# Federal Government Market

## GFY 1992-1997

FG-1

INPUT

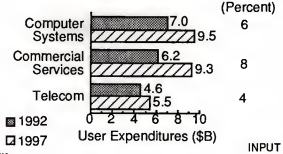
## Information Technology Market Factors

- IT productivity emphasis
- Obsolescence key
- Regulation changes
- Standards implications

FG-220

INPUT

## IT Markets




FG-218

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## Federal Government Market Conclusions

- Lower growth rates overall
- Data to information transition
- Fewer large projects
- Standards implications
- New technology prospects

FG-99

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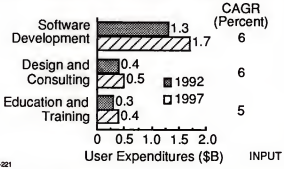
## Professional Services Market




FG-221

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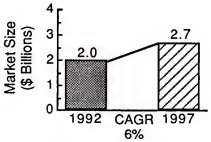
## Professional Services Market




FG-222

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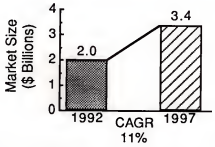
## Professional Services Market




FG-222a

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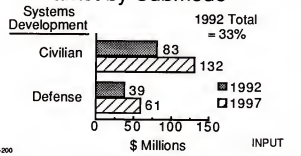
## Professional Services Market by Submode




FG-200

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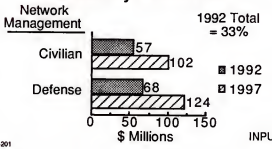
## Professional Services Market by Submode




FG-201

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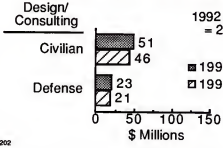
## Professional Services Market by Submode




FG-202

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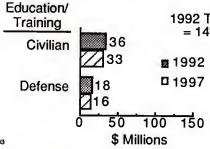
## Professional Services Market by Submode




FG-203

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## Professional Services Market

- Software development slower
- OMB revision of A-130
- Education and training increase
- Interoperability pressures

FG-224

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## Top Professional Services Vendors, 1990

| Company | Rev. ($M) |
|---|---|
| Computer Sciences Corp. | 323 |
| Grumman Data Systems | 111 |
| Unisys | 108 |
| BDM | 106 |
| PRC | 105 |

Source: Company-supplied data for calendar year 1990

INPUT

FG-6a

## Top Professional Services Vendors, 1990

| Company | Rev. ($M) |
|---|---|
| Computer Data Systems, Inc. | 102 |
| EDS | 102 |
| Martin Marietta | 96 |
| Centel Federal Systems | 92 |
| IBM | 89 |

Source: Company-supplied data for calendar year 1990

INPUT

FG-6b

## Competitive Forces Professional Services Market

- Set-asides for 8(a) or small businesses
- New players in the market
  - Aerospace firms
  - Big 6 accounting firms
  - Specialized niche firms

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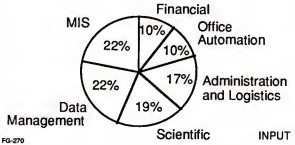
FG-7

## Prof. Svcs. Application Areas Civil Agencies


INPUT

FG-269

## Prof. Svcs. Application Areas DoD Agencies




INPUT

FG-270

## Successful Training Technologies

| Technology | Rank |
|---|---|
| Video training | 1 |
| Interactive display of monitor screens | 2 |
| Computer-based training (CBT) | 3 |

INPUT

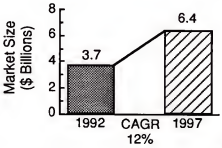
FG-8

## Recommendations Professional Services Market

- Penetrate agency customers vertically
- Maintain positive reputation
- Survey clients for potential problems
- Stress standards and interoperability

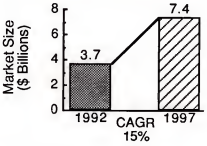
FG-9 INPUT

## Systems Integration Market



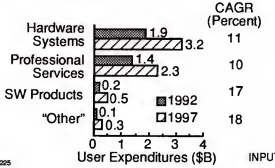

FG-226 INPUT

## Systems Integration Market




FG-226a INPUT

## Systems Integration Market




FG-225 INPUT

## Systems Integration Market

- Delayed implementation
- Decreased professional services
- Increased hardware acquisition
- Increased competition
- Defense plan impact

FG-227 INPUT

## Top Five SI Vendors CY 1990

| Rank | Vendor |
|---|---|
| 1 | IBM Corporation |
| 2 | Electronic Data Systems (EDS) |
| 3 | Science Applications Int. Corp. (SAIC) |
| 4 | Martin Marietta |
| 5 | Computer Sciences Corp. (CSC) |

Note: Ranked in order of reported federal SI revenue for CY 1990.

FG-13 INPUT

## Primary SI Applications

- Project management
- Graphics
- Management information
- Logistics
- Office automation

INPUT

FG-14

## Critical Success Factors in SI Projects

- Risk containment and skillful mgmt.
- Vendor reputation
- Comprehension of procurement rules
- Technical ability
- Teaming partnership
- Need to focus efforts

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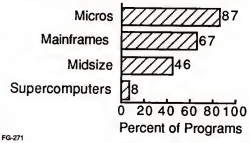
FG-15

## Dist. of Type of Target HW Systems for SI Programs

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FG-271

## Alternative Strategies to "Grand Design"

- Bounded grand design strategy
- Comprehensive information technology utility strategy
- Functional/technical integration of program-specific plans
- Incremental investment strategy

Source: *Alternatives to Grand Design for System Modernization*, GSA, Information Resources Management Service, April 1991 INPUT

FG-272

## Recommendations SI Market

- Understand process
- Develop project management talent
- Take care in teaming selection and management
- Focus on marketing efforts
- Empathize with customer problems

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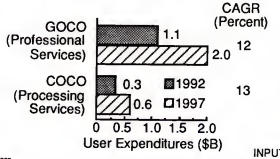
FG-16

## Outsourcing Market

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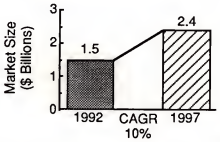
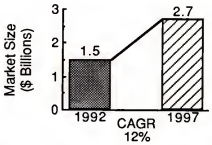
FG-228

## Outsourcing Market




FG-229 INPUT

## Outsourcing Market




FG-229a INPUT

## Outsourcing Market

- Long-term prospects
- Mission contracting
- In-house staff retention
- Systems integration impact

FG-230 INPUT

## Leading SO Vendors

- Computer Sciences Corporation
- Unisys
- Boeing Computer Services
- Lockheed
- DP Associates, Inc.
- Planning Research Corporation

FG-19 INPUT

## Federal SO Market Advantages

- Flexible staff levels
- Fixed costs
- Shared technology
- Diversified experiences

FG-20 INPUT

## Federal SO Market Disadvantages

- Highly competitive
- Forced low-bid position
- Determination of requirements
- Lack of agency loyalty

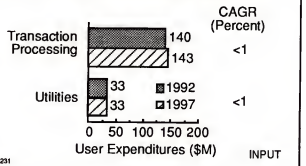
FG-21 INPUT

## Recommendations Systems Operations Market

- Increase use of advanced technology
- Expand contract usage
- Improve project management
- Minimize staff attrition
- Establish strategic alliances

FG-22 INPUT

## Processing Services Market




FG-231 INPUT

## Processing Services Market

- Transaction demand leveled
- Distributed processing impact
- Budget-reduction implications
- Overall growth flat

FG-233 INPUT

## Leading PS Vendors

- Computer Sciences Corporation
- Boeing Computer Services
- Martin Marietta Data Systems
- Control Data Corporation
- Dialcom

FG-25 INPUT

## Leading Agencies—PS 1991

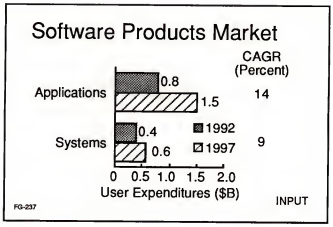
| | Expenditures ($M) |
|---|---|
| Army | 31.5 |
| Treasury | 19.7 |
| NASA | 18.8 |
| DVA | 18.3 |
| Labor | 9.5 |

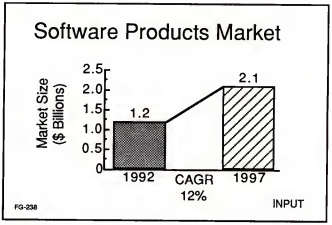
FG-26 INPUT

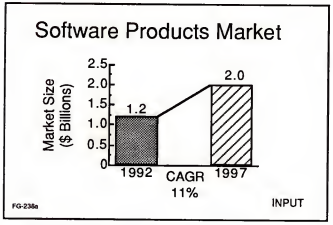
## Processing Services Applications

| | |
|---|---|
| Agency data base | 1 |
| Administrative | 2 |
| Personnel/payroll | 3 |
| Mission support | 4 |
| Inventory | 4 |
| Finance | 4 |

