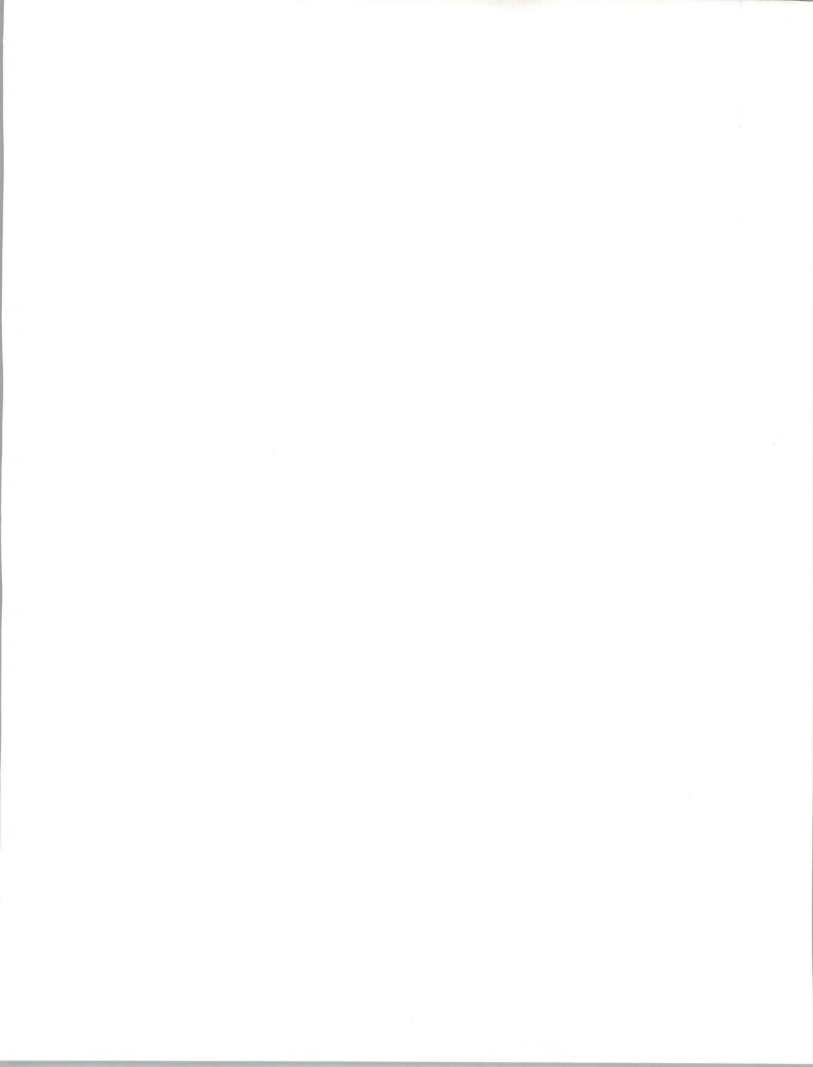
The reconciliation shows that the turnkey systems market is growing more strongly than INPUT had previously forecasted. Purchases of engineering and imaging systems are behind the rise in this market.

The differences between INPUT's forecast in 1992 and 1993 for the professional services mode are attributed to two reasons. First, increased financial pressure on agencies, primarily the DoD, is curtailing many expenditures for professional services. Second, the broad budget picture and the Clinton administration's policy directions for IT are still unclear to federal agencies as they enter the last quarter of FY 1993.

