

December 13, 1985

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Dear

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:

We are pleased to provide you with a revised Federal ADP Facilities Management Market Report for 1986-1990. This release includes a revised Executive Summary, updated forecasts, changes to the OMB Circular A-76, and a new list of FM opportunities.

The enclosed report should replace the pages in your present binder. Please retain the tabbed separators for the individual sections to permit access to different sections.

If you have any questions on this revision of the FM report, please call us.

Sincerely,

John E. Frank
Vice President

JEF:ml

Enclosure



FEDERAL ADP FACILITIES MANAGEMENT
AND ON-SITE OPERATION
AND MAINTENANCE SERVICES MARKET,
1985-1990

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
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CHICAGO, ILLINOIS 60637

FEDERAL ADP FACILITIES MANAGEMENT AND ON-SITE
OPERATION AND MAINTENANCE SERVICES MARKET
1985-1990
(Revised)

ABSTRACT

INPUT now predicts that the federal government facilities management market will increase at an average annual growth rate of 12% in the 1985-1990 period. This market is expected to increase from \$740 million in 1985 to \$1.3 billion in 1990.

There are a number of forces that will significantly influence the direction and strength of the marketplace. These include (but are not limited to):

- Staffing requirements of the large new and replacement ADP facilities already undergoing implementation are expected to exceed trained government personnel availability.
- A number of large systems integration programs, with projected contractor support requirements extending over 10 to 24 years, will be needed to implement emerging technological developments.
- DoD and NASA are transferring facility support contracting to "mission-based contracts."
- In-house federal data centers have become eligible vendors of facilities management services under the revised OMB A-76.

The Federal ADP Facilities Management Board analyzes agency plans for the future use of FM and O&M. The report identifies 104 ADP contracts that will be competed through 1990 and estimates their respective annual dollar values. Agency selection criteria, vendor performance characteristics, and contracting policy and preference are also viewed.

This report contains 160 pages, including 31 exhibits.

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FEDERAL ADP FACILITIES MANAGEMENT
AND ON-SITE OPERATION AND MAINTENANCE SERVICES MARKET,
1985-1990

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AND ON-SITE OPERATION AND MAINTENANCE SERVICES MARKET,
1985-1990**

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I INTRODUCTION

- This report on Federal Automatic Data Processing (ADP), Facilities Management (FM), and On-Site ADP Operation and Maintenance (O&M) services has been prepared and updated as part of the Federal Information Systems and Services Program (FISSP). For this report, FM includes both Processing FM or COCO (contractor-owned, contractor-operated) and Professional Services FM or GOCO (government-owned, contractor-operated) service modes.
- There is a high degree of interest in this topic on the basis of increasing federal government demands on heavily loaded in-house data processing resources and expected conversion of commercial activity (CA) ADP support functions from in-house to the private sector.
- *This report is based on an analysis of the most recent INPUT Procurement Analysis Reports, DoD Commercial Activities Inventory Report and Five Year Review Schedule, previous INPUT research conducted from 1981 through 1985, and discussions with the FISSP vendor clients and federal government agencies.

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A. SCOPE

- *This report covers those ADP FM and O&M programs listed in the OMB/GSA/NBS Five-Year Plan for government fiscal years (GFY) 1986 to 1990, related federal agency long-range ADP plans, and federal agency GFY 1985 and 1986 information technology budgets.
- Two FM service modes were included in the study--Processing FM (also called contractor-owned, contractor-operated or COCO) and Professional Services FM (also called government-owned, contractor-operated or GOCO).
- On-site ADP O&M contracts that include software as well as hardware maintenance have also been included because they are closely related to GOCO-type FM under current nonpersonal services contracting regulations.
- The agencies selected for interview were those identified as presently using or proposing to use vendor-furnished FM or on-site O&M services.
- The vendors selected for interview were identified as contractors of record for, or with an interest in, ADP FM and on-site O&M programs, or listed as vendors for federal computer-related FM services in INPUT's Company Analysis and Monitoring Program Data Base for 1983.
- *The period of interest is GFY 1986 to 1990. Although GFY 1986 will start at the time of publication of this report, it will serve as the base line for discussion of existing programs and will be the point of departure for market forecasts.

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B. METHODOLOGY

- *The 1985 OMB/GSA/NBS Five Year Plan analysis in the INPUT Procurement Analysis Report was reviewed for programs to be initiated during the period of interest.
- Available agency long-range ADP plans were researched for major system replacements and new system acquisitions as a means of anticipating future service opportunities.
- The DoD Commercial Activities Inventory Report and Five-Year Review Schedule was examined to determine possible conversions of computer centers from in-house to contractor performance.
- Questionnaires were developed for interview of both federal agency officials and FM services vendor executives.
 - Federal agency officials selected for interview included:
 - Information resource managers.
 - Contracting officers (buyers).
 - Program managers (users).
 - Data center managers (users).
 - Vendor executives selected for interview included:
 - Company executives.

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- . Marketing executives.
- . Operations executives.
- Questionnaires were developed from the initial client discussions and reviewed with them to include areas of interest. Copies of the agency and vendor questionnaires are included in Appendices E and F.
 - The agency questionnaire was designed to acquire information about plans for procurement of facilities management and on-site operation and maintenance services.
 - The vendor questionnaire was designed to acquire industry status and future federal market plans.
 - Both include similar questions about contracting policy and preference, selection criteria, and vendor performance characteristics for comparison.
- Interviews with agency and vendor representatives were conducted during May, June, and July 1984.

C. REPORT ORGANIZATION

- The report has been organized into six sections:
 - Executive Summary.
 - Market Analysis and Forecast.



- OMB Circular/A-76 Impact.
- Agency Considerations.
- FM/O&M Vendors.
- Business Opportunities.
- Six appendices are provided to aid in report use:
 - Interview Profile.
 - Definitions.
 - Glossary of Federal Acronyms.
 - Related INPUT Reports.
 - Federal Agencies - Users of FM/O&M Services Questionnaire.
 - FM/O&M Vendor Questionnaire.











the 1990s, the number of people in the world who are illiterate has increased from 700 million to 800 million.

It is not surprising that the illiterate population has increased in the last decade. The reason is that the population growth rate is still high, especially in the developing countries.

There are many reasons for the increase in illiteracy. The main reason is that the population growth rate is still high, especially in the developing countries.

Another reason is that the quality of education is still low, especially in the developing countries.

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*II EXECUTIVE SUMMARY

- This Executive Summary is designed in a presentation format to:
 - Help the busy reader quickly review key findings.
 - Provide a ready-to-go executive presentation, complete with script and visual aids.
- Key points of the entire report are summarized in Exhibits II-1 through II-6. On the left-hand page facing each exhibit is a script explaining the exhibit's contents.

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***A. FEDERAL FACILITIES MANAGEMENT MARKET FORECAST**

- INPUT estimates that the federal government facilities management market will increase from \$740 million in FY 1985 to \$1.29 billion by FY 1990, at an average annual growth rate of 12%.
- Processing Facilities Management (PFM) or COCO (Contractor-Owned, Contractor-Operated), as it is called in the government, will increase from \$200 million to \$420 million, at an AAGR of 16%.
 - The AAGR of PFM has declined from 20% in 1983 and 19% in 1984.
 - The key factor has been implementation of new systems in the improved Information Technology Budget Authorizations, reducing demand on outside sources of ADP.
- Professional Services Facilities Management (PSFM) and Operations & Management (O&M) or GOCO (Government-Owned, Contractor-Operated) will increase from \$540 million to \$870 million, at an AAGR of 10%.
 - The AAGR declined from 13% in 1984.
 - Several factors negatively influence GOCO growth:
 - Market maturity and its moderate growth rates.
 - Lower overhead expense recovery rates and resultant lower competition prices.
 - Lack of agency incentive to contract-out ADP support under OMB A-76.

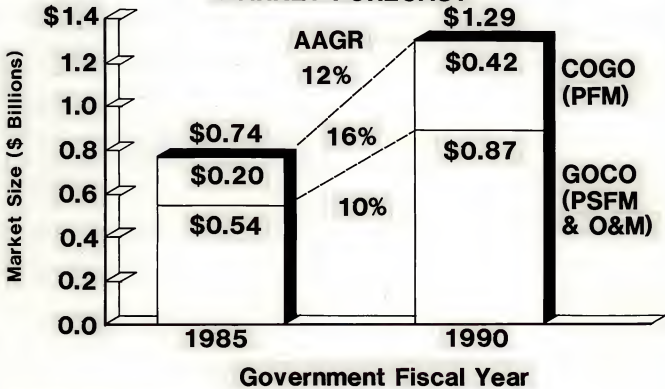
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FEDERAL FACILITIES MANAGEMENT

MARKET FORECAST*



AAGR: Annual Average Growth Rate

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The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses and income.

The second part of the document provides a detailed breakdown of the accounting cycle. It outlines the ten steps involved in the process, from identifying the accounting entity to preparing financial statements. Each step is explained in detail, with examples provided to illustrate the concepts.

The third part of the document discusses the various types of accounts used in accounting. It categorizes accounts into assets, liabilities, equity, revenue, and expense accounts. It also explains how these accounts are used to record and summarize business transactions.

The fourth part of the document discusses the importance of the double-entry system. It explains how every transaction is recorded in two accounts, one as a debit and one as a credit, to ensure that the accounting equation remains balanced. This system provides a built-in check and balance for the accounting records.

The fifth part of the document discusses the various methods used to record transactions. It compares the journal method, where transactions are recorded in chronological order, with the ledger method, where transactions are recorded in accounts. It also discusses the use of T-accounts to visualize the debits and credits for each account.

The sixth part of the document discusses the importance of adjusting entries. It explains how these entries are used to ensure that the financial statements reflect the true financial position of the company at the end of the accounting period. Examples of adjusting entries for depreciation, amortization, and accruals are provided.

The seventh part of the document discusses the various financial statements prepared from the accounting records. It includes the balance sheet, income statement, statement of retained earnings, and statement of cash flows. Each statement is explained in detail, and its purpose is discussed.

The eighth part of the document discusses the importance of internal controls. It explains how these controls are used to prevent and detect errors and fraud in the accounting system. Examples of internal controls for cash, inventory, and fixed assets are provided.

The ninth part of the document discusses the various methods used to value assets and liabilities. It includes the cost method, the fair market value method, and the replacement cost method. It also discusses the importance of using consistent valuation methods for all assets and liabilities.

The tenth part of the document discusses the various methods used to allocate costs. It includes the direct method, the indirect method, and the cost of sales method. It also discusses the importance of using consistent allocation methods for all costs.

B. FEDERAL FM/O&M MARKET FACTORS

- Several federal policy and contracting regulation changes in the past year can affect this market.
 - OMB Circular A-76 has been assigned a new role.
 - Changed to the Productivity Improvement Program.
 - Oversight shifted from OFPP to OMB.
 - Related to new OMB management evaluation procedure.
 - FM/O&M activities are included under the new FIRMR effective April 1984. Few FM activities will be retained under FAR.
 - Proposed expansion of the Service Contract Act to include ADP GOCO was defeated in court. High technology salary immunity to wage determination by DOL may change with administrations.
 - Expansion of mission contracting in NASA and DoD will permit introduction of vendor staffing efficiencies.
 - Vendors and agencies view the implementation of large-scale systems integration programs as potential FM contracts, pending federal staff conversion and training.



FEDERAL FM/O&M MARKET FACTORS

- **OMB A-76 P.I.P.**
 - **F.I.R.M. Regulations**
 - **Service Contract Act**
 - **Mission Contracting**
 - **Systems Integration Programs**
-



C. COMPETITIVE BID SUCCESS FACTORS

- Comparison of the relative importance of bid and proposed characteristics to agencies and vendors reveals some major differences in opinion.
- Although agencies did not identify price as a key factor, most FM/O&M awardees are the lowest, or nearly the lowest, acceptable bidder.
- Staff experience with the hardware, software, and primary ADP objectives carries substantial weight in selecting the contract winner.
- Vendors still rate incumbency as a major factor, but several key awards in FY 1985 went to other vendors for a variety of offered reasons.
- While agencies did not rate federal contract experience as significant, few vendors without that background have won any important FM/O&M programs.



COMPETITIVE BID SUCCESS FACTORS

AGENCIES	RANK	VENDORS
Support	1	Price
Staff Experience	2	Incumbency
Applications Experience	3	Staff Experience
Software Experience	4	Federal Experience



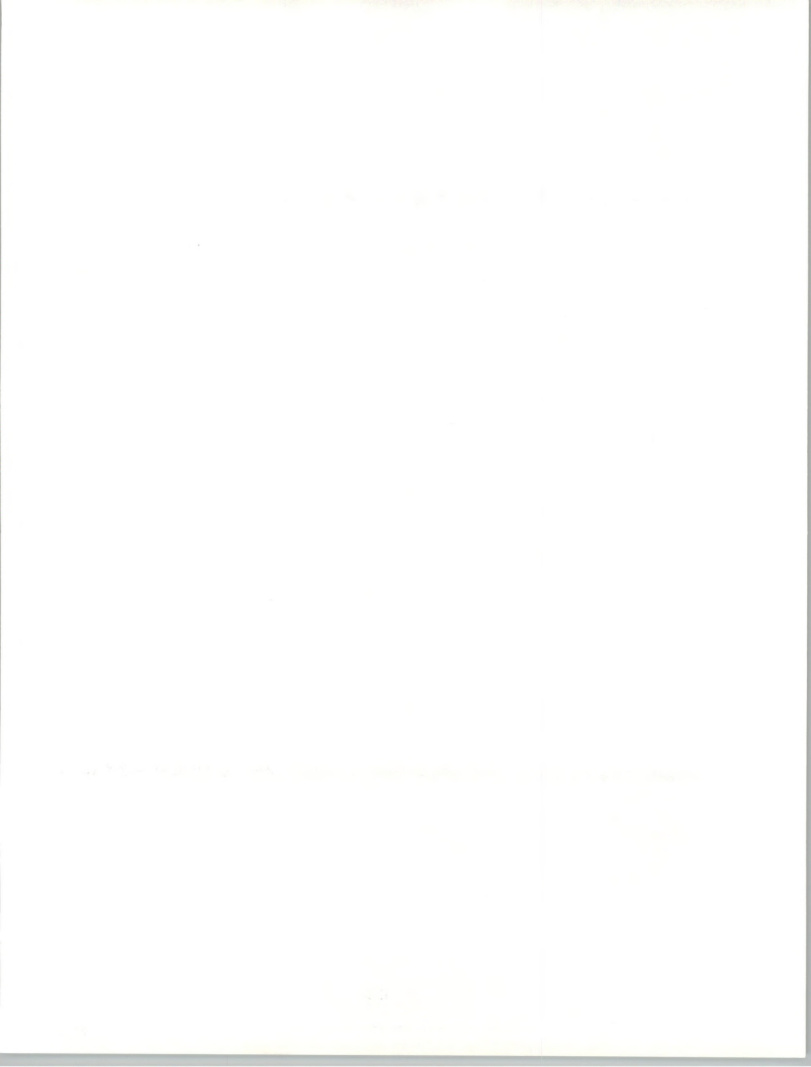
D. AGENCY FM/O&M SATISFACTION LEVELS

- Retention of current FM/O&M contracts is as important to incumbents as winning new contracts.
- Some agencies routinely replace on-site support vendors every three-to-five-year contracting cycle; others retain effective incumbent vendors as being more efficient for their operation.
- The difference in the relative importance of performance factors to agencies and vendors may provide a clue to incumbency retention.
 - Responsiveness to changing agency priorities is most important to the client, but did not rank in the top four factors with vendors.
 - Both recognize quality as the second most important factor. Vendors who do not rate quality as important are usually replaced.
 - Both identify quantity and delivery (per schedule) as significant, but at different levels.
- Emphasis of agency priorities need to be a major part of the vendor business strategy.



AGENCY FM/O&M SATISFACTION LEVELS

AGENCIES	RANK	VENDORS
Response	1	Quantity
Quality	2	Quality
Delivery	3	Cost
Quantity	4	Delivery



E. RECOMMENDATIONS - COCO MARKET

- The COCO marketplace is well established. Significant entrance may be best made via acquisition of a current in-place contractor.
- Potential COCO vendors should explore the prospect of upgrading an RCS contract to meet unique agency requirements. Several current vendors moved from GSA-TSP to separate contracts to COCO agreements.
- Agencies with rapidly changing information technology requirements, especially for the newest available commercial technology, are prime candidates for COCO contracts.
 - Prospects could improve if Congress funds the "Buy-Not-Lease" mandate, because leases provide upgrades.
 - Newer relational data base systems and distributed processing based on micros are in demand.
- Innovative investment and pricing are needed to provide cost-effective alternatives to agencies requiring additional ADP capacity.



RECOMMENDATIONS - COCO MARKET

- **Acquisition of Current COCO Vendor**
 - **Upgrade RCS Contracts**
 - **Newer Technology Prospects**
 - **Cost-Effective Alternatives**
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F. RECOMMENDATIONS - GOCO MARKET

- Incumbency continues to offer the best prospect for retaining market share, if the vendor is not overcome by complacency or poor management.
- New competitors need to invest the time and effort required to develop a firm installation intelligence based on:
 - Facility mission—present and future.
 - Facility management procedures.
 - Contracting procedures and preferences.
 - Out-year budget prospects.
 - Client-desired operating changes.
- Project and/or site management policies must be established before preparing the proposal and must correlate well with prospective client desires.
- Bidding strategy and key elements of the proposal must be developed early in the bidding cycle, by either an incumbent or a challenger.
- Pre-bid subcontract agreements can be essential to:
 - Satisfy agency small business goals.
 - Provide special skills identified by client.
 - Enhance experience base with ADPE, software, or facility operations.



RECOMMENDATIONS - GOCO MARKET

- **Incumbency**
 - **Installation Intelligence**
 - **Management Policy**
 - **Bidding Strategy**
 - **Pre-Bid Subcontracting**
-

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III MARKET ANALYSIS AND FORECAST

A. OVERVIEW

- The facilities management (FM) market came into existence in the federal government marketplace for nearly all of the same reasons that apply in the commercial marketplace: convenience, staffing, location, indeterminate life cycle, flexibility, and immediacy.
- There are two primary modes of FM services, determined by ownership of the ADP equipment:
 - Processing FM (PFM) provides for the management and performance of a user's data processing functions with equipment owned or leased by the PFM vendor, who operates, plans, controls, and maintains the resources. The federal government calls PFM "COCO"—contractor-owned, contractor-operated information resources.
 - Professional Services FM is the counterpart of PFM, in which the primary difference lies in ownership or lease of the equipment, and most frequently the site(s), by the client. The federal government calls PSFM "GOCO"—government-owned, contractor-operated information resources.