FG-27 INPUT



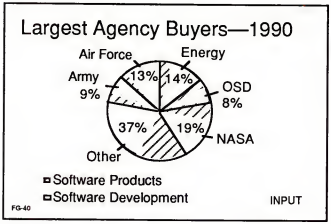



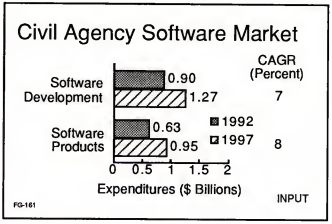

## Software Products Market

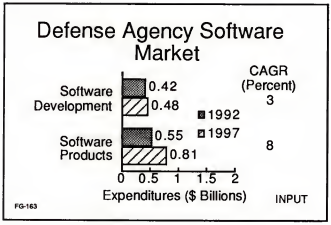
- Requirements contracts impact
- Continued applications emphasis
- Standardized applications impact
- Software re-use issues in DoD

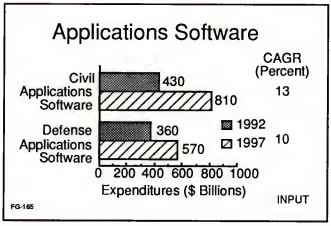
FG-239

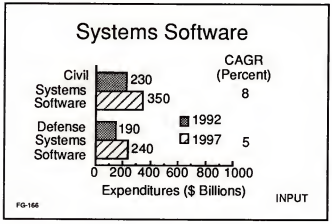
INPUT






## Software Trends Impacting Agency

| Trends | Rank* |
|---|---|
| Standards | 1 |
| RDBMSs | 2 |
| Networks/Distributed Systems | 3 |

*Rank based on frequency of mention by respondents.

INPUT

FG-183

## Software Trends Impacting Agency

| Trends | Rank* |
|---|---|
| CASE Tools | 4 |
| Communications Technology | 4 |
| SQL | 5 |
| AI | 5 |

*Rank based on frequency of mention by respondents.

INPUT

FG-184

## Applications Software Product Selection Criteria

- Ease of use
- Performance
- Ease of implementation
- Software features

INPUT

FG-160

## Leading Federal Software Vendors ($ 000)

| Vendor | FY 1989 | FY 1990 | Total |
|---|---|---|---|
| IBM | 31,218 | 23,896 | 55,114 |
| Unisys | 22,308 | 18,938 | 41,246 |
| Digital | 8,231 | 13,480 | 21,711 |
| CSC | 7,168 | 11,162 | 18,330 |
| GTSI | 5,174 | 5,160 | 10,334 |

INPUT

FG-44a

## Leading Federal Software Vendors ($ 000)

| Vendor | FY 1989 | FY 1990 | Total |
|---|---|---|---|
| Oracle | 3,776 | 5,545 | 9,321 |
| Honeywell | 4,904 | 4,402 | 9,306 |
| Entek | 5,401 | 2,067 | 7,468 |
| AMS | 4,397 | 2,581 | 6,978 |
| Data General | 6,402 | 152 | 6,554 |

INPUT

FG-44b

## Leading Schedule ADP Software Vendors ($ 000)

| Vendor | FY 1989 | FY 1990 | Total |
|---|---|---|---|
| IBM | 14,844 | 14,426 | 29,270 |
| Digital | 6,741 | 4,219 | 10,960 |
| GTSI | 4,085 | 4,724 | 8,809 |
| Oracle | 3,050 | 3,877 | 6,927 |

INPUT

FG-158

## Leading Schedule ADP Software Vendors ($ 000)

| Vendor | FY 1989 | FY 1990 | Total |
|---|---|---|---|
| Computer Associates | 1,811 | 1,619 | 3,430 |
| Hewlett-Packard | 770 | 1,165 | 1,935 |
| Falcon | 838 | 917 | 1,755 |

INPUT

FG-159a

## Leading Schedule ADP Software Vendors ($ 000)

| Vendor | FY 1989 | FY 1990 | Total |
|---|---|---|---|
| Honeywell | 790 | 632 | 1,422 |
| Wang | 921 | 277 | 1,198 |
| Xerox | 402 | 689 | 1,091 |

INPUT

FG-189b

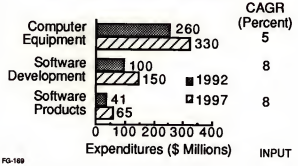
## Competitive Outlook

- Hardware manufacturers and systems integrators dominant
- Influence of integration contracts
- Diminished direct product sales
- Constraints on software revenues

INPUT

FG-46

## Federal Ada Market

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FG-169

## Financial Software—GSA Schedule Vendors

- American Management Systems
- Computer Data Systems Inc.
- KPMG Peat Marwick

INPUT

FG-48

## Candidate Financial Systems for JFMIP Standardization

- Payroll/personnel
- Travel
- Human resources

INPUT

FG-49

## Platforms for Applications Software

| Applications Software Type | Respondents (%) | | |
|---|---|---|---|
| | Mainframe | Midsize | Micro |
| Accounting | 40 | 25 | 25 |
| Human Resources | 32 | 25 | 20 |
| Information Analysis | 36 | 32 | 48 |

Note: Rows do not add to 100% due to multiple responses

INPUT

FG-176

## Platforms for Applications Software

| Applications Software Type | Respondents (%) | | |
|---|---|---|---|
| | Mainframe | Midsize | Micro |
| Logistics/Dist. | 24 | 32 | 28 |
| Word Processing | 16 | 32 | 84 |
| Graphics | 20 | 40 | 88 |

Note: Rows do not add to 100% due to multiple responses

FG-177

INPUT

## Platforms for Applications Software

| Applications Software Type | Respondents (%) | | |
|---|---|---|---|
| | Mainframe | Midsize | Micro |
| Electronic Mail | 28 | 48 | 60 |
| Scientific/Eng. | 32 | 40 | 44 |
| Project Mgmt. | 20 | 28 | 64 |
| Management Sys. | 36 | 24 | 36 |

Note: Rows do not add to 100% due to multiple responses

FG-178a

INPUT

## Platforms for Applications Software

| Applications Software Type | Respondents (%) | | |
|---|---|---|---|
| | Mainframe | Midsize | Micro |
| Electronic Pub. | 12 | 24 | 64 |
| Administration | 28 | 32 | 44 |
| Other Agency-Specific | 24 | 24 | 40 |

Note: Rows do not add to 100% due to multiple responses

FG-178b

INPUT

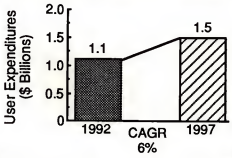
## Recommendations

- Match marketing strategies/ buyers' expectations
- Develop flexible teaming
- Investigate additional channels
- Develop portable products

FG-51

INPUT

## Turnkey Systems Market




FG-240

INPUT

## Turnkey Systems Market

- Demand decline
- Engineering applications lead
- Document handling second
- New financial applications
- Integration prospects

FG-241

INPUT

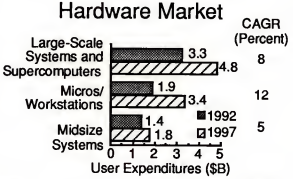
## Key Applications

- Scientific and engineering
- Document handling
- Human resources
- Fleet scheduling
- Medical drug information

FG-274

INPUT

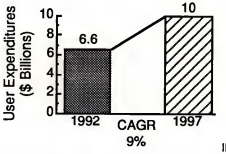
## Hardware Market




FG-242

INPUT

## Hardware Market




FG-243

INPUT

## Hardware Market

- Growing workstation market
- Application downsizing trends
- Requirements contracts impact
- Networking hardware
- Supercomputer growth

FG-244

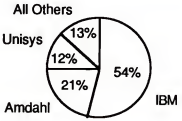
INPUT

## Competitive Forces—Large-Scale Market

- Performance levels increase
- Supermini competition
- Japanese presence increase
- Processing services decline

FG-56 INPUT

## Mainframe Vendor Share




FG-57 INPUT

## Recommendations Large-Scale Market

- Stress standards/interoperability
- Maintain positive reputation
- Improve reliability and support
- Increase systems familiarity

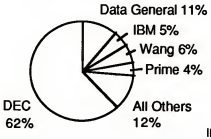
FG-58 INPUT

## Midsize Competitive Factors

- GOSIP- and POSIX-compliant products
- Technology advances
- Federal ADP modernization
- Start-up and foreign manufacturers
- Civilian opportunities increase

