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# Information Services Opportunities & Trends, 1994-1999 Federal Government December 1994



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U.S. Information Services Market Analysis Program

Information Services Opportunities and Trends, 1994-1999—Federal Government Sector

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FEDERAL GOVERNMENT

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FEDERAL GOVERNMENT



# 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 1994 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 product/service sector and subsector.
- 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 to the previous forecast is also provided.



#### C Methodology

Much of the data on which this report is based was gathered during 1993 and 1994 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 upon in-depth interviews with federal agency officials and the IT vendors participating in the federal sector. INPUT maintains ongoing relationships with, and a database 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 1995, related portions of agency detailed budgets in response to the Office of Management and Budget Circular A-11, FY 1994 and FY 1995 editions, Congressional Committee oversight and apportionment meeting records, and over 35 computer and general business periodicals were used to develop the foundation for calendar 1993 base year, 1994 current year, and 1995-1999 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.



FEDERAL GOVERNMENT



### Trends, Events, and Issues

#### A General Federal Trends, Events, and Issues

Many factors operate concurrently to influence the federal IT market. There is no one factor that acts alone in influencing budget and spending levels. This section identifies and discusses the major factors influencing the market today and over the next five years. These factors include, but are not limited to, the following:

- Attempts to reduce the federal deficit
- Targeted increases in IT spending
- Influences toward the use of commercial services
- Pressures to downsize
- National Performance Review recommendations
- · Growing dependency on commercial off-the-shelf products

The challenge to federal planners of the uses of IT is to address all, or at least some, of these areas simultaneously—in a way that does not create problems in any of the other areas. Increases in IT spending must include reductions in operating costs, which in turn probably would involve the use of commercial off-the-shelf products.

#### в

#### Technology Trends, Events, and Issues

The U.S. federal information technology market is sensitive to a number of issues, which sometimes operate independently and sometimes simultaneously. The more important issues are discussed below. Any of these issues can be expected to change in composition, duration, and



significance as political and economic concerns are imposed on the procurement process.

#### 1. Price/Performance

Price/performance of commercial products is improving to such an extent that commercial solutions are becoming more appealing to agency buyers. Agencies are spending less and getting increases in performance. The overall budget for IT products appears to be diminishing, and would suggest a declining market. In fact, federal agencies are purchasing more units than in the past and are spending less for them.

The negative side of the issue is the reduction in the profit margin as prices are decreased and more vendors address the commercial products market. Successful vendors must be able to establish product differentiation or provide an attractive service to assure a healthy margin.

#### 2. Requirements of Network Integration

At the rate federal agencies are installing and operating networks, particularly local-area networks, potential problems of integration exist. Re-engineering of programs requires data and voice communication across these networks. Without effective commercial tools to perform network management and accounting for use, expensive professional services will be required. Less costly commercial tools will eventually appear, but in the meantime, the network integration market will experience high growth.

#### 3. Commercial Off-the-Shelf (COTS) Products

In order to reduce development and operating costs, and to decrease the amount of time required to acquire new products, the federal government is turning more to commercial products. A third benefit of the use of commercial products is that such products tend to be "open," allowing them to be integrated into existing information processing environments. The competitive nature of the growing demand will push prices down further.

#### 4. Procurement Reform

Late in 1994, the federal government passed the Federal Acquisition Streamlining Act of 1994. The highly acclaimed legislation will make purchasing easier in agencies. The Act itself does little to improve the process, but regulations that are being developed (full implementation is expected by June 1995) can bring significant reform to a system criticized as ineffective for more than ten years by all who use it. Most of the benefits of the reform will appear in the awarding of contracts with life



cycle values of less than \$100,000. The reform will have less effect on larger contracts, although multiply awarded task order contracts may see a requirement for more competition.

#### 5. Performance-Based Contracting

Performance metrics will appear in federal agency contracting. These metrics will be developed by the contracting agencies to determine whether contract performance has actually improved mission attainment. The Office of Federal Procurement Policy, in the Office of Management and Budget, has the responsibility for implementing a system whereby agencies can collect information on past contract performance and use this information as a selection factor in awarding new contracts.

#### 6. Justification for IT Spending Increases

Justification for information technology spending has typically resided in a lowest overall cost calculation. Under a "best value" determination, agencies may award on an anticipated performance factor in addition to cost. Ultimately, the agency must be able to show that the awarded contract will provide the best overall value to the government. Value is to be determined by both cost and performance in a ratio determined by the agency's contracting official.