- The federal government also contracts for the operation and maintenance (O&M) of its ADP resources under contract rules that are essentially the same as GOCO/PSFM, except for the extent of facility control and management.
 - These contracts tend to be task-ordered, with ceiling cost-per-year terms ("not to exceed x dollars per year, unless otherwise amended").
 - Although the vendor is asked to participate in resource planning sessions, the government client generally retains scheduling control.
 - Through mission contracting and similar techniques, agencies like NASA are shifting GOCO/O&M contracts to GOCO/FM terms during this decade.
 - GOCO/O&M contracts and opportunities included in this report have PSFM characteristics.
 - Long contract period (more than one year, and usually three to five years).
 - Contractor fully responsible for staffing, staff scheduling, and training.
 - Contractor responsible for both hardware and software maintenance.
 - Contractor responsible for planning and/or implementing equipment and software upgrades and replacements.
- *Incumbency was earlier viewed as the key to retaining contracts that must be recompeted at three- to five-year intervals. Awards in the past three years

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indicate that incumbency may no longer be an advantage, according to agency respondents.

- Overall cost control and responsiveness to changing agency requirements have become prerequisites to effective and successful competition in this market, as indicated by the vendors with prior experience.
- Administrative and laboratory applications appear to dominate the FM marketplace.
 - Administrative support in many agencies is characterized by inadequate staff size and frequent requests for special studies.
 - Laboratory and engineering center ADP support tends to be erratic in the long term, with workload peaks and valleys based on progress or delays of experimental efforts.

B. FORECAST

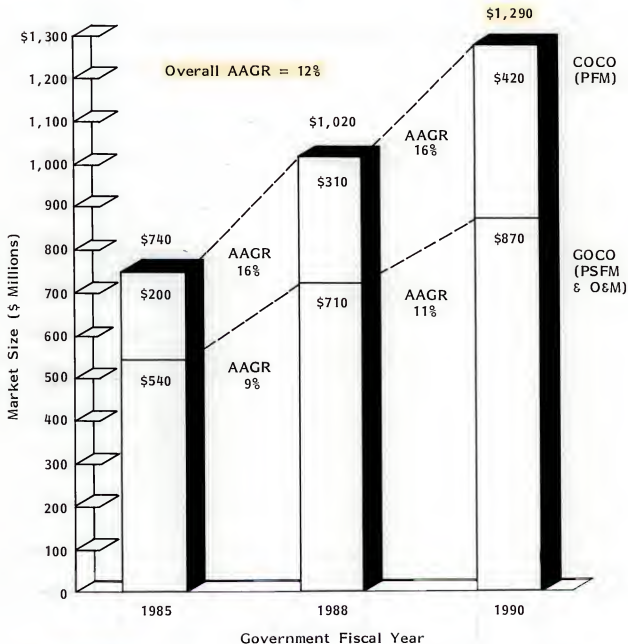
- The forecasts are based on a review of available agency long-range ADP plans, contract lists, and proposed programs described in OMB A-11 documents, as well as interviews with agency policy makers, agency technical users, and interested vendors.
- *The federal FM/O&M market is expected to grow at an overall AAGR of 12% during the FY 1985 to 1990 period, increasing from \$740 million in 1985 to \$1.29 billion in 1990, as shown in Exhibit III-1.

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EXHIBIT III-1

FEDERAL FACILITIES MANAGEMENT MARKET GROWTH
FISCAL YEARS 1985-1990*



AAGR = Average Annual Growth Rate

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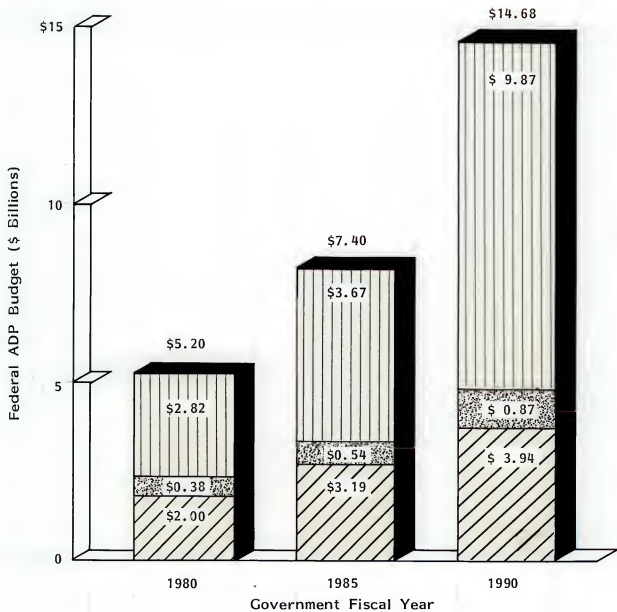
- PFM or COCO is projected to grow at 16% annually, from \$200 million in FY 1985 to \$420 million in FY 1990.
- PSFM and O&M or GOCO will increase from \$540 million in FY 1985 to \$710 million in FY 1988, at an AAGR of 9%, and to \$870 million in FY 1990, at an AAGR of 11%.
 - . During FY 1988 NASA expects to recomplete all of its large center mission contracts.
 - . DOE has proposed contractor operation of several class VI and VII supercomputers in the FY 1988-1990 period.
 - . Several large civil system integration programs will become operational in the FY 1987-to-1989 period and may require contractor operation pending retraining of in-house staffs.
- Both COCO and GOCO forecasts have declined from earlier estimates:
 - . PFM decline is related to the increasing availability of new in-house ADP resources, including expanded Federal Data Centers.
 - . PSFM/O&M decline results from replacement by new facilities and restrictions on support services contracting.
- *Exhibit III-2 puts GOCO expenditures in perspective by relating them to the federal ADP and the software and services portions of the budget.
 - In 1980 the federal ADP budget was \$5.2 billion.
 - . The software and services portion was \$3.2 billion or 62%.




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EXHIBIT III-2

FEDERAL ADP BUDGET*
FISCAL YEARS 1980, 1985, and 1990



-  Other Software and Services
-  GOCO/PSFM
-  Hardware

Note: Excludes Telecommunications Equipment and Services

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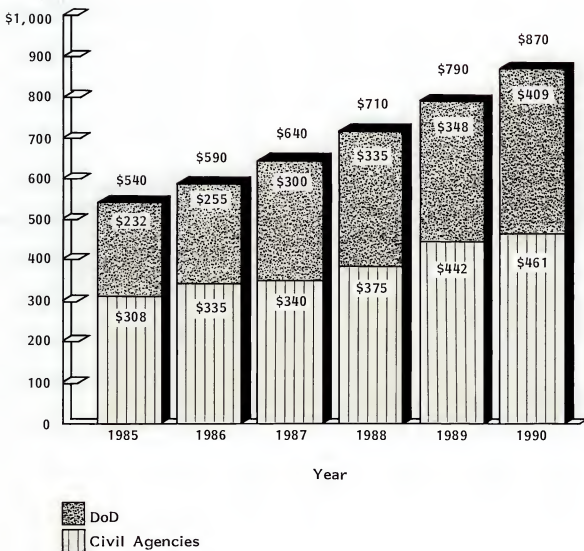
- GOCO expenditures were \$380 million (7% of the budget).
- In 1985 the federal ADP budget is \$7.4 billion.
 - Software and services will cost \$4.2 billion, or 57%.
 - GOCO expenditures could reach \$540 million (7% of the budget).
- In 1990 the federal ADP budget could reach \$14.7 billion.
 - The software and services budget is expected to reach \$10.7 billion, or 73% of the budget.
 - GOCO expenditures are projected to be \$870 million, or 6% of the budget.
- The GOCO (PSFM and O&M) expenditures appear to be about 7% of the ADP portion of the Information Technology Budget for most of the decade.
- *Between 1975 and 1983, DoD accounted for approximately 50% of the federal FM/O&M market. Since 1984, the civil agencies have increased their share of the market. This trend is forecast to continue through 1990, as shown in Exhibit III-3.
- *As shown in Exhibit III-4, the Navy became the largest user of FM/O&M services in 1985, surpassing the Air Force.
 - Planned conversions to Contractor O&M of test ranges, weapons laboratories, and space and missile centers are expected to increase

*Updated 8/85



EXHIBIT III-3

FEDERAL GOVERNMENT GOCO MARKET
 CIVIL AND DoD (PSFM AND O&M)
 FISCAL YEARS 1985-1990*

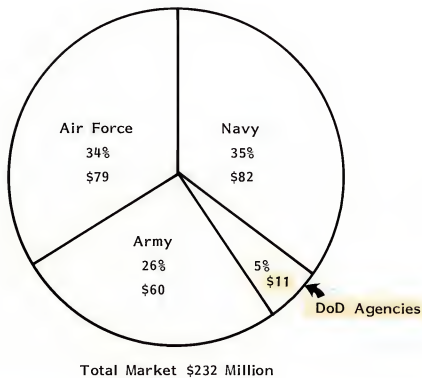


*Updated 8/85



EXHIBIT III-4

DoD FM/O&M MARKET SHARE BY SERVICE
GOVERNMENT FISCAL YEAR 1985*
(\$ Millions)



*Updated 8/85

the Air Force share of the DoD GOCO market, at least through this decade.

- Leading civil agencies in the use of FM/O&M services in FY 1985 are NASA (\$85 million), Health and Human Services (\$68 million), Energy (\$60 million), and Justice and Treasury (each \$19 million).

C. COMPETITION

- The competition for federal FM/O&M opportunities varies with the agency, value of the program, and specifics of the work statement.
 - Some firms prefer to concentrate their business efforts with a select few agencies, thus conserving time, marketing resources, and proposal funds.
 - Many small business ventures have been formed to provide a special service at low cost to an agency located near their base of operation.
- Competition in the COCO/Processing FM market is limited to those vendors who either already have, or are prepared to obtain via purchase or lease, the requisite suite of ADP equipment and software and support staff to satisfy the agency's requirements.
- The relative market share of the leading COCO/PFM contractors is indicated in Exhibit III-5.
- *Several of the vendors in the federal GOCO/FM-O&M were organized as divisions or subsidiaries of larger technical corporations to permit competitive

*Updated 8/85



EXHIBIT III-5

FEDERAL COCO/PROCESSING FM MARKET SHARE, 1984*

RANK	VENODR	MARKET SHARE (Percent)
1	EDS	42.0%
2	BCS	25.0
3	CSC	9.0
4	McAuto	4.5
5	Comnet	3.5
6	TDC	3.5
7	ADP	3.0
8	CDC	1.5
9	GEISCO	1.0
10	Informatics	1.0

*Updated 8/85



pricing. Comparable estimates of ADP GOCO revenues are not readily available but, based on available information, Exhibit III-6 illustrates the rank and market share of the ten leading vendors in 1984.

- In 1985, PRC acquired Kentron and Sterling Software acquired Informatics. Future estimates will combine the revenues.
- Several of the corporations report much larger federal FM revenues, but the FM refers to management of an entire federal facility, which may not include ADP.
 - Vendors in the top ten often subcontract to general FM vendors to provide ADP FM or O&M services.
 - Most of the long-term FM contractors do not use outside ADP assistance, such as:
 - Sandia Corporation (Western Electric).
 - Union Carbide.
 - Westinghouse.
 - EG&G.
- Additional vendors present in the federal ADP GOCO market include several prominent small business firms. The vendors listed in Exhibit III-7 were identified by agencies as active, to varying degrees, in the ADP GOCO market in 1984.
 - A number of these vendors also offer third-party maintenance (TPM) services either directly to agencies or through subcontractors.



EXHIBIT III-6

FEDERAL GOCO/FM-O&M MARKET SHARE, 1984*

RANK	VENDOR	MARKET SHARE (Percent)
1	Computer Sciences Corporation	25%
2	Planning Research Corporation	15
3	Electronic Data Systems	8
4	Martin Marietta	7
5	Bendix Services	5
6	Kentron	5
7	LEMSCO (Lockheed)	5
8	Boeing Services	4
9	Dynalectron	3
10	Informatics General	3

*Updated 8/85

EXHIBIT III-7

GOCO FM/O&M VENDORS, EXCLUDING THE TOP TEN, 1984*

AVCO	McDonnell Douglas Technical Services
Burroughs/SDC	OA0 Corporation
Control Data Corporation	Orkand
DP Associates	RCA Services
EG&G GmbH	Raytheon Services
Ford Aerospace and Communications	Selectech Services
General Electric	Sigma Data Systems
Grumman Services	Sperry
Harris Data Services	Syscon
ITT/Federal Electric	Vanguard

* Updated 8/85

- Recompensation of a number of GOCO contracts could put some of the Exhibit III-7 vendors in the top ten list for 1985.
- Although considered of negligible market significance at this time, foreign vendors may bid to provide FM/O&M services on nonsensitive federal overseas installations.

***D. FEDERAL POLICIES AND REGULATIONS**

- The Paperwork Reduction Act of 1980 (PRA) was initiated to reduce the number of requests for information by federal agencies, but led to a major transformation in the management of information resources, including both computers and communications.
 - Information Resource Managers were appointed as final authority on acquisition and utilization of ADP and telecommunications in each department and agency.
 - Procurement of all ADP and telecommunications hardware, system, software, and services, except for certain sensitive systems, was placed under control of GSA via a "mini-Brooks Bill" amendment.
 - PRA mandated the annual preparation by OMB and GSA of a "Five-Year Plan for Meeting the Automatic Data Processing and Telecommunications Needs of the Federal Government."
 - Each plan is based on documentation submitted by Executive Branch agencies under the guidelines of OMB Policy A-11, Section 43.

*Revised 8/85





- FAR applies to the acquisition of mission-essential computer resources and embedded computer resources of DoD, air traffic control resources of the FAA, physiological measurement resources of the VA, and computer/communication resources of the intelligence community.
- Under the authority of the Federal Property Act and the Paperwork Reduction Act, the General Services Administration (GSA) issued the "Federal Information Resources Management Regulations" (FIRMR) concurrently with OFPP's FAR on April 1, 1984.
 - FIRMR applies to the acquisition, management, and use of computers and communications by all federal executive agencies, except as noted above under the FAR.
 - The initial FIRMR consists of renumbered chapters of the FPR and the Federal Property Management Regulations (FPMR).
 - Most, if not all, of the FM and O&M services contracts will now be controlled by one set of regulations--the FIRMR. Prior to April 1984, many of the defense contracts were under DAR while civil agency contracts were under FPR.
 - To shorten the acquisition cycle, GSA has already increased the agency self-approval procurement thresholds for services of most agencies.
 - GSA is expected to streamline even more of the acquisition procedures for the major agencies, including higher thresholds below which agencies can approve their own services and software buys.



- *After several years of experience with the Cost Comparison Handbook (created for use by federal agencies under the provisions of OMB Circular A-76, "Performance of Commercial Activities"), OFPP improved and simplified the cost comparison process in August 1983.
 - Under OMB A-76 procedures, agencies are required to conduct a cost comparison of in-house versus vendor performance of services when considering a major system modification or new start.
 - OMB and industry associations noted continuing failure of most agencies to comply with the policy in FY 1983 and 1984.
 - Under REFORM 88, OMB ordered the review of most agency commercial activities in the budget review cycle for FY 1985-1987, using OMB A-76 as the basis of a "Productivity Improvement Program."
 - Overview of the A-76 PIP process has been transferred from OFPP to the Management Division of OMB.
 - About 50,000 ADP positions have been selected for review.
 - OMB expanded the competition by including other Government Data Centers as bid sources.
 - No significant increase in contracting-out activities was noted through mid-FY 1985.
 - Agencies began filing notices in the Federal Register in the third quarter of FY 1985 of intention to conduct cost comparisons at specified locations.

*Revised 8/85



- A Federal Appeals Court dismissed in late 1983 union opposition to Department of Labor changes to the Service Contract Act that favored the high-technology services industry. While the rule changes improved industry's position, continuation of on-site regulations, which affect GOCO FM and O&M contracts, could impact new FM/O&M competitors.
 - Under the Service Contract Act of 1965 as amended, the Department of Labor (DOL) Wage and Hour Division performs wage surveys of proposed work sites to determine minimum wages by labor grade.
 - Among the provisions proposed by DOL under President Carter, and discarded by DOL under President Reagan (and opposed by the unions) was the application of wage and fringe benefit determinations by DOL to:
 - ADPE factory technicians servicing equipment in government locations.
 - ADPE in-plant personnel working on government owned or purchased equipment.
 - ADP personnel operating contractor ADPE (as in PFM/COCO) at a private site under government contract.
 - When a competitor wins an FM or O&M on-site services contract from an incumbent, the winner, called the "successor," must honor any in-place union agreements and must not pay less to any position or retained employee than previously earned, including certain minimum fringe benefits.
- Professional and management employee salaries are protected by language inserted in services RFPs and contracts by direction of OMB under congressional mandate, called "anti-wage-busting restrictions." A services successor



contractor may employ fewer people than its predecessor, but it may not pay them less.

E. MARKET UNCERTAINTIES

- By the end of FY 1985, neither the DoD nor Congress arrived at a final resolution of the GFY 84 Defense Appropriation Act mandate to "Buy-Not-Lease ADP Equipment."
 - In 1983 DoD owned 88% of its ADP inventory and leased 12%. Replacement of the leased equipment over the next several years was forecasted to cost over \$2 billion, with the Army responsible for about half of the total.
 - One solution to replacement of the aging inventory is substitution of PFM/COCO contracts with interim capacity until replacement resources could be acquired competitively in three to five years.
 - Extension of the "Buy-Not Lease" concept could also result in conversion of existing COCO contracts to GOCO contracts, through purchase of the vendor's ADP equipment. Government officials do not foresee early conversion of COCO contracts because of staffing and funding limitations.
- Amendment of the FY 1985 Defense Appropriations Act prohibited expenditure of more than \$1.3 billion for contractor support services, which would include GOCO services. A similar restriction is expected in the final FY 1986 Act.
- Increasing sensitivity to the size of the national debt and the increasing probability of sharp reductions in high-technology expenditures, including information technology, was noted by all of the respondents.



- Outlays for new state-of-the art systems to upgrade or replace the older information resources could be delayed or cancelled, and could increase the workload on current resources, including FM/O&M contracts, by as much as 20%.
- Budget reductions could increase pressure on agencies to convert inefficient government data centers to contractor operation (GOCO). This could affect all 50,000 positions subject to cost comparison in the 1985-1987 timeframe.
- Government "whistle-blowers" could target GOCO contracts they believe are overpriced or underperformed for cost comparison and conversion to in-house staff.