FG-60 INPUT

## Midsize Systems Vendor Share



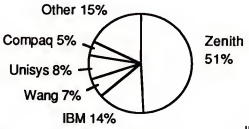

FG-59 INPUT

## Recommendations—Midsize Systems Market

- Increase technical responsibility
- Learn agency cultures
- Support standards compliance
- Foster mutual trust with other vendors

FG-63 INPUT

## Microcomputer Market Vendor Share




FG-64 INPUT

## Key PC Applications

- Word processing
- Electronic mail
- Project management
- Accounting/administrative
- Graphics
- Information analysis
- Electronic publishing

FG-65 INPUT

## Applications Downsized to PCs

- Accounting
- Inventory
- Financial
- Management systems
- Data entry
- Information processing

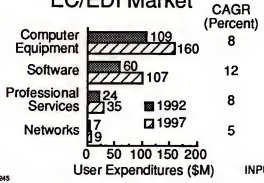
FG-68 INPUT

## Recommendations Federal PC Market

- Stress standards/interoperability
- Increase technical responsibility
- Maintain positive reputation
- Improve reliability and support
- Restructure pricing

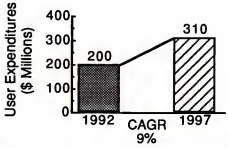
FG-69 INPUT

## EC/EDI Market




FG-245 INPUT

## EC/EDI Market




FG-246 INPUT

## EC/EDI Market

- Productivity improvement
- Inclusion in system upgrades
- Protocol conflicts
- Fewer standalone acquisitions
- CIM coordination

FG-247 INPUT

## Major EC Applications

Current

- Procurement
- Personnel
- Financial
- Electronic funds transfer

FG-72 INPUT

## Major EC Applications

Future

- Invoices
- Payments
- Data transfer
- Financial

FG-73 INPUT

## Leading Vendors in the Federal EC Market

- GE Information Systems
- EDI, Inc.
- BDM
- Martin Marietta
- Xerox
- CSC

FG-74 INPUT

## Reasons for Agencies to Use EC

| Reason | Rank* |
|---|---|
| Improve productivity of information exchange | 1 |
| Add electronic functions to existing on-line data systems | 2 |

*Based on frequency of mention

FG-75a INPUT

## Reasons for Agencies to Use EC

| Reason | Rank* |
|---|---|
| Replace paper documents for selected applications | 3 |
| Support agency's mission | 4 |
| Supplement paper document exchange | 5 |

*Based on frequency of mention

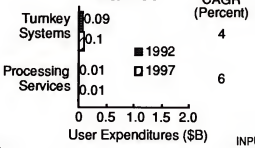
FG-75b INPUT

## Recommendations—Federal EC Market

- Understand federal acquisitions
- Recognize the obstacles
- Develop required technology
- Meet teaming requirements
- Keep pricing basic

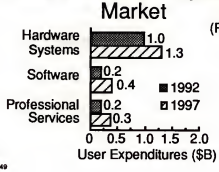
FG-76 INPUT

## Office Information Systems Market



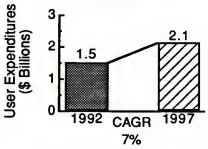

FG-248 INPUT

## Office Information Systems Market




FG-249 INPUT

## Office Information Systems Market




FG-250 INPUT

## Office Information Systems Market

- Slower future growth
- PC/workstation impact
- Greater interoperability (LANs)
- Increased imaging needs

FG-251 INPUT

## Strategic OIS Directions

- Decentralization
- Computer resource sharing
- Workstation functionality
- Computer security
- Computer literacy
- Single-source data entry

FG-80 INPUT

## OIS Implementation Impediments

- Insufficient agency planning
- Cultural OIS impact
- Lack of senior executive support
- Focus on problem failure
- Systems justification failure

FG-81 INPUT

## Leading OIS Vendors FY 1990

| Vendor | Rank |
|---|---|
| IBM | 1 |
| Unisys | 2 |
| Digital Equipment | 3 |
| Wang | 4 |
| Xerox | 5 |

FG-82 INPUT

## Recommendations—Federal OIS Market

- Provide integrated multifunction solutions
- Improve readiness for teaming
- Emphasize interface capabilities

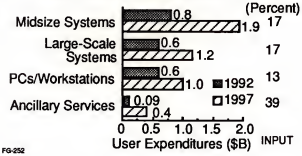
FG-83 INPUT

## Recommendations—Federal OIS Market

- Support communication protocols
- Provide expansion potential

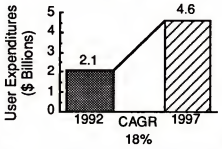
FG-84 INPUT

## Computer Equipment Maintenance Market




FG-252 INPUT

## Computer Equipment Maintenance Market




FG-253 INPUT

## Computer Equipment Maintenance Market

- Low new equipment demand
- OEM interest resurgence
- Effect of aging inventory
- Midsize systems emphasis

INPUT

FG-254

## Equipment Serviced by Vendor Type

| | OEM (%) | TPM (%) | Both (%) |
|---|---|---|---|
| Microcomputers | 20 | 75 | 10 |
| Workstations | 20 | 70 | 10 |
| Midsize Systems | 25 | 60 | 20 |
| Large Systems | 0 | 10 | 20 |
| Telecom. | 0 | 50 | 0 |

* Multiple responses (non-additive)

FG-88

INPUT

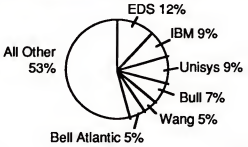
## CEM Market Competitive Factors

- Technology advances in hardware
- Federal ADP modernization
- Mergers/acquisitions
- OEM interest resurgence

INPUT

FG-89

## CEM Market Share, 1990




INPUT

FG-90

## Recommendations— CEM Market

- Improve cost control
- Expand contract usage
- Improve systems familiarity
- Maintain positive reputation
- Establish strategic alliances

INPUT

FG-91

# Federal Computer Security Market 1992-1997

FG-276

INPUT

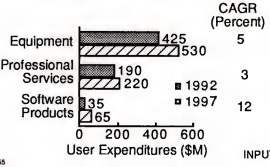
## Federal Market Pressures

- Legislative mandate
- More information sharing
- Greater agency awareness
- Publicized network penetration
- Budget constraints
- Competing priorities

FG-277

INPUT

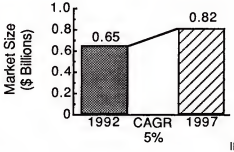
## Computer Security Market




FG-255

INPUT

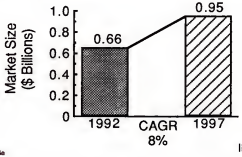
## Computer Security Market




FG-256

INPUT

## Computer Security Market




FG-256a

INPUT

## Computer Security Market

- Near-term compliance audit
- Better oversight coordination
- Improved-growth expectation
- Lack of urgency impacts budget

FG-257

INPUT

## Methods of Acquisition

| Method | Resp. (%)* |
|---|---|
| GSA Schedules | 85 |
| RFP for Specific Purchase | 60 |
| RFP for Requirements Contract | 55 |
| Purchase Security Devices as Part of Other Procurements | 40 |
| Other Methods | 20 |

*Adds to more than 100% due to multiple responses.

FG-279 INPUT

## Recommendations

- Include security as part of other offerings
- Reduce focus on Tempest equipment
- Establish effective teaming arrangements

FG-96a INPUT

## Recommendations

- Develop portable and interoperable products
- Train agencies in effective security management

FG-96b INPUT

## Systems Most Vulnerable to Security Problems

| Type | Resp. (%)* |
|---|---|
| Microcomputers | 64 |
| Mainframes | 36 |
| Midsize | 36 |

*Adds to more than 100% due to multiple responses.

FG-280 INPUT

## Reasons for System Vulnerability

- Mainframe
  - Networking capability
  - Multiuser availability
- Midsize
  - Networking capability

FG-281 INPUT

## Reasons for System Vulnerability

- Microcomputers
  - Lack of controls, cannot adequately police the systems
  - Diverse usage at decentralized level

FG-282 INPUT

## Reasons for System Vulnerability

- Microcomputers
  - Least experienced and aware users
  - Least amount of security guidelines developed

FG-283 INPUT

## Security Acquired through 1993

| | Resp. (%) |
|---|---|
| Software-Driven Password Security | 82 |
| Security Training Tools | 77 |
| Secure Networking Products | 68 |
| Risk Management Analysis | 59 |

FG-285 INPUT

## Security Acquired through 1993

| | Resp. (%) |
|---|---|
| Communications Security Products | 55 |
| Data Encryption Equipment | 55 |
| Other Contractor Support | 50 |
| Other Computer Security Devices | 50 |

FG-286 INPUT

## Security Acquired through 1993

| | Resp. (%) |
|---|---|
| Contractor Assistance for Preparation of Plans | 45 |
| Secure UNIX-based Products | 41 |
| Secure Workstations | 38 |
| Tempest Products | 27 |
| Emission Control Devices | 14 |

FG-287 INPUT

## Agency Views on Appropriate Vendors for Computer Security Products/Services

| Type of Vendors | Resp. (%)* |
|---|---|
| Software Vendors | 65 |
| Hardware Vendors | 50 |
| Professional Services Firms | 50 |

*Total exceeds 100% due to multiple responses.