#### 7. Fee for Service

Agencies can offer services they perform or contract for to other agencies. These services offer a competitive alternative to outside contractors, and are intended to give agency buyers further alternatives to expensive outside contracting. Agency data centers are popular vehicles for fees transfer from one agency to another, but federal services are also offered to state and local governments whose performance is integral to programs sponsored by the federal government.

The General Services Administration offers several types of central processing and facilities services to administrative agencies for a fee. Tools and services developed by some agencies, such as business processing re-engineering support, are made available to all departments. Agencies charge fees to local governments for processing and program support, such as that provided for law enforcement agencies.



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## 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 product and service categories as defined by INPUT.

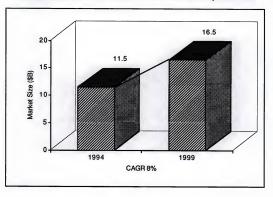
#### A Total Market Forecast, 1994-1999

The market for information services expenditures in the federal government sector is expected to grow to \$16.5 billion by 1999. As shown in Exhibit III-1, the compound annual growth rate for the period 1994-1999 is 8%.





Federal Government-Information Services Market, 1994-1999



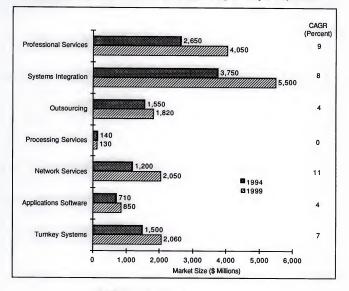
#### B Forecast by Delivery Mode

The 1994-1999 forecast of user expenditures by delivery mode for the federal government sector is shown in Exhibit III-2. Values in the exhibit are rounded. The actual values are shown in Appendix A. Discussion of the individual forecasts for product/service sectors follows this exhibit.



#### Exhibit III-2



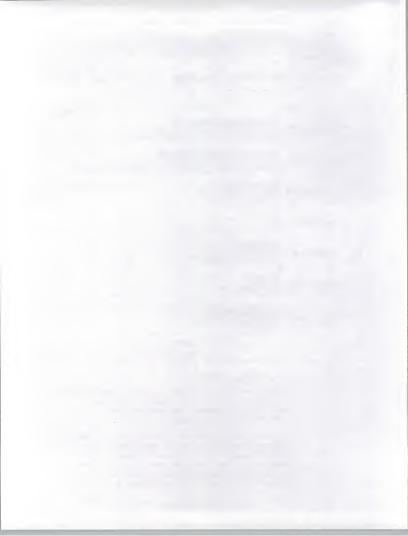


#### 1. Professional Services

Professional services include consulting, design, education and training, and software development. This segment does not include the professional services associated with systems integration, systems operations and telecommunications.

The federal professional services market is growing at a higher CAGR than forecast a year ago. Actual reported spending levels in 1993 were higher than estimated by the government, and even higher levels are forecast through 1999. The dependency on contractor sources for services has already begun to materialize. This market is projected to increase to more than \$4.0 billion by 1999, at a CAGR of 9%. This growth

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is higher than the 6% CAGR of 1992, and exceeds the CAGRs of 7% in 1991 and 1990, and 8% in 1989, although it is significantly below the 13% reported in 1988. Its growth is all the more impressive given that it starts with the largest base.

Some major upcoming projects include:

- Agriculture's Infoshare, valued at \$680 million, in 1995
- Justice's Information Technology Support Services in 1995, with an estimated value of \$200 million
- NASA's Master Programming Contract in 1995, valued at \$100 million
- The Army's Information Systems Support Contract/Technical Support Services (U3), valued at \$100 million, in 1995
- NIH's CERTAN Support Services in 1995, valued at \$100 million

#### 2. Systems Integration

The market for systems integration is expected to grow at an 8% CAGR, from \$3.7 billion in 1994 to \$5.5 billion in 1999. The systems integration (SI) market is not growing as fast as most observers thought in 1991, but is still one of the fastest growing IT segments in the federal government.

Unlike the commercial markets, hardware outlays are the predominant investment. The hardware segment was holding at 55% of total expenditures in recent years, but is now at 54%, and is expected to diminish to 50% of spending by 1999.

