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**GAO**

Fact Sheet for the Chairman,  
Committee on Governmental Affairs,  
U.S. Senate

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February 1990

**FTS 2000**

**An Overview of the  
Federal Government's  
New  
Telecommunications  
System**





United States  
General Accounting Office  
Washington, D.C. 20548

Information Management and  
Technology Division

B-130441

February 14, 1990

The Honorable John Glenn  
Chairman, Committee on  
Governmental Affairs  
United States Senate

Dear Mr. Chairman:

As requested in meetings with your office in April and August 1989, this report provides information on the Federal Telecommunications System 2000 (FTS 2000)—a new system that will provide the federal government with long-distance telecommunications services for the next 10 years. More specifically, this report describes (1) background on FTS 2000 including services available, system design, and features of the FTS 2000 contract; and (2) the process used by the General Services Administration (GSA) to grant exemptions to the use of FTS 2000. In addition, the report provides information on GSA's review of agency requests to procure telecommunications services and equipment.

## FTS 2000 Background

On December 7, 1988, GSA awarded FTS 2000 contracts to two major vendors—American Telephone and Telegraph (AT&T) and US Sprint Communications. These contracts, which have a potential cost of \$25 billion over 10 years, represent a significant shift in GSA's approach to meeting the government's telecommunications needs. Under the existing Federal Telecommunications System (FTS)—the system FTS 2000 was designed to replace—GSA manages a system which is composed of equipment leased from vendors. In contrast, under the new contracts, GSA is purchasing telecommunications services, rather than leasing the equipment itself, and will oversee the contractors' management of the system, rather than managing the system itself.

FTS 2000 is a sophisticated, technologically advanced system offering voice service and a wide range of data and video services not previously available under FTS. FTS 2000 data services will allow users to exchange data at high speeds and access remote data bases. In addition, through a nationwide electronic mail feature offered under one of the data services, employees will be able to use terminals and personal computers to exchange messages. Two-way video teleconferencing—one of a number of video service options—will allow users at two locations to fully interact by exchanging both voice and commercial network quality video pictures.

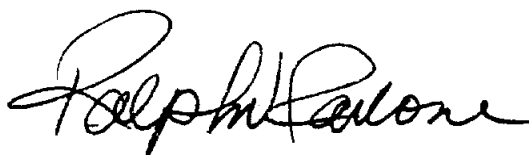
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contained in appendix II. Appendix III further summarizes our objectives, scope, and methodology and appendix IV provides a list of agencies assigned to the vendors' networks.

Agency comments on a draft of this report were obtained and have been incorporated where appropriate. Unless you publicly announce the contents earlier, we plan no further distribution of this report until 10 days from the date of this letter. At that time, we will send copies to interested parties and make copies available to others upon request.

This report was prepared under the direction of Jack L. Brock, Jr., Director, Government Information and Financial Management, who can be reached at (202) 275-3195. Other major contributors are listed in appendix V.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Ralph V. Carlone". The signature is fluid and cursive, with the first name "Ralph" being the most prominent.

Ralph V. Carlone  
Assistant Comptroller General

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**Contents**

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**Abbreviations**

AT&T	American Telephone and Telegraph Company
FTS	Federal Telecommunications System
FTS 2000	Federal Telecommunications System 2000
GAO	General Accounting Office
GSA	General Services Administration
IMTEC	Information Management and Technology Division

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## FTS 2000 Services, Delivery Points, and Service Improvements

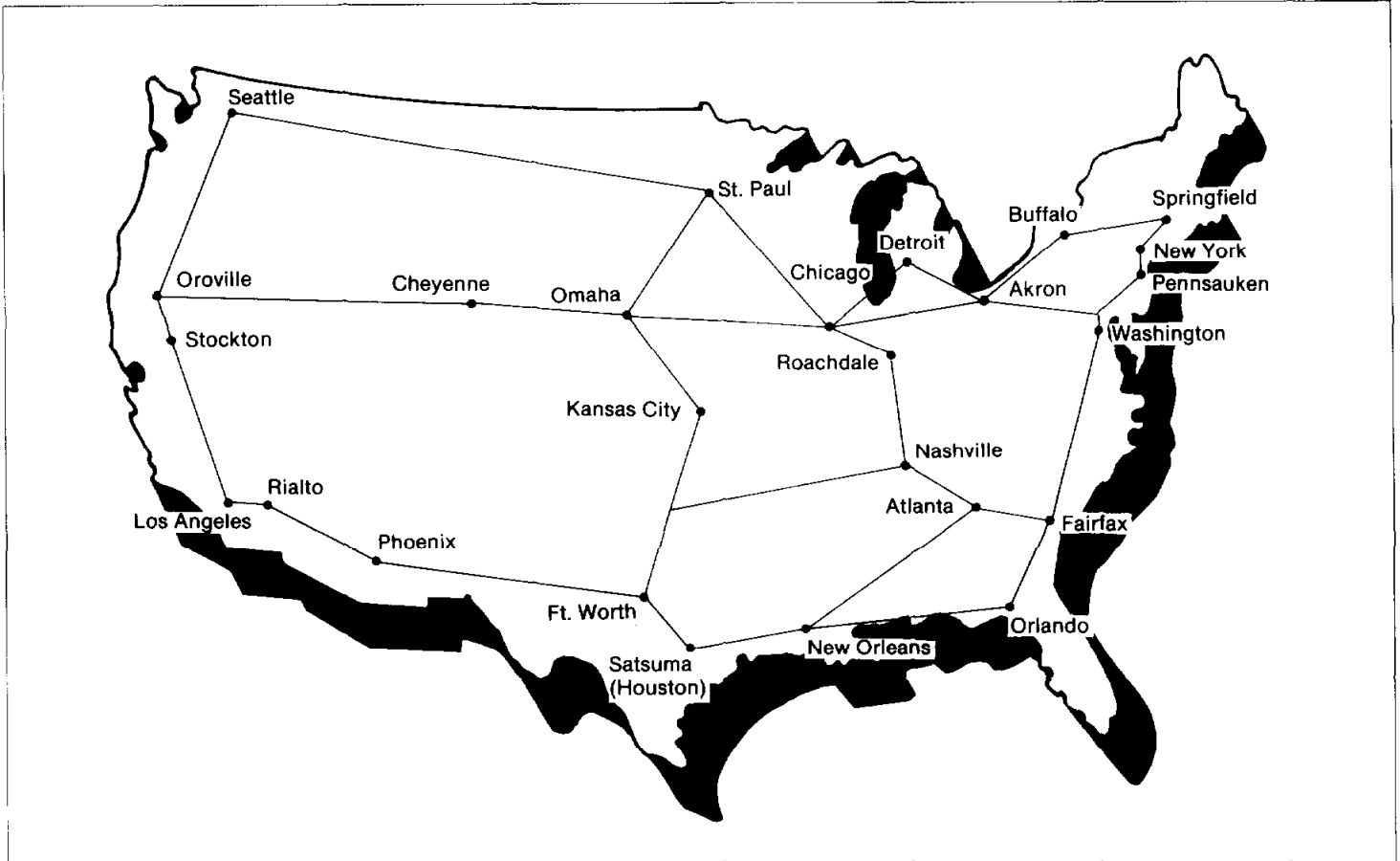
FTS 2000 will replace FTS voice service and give agencies access to a variety of high-speed data and video services. The vendors are responsible for delivering these services to service delivery points. Service delivery points are places where the agency connects its equipment (which may be acquired outside the FTS 2000 contract) to receive the FTS 2000 services. The FTS 2000 contracts provide a means for both GSA and the vendors to improve FTS 2000 services and keep them in step with new telecommunications technologies through the use of service improvement provisions in the contracts.