Although 1992 actual expenditures for network services are down from INPUT's forecasted number for 1992, INPUT now expects the CAGR for network services to almost triple for the period 1992-1997. Increases are attributed to more realistic budget requests from the DoD starting in 1994.
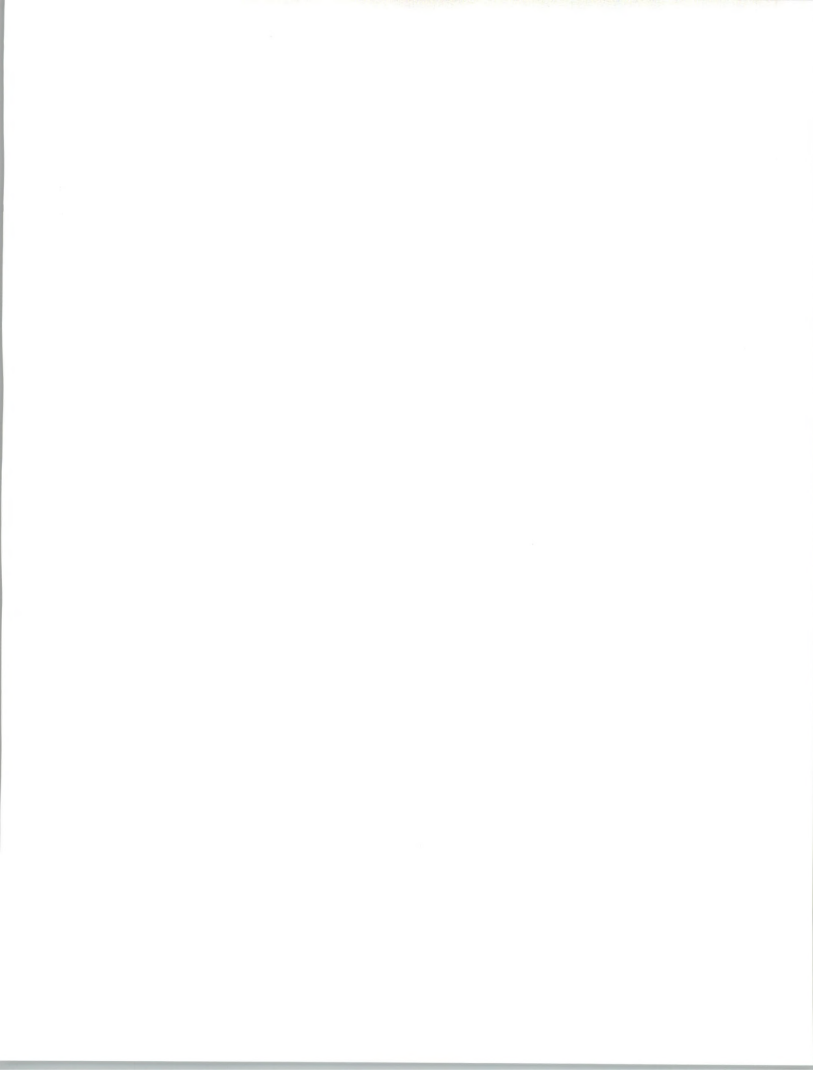
C

1993 Federal Government Sector Forecast

Exhibit A-3 presents the detailed 1992-1997 forecast for the federal government sector. It provides the basis for the 1992 and 1997 numbers used in the forecast reconciliation in section B of this appendix.

EXHIBIT A-3

Federal Government Sector—
Market Size Forecast by Delivery Mode, 1992-1997

Delivery Modes	1991 ($M)	Growth 91-92 (%)	1992 ($M)	1993 ($M)	1994 ($M)	1995 ($M)	1996 ($M)	1997 ($M)	CAGR 92-97 (%)
Sector Total	9,795	10	10,760	11,710	12,540	13,670	14,775	17,030	12
Professional Services	1,945	8	2,100	2,330	2,400	2,485	2,585	2,830	8
Systems Integration	3,330	14	3,790	4,125	4,565	5,245	5,875	7,105	13
Systems Operations	1,545	-3	1,505	1,675	1,810	1,980	2,175	2,585	11
Processing Services - Transaction Processing	170 140	3 <1	175 140	175 140	175 140	175 140	175 145	175 145	<1 <1
Network Services - Electronic Information Svcs - Network Applications	1,225 315 910	4 5 4	1,275 330 945	1,285 335 950	1,330 340 990	1,380 345 1,035	1,435 345 1,090	1,530 370 1,160	4 2 4
Applications Software - Mainframe - Minicomputer - Workstation/PC	680 125 175 380	16 4 20 18	790 130 210 450	875 135 220 520	970 140 235 595	1,065 140 250 675	1,155 145 265 745	1,355 150 285 920	11 3 6 15
Turnkey Systems	900	25	1,125	1,245	1,290	1,340	1,375	1,450	5

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