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FEDERAL TELECOMMUNICATIONS POLICY

HEARING

BEFORE THE

COMMITTEE ON GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

MAY 3, 1994

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FEDERAL TELECOMMUNICATIONS POLICY

TUESDAY, MAY 3, 1994

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 9:35 a.m., in room SD–342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn and Roth.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. Good morning. The hearing will be in order.

Today we meet to discuss what stands among the most important issues of government, and I can tell you, one of the most expensive; government-wide telecommunications. It concerns how we communicate with each other not only within government, but outside of government as well. I know just the civilian end of things is over $1 billion a year, and we do not have a figure for all of defense telecommunications, but its cost probably equals that and more. So we are talking about something that is very, very expensive.

I have a longer statement which I am submitting for the record, which I do not usually do. But this is an important matter. I will summarize the statement this morning.

We face very significant uncertainties in the telecommunications market, including the emergence of new technologies, and the mergers of companies and technologies. If we look back and think of what has happened just in the last 3 or 4 years, it is mind-boggling how fast we have moved ahead with some of these technologies.

Market dynamics are sure to affect significantly the structure of government telecommunications needs and the breadth of requirements. I commissioned a GAO review of government-wide telecommunications, focusing on DISN, the Defense Information System Network, and on questions that I have raised regarding the up-front assessment of government-wide functional needs.

Since my request for a review, the Defense Information Systems Agency (DISA) delayed the issuance of the draft request for proposal RFP, for the integration support contract for DISN, to assess along with GSA, the benefits of aggregating government-wide needs.

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Last month, both DOD and GSA announced their agreement to identify common business requirements for consolidated acquisition. I applaud these efforts, because answers to questions regarding consolidation of civilian and military needs will aid our ability to leverage market uncertainty to our cost and technical advantage.

Rather than structuring our needs along arbitrary agency lines, GSA and DOD are trying to take a broad view of government, with an eye toward aggregating functional requirements in the most efficient administrative solution that we can figure out.

What should emerge from this effort is a system that contains effective management and policy parameters. Acquisition methods for the system should be flexible, to assure that the government can respond to market changes and the technology evolution that happens so rapidly.

We are learning that the bulk service level where the government obtains the lowest price may be at a volume of services lower than that anticipated for the post-FTS 2000 environment. Thus, we may also want to consider the efficiencies that may be obtained by partitioning services among several contractors who provide those services.

Certainly, electronic data interchange (EDI) and the defense messaging system (DMS) anticipated on future systems will require the government to be vigilant in requiring system interoperability. With the potential for multiple vendors, the government likely will need to consider the services of systems integrators. In such a multi-vendor environment, the need for interoperability standards becomes critical. The standards must be identified and expressly stated before acquisition begins to assure the agencies and the services that they can communicate with each other.

We are here today to begin the discussion of how the government will manage uncertainty. I think we need to answer first whether we are going to have the mandated participation that we had before when we went into FTS 2000, or whether what we need with the rapid pace of development in these areas is an information center where different users can do their own contracting. I just toss that out as a possibility. I am not suggesting it this morning, but it is difficult to see how we can integrate these diverse requirements all under one or two contracts, as we have done in the past with FTS 2000.

I think with the rapidity with which things are moving in this field, we need to consider every option, as we move ahead. Therefore, I repeat, our discussion is how the government will manage uncertainty. I do not think that overstates it.

We will hear from three panels intimately connected with these issues, the GAO, DOD and GSA. There is a lot of work to be done. It is as very, very complex issue, but I stand committed to facilitating a cooperative solution to assure that the government is positioned most advantageously in its telecommunications future.

[The prepared statement of Senator Glenn follows:]

PREPARED STATEMENT OF SENATOR GLENN

Good Morning. Today we meet to discuss what stands among the most important issues facing our government in the future: government-wide telecommunications. This issue impacts not only government operations, but, because of the sheer size of the Federal Government, the entire national information infrastructure spoken of

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so frequently by the Vice President. With this understanding, the efficient acquisition and management of new networks becomes significant.

This Committee maintains an active role overseeing government-wide telecommunications. Those of you following our FTS 2000 work will recall our hearings uncovering GSA's initial mismanagement of that program. Contract-mandated revenue shares between the two vendors in the program were improperly allocated; prices to agencies exceeded the market, in part, because market conditions were not foreseen; and GSA overhead added cost to the agencies, contributing to the opposition to mandatory use of the system, threatening its optimal use.

We also released studies last year on DOD telecommunications issues concluding that DOD failed to follow a logical, systematic approach to telecommunications planning and had no clearly articulated vision of improved business and management practices. In addition, we found that DOD's plan for the replacement of the Defense Commercial Telecommunications Network (DCTN) contract was overly optimistic given that DOD had yet to decide on an acquisition strategy for its remaining requirements.

Against this backdrop, we face significant uncertainties in the telecommunications market including:

- The emergence of new technologies;
- Competition in the local access market, including the possibility of long-distance carriers serving local markets;
- The potential entrance of the Regional Bell Operating Companies (RBOCs) on the long-distance scene; and
- Market and technology mergers of RBOCs and cable companies, and long-distance carriers and satellite companies.

These market dynamics are sure to affect significantly the structure of government telecommunications needs and the breadth of requirements. That's why I commissioned a GAO review of government-wide telecommunications, focusing on the Defense Information System Network (DISN), and why I've raised questions regarding the up-front assessment of government-wide functional needs.

Since my request for a review, the Executive Branch has taken significant, positive steps in planning for the follow-on networks to the two major DOD and civilian networks, DCTN and FTS 2000. The Defense Information Systems Agency (DISA) delayed the draft RFP on the Integration Support Contract for DISN to assess, along with GSA, the benefits of aggregating government-wide needs. Last month, DOD and GSA announced their agreement to identify common business requirements, for consolidated acquisition. As one of our witnesses, General Emmett Paige, said at that time, "this consolidated effort would form the foundation of a global information infrastructure."

I applaud these efforts because answers to questions regarding consolidation of civilian and military needs will aid our ability to leverage market uncertainty to our cost and technical advantage. They also signal a welcome change in the way we've been doing business. Rather than structuring our needs along arbitrary agency lines, GSA and DOD are trying to take a broad view of government, with an eye toward aggregating functional requirements in the most efficient administrative solution.

What should emerge from this effort is a system that contains effective management and policy parameters. Acquisition methods for the system should be flexible to assure that the government can respond to market changes and technology evolution. In this regard, we should learn a lesson from FTS 2000, where prices almost instantly were a problem because the market dropped over 30 percent after contract award. The government had no price-tracking mechanisms in place for it to respond quickly to these market dynamics.

With technology changing so rapidly, the government should be open to new ways of buying these services. Certainly, traditional suppliers could provide a range of services to meet the government's needs. But, we are learning that optimality for the government, that is, the bulk service level where the government obtains the lowest price, may be at a volume of services lower than that anticipated for the post-FTS 2000 environment. Thus, we also may want to consider the efficiencies that may be obtained by partitioning services among several contractors who provide those services efficiently.

Certainly electronic data interchange (EDI) and the defense messaging system (DMS), anticipated on future systems, will require the government to be vigilant in requiring system interoperability. With the potential for multiple vendors, the government likely will need to consider the services of systems integrators. In such a multi-vendor environment, the need for interoperability standards becomes critical.

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Standards must be identified and expressly stated before the acquisition begins to assure agencies and services can communicate with each other.

These issues bring us here today to discuss how the government will manage uncertainty in this environment. First, we will hear from GAO representatives who will give us a review of telecommunications issues based on work previously completed and a snapshot of future issues. They will be followed by representatives of DOD to give us DOD's assessment of these issues and how the government will protect its interests when acquiring telecommunications in this dynamic market. Finally, GSA's Associate Administrator for FTS 2000 will give us the civilian agency assessment of these issues.

There's a lot of work to be done, and this is a complex issue. I am committed to facilitating a cooperative solution to assure that the government is positioned most advantageously in its telecommunications future.