The FTS 2000 vendors will provide services to the federal government through two separate, nationwide networks. See appendix IV for a list of agencies assigned to vendors' networks. See figures I.1 and I.2 for diagrams of the vendors' networks. The cities identified on the diagrams represent network switch locations.<sup>1</sup> Some cities will have switch locations for both networks.

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<sup>1</sup>A network switch is vendor equipment that routes information (voice and data) through the network on its way from sender to receiver.

Figure I.2: US Sprint FTS 2000 Network



Source: GSA

## FTS 2000 Services

As discussed below, FTS 2000 will provide switched voice service and the following five additional advanced telecommunications services: circuit-switched data, packet-switched data, dedicated transmission, video transmission, and switched digital integrated service. Agencies will be able to order these advanced services, with the exception of switched digital integrated service, 30 days after receiving FTS 2000 voice service.

Switched voice. Switched voice provides both voice and analog data transmissions (primarily low-speed data transmission up to 4,800 bits per second; for example, facsimile service) throughout the United States, Puerto Rico, Guam, and the U.S. Virgin Islands. Phone calls may be made on the network 7 days a week, 24 hours a day. Switched voice

- Dedicated T1<sup>2</sup> service will offer data transmission at very high speeds for extremely high volumes.

Video transmission. Video transmission will allow agencies to conduct color video teleconferences. FTS 2000 provides two types of video transmission: wideband and compressed. Wideband video transmission uses satellite links to broadcast commercial network quality, color video teleconferences to many locations simultaneously. Compressed video uses digital technology to transmit near-full-motion video over fiber optic lines. These services, when combined with audio capability, can be used in a variety of ways. For example, agencies may conduct a one-way video teleconference in which the presenter of the conference can be seen and heard in remote locations. Alternatively, participants at two locations can fully interact with the use of a two-way video teleconference in which both locations can send and receive audio and video signals.

Switched digital integrated service. Switched digital integrated service will allow agencies to integrate voice and data transmission onto a single line. This service will allow users, for example, to conduct a voice teleconference while displaying and manipulating data or graphics on a remote terminal.

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## Service Delivery Points

A service delivery point is a place where an agency connects its equipment to receive FTS 2000 service. Vendors provide all equipment from the network to the service delivery point, and the agencies provide all equipment from the service delivery point into the users' premises. For example, at the service delivery point for video, the network provides the high speed transmission line and the agency provides the viewing screen. For switched voice service, the service delivery point could be located in a private branch exchange.<sup>3</sup> In this case, the agency would provide any equipment including the private branch exchange, in-house wiring, and telephone sets to receive phone calls.

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<sup>2</sup>T1 is a digital transmission line that can transmit data or voice traffic at 1.544 million bits per second. It has become a standard for high-capacity connections between users.

<sup>3</sup>A private branch exchange is a switch located on the customer's premises that connects users' phones to each other, to central-office lines, or to special telephone lines.

proposals, which will consider equally (1) total estimated contract costs and (2) quality of service during the preceding years of the contracts. On the basis of this analysis, GSA may then award the revenues identified for reallocation to one of the FTS 2000 vendors. The new prices submitted in the proposals will be applied to each vendor's entire network as redefined. In addition, if revenues are reallocated, agencies will be shifted from one network to the other.

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## Interoperability

The FTS 2000 contracts require GSA, AT&T, and US Sprint to work together to establish a process for implementing interoperable networks. Interoperability means that users on one network will be able to transmit both voice and data to users on the other FTS 2000 network, and other commercial and government networks. Currently, GSA is developing a statement of work for the vendors to prepare a technical report on interoperability. The objective is to develop a technically feasible, cost-effective, and quality interface between the networks.