IV OMB CIRCULAR A-76 IMPACT

- For nearly 30 years, OMB Circular A-76 defined the government's policy of reliance on the private sector for goods and services. In September 1984, OMB announced that A-76 is now the "Productivity Improvement Program Module" of this administration's REFORM 88 program.

A. BACKGROUND

- During the Eisenhower Administration, the Bureau of the Budget (BoB), predecessor to the Office of Management and Budget, published the initial document stating the government's intention of not competing with the private sector.
 - After BoB became OMB, the policy was published as OMB Circular A-76.
 - The Circular was extensively modified in 1979 to incorporate a cost-comparison handbook developed by an interagency task force.
 - The list of government commercial activities that were exempted from contracting under A-76 was reduced and classified in 1979.



- After four years of experience with the cost handbook, A-76 was amended in 1983 to streamline the costing process and update or consolidate a number of cost factors.
- The 1979/1983 version of the circular supported three main precepts of the policy.
 - Rely on the private sector to provide those goods and services available competitively.
 - Retain in-house the governmental functions, such as regulation, monetary transactions, intelligence, and military services, and have them be performed by government personnel.
 - Achieve economy and productivity by using the most cost-effective government or industry source available.
- The Reagan administration identified, in its first two years, a number of unbusinesslike practices in the executive branch, and instituted a program of improvement entitled "REFORM 88."
 - The "88" was based on OMB's estimate of when the program would be completed—1988.
 - Improved and more extensive use of computer and communications technology was the objective of the overall program.
 - Improvements are selected for implementation on the basis of highest return at lowest cost, smallest staff, and/or best day-to-day control.
 - Circular A-76 was selected for incorporation in REFORM 88 by OMB in 1984.



- The 1983 improvements had not resulted in increased applications. About 100 agencies failed to perform the directed cost previews in 1983.
 - Agencies limited cost reviews to less than 8,000 positions, and not the 35,000 predicted by OMB.
 - Both the Government Accounting Office (GAO) and Congressional Budget Office (CBO) independently projected upwards of \$3 billion in savings by enforced application of A-76.
- In September 1984, OMB retitled OMB Circular A-76 as the "Productivity Improvement Program" effective October 1, 1984, and fully applicable to FY 1986 budgets.
 - Effective with submission of the 1986 budgets will be full-scale management reviews, including audits of the budgets.
 - Each agency must review a number of positions within 14 categories of job functions. ADP-related jobs include:
 - Data entry and keypunch.
 - Computer operators.
 - OMB has identified 315,000 federal jobs subjected to A-76 cost review, including 16,247 in data transcribing and 49,998 in computer operations.
- A key change in OMB A-76 with significant potential for negative impact on the federal FM/O&M industry is the decision that other federal agencies may bid on the service opportunity.



- The best agency may now consider these cost-effective alternatives:
 - . Performance in agency with a streamlined staff.
 - . Performance by another agency offering to provide the services more economically.
 - . Performance by a competitively awarded contract staff.

B. MISCONCEPTIONS

- The A-76 program had been plagued by serious misconceptions during the three decades of its existence.
 - Private business insisted that cost comparisons were rigged to favor retention of functions by the government.
 - Federal employees charged that the purpose of the program was to contract out the work with no regard to the ultimate cost to the taxpayer.
 - Congress fretted about the loss of constituents in the federal work force and the prospects of losses in service because of strikes.
 - Military field commanders were concerned about inability to respond to a wartime or mobilization emergency with contractor employees on their bases.
- Misconceptions concerning the program have caused problems within government and industry, and have hampered its speedy implementation. A review of some major misconceptions are contained in Exhibit IV-1.



EXHIBIT IV-1

OMB CIRCULAR A-76 - MISCONCEPTIONS VERSUS FACTS

MISCONCEPTION	FACT
<p>Strikes by unconcerned contractor employees will shut down vital Federal functions.</p>	<p>Contracted services are no more susceptible to strikes than if services retained in-house. Contingency plans proved very effective to keep activities functioning during the two cases of strikes by contractor employees. During the same period there have been numerous strikes by Federal employees, seriously hampering operations.</p>
<p>Management flexibility and ability to adjust to changing requirements is lost when direct control of operations and employee actions is contracted out.</p>	<p>Development of a clear statement of work, contract requirements document, and performance measurement plan will assure all the controls needed. Experience has shown that responsiveness to changing requirements, workloads, and job assignments is quicker and less traumatic than when government employees are utilized.</p>
<p>Massive loss of jobs by Federal employees will result.</p>	<p>Federal employees have the right of first refusal to employment openings with the contractor when a function is converted from in-house operation. A survey conducted by DoD during a two-year period indicates that of 9,650 employees affected by conversion from in-house to controlled operation, only 615 (6%) were separated from the government, and approximately half of this number accepted employment with the controller.</p>
<p>Unscrupulous contractors will "buy-in" and get well with costly add-ons.</p>	<p>Studies by agency auditors and GAO indicate that contractors do not buy-in with the plan to raise the price later. Most A-76 contracts are firm, fixed price. Recompetition at the end of the contract period ensures continued cost-effectiveness. Legitimate add-ons are caused by changing requirements, improper ones usually are caused by poorly prepared Federal procurement packages.*</p>

* The government retains the right to resume in-house operation if it is more economical to do so.



C. PRESENT STATUS

- The A-76 program has been identified by the Reagan administration as an effective tool for increased productivity.
 - "The role of government should not include performing services and activities that can effectively be carried out by the private sector, and we will work for policies which increase reliance on the private sector" . . . President Ronald Reagan, March 1983.
 - "The best interest of the government and the public is served through competition for those services that do not have to be performed in-house for national defense reasons" . . . Casper W. Weinberger, Secretary of Defense, December 1, 1983.
 - "Our interest is to have government work better by having agency managers find the economies that they haven't looked for before" . . . James R. Wright, Jr., Deputy Director of the Office Management and Budget.
- Despite the program endorsement by many government and industry leaders, its implementation has been slow and incomplete.
 - Government unions, looking out for their own interests, have fought the program continuously.
 - Congress, as a result of pressure from government employees and unions such as AFGE, has taken legislative action to slow down implementation.
 - In 1982 there was a legislatively imposed six months moratorium on contracting out under the A-76 policy.



- . Restrictions on contracting out specific services have been placed in recent defense appropriations bills.
- . Representative Nichols (D-Alabama) is presently advocating a ban on the contracting out of DoD core logistics functions.
- . An attempt by Congress to prohibit contracting out of NOAA functions was vetoed by President Reagan.
- A number of agencies had still not submitted the commercial activities (CA) inventory and schedule of function reviews as directed by Circular A-76 by the end of 1983. A recent check with the Office of Management and Budget indicates that complete submissions have not been received from agencies such as the Department of State, Department of Energy, and the National Aeronautics and Space Administration.
- It is estimated that there is approximately \$20 billion per year of commercial activities within the federal government.
 - Approximately \$14 billion is purposely exempted from A-76 consideration because it is related to government functions that are to be retained in-house.
 - Of the remaining \$6 billion, only 22% of the functions have been the subject of a cost comparison study. OMB intends to bring the remainder of the \$6 billion under their review in the management audits due for the 1986 budget submissions.



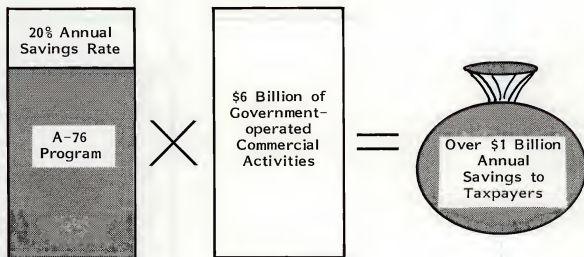
D. POTENTIAL SAVINGS

- Substantial savings to the taxpayer have resulted when Circular A-76 policy has been implemented.
 - Since 1979 approximately 1,700 cost comparison studies have been conducted. Following the cost comparison process, 45% of the commercial activities were retained in-house, while 55% were converted to operation by private business.
 - There has been an average savings of 20% over the previous cost of the function, regardless of whether the function was retained in-house or converted to contractor operation. Exhibit IV-2 shows the savings to be expected when all \$6 billion of government commercial activities have been reviewed under the new Productivity Improvement Program.
- The \$6 billion A-76 inventory may not truly represent the amount of commercial activities available for possible contractor operation.
 - In developing the inventory, agencies tended to consider only blue-collar jobs, overlooking functions such as engineering, computer operations, and technical training.
 - A review to determine the actual amount of commercial activities within the government is presently being conducted. A revised estimate should be completed by the end of 1984. Preliminary figures indicate the amount could be doubled or tripled in size, as indicated in Exhibit IV-3.



EXHIBIT IV-2

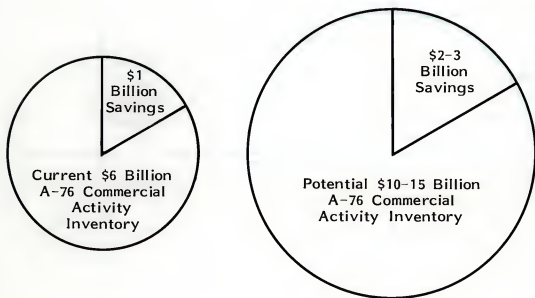
EXPECTED SAVINGS FOLLOWING REVIEW OF
GOVERNMENT SIX-BILLION-DOLLAR COMMERCIAL ACTIVITIES



Source: Enhancing Governmental Productivity through Competition: OFPP/OMB, March 1984

EXHIBIT IV-3

POTENTIAL SAVINGS FOLLOWING DETERMINATION OF
GOVERNMENT COMMERCIAL ACTIVITIES



Source: OFPP/OMB, September 1983

Note: For All Service Activities, Not just ADP.

the 1990s, the number of people in the world who are under 15 years of age has increased from 1.1 billion to 1.5 billion. The number of people aged 65 and over has increased from 200 million to 350 million. The number of people aged 75 and over has increased from 50 million to 100 million.

There are a number of reasons for this increase. One reason is that the number of people who are under 15 years of age has increased because of the high birth rate in many developing countries. Another reason is that the number of people aged 65 and over has increased because of the increase in life expectancy.

The increase in the number of people aged 75 and over is due to a number of factors. One factor is the increase in life expectancy. Another factor is the increase in the number of people who are surviving into old age because of the decrease in mortality rates.

The increase in the number of people aged 75 and over is also due to the increase in the number of people who are surviving into old age because of the decrease in mortality rates. This is due to the increase in the number of people who are surviving into old age because of the decrease in mortality rates.

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E. DEPARTMENT OF DEFENSE CIRCULAR A-76 EXPERIENCE

- It is the opinion of the Department of Defense that A-76 is making a significant contribution to national defense efforts.
 - Costs are reduced as a result of the program, yet commanders still receive the services needed.
 - The department recommends that Congress support the program.
- The Department of Defense reviewed all contracts awarded under the provision of A-76 between October 1980 and October 1982. Covering 235 contracts, DoD confirmed to Congress that the A-76 program can be a very cost-effective measure for management, when properly applied.
 - The bid cost of contractor operation was 24% less than the in-house government performance, as shown in Exhibit IV-4. In order to be in a competitive posture, the government had already reduced costs by 7%. Thus the overall savings were in excess of 30%.
 - Comparison of actual contract costs to revised in-house costs shows a slight decrease in cost advantage. However, contractor operation is still saving the taxpayer approximately \$250 million on the contracts evaluated.
 - Small business was awarded 186 of the 235 prime contracts, representing 79% of the awards, as shown in Exhibit IV-5. A total of \$238.6 million was paid to small business as prime or subcontractors.
- *Not all Defense managers favor the wider application of the A-76 program, and they seek both contractual and legislative alternatives constantly.

*Revised 8/85



EXHIBIT IV-4

CONVERSIONS TO CONTRACT OPERATION - COMPARISON OF
CONTRACTOR COSTS TO IN-HOUSE GOVERNMENT ESTIMATES

(\$ in thousands)				
	Army	Navy*	Air Force	DOD Total
A. Original Cost Estimates				
1. In-house performance costs	527,772	25,914	485,347	1,039,033
2. Contract performance costs	450,795	19,134	319,909	789,838
3. Cost advantage (line 1 minus line 2)	76,977	6,780	165,438	249,195
4. Percent of cost advantage to in-house cost (line 3 divided by line 1)	15%	26%	34%	24%
B. Revised in-house cost estimate/actual contract costs				
5. In-house revised estimates †	579,590	27,893	524,617	1,128,100
6. Actual contract costs	505,463	21,862	351,265	878,590
7. Cost advantage (line 5 minus line 6)	70,127	6,031	173,352	249,510
8. Percent of cost advantage to in-house cost (line 7 divided by line 5)	12%	22%	33%	22%

* Includes Marine Corps.

† This revised estimate reflects changes in the scope of work not reflected in the original estimate and wage rate increases that would have occurred had the work been accomplished.

Source: Enhancing Governmental Productivity through Competition: OMB/OFPP, March 1984

Note: For All Service Activities, Not Just ADP.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses, income, and any other financial activity.

The second part of the document provides a detailed breakdown of the accounting process. It starts with the identification of the accounting cycle, which consists of eight steps: identifying the accounting cycle, analyzing and journalizing the transactions, posting to the ledger, determining debits and credits, preparing a trial balance, adjusting the entries, preparing financial statements, and closing the books.

The third part of the document discusses the importance of the trial balance. It explains that the trial balance is a statement that lists the debit and credit balances of all the accounts in the ledger. It is used to check the accuracy of the accounting records and to ensure that the debits equal the credits.

The fourth part of the document discusses the importance of adjusting entries. It explains that adjusting entries are necessary to ensure that the financial statements reflect the true financial position of the company at the end of the accounting period. These entries are used to record accruals, deferrals, and other adjustments.

The fifth part of the document discusses the importance of preparing financial statements. It explains that financial statements are a summary of the company's financial performance and position. They include the income statement, the balance sheet, and the statement of cash flows.

The sixth part of the document discusses the importance of closing the books. It explains that closing the books is the final step in the accounting cycle. It involves transferring the balances of the permanent accounts to the new accounting period and closing the temporary accounts.

The seventh part of the document discusses the importance of maintaining accurate records. It emphasizes that accurate records are essential for the preparation of financial statements and for the management of the company's financial affairs.

The eighth part of the document discusses the importance of the accounting cycle. It explains that the accounting cycle is a systematic process that ensures the accuracy and completeness of the accounting records.

The ninth part of the document discusses the importance of the trial balance. It explains that the trial balance is a key tool for checking the accuracy of the accounting records.

The tenth part of the document discusses the importance of adjusting entries. It explains that adjusting entries are necessary to ensure that the financial statements reflect the true financial position of the company.

The eleventh part of the document discusses the importance of preparing financial statements. It explains that financial statements are a summary of the company's financial performance and position.

The twelfth part of the document discusses the importance of closing the books. It explains that closing the books is the final step in the accounting cycle.

The thirteenth part of the document discusses the importance of maintaining accurate records. It emphasizes that accurate records are essential for the preparation of financial statements and for the management of the company's financial affairs.

The fourteenth part of the document discusses the importance of the accounting cycle. It explains that the accounting cycle is a systematic process that ensures the accuracy and completeness of the accounting records.

The fifteenth part of the document discusses the importance of the trial balance. It explains that the trial balance is a key tool for checking the accuracy of the accounting records.

The sixteenth part of the document discusses the importance of adjusting entries. It explains that adjusting entries are necessary to ensure that the financial statements reflect the true financial position of the company.

The seventeenth part of the document discusses the importance of preparing financial statements. It explains that financial statements are a summary of the company's financial performance and position.

The eighteenth part of the document discusses the importance of closing the books. It explains that closing the books is the final step in the accounting cycle.

The nineteenth part of the document discusses the importance of maintaining accurate records. It emphasizes that accurate records are essential for the preparation of financial statements and for the management of the company's financial affairs.

The twentieth part of the document discusses the importance of the accounting cycle. It explains that the accounting cycle is a systematic process that ensures the accuracy and completeness of the accounting records.

EXHIBIT IV-5

CONTRACTS AWARDED TO SMALL BUSINESS

(\$ in thousands)				
	Army	Navy*	Air Force	DOD Total
A. Number of Contracts and Percentage Awarded to Small Business				
1. Number of prime contracts	69	34	132	235
2. Number of prime contracts awarded to Small Business	55	30	101	186
3. Percent of prime contracts awarded to Small Business (line 2 divided by line 1)	80%	88%	77%	79%
B. Dollar Amount and Percentage Awarded to Small Business[†]				
4. Dollar amount of prime contracts awarded to Small Business	74,250	11,394	96,352	181,996
5. Dollar amount of subcontracts awarded to Small Business	<u>53,445</u>	<u>0</u>	<u>3,139</u>	<u>56,584</u>
6. Total dollar amount awarded to Small Business (line 4 plus line 5)	127,695	11,394	99,491	238,580
7. Total dollar amount of all contracts	212,905	14,568	159,324	386,797
8. Percent of total dollar amount awarded to Small Business (line 6 divided by line 7)	60%	78%	62%	62%

* Includes Marine Corps.

† This revised estimate reflects changes in the scope of work not reflected in the original estimate and wage rate increases that would have occurred had the work been accomplished.

Source: Enhancing Governmental Productivity Through Competition: OMB/OFPP, March 1984.

Note: For All Service Activities, Not Just ADP.



- Many base commanders maintain that 75% to 85% of commercial activities must be done in-house for national security reasons.
- Installation improperly designates service contracts as Small Business Set-Aside Programs, with the aid of SBA.
 - . Work is aimed at very small companies, typified as "mom and pop" operations.
 - . Potential future staffing difficulties, equipment purchase risks, and the effect of payment delays are minimized.
 - . Eventual failure, leading to reabsorption of the work by the in-house staff is expected.
- Congressmen from districts containing large federal installations have sponsored legislation explicitly prohibiting the contracting-out of specific trades as unique to government functions.
 - . Among the most recent exclusions are:
 - Firemen for nuclear submarines.
 - Security people for nuclear laboratories.
 - Aircraft engine overhaul mechanics at Navy Air Rework facilities.
 - Maintenance positions in the GSA Public Building Service reserved for veterans.
 - . Thus far, information technology positions have not been excluded from A-76 conversion.