Chairman GLENN. The GAO is our first witness this morning, our first panel, will be Jack Brock, who is Director, Information Resources Management/Policies and Issues Group, Accounting and Information Management Division of the United States General Accounting Office. He is accompanied by Frank Deffer, Assistant Director, National Security and International Affairs, Accounting and Information Management Division, and Deborah Davis, Senior Evaluator, Accounting and Information Management Division.

We welcome you this morning. Mr. Brock, if you would lead off, that would be fine.

TESTIMONY OF JACK L. BROCK, DIRECTOR, INFORMATION RESOURCES MANAGEMENT/POLICIES AND ISSUES GROUP, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE; ACCOMPANIED BY FRANK DEFFER, ASSISTANT DIRECTOR, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION; AND DEBORAH A. DAVIS, SENIOR EVALUATOR, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION

Mr. BROCK. Thank you very much, Mr. Chairman.

You have already introduced Frank Deffer and Debbie Davis, so I will not go through that again. I would also like to introduce, however, Kevin Conway, who was instrumental in helping us put this statement together.

You are absolutely right, when you said this is one of the most important ventures that the government is doing. This is a critical issue, an absolutely critical issue that affects the strategic direction of government telecommunications services. These services that we are talking about today in their most elemental form really are the backbone of the day-to-day operations of the government. The government could not function as a business without telecommunications.

In a more sophisticated form, telecommunications services can literally transform the way we do business, make it more service oriented, make it more responsive to the customer, to the citizens, and to the public. And I think that is what we are trying for in our next round of telecommunications.

This potential is very much recognized by the current administration in its intention to establish both a government and a national information infrastructure. And the current effort by DOD and GSA to consolidate the acquisition of telecommunications services for both civil and defense activities is a big step forward.

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Now, I want to very strongly say right here, Mr. Chairman, that we support this effort. We support what they are doing. It is a good idea and they have made a good start. However, in traditional GAO fashion, we are going to throw out a few caveats in a little bit which provide some warnings that we think should be addressed over the upcoming months, as they proceed with this.

I would like to very briefly recap what is going on, what has gone on in the management of both the FTS 2000 program and in defense telecommunications.

As you know, Mr. Chairman, we have done quite a bit of work for this committee. We have testified before you before, and we have prepared reports for your Committee and other committees on the Hill on the early stages of GSA's management of the FTS 2000 program. Frankly, we were disappointed. We thought they had numerous problems in appropriately allocating traffic among the two networks. They had problems in managing their overhead. And, most importantly, they had problems with their price.

We testified before you just 3 years ago, and we stated flat-out that the government was not getting a good deal on FTS 2000, and that corrective steps needed to be taken.

Chairman GLENN. One of the things that happened at that time also was we had an enormous change in the market just after that was instituted.

Mr. BROCK. Absolutely, and that gets to——

Chairman GLENN. And the contract was not one that was set up to take care of that rapid a change, and so we got behind the curve on that, and FTS 2000 got a deserved bum rap, perhaps, if there is such a combination of words. That is one of the things that happened.

Mr. BROCK. Absolutely, and one of the things that we will deal with later is the flexibility that needs to be built in to account for that.

However, I am pleased to say right now that GSA has made really remarkable progress in turning this thing around. They have done a fantastic job through the Interagency Management Council of involving agencies and helping evaluate and determine strategic and management decisions to be made. And most importantly, through the recent price redetermination service reallocation process, the government now has telecommunications rates that are competitive or even lower with non-commercial rates, and this is a giant step forward.

GSA right now is in the middle of planning to determine the requirements and the acquisition strategy for its post-FTS 2000 telecommunications systems. This is important, because the current contracts expire in 1998.

DOD has also had its share of problems in managing telecommunications resources. DOD has a more complex problem than many of the civilian agencies. It has to manage or rely on a broad range of voice, data, video and imagery services delivered to users all over the world, and they must communicate with other agencies and they have to communicate outside with commercial business partners.

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However, as GAO and the department's Inspector General and Defense's own internal studies have discovered or noted, the department has not yet established a framework needed for efficient and effective telecommunications resource management. This overall lack of telecommunications systems management and integration in Defense has resulted in a number of independent subsystems and networks supporting various organizations, functions and computer applications, and it lacks standardization in procedures, equipment and training.

Further, Defense telecommunications costs, which we were unable to really accurately measure, range between $10 and $20 billion a year, but they lack the visibility and control within the department and within the Defense budget for efficiently acquiring and providing communications services through the department.

Defense has recognized this as a problem, and in 1991 it adopted the Defense Information Systems Network or DISN strategy to consolidate and integrate its existing long-haul networks into a global end-to-end information network that would support the CCI functions requirements, as well as all Defense business areas.

Right now, the department has put the DISN acquisition effort on hold until the details of the consolidated effort with GSA are worked out. I would like to turn to that effort right now, and that is really the crux of what we are discussing today.

In early 1994, GSA and Defense recognized that it would be mutually beneficial to consolidate their efforts. They established the Joint Concept Review Committee, which I am going to refer to as the JCRC, to determine both the extent to which the post-FTS 2000, as well as the DISN, as well as the Government Emergency Telecommunications Service acquisitions to be consolidated.

The JCRC in a recent report found no overwhelming issue or combination of issues that represented what they say is an insurmountable obstacle to consolidation of military and civilian telecommunications acquisitions. However, they did identify three areas of strategic importance to the success of any consolidated acquisition. Those three are (1) minimizing the complexity of management and oversight, (2) maintaining aggressive competition, and (3) ensuring operability of services and systems.

Mr. Chairman, we agree with these concerns. This is an enormous undertaking, and the significance of the problems and issues that must be addressed by the JCRC cannot be minimized.

We have some similar issues which I would like to briefly discuss which we feel also must be addressed in order to achieve success. The first of these is the whole management issue, and there are two aspects of that management issue.

First, the complexity of planning for this undertaking requires a very strong management structure to establish a framework to reach the necessary decisions that must be made on a very timely basis on such critical topics as service requirements and acquisition strategy. Steps need to be taken to ensure the well-defined procedures and processes are in place to assure that service objectives and requirements are fully defined, and that appropriate alternatives are developed and considered to determine the most effective way of meeting those requirements.

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The second aspect of the management concern is that the central management functions of the current telecommunications systems are largely carried out by the Defense Information Systems Agency and GSA's own Office of FTS 2000. This structure may or may not be viable for post-FTS 2000 management. The service requirements and acquisition strategy for the post-FTS 2000 telecommunications system should be primary determinants on the most appropriate structure for managing the new system. We believe that this management structure must be clearly defined and operationally capable, as transition to the new system occurs.

The second point I would like to address, Mr. Chairman, is that of requirements. Government's telecommunications needs will eventually be shaped into a set of requirements which will in turn establish the framework of the future communications infrastructure. The government's ability to meet expected agency telecommunications needs, and in large part the agency's ability to fulfill mission requirements, hinges on well-defined requirements that are described in functional terms, not technical terms, but functional terms, that is to identify requirements in terms of desired performance characteristics, as opposed to technical or hardware specifications. This will allow a greater range of potential solutions and enhances opportunities for competition among different vendors.

The last point we have is that of flexibility, and this is one that we discussed just a moment ago. The telecommunications market is incredibly diverse and it is incredibly dynamic. Rapid changes in technology, dramatic new uses for enhanced services, and continued change on the regulatory side all combine to create a marketplace where the only real uncertainty is that change itself.

As the marketplace changes, so will agency needs and demands. FTS plans must remain flexible enough to permit technology and service enhancements over the life of the program.

Mr. Chairman, ultimately the question that must be answered now is: How can Federal agencies best use telecommunications to transform themselves to be more responsible to the citizenry? Indeed, the administration's recent proposals for the National Information Infrastructure and on the National Performance Review make clear that business as we conduct it now is no longer acceptable, that government needs to be more efficient, and the government must be more responsive to its citizens, to its taxpayers and to the public, its customers.