FG-288 INPUT

## Agency Views on Appropriate Vendors for Computer Security Products/Services

| Type of Vendors | Resp. (%)* |
|---|---|
| Systems Integrators | 30 |
| Aerospace Divisions | 5 |
| Not-for-Profit Firms | 5 |

*Total exceeds 100% due to multiple responses.

FG-289 INPUT

## Problems Associated with the Federal Computer Security Market

| Problem | Rank* |
|---|---|
| Complexity of Requirements/ Standards | 1 |
| Lack of Funding/Low Budgets | 2 |
| Lack of Awareness/Educ. Users | 3 |

*Rank based on frequency of mention by industry respondents.

INPUT

FG-290

## Problems Associated with the Federal Computer Security Market

| Problem | Rank* |
|---|---|
| Lengthy Product Certification Process | 4 |
| Lengthy Procurement Process/Threats of Protests | 5 |

*Rank based on frequency of mention by industry respondents.

INPUT

FG-291

## Preferred Teaming Partner for Security Contracts

| Vendor Type | Resp. (%) |
|---|---|
| Hardware and Software Vendors | 27 |
| Systems Integrators | 23 |
| Hardware Manufacturers and Systems Integrators | 14 |

INPUT

FG-292

## Preferred Teaming Partner for Security Contracts

| Vendor Type | Resp. (%) |
|---|---|
| Hardware Manufacturers and Professional Services Firms | 9 |
| Software Firms | 9 |
| Tempest Hardware Firms | 9 |
| Small Market Niche Companies | 9 |

INPUT

FG-293

## Success Level of Vendor Teaming Relationships

| Success Level* | Resp. (%) |
|---|---|
| 1 | 0 |
| 2 | 4 |
| 3 | 36 |

Note:Overall teaming success rating: 3.7, based on a 1 to 5 scale.
*1 = not successful at all, 5 = extremely successful.

INPUT

FG-294

## Success Level of Vendor Teaming Relationships

| Success Level* | Resp. (%) |
|---|---|
| 4 | 20 |
| 5 | 20 |
| No Response/ No Teaming Experience | 20 |

Note:Overall teaming success rating: 3.7, based on a 1 to 5 scale.
*1 = not successful at all, 5 = extremely successful.

INPUT

FG-295

## 1990s Computer Security

- Interest level higher
- Safeguards development
- Industry and government cooperation

FG-94 INPUT

## 1990s Computer Security

- New security management approaches
- Systems life cycle approach
- Increased resources need

FG-95 INPUT

## Functional Requirements for Computer Security

| Requirement | Resp. (%)* |
|---|---|
| Network Security | 100 |
| End-User Access | 95 |
| Data Security | 91 |
| Physical Security | 86 |

*Adds to more than 100% due to multiple responses.

FG-278 INPUT

## Federal Security Vendors Rank

| | |
|---|---|
| DEC | 1 |
| AT&T | 2 |
| IBM | 3 |
| HFSI | 4 |
| Motorola | 5 |
| TRW | 5 |

FG-96 INPUT

## Perceived Computer System Threats

| System Threat | Resp. (%)* |
|---|---|
| Data Access | 74 |
| Data Manipulation | 42 |
| Software or System Manipulation | 42 |
| Site Access and Damage | 21 |

*Adds to more than 100% due to multiple responses.

FG-264 INPUT

## Computer Security Market Trends

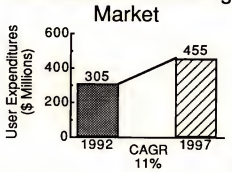
- Security products availability
- Regulation/Computer Security Act
- Hardware and software firms' mergers/joint ventures
- Privacy issues

FG-97 INPUT

# Federal Education and Training Market 1991-1996

FG-111 INPUT

## Education and Training Market



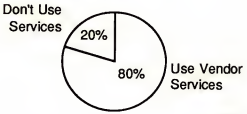

FG-112 INPUT

## Factors Affecting the Market

- Increasing computerization
- New technology
- Federal staffing crisis
- Budget problems

FG-113 INPUT

## Education and Training Contracting




FG-114 INPUT

## Current Market Conditions

- Strong reliance on contractors
- Equal use of standalone and integrated procurements
- Technologies not instrumental as delivery vehicles

FG-115 INPUT

## Recommendations

- Improve or develop market presence
- Cultivate positive recognition
- Develop creative pricing strategies
- Federalize course content
- Engage in vendor alliances

FG-116 INPUT

# Federal Network Management Market

FG-117 INPUT

## Overview

- Market Structure and Environment
- Market Analysis and Forecast
- Agency Conditions
- Agency Perceptions
- Conclusions

FG-118 INPUT

## Network

- Electronic interconnection between sites
  - Links between central computer sites or remote locations, and
  - Switching and/or regional data processing nodes

FG-119 INPUT

## Networks Include

- Data, voice, video, and text
- Service delivered over dedicated and/or switched facilities

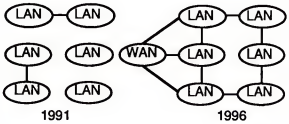
FG-120 INPUT

## Network Management

Management of all or a significant portion of a network under a long-term contract

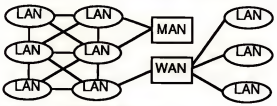
FG-121 INPUT

## Federal Local-Area Networks




FG-123 INPUT

## Federal Enterprise Networks




LAN: Local-Area Network
MAN: Metropolitan-Area Network
WAN: Wide-Area Network

INPUT

FG-124

## WAN/LAN Characteristics

| | WAN | LAN |
|---|---|---|
| Data Type | Data | Information |
| Access | Controlled | Limited control |
| Volume | Predictable | Unpredictable |

INPUT

FG-125

## WAN/LAN Characteristics

| | WAN | LAN |
|---|---|---|
| Changes | Controlled | Uncontrolled |
| Speed | 2.4-9.6 Kbps | 150+ Mbps |
| Security | Network specific | Limited |

INPUT

FG-126

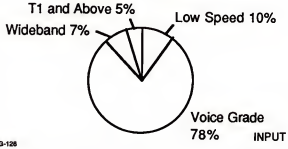
## Market Pressures

- Budget and deficit reduction
- Policy and regulation
- FTS 2000
- Interoperability
- EDI/E-Mail
- Technological advances
- Vendor competition

INPUT

FG-127

## Federal Wide-Area Network Types




INPUT

FG-128

## Wide-Area Networks Civilian versus Defense


INPUT

FG-129

## Wide-Area Network Circuits Leading Civilian Departments

| | Number Reported |
|---|---|
| Energy | 2,480 |
| Postal Service | 1,830 |
| Veteran Affairs | 1,825 |

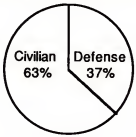
FG-130 INPUT

## Wide-Area Network Circuits Leading Civilian Departments

| | Number Reported |
|---|---|
| Health/Human Services | 1,500 |
| NASA | 1,415 |
| Treasury | 1,200 |

FG-131 INPUT

## Local-Area Networks Civilian versus Defense




FG-132 INPUT

## Local-Area Networks Leading Civilian Departments

| | Percent by Type | | | |
|---|---|---|---|---|
| | Ether | Token | FDDI | Other/ Unk. |
| Energy | 43 | 7 | 10 | 40 |
| Veterans Affairs | 26 | 3 | 27 | 43 |
| NASA | 57 | 2 | 28 | 13 |

FG-133 INPUT

## Local-Area Networks Leading Civilian Departments

| | Percent by Type | | | |
|---|---|---|---|---|
| | Ether | Token | FDDI | Other/ Unk. |
| Health | 36 | 7 | 7 | 50 |
| Federal Reserve | 82 | 8 | - | 11 |
| Transportation | 61 | 5 | 2 | 32 |

FG-134 INPUT

## Network Management Services Civilian versus Defense


FG-135 INPUT

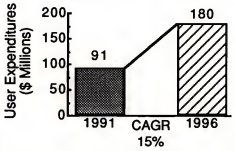
## Network Management Services Leading Civilian Departments

- Transportation
- Treasury
- Health/Human Services
- Interior
- Commerce

INPUT

FG-136

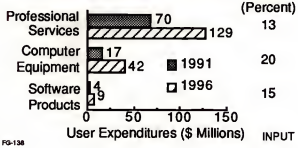
## Federal Network Management Market, 1991-1996