F. CONCLUSIONS AND RECOMMENDATIONS

- Conversion of OMB Circular A-76 (from "Performance of Commercial Activities" to "Productivity Improvement Program" under REFORM 88) will have a very significant impact on the FM/O&M service industry.
 - Federal data centers and ADP facilities will directly compete with industry for the available market dollars.
 - The available market should increase substantially after the initial shakeout in 1985-1986:
 - The number of ADP-related positions schedule to be reviewed (50,000) is double the number identified less than a year ago.
 - Budget constraints on capital equipment investment will delay federal center buildup to take an additional work.
- The market could become volatile over the next two years. Therefore, it is important for vendors to take appropriate actions. Vendors should:
 - Become aware of the program and of all its ramifications.
 - Learn the intricacies of the cost comparison process.
 - Contact CA monitors within the various agencies.
 - Obtain schedules of in-house commercial activities cost reviews.
- Implementation of the REFORM 88 program, coupled with better cost reporting under the OMB guidelines, should result in more business opportunities; but a competitive edge will be needed to convert these to contractor operation.





V AGENCY CONSIDERATIONS

A. GENERAL—RESEARCH BASE

- Federal government agencies use FM to provide data processing services for a variety of reasons:
 - The agency cannot acquire additional staff.
 - The agency cannot get authorization for ADP equipment.
 - Data processing equipment has a limited lifetime.
 - The data processing requirement is unique and would not readily adapt to existing or usual processes or configurations.
- Some agencies will not use FM services for internal reasons (such as security, sensitivity, location, or concern about control). A number of smaller civil agencies simply lack the data processing volume or budget to use FM services.
- INPUT selected representative departments and agencies that have used FM/O&M services in the past and/or expect to use vendor FM/O&M services in the future.



- Fifty-one percent had utilized vendor FM services previously. Agency experience ranged from large facility management contracts to small operation and maintenance programs.
- Fifty-five percent plan to use FM/O&M vendors in the future.
- Respondents used vendor-furnished COCO and GOCO services to satisfy a wide range of data processing requirements in technical, administrative, and programmatic applications.
 - Almost all agencies interviewed used vendor FM/O&M services for administration, including payroll and accounting, program management, records, and documentation.
 - Technical applications included heat transfer, aircraft simulation, fluid dynamics, aeronautical research, and structural design data processing.
 - Unique applications included custom revenues for export and import, manufacturing resource planning, and waste management.

B. ACQUISITION PLANS AND PREFERENCES

- Sixty percent of the agency respondents believe that use of FM/O&M vendors will increase in the next two to five years.
 - Primary reasons for increased use is perceived to be the expected increase in workload without a matching increase of authorized in-house personnel resources.
 - Twenty-five percent of the respondents related increased outlays to inflation-driven costs, not necessarily to an increased workload or to new contracts.

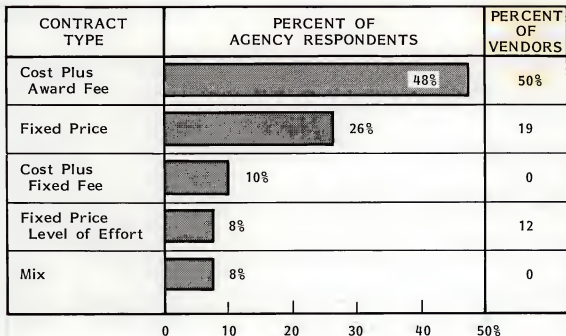


- Exhibit V-1 indicates agency preferences with regard to FM/O&M contract type.
 - Agency personnel indicated a preference for a cost-plus contract vehicle, as did the vendors.
 - The cost-plus award fee (CPAF) and cost-plus-incentive fee (CPIF) preferences were expressed by civil agencies, specifically where the management of the function is part of the contract.
 - It is the intent of DoD, in all possible cases, to prepare a performance work statement in such detail and clarity that vendors will be able to provide services on a fixed-price basis. Nineteen percent of the vendors expressed a willingness to submit a fixed-price bid when the requirements can be clearly defined.
 - Only 8% of agency respondents preferred fixed-price, level-of-effort contracts, which were also considered a poor choice by vendors.
- Contrary to the belief of most service industry vendors, price is not considered the most important factor in winning a contract in the opinion of the agencies, as shown in Exhibit V-2. Backup support available from the vendor, experience of the staff, and experience in the functions required for the job are considered most important by agencies.
 - In discussing the significance of staff experience, agency respondents noted that vendors quite often propose to staff the site initially with good personnel but, shortly after the contract's start, replace them with personnel who are not qualified in the functions and subsequently provide insufficient support.



EXHIBIT V-1

AGENCY PREFERENCE FOR
FM/O&M CONTRACT TYPES



the 1990s, the number of people in the world who are under 15 years of age has increased from 1.1 billion to 1.3 billion. The number of people aged 65 and over has increased from 200 million to 350 million. The number of people aged 75 and over has increased from 50 million to 100 million.

There are a number of reasons for this increase. One reason is that the number of people who are under 15 years of age has increased because of the high birth rate in developing countries. Another reason is that the number of people aged 65 and over has increased because of the high life expectancy in developed countries. A third reason is that the number of people aged 75 and over has increased because of the high life expectancy in developed countries.

The increase in the number of people aged 65 and over has led to a number of problems. One problem is that there is a shortage of people to care for the elderly. Another problem is that there is a shortage of money to care for the elderly. A third problem is that there is a shortage of places for the elderly to live.

There are a number of ways to solve these problems. One way is to increase the number of people who care for the elderly. Another way is to increase the amount of money that is used to care for the elderly. A third way is to build more places for the elderly to live.

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- A number of DoD respondents rank lowest price as more important than backup support, reflecting DoD preference for fixed-price contracts.
- All agency respondents considered contractor incumbency and specific federal and/or agency contract experience to be relatively unimportant. The Navy has quite often held that similar work for other agencies, including the other military services, did not qualify a vendor for its shipboard programs.
- Both vendors and agencies agree on the importance of demonstrable cost control procedures, as shown in Exhibit V-3. However, agencies rank vendor reputation as much more important than do vendors.
 - Most of the respondents considered contract type to be of little consequence as a criterion for selection of a vendor. Many respondents felt that the contract type was dictated by a higher authority without any consideration of the nature of the work.
 - Under the category of other important criteria, approximately one-third of the respondents listed additional selection criteria, such as:
 - Experience on similar equipment.
 - Quality assurance plan.
 - Management controls.
 - Quality of staff.
 - Track record.



EXHIBIT V-3

FM VENDOR SELECTION CRITERIA
AGENCY VIEWPOINT

RANK	SELECTION CRITERIA	VENDOR RANKING
1	Vendor Reputation	4
2	Cost Control Procedures	2
3	Cost	1
4	Proposed Operating Procedures	3
5	Contract Type	5

- As shown in the middle line of Exhibit V-4, none of the respondents expected FM/O&M service functions presently being performed by contractors to be converted to government in-house staffs.
 - Although some agencies do not agree with the OMB A-76 contracting-out policy, no agency visualized that a cost comparison would result in work going back to the government as more cost-effective, although it has happened under "suspect" circumstances.
 - Most of the ADP support functions planned for conversion to contractor performance were administrative in nature. Respondents identified all of the conventional administrative applications as candidates for contractor support.
 - Some technical activity support was identified, principally by the DoD respondents. Specific applications were not listed.

- Agency respondents saw many advantages to using vendors to provide FM/O&M services. Although expressed a number of different ways, three principal advantages were identified:
 - Use of vendors permits cost avoidance, especially in the areas of hiring and training in-house staff, rapid task changes, and the personnel costs related to changing staffing levels.
 - Under vendor operation the government does not need to maintain or manage a staff; experienced/qualified personnel can be readily obtained to meet peak or unusual requirements; there is more personnel flexibility in changing job assignments.
 - Vendors can be held responsible for proper operation of the function, can be motivated to provide a high degree of responsiveness to agency needs, and are not hampered by procedural restraints to the same extent as the agencies are.



EXHIBIT V-4

CONVERSION OF SUPPORT FUNCTIONS

QUESTION	ANSWER	COMMENTS
When a contract is completed, do you usually transfer support in-house?	NO 91%	Only one respondent indicated work had been or might be transferred in-house. A very few answered that work was sometimes transferred in-house, but could not give examples.
Do you plan to convert any service contracts to in-house operation?	NO 100%	The only comment concerns the fact that pressure is being exerted to contract out, not transfer in.
Do you plan to convert any in-house support functions to outside contractor support?	YES 30%	70% of the DoD respondents expect to see functions converted to contractor support. OMB A-76 was given most often as the reason for converting. Need for additional staff, better personnel flexibility, and consolidation of functions were other reasons given for planned conversions.



- The disadvantages cited by agencies to contracting for FM/O&M can be placed in three general categories, as shown in Exhibit V-5.
 - Over 50% of the respondents are worried about the possible loss of managerial and/or technical control with contract operation. It is also felt that a degree of job flexibility is lost.
 - Of concern also is the time wasted to bring the vendor "up to speed" on new contract starts, and loss of operational continuity during change-over between contractors.
 - The vendor's lack of loyalty to the agency or lack of sensitivity to its problems are of some concern to the government.
 - There is the feeling that vendors frequently bid on jobs for which they are not qualified. (This should not be difficult to detect if the procurement effort is properly staffed.) It is also felt that vendors do not produce the quality of staffing proposed, or if produced, many of the qualified personnel are transferred shortly after the contract's start.
 - Improperly prepared work statements, undefined requirements, and other contract terms were acknowledged as frequent reasons for additional costs. However, if they can't define the work well enough to be contracted out properly, how can they define it well enough for efficient internal operation? The answer of course is that they can't, but it is easier to "hide" in an internal operation.



EXHIBIT V-5

AGENCY VIEWS OF DISADVANTAGES OF CONTRACTING FOR
FM/O&M SERVICES

FACTOR	COMMENTS
Contractual	<ul style="list-style-type: none"> - Government Cannot Properly Define the Work Requirements - Contracting Process is Slow as Well as Confusing - Needed Flexibility Cannot Be or Is Not Written into the Contract
Operational	<ul style="list-style-type: none"> - Lack of Technical and Management Control - Continuity of Operation Lost During Contract Changeover - Takes Time to Monitor the Contract and the Contractor - Technical Expertise Is Lost in the Agency - Quality of Work Sometimes Suffers
Vendor Attitude	<ul style="list-style-type: none"> - No Sensitivity or Loyalty to the Job - Possibility of Strikes - Higher Turnover Rate than Agency Personnel - Do Not Produce the Quality of Personnel in the Bid and/or Removed Them in Short Period of Time



C. VENDOR PERFORMANCE

- Despite initial misgivings concerning contractors' ability to perform, intent to use skilled staffing, and interest in agency needs or requirements, the agencies indicated a reasonable degree of satisfaction with vendor performance, as noted in Exhibit V-6.
 - Agencies rated vendors highest on responsiveness to agency needs, although vendors themselves did not rate this characteristic very high.
 - Neither agencies nor vendors are too pleased with project management as currently performed by the vendors. This is an area where much improvement is needed.
 - Agencies are much more satisfied with the visibility of program development than vendors believe.

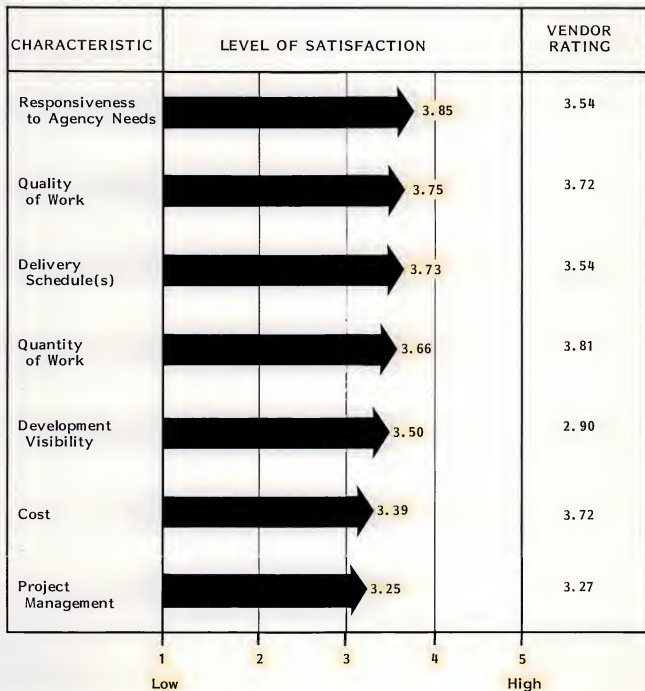
D. TRENDS

- Agencies identified budget policies (particularly those aimed at deficit reduction) as having the greatest impact on the use of commercial FM/O&M services.
 - Budget reductions may force a freeze of in-house staffing, despite increases in workload. Budget manipulations will favor decisions concerning upgrade of old equipment versus procurement of new systems, resulting in extensions of current ADP service requirements.
 - Most respondents believed there will be continuing pressure under REFORM 88 to examine the cost of in-house functions with the intent



EXHIBIT V-6

SATISFACTION WITH VENDORS
AGENCY VIEWPOINT



the 1990s, the number of people in the world who are under 15 years of age has increased from 1.1 billion to 1.3 billion. The number of people aged 65 and over has increased from 200 million to 350 million. The number of people aged 15-64 years has increased from 2.5 billion to 3.5 billion.

There are a number of reasons for the increase in the number of people in the world. One of the main reasons is the increase in life expectancy. People are living longer and longer, and this is increasing the number of people in the world.

Another reason for the increase in the number of people in the world is the increase in the number of people who are having children. The number of people who are having children is increasing, and this is increasing the number of people in the world.

There are a number of other reasons for the increase in the number of people in the world. One of the main reasons is the increase in the number of people who are moving to other parts of the world. This is increasing the number of people in the world.

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to contract out. If the present administration remains in power, respondents believe that pressure on the agencies will increase to use contractors more widely to reduce the rising costs of the federal government staff.

- Inclusion of the revised OMB Circular A-76 as a productivity improvement measure under REFORM 88 was generally viewed as a move in the right direction.
 - . NASA, Energy, and other high-technology agencies want to contract out all support activities, and complained that earlier A-76 procedures caused unnecessary delays.
 - . Several of the public service agencies feel more comfortable with outside ADP support from other agencies (rather than from contractors) because of data sensitivity.
- Agencies with service bureaus and large, general-purpose data centers welcome the opportunity to bid for business from other agencies. They believe they can underbid industry, with no contract management burden.



VI FM/O&M VENDORS

A. PRESENT ASSESSMENT AND STATUS

- Many different-sized companies, some with no previous government experience, are searching for their niches in the federal government FM/O&M marketplace.
 - Many are attracted by the possibility of growth resulting from award of large multiyear contracts.
 - Others perceive the potential for huge profits to be made as a member of the defense industry team, as suggested by media coverage of congressional hearings and defense seminars.
 - Specialized engineering firms see via FM contracting an opportunity to expose their high-technology staffs to government requirements and procedures.
 - Small business firms visualize numerous subcontracting roles on large government contracts with lower risks.
 - Very little capital investment is required of the vendor when providing services to the government at locations where space, administrative facilities, and equipment are furnished.



- All of the firms surveyed for this report are providing one or more types of FM/O&M service to the federal government.
 - All but one of the vendors are supplying FM/O&M service.
 - All intend to remain in the marketplace and provide similar services to the federal government in the future.
- The distribution of vendors by overall revenue ranged from less than \$10 million to well over \$2 billion, as indicated in the following table:

Size	\$10 M	\$10-100 M	\$100-500 M	\$500-1,000 M	\$1,100 M
Number	3	1	4	2	3

- The vendors interviewed have different mixes of COCO and GOCO service involvement with the federal government, as indicated below:

<u>Percentage</u>	<u>10%</u>	<u>10-50%</u>	<u>50-99%</u>	<u>100%</u>
Percent of Revenue from Federal Government	1	2	8	3
Percent of Revenue from COCO/PFM	1	2	-	-
Percent of Revenue from GOCO/PSFM	1	2	4	2
Percent of Revenue from GOCO/O&M	2	4	1	2

- As shown in Exhibit VI-1, it has been the experience of all of the respondents that after completion of FM/O&M contracts, a recompetition is held. Only in special cases is a sole-source award made to the incumbent, and such an award must be justified in writing to the agency head and/or GSA.



EXHIBIT VI-1

CONVERSION OF SUPPORT FUNCTIONS

QUESTION	ANSWER	COMMENTS
When services contract is completed, is follow-on support transferred in-house, left with you, or recompeted?	Recompete 100%	One vendor commented on a situation where recompetition was conducted, but new contract arbitrarily awarded to an 8A firm to meet an agency quota.
Have you ever lost an existing services contract to government in-house?	NO, 92%	In a few cases contracts have reverted to in-house operation following cost comparison. Very seldom does the government even conduct a cost comparison in these circumstances.
Have you ever acquired a contract for a function previously done by government in-house personnel?	YES, 46%	In one case the vendor feels the agency had to contract out because of dwindling in-house expertise. In another case the agency did not have sufficient personnel to handle the work load. Details of other cases unknown.



- The government seldom conducts a cost comparison to determine if it would be more cost-effective to bring the function in-house. One surveyed vendor was involved in a cost comparison following completion of a federal government services contract and the service was transferred back in-house.

- Forty-six percent of the vendors interviewed have acquired contracts to provide FM or O&M services previously performed in-house. One small business firm has won five or six contracts that were competitively procured as a result of OMB A-76 cost comparisons.

- Vendors thought the federal government's price advantages in using contractor-furnished FM and/or O&M services were cost effectiveness and operational flexibility. Over 75% of the respondents believe lower costs to be a major advantage and reason for using contractor services. The feeling was expressed many ways:
 - "The government can get industry's creativity and innovation with improved management at a lower cost."

 - "Contractors operate more efficiently with fewer personnel."

 - "Contractors have a performance/profit motive."

 - "The ability to call up specialized staffing to meet changing technical requirements and workload is seen as another important advantage. Industry is given the responsibility of furnishing required technical expertise, and adjusting the skill mix accordingly."

 - "Use of contract services relieves in-house personnel of routine tasks, thus allowing them time to perform long-term planning."



- Loss of operational control, and loss of program continuity during periods of contractor change-over were cited by some vendors as possible disadvantages of contracting out. Vendors would use these comments to influence government clients to avoid recompetition of their contracts by justifying sole-source extensions.