For more efficient service to its citizens, to more efficient acquisition and management of telecommunications resources, the proposed consolidated acquisition of civil and defense requirements offers a very unique opportunity to establish the essential infrastructure that is necessary to carry the government into the 21st Century and to begin to realize the economies and promise of the information age.

Mr. Chairman, that completes my summary. I would ask that my complete statement be inserted in the record, and I am available for any questions that you might have.

Chairman GLENN. Thank you. Your entire statement will be included in the record as though delivered.

[The prepared statement of Mr. Brock follows:]

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PREPARED STATEMENT OF JACK L. BROCK

GOVERNMENTWIDE INITIATIVES

CRITICAL ISSUES FACING THE NEXT FEDERAL TELECOMMUNICATIONS SYSTEM

Mr. Chairman and Members of the Committee:

I am pleased to participate in the Committee's hearings on the future of telecommunications in the Federal Government. In recent months, the General Services Administration (GSA) and the Department of Defense have embarked on an initiative to consolidate the acquisition of telecommunications services for both the Civil and Defense agencies of the government.

This is an important and positive step. In principle, we support the consolidation initiative and believe that it could be the vehicle for developing a truly integrated, governmentwide telecommunications system. However, the consolidation effort must address a number of significant issues to assure success.

Mr. Chairman, my comments here today are based on our previous reviews of the Federal Telecommunications System (FTS) 2000, Defense communications, and telecommunications policy issues. Specifically, I will discuss

—the progress GSA has made in improving its overall management of FTS 2000;
—Defense's efforts to reinvent the way it manages its communications resources; and,
—the recent decision by GSA and Defense to consolidate communications requirements for the follow-on to FTS 2000. I will also discuss a number of key issues that the Congress and executive branch agencies will need to consider in planning for a consolidated telecommunications acquisition.

Background

FTS 2000 is providing voice, data, and video telecommunications services for the Federal Government through 1998 at an estimated cost of $10 to $12 billion. In fiscal year 1993, FTS 2000 cost the government a reported $547 million. Defense is one of the largest FTS 2000 customers, accounting for around $84 million in reported yearly revenues. Still, less than 20 percent of Defense's long distance telecommunications traffic is handled by FTS 2000.

FTS 2000 is also a key element of the National Information Infrastructure (NII), which will consist of thousands of interconnected, interoperable telecommunications networks, computer systems, and information databases and services. In the future, the NII, also known as the "information highway," will enable all Americans to access information and convey voice, video, and data to others, all at an affordable price. A component of the NII is the Government Information Infrastructure (GII), which will consist of all the electronic services and systems used to support government operations and provide services to the public.

FTS 2000 Management Has Improved

As you know, the FTS 2000 program has provided long distance telecommunications services to Federal Government users for nearly 5 years. During this time, GSA has improved its overall management of FTS 2000, particularly by obtaining increased agency participation in program management and securing services at rates competitive with commercial rates.

Just 3 years ago, we appeared before the Congress expressing concerns about GSA's management of FTS 2000.[1] First, GSA had become embroiled in controversy concerning its handling of network traffic assignments, which had resulted in one vendor receiving more traffic than was warranted under the contract. Later, GSA's handling of FTS 2000 prices came under scrutiny, when it became apparent that both vendors' prices were well above prevailing commercial rates. At that time, GSA had no effective means to ensure that the government received the best prices for FTS 2000.

Fortunately, the situation since then has improved. Management and organizational changes at GSA have helped to redirect FTS 2000 by providing a central management focus. GSA has also effectively used the Interagency Management Council to assist in developing strategies and policies for ongoing management issues. Further, GSA's management of the Price Redetermination/Service Reallocation process in 1992 resulted in prices that are generally below the lowest known commercial rates. And, although the FTS 2000 contracts have 4 more years to go, GSA has already begun planning for the follow-on to FTS 2000.

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[1] *General Services Administration's Management of FTS 2000* (GAO/T–IMTEC–91–9, Apr. 18, 1991), *FTS 2000 Recompetition: Opportunity Exists for Better Prices* (GAO/T–IMTEC–92–1, Oct. 22, 1991).

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Defense Efforts to Improve Communications Management

The Department of Defense has also encountered significant problems in managing its communications resources, and it too has several key initiatives underway to address these problems. Defense relies upon a broad range of voice, data, video, and imagery services, delivered to users scattered around the globe through numerous communications media to perform its missions. As such, Defense communications requirements extend not only across the military services and Defense agencies, but outside the Department, embracing commercial business partners through initiatives such as electronic data interchange.

However, as we, Defense's Inspector General, and Defense internal studies have noted over the past several years, the Department has not yet established the framework needed to efficiently and effectively manage its telecommunications resources. This lack of overall telecommunications systems management encourages diversity among systems, inhibits interoperability, and decentralizes management and resources. Defense's communications are presently characterized by a number of independent subsystems and networks supporting various organizations, functions, and computer applications that lack standardization in procedures, equipment, and training. Further, Defense's telecommunications costs, estimated to range from $10 billion to $20 billion annually, lack the visibility and control within Defense programs and budgets necessary for efficiently acquiring and providing communications services throughout the Department.

Defense recognizes that it needs to significantly change the way it acquires and manages its communications resources. In Defense Management Report Decision 968, the Department stated that it must develop an integrated approach to the management and acquisition of communications resources and reduce communications costs. Subsequently, in 1991 the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence adopted the Defense Information System Network (DISN) strategy to consolidate and integrate Defense's existing long-haul networks into a global, end-to-end information network supporting command, control, communications, and intelligence requirements as well as all Defense business areas. As such, DISN must ensure interoperability across the telecommunications networks of both Defense and non-Defense agencies. However, the Department has placed its DISN acquisition efforts on hold until the details of the proposed joint venture are worked out.

Consolidation of Federal Government Networks

GSA initiated the concept development phase for the follow-on to FTS 2000 in April 1993, culminating in a government/industry conference in October 1993. This conference provided an open forum for discussing technical, management, and policy issues related to the FTS 2000 follow-on initiative. GSA subsequently began work on an acquisition alternatives white paper, which it released last month. This white paper describes eight acquisition alternatives developed for the post-FTS 2000 environment. The next crucial step is to gain consensus on an acquisition approach.

Meanwhile, the Joint Concept Review Committee (JCRC)[2] was formed in early 1994 by GSA and Defense to determine the extent to which the post-FTS 2000, DISN, and Government Emergency Telecommunications Service (GETS)[3] acquisitions could be consolidated. The JCRC found no overwhelming issue or combination of issues that would be an insurmountable obstacle to consolidating military and civilian telecommunications acquisitions. Further, the JCRC identified three areas of strategic importance to the success of a consolidated acquisition:

—minimize the complexity of management and oversight;
—maintain aggressive competition; and,
—ensure the interoperability of systems and services.

Mr. Chairman, as mentioned earlier, we agree in principle with the concept of a joint venture between GSA and Defense. However, it will be an enormous undertaking, and we do not want to minimize the significance of the problems and issues that must be addressed. As such, we concur with the JCRC's three areas of strategic impact but would amplify these with our own areas of concern.

Management: Two levels of management issues must be addressed. First, because planning for such a massive undertaking will be complex, a management structure

[2]The JCRC was comprised of representatives from GSA, the Defense Information Systems Agency, the National Communications System, and the departments of Veterans Affairs, Transportation, Agriculture, and Treasury.

[3]The Office of the Manager, National Communications System is implementing the GETS program to support National Security/Emergency Preparedness requirements.

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must be established to address critical topics such as service requirements and acquisition strategy. Steps should also be taken to ensure that well-defined procedures and processes are in place to ensure that mission objectives and requirements are fully defined and that alternatives are considered to determine how to best meet those requirements.

Second, the central management functions for the future FTS must be clearly defined. Currently, management of long-haul telecommunications systems are largely carried out by the Defense Information Systems Agency and GSA's Office of FTS 2000. This structure may or may not be viable for post-FTS 2000 management. The service requirements and the acquisition strategy for the post-FTS 2000 telecommunications system will be key factors in determining the most appropriate structure for managing the new system. It is also imperative that this structure be operationally capable at the point when the transition to the new system occurs.