According to the FTS 2000 transition manager, several options exist for achieving interoperability, including:

- using commercial networks as an interface between the FTS 2000 networks to transmit information from one network to the other (i.e., using a third network as the interface between the two FTS 2000 networks),
- building a hardware device or gateway between the two FTS 2000 networks, which will allow agencies on one network to transmit information to agencies on the other, and
- using dedicated transmission lines to link one network to locations being served by the other network when enough traffic exists to justify setting up a dedicated link (i.e., avoiding transmission through the two networks).

GSA plans to use a combination of these three methods to achieve interoperability among the networks and will use a simulation model to develop the best mix. This model will consider economic factors as well as agencies' inter-network traffic requirements. Other factors GSA will consider include the number and size of gateways, gateway locations, and service quality.

According to the FTS 2000 transition manager, GSA will have a plan for voice interoperability in place by April 1990. Approaches for data and video are expected to be developed at a later date.



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reflected in each set of network prices remained the same,<sup>6</sup> and that the amount agencies pay for a group of services will be similar, but not equal, for either network. According to MITRE, federal agencies have accepted this approach and were provided information on levelized pricing for fiscal years 1990 and 1991 budget planning.<sup>7</sup>

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## Technical Assistance and Management Services Contract

On November 30, 1988, GSA awarded a technical assistance and management services contract to assist GSA service oversight center personnel in managing the transition to FTS 2000 and in monitoring the performance of the new system. The contract has an estimated value of \$29.4 million for both the initial 10-month contract term and the four 1-year options the contract offers. From January to August 1989, GSA awarded 24 task orders for various technical services under this contract.

The contractor, Centel Federal Services Corporation, provides recommendations, technical expertise, and support systems to the centers such as:

- recommending criteria for GSA to use in evaluating the contractor's plans for the transition to FTS 2000,
- conducting a study to identify potential problems that could hamper the transition to FTS 2000, and
- developing a billing verification proposal.

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<sup>6</sup>FTS 2000 prices incorporate price incentives for agencies that integrate voice and data services. For example, agencies receive significant cost savings by using FTS 2000 switched digital integrated service, which combines voice and data, rather than using FTS 2000 switched voice and switched data services separately.

<sup>7</sup>GSA requested MITRE to research methodologies that could be used to levelize FTS 2000 contract service prices.

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## **Review Process**

GSA's Authorization Branch reviews agency procurement and telecommunications requests and determines if a federal agency should be allowed to independently procure equipment or services to fulfill its requirements. For the 18 suspended delegations, the Authorizations Branch conducted a line-by-line analysis of each agency's requirements compared to the services provided under FTS 2000 to determine whether the agency's requirements would exempt it from using FTS 2000. See figure II.1 for a diagram of the decision process GSA used to review each agency's requirements.

2000 could not provide. GSA reinstated the delegation, if it decided that the agency's requirements were unique and could not be satisfied under FTS 2000. This reinstatement, in effect, exempted the agency from using FTS 2000 for the specific requirements covered by the delegation. In addition, GSA allowed several agencies to request authority for interim or temporary exemptions to FTS 2000 until the necessary services become available and the agencies' requirements can be converted to the FTS 2000 network.

## Review Results

Of the 18 suspended delegations, GSA determined that FTS 2000 could provide some or all of the required service for 14 of the delegations. Of the 14 delegations, eight were cancelled because all the requirements contained in these delegations could be provided under FTS 2000. Six were amended because FTS 2000 could satisfy only a portion of the requirements contained in these delegations. In addition, GSA allowed agencies in 9 of these 14 cases to request interim delegations because the agencies needed the requested services before they would be available under FTS 2000. In the remaining five cases, GSA made no mention of interim delegations because these agencies could wait to obtain their requested services under FTS 2000. For example, GSA determined that the Department of Labor's requirements for long-distance telecommunications services could be satisfied under FTS 2000 and, accordingly, cancelled its prior delegation. At the same time, GSA allowed the Department of Labor to request authority for an interim delegation until services become available and the agency's requirements can be converted to FTS 2000. It was then left up to Labor to decide whether to pursue an interim procurement or wait for FTS 2000 services to become available.

GSA determined that the remaining four delegations contained unique requirements that could not be satisfied by FTS 2000 and therefore, reinstated these delegations. As a result, the four agencies involved (the Department of Health and Human Services, the Department of the Interior, the Federal Communications Commission, and the Federal Aviation Administration) were, in effect, granted exemptions to the use of FTS 2000 for the specific requirements covered by these delegations and allowed to proceed with independent procurements. In these cases, GSA granted the exemptions for the life of the contracts that resulted from the delegations. For example, GSA reinstated the Federal Communications Commission's delegation for multipoint dedicated transmission because FTS

- The Department of Energy was exempt from requesting authority to procure telecommunications equipment and services for its five Regional Power Administrations.
- The Veterans Administration was exempt from GSA authority in procuring facilities installed in hospital complexes for biomedical communications.
- The National Aeronautics and Space Administration was exempt in procuring missile and satellite tracking facilities.
- The Tennessee Valley Authority was exempt in procuring facilities peculiar to operation of the Tennessee Valley Authority projects.
- The Department of Justice/Bureau of Prisons was exempt in procuring facilities installed in penal or correctional institutions.

The Bureau of Prisons agreed to use the services provided under FTS 2000. GSA is in the process of reviewing whether the remaining seven agencies can use FTS 2000 services for the specific purposes previously listed.

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**Appendix III**  
**Objectives, Scope, and Methodology**

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Our review was conducted at GSA headquarters in Washington, D.C., and at the GSA service oversight center located in Vienna, Virginia, from April 1989 through January 1990. Our work was performed in accordance with generally accepted government auditing standards.