FG-137

INPUT

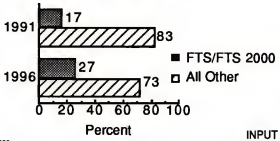
## Federal Network Management Market, 1991-1996




FG-138

INPUT

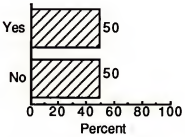
## Wide-Area Connection Methods




FG-139

INPUT

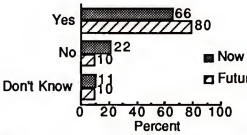
## Network Control Centers




FG-140

INPUT

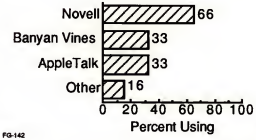
## Using LAN Management Systems




FG-141

INPUT

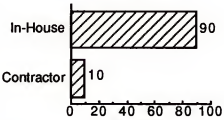
## LAN Network Management Systems




INPUT

FG-142

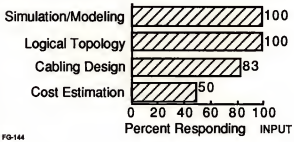
## Network Management Approach




INPUT

FG-143

## LAN Management Product Features




INPUT

FG-144

## Key Management Considerations

- Staff requirements
- Management requirements
- Information dissemination
- Information/data security

INPUT

FG-145

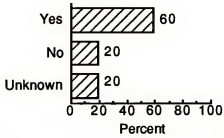
## Reasons for Wide-Area Networks

- Customer/application requirements
- Resource/technology availability
- Interface compatibility
- Evolution

INPUT

FG-146

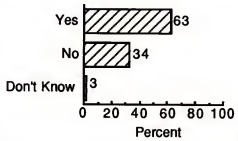
## Enterprise Network Interest




INPUT

FG-147

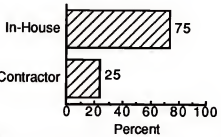
## Enterprise Networking Plans




FG-148

INPUT

## Network Management Approach




FG-149

INPUT

## Wide-Area Network Management Approach

- Netview
- Modem control systems
- TI control systems
- Other

FG-150

INPUT

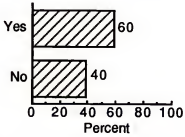
## Enterprise Network Management Needs

- Standards
- Integrated management tools
- Management commitment
- Consistent network structure

FG-151

INPUT

## Technology Availability




FG-152

INPUT

## Conclusions

- Single network management focus to date
- Few integrated network management products
- Wide-area broadband needed for future

FG-153

INPUT

## Conclusions

- High interest in enterprise networks
- Agency evolution plans optimistic
- Enterprise network growth will be slow

FG-154 INPUT

## Conclusions

- Significant help needed to understand enterprise
- Networking complexity
- Integrated network management products needed

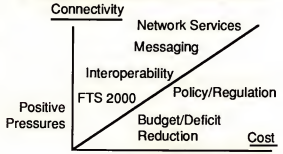
FG-155 INPUT

## Recommendations

- Educate users
- Focus on network planning
- Establish system/network vendor alliances
- Develop integrated network management solutions

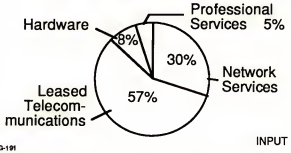
FG-156 INPUT

## Federal Market Pressures



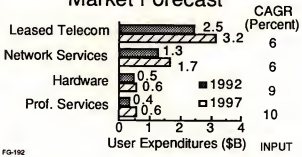

FG-190

## Federal Telecommunications Market Segments, 1992



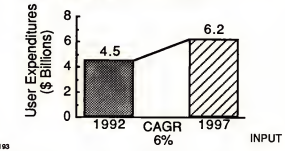

FG-191

## Federal Telecommunications Market Forecast




FG-192

## Federal Telecommunications Market Forecast




FG-193

## Technical Trends

- Increasing technology acceptance
- Voice/data integration
- Increasing service orientation
- LAN-to-WAN connectivity

INPUT

FG-194

## Technical Trends

- Increased emphasis on interoperability
- ISDN availability
- Increasing security concerns

INPUT

FG-195

## Agency Problems and Issues

- Local (RBOC) services
- Budget constraints
- Reorganization and staff shortages
- Technological complexity
- Procurement processes and problems

INPUT

FG-196

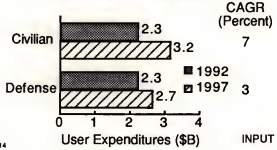
## Leading Federal Telecommunications Buyers/Suppliers

- Defense
  - DISA ($1.3 billion)
  - WAM
- GSA
  - FTS 2000
  - LAN connectivity

INPUT

FG-313

## Federal Telecommunications Market Forecast




INPUT

FG-314

## Competitive Outlook

- AT&T less dominant
- Niche markets important
- FTS 2000 alliances
- Increased services/support
- Increased systems integration

INPUT

FG-197

## Recommendations

- Understand agency requirements
- Increase marketing, reduce sales
- Emphasize total solution and service
- Establish market position
- Seek FTS 2000 alliances

INPUT

FG-198

## Federal Market Pressures

- New, diverse technologies
- OMB support
  - Circular A-16 revision
  - FICCDC activities
- State/local government interest
- Widespread agency involvement

INPUT

FG-352

## Major Federal GIS Applications

- Terrain analysis
- Natural resource analysis
- Land use analysis and management
- Pipeline/energy resource management

INPUT

FG-353

## Major Federal GIS Applications

- Emergency/quarantine/crisis management
- Socioeconomic population planning and analysis
- Transportation/airspace planning and analysis

INPUT

FG-354

## Leading Professional Services Firms in the GIS Market

- EDS
- Computer Sciences Corporation
- Andersen Consulting

INPUT

FG-355

## GIS Software Vendors

- ESRI (Environmental Systems Research Institute)
- Intergraph
- Synercom Technology, Inc.
- GeoVision

INPUT

FG-356

## GIS Software Vendors

- Mapping Information Systems
- Caliper
- Terralogics
- Geographic Data Technology, Inc.
- Strategic Mapping, Inc.

INPUT

FG-357

## Hardware Vendors Active in the GIS Market

- IBM
- Stardent
- Silicon Graphics
- DEC
- Sun Microsystems

INPUT

FG-358

## Recommendations

- Establish special capability niches
- Develop multiple hardware/software offerings

INPUT

FG-359

## Recommendations

- Increase technology and agency understanding
- Establish strategic teaming alliances
- Organize for multi-government sales

INPUT

FG-360

## Imaging System Components

- Input/output devices
- Processing unit
- Software
- Storage devices

INPUT

FG-337

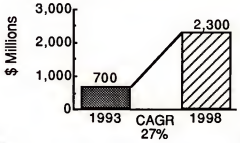
## Market Pressures

- Improve records management
- Improve customer service
- Utilize available technology
- Integrate with other systems
- Avoid system obsolescence

INPUT

FG-338

## Federal Imaging Market




INPUT

FG-339

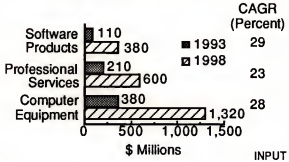
## Recommendations

- Establish strong alliances
- Build strong agency relationships
- Incorporate technological advances
- Use standards

INPUT

FG-340

## Federal Imaging Market




INPUT

FG-341

## Top Applications for Current Imaging Systems

- Financial records and contracts
- Technical documents
- Human resources
- Freedom-of-information act documents
- Mail sorting and distribution
- Criminal identification and tracking

INPUT

FG-342

## Top Applications for Future Imaging Systems

- Financial records management and processing
- Applications management and processing
- Mail and correspondence
- Document archiving

INPUT

FG-343

## Factors for System Justification

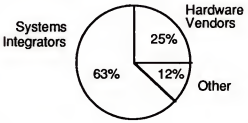
| Justification | Avg. Rating |
|---|---|
| Improved Customer Service | 4.4 |
| Improved Records Mgmt. | 4.0 |
| Savings on Storage Media | 3.6 |
| Space Savings | 3.2 |
| Personnel Savings | 2.8 |

Ratings: 1 - 5, with 5 being most important

INPUT

FG-344

## Types of Vendors Preferred




INPUT

FG-345

## Largest Federal Imaging Projects

| Dept. | Agency | Acro-nym | Program | Value ($) |
|---|---|---|---|---|
| Army | CECOM | CHSII | Common HW/SW | 2B |
| Com-merce | PTO | APS | Automated Patent Sys. | 455M |

INPUT

FG-346

## Largest Federal Imaging Projects

| Dept. | Agency | Acro-nym | Program | Value ($) |
|---|---|---|---|---|
| Justice | FBI | NCIC 2000 | Natl. Crime Info. Ctr. | 100M |
| Treasury | IRS | DPS | Document Proc. Sys. | 650M |