Requirements: The government's telecommunications requirements will also play a major part in shaping the future communications infrastructure. The government's ability to meet expected agency telecommunication needs, as well as each agency's ability to fulfill mission requirements will hinge on the identification of functional requirements. These requirements must be well defined and describe needs in functional terms. That is, telecommunications requirements must be identified in terms of desired performance characteristics, not just technical or hardware specifications. This will allow a greater range of potential solutions and enhance opportunities for competition among different vendors.

Flexibility: The telecommunications marketplace is incredibly dynamic. Rapid advances in technology, dramatic new uses for enhanced services, and continued changes in regulations create a marketplace where the only certainty is change. As the marketplace changes so will agency needs and demands. FTS plans must remain flexible enough to permit technology and service enhancements over the life of the program.

Mr. Chairman, the single-most important question that can be asked about the future network is this: How can Federal agencies best use telecommunications to be more responsive to the citizenry? Indeed, the Administration's recent proposals on the National Information Infrastructure and on the National Performance Review make clear that business as usual will no longer be acceptable; and that government must become more efficient and responsive to the needs of the public.

From more effective service for citizens to more efficient acquisition and management of telecommunications resources, the proposed consolidated acquisition of Civil and Defense requirements offers a unique opportunity to establish the essential infrastructure needed to carry the Federal Government into the 21st century, and realize the economies and promise of the information age.

* * *

Mr. Chairman, this concludes my statement. I would be pleased to answer any questions you or other Members of the Committee may have at this time.

Chairman GLENN. Many of us have been speaking of a future telecommunications system with an eye toward consolidating civilian and defense requirements. From our perspective, this consolidation could involve aggregating common business or functional requirements across the spectrum for common acquisition. Others, however, see consolidated acquisition as mandating one network encompassing all services and/or one network provider. What is your view of this? Do you have an opinion on that?

Mr. BROCK. Yes, sir. I generally agree with your proposal. The proposed network is so large and the volume of traffic is so large, that it generates many opportunities and alternatives for the acquisition strategy. I do not think you necessarily need to be wedded to one network. In fact, the acquisition strategies that are now being considered by the Information Management Council identify a number of alternatives which divide up potential acquisitions among functional areas, among service areas, and among span of control.

Chairman GLENN. In your testimony, you State that current central management functions for telecommunications "may or may

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not be viable for post-FTS 2000 management." Currently, an Interagency Management Council (IMC) provides GSA with program and policy advice for the FTS 2000 network. What role could such an organization play in the post-FTS 2000 environment?

Mr. BROCK. First, let me just elaborate on the potential management structure. We believe that the management structure really must be dictated by the requirements set out by the contract. That will dictate the best way of managing it. Regardless of that structure, we believe that the Interagency Management Council should continue to play a very strong role in helping to shape the policy and strategic decisions of the post-FTS 2000 implementation mechanism. So I would see them continuing on.

Chairman GLENN. We are trying to make this whole thing fit into the so-called information superhighway that the Vice President has talked about a lot and which is mentioned in the National Performance Review. What role is OSTP playing in this? Have they played a major role in this at all so far?

Mr. BROCK. OSTP plays a major role in managing the information highway. Right now, OSTP is in charge of the high-performance computing and communications network, initiative rather, and they manage the activities that the current combined or proposed consolidated network must fit into, so as such they are playing a large role. I am really not sure, I could not say definitively the extent of the role they are playing on the current effort.

Chairman GLENN. One problem identified in managing FTS 2000 is the overhead charge levied by GSA on agencies for administrative costs. It was argued that agencies can effectively manage their own telecommunications programs more cheaply than GSA. This has been a problem since we first got into FTS 2000, as you are very much aware. Do you see that as a problem under a consolidated acquisition for the future?

Mr. BROCK. Yes. One of the most common complaints that we hear now about FTS 2000 is that of the overhead charge. It is also a complaint that we have heard about defense communications, as well.

The various acquisition strategies that have been proposed to GSA by the IMC in fact recognize different ways of managing and allocating overhead, depending upon the acquisition strategy. These really need to be clearly articulated and laid out.

We found that many of the overhead requirements that were placed on the existing contract were in fact placed upon them by contract requirements, which in hindsight may or may not have added any value to the service delivery agencies. These issues need to be considered much more strongly up-front in advance of the acquisition.

Chairman GLENN. Do you think those costs could be cut down? In your estimation does GSA need 10 percent?

Mr. BROCK. Your question was whether or not the 10 percent figure could be reduced?

Chairman GLENN. Yes.

Mr. BROCK. We did a report a couple of years ago, and we identified a number of opportunities that GSA could take to reduce the overhead rate. They have taken some of those steps. We also identified a number of opportunities where we thought that value was

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not being added and that GSA was in fact bound by the program requirements, and they had very little option. I think the primary options for reducing overhead really exist in the next contact as opposed to what is going on right now.

Chairman GLENN. Do you anticipate using megacenter telecommunications to manage traffic? What are your preliminary views on such an approach?

Mr. BROCK. We know that DOD is seriously contemplating using these integrated management centers for management of the DISN. In fact, we have also in our travels found that many private concerns, very large private concerns successfully use these integrated management centers. So I think there is a lot of promise there.

However, the caveat we would throw out here is that you need to determine your functional requirements before you begin to commit to a management structure.

Chairman GLENN. Your statement cites flexibility as a key success factor. Could you explain that a little bit further?

Mr. BROCK. There are several elements, Mr. Chairman, that really fit into the whole are of flexibility. First, there is the technical area. You acknowledged in your opening statement that technology will change, and we agree with that. The post-FTS 2000 implementation vehicle needs to be flexible enough to allow agencies to take advantage of the technologies which in turn may allow them to take advantage and create new ways of doing business, of working with their customers.

The second aspect of flexibility lies with the whole regulatory realm. As you know, there are at present several bills being considered up here. There is the FCC, and there is the court system.

Chairman GLENN. You may have to do that. This is cutting out, too. I think it must be some place in the system.

Mr. BROCK. We need to be flexible enough in the new contract vehicle to allow for changes in the regulated market. Lastly, and I think we really discovered this in the first three or 4 years of the existing program, we need to be flexible enough to take advantage of the cost structure. We need to be flexible enough that we are not locked into a set of costs and rates that are not competitive with the commercial market.

Chairman GLENN. As we move in this technology area, a lot of the advances have been because of switching technology that has moved forward. It is happening in other areas, too. For example the cost of cellular phones has come down. I know that the whole Federal system does not depend on cellular phones, but it is indicative of what is happening in the whole market.

Three years ago, I purchased a cellular phone, and I think the package I got, including the battery charger, was a little over $1,200. One of the people in our office got one just a couple of weeks ago and the whole package, the same one that I got 3 years ago, is now $189 for the whole thing. Now, maybe they are making up the cost on the charges for the use of it, but it indicates how fast these things have been advancing.

Interoperability, the ability to have information flow freely between networks is a significant challenge to the success of the future telecommunications system. Indeed, interoperability has been

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an issue with the FTS 2000 contracts. There have been points where the two networks could not communicate with each other. How can we best address interoperability issues in the future?

Mr. BROCK. There are really two aspects of that, as well, Mr. Chairman. First, one of the problems with the old FTS 2000 system or the current one that we have, rather, is that interoperability was an intent, but there was no real clear definition of how we would achieve that intent. I believe that in the current contract or the new contract that will be coming in, we need to clearly lay out the intent of interoperability, when you want interoperability and what the standards will be, so that bidders can prepare their bids to respond to that.

There also needs to be a recognition, however, that many elements of our current telecommunications systems are very old legacy systems, they are going to be very expensive to transform into something that is interoperable. This needs to be recognized as a cost factor, and transition plans need to be put into effect where we can begin to transition the legacy systems into an interoperable system.