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**Appendix IV  
Government Agencies or Entities Assigned to  
the FTS 2000 Networks as of January 22, 1990**

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National Commission on Children  
National Commission on Libraries and Information Science  
National Gallery of Art  
National Science Foundation  
Neighborhood Reinvestment Corporation  
Nuclear Regulatory Commission  
Office of Special Counsel  
Panama Canal Commission  
Peace Corps  
Pennsylvania Avenue Development Corporation  
Postal Rate Commission  
Railroad Retirement Board  
Securities and Exchange Commission  
Smithsonian Institution  
United States Government Printing Office  
United States House of Representatives  
United States Senate

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**US Sprint FTS 2000  
Network**

Administrative Offices of United States Court  
African Development Foundation  
Commodity Futures Trading Commission  
Council for State Governments  
Department of Housing and Urban Development  
Department of Justice  
Department of Labor  
Department of the Treasury  
Department of Veterans Affairs  
Equal Employment Opportunity Commission  
Executive Office of the President  
Federal Bureau of Investigation  
Federal Maritime Commission  
Federal Mediation and Conciliation Service  
Federal Mine Safety and Health Review Commission  
Federal Trade Commission  
General Services Administration  
Institute Of Museum Services  
Inter-American Development Bank  
Interstate Commerce Commission  
National Archives and Records Administration  
National Credit Union Administration  
National Endowment for the Humanities  
National Labor Relations Board

# Major Contributors to This Report

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Information  
Management and  
Technology Division,  
Washington, D.C.

Linda Koontz, Assistant Director  
Ronald Famous, Evaluator-in-Charge  
Kim Moddasser, Evaluator

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**Appendix IV**  
**Government Agencies or Entities Assigned to**  
**the FTS 2000 Networks as of January 22, 1990**

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National Mediation Board  
National Transportation Safety Board  
Occupational Safety and Health Review Commission  
Office of Management and Budget  
Office of Personnel Management  
Office of Thrift Supervision  
Public Defender Service  
Selective Service System  
Small Business Administration  
United States Commission on Civil Rights  
United States Court of Appeals for the Federal Circuit  
United States Information Agency  
United States International Trade Commission  
United States Supreme Court  
United States Tax Court

# Government Agencies or Entities Assigned to the FTS 2000 Networks as of January 22, 1990

## AT&T FTS 2000 Network

### ACTION

Administrative Conference of the United States  
Advisory Commission on Intergovernmental Relations  
Advisory Committee on Federal Pay  
Agency for International Development  
Appalachian Regional Commission  
Architectural and Transportation Barriers Compliance Board  
Board of International Broadcasters  
Central Intelligence Agency  
Commission of Fine Arts  
Commission on International Migration  
Commission on Railroad Retirement Reform  
Committee for Purchase from Blind and Other Severely Handicapped  
Consumer Product Safety Commission  
Department of Agriculture  
Department of Commerce  
Department of Defense  
    Defense Communications Agency  
    Defense Contract Audit Agency  
    Defense Logistics Agency  
Department of Education  
Department of Energy  
Department of Health and Human Services  
Department of the Interior  
Department of State  
Department of Transportation  
District of Columbia Public Service Commission  
Environmental Protection Agency  
Export-Import Bank of the United States  
Federal Communications Commission  
Federal Election Commission  
Federal Emergency Management Agency  
Federal Energy Regulatory Commission  
Federal Labor Relations Authority  
Food and Agriculture Organization of the United Nations  
Institute of Museum Services  
Inter-American Foundation  
Japan-United States Friendship Commission  
John F. Kennedy Center  
Marine Mammal Commission  
Merit System Protection Board  
National Aeronautics and Space Administration  
National Capital Planning Commission

# Objectives, Scope, and Methodology

This review was requested by the Chairman, Senate Committee on Governmental Affairs. As agreed with the Chairman's office, our objectives were to provide information on (1) the background of the FTS 2000 project, including the services that will be provided, (2) GSA's process for granting exemptions to the use of FTS 2000, (3) how GSA determines which agencies will use FTS 2000, and (4) the current status of GSA's review.

To obtain background on the FTS 2000 project, including the services provided, we examined the FTS 2000 contract, including the request for proposals and the best and final offers. We reviewed previous GAO reports concerning FTS and FTS 2000, a GSA report entitled Federal Telecommunications System (FTS) Intercity Program Changes in the 80s,<sup>1</sup> a GSA Office of Inspector General report for the President's Council on Integrity and Efficiency concerning FTS use,<sup>2</sup> and other relevant reports and documentation. We also interviewed GSA officials responsible for managing the transition to the new system.

To obtain information concerning GSA's process for delegating procurement authority, we reviewed Public Law 100-440, which mandates the use of FTS 2000 for all federal agencies subject to the provisions of the Brooks Act, as well as GSA regulations implementing this law. We also reviewed GSA's process for determining whether an agency should use FTS 2000 government-furnished services to satisfy telecommunications requirements or whether it should be allowed to proceed with an independent procurement to satisfy such requirements. We reviewed the 18 delegations that GSA granted prior to the award of FTS 2000 and which GSA later suspended in February 1989. For these 18, we reviewed the relevant documentation, including the agency request to procure long-distance telecommunications services, the original delegation granted by GSA, and the subsequent outcome of GSA's review. In addition, we collected information on GSA's disposition of all agency requests to procure long-distance telecommunications services that were submitted to GSA after the award of FTS 2000 through December 1989. Finally, we obtained information from GSA concerning the status of eight regulatory exemptions that were suspended in October 1988.

We obtained agency comments during the exit conference with the Assistant Commissioner for the Office of Telecommunications Services.

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<sup>1</sup>The Federal Telecommunications System (FTS) Intercity Program Changes in the 80's, Office of Information Resources Management, GSA, February 1984.

<sup>2</sup>President's Council on Integrity and Efficiency: Consolidated Report on Federal Telecommunications System (FTS) Utilization, Office of the Inspector General, GSA, March 16, 1987.

2000 provides only point-to-point dedicated transmission.<sup>3</sup> GSA also exempted the Department of Health and Human Services delegation for a T1 carrier for local services because FTS 2000 only provides long-distance services.

## GSA's Review of Agency Requests After the FTS 2000 Award

Since the FTS 2000 award, GSA has not granted any agency an exemption to the use of FTS 2000 services. For agency requests submitted after the award, GSA's Authorizations Branch continued to review requests involving long-distance telecommunications to determine whether FTS 2000 could satisfy the requirements. According to an Authorizations Branch official, GSA has reviewed 54 agency procurement requests involving intercity telecommunications since the award. GSA determined FTS 2000 satisfied the requirements contained in 16 of these requests and required the agencies to use FTS 2000. GSA delegated interim procurement authority for the remaining 38 requests and required the respective agencies to use FTS 2000 when services become available. For example, GSA provided the Department of Treasury an interim delegation to procure an 800 toll-free service until this service becomes available under FTS 2000.

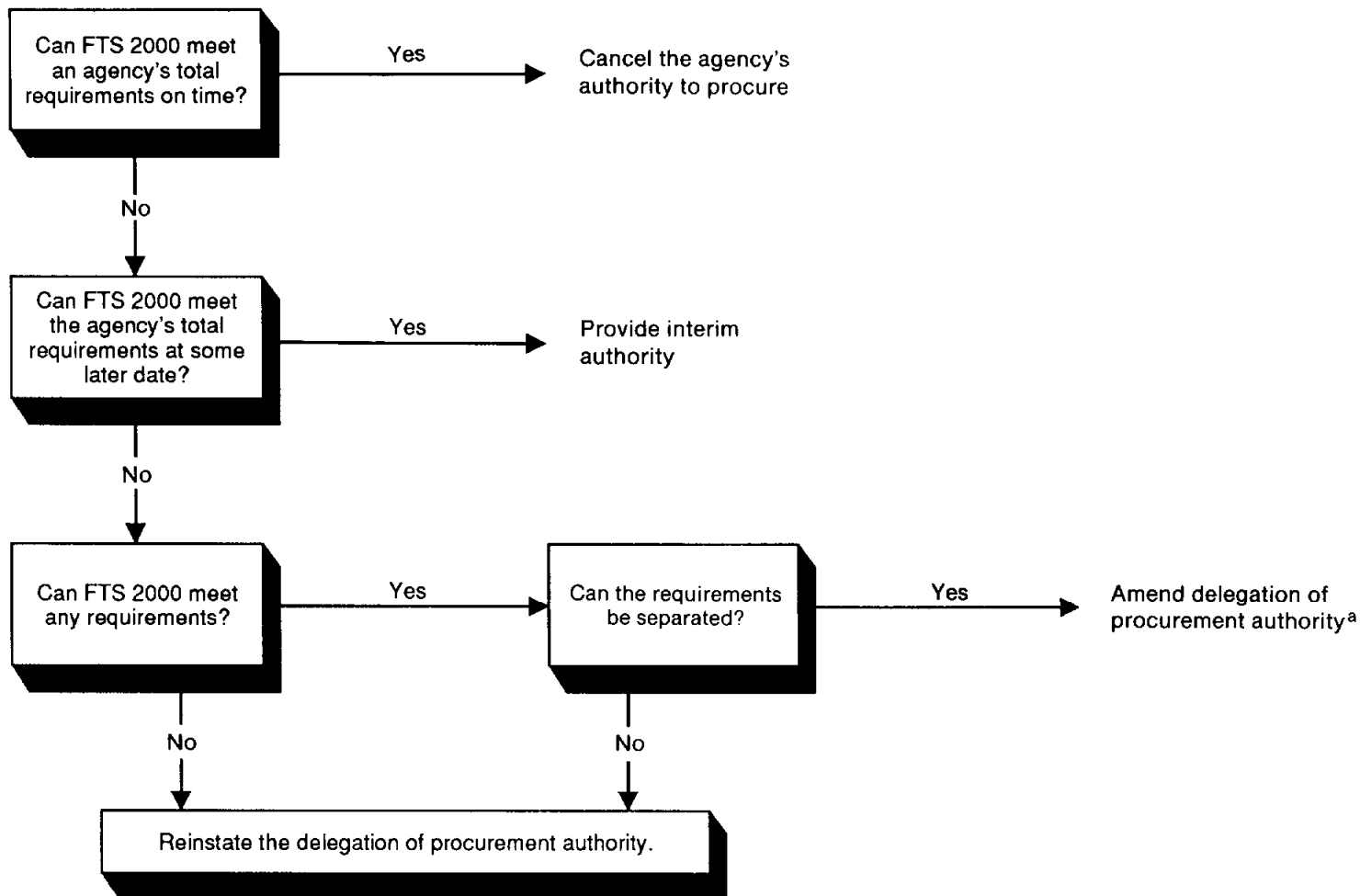
## Status of Blanket Exemptions

On October 1, 1988, GSA suspended regulatory exemptions for eight agencies that had previously been exempt from requesting authority from GSA to procure equipment and services for specific computer and telecommunications systems. GSA is reviewing these blanket exemptions to determine whether their requirements can be satisfied under FTS 2000:

- The Department of Defense was exempt from requesting authority to procure telecommunications equipment and services from GSA for requirements pertaining to Department of Defense's command and control function.
- The Nuclear Regulatory Commission was exempt from requesting procurement authority for voice and data services for the Emergency Telephone System and the Regional Office Incidence Response Center.
- The Department of Transportation/Federal Aviation Administration was exempt from GSA authority in procuring facilities used for air traffic control.

<sup>3</sup>Multipoint dedicated transmission allows the user to connect devices at two or more locations to a single transmission line with these devices having exclusive use of the line. Point-to-point dedicated transmission allows only two stations to be connected by a single transmission path that is available for these stations' exclusive use.

Figure II.1: GSA's Decision Process for Reviewing the 18 Suspended Delegations of Procurement Authority



Source: GSA

<sup>a</sup>The delegation is amended to allow the agency to independently procure some requirements that FTS 2000 cannot presently meet.

In reviewing the delegations, GSA determined whether to cancel, amend, or reinstate an agency's delegation. If all of the agency's long-distance telecommunications requirements could be satisfied under FTS 2000, GSA cancelled the delegation. If some of the agency's telecommunications requirements could be provided by FTS 2000, GSA amended the delegation to (1) require the agency to use FTS 2000 to satisfy those requirements and (2) allow the agency to independently purchase the services that FTS

# GSA's Delegation Review Process

In September 1988, the use of FTS 2000 telecommunications services became mandatory for most federal agencies. Under Section 627 of Public Law 100-440<sup>1</sup>, federal agencies are required to use FTS 2000 services unless GSA grants a specific exemption. Although no executive agency is totally exempt from the use of FTS 2000, section 627 authorizes GSA to grant an exemption for specific agency requirements if (1) an agency's requirements are unique and cannot be satisfied under FTS 2000 and (2) the agency's procurement to satisfy these unique requirements would be cost-effective and not adversely affect the cost-effectiveness of the FTS 2000 procurement.

GSA is authorized by law<sup>2</sup> to delegate authority to agencies to procure automated data processing equipment and services, including telecommunications services. As a result of Public Law 100-440, GSA began implementing the mandatory use requirement by (1) suspending and reevaluating 18 delegations involving long-distance telecommunications issued prior to the award of FTS 2000 and (2) reviewing agency procurement requests submitted after the FTS 2000 award to determine whether FTS 2000 could satisfy agency requirements. In addition, GSA suspended eight blanket exemptions which had previously been granted to agencies by regulation, to independently procure equipment and services for certain systems.

## GSA's Review of Agency Delegations Issued Before the FTS 2000 Award

With the enactment of Public Law 100-440, GSA suspended 18 delegations of procurement authority for telecommunications services. These delegations had been issued prior to the FTS 2000 award, but no contracts had been awarded. These delegations were suspended to determine whether FTS 2000 could satisfy the agencies' long-distance requirements. GSA reviewed the suspended delegations to determine whether to (1) amend the delegation and require the agency to use FTS 2000 for the long-distance telecommunications requirements that FTS 2000 could provide, (2) cancel the delegation and require the agency to use FTS 2000 to satisfy all the agency's requirements in the delegation, and (3) reinstate the delegation and allow the agency to proceed with an independent procurement.

<sup>1</sup> 102 Stat. 1721, 1757.

<sup>2</sup> Section 111 of the Federal Property and Administrative Services Act, 40 U.S.C. 759 (Supp. IV 1986), commonly referred to as the Brooks Act.



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## Service Oversight Centers

Under the FTS 2000 contract, each vendor is required to provide a service oversight center for its network to enable the government to (1) monitor the delivery of services, (2) oversee the contractors' day-to-day operation and administration of FTS 2000, and (3) ensure that the vendor complies with the contract for that network. Each vendor has set up a center that is staffed by GSA personnel. These centers provide oversight and monitor the financial and contractual management of the FTS 2000 vendors. The centers will also handle agency and contractor problems that cannot be solved through normal channels. Each center has five functional areas to carry out the center's responsibilities, as follows:

- Customer Service serves as the account representative once the customer agency is on the network.
- Status Center Operation monitors service efficiency and network performance.
- Network Management evaluates, analyzes, and reviews network performance reports to ensure the vendors are complying with the technical requirements of the contract.
- Security approves and oversees the FTS 2000 contractor's National Security and Emergency Preparedness plan, and manages the FTS 2000 security and emergency requirements.
- Transition Implementation Service monitors transition activities involving agency network assignments.

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## Levelized Pricing

GSA determined that significant differences exist between the prices for services provided by AT&T and those provided by US Sprint. GSA officials stated that federal agencies should not be required to pay different prices for comparable services. Therefore, GSA decided to levelize prices between the two networks in order to present approximately equal charges to federal agencies for the same service.<sup>5</sup>

To levelize prices, GSA developed a mathematical procedure to apply to each network's usage-based prices. This procedure will produce similar but not exactly equal prices when agencies use identical services from the two different networks. GSA designed the procedure to satisfy three conditions—that GSA's costs were recovered, that the price incentives

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<sup>5</sup>Levelized prices will apply to all services, except for switched voice service, through the end of the 1990 fiscal year. Agencies will continue to pay for switched voice service under a modified version of the old FTS approach in which agencies were charged a fixed amount regardless of service usage.

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## Service Improvements

To allow FTS 2000 services to keep pace with the development of new commercial services, the FTS 2000 contracts provide for service improvements. Generally, improvements may be proposed by either the government or the vendors to (1) save money, (2) improve performance, and (3) accomplish any other purpose which presents a service advantage to the government. GSA will determine which service improvements are within the scope of the FTS 2000 contracts and will add a particular service or feature to the contracts if it can be justified in terms of governmentwide cost-effectiveness.

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## The FTS 2000 Contract

GSA awarded FTS 2000 contracts—valued at up to \$25 billion over a 10-year period—to AT&T and US Sprint. The FTS 2000 contracts are contracts for services and as such, represent a shift in GSA's method of meeting the government's telecommunications needs. Rather than leasing and managing the networks itself, as it did under FTS, GSA will now oversee the vendors' delivery of services. The FTS 2000 contracts contain several special management provisions. These provisions

- authorize GSA to redetermine service prices and reallocate the contracts' revenues between the two vendors at the end of the fourth and seventh years of the contracts,
- require the vendors to work with GSA to develop plans and schedules that will provide interoperable networks to allow the transmission of voice and data between the two networks, and
- require the vendors to establish service oversight centers to enable GSA to oversee the operations of the two vendors.

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## Price Redetermination and Reallocation

The FTS 2000 contracts contain a schedule of prices for services charged to GSA that generally cannot be increased during the 10-year contracts.<sup>4</sup> The contracts, however, allow GSA to recompile the two vendors in the fourth and seventh years of the contracts. According to the FTS 2000 contracting officer, recompilation will ensure that service prices remain competitive. At the fourth and seventh years of the contracts, GSA will identify a portion of contract revenues—up to 40 percent of each vendor's estimated revenue over the remaining life of each contract—that may be reallocated between the two vendors as a result of the recompilation. The two vendors will then submit pricing proposals covering the remaining years of the contract. GSA will conduct an analysis of these

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<sup>4</sup>The FTS 2000 contracts contain an economic price adjustment clause that allows contract prices to be increased or decreased in the event of economic conditions beyond the control of the vendors.

will offer federal users features such as agency recorded announcements, audio teleconferencing, and network services attendants who will provide a variety of support services.

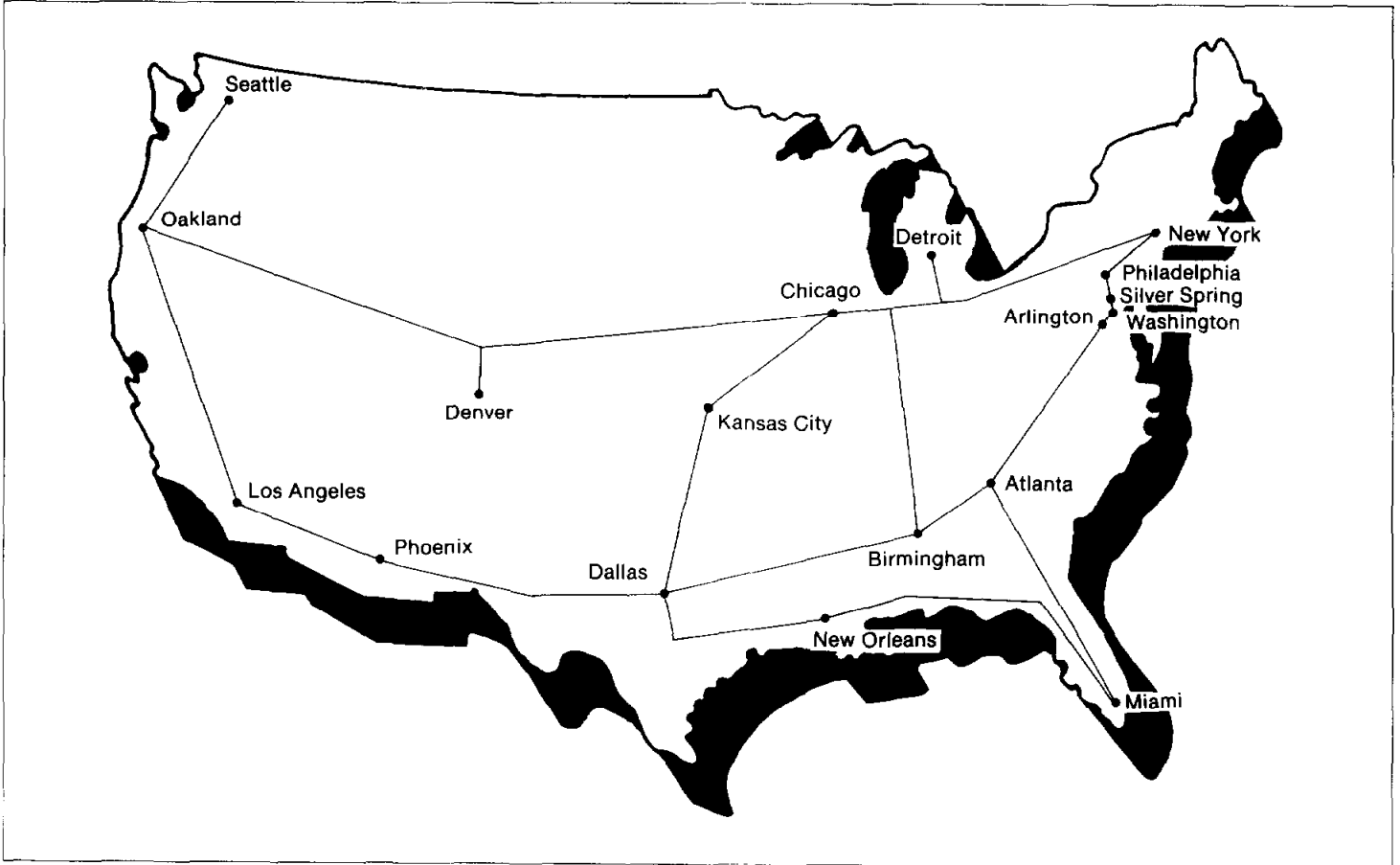
Circuit-switched data. Circuit-switched data service currently allows agencies located within the continental U.S. to use the FTS 2000 networks to exchange data at high speeds, up to 56,000 bits per second. This service uses digital transmission and flexible routing to establish communications paths over which data are sent in a continuous stream. Circuit-switched data service is intended to provide a cost-effective method of meeting high-speed data requirements when transmitting large volumes of data.

Packet-switched data. Packet-switched data service is designed to provide digital data communications between geographically dispersed terminals and computers. When using this service, the data to be sent are subdivided into small packets which are then transmitted separately, perhaps over different communications pathways and reassembled at their destinations. Agencies can use this service to link their data networks and make access to remote data bases more convenient. In addition, this service supports the FTS 2000 electronic mail feature which will allow employees to use terminals and personal computers to send messages to others on the network. These messages may be delivered to and retrieved from "mailboxes" designated for specific persons or a variety of other devices including remote printers. Packet-switched data service is intended to provide a cost-effective means of exchanging low to medium volumes of data that are transmitted sporadically.

Dedicated transmission. Dedicated transmission involves assigning of a specific transmission capacity to an agency for its exclusive use. As such, this transmission capacity is available to the agency for use 24 hours a day, 7 days a week. This service is designed to provide agencies with a cost-effective method of sending large volumes of voice or data traffic between two locations on a continuous basis. Dedicated transmission provides three options to users, as follows:

- Dedicated analog service will support voice and data transmission at speeds up to 9,600 bits per second;
- Dedicated digital service will provide digital transmission between locations at faster speeds up to 64,000 bits per second; and

Figure I.1: AT&T FTS 2000 Network



Source: GSA

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# The FTS 2000 System

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On December 7, 1988, GSA awarded 10-year contracts to AT&T and US Sprint to replace the technically outdated FTS, which has provided the federal government's long distance service for over 25 years. The new system, known as FTS 2000, will provide federal agencies with voice service and a range of high-speed data and video services not available under FTS. The two vendors are responsible for providing these services to federal agencies through two separate nationwide networks. As a result of this 2-vendor award, the contract contains provisions to (1) keep service prices competitive throughout the life of the contract and (2) require the vendors to make their networks interoperable so that agencies assigned to one network can communicate with agencies on the other. In addition, to deal with price differences between the two vendors, GSA has developed a strategy called leveled pricing to ensure that agencies pay similar prices for comparable services, regardless of which network (AT&T or US Sprint) they use. Finally, to assist in the oversight of these contracts, GSA has also contracted with Centel Federal Services Corporation to provide technical assistance and support services.

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## Replacing the Federal Telecommunications System

Since 1963, FTS has provided the federal government's long-distance telephone service. GSA originally developed the system to provide cost savings over commercial phone rates and satisfy the federal government's national security and safety needs during emergency situations. Under this system, GSA leased equipment from numerous vendors, using analog technology to provide voice, low-speed data transmission, and facsimile services to its 1.3 million users.

However, after providing over two decades of service to the federal government, GSA determined that FTS rates and services were no longer competitive with those of commercial services. Further, FTS' out-dated analog equipment couldn't meet agencies' increasing need for high-speed data transmission. At the same time, newer digital technology—capable of providing reliable, high-speed data transmission at a lower overall cost than analog technology—became available. These concerns prompted GSA to define requirements for a comprehensive telecommunications procurement and issue a request for proposals in December 1986.

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AT&T and Sprint will provide these telecommunications services through two separate, nationwide networks. Each federal agency is assigned to one of these two networks. GSA and the vendors began to move federal agencies from FTS to FTS 2000 voice service on October 9, 1989, and plan to complete the effort by the end of July 1990. According to a GSA official, this cutover will be implemented in 18 phases occurring every two weeks. As of January 22, 1990, GSA had completed phase 6 of the cutover which brought the total number of users with FTS 2000 voice service to 600,000. Agencies will be able to order most other data and video services 30 days after receiving FTS 2000 voice service.

## GSA's Delegation Review

In September 1988, with the passage of Public Law 100-440, using FTS 2000 telecommunications services became mandatory for most executive agencies unless GSA grants a specific exemption. Although no executive agency is totally exempt from using FTS 2000, GSA will grant an exemption for specific requirements if it determines that (1) an agency's requirements are unique and cannot be satisfied under FTS 2000 and (2) the agency's procurement to satisfy these unique requirements would be cost-effective and not adversely affect the cost-effectiveness of the FTS 2000 procurement. As a result of this law, GSA suspended 18 delegations of procurement authority issued prior to the FTS 2000 contract award; these delegations would have allowed agencies to procure telecommunications services and systems outside FTS 2000. For the 18 suspended delegations, GSA's review process involved analyzing each agency's requirements compared to the services provided under FTS 2000 to determine whether FTS 2000 could provide the agency's requirements. GSA determined that the requirements cited in 14 of the agency delegations could be satisfied under FTS 2000 and directed these agencies to use FTS 2000. GSA determined the requirements cited in the remaining four delegations could not be met by FTS 2000 and allowed these agencies to procure these services and systems independently. Since the FTS 2000 award, GSA has received and reviewed 54 requests for procurement authority, but has not granted any additional exemptions to using FTS 2000 services.

We performed our analysis by reviewing FTS 2000 contract documentation and agencies' requests for procurement authority for telecommunications systems and services. We interviewed GSA officials responsible for overseeing the FTS 2000 contracts and federal agencies' telecommunications procurements. Appendix I provides information on the FTS 2000 services and contract. Information on GSA's delegation of procurement authority to agencies for telecommunications systems and services is