Hardware systems represent the largest dollar outlay in the systems integration market, but the professional services component of the systems integration forecast shows a lower growth rate, as agencies modernize and acquire additional systems. The equipment portion of SI was flat in the late 1980s, reflecting sizable budget cuts at many agencies, especially on the Defense side. But beginning in 1991 and continuing through 1995, there is a sizable increase in equipment acquisitions, replacing older mainframes and incorporating large numbers of workstations and PCs.

Some of the active systems integration programs include:

- The Air Force's Theater Battle Management Core System (TBMCS) in 1995, valued at \$200 million
- Commerce's Automated Patent System (APS) in 1995, valued at \$455 million



- The Goddard Space Flight Center's (GSFC) Systems Engineering and Analysis Support (SEAS) in 1996, valued at \$900 million
- The Army's Combined Allied Defense Effort (CADE) in 1996, valued at \$95 million

#### 3. Outsourcing

Federal outsourcing expenditures are expected to be \$1.5 billion in 1994, approximately the same as in 1992 and 1993, but are expected to grow slightly (at a CAGR of 4%) to \$1.8 billion in 1999. The growth rate has decreased since the 1991 forecast and is not expected again to reach the 15% level predicted in 1989 and 13% in 1990.

Outsourcing began to grow in 1990, after experiencing CACRs of 6% to 8% since the cutbacks of 1983, when a number of new systems were implemented. The turnaround in the outsourcing market (early in the 1990s) began with staffing restrictions and a slowdown of new system acquisitions imposed by the Gramm-Rudman-Hollings Budget Control Act, coupled with a slowdown in defense spending.

Defense outsourcing projects include Joint Staff Automation and WWMCCS O&M for the Air Force, the Air Force Operational Support Contract, the Laser System Test Facility for the Army, and Navy programs for PMTC Support, Science and Engineering Center Support, and PEPSU Software Maintenance.

HHS programs include the Administration and Scientific ADP Services Contract, and Justice has the Automated Litigation Support recompete, worth \$130 million. The Environmental Protection Agency will recompete the National Computer Center Operation contract, worth \$300 million.

Although industry has used the methodology for years, NASA was the first federal agency to employ mission contracting, now used at all centers except Lewis. The Air Force uses the same type of contracts for a few centers, and other agencies are moving toward allowing the contractor to use the most efficient staff mix to meet mission data processing and communications requirements.

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

The EPA's National Computer Center Contract in 1995, valued at \$300 million



- Federal Energy Regulatory Commission's ADP Support Services contract, in 1996, for \$40 million
- NASA's Scientific and Technical Information Facility, in 1995, valued at \$40 million

### 4. Processing Services

Processing services include transaction processing with some batch-mode workloads. For the last half of the 1980s, this delivery mode continued to decline as installation of new distributed processing systems and PCs depressed the need for outside processing support. The market currently features transactions involving funds transfer and other financial accounting in specific agencies, such as Treasury's Financial Management Service, and will remain relatively stable at about \$135 million through 1999.

### 5. Network Services

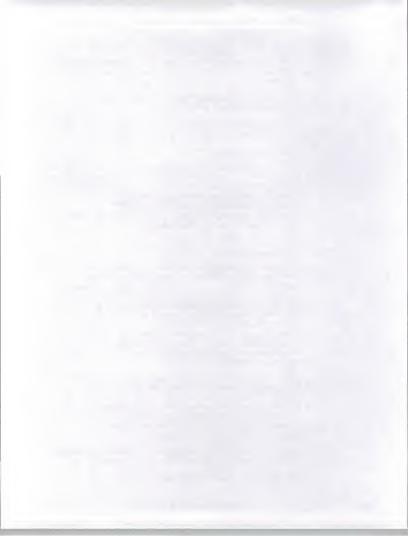
Network services is divided into two major segments: electronic information services selling information to users, and network applications-enhanced transport of user information processing needs. Earlier INPUT budget estimates developed from OMB A-11/Section 43 data were substantially undervalued because the funds were buried in the general telecommunications budget requests. Agencies have improved their reporting of telecommunications requirements in the A-11 in recent years. For FY 1996, OMB is relaxing its reporting requirement to separate out leased circuit spending from other communications categories. This will make it more difficult in the future to analyze the component-level spending.

Agency network services contracts typically last seven to ten years, and rarely are terminated by budget constraints. Separate new and replacement acquisitions may be deferred or canceled if an enhanced FTS2000 can meet their needs. Leased telecommunications circuits, principally obtained through the two FTS2000 contractors, include services also leased from the RBOCs (Regional Bell Operating Companies) and the independent suppliers.

At a CAGR of 11%, network services expenditures, driven by the growth in network applications, is the fastest growing product/service category.

Some major scheduled procurements are:

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- The Defense Department's Defense Research and Engineering Network (DREN), in 1995, for \$1 billion
- The Post FTS2000 program in 1996, valued at \$26 billion
- DISA's Hawaii Information Transfer System (HITS) in 1995, valued at \$85 million
- The Centers for Disease Control's Communications Support Contract, in 1995, for \$20 million

### 6. Applications Software Products

Applications software includes accounting, human resources, procurement and mission-unique support software. It concerns software that directly supports the mission of the agency. The following examples are typical:

- IRS uses software to assess the audit of a taxpayer's return.
- DLA uses software to track the movement of supplies at depots and warehouses.
- NASA uses software to evaluate the usability of pictures transmitted from space.

Applications software outlays are driven by the large PC inventory and updates of existing mainframe suites. Price competition is considered the key factor in the lowered 4% CAGR of the last couple of years, down from 15% in 1990. The market is expected to increase from about \$710 million in 1994 to \$850 million by 1999.

As a result of budget constraints and heavy pressure from OMB, many agencies are beginning to view their software requirements in other than unique terms. When they have a fairly standard application, particularly an administrative application, they acquire standard packages more often than before. This leads vendors to increase development of packages that are suitable for government use and government-oriented marketing efforts.

Increasing emphasis is being placed by the GSA, GAO, OMB, and NIST on the use of standardized applications. Commercial-grade off-the-shelf packages that have been modified to meet government needs are being acquired. Other commercial software products are purchased at volume discounts as part of "application suites," or are purchased centrally with rights to copy.



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Beta testing of packages by agencies leads to bid solicitations for specific types of platforms under the QPL (Qualified Products List) procurement ground rules. This is particularly pertinent in the requirements-type (indefinite delivery, indefinite quantity) contracts.

One area receiving much attention is standard financial packages. The Joint Financial Management Improvement Program (JFMIP) issued a Core Financial System Requirements document for agency use. In connection with this JFMIP requirement, GSA issued contracts to several additional vendors for core-compliant software.

#### 7. Turnkey Systems

Turnkey systems are value-added packaged hardware and software solutions to specific applications requirements that, with few modifications, satisfy commercial, industrial and government needs. This delivery mode's moderate federal growth rate results from sharp Defense budget cuts in custom-system appropriations. It is expected to increase from \$1.4 billion in 1994 to \$2.1 billion in 1999, a CAGR of 7%. Although the growth rate had been holding constant at 5% for the past several years, its increase for the next five-year period can be attributed to an increase in the number of commercial systems being brought into the government.

The full value of this market segment is not represented in these numbers. The price of some of the systems permits many of the acquisitions to fall beneath thresholds not requiring notification in the OMB A-11, and agencies are looking for commercially available systems that are readily adaptable to in-house applications.





# Forecast Database and Reconciliation

# Forecast Database

One of the features of INPUT's Federal Systems and Services Market Program is the creation of a computer-based forecast model for predicting the likely growth rates of federal IT expenditures. The model uses the data provided in Sections 43A, 43B, and 43C (Information Resource Plans and Budget Request) of the OMB Circular A-11 Federal Annual Budget Request Preparation Guidelines. This information provides the first twoyear baseline of the five-year forecast.

The primary service modes that closely follow the federal government IT budget elements are listed in Exhibit A-1. The most significant feature of this part of the forecast model is that the summation of expected expenditures for each fiscal year equals the amount derived from agency reporting as the "Total Contracted-Out Spending." (If the primary service modes exceed the budget/forecast it is unlikely that the funds would be available.)

With reassembling into service modes/markets, there can be some with double-digit growth prospects, as noted in Exhibit A-1. Examples include Communications/Network Services and software products within Systems Integration.

The forecast uses year-to-year growth rates established by INPUT and estimates of the Congressional Budget Office, Office of Management and Budget and economic projections of economic outlook groups in several agencies.

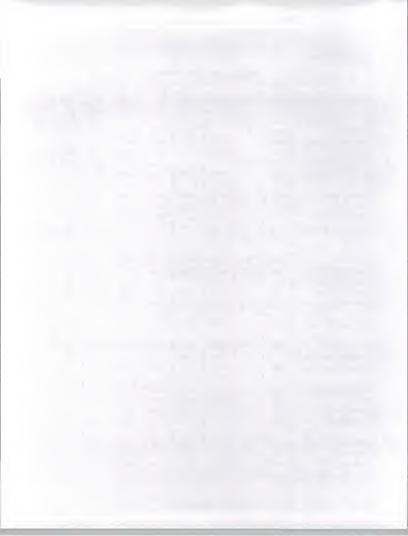
Exhibit A-1 presents the detailed 1994-1999 forecast for the federal government sector.



# Exhibit A-1

## Federal Government Sector User Expenditure Forecast by Product/Service Market, 1994-1999

Product/Service Market	1993 (\$M)	Growh 93-94 (%)	1994 (\$M)	1995 (SM)	1996 (\$M)	1997 (\$M)	1998 (\$M)	1999 (\$M)	CAGR '94-'99 (%)
Sector Total	11045	4	11459	12396	13435	14403	15464	16473	8
Professional Services	2467	7	2648	2901	3181	3445	3742	4032	9
- IS Consulting	490	7	525	575	631	683	743	800	9
- Education and Training	385	8	417	453	484	518	552	584	7
- Software Development	1593	7	1706	1872	2066	2243	2447	2647	9
Systems Integration	3639	2	3729	4110	4505	4884	5228	5508	8
- Equipment	2003	1	2019	2223	2416	2603	2744	2856	7
- Software Products	277	0	276	314	358	399	438	461	11
- Professional Services	1186	7	1264	1377	1506	1627	1764	1899	8
- Other	174	-3	169	196	226	256	281	292	12
Outsourcing	1459	5	1532	1613	1643	1686	1750	1831	4
- Platform Operations	438	5	460	484	493	506	525	549	4
- Applications Operations	657	4	685	710	719	725	753	787	3
- Desktop Services	146	5	153	161	164	169	175	183	4
- Network Management	219	9	234	258	267	287	298	311	6
Processing Services	152	-10	137	145	143	140	136	134	0
Network Services	1228	-1	1219	1230	1431	1595	1828	2054	11
- Elec. Information Svcs.	319	-1	315	330	356	389	439	493	9
- Network Applications	909	-1	904	970	1075	1207	1390	1561	12
Applications Software	692	3	713	745	779	805	827	852	4
- Mainframe	104	1	105	102	101	105	108	111	1
- Minicomputer	164	0	164	171	177	175	172	170	1
- Workstation/PC	424	5	444	471	500	526	548	571	5
Turnkey Systems	1408	5	1481	1652	1753	1848	1953	2062	7
- Equipment	634	5	663	722	749	771	795	825	4
- Software Products	535	6	565	638	684	723	774	825	8
- Professional Services	239	6	254	291	320	353	383	412	10



### B Forecast Reconciliation

Exhibit A-2 presents the detailed 1993-1998 forecast reconciliation for the federal government sector.

### Exhibit A-2

Product/Service Sector		199	3 Market	1998 Market				93-98	93-98	
	1993 1994		Variance From		1993	1994	Variance From		CAGR	CAGR
	Market (Fcst)	Report (Actual)	1993 Forecast		Market	Report	1993 Forecast		per data	per data
					(Fcst)	(Fcst)			'93 Rpt	'94 Rpt
	(\$M)	(\$M)	(\$M)	(%)	(\$M)	(\$M)	(\$M)	(%)	(%)	(%)
Total	11029	11045	16	0%	15202	15464	262	2%	7%	7%
Professional Services	2155	2467	312	14%	2847	3742	895	31%	6%	9%
Systems Integration	3750	3639	-111	-3%	5294	5228	-66	-1%	7%	8%
Outsourcing	1507	1459	-48	-3%	1822	1750	-72	-4%	4%	4%
Processing Services	180	152	-28	-16%	165	136	-29	-18%	-2%	-2%
Network Services	1252	1228	-24	-2%	2278	1828	-450	-20%	13%	8%
Applications Software	693	692	-1	0%	851	827	-24	-3%	4%	4%
Turnkey Systems	1492	1408	-84	-6%	1945	1953	8	0%	5%	7%

The professional services figures for 1993 and 1998 reflect the higher growth rates discussed earlier. The variance for processing services results from both the small base and relative stability of that service over the forecast period. Network services growth, over the 1993-1998 period, was overstated somewhat as adjustments to the forecast (resulting from changes in OMB A-11 reporting in earlier years) were overestimated in the long term. Even with the adjustment, however, the network services product/service sector is still the fastest growing in this industry.

A-3



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