Chairman GLENN. You note that the Joint Concept Review Committee (JCRC) established by GSA and DOD to review consolidation issues identified as key to the success of consolidated acquisition several areas. One of those issues is minimal complexity and management oversight through the maintenance of aggressive competition through the system and service interoperability. Do you have suggestions in each of those areas?

Mr. BROCK. I only wish that the JCRC had gone further and given their suggestions. There is no silver bullet on this. But on minimizing the complexity of management and oversight, a lot of that depends upon the acquisition vehicle and the requirements that are going to be met. And the needs, as you begin to determine the requirements, you need to be very explicit early on as to the type of management structure that needs to be in place. If, in fact, one of your primary objectives is going to be to minimize complexity of management oversight, the acquisition and the service provision has to be such that it can in fact be achieved.

On maintaining aggressive competition, it is critical that the requirements be put forth in functional terms that do not limit or restrict vendors to technical solutions that they may not be able to provide.

And on the ensuring interoperability of systems and service, that relates back to my earlier response, that is, clearly, as you are going through the requirements setting stage, you need to determine the necessity of interoperability, where that will occur and what the standards will be that need to be met.

Chairman GLENN. I mentioned OSTP a little while ago, and you said that they are playing a major role in this effort. Are they a member of that JCRC?

Mr. BROCK. I do not think so, Mr. Chairman.

Chairman GLENN. Should they be?

Mr. BROCK. I think that should be considered.

Chairman GLENN. I would think so, too, because if they are trying to tie this into the national information infrastructure, it seems

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to me they should be in on this Joint Concept Review Committee. Maybe that is something we ought to look into.

What was the basis for the formation of the JCRC? It is not required by law; it was formed just because the affected parties got together, is that not it?

Mr. BROCK. Yes, that was based on conversations between Mr. Johnson at GSA and I believe Mr. Paige.

Chairman GLENN. It is my understanding that a government-wide task force on electronic mail has recommended that the Defense Messaging Service (DMS) be acquired government-wide. How should the DMS procurement be factored into a consolidated acquisition?

Mr. BROCK. DMS is an application that would run on the network, and to the extent that DOD, as part of its requirements, identifies the need for DMS, then that would need to be factored into the acquisition strategy for the consolidated acquisition.

Chairman GLENN. Do you agree with the results of their report?

Mr. BROCK. We just received the report 2 days ago, Mr. Chairman. Although I have leafed through it, I really have not had an opportunity to study it, but we could provide an answer for the record on that.

Chairman GLENN. All right. Just in wrapping up your testimony, in retrospect, what we were trying to do with FTS 2000 was put together all the government communications as much as possible into one pod, so we would have more leverage in bidding.

Now, what seems to have happened over the past 5 years or so is we have had so many companies competing with each other, that some of that competition has forced prices down now to where I am not sure that we get much more leverage by one big government contract that might be more unwieldy in a very rapidly changing technology environment. What are your comments on that? Has the basis for what we were trying to do changed enough that we have to change along with it?

Mr. BROCK. As we mentioned in the flexibility section, the basis is always changing, and that is why we need to be agreeable and flexible enough to change along with it. I think when we did the original FTS 2000 telecommunications, that the capabilities of the government to manage telecommunications networks, to deal in a reasonably sophisticated manner with the vendors pretty much dictated the structure we had and that it was appropriate.

I think as we are considering the new structure, alternatives such as you suggested also have to be considered. And it is my understanding that as the IMC is considering alternative strategies, they are in fact considering solutions such as the one you mentioned.

Chairman GLENN. I know we have a lot of different companies represented here today; I would be surprised if we did not, but I do not want anyone to think that I am pushing a certain direction. I am not. What we are trying to do at this point is make very certain that we consider all options as we move into the post-FTS 2000 environment, and that is the reason I have asked some of these questions here this morning.

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Thank you very much. We appreciate it. We may get back to you with additional questions, and we would appreciate your reply to them as early as possible, so we can include them in the record.

Mr. BROCK. Thank you very much, Mr. Chairman.

Chairman GLENN. The next panel testifying for the Department of Defense is General Emmett Paige, Jr., Assistant Secretary of Defense for Command, Control, Communications and Intelligence (C3I), accompanied by Lieutenant General Alonzo Short, Director of the Defense Information Systems Agency (DISA).

I would say to both the generals here, we are extremely grateful to you for the help you have been giving to this committee's oversight efforts. We appreciate that.

General Paige has assisted in the effective resolution of problems associated with the Navy's TAC4 program. General Short provided the Committee with a close-up look at DISN plans over the last year. Both have maintained an open environment for constructive dialogue, which we certainly appreciate.

We look forward to your testimony this morning and thank you for being here.

General?

TESTIMONY OF GENERAL EMMETT PAIGE, JR., (RET.), ASSISTANT SECRETARY OF DEFENSE FOR COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE (C3I), U.S. DEPARTMENT OF DEFENSE; ACCOMPANIED BY LIEUTENANT GENERAL ALONZO E. SHORT, JR., USA, DEFENSE INFORMATION SYSTEMS AGENCY

General PAIGE. Thank you very much for inviting us. we are indeed—I should not say we are happy to be here, but we are proud to be here. [Laughter.]

Chairman GLENN. We will try and make it as painless as possible.

General PAIGE. In addition to General Short sitting to my left, I also have some other people from my staff. Diane Fountaine is sitting back here, Dr. Signori from General Short's staff, and a few others.

Mr. Chairman and members of the Committee, I appreciate this opportunity to appear before you today to discuss the future of telecommunications in the Department of Defense. I have with me, as I said, General Short, Director of the Defense Information Systems Agency. Both General Short and I have submitted written statements for the record. I would, however, offer the following brief set of comments.

Since my appointment as Assistant Secretary of Defense for Command, Control, Communications and Intelligence, I have reviewed past department policies on how we satisfy DOD's information system requirements, and we have made some changes. Of course, after 41 years in the military and at least two tours in DISA, let there be no doubt that I am very familiar with the networks and some of the issues as to whether or not we in Defense would use FTS 2000 or not.

The changes that we have made are predicated on three driving factors, successfully satisfying DOD's role in this administration's national goals and policies. And the most important, fulfilling

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DOD's mission of providing for the Nation's defense, and ensuring the implementation of the most cost-effective solutions to the taxpayer, while meeting our war-fighters' needs.

DOD's expertise in global networking comes from our long-standing commitment to meeting the department's basic mission of providing for the Nation's defense, and, as such, supporting the war-fighters. As we have moved out of the Cold War era, we are facing a series of C3I related challenges which must be addressed.

As we migrate our systems' capabilities to support the changed national defense strategy, we must ensure our systems have the flexibility to satisfy potential regional conflicts and to do so with joint service and coalition partners. We also must ensure the continued preservation of the force multiplier effect that technology, including information technology, brings to the war-fighter. Our system development activities and the resultant products are driven by the needs of the war-fighter. The war-fighter is the foundation of our existence and our Nation's defense.

The department's experience with telecommunications services provided by the General Services Administration and their service contracts under FTS 2000 are a matter of congressional record. Members of my staff have testified before this very Committee on that subject. The department has stated on many occasions that we are willing to work with GSA to improve that relationship and support the department's telecommunications needs.

Our current near-term Defense Information System Network (DISN) activities have involved not only the integration of the department's networks, but have also increased our current use of transmission services provided by FTS 2000.

When the decision on a far-term DISN acquisition strategy was initially reached, it raised questions, as this committee has, regarding the aggregation of all government telecommunications needs and the cost efficiencies to be attained from such actions.

With this in mind, I had a meeting with Mr. Roger Johnson, the Administrator for GSA, and we formed a Joint Concept Review Committee to review the potential to integrate the post-FTS 2000 acquisition effort with the far-term DISN effort. The committee was charged with identifying any issues related to consolidation and recommending a course of action.