B. FEDERAL ACQUISITION PRACTICES

- About 70% of the vendors prefer some type of cost plus contract for FM/O&M services, as indicated in Exhibit VI-2. In the vendors' opinion, cost-plus contracts are the only practical way to procure services when technical requirements are subject to change or when the workload is not constant.
- Nineteen percent of the respondents prefer fixed-price procurements. Some of those preferring cost plus will bid on fixed-price contracts when:
 - No equipment changes are contemplated.
 - Technical requirements are firm.
 - Workload is stable.
- Past experiences have left vendors with the impression that price is the most important factor in bidding, as shown in Exhibit VI-3. This probably reflects the fact that bidders are frequently allowed to amend proposals to bring them up to a minimum technical and staffing level and to adjust the price accordingly. Then award is made on the basis of lowest overall price, even though the trade-off of technical features proposed versus price may favor another bidder.



EXHIBIT VI-2

VENDOR PREFERENCE FOR
FM/O&M CONTRACT TYPES

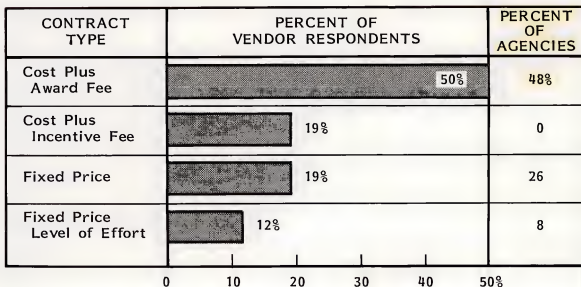




EXHIBIT VI-3

VENDOR RANKING OF CHARACTERISTICS
FOR CONTRACT AWARD

RANK	CHARACTERISTIC	AGENCY RANKING
1	Price	5
2	Incumbent Contractor	9
3	Staff Experience	2
4	Federal Contract Experience	7
5	Software Development Experience	4
6	Application Functional Experience	3
7	Support	1
8/9	Agency Experience	8
9/8	Hardware Experience	6

- Many vendors have the impression that it is virtually impossible to unseat a long-term incumbent contractor. This view is changing as the result of recent contractor turnover at large weapons test ranges and technical centers.
- Respondents agree with agencies that staff experience is an important item. Efforts must be made to assure agencies that proposed staff will remain on the job.
- Vendors did not rank backup support as being essential in winning a bid, although it is considered of prime importance by the agencies. This is consistent with INPUT's findings in the commercial environment, where vendors have routinely underestimated the value of support.
- Vendors consider cost the most important vendor selection criterion, as shown in Exhibit VI-4, because low price offers always get selected over technical excellence.
- Cost control procedures and proposed operating procedures were rated low by vendors when compared to the importance attached to them by agency respondents.
- Some respondents indicated that key staff personnel proposed should also be considered an important factor by vendors for contract selection. This would be consistent with agency preferences, provided the agency was assured of the staff's continued involvement.






C. PERFORMANCE

- As shown in Exhibit VI-5, vendor respondents projected that they would be rated highest on quantity of work produced, yet this was only fourth highest in the minds of agency officials.



EXHIBIT VI-4

FM/O&M CONTRACTOR SELECTION CRITERIA
 VENDOR VIEWPOINT

CRITERIA	RATING SCALE OF 1 TO 5	AGENCY RATING
Cost		4.02
Cost Control Procedures		4.05
Proposed Operating Procedures		3.77
Vendor Reputation		4.19
Contract Type		2.47

1 2 3 4 5



- Quality of work and cost control were viewed by vendors as being of equal value—just behind work quantity by the agencies. However, agencies rated vendor work quality as expected, but were more critical of cost, ranking it sixth.
- Adherence to delivery schedule(s) was near the mid range of satisfaction from the viewpoint of vendors and slightly higher for agencies. Quite often this is the most visible sign of progress, and is used as an indicator of probable success or failure.

D. TRENDS

- Vendors were asked to identify factors that will most likely influence an increase or decrease in federal government spending for FM/O&M services in the next two to five years. Most vendors identified federal budget and political factors as key to government spending trends.
 - Congressional attempts to reduce the overall deficit could result in delays in upgrading outmoded computer systems, with corresponding increases in labor and maintenance of existing facilities, including vendor FM centers.
 - A change in administration would result in less spending for advanced technology and defense and more spending on human service programs, with a marked decrease in the growth rate for new systems and reduced activities at FM centers.
 - Budget reduction measures could also result in a reduction in manpower ceilings in many agencies and increased funding of vendor contracts for FM/O&M of ADP facilities.



- Vendors consider the slow but steady improvement in implementation of the policy dictated by OMB A-76 will increase the business potential for service contractors.
 - "Government unions are fighting implementation of the policy, but can only slow down action, not stop it."
 - "To protect constituent interests, members of congress propose amendments to various authorization bills restricting contracting out of specific types of services."
- During the next two to five years changes are foreseen in the procurement and contracting of services.
 - The government is getting better at defining the technical requirements, thus influencing the manner of vendor bidding.
 - There will be more, not less, set-asides for small business and "disadvantaged" firms.
 - Where a number of service functions are combined under one large "umbrella contract," prime contract bidders will be required to submit with their proposal plans for sharing a significant percentage of the work with small business subcontractors.
- None of the vendors interviewed visualize a decrease in the use of facilities management/operation and maintenance contract services in the next two to five years, or in their share of the market.
 - About half of the vendor respondents expect the FM/O&M level to remain the same, despite the positive influence of contracting-out pressures, and presently funded new system acquisitions.



- The remainder of the respondents anticipate increases in FM/O&M revenue in the next two to five years over a wide range of growth levels, but none lower than 15%.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial data. This includes not only sales and purchases but also expenses and income. The document provides a detailed list of items that should be tracked, such as inventory levels, accounts payable, and accounts receivable. It also outlines the procedures for recording these transactions, including the use of double-entry bookkeeping and the importance of regular reconciliations.

The second part of the document focuses on the analysis of financial statements. It explains how to interpret the balance sheet, income statement, and cash flow statement. It provides a step-by-step guide to calculating key financial ratios, such as the current ratio, debt-to-equity ratio, and return on assets. The document also discusses the significance of these ratios and how they can be used to assess the financial health of a company. It includes several examples of financial statements and shows how to analyze them to identify trends and potential areas of concern.

The third part of the document covers the topic of budgeting and forecasting. It explains how to develop a budget and how to use it to manage the company's finances. It discusses the importance of setting realistic goals and how to track progress against the budget. The document also provides a detailed guide to forecasting, including the use of historical data and market trends to predict future performance. It includes several examples of budgets and forecasts and shows how to use them to make informed decisions.

The fourth part of the document discusses the importance of risk management. It explains how to identify and assess risks and how to develop strategies to mitigate them. It provides a detailed guide to risk management, including the use of risk registers and risk assessment tools. The document also discusses the importance of insurance and how to choose the right policies for a company. It includes several examples of risk registers and risk assessment tools and shows how to use them to manage risk effectively.

The fifth part of the document covers the topic of tax management. It explains how to calculate and pay taxes and how to use tax strategies to minimize tax liability. It provides a detailed guide to tax management, including the use of tax software and the importance of staying up-to-date on tax laws. The document also discusses the importance of record-keeping and how to maintain accurate records of all tax-related transactions. It includes several examples of tax returns and tax strategies and shows how to use them to manage tax effectively.



VII BUSINESS OPPORTUNITIES

A. OVERVIEW

- *Information extracted from the OMB/GSA Five-Year Plan, the DoD Commercial Activities Inventory Report, and the DoD Five-Year Review Schedule were used to identify opportunities by fiscal year in this chapter for 1986-1990. For each government fiscal year:
 - The first list indicates recompetition of continuing agency ADP FM/O&M programs.
 - The second list contains the approximate value per year by military service of possible ADP FM/O&M conversions from in-house to contractor operation.
 - Activities are usually scheduled for procurements one year after the functions are scheduled for OMB A-76 review. This delay has been considered in preparing the data.
 - None of the services met their OMB A-76 Review quotas in FY 1985.

*Updated 8/85



- The third list indicates the number of Defense ADP Commercial Activities that have been previously converted to contractor operation and are now scheduled for recompetition, but not listed above. Information concerning the number of contracts and total value is provided for each DoD agency.
 - . Most of the information concerning possible DoD conversions was listed in the revised FY 1985 DoD CA Inventory Report. Very little detailed data is available concerning specific installation commercial activities to be reviewed in subsequent fiscal years, despite OMB A-76 and DoD directives requiring their preparation.
 - . No lists are available concerning review of the commercial activities of civil agencies. Many of them chose to not prepare an inventory of commercial activities, despite OMB A-76 requirements, and thus have no preview schedules for FY 1985-1986.
- There are a number of factors that must be considered when projecting the potential value of the ADP FM/O&M market resulting from DoD conversions.
 - Prior to the conduct of OMB A-76 cost comparisons, military personnel serving any functions being considered are transferred and the vacancies are converted to civil service positions at a ratio of two civilians for each three military personnel.
 - Efficiency measures are then taken to assure that the function is in a competitive posture (Most Efficient Organization—MEO) before competition with outside vendors. As a result operating costs are usually reduced 7-10%.



- Statistics indicate that approximately 45% of the commercial activities are retained in-house following the cost comparison.
 - Vendor bids are usually about 20% less than in-house costs at time of competition.
 - In preparing this report the value per year indicated for possible DoD conversions from in-house is the value estimated after converting military positions to civil service.
 - A "sell price" of \$35,000 per year is used when converting positions from civil service to contractor.
- ADP FM/O&M services are a small part of many major programs (i.e., national test ranges, DOE facility operations). When these programs are listed, the value shown is an estimate of the ADP FM/O&M portion of the overall program, and is so noted.

***B. FM/O&M PROGRAMS—FISCAL YEAR 1986**

- Recompetition of long-term continuing programs.

<u>Agency</u>	<u>Program</u>	<u>Value Per Year (\$ Million)</u>	<u>Contract Start</u>
Air Force/TAC Nellis AFB-ACMI	Air Combat and Maneuver System	1.5	10/85
Navy	Atlantic Fleet Weapons Range System	5.2	10/85

*Updated 8/85



Army/HQ	MASSTER O&M Support	0.1	10/85
Air Force/SAMTEC	VAFB Metric Data Processing	0.9	10/85
Energy/HQ	Data Collection and Reduction Services	3.5	10/85
Energy/HQ	Data Support Services	3.0	10/85
Interior/Bureau of Indian Affairs	Operations and Production Control (eight centers)	3.0	10/85
Justice	Computer Center Operation and Support	0.2	10/85
EPA/RTP	U 1110 System Operation and Support	6.8	10/85
NASA/MSFC	General Scientific Computational Services	15.4	10/85
NASA/JPL	Mission Control and Computer Operations Center	102.5	11/85
NASA/GSFC	Central Telemetry Data Process	16.8	11/85
NASA/GSFC	Management Systems Office Support	1.3	11/85
NASA/AMES	Aeronautics R&T Support	6.7	11/85
NASA/GSFC	Multiple Satellite Operations Control Center	3.5	1/86
Energy/HQ	Information Systems Support	2.5	1/86
NASA/Dryden	Flight Research Facility Computer Support	0.5	1.86
NRC	Document and Control System	4.0	2/86
NASA/JPL	Ground Network Control Center	6.7	3/86
Energy/HQ	Computer Support Services	1.0	3/86
NASA/GSFC	PCA-ADP Support	2.0	3/86
NASA/GSFC	National Space Science Data Center	2.1	5/86



NASA/JSC	Simulation Complex Support	75.0	7/86
NASA/JPL	Operations Computer Support	0.9	8/86
NASA/NSTL	Technical Support Services	8.4	8/86
Navy/PMR	Data Reduction O&M	13.7	9/86
National Science Foundation	Large-Scale Computer FM	1.5	9/86

- Possible conversions from in-house:

<u>Agency</u>	<u>Value Per Year (\$ Million)</u>
Army	54.9
Navy	23.7
Air Force	6.5
Defense Agencies	42.3

- Recompetition of DoD programs previously converted:

<u>Agency</u>	<u>Number of Programs</u>	<u>Contract Value (\$ Million)</u>
Army	34	12.30
Navy	17	8.60
Air Force	11	6.80
Defense Agencies	4	3.07



*C. FM/O&M PROGRAMS—FISCAL YEAR 1987

- Recompetition of long-term continuing programs:

<u>Agency</u>	<u>Program</u>	<u>Value Per Year (\$ Million)</u>	<u>Contract Start</u>
Army/BMDSCOM	Systems Engineering Support	4.2	10/86
Air Force Rocket Propulsion Lab	On-Site Data Services	1.5	10/86
Air Force/TAC/Nellis AFB	Range Group Information System	0.3	10/86
Air Force/TAC/Tyndall AFB	Air Combat and Maneuver System	2.5	10/86
Air Force/SAC	HQ Tech Support	5.0	10/86
Interior/Minerals Management	RMC Support	1.1	10/86
EPA/RTP	System Operation and Software Maintenance	8.0	10/86
GAO	Information Services Facility	5.5	10/86
NASA/LRC	Research Data Processing	5.0	10/86
NASA/MSFC	Scientific Computation Services	7.7	10/86
NSF	Large-Scale Computer FM	1.3	10/86
DoD/OCHAMPUS	ADP Facilities Management	3.0	11/86
NASA/GSFC	Operational Support Computer O&M	2.7	11/86
NASA/GSFC	STDN Support	28.9	11/86

*Updated 8/85



NASA/SLIDELL	Computational Center O&M	7.8	11/86
NASA/GSFC	Business DP Support	1.1	12/86
NASA/GSFC	Application Image Processing	0.6	12/86
NASA/JSC	Operational Support Computer O&M	2.6	12/86
Interior/USGS	EROS Data Center	3.3	1/87
NASA/GSFC	On-Site DP Services	6.5	1/87
NRC	Document Control Center	4.0	2/87
DCA/CCTC	NMCS Support	2.7	6/87
NASA/NSTL	JSC Data Lab Services	3.5	8/87
Interior/Bureau of Mines	Computer Center Support	1.2	9/87
DOT/Transportation Systems Center	Computer Support	2.4	9/87
NRC/HQS + Regions	ADP O&M	2.9	9/87

- Possible DoD conversions from in-house:

<u>Agency</u>	<u>Value Per Year (\$ Million)</u>
Army	11.20
Navy	5.30
Air Force	13.17
Defense Agencies	8.58



- Repetition of DoD programs previously converted:

<u>Agency</u>	<u>Number of Programs</u>	<u>Contract Value (\$ Million)</u>
Army	5	4.68
Navy	57	46.16
Air Force	57	34.32
Defense Agencies	5	0.54

*D. FM/O&M PROGRAMS—FISCAL YEAR 1988

- Repetition of long-term continuing programs:

<u>Agency</u>	<u>Program</u>	<u>Value Per Year (\$ Million)</u>	<u>Contract Start</u>
National Science Foundation	Computer FM	0.6	10/87
Army	C ³ Systems Interoperability Test Center	1.6	10/87
Air Force Flight Test Center	AFTR Facility O&M	10.0	10/87
Education	Computer Facility Services	0.6	10/87
HHS/NCI	Frederick Cancer Research Facility Computer	0.8	10/87
DOT/TSC-Cambridge	ADP Support Services	5.0	10/87
NASA/GSFC	TDRSS Center	35.0	11/87

*Updated 8/85



NASA/GSFC	Planetary Atmospheric Center	0.2	11/87
NASA/GSFC	MSF Network Control Center	8.7	12/87
NASA/AMES	Simulation Computer Facilities	5.2	12/87
NASA/LRC	Research DP Support	7.5	12/87
DOT/TCC-Washington	ADP and Engineering Support	6.5	1/88
Naval Weapons Center	Data Reduction Services	4.8	2/88
NASA/NSTL	NOAA Data Buoy Support	3.4	3/88
HHS/HQ	DP Services	0.4	4/88
NASA/Wallops	DP/Engineering Support	1.8	4/88
NASA/GSFC	Shuttle Operations Support	18.0	4/88
NASA/GSFC	STDN O&M	8.3	7/88
NASA/GSFC	NASCOM Center O&M	14.3	9/88
Army/USM EPC/SSS	Joint Computer Center	0.6	9/88

- Possible DoD conversions from in-house:

<u>Agency</u>	<u>Value Per Year (\$ Million)</u>
Army	18.5
Navy	48.4
Air Force	19.5
Defense Agencies	4.4



- Recompetition of DoD programs previously converted:

<u>Agency</u>	<u>Number of Programs</u>	<u>Contract Value (\$ Million)</u>
Army	4	10.01
Navy	13	3.34
Air Force	42	37.21
Defense Agencies	39	63.74

*E. FM/O&M PROGRAMS—FISCAL YEAR 1989

- Recompetition of long-term continuing programs:

<u>Agency</u>	<u>Program</u>	<u>Value Per Year (\$ Million)</u>	<u>Contract Start</u>
Army/Yuma Proving Ground	Data Reduction	0.9	10/88
Army/MEPCOM	Computer Operations O&M	0.6	10/88
Air Force/TAC Nellis AFB	Air Combat and Maneuver System O&M	1.5	10/88
Air Force/SAMTEC	VAFB Metric Data Processing	1.2	10/88
EPA/RTP	U 1110 System Operation and Support	7.3	10/88
DOT/TSC Cambridge	ADP Support	4.8	10/88
NASA/JSC	SAIL O&M	0.7	10/88

*Updated 8/85



NASA/GSFC	Goddard Institute of Space Sciences	1.9	11/88
Navy/NATC	EMPASS O&M	0.7	1/89
Energy/HQ	Information Systems Support	2.8	1/89
Energy/HQ	Computer Support Services	1.3	3/89
NASA/GSFC	National Space Science Data Center	2.3	5/89
NASA/HQ	Computer Center O&M	4.8	5/89
Navy/NADC	Digital Computer Systems	4.5	8/89

- Possible DoD conversions from in-house:

<u>Agency</u>	<u>Value Per Year (\$ Million)</u>
Army	4.5
Navy	141.6
Air Force	26.0
Defense Agencies	41.8

- Recompensation of DoD programs previously converted:

<u>Agency</u>	<u>Number of Programs</u>	<u>Contract Value (\$ Million)</u>
Army	5	33.42
Navy	41	29.73
Air Force	19	25.42
Defense Agencies	9	14.87



***F. FM/O&M PROGRAMS—FISCAL YEAR 1990**

- **Recompetition of long-term continuing programs:**

<u>Agency</u>	<u>Program</u>	<u>Value Per Year (\$ Million)</u>	<u>Contract Start</u>
NASA/JSC	Shuttle ADP Support	0.5	10/89
DOE/HQS-EAO	ADP Support	4.0	10/89
Energy Nevada	Computer Center FM	2.5	10/89
Energy/HQS	Data Support Services	1.0	10/89
NASA/DRYDEN	Computer Facility Operation	1.6	10/89
AF/San Antonio	Computer Center FM	1.5	10/89
NASA/JSC	Computer Systems Engineering and Operations	25.0	10/89
HHS	National Toxicological Research Center D.R.	0.6	10/89
HHS	Alcoholism Treatment Monitoring Center	1.2	10/89
NASA/HQS	ADP Facility Operation	5.0	12/89
NASA/LRC	Simulation and Data System Support	3.2	1/90
NASA/WALLOPS	Data Processing and Engineering Support	2.0	4/90
NASA/GSFC	Computer O&M	2.1	4/90
NASA/HQ	STIC (Scientific and Technical Information Center) FM	5.8	6/90
NASA/LRC	Business Data Processing	2.8	7/90

*Updated 8/85



NASA/GSFC	Business Data Processing	1.2	7/90
NASA/GSFC	Institute for Space Sciences	2.5	9/90

- Possible conversions from in-house:

(No data available from DoD for GFY 1990 and beyond.)

- Recompetition of DoD programs previously converted to contractor support:

<u>Agency</u>	<u>Number of Programs</u>	<u>Contract Value (\$ Million)</u>
Army	20	8.64
Navy/Marines	68	53.46
Air Force	105	76.43
Defense Agencies	27	39.57





APPENDIX A: INTERVIEW PROFILE

A. FEDERAL AGENCIES

I. RESPONDENT PROFILE

- For this report, INPUT interviewed 47 agency personnel by telephone:
 - Policy makers - 13.
 - Buyers - 6.
 - Users - 28.
- An additional 45 interview contacts were made with agency personnel who indicated their division, service, or branch does not and will not use FM/O&M services.

2. RESPONDENT DEPARTMENTS AND AGENCIES

- Agency for International Development.
- Department of Commerce:
 - Office of Information Resource Management.
 - Information Policy and Planning.



- Department of Defense.
 - Army.
 - Military Entrance Processing Command (MEPCOM).
 - Computer Systems Command.
 - Navy.
 - Naval Military Sealift Command (Information Systems Office).
 - Naval Military Sealift Command (Oakland Information Systems Division).
 - Naval Air Development Center (Technology Directorate).
 - Naval Air Development Center (OIRM).
 - Naval Material Command.
 - Naval Oceanographic Office.
 - Naval Facilities Engineering Command.
 - Naval Data Automation Command.
 - Naval Regional Data Automation Center (Norfolk).
 - Naval Weapons Engineering Support Activity.



- Department of Energy.
 - Energy Information Administration.
 - Federal Energy Regulatory Commission.
 - Albuquerque Operations Office.
 - Idaho Operations Office.
 - Richland Operations Office.

- Department of Interior.
 - Bureau of Mines.
 - U.S. Geological Survey.

- Department of Justice.
 - Management Division.

- Department of Labor.
 - Employment Standards Administration.

- Department of Transportation.
 - Transportation Computer Center.
 - Transportation Systems Center (Cambridge).



- Treasury Department.
 - Electronic Systems Information Technology.
 - Office of Information Systems.
 - U.S. Customs Service.

- Environmental Protection Agency.
 - ADP Contracts Section.
 - Research Triangle Park.

- Federal Communications Commission.

- General Accounting Office.

- General Services Administration.
 - Office of Information Resource Management.

- National Aeronautics and Space Administration.
 - ADP Management Division.
 - Ames Research Center.
 - Godard Institute for Space Studies.
 - Godard Space Flight Center.
 - Institutional Procurement Branch.
 - Shuttle Program Office.



- Langley Research Center.
 - . Business Data Systems Division.
 - . Analysis and Computation Division.
- Marshall Space Flight Center.
 - . National Space Technology Laboratory.
- Slidell Computer Complex.
- National Science Foundation.
 - Technology Assessment Directorate.
- Executive Office of the President.
 - Automated Systems Division.

B. VENDORS

I. RESPONDENT PROFILE

- For this report, INPUT interviewed 13 vendors in the following categories:
 - Executive - 6.
 - Marketing - 5.
 - Technical - 2.



2. RESPONDENT VENDORS

- Bendix Field Engineering.
- BCS--Federal Systems Group.
- Burroughs--Systems Development Corporation.
- Computer Sciences Corporation--Systems Group.
- DP Associates.
- Dynallectron.
- ITT--Federal Electric Company (incomplete interview).
- Lockheed Engineering and Management Services Company.
- Martin-Marietta Data Systems.
- OAO Corporation.
- Planning Research Corporation--Applied Systems Division.
- RCA Service Company.
- SAI.
- Sigma Data Systems.
- Vanguard Technologies.



APPENDIX B: DEFINITIONS

- Facilities management/operation and maintenance vendors in the federal government market propose a wider range of systems and services than vendors in commercial markets. To accommodate the range of programs described in the OMB Five-Year Plan and agency long-range information technology plans, the definitions include hardware and telecommunications categories. Additionally, alternate service mode terminology employed by the federal government in its procurement process is defined, along with INPUT's regular terms of reference, as shown in Exhibit B-1.
- The federal government's unique nontechnical terminology that is associated with applications, documentation, budgets, authorization, and the procurement/acquisition process is included in Appendix C - Glossary of Federal Acronyms.

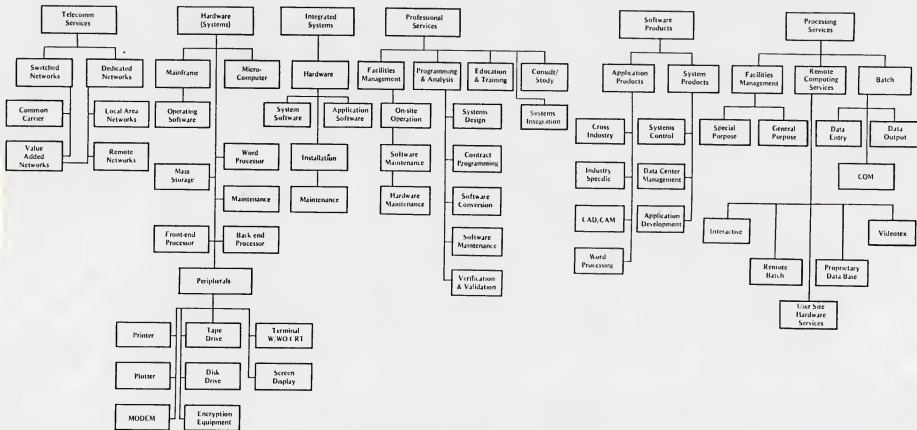
A. SERVICE MODES

- PROCESSING SERVICES - Remote computing services, batch services, and processing facilities management.
 - REMOTE COMPUTING SERVICES (RCS) - Provision of data processing to a user by means of terminals at the user's site(s). Terminals are connected by a data communications network to the vendor's central computer. The most frequent contract vehicle for RCS in the federal



EXHIBIT B-1

FEDERAL INFORMATION SYSTEMS & SERVICES PROGRAM
 PROCUREMENT ANALYSIS REPORT
 SYSTEMS & SERVICES





government is GSA's TSP (Teleprocessing Services Program). There are five submodes of RCS:

- INTERACTIVE (timesharing) - characterized by the interaction of the user with the system, primarily for problem-solving timesharing, but also for data entry and transaction processing; the user is on-line to the program/files.
- REMOTE BATCH - Where the user hands over control of a job to the vendor's computer, which schedules job execution according to priorities and resource requirements.
- PROPRIETARY DATA BASE - Characterized by the retrieval and processing of information from a vendor-maintained data base. The data base may be owned by the vendor or by a third party.
- USER SITE HARDWARE SERVICES (USHS) - These offerings provided by RCS vendors place programmable hardware on the user's site (rather than the EDP center). Some vendors in the federal government market provide this service under the label of Distributed Data Services. USHS offers:
 - Access to a communications network.
 - Access through the network to the RCS vendor's larger computers.
 - Local management (and storage) of a data base subset that will service local terminal users via the connection of a data base processor to the network.
 - Significant software as part of the service.



- BATCH SERVICES - These include data processing performed at vendors' sites for user programs and/or data that are physically transported (as opposed to transported electronically by telecommunications media) to and/or from those sites. Data entry and data output services, such as keypunching and computer output microfilm processing, are also included. Batch services include expenditures by users who take their data to a vendor site that has a terminal connected to a remote computer for the actual processing.

- PROCESSING FACILITIES MANAGEMENT (PFM) (also referred to as "Resource Management," "Systems Management," or "COCO" - contractor-owned / contractor-operated) - The management of all or part of a user's data processing functions under a long-term contract (not less than one year). This would include remote computing and batch services. To qualify as PFM, the contractor must directly plan, control, operate, and own the facility provided to the user, either on-site, through communications lines, or in a mixed mode.

- PROFESSIONAL SERVICES - Made up of services in the following categories:
 - CONSULTING SERVICES - Information systems and/or services management consulting, program assistance (technical and/or management), feasibility analyses, and cost/effectiveness trade-off studies.

 - EDUCATION AND TRAINING - Products and/or services related to information systems and services for the user, including CAI (computer-aided instruction), CBE (computer-based education), and vendor instruction of user personnel in operations, programming, and maintenance.

 - PROGRAMMING AND ANALYSIS SERVICES - Includes system design, contact or custom programming, code conversion, independent verifi-



cation and validation (also called IV&V), benchmarking, and software maintenance.

- PROFESSIONAL SERVICES FACILITIES MANAGEMENT (PSFM) (also referred to as GOCO - Government-Owned / Contractor-Operated) - The computing equipment is owned or leased by the Government, not the PSFM vendor, the vendor provides the staff to operate, maintain, and manage the Government's facility.

- OPERATION AND MAINTENANCE (O&M) - Vendor-staffed operational support of government ADP/telecommunications equipment on a government site. The vendor does not manage the complete facility and may not have provided the equipment or software. Includes operation and maintenance, hardware maintenance, third-party maintenance (TPM), site preparation and installation, and in some cases, software maintenance.

- SYSTEMS INTEGRATION - Vendor services associated with systems design, engineering and integration of computing and communications components and subsystems, installation and government acceptance. Integration services may be provided with related activities, such as Systems Engineering and Integration (SE&I), or Systems Engineering and Technical Assistance (SETA).

- INTEGRATED SYSTEMS (also known as Turnkey Systems) - An integration of systems and applications software, with hardware packaged as a single entity. The value added by the vendor is primarily in the software. Most CAD/CAM systems and many small business systems are integrated systems. This does not include specialized hardware systems such as word processors, cash registers, and process control systems.

- SOFTWARE PRODUCTS - This category includes user purchases of applications and systems packages for in-house computer systems. Included are lease



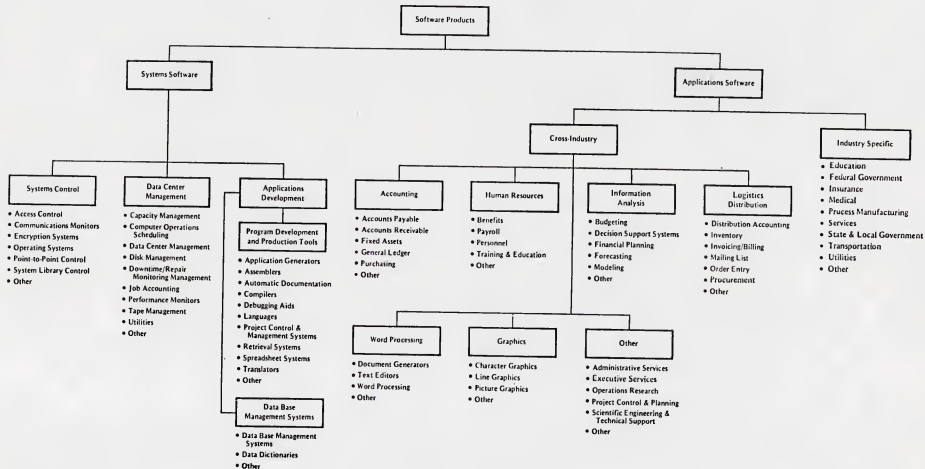
and purchase expenditures, as well as expenditures for work performed by the vendor to implement and maintain the package at the user's sites. Expenditures for work performed by organizations other than the package vendor are counted in the category of professional services. There are several subcategories of software products, as indicated below and in detail in Exhibit B-2:

- APPLICATIONS PRODUCTS - Software that performs processing that services user functions. The products are:
 - CROSS-INDUSTRY PRODUCTS - Used in multiple user industry applications as well as in federal government sectors. Examples are payroll, inventory control, and financial planning.
 - INDUSTRY-SPECIALIZED PRODUCTS - Used in the specific federal government sector, such as planning, resource utilization, aircraft flight planning, military personnel training, etc. May also include some products designed to work in an industry other than the federal government, but applicable to specific government-performed commercial/industrial services, such as hospital information, vehicular fleet scheduling, electric power generation and distribution, CAD/CAM, etc.
- SYSTEMS PRODUCTS - Software that enables the computer/communications system to perform basic functions. They consist of:
 - SYSTEMS CONTROL PRODUCTS - Function during applications program execution to manage the computer system resource. Examples include operating systems, communication monitors, emulators, and spoolers.
 - DATA CENTER MANAGEMENT PRODUCTS - Used by operations personnel to manage the computer system resources and personnel more effectively. Examples include performance



EXHIBIT B-2

SOFTWARE PRODUCTS





measurement, job accounting, computer operations scheduling, and utilities.

- APPLICATION DEVELOPMENT PRODUCTS - Used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Examples include languages, sorts, productivity aids, compilers, data dictionaries, data base management systems, report writers, project control systems, and retrieval systems.

B. HARDWARE/HARDWARE SYSTEMS

- HARDWARE - Includes all ADP and telecommunications equipment that can be separately acquired by the government, with or without installation by the vendor, and not acquired as part of a system.
 - PERIPHERALS - Includes all input, output, communications, and storage devices, other than main memory, that can be locally connected to the main processor and generally cannot be included in other categories, such as terminals.
- INPUT DEVICES - Includes keyboards, numeric pads, card readers, bar-code readers, lightpens and trackballs, tape readers, position and motion sensors, and A-to-D (analog-to-digital) converters.
- OUTPUT DEVICES - Includes printers, CRTs, projection television screens, microfilm processors, digital graphics, and plotters.
- COMMUNICATION DEVICES - Modems, encryption equipment, special interfaces, and error control.



- STORAGE DEVICES - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, drums, solid state (integrated circuits), and bubble and optical memories.

- TERMINALS - There are three types of terminals used in federal government systems:
 - USER PROGRAMMABLE (also called "intelligent terminals"):
 - Single-station or standalone.
 - Multistation-shared processor.
 - Teleprinter.
 - Remote batch.

 - USER NONPROGRAMMABLE:
 - Single-station.
 - Multistation-shared processor.
 - Teleprinter.

 - LIMITED FUNCTION - Originally developed for specific needs, such as POS (point of sale), inventory data collection, controlled access, etc.

- HARDWARE SYSTEMS - For the purposes of this report, hardware systems include all processors, from microcomputers to super (scientific) computers. Hardware systems require type- or model-unique operating software to be functional, but the category excludes applications software and peripheral



devices, other than main memory and processors or CPUs not provided as part of an integrated (turnkey) system.

- MICROCOMPUTER - Combines all of the CPU, memory, and peripheral functions of an 8- or 16-bit computer on a chip, in the form of:
 - . Integrated circuit package.
 - . Plug-in board with more memory and peripheral circuits.
 - . Console - including keyboard and interfacing connectors.
 - . Personal computer with at least one external storage device directly addressable by CPU.
 - . An embedded computer, which may take a number of shapes or configurations.

- MINICOMPUTER - Usually a 12-, 16- or 32-bit computer, which may be provided with limited applications software and support, and may represent a portion of a complete large system.
 - . Personal business computer.
 - . Small laboratory computer.
 - . Nodal computer in a distributed data network, remote data collection network, connected to remote microcomputers.

- MIDICOMPUTER - Typically a 32- or 64-bit computer, with extensive applications software and a number of peripherals in standalone or multiple CPU configurations for business (administrative, personnel, and logistics) applications, also called a General-Purpose Computer.



- LARGE COMPUTER - Presently centered around storage controllers but likely to become bus-oriented and to consist of multiple processors (CPUs) or parallel processors; they are intended for structured mathematical and signal processing, and are generally used with general-purpose von-Neumann-type processors for system control.

- SUPER COMPUTER - High-powered processors with numerical processing throughput that is significantly greater than the largest general-purpose computers, with capacities in the 10-50 MFLOPS (million floating point operations per second) range, in two categories:
 - REAL TIME - Generally used for signal processing in military applications.

 - NONREAL TIME - For scientific use, with maximum burst-mode (not sustained speed) capacities of up to 100 MFLOPS, in one of three configurations:
 - Parallel processors.

 - Pipeline processor.

 - Vector processor.

 - Newer super computers, with burst modes approaching 300 MFLOPS, main storage size up to 10 million words, and on-line storage in the one-to-three gigabyte class, are labelled Class IV to VI in agency long-range plans.

- EMBEDDED COMPUTER - Dedicated computer system designed and implemented as an integral part of a weapon or weapon system, or platform, or is critical to a military or intelligence mission, such as



command and control, cryptological activities, or intelligence activities. Characterized by MIL SPEC (military specification) appearance and operation, limited but reprogrammable applications software, and permanent or semipermanent interfaces. May vary in capacity from microcomputers to parallel-processor computer systems.

C. TELECOMMUNICATIONS

- NETWORKS - Interconnection services between computing resources. Provided on a leased basis by a vendor, to move data and/or textual information from one or more locations to one or more locations.
 - COMMON CARRIER NETWORKS (CCN) - Provided via conventional voice-grade circuits and through regular switching facilities (dial-up calling) with leased or user-owned modems (to convert digital information to voice-grade tones) for transfer rates between 150 and 1,200 baud.
 - VALUE-ADDED NETWORKS (VAN) - Provided by vendors through common carrier or special-purpose transmission facilities, with special features not available in the voice-grade switched public network:
 - DEDICATED NETWORK - Provides nonswitched interconnections between computing resources, such as:
 - Full-period, continuously connected communications interface, with machine-to-machine traffic flow.
 - Message-switched text/data flow between specified CPUs or terminals, as determined by information included in the header (front-end) of the message or data block.



- PACKET-SWITCHED - Provides means for delivery of pre-determined blocks of data/text through a common-carrier-type switched network.
 - MESSAGE-SWITCHED - Similar to the dedicated network in message delivery methods, but not restricted to a single user.
- LOCAL-AREA NETWORK (LAN) - Restricted limited-access network between computing resources in a relatively small (but not necessarily contiguous) area, such as a building, complex of buildings, or buildings distributed within a metropolitan area. One of two types:
 - BASEBAND - Voice bandwidth at voice frequencies (same as telephone, teletype system), limited to a single sender at any given moment and limited to speeds of 75 to 1,200 baud, in serial mode.
 - BROADBAND - Employs multiplexing techniques to increase carrier frequency between terminals, to provide:
 - Multiple (simultaneous) channels via FDM (Frequency Division Multiplexing).
 - Multiple (time-sequenced) channels via TDM (Time Division Multiplexing).
 - High-speed data transfer rate via parallel mode at rates of up to 96,000 baud (or higher, depending on media).
- TRANSMISSION MEDIA - Varies with the supplier (vendor) and with the distribution of the network and its access mode to the individual computing resource location.



- MODE - may be either:
 - . ANALOG - Typified by the predominantly voice-grade network of AT&T's DDD (Direct Distance Dialing) and by operating telephone company distribution systems.
 - . DIGITAL - Where voice, data, and/or text are digitized into a binary stream.

- MEDIA varies with distance, availability, and connectivity:
 - . WIRE - Varies from earlier single-line teletype networks, to two-wire standard telephone (twisted pair) and balanced line, to four-wire full-duplex balanced lines.
 - . CARRIER - Multiplexed signals on two-wire and four-wire networks to increase capacity by FDM.
 - . COAXIAL CABLE - HF (High Frequency) and VHF (Very High Frequency), single frequency, or carrier-based system that requires frequent reamplification (repeaters) to carry the signal any distance.
 - . MICROWAVE - UHF (Ultra High Frequency) multichannel, point-to-point, repeated radio transmission, also capable of wide frequency channels.
 - . OPTICAL FIBER - Local signal distribution systems employed in limited areas, using light-transmitting glass fibers, and using TDM for multichannel applications.



- SATELLITES - Synchronous earth-orbiting systems that provide point-to-point, two-way service over significant distances without intermediate amplification (repeaters), but requiring suitable groundstation facilities for up- and down-link operation.
- CELLULAR RADIO - Network of fixed, low-powered two-way radios that are linked by a computer system to track mobile phone/data set units; each radio serves a small area called a cell. The computer switches service connection to the mobile unit from cell to cell as the unit moves among the cells.

D. GENERAL DEFINITIONS

- BENCHMARK - Method of testing proposed ADP system solutions for a specified set of functions (applications) employing simulated or real data inputs under simulated operating conditions.
- BYTE - Approximately equivalent to the storage required for one alphanumeric character (i.e., one letter or number).
- CENTRAL PROCESSING UNIT (CPU) - The arithmetic and control portion of a computer, i.e., the circuits controlling the interpretation and execution of computer instructions.
- CONSTANT DOLLARS - Growth forecasts in constant dollars make no allowance for inflation or recession. Dollar value based on the year of the forecast unless otherwise indicated.
- COMPUTER SYSTEM - The combination of computing resources required to perform the designed functions, and which may include one or more CPUs, machine room peripherals, storage systems, and/or applications software.



- CONUS - Locations within the geographical limits of the CONTinental United States.
- CURRENT DOLLARS - Estimates or values expressed in current-year dollars, which, for forecasts, would include allowance for inflation.
- DATA ENCRYPTION STANDARD (DES) - A specified encryption algorithm implemented by hardware design and used to protect data when stored in or transmitted between user locations.
- DISTRIBUTED DATA PROCESSING - Distributed processing is the deployment of programmable intelligence in order to perform a data processing function where it can be accomplished most effectively through computers and terminals arranged in a telecommunications network adapted to the user's characteristics.
- EMBEDDED COMPUTER - Computer system that is an integral part of a weapon, weapon system, or platform, or is critical to the direct fulfillment of a military or intelligence mission.
- ENCRYPTION - Electrical, code-based conversion of transmitted data, to provide security and/or privacy of data between authorized access points.
- END USER - One who is using a product or service to accomplish his/her own functions. The end user may buy a system from the hardware supplier(s) and do his/her own programming, interfacing, and installation. Alternately, the end user may buy a turnkey system from a systems house or hardware integrator, or may buy a service from an in-house department or external vendor.
- ENGINEERING CHANGE NOTICE (ECN) - Product changes to improve the product after it has been released to production.



- ENGINEERING CHANGE ORDER (ECO) The follow-up to ECNs. They include parts and a bill of material to effect the change in hardware.
- EQUIPMENT OPERATORS - Individuals operating computer control consoles and/or peripheral equipment (BLS definition).
- FIELD ENGINEER (FE) - Field engineer, customer engineer, servicemen, and maintenance men are used interchangeably and refer to the individual who responds to a user's service call to repair a device or system.
- GENERAL-PURPOSE COMPUTER SYSTEM - A computer designed to handle a wide variety of problems; includes machine room peripherals, systems software, and small business systems.
- HARDWARE INTEGRATOR - Develops system interface electronics and controllers for the CPU, sensors, peripherals, and all other ancillary hardware components. The hardware integrator may also develop control system software, in addition to installing the entire system at the end-user site.
- INDEPENDENT SUPPLIERS - Suppliers of machine room peripherals; usually do not supply general-purpose computer systems.
- INFORMATION PROCESSING - Data processing as a whole, including use of business and scientific computers.
- INSTALLED BASE - Cumulative number or value (cost when new) of computers in use.
- KEYPUNCH OPERATORS - Individuals operating keypunch machines (similar in operation to electric typewriters) to transcribe data from source material onto punch cards.



- MACHINE REPAIRERS - Individuals who install and periodically service computer systems.
- MACHINE ROOM PERIPHERALS - Peripheral equipment that is generally located close to the central processing unit.
- MAINFRAME - The central processing unit (CPU, or units in a parallel processor) of a computer that interprets and executes computer (software) instructions.
- MEAN TIME TO REPAIR - The mean of the elapsed times from the arrival of the field engineer on the user's site until the device is repaired and returned to the user.
- MEAN TIME TO RESPOND - The mean of elapsed times between when the user calls for service and when the field engineer arrives at the user's location.
- MESSAGE - A communication intended to be read by a person. The quality of the received document does not have to be high, only readable; graphic materials are not included.
- MODEM - A device that encodes information into electronically transmittable form (MODulator) and restores it to original form (DEMulator).
- NETWORK - Electronic interconnection between a central computer site and remote locations; it may incorporate switching and/or regional data processing nodes.
- NODE - Connection point of three or more independent transmission points, which may provide switching or data collection.



- OFF-LINE - Pertaining to equipment or devices that can function without direct control of the central processing unit.
- ON-LINE - Pertaining to equipment or devices under direct control of the central processing unit.
- OVERSEAS - Not within the geographical limits of the continental United States, Alaska, Hawaii, and U.S. possessions.
- PERIPHERALS - Any unit of input/output equipment in a computer system, exclusive of the central processing unit.
- PROGRAMMERS - Persons mainly involved in designing, writing, and testing of computer software programs.
- PROTOCOLS - Digitally encoded instructions for computer-controlled digital switches in digital (data/text) networks that define treatment and identify sender and receiver.
- SCIENTIFIC COMPUTER SYSTEM - A computer system designed to process structured mathematics, such as Fast Fourier Transforms and complex, highly redundant information, such as seismic data, sonar data, and radar, with large on-line memories and very high capacity throughput.
- SECURITY - Physical, electrical, and computer (digital) coding procedures to protect the contents of computer files and data transmission from inadvertent or unauthorized disclosure, to meet the requirements of the Privacy Act and national classified information regulations.
- SOFTWARE - Computer programs.
- SUPPLIES - Includes materials associated with the use or operation of computer systems, such as print-out paper, keypunch cards, diskette packs, etc.



- SYSTEMS ANALYST - Individual who analyzes problems to be converted to a programmable form for application to computer systems.
- SYSTEMS HOUSE - Vendor that acquires, assembles, and integrates hardware and software into a total turnkey system to satisfy the data processing requirements of the end user. The vendor may also develop system software products for license to end users. The systems house vendor does not manufacture mainframes.
- SYSTEMS INTEGRATOR - Systems house vendor that develops systems interface electronics, application software, and controllers for the CPU, peripherals, and ancillary subsystems, that may have been provided by a contractor or the government (GFE). This vendor may either supervise or perform the installation and acceptance testing of the completed system.
- TURNKEY SYSTEM - System composed of hardware and software integrated into a total system designed to completely fulfill the processing requirements of a single application.
- VERIFICATION AND VALIDATION - Process for examining and testing applications (and special systems) software, to verify that it operates on the target CPU and performs all of the functions specified by the user.

E. OTHER CONSIDERATIONS

- When questions arise as to the proper place to count certain user expenditures, INPUT addresses the questions from the user viewpoint. Expenditures are then categorized according to what the users perceive they are buying.



APPENDIX C: GLOSSARY OF FEDERAL ACRONYMS

- The federal government's procurement language uses a combination of acronyms, phrases, and words that is further complicated by different agency definitions. Terms of accounting, business, economics, engineering, and law are further complicated by new applications and technology.
- Acronyms 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 acronyms have been included to the extent they are employed in this report.

A. ACRONYMS

- AAS Automatic Addressing System.
- AATMS Advanced Air Traffic Management System.
- ACO Administrative Contracting Offices (DCAS).
- ACS Advanced Communications Satellite (formerly NASA 30/20 GHz_z Satellite Program).
- ACT-I Advanced Computer Techniques (Air Force).



- Ada DoD High-Order Language.
- ADA Airborne Data Acquisition.
- ADL Authorized Data List.
- ADP Automatic Data Processing.
- ADPE Automatic Data Processing Equipment.
- ADS Automatic Digital Switches (DCS).
- AFA Air Force Association.
- AFCEA Armed Forces Communications Electronics Association.
- AGE Aerospace Ground Equipment.
- AIP Array Information Processing.
- AMPE Automated Message Processing Equipment.
- AMPS Automated Message Processing System.
- AMSL Acquisition Management Systems List.
- ANSI American National Standards Institute.
- AP(P) Advance Procurement Plan.
- Appropriation Congressionally approved funding for authorized programs and activities of the Executive Branch.
- APR Agency Procurement Request.
- ARPANET DARPA Network of interconnected scientific computers.
- ATLAS Abbreviated Test Language for All Systems (for ATE-Automatic Test Equipment).
- Authorization In 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.
- AUTODIN AUTOMATIC Digital Network (of the Defense Communications System).
- BA Basic Agreement.
- BAFO Best And Final Offer.
- Base level Procurement, purchasing, and contracting at the military installation level.



- BCA Board of Contract Appeals.
- 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.
- BPE Best Preliminary Estimate.
- Budget Federal Budget, proposed by the President and subject to Congressional review.

- 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.
- CAD Computer-Aided Design.
- CADE Computer-Aided Design and Engineering.
- CADS Computer-Assisted Display Systems.
- CAIS Computer-Assisted Instruction System.
- CAM Computer-Aided Manufacturing.
- 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 - publication of the U.S. Department of Commerce listing government contract opportunities and awards.



- CBEMA Computer and Business Equipment Manufacturers Association.
- CBO Congressional Budget Office.
- CCDR Contractor Cost Data Reporting.
- CCN Contract Change Notice.
- CCPDS Command Center Processing and Display Systems.
- CCPO Central Civilian Personnel Office.
- CCTC Command and Control Technical Center (JCS).
- CDR Critical Design Review.
- CDRL Contractor Data Requirements List.
- CFE Contractor-Furnished Equipment.
- CFR Code of Federal Regulations.
- CIG Computerized Interactive Graphics.
- CIR Cost Information Reports.
- CM Configuration Management.
- CMI Computer-Managed Instruction.
- CNI Communications, Navigation, Identification.
- CO Contracting Office, Contract Offices, or Change Order.
- COB Command Operating Budget.
- COBOL COmmon Business Oriented Language.
- COC Certificate of Competency (administered by Small Business Administration).
- COCO Contractor-Owned, Contractor-Operated.
- CODSIA Council of Defense and Space Industry Associations.
- CONUS CONTinental United States.
- COP Capability Objectives Package.
- COTR Contracting Officer's Technical Representative.
- 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.



- CPU Central Processor Unit.
- CR Cost Reimbursement (Cost Plus Contracts).
- CSA Combat or Computer Systems Architecture.
- C/SCSC Cost/Schedule Control System Criteria (also called "C"-Spec).
- CWAS Contractor Weighted Average Share in Cost Risk.

- DAL Data Accession List.
- DAR Defense Acquisition Regulations.
- DARPA Defense Advanced Research Projects Agency.
- DAS Data Acquisition System.
- DBHS Data Base Handling Systems.
- DBMS Data Base Management System.
- DCA Defense Communications Agency.
- DCAA Defense Contract Audit Agency.
- DCAS Defense Contract Administrative Services.
- DCASR DCAS Region.
- DCC Digital Control Computer.
- DCP Development Concept Paper (DoD).
- DCS Defense Communications System.
- DDA Dynamic Demand Assessment (Delta Modulation).
- DDC Defense Documentation Center.
- DDL Digital Data Link.
- DDN Digital Data Network.
- DDS Dynamic Diagnostics System.
- D&F Determination and Findings - required documentation for approval of a negotiated procurement.
- DIA Defense Intelligence Agency.
- DHHS Department of Health and Human Services.
- DIDS Defense Integrated Data Systems.
- DISC Defense Industrial Supply Center.
- DLA Defense Logistics Agency.
- DMA Defense Mapping Agency.

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- DNA Defense Nuclear Agency.
- DO Delivery Order.
- DOA Department of Agriculture (also USDA).
- DOC Department of Commerce.
- 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.
- DQ Definite Quantity Contract.
- DQ/PL Definite Quantity Price List Contract.
- DR Deficiency Report.
- DSN Defense Switched Network.
- DSP Defense Support Program (WWMCCS).
- DSS Defense Supply Service.
- DTC Design-to-Cost.
- ECP Engineering Change Proposal.
- ED Department of Education.
- EEO Equal Employment Opportunity.
- EIA Electronic Industries Association.
- 8(a) Set-Aside Agency awards direct to Small Business Administration for direct placement with a socially/economically disadvantaged company.
- EMC Electro Magnetic Compatibility.
- EMCS Energy Monitoring and Control System.
- EO Executive Order - Order ISS 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.

- FA Formal Advertising.
- FAC Facility Contract.
- FAR Federal Acquisition Regulations.
- FCA Functional Configuration Audit.
- FCC Federal Communications Commission.
- FCDC Federal Contract Data Center.
- FCRC Federal Contract Research Center.
- FDPC Federal Data Processing Centers.
- FEDSIM Federal (Computer) Simulation Center (GSA).
- FEMA Federal Emergency Management Agency.
- FFP Firm Fixed-Price Contract (also Lump Sum Contract).
- FIPS-PUBS Federal Information Processing Standards Publications.
- FIRMR Federal Information Resource Management Regulations.
- FMS Foreign Military Sales.
- FOC Final Operating Capability.
- FOIA Freedom of Information Act.
- FP Fixed-Price Contract.
- FP-L/H Fixed-Price - Labor/Hour Contract.
- FP-LOE Fixed-Price - Level-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).
- FTS Federal Telecommunications System.
- FY Fiscal Year.
- FYDP Five-Year Defense Plan.

- 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.
- GPO Government Printing Office.
- GPS Global Positioning System.
- GS General Schedule.
- GSA General Services Administration.

- HPA Head of Procuring Activity.
- HSDP High-Speed Data Processors.
- HUD (Department of) Housing and Urban Development.

- 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 Bureau of Standards, Department of Commerce.
- IDAMS Image Display And Manipulation System.
- IDEP Interservice Data Exchange Program.
- IDN Integrated Data Network.
- IFB Invitation For Bids.
- IOC Initial Operating Capability.
- IOI Internal Operating Instructions.
- IQ Indefinite Quantity contract.
- IR&D Independent Research & Development.
- IRM Information Resource Manager.
- IXS Information Exchange System.

- JOCIT JOVIAL Compiler Implementation Tool.
- JSIPS Joint Systems Integration Planning Staff.
- JSOP Joint Strategic Objectives Plan.
- JSOR Joint Service Operational Requirement.
- JUMPS Joint Uniform Military Pay System.

- LC Letter Contract.
- LCC Life Cycle Costing.
- LCMP Life Cycle Management Procedures (DD7920.1).
- LCMS Life Cycle Management System.
- L-H Labor-Hour Contract.
- LOI Letters of Interest.
- LRPE Long-Range Procurement Estimate.
- LSI Large-Scale Integration.

- MAISRC Major Automated Information Systems Review Council.
- MANTECH MANufacturing TECHNOlogy.
- MAPS Multiple Address Processing System.
- MASC Multiple Award Schedule Contract.
- MDA Multiplexed Data Accumulator.
- MENS Mission Element Need Statement, or Mission Essential Need Statement (see DD-5000.1 Major System Acquisition).
- MILSCAP Military Standard Contract Administration Procedures.
- MIL SPEC Military Specification.
- MIL STD Military Standard.
- MIPR Military Interdepartmental Purchase Request.
- MOD Modification.
- MOL Maximum Ordering Limit (Federal Supply Service).
- MPC Military Procurement Code.
- MYP Multi-Year Procurement.

- NARDIC Navy Research and Development Information Center.
- NASA National Aeronautics and Space Administration.

- NCMA National Contract Management Association.
- NICRAD Navy-Industry Cooperative Research and Development.
- NIP Notice of Intent to Purchase.
- NMCS National Military Command System.
- NSA National Security Agency.
- NSF National Science Foundation.
- NSIA National Security Industrial Association.
- NTIS National Technical Information Services.

- Obligation "Earmarking" of specific funding for a contract, from committed agency funds.
- OCS Office of Contract Settlement.
- OFCC Office of Federal Contract Compliance.
- Off-Site Services to be provided near, but not on/in government facility.
- 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 & Repair.
- On-Site Services (nonpersonal) 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.
- OSHA Occupational Safety and Health Act.
- OSP Offshore Procurement.
- OTA Office of Technology Assessment (Congress).
- Out-Year Proposed funding for fiscal years beyond the Budget Year (next fiscal year).

- P-I 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.
- PCM Pulse Code Modulation.
- 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 Program Management Plan.
- PO Purchase Order, or Program Office.
- POM Program Objective Memorandum.
- PPBS Planning, Programming, Budgeting System.
- PPM Pulse Position Modulation.
- PR Purchase Request, or Procurement Requisition.
- PROM Programmable Read-Only Modules.
- 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.
- 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-I FY RDT&E Budget.
- RAM Reliability, Availability, and Maintainability.



- RC Requirements Contract.
- R&D Research & 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, & Engineering.
- 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.
- RTAS Real-Time Analysis System.
- RTDS Real-Time Display System.

- SA Supplemental Agreement.
- 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.
- 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.
- SIMP Systems Integration Master Plan.
- SIOP Single Integrated Operations Plan.
- SNAP Shipboard Nontactical ADP Program.
- Sole Source Contract award without competition.
- Solicitation Invitation to (submit a) bid.
- SOR Specific Operational Requirement.



- SOW Statement of Work (negotiated procurements).
- 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.
- SWO Stop-Work Order.
- Synopsis Brief description of contract opportunity in CBD, after D&F and before release of solicitation.

- TA/AS Technical Assistance/Analyst Services.
- TDMA Time Division Multiple Access.
- TEMPEST DoD techniques to inhibit unintentional electromagnetic radiation.
- TILO Qualified Requirements Information Program - Army.
- TM Time and Materials contract.
- TOA Total Obligational Authority (Defense).
- TOD Technical Objective Document.
- TR Temporary Regulation (added to FPR, FAR).
- TRACE Total Risk Assessing Cost Estimate.
- TRCO Technical Representative of the Contracting Offices.
- TREAS Department of Treasury.
- TRP Technical Resources Plan.
- TSP Teleprocessing Services Program (GSA).

- UCAS Uniform Cost Accounting System.
- UPS Uninterruptable Power Source.
- USA U.S. Army.
- USAF U.S. Air Force.
- USMC U.S. Marine Corps.
- USN U.S. Navy.
- U.S.C. United States Code.



- U.S.P.S. United States Postal Service.
- USRRB United States Railroad Retirement Board.

- VA Veterans Administration.
- VE Value Engineering.
- VHSIC Very High Speed Integrated Circuits.
- VIABLE Vertical Installation Automation BaseLine (Army).
- VICI Voice Input Code Identifier.
- VLSI Very Large Scale Integration.

- WBS Work Breakdown Structure.
- WGM Weighted Guidelines Method.
- WIN WWMCCS Intercomputer Network.
- WIS WWMCCS Information Systems.
- WS Work Statement - Offerer's description of the work to be done (proposal or contract).

- WWMCCS WorldWide Military Command and Control System.

B. 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-76 Policies for Acquiring Commercial or Industrial Products and Services Needed by the Government.
- 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.



C. DEPARTMENT OF DEFENSE DIRECTIVES

- DD-5000.1 Major System Acquisitions.
- DD-5000.2 Major System Acquisition Process.
- DD-5200.1 DoD Information Security Program.
- DD-5000.3I Interim List of DoD-Approved High-Order Languages.
- DD-5000.35 Defense Acquisition Regulatory Systems.
- DD-7920.1 Life Cycle Management of Automated Information (AIS).
- DD-7920.2 Major Automated Information Systems Approval Process.





APPENDIX D: RELATED INPUT REPORTS

A. ANNUAL REPORTS

	<u>Year</u>
● U.S. Information Services Markets, 1983-1988 Volume I - Industry-Specific Markets	1983

B. INDUSTRY SURVEYS

● Seventeenth Annual ADAPSO Survey of the Computer Services Industry	1983
● Directory of Leading U.S. Information Services Vendors	1983

C. MARKET REPORTS

● Procurement Analysis Reports, 1984-1988	1984
● Federal Systems Integration Market, 1985-1990	1984



- Micro-Mainframe Telecommunications 1984
- Management, Technology, and Strategy for Large Systems 1983
- Trends in Processing Services and Integrated Systems
Pricing 1983
- Organizing the Information Center 1983





Good morning/afternoon, my name is _____, and I am calling you on behalf of INPUT, an information systems and services research firm.

We are conducting a survey of Contractor furnished facilities management and ADP O&M to the Federal Government.

The purpose of our study is to assist our U. S. industrial clients in planning to satisfy future federal government needs for computer-based information systems and services.

I would like to ask you a few questions regarding your agency's plan for acquiring ADP COCO, COCO and on-site O&M services over the next five years, if you have the time now.

In return for participating in this study, we will send you a free summary of the research results for your information.

If it is convenient, I'd like to ask you those questions now.

a. (If not convenient) When would be a more convenient time?

_____ (date) _____ (time)

b. (If uncooperative) Could you give me the name and phone number of someone who might be able to help us? _____ (name)

_____ (title) _____ (phone)

c. (If yes) Call time: _____

c-1. Name of Agency: _____

Agency Code: _____

c-2. Interviewee: _____

Title: _____

(If yes Continue)

We are going to cover several categories of ADP Facilities Management and On-Site Support Services, so you may want to write these down:



For the purposes of this survey, we have defined "ADP FACILITIES MANAGEMENT," and "ON-SITE ADP OPERATION AND MAINTENANCE," as follows:

PROCESSING FACILITIES MANAGEMENT (PFM) (also referred to as "Resource Management," "Systems Management," or "COCO" - contractor-owned/contractor-operated) - The management of all or part of a user's data processing functions under a long-term contract (not less than one year). This would include remote computing and batch services. To qualify as PFM, the contractor must directly plan, control, operate, and own the facility provided to the user, either on-site, through communications lines, or in a mixed mode.

PROFESSIONAL SERVICES FACILITIES MANAGEMENT (PSFM) (also referred to as GOCO - Government-Owned/Contractor-Operated) - The counterpart to processing facilities management, except that the computers are owned or leased by the government, not the PSFM vendor, and the vendor provides the staff to operate, maintain, and manage the government's facility.

OPERATION AND MAINTENANCE (also referred to as O&M) - Contractor (vendor)-staffed support of client ADP/telecommunications equipment On-Site (on government property), in cases where the vendor does not manage the complete facility and the equipment and initial software suite may not have been provided by the vendor. Contractor may also be responsible for software development and/or modification of existing software.



- 1) Have you used any of the following ADP FM or Support categories within the past year?

	YES	NO	FUTURE YES	FUTURE NO	WHY
--	-----	----	---------------	--------------	-----

Processing Services Facilities Management (COCO)	___	___	___	___	___
--	-----	-----	-----	-----	-----

Professional Services Facilities Management (GOCO)	___	___	___	___	___
--	-----	-----	-----	-----	-----

Professional/Technical ADP On-Site Operation and Maintenance Services	___	___	___	___	___
---	-----	-----	-----	-----	-----

- 2) What percent of your total commercial ADP Services budget is currently spent on each of the following categories?

percent spent now

Processing FM - COCO _____

Professional Services FM-GOCO _____

Professional/Technical ADP
On-Site O&M Services _____

- 3) What is your annual expenditure for commercial ADP Services? _____

- 4) Do you anticipate any change in the amount of commercial ADP Services you will use in the next 2 to 5 years?

YES _____ NO _____



4a) (If Yes)

In which of the following categories do you expect either an increase or decrease in the next 2 to 5 years, and can you estimate by what percent?

	INCREASE	DECREASE	NO CHANGE	% CHANGE
PFM-COCO	_____	_____	_____	_____
PSFM- GOCO	_____	_____	_____	_____
On-Site ADP O&M	_____	_____	_____	_____

5) What types of applications have been contracted out to FM Services vendors in the past year?

6) How would you rank the importance of the following FM or On-Site O&M Services vendor characteristics in winning a bid.

- 1 - Definitely Not Important
- 2 - Somewhat Important
- 3 - Important
- 4 - Very Important
- 5 - Crucial

<u>CHARACTERISTIC</u>	<u>RANK</u>
1) Application Functional Experience	1 2 3 4 5
2) Incumbent Contractor	1 2 3 4 5
3) Staff Experience	1 2 3 4 5
4) Hardware Experience	1 2 3 4 5
5) Software Development Experience	1 2 3 4 5
6) Support	1 2 3 4 5
7) Federal Contract Experience	1 2 3 4 5
8) Agency Experience	1 2 3 4 5
9) Price	1 2 3 4 5
10) Other - _____	1 2 3 4 5



- 7) What are three advantages to you of contractor furnished FM and/or O&M Services?

- 8) What are three disadvantages to you of using these services?

- 9) On a scale of 1 to 5, with 5 being the most satisfied, how would you rank your level of satisfaction with FM or O&M Services vendors in the past regarding:

<u>CHARACTERISTIC</u>	<u>RATINGS</u>				
a. Quality of Work	1	2	3	4	5
b. Quantity of Work	1	2	3	4	5
c. Responsiveness to Agency Needs	1	2	3	4	5
d. Project Management	1	2	3	4	5
e. Development Visibility	1	2	3	4	5
f. Delivery Schedule(s)	1	2	3	4	5
g. Cost	1	2	3	4	5



- 10) What type of contract does your agency prefer for each type of commercial Services category you use:

	COST PLUS	FIXED PRICE	MIX	OTHER(SPECIFY)
PFM-COCO	_____	_____	_____	_____
PSFM-GOCO	_____	_____	_____	_____
On-Site O&M without software development responsibility	_____	_____	_____	_____
On-Site O&M with software development responsibility	_____	_____	_____	_____

- 11) On a scale of 1 to 5, with 5 being the most important, how would you rank the following criteria when selecting a vendor for FM or On-Site O&M Services:

	RATINGS				
Proposed Operations Procedures	1	2	3	4	5
Cost Control Procedures	1	2	3	4	5
Cost	1	2	3	4	5
Contract Type Proposed	1	2	3	4	5
Vendor Reputation	1	2	3	4	5
Other	1	2	3	4	5
Do Not Know	1	2	3	4	5

- 12) When a commercial services contract for FM or On-Site O&M is completed, do you usually transfer continued support in-house or leave support with contractors?

IN-HOUSE _____ CONTRACTORS _____

- 13) Do you plan to convert any FM or On-Site O&M Services contracts to in-house?

YES _____ NO _____



13a) Why? _____

13b) Which applications? _____

14) Do you plan to convert any in-house ADP O&M support functions to outside contractor support?

YES _____ NO _____

14a) Why? _____

14b) Which applications? _____

15) In your opinion what Government-wide non-technical factors will have the greatest impact on your agency's increased or decreased usage of commercial FM or On-Site O&M Services?



INDUSTRY
CONFIDENTIAL

INPUT QUESTIONNAIRE: FM/O&M Vendor

CATALOG NO.

F	I	S	S	-	1	0
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STUDY TITLE: FEDERAL FACILITIES MANAGEMENT MARKET

STUDY CODE

G	-	F	M	R
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TYPE OF INTERVIEW: TECHNICAL TELEPHONE

DATE

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MARKETING ON-SITE

M M D D Y Y

EXECUTIVE MAIL

INTERVIEWER: _____

COMPANY: _____

DEPARTMENT: _____

FUNCTION: _____

COMPANY TYPE: _____

EXECUTIVE: _____

MAIL CODE: _____

ADDRESS: _____

FUNCTION OF INTERVIEWEE: _____

NAME **TITLE** **TELEPHONE NO.**

SUMMARY

REFERENCES



Good morning/afternoon, my name is _____, and I am calling you on behalf of INPUT, an information systems and services research firm.

We are conducting a survey of contractor-furnished facilities management and on-site ADP O&M to the Federal Government.

The purpose of our study is to assist our U. S. industrial clients in planning to satisfy future federal government needs for computer-based information systems and services.

I would like to ask you a few questions regarding your company's plans for providing ADP COCO, GOCO and on-site O&M services over the next five years. if you have the time now.

In return for participating in this study, we will send you a free summary of the research results for your information.

If it is convenient, I'd like to ask you those questions now.

a. (If not convenient) When would be a more convenient time?

_____ (date) _____ (time)

b. (If uncooperative) Could you give me the name and phone number of someone who might be able to help us? _____ (name)

_____ (title) _____ (phone)

c. (If yes) Call time: _____

c-1. Name of Agency: _____

Agency Code: _____

c-2. Interviewee: _____

Title: _____

(If yes Continue)

I am going to cover several categories of ADP operation and maintenance, so you may want to write these down:



For the purposes of this survey, we have defined "ADP FACILITIES MANAGEMENT", and "ON-SITE ADP OPERATION AND MAINTENANCE", as follows:

PROCESSING FACILITIES MANAGEMENT (PFM) (also referred to as "Resource Management," "Systems Management," or "COCO" - contractor-owned/contractor-operated) - The management of all or part of a user's data processing functions under a long-term contract (not less than one year). This would include remote computing and batch services. To qualify as PFM, the contractor must directly plan, control, operate, and own the facility provided to the user, either on-site, through communications lines, or in a mixed mode.

PROFESSIONAL SERVICES FACILITIES MANAGEMENT (PSFM) (also referred to as GOCO - Government-Owned/Contractor-Operated) - The counterpart to processing facilities management, except that the computers are owned or leased by the government, not the PSFM vendor, and the vendor provides the staff to operate, maintain, and manage the government's facility.

OPERATION AND MAINTENANCE (also referred to as O&M) - Contractor (vendor)-staffed support of client ADP/telecommunications equipment on-site (on government property), in cases where the vendor does not manage the complete facility and the equipment and initial software suite may not have been provided by the vendor. Contractor may also be responsible for software development and/or modification of existing software.



- 1) Which of the following ADP FM or Support Service categories have you provided to the Federal Government in the past year?

	YES	NO	FUTURE YES	FUTURE NO	WHY
Processing Services Facilities Management (COCO)	___	___	___	___	___
Professional Services Facilities Management (GOCO)	___	___	___	___	___
Professional/Technical ADP on-site Operation and Maintenance Services	___	___	___	___	___

- 2) What percent of your total ADP operation and maintenance services business was done with the Federal Government last year? _____
- 3) What percent of your Federal FM/O&M Services revenue was generated in each of these categories last year?

	percent last year
Processing FM (COCO)	_____
Professional Services FM (GOCO)	_____
Professional/Technical ADP On-Site O&M Services	_____

- 3a) What was your total FM and O&M Services revenue in dollars last year-- both commercial and Government? _____
- 3b) What was your total Corporate revenue in dollars last year? _____
- 4) Do you anticipate any change in the amount of FM and/or O&M Services you will provide to the Federal Government in the next 2 to 5 years?

YES _____ NO _____



4a) (If Yes)

In which of the following categories do you expect either an increase or decrease in the next 2 to 5 years, and can you estimate by what percent? This is for services to the Federal Government only.

	INCREASE	DECREASE	NO CHANGE	% CHANGE
PFM - COCO	_____	_____	_____	_____
PSFM - GOCO	_____	_____	_____	_____
On - Site O&M	_____	_____	_____	_____

5) In your opinion, what factors will increase or decrease Federal Government spending on FM and O&M Services in the next 2 - 5 years? _____

6) How would you rank the importance of the following FM/on-site O&M Services vendor characteristics in winning a bid?

- 1 - Definitely Not Important
- 2 - Somewhat Important
- 3 - Important
- 4 - Very Important
- 5 - Crucial

<u>CHARACTERISTIC</u>	<u>RANK</u>				
1) Application Functional Experience	1	2	3	4	5
2) Incumbent Contractor	1	2	3	4	5
3) Staff Experience	1	2	3	4	5
4) Hardware Experience	1	2	3	4	5
5) Software Development Experience	1	2	3	4	5
6) Technical Support	1	2	3	4	5
7) Federal Contract Experience	1	2	3	4	5
8) Agency Experience	1	2	3	4	5
9) Price	1	2	3	4	5
10) Other	1	2	3	4	5

7) Are you now qualified or do you plan to become qualified in Ada programming?

Qualified Now _____ Planning To Be _____



8) In your opinion, what are three advantages to the Federal Government in using contractor-furnished FM or on-site ADP O&M Services _____

9) In your opinion, what are three disadvantages to the Federal Government in using contractor-furnished FM or on-site ADP O&M _____

10) On a scale of 1 to 5, with 5 being the most satisfied, how would you rank the Government's level of satisfaction with FM and O&M Services vendors in the past regarding:

<u>CHARACTERISTICS</u>	<u>RATINGS</u>				
a. Quality of Work	1	2	3	4	5
b. Quantity of Work	1	2	3	4	5
c. Responsiveness to Agency Needs	1	2	3	4	5
d. Project Management	1	2	3	4	5
e. Development Visibility	1	2	3	4	5
f. Delivery Schedule(s)	1	2	3	4	5
g. Cost	1	2	3	4	5

11) What type of contract does your company prefer for each type of FM or O&M Services category you provide:

	<u>COST PLUS</u>	<u>FIXED PRICE</u>	<u>MIX</u>	<u>OTHER(SPECIFY)</u>
PFM - COCO	_____	_____	_____	_____
PSFM - GOCO	_____	_____	_____	_____
On-site O&M without software development	_____	_____	_____	_____
On-site O&M with software development	_____	_____	_____	_____

the 1990s, the number of people in the world who are poor has increased.

There are two reasons for this. First, the

number of people in the world has increased

and, second, the number of people who are

poor has increased. This is a very serious

problem and it is one that we must

address. We must find ways to help

the poor and to reduce the number of

people who are poor. This is a very

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important goal and it is one that we

must all work together to achieve.

- 12) On a scale of 1 to 5, with 5 being the most important, how do you think the Government ranks the following criteria when selecting a vendor for FM or On-Site O&M:

	RATINGS				
Proposed Operations Procedures	1	2	3	4	5
Cost Control Procedures	1	2	3	4	5
Contract Type Proposed	1	2	3	4	5
Vendor Reputation	1	2	3	4	5
Other	1	2	3	4	5
Do Not Know	1	2	3	4	5

- 13) When you complete an FM/O&M Services contract with the Government, is follow-on support usually transferred in-house, left with you, or recompeted?

IN-HOUSE _____ OUT-OF-HOUSE-SELF _____ RECOMPETED _____

- 14) Have you ever lost any FM or O&M Services contracts to Government in-house staffs? YES _____ NO _____

14a) Why? _____

14b) What types of applications? _____

- 15) Have you ever acquired a contract for FM or O&M support which was previously done in-house by the Government? YES _____ NO _____

15a) Why? _____

15b) What type of applications? _____



16) In your opinion, what Government-wide non-technical factors will have the greatest impact on your level of Federal Facilities Management or on-site Operations/Management/Software Services revenues? _____