INPUT

FG-347

## Leading Imaging Vendors

- Filenet
- IBM
- Wang
- TRW
- PRC

INPUT

FG-350

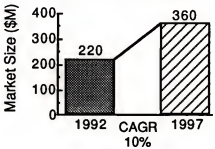
## Types of Imaging Systems

- Document processing and review
- Information dissemination
- Records management
- Policy development support
- Human resource record keeping

INPUT

FG-351

## CIM IT Forecast




Funds to be Outsourced

INPUT

FG-361

## CIM Organizational Responsibilities


INPUT

FG-362

## CIM Functional Areas

- Civilian Payroll
- Distribution Center
- Financial Operations
- Civilian Personnel
- Medical
- Government Furnished Material

INPUT

FG-363

## CIM Functional Areas

- Materiel Management
- Contract Management
- C3I
- Food Service
- Environment
- Procurement

INPUT

FG-364

## CIM Objectives

- Evaluate and consolidate business practices
- Standardize data
- Use IS to support business functions

INPUT

FG-365

## Implications for Vendors

- Fewer large-scale projects
- Progress through piecemeal implementation
- Technical support opportunities
- Need for "plug and play" technology

INPUT

FG-366

## CIM Information Technology Goals

- 100% reusable data
- Infinite life for data definitions
- 80%+ reusable code

INPUT

FG-367

## CIM Information Technology Goals

- 20+ years life on software elements
- 80%/20% development/maintenance ratio
- Technology asset life should be 2-3 times greater than the technology innovation cycle

INPUT

FG-368

## DLA Information Systems Trends

- Open systems
- Telecommunications/network services
- Responsibility/workload
- EDI/CALS

INPUT

FG-369

## Current DLA Mission

- Contract administration services
- Supply operations support
- Logistics and technical services

INPUT

FG-370

## Trends Driving Information Systems and Services Plans

- Open systems
- Telecommunications
- Responsibility/workload
- EDI

INPUT

FG-371

## Standards Impacting DLA Acquisitions Vendor Perceptions

- POSIX
- GOSIP
- UNIX
- Ada
- CALS
- MVS

INPUT

FG-372

## CIM Programs*

- CHCS (DMSSC)
- CALS
- DDS/DWASP (DLA)
- I-CASE (AF)
- PDS-C (AF)
- SAMS (Navy)
- SAMMS (DLA)

INPUT

FG-373

## Broadened Mission Responsibilities

- Support to the Joint Chiefs and OSD
- Corporate Information Management (CIM)
- Worldwide Military Command and Control System

INPUT

FG-374

## Broadened Mission Responsibilities

- Tactical IS Standards Research and Interoperability
- White House Information Systems
- IS and Communications for the National Commands

INPUT

FG-375

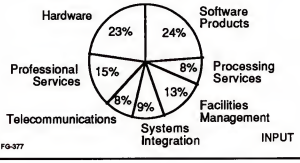
## Factors Impacting the Market

- Budget cuts
- Standards
- DoD function consolidation
- Desert Shield/Desert Storm

INPUT

FG-376

## Contract Services Outlay Distribution*




INPUT

FG-377

## NASA Functions and Applications Being Contracted

- Systems operations
- Space Station Program
- Research and technical operations
- ADP support services
- Software development

INPUT

FG-378

## NASA Functions and Applications Being Contracted

- System engineering and analysis support
- Tracking operations
- Maintenance
- Administrative applications
- Telecommunications

INPUT

FG-379

## Mission Changes Driving Information Services Expenditures

- Space Station
- Shuttle flight operations
- Telemetry Data Research Satellite (TDRS)
- Space telescope
- Civilian space initiatives

INPUT

FG-380

## Current Budget Allocation Focus

- Continue automation of highly technical areas
- Support agency-developed software
- Increase computer capabilities
- Use AI for decision support

INPUT

FG-381

## Vendor Recommendations

- Solution orientation
- Product compatibility
- Response flexibility
- Personnel qualifications
- Cost control

INPUT

FG-382

# Federal Market Dialogue

INPUT

FG-204a

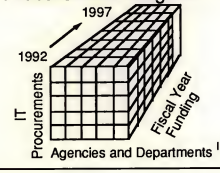
## 1992 INPUT Federal Programs

- Federal Information Technology Market Program
  - Market analysis/forecast
- Federal Information Technology Procurement Program
  - Opportunity identification

INPUT

FG-204

## Federal Information Technology Procurement Program




INPUT

FG-205

## Market Program

- Recently published reports
  - CIM
  - DISA
  - Telecommunications
  - Computer Security
  - EDI
  - Software and Services

INPUT

FG-206

## Market Program

- Current research
  - High-Performance Computing
  - Downsizing
  - Recompete Practices
  - P.S. Pricing Practices
  - Software Reuse
  - Re-engineering

INPUT

FG-207

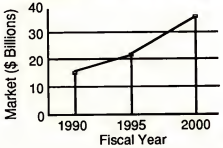
## Market Program

- Five-year forecast
- Hotline support
- Research bulletins
- Information Center
- Breakfast meetings
- Conference

INPUT

FG-208

## Federal Information Technology Market Program




INPUT

FG-209

## Procurement Program

- PAR reports
- PAR data base
- Hotline support
- FOIA
- Teaming searches
- Information Center
- Breakfast meetings
- Conference
- Research bulletins

INPUT

FG-210

## Information Center

- All FY 1992 agency budget data
- Agency long-range plans
- GAO reports
- Competitive information
- Selected RFPs
- Other reference material

INPUT

FG-211

## Briefings and Conferences

- Breakfast briefings
  - March
  - July
  - September
  - December
- FITMP Conference—June
- Joint Conference—October

INPUT

FG-212

## User Council Recommendations

- Increased PAR coverage
- Contract awards data base
- "Expert" referral service
- PAR/Information Center update by fax
- Federal vendor profiles

INPUT

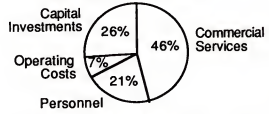
FG-213

# Federal IT Market Forecast 1992-1997

INPUT

FG-214a

## Information Technology Budget FY 1993




Obligations - $26.3 billion
Contracts - $19.2 billion (73%)

INPUT

FG-214

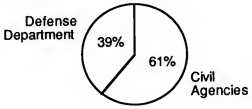
## FY 1993 Budget Factors

- Slower overall growth
- Commercial services decline
- Capital investment peak
- Personnel spending impact

INPUT

FG-215

## Defense vs. Civil IT Budgets FY 1993




Obligations—$26.3 billion

INPUT

FG-216

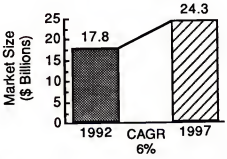
## Defense vs. Civil Budgets

- Defense IT less than half
- Key near-term hardware buys
- Most key opportunities in civil
- Defense decline to continue

INPUT

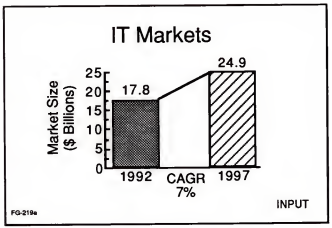
FG-217

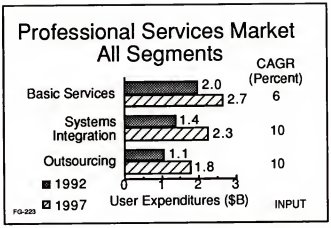
## IT Markets

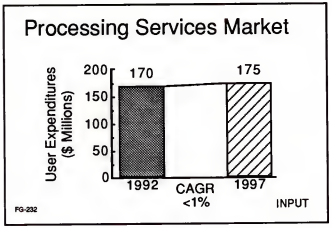


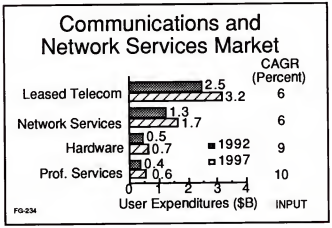

INPUT

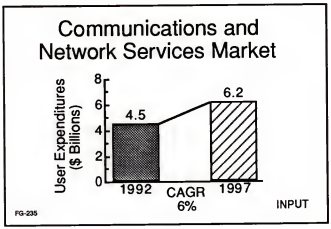
FG-219




## Communications and Network Services Market

- Network services growth
- FTS 2000 recompetition
  - Conflict on mandatories
  - Scope limitation pressures
  - New services prospects

INPUT

FG-236

## Conclusions

- Near-term funding increase
- Standards implications
- Civilian market prospects
- Increased competition
- New technology initiatives

FG-258

INPUT

# Downsizing in the Federal Market

INPUT

FG-259

Client/Server

## Application Examples

| Organization | Application |
|---|---|
| Navy Research Lab | Imaging and graphics |
| Federal Highway Administration | Engineering, project management |
| Veterans Admin. | Data analysis and management |

INPUT

FG-260

Downsizing

## DoD-CIM Examples

| Organization | Objective |
|---|---|
| DFAS | Finance and accounting |
| JLSC | Materiel and logistics |
| DCPC | Civilian personnel |

INPUT

FG-262

Downsizing

## Market Growth

| Component | 1992 ($B) | 1997 ($B) | CAGR (%) |
|---|---|---|---|
| Computer Equipment | 1.2 | 3.7 | 25 |
| Software Products | 0.6 | 2.5 | 32 |
| Information Services | 1.2 | 5.4 | 35 |
| Total | 3.0 | 11.6 | 31 |

INPUT

FG-315

Client/Server

## Application Examples

| Organization | Application |
|---|---|
| Dept. of Commerce | Accounts payable, payroll |
| Dept. of Agriculture | Accounts receivable, time/attendance |
| Navy SNAP | Maintenance mgmt. |

INPUT

FG-261

Downsizing

## DoD Examples

Defense Finance and Accounting Service

- Central control
- Streamlined DoD finances
- Site consolidation
- Interagency financial management

INPUT

FG-263

Downsizing

## DoD Examples

Joint Logistics Systems Center

- Integrate materiel and logistics
- Standard DoD logistics infrastructure
- Eliminate duplication
- Control systems migration (18)

INPUT

FG-264

Downsizing

## DoD Examples

Defense Civilian Personnel Center

- Integrate DoD-wide requirements
- Eliminate duplication
- Coordinate with OPM procedures
- Streamline personnel processing

INPUT

FG-265

Downsizing

## Information Architecture Examples

| Organization | Objective |
|---|---|
| Agriculture | Services to farmers |
| Social Security | Services to recipients |
| Treasury | Interagency border inspection system |

INPUT

FG-266

Downsizing

## Platform Examples

| Organization | Objective |
|---|---|
| Federal Reserve System | Offload IS management |
| Forest Service (Project 615) | OA/GIS 750 locations |
| State Department | Office automation |

INPUT

FG-267

Downsizing

## Conclusions

- New market potential
- Significant shift in IT emphasis
- Increasing user control
- Need vendor reorientation

INPUT

FG-268

# Department of Veterans Affairs Information Systems Market

INPUT

FG-100

## VA Current Mission

- Furnish medical care
- Provide benefits to veterans and beneficiaries
- Administer memorial affairs
- Represent veterans' interests
- Use technology to execute the above

INPUT

FG-101

## Trends Impacting VA's IS Acquisitions

- Off-the-shelf software
- OSI standards
- Networked systems
- Systems downsizing
- Image technology

INPUT

FG-102

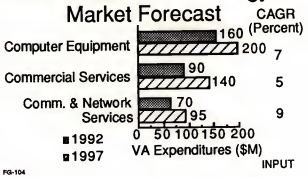
## Other Factors Impacting VA's IS Acquisitions

| Factors | Rank |
|---|---|
| Budget cuts | 1 |
| Legislation | 2 |
| Additional Reorganization | 3 |
| War | 4 |
| Fee-for-Service Agreements | 5 |

INPUT

FG-103

## VA Information Technology Market Forecast




INPUT

FG-104

## Major VA Initiatives FY 1992 - FY 1997

| Initiatives | Rank |
|---|---|
| FMS | 1 |
| ISMS | 2 |
| PAID Redesign | 3 |

INPUT

FG-105

## Major VA Initiatives FY 1991 - FY 1996

| Initiatives | Rank |
|---|---|
| NOAVA | 3 |
| DHCP | 5 |
| EIS | 6 |

FG-106

INPUT

## VA IS Modernization Factors

- Expedite benefits processing
- Improve patient care services
- Automate cemetery processing systems

FG-107

INPUT

## Impact of Department Status

| Impact | Percent of Responses |
|---|---|
| None | 46 |
| Planning more visible | 31 |
| Enhanced political visibility and influence | 23 |

FG-108

INPUT

## Impact of Department Status

| Impact | Percent of Responses |
|---|---|
| IRM office created | 15 |
| Improved coordination between VA elements | 8 |

FG-109

INPUT

## Recommendations

- Decentralize marketing efforts
- Offer OSI-compliant products
- Stress new technologies
- Team or subcontract to other vendors

FG-110

INPUT

## High-Performance Computing Technology

- Traditional supercomputers
- Massively parallel computers
- High-speed networks
- HPCC program

FG-296

INPUT

## Goals of the HPCC Initiative

- Extend U.S. HPCC leadership
- Provide wide technology dissemination
- Spur U.S. productivity gains

INPUT

FG-297

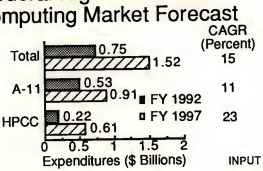
## Market Pressures

- HPCC program
- Computer Systems Policy Project
- Budget constraints
- Rapidly advancing technology
- Networking the nation

INPUT

FG-298

## Federal High-Performance Computing Market Forecast




INPUT

FG-299

## HPCC Participating Agencies

- DARPA
- NSF
- Energy
- NASA
- NIH
- NOAA
- EPA
- NIST
- Education

INPUT

FG-300

## Leading High-Performance Computing Hardware Vendors

- Thinking Machines Corp.
- Intel
- Cray

INPUT

FG-301

## Selection Criteria

- Equipment performance
- Equipment reliability
- Software features
- Product price
- Vendor's support reputation

INPUT

FG-302

## Recommendations

- Focus on services and networking
- Establish strong alliances
- Focus on HPCC program participants
- Use transferable applications

INPUT

FG-303

## HPCC Components

- High-Performance Computing Systems (HPCS)
- Advanced Software Technology and Algorithms (ASTA)
- Nat'l Res. and Educ. Network (NREN)
- Basic Research and Human Resources (BRHR)

INPUT

FG-304

## Agency Issues

- Leadership and coordination problems
- Insufficient funding
- Leveraging federal R&D funding
- Desire to fulfill agency mission

INPUT

FG-305

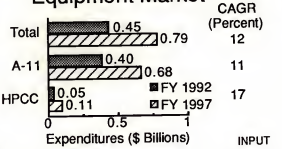
## Impact of Budgetary Constraints

- Limits expansion
- Prevents upgrades
- Slows procurement pace
- Demand exceeds funding

INPUT

FG-306

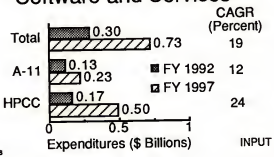
## Federal High-Performance Equipment Market




INPUT

FG-307

## Federal High-Performance Software and Services




INPUT

FG-308

## Leading High-Performance Computing Hardware Vendors

- Thinking Machines
- Intel
- Cray
- nCUBE

INPUT

FG-309

## Leading High-Performance Computing Hardware Vendors

- Kendall Square
- NEC
- Fujitsu
- Convex

INPUT

FG-310

## HPCC Grand Challenge Applications

- Magnetic Recording Technology
- Rational Drug Design
- High-Speed Civil Transports
- Catalysis
- Fuel Combustion
- Ocean Modeling

INPUT

FG-311

## HPCC Grand Challenge Applications

- Ozone Depletion
- Digital Anatomy
- Air Pollution
- Design of Protein Structures
- Venus Imaging
- Technology Linking Res. to Educ.

INPUT

FG-312

# Federal Outsourcing

Alive or Dying?

INPUT

FG-316

## Typical Federal Outsourcing Contracts

| Agency | Vendor | Value ($M) |
|---|---|---|
| FAA (CORN) | EDS | 508 |
| HUD (HIIPS) | Martin Marietta | 526 |
| SBA | EDS | 42 |

INPUT

FG-317

## Benefits of Outsourcing for Agencies

- Leverage vendor expertise
- Concentrate on primary mission
- Predictable operating costs
- Reduction in assets and head count
- Fewer procurements

INPUT

FG-318

## Federal Outsourcing Issues

- Transfer of assets
- Loss of public sector jobs
- Loss of management control

INPUT

FG-319

## OMB's A-76 Guidelines

- Vendor must not provide public services
- Outsourcing decision must yield better results
- Agency can compare performance, not just costs

INPUT

FG-320

## Outsourcing Roadblocks

- Section 313 (NDAA)—no cost comparison
- Vendor licensing
- DISA centralizing processing

INPUT

FG-321

## Conclusions

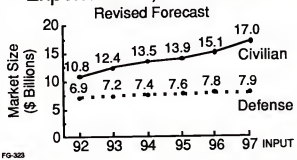
- Bureaucracy slowing acceptance
- Congress, DoD building roadblocks
- But... agencies need benefits

INPUT

FG-322

## Defense and Civilian Agency Expenditures, 1992-1997

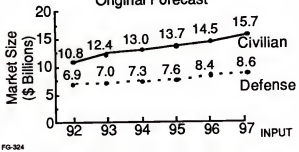
Revised Forecast




FG-323

## Defense and Civilian Agency Expenditures, 1992-1997

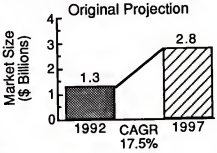
Original Forecast




FG-324

## Department of Transportation GFY 1992—GFY 1997

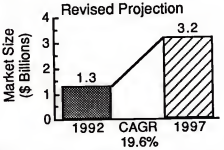
Original Projection




FG-325

## Department of Transportation GFY 1992—GFY 1997

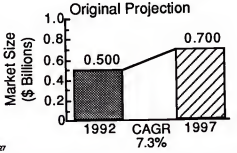
Revised Projection



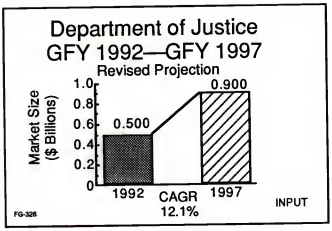

FG-326

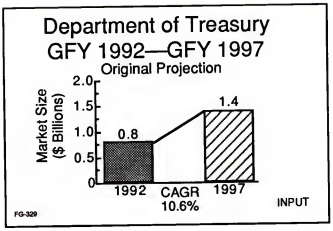
## Department of Justice GFY 1992—GFY 1997

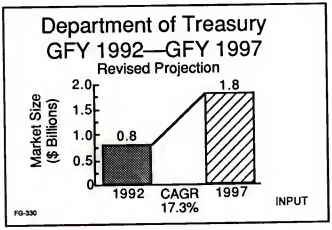
Original Projection

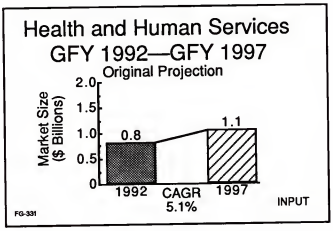


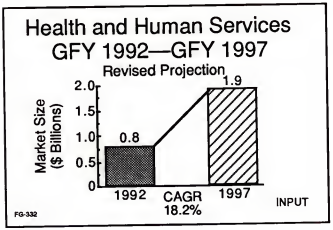

FG-327




Clinton's Impact on IT Spending

INPUT

FG-333

## Conclusions

- Little change in 1993
- Modest growth
- DoD impacted severely

INPUT

FG-334

## Changing Agenda

- Gore in the shadows
- Need to stimulate economy
- "Service to the citizen"

INPUT

FG-335

## INPUT Conclusions

- Little change for 1993
- Modest growth overall
- DoD negative impact
- SI/professional services to grow
- Security could be sleeper

INPUT

FG-336

## Dealing with Revolution in the IT Industry

INPUT

FG-348

- Introduction
- Environment—The Revolutions
- IT Use in the 1990s
- Role of IS Unit
- Clinton's Impact on IT
- Conclusions

INPUT

FG-349

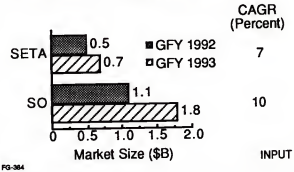
## Budget Impact Perceptions

- More cost competition
- Fewer opportunities
- Risk of small vendor failures
- Shift in buyers and agency customers

INPUT

FG-383

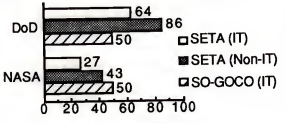
## Federal IT Support Market




INPUT

FG-384

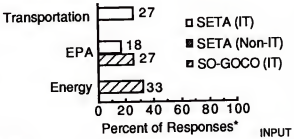
## Key SETA/SO Agencies




INPUT

FG-385

## Key SETA/SO Agencies




INPUT

FG-386

## Conclusions

- Viable market
- Staffing level contracting prevails
- Dominating incumbent presence

INPUT

FG-387

## Strategies Against Incumbents

- Market aggressively to agencies
- Demonstrate ability to outperform incumbent
- Target changing scope/poorly performed contracts
- Develop and communicate mission understanding

INPUT

FG-388

## Reasons for Revenue Increases

| Reasons | Contract Types | |
|---|---|---|
| | SETA | SO |
| Larger mission/needs | X | X |
| Base consolidations | X | X |
| Less staff | X | |
| Environmental pressures | | X |
| More cost effective | | X |

INPUT

FG-389

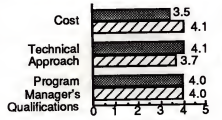
## Reasons for Revenue Decreases

| Reasons | Contract Types | |
|---|---|---|
| | SETA | SO |
| Bring work in-house | X | X |
| Work is more routine | X | X |
| Fewer mainframes | | X |

INPUT

FG-390

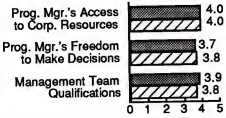
## Importance of Vendor Selection Criteria to Agencies




INPUT

FG-391

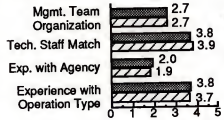
## Importance of Vendor Selection Criteria to Agencies




INPUT

FG-392

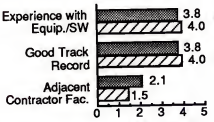
## Importance of Vendor Selection Criteria to Agencies




INPUT

FG-393

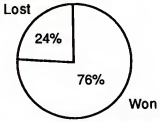
## Importance of Vendor Selection Criteria to Agencies




INPUT

FG-394

## Vendor Perception of Incumbent Win Rates




Percent of contracts won by incumbents

INPUT

FG-395

## Conditions Leading to Unseating Incumbents

| Conditions | Responses (%)* | |
|---|---|---|
| | SETA Contracts | SO Contracts |
| Non-performance | 60 | 80 |
| Requirements change | 40 | 40 |
| Bidders quality & experience | 40 | 40 |

INPUT

FG-396

## Conditions Leading to Unseating Incumbents

| Conditions | Responses (%)* | |
|---|---|---|
| | SETA Contracts | SO Contracts |
| Cost | 20 | 20 |
| Aggressive marketing | 10 | - |
| Hire incumbent | 10 | - |

INPUT

FG-397

## Differences and Problems in Bidding Practices

- Military Laboratories and Test Center Contracts
  - More technical
  - Incumbent loyalty tendency
  - Rigid adherence to regulations

INPUT

FG-398

## Differences and Problems in Bidding Practices

- Installation Support Contracts
  - Management practices more important
  - Cost is a major factor
  - Evaluators more sophisticated at HQ
  - Less loyalty to incumbents

INPUT

FG-399

## Differences and Problems in Bidding Practices

- Program Office SETA Contracts
  - Technical approach valued higher than cost
  - Evaluators more sophisticated at HQ
  - Less loyalty to incumbents

INPUT

FG-400

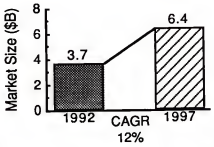
## Federal Market Issues

- Budget constraints
- Federal policies and regulations
- Software integration and productivity improvements
- Business process re-engineering
- Other uncertainties and issues

INPUT

FG-401

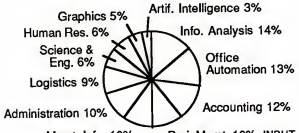
## Systems Integration Market




INPUT

FG-402

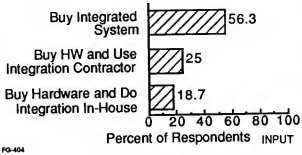
## Federal SI Market by Type of Application




INPUT

FG-403

## Agency Preference for Systems Acquisition Methods




INPUT

FG-404

## Top Ten SI Vendors in the Federal ADP Market—CY 1991

- IBM
- Electronic Data Systems
- Science Applications
- International Corporation
- Computer Sciences Corporation
- Martin Marietta

INPUT

FG-405

## Top Ten SI Vendors in the Federal ADP Market—CY 1991

- Boeing Computer Services
- Grumman Data Systems
- Unisys
- Planning Research Corporation
- Digital Equipment Corporation

INPUT

FG-406

## Federal Applications Migrating to the Commercial SI Market

| Application | Percent of Respondents |
|---|---|
| Logistics Support Systems | 45 |
| Imaging Systems | 45 |
| Geographic Info. Systems | 40 |
| Networking | 30 |

FG-407

INPUT

## Federal Applications Migrating to the Commercial SI Market

| Application | Percent of Respondents |
|---|---|
| High Performance Computing | 10 |
| DBMS | 10 |
| Electronic Commerce | 10 |
| Financial Systems | 10 |

FG-408

INPUT