On 4 April, Mr. Johnson and I received the Committee's preliminary report which found no insurmountable obstacles to supporting DOD in the post-FTS 2000 environment. Some major issues exist, such as program management and oversight, resolution of certain requirement differences between the military and civilian users, and the insurance of continued competitiveness in industry. None of these are viewed as insurmountable. They can best be resolved under the structure of the Interagency Management Council, and Diane Fountaine, sitting over to my left, is a DOD representative to that council.

While we have agreed that a joint acquisition strategy is the most cost-efficient way to proceed, we still have many aspects of this relationship to be resolved. Some are business process based, such as how will new technology services be acquired and how will billing and accounting be handled. Some are technically oriented,

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such as how will system security be implemented, and what technology insertion will occur and when will it occur.

Some are operationally focused, such as how the user will exercise operational management and control. And some are related to how we will transition to what we want in the future. While many of these issues have been discussed, we must codify the details in a formal agreement. It is toward that end that we are currently working, and we should have many answers to these issues in the next few months.

We must also address those items that cannot wait for the future. I placed on hold various acquisitions that relate to DOD's telecommunications needs until the Committee's report was received. Some acquisition plans will now be cancelled and moved into that joint activity. Others, however, may have to be proceed. On those that must move forward, it is my intent that the Acquisition Working Group will be made aware of our plans, and, barring objections, we will proceed with those actions. In the near term, DOD will also continue to use the currently available contractual vehicles.

In conclusion, I hope the Committee recognizes the significance of DOD's and GSA's efforts in this area. We are both committed to increased excellence and cooperation in an effort that is critical to this Nation and its success in the global economy. It is imperative that we be successful. DOD also recognizes its importance in ensuring the Nation's security from outside threats.

Our ability to respond in the changing world and meet the challenges associated with regional contingencies is based in large part upon rapidly deployable, flexible, reliable and assured telecommunications connectivity anywhere on the globe. That is the war-fighters' need and we shall meet their need. Our actions will strengthen the department's ability to deal with the increasing pace of change and emerging requirements for more efficient and cost-effective telecommunications capabilities in support of the new national security environment.

This concludes my opening remarks. General Short and I will now be happy to address your questions.

[The prepared statement of General Paige follows:]

PREPARED STATEMENT OF EMMETT PAIGE, JR.

Mr. Chairman and members of the Committee, I appreciate this opportunity to appear before you today to discuss the future of telecommunications in the Department of Defense. I have with me LTG Alonzo E. Short, Jr., Director of the Defense Information Systems Agency. Both LTG Short and I have submitted written statements for the record.

Since my appointment as Assistant Secretary of Defense for Command, Control, Communications and Intelligence, I have reviewed past Department policies concerning the satisfaction of DOD's information system requirements and have initiated some changes. These changes are predicated on the following driving factors—successfully satisfying the Department of Defense's role in this administration's National Goals and Policies, fulfilling the Department of Defense' mission of providing for the Nation's defense, and ensuring the implementation of the most cost-effective solutions to the taxpayer while meeting our warfighters' needs.

The National Performance Review emphasized the need for government to put people first by cutting unnecessary spending and serving its customers. The look at information technology's role in accomplishing this resulted in three major focus—strengthening our leadership in information technology by providing clear strong leadership to integrate information technology into the business of government, implementing "Electronic Government" using cross agency programs that touch the

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people, and establishing its support mechanisms. These support mechanisms include the establishment of an information infrastructure that meets the global needs of the people, development of systems and mechanisms to ensure the privacy (confidentiality) and integrity (security) of the information and its users, provision of incentives for innovation, and streamlined acquisition of information technology capabilities and tools. It is within this Global Information Infrastructure (GII) that our National Information Infrastructure (NII) is proposed to exist. It is within the NII, that a Government Information Network (GIN) will exist, and, within it, the currently evolving Defense Information Infrastructure (DII) will exist, supporting the warfighters' global role and mission. And it is within the DII that DOD's telecommunications exist. Certain elements potentially will be wholly integrated within the GIN such as the transmission media within the Continental United States (CONUS) while other elements such as the Service's deployable tactical communications systems may only be interfaced by gateways. The Information Infrastructure Task Force (IITF), chaired by the Honorable Ron Brown, Secretary of Commerce, is charged with working with Congress and the Private Sector to implement the NII. The Department of Defense has submitted to the Vice President and Mr. Brown its plan to support the NII—"DOD's Contributions to Promote the NII," in which we commit to building upon our information technology strengths to help make the NII a reality. DOD's plan calls for promoting the development of United States' information technology through dual use investments and continued research and development efforts; for assisting in the development of needed standards, privacy features, and security to protect the NII from catastrophic failures and breaches in information security; and for supporting a wide range of applications in areas of common interest using our expertise to build, manage, and operate a worldwide, heterogeneous, reliable network of multimedia information systems.

DOD's expertise in global networking comes from our long standing commitment to meeting the Department's basic mission of providing for the Nation's defense, and, as such, supporting the warfighter. As we have moved out of the Cold War era, we are facing a series of C3I-related challenges which must be addressed. As we migrate our systems capabilities to support the changed National Defense Strategy, we must ensure our systems have the flexibility to satisfy the potential diverse scenarios of regional conflicts occurring worldwide and to do so with joint service and coalition partners, with highly mobile, light and lethal forces. We also must ensure the continued preservation of the force multiplier effect that technology, including information technology, brings to the warfighter. The bottom line for all work by the Department of Defense is support for the warfighter. Our system development activities and the resultant products are driven by the needs of the warfighter, who is the foundation of our Nation's defense and that is why DOD exists. We must not lose sight of this.

The Administration's goals and Department's mission clearly affect the continually evolving telecommunications capabilities of the Department. They drive the strategy of what, how, when and why we acquire it. What, when and why we acquire a capability is driven by the validated needs of the warfighters. As such, taking timely advantage of new technological capabilities to offer to the warrior on the battlefield is critical to maintaining the force multiplier factor and successfully accomplishing the mission. How and when we acquire is driven by the acquisition regulations and the availability of funds. Therefore, lowering costs is critical to when and how we field new telecommunications capabilities. One major means of ensuring best value pricing is by fostering competition for products and services that are available in the commercial marketplace. This means satisfying the majority of DOD's telecommunications needs with commodity or service acquisitions predicated upon commercial off-the-shelf (COTS) telecommunications hardware and software. And for those requirements that cannot be satisfied with COTS-based capabilities, implementation of leading edge technology services will be based upon the rapid but reduced risk migration of tested newer technologies into DOD's communications platforms. The starting position for providing services and capabilities though is COTS. Another means of lowering cost is by reducing acquisition, management, and implementation overheads whenever possible. Aggregated acquisition and management within DOD and with the civilian agencies are means of reducing those burdening costs. The addition of value to the services being provided, such as security or directory services, reduces duplicative efforts and brings overall cost reductions to the user community—again, best value.

With many of these factors in mind, DOD has started work toward the integration of its disparate telecommunications networks into an integrated, globally-based, enterprisewide system—the Defense Information System Network (DISN). Near term activities include the consolidation of the Service and Agency "stove-pipe" systems into an integrated common-user transmission platform supporting video, voice,

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data and imagery, with movement being made toward common-user switching services. We are also looking at where we need to go in the mid and far term periods. That look is what produced our initial proposal for the procurement of DISN. Before we finalized the format, technical and economic evaluations of the benefits and drawbacks of various potential procurement alternatives were looked at by DOD people as well as an independent evaluation by telecommunications and acquisition experts from other non-DOD government agencies. A proposed format with centralized procurement and operational management of the wide area network was considered to be the most efficient and cost-effective way to proceed, even with the potential interoperability issues that might initially arise as we worked our way through a standards-based implementation. We viewed this as one of those minor hurdles that will have to be cleared as this country proceeds to implement the NII in an interoperable, multi-vendor environment. Operational management of the DISN was recognized as a more difficult task, not one with just an initial hurdle, but one with daily hurdles. That is why a separate contractual vehicle was proposed to provide integration and operational support for the management of the overall DISN. This contract's role, in part, was to work with the regional providers and their management systems to provide an overall picture of the well-being of DISN. This issue of operational control of these telecommunications assets that are so critical to the successful execution of the Department's mission is a major concern within the Department. It is a central telecommunications issue that has affected our inter-service relationships in the past as it has with DOD's relationship with the civilian agencies. It is an issue whose root is based in the warfighter's needs for responsiveness and assured connectivity. It is an issue that is being addressed now and will continue to be addressed as we move toward an integrated national telecommunications infrastructure that will use assets of, and provide support to, the DOD.

The Department's experience with the telecommunications services provided by the General Services Administration (GSA) and their service contracts under FTS 2000 are a matter of Congressional record, as members of my staff have testified before this very Committee on this subject. The Department has stated on many occasions that we are willing to work with GSA to improve that relationship in support of the Department's telecommunications needs. Our current near term DISN activities have involved not only the integration of the Department's networks, but has also increased our current use of transmission services provided by FTS 2000. When the decision on the far term acquisition strategy was initially reached, it raised questions, as this committee has, regarding the aggregation of all government telecommunications needs and the cost efficiencies to be attained from such actions. With this in mind, Mr. Roger Johnson, the Administrator for GSA, and I formed a Joint Concept Review Committee to review the potential to integrate the post-FTS 2000 acquisition effort with the far term DISN effort.

They were charged with identifying any issues related to consolidation and recommending a course of action. On April 4, 1994, Mr. Johnson and I received the JCRC preliminary report which found no insurmountable obstacles to supporting DOD in the post-FTS 2000 environment. Some major issues do exist such as program management and oversight; resolution of certain requirements differences between the military and civilian users; and ensuring continued competitiveness in industry. None of these was viewed as insurmountable and was considered best resolvable under the structure of the Interagency Management Council (IMC) and its Acquisition Working Group (AWG), which is currently working the post-FTS 2000 acquisition strategy.

While we have agreed that a joint acquisition strategy is the most cost-efficient way to proceed, we recognize that additional challenges need to be addressed. Some are business process based such as how will new technology services be acquired and how will billing and accounting be handled. Some are technically oriented such as how will system security be implemented and what technology insertion will occur when. And some are operationally focused such as how the user will exercise operational management and control. Some are related to how we will transition from the way we look today to how we want to look in the future. While many of these have been discussed, we must codify this by a formal agreement addressing the details. It is toward that end that we are currently working, and should have many answers in the next few months.

We must also address those items that cannot wait for the future to arrive. I have placed on hold various acquisitions that relate to DOD's telecommunications' needs until the JCRC report was received. Some of those acquisition plans will now be canceled and moved into that joint activity. Some however will have to proceed. On those that must move forward, it is my intent that the IMC's AWG will be made

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aware of our plans and what the acquisition entails, and, barring AWG or IMC objections, we will proceed with those actions. We will ensure that these contracting vehicles allow for their use by other agencies of the Federal Government. One such effort is the Hawaii Information Transfer System, a replacement system that will integrate current expiring services and expand that service across the eight major islands where DOD has service needs. Because of the current contract expiration dates and the limited services, this effort must move forward. In the near term, DOD will also continue to use the currently available contractual vehicles or the Defense Commercial Communications Office's (DECCO's) electronic bulletin board.

In conclusion, I hope the Committee recognizes the significance of DOD's and GSA's efforts in this area. We have both committed to increased excellence and cooperation in an effort that is critical to this Nation and its success in the global economy. It is imperative that we be successful. The Department of Defense also recognizes its importance in ensuring the Nation's security from outside threats. Our ability to respond in the changing world and meet the challenges associated with regional contingencies is based, in large part, upon rapidly deployable, flexible, reliable and assured telecommunications connectivity anywhere on the globe. That is the warfighter's need. Our actions must strengthen the Department's ability to deal with the increasing pace of change and the emerging requirements for more efficient and cost effective telecommunications capabilities in support of the new national security environment.

Chairman GLENN. Thank you, General Paige.

General Short, do you have a separate statement?

General SHORT. No, I do not, sir. I have already submitted a written statement.

Chairman GLENN. And that will be included in the record as though delivered.

[The prepared statement of General Short follows:]

PREPARED STATEMENT OF GENERAL SHORT

1. SUMMARY

The Defense Information Systems Agency (DISA), General Services Administration (GSA), and other principal Government Agencies have examined our communications requirements and concluded that it is both feasible and desirable to join forces, and consolidate our requirements into a common initiative. DOD information service requirements will be considered on a case-by-case basis and predicated on the results of a business case.

A Joint Concept Review Committee (JCRC) was constituted early this year to determine the issues associated with consolidating the Defense Information System Network (DISN), the Government Emergency Telecommunications Service (GETS), and the post-FTS 2000 acquisitions. The JCRC found no overwhelming issue or combination of issues that represented an insurmountable obstacle to consolidation.

We believe these findings coupled with; technology advances; changes in U.S. Military Strategy and; changes in the competitive market, support a joint strategy for acquisition of a cost effective, government wide set of services which can be responsive to the combined set of DOD and civilian government requirements.

In the Cold War era, the U.S. Military Strategy of being ready to fight a major war in Europe or the Pacific drove the DOD communications to a strategy of providing technologically advanced, dedicated, fixed plant infrastructure on the ground in these areas of potential conflict. The strategy for dedicated infrastructure was driven by the need for unique features which were not available in the commercial market place.

As the end of the Cold War approached, many changes were taking place that were to bring about a fundamental shift in the DOD strategy for providing communications and information services to the warfighters:

- The threats to U.S. interests were no longer focused in a few major areas of potential conflict
- U.S. Military Strategy changed to focus on regional conflicts that could occur anywhere in the world
- The communications and information industry was becoming deregulated
- Technology for provision of security, assured access, and other critical DOD features was maturing and becoming more readily available from the commercial market place at competitive prices.

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- Many of the dedicated DOD communications systems were reaching the end of their economical life cycle, and were becoming costly to operate.

DOD's and DISA's response to these changes was to begin to move away from the government owned infrastructure philosophy and begin acquiring more and more commercial services. For example:

- the Defense Commercial Telecommunications Network (DCTN) provided telephone, video, and transmission in CONUS
- the Oahu Telephone System (OTS) provided telephone services in Hawaii and,
- many of the government owned transmission systems were replaced with leased wideband services such as the Washington Area Wideband System (WAWS), the Hawaiian Area Wideband System (HAWS), and the overseas wideband leases. (Some of the more leading edge technology systems will likely remain for some time until their technologies mature.)

The recent DISN acquisition strategy was the next step in this transition. It was designed to replace the early individual service contracts, and most of the remaining government owned systems with cost effective, regional, integrated, commercial service contracts. The DISN was planned for implementation on a very aggressive schedule to realize early savings necessary to respond to the DOD budget reductions.

The current emphasis on evolution toward a National Information Infrastructure (NII) has refocused our attention on ways to integrate the military and civilian communications and information service needs of the government. Our ongoing dialog with GSA and the other FTS 2000 agency participants is a direct outcome of that focus, and has confirmed that this approach is the way to go. We are realigning our DISN strategy accordingly.

Through the Acquisition Working Group (AWG), established under the Interagency Management Council (IMC) forum, we are planning ways to deal with the constraints we face, and pursuing resolution of the issues. DOD, GSA and the other IMC agencies will actively pursue this effort, and include industry as a partner as we refine our requirements and the strategy for satisfying them.

2. Pre-DISN Strategy

The structure and capabilities of the Defense Information System Network, formerly referred to as the Defense Communications System (DCS) has constantly evolved to reflect the National Military Strategy (NMS). The DCS is a composite of DOD-owned and leased subsystems and networks, that in many cases have been installed over 30 years. They have, however, been upgraded periodically as requirements and technology dictated. The NMS during the Cold War period was characterized by:

- a well defined threat, in both the European and Pacific Theaters,
- limited nuclear capabilities outside of the major powers,
- significant cohesion among the communist block countries,
- and the establishment of large contingents of prepositioned U.S. forces overseas.

The NMS strategy during this period resulted in a DCS structure that consisted of many fixed plant facilities, and particularly overseas, expansive U.S. government owned telecommunications systems. Much of the technology needed to counter the threats to the DOD Command and Control (C^2) telecommunications and information systems during the Cold War era was not available in the communications and information services offered to the general public. DOD's strategy to ensure that the necessary capabilities were available to support the Cold War military strategy was to acquire private networks and sponsor development of the necessary leading edge technologies within them to support critical C^2 users.

3. Defense Information System Network Strategy

3.1 DISN Strategy

The original DISN strategy sought to take advantage of the commercial marketplace to a much larger extent than ever before. The DISN acquisition strategy contained provisions for seven competitive awards: three awards for CONUS services, one award for services in the European theater, one award for services in the Pacific theater and one award to provide DISN support services to deployed forces.

Recognizing the potential problems associated with management and integration of various networks to ensure full interoperability and end-to-end service transparency, a seventh contract was included in the strategy to provide management

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and integration support to DISA in the execution of these critical functions. Several factors contributed to this ability to use commercially available services.

3.2 Drivers of DISN Strategy

Profound changes are reshaping the strategic landscape in the post-cold war environment as evidenced by:

- the new national military strategy
- the availability of advanced, competitively priced technologies
- and changes in industry.

3.2.1 National Military Strategy

Changes in the international strategic environment, coupled with increasing pressures to move towards a balanced budget, resulted in a new national Military Strategy (NMS) published in June 1992. The new strategy shifts the focus from containing communism and deterring Soviet aggression to a more flexible, regionally-oriented strategy capable of countering a wide range of potential threats to vital U.S. interests.

The resulting national military strategy places even greater demands for responsive transfer of critical information from the highest levels down to the battlefield. New national strategies envision highly flexible Joint Task Forces supporting a spectrum of military/political responses to promote national interests worldwide. The communications and information infrastructure must respond quickly to new joint, coalition and organizational relationships that will be created on demand. Rapid deployment of force structure will be the standard mode of operation. We must be able to deploy and effectively extend our communications and information system capabilities to the deployed units. Our dependence on satellite capabilities, both commercial and military, will increase our capabilities to provide this reach back ability as our troops hit the ground. The vision for the warrior is a fused, real-time, true representation of the three-dimensional battlespace with the ability to coordinate in all directions.

3.2.2 Emerging Technologies

The explosion of technological advances in communications and information systems offers many opportunities for users to expand capabilities and/or reduce cost. Given the rapid change, the challenge we are facing head-on is the posturing of our programming and acquisition processes to rapidly capitalize on these evolving technologies. High bandwidth applications such as medical and battlefield images demand use of modern technologies. We are currently exploring the best way to influence development of industry's abilities to support these services. It is our intention to encourage industry to take advantage of advanced technologies, such as fast packet, frame relay, Synchronous Optical Network (SONET), and Asynchronous Transfer Mode (ATM) in order to provide higher quality, lower priced services.

With the advent of these emerging technologies, the changing military strategy and the resultant change in customer requirements, it is time to transition to systems and services that will facilitate technology insertion and provide continually competitive costs.

3.2.3 Regulatory Market Changes

The market environment was changing rapidly due to regulatory trends:

- the Federal District Court supervising the Modification of Final Judgment has permitted the Bell Operating Companies to provide information services,
- in a separate proceeding, a different Federal District Court has permitted Bell Atlantic to provide video services in competition with CATV vendors,
- the Federal Communications Commission announced the auction of 180 megahertz of spectrum in the 2 gigahertz frequency range for personal communications service.

With deregulation, the market forces impacting the telecommunications industry has been tremendous. This has led to competition in the local access market, including the possibility of long-haul carriers serving local markets. This is bound to increase the competition for DOD or Government services, which should result in lower costs. Local access, with respect to local exchange companies, remains heavily regulated by State and Federal, even under pending legislation. The local market is expected to become very competitive, and that has already started, but the competitors are being aided and protected by the FCC from the Local Exchange Carrier's market power. Almost one half of the current costs of communications is represented in the access area so the potential savings of increased competition in this area is very promising.

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3.2.4 Industry Mergers

The telecommunications and information services market environment is also changing due to the mergers of communications and information service companies and maturity of evolving technologies:

- MCI has purchased a significant portion of British Telecom,
- Apple introduced the Newton personal communicator and its audio-visual-telecommunications-capable computers,
- three major carriers announced new wideband data services (ATM),
- Regional Bell operating companies, cable distribution companies, carriers, and satellite companies are negotiating mergers that promise increased end-to-end service capabilities from merged vendors.

Remarkable changes are reflected in the planned and announced partnerships and merger of telecommunications giants across the information spectrum. This trend should increase the number of vendors capable of providing sophisticated services at competitive prices. This increases our confidence that DOD needs can be met by the commercial services market at affordable costs. Rapid industry changes will continue to characterize the marketplace for telecommunications services. No single vendor will be capable of providing all the desired network solutions or capabilities. This will encourage partnerships and mergers of key industries in an attempt to gain a competitive advantage. Maximizing competition is one of the best ways to gain the best possible price for a commodity. As we assess the possible alternatives for joint acquisition of government communications and information services through the AWG we must put a high value on the degree of competition that each offers.

3.2.5 User Demands and Technology Merger

The relative importance of data services and traffic is expected to continue to increase rapidly and may dominate after 2000. Some industry observers anticipate the introduction of fully-integrated voice and data networks using ATM technology in both network and local access well before 2008. It is expected that a national data network will evolve within the next decade that will rival the public voice network in scope and robustness. The DOD data network is expected to be the seed bed to bring this into reality. The combination of the DOD and civilian data traffic will serve to provide the critical mass. Switched data service is expected to grow at almost 26 percent annually through 1998. Growth for high-speed services such as T–1 and T–3 services are expected to far outstrip growth for telephone and low-speed data services such as 4.8 kilobits per second analog and 56/64Kbps digital services. High speed circuits are expected to grow at 2 to 3 times the rate of low speed circuits.

The declining cost of bandwidth will continue to enhance the capability of networks to deliver data and applications such as video in a very cost effective manner. The availability of cheap bandwidth would also facilitate the introduction of high bandwidth applications like video and imagery to the desktop and to the foxhole. With the sharp drop in bandwidth cost, access and billing can then be expected to become the dominant part of the telecommunications costs.

3.3 Impact of these changes

Requirements such as rapid extension of services, surge capability, flexible restoration of service, battlefield images and security can now be satisfied in the commercial world at an acceptable cost. New technologies can allow private networks that are customized to the customer's requirements while sharing the physical infrastructure of a public network. To satisfy rapid deployment requirements, DISA has engaged in several commercial satellite initiatives. DISA's objective is to ensure our acquisitions are conducted in an environment of maximum competition. Our intent will be to influence the capabilities of new technologies by forming partnerships with other government agencies and industries rather than attempting to develop the technology independently. Wherever possible, we will encourage and adhere to commercial standards. Interoperability will be specified as a requirement in our acquisitions and strategies will be developed to encourage it.

4. JOINT STRATEGY

4.1 Accomplishments

About 62 million call minutes per month of DOD telephone traffic and 29 percent of our T–1 requirements are currently supported by FTS 2000. This service has been

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quite satisfactory. The rest of the DOD requirements for communications and information services have been satisfied using the C^2 dedicated networks and systems of the DCS.

The DISN strategy outlined in the previous section was designed to replace most of the C^2 infrastructure by capitalizing on the state of the current telecommunications marketplace and potential for expanded use of commercial service provider networks and standards. This approach was not totally unlike that used to acquire the current FTS 2000 and that envisioned for the post-FTS 2000. The administration's and congressional emphasis on the development of the National Information Infrastructure encouraged DOD to strongly consider a consolidated effort.

DOD's relationship with GSA has evolved to become one of primary customer to the GSA telecommunications services provided under the FTS 2000 contracts. A refocus towards the consolidation of government wide services has placed the original DISN acquisition strategy on hold pending the outcome of the discussions with GSA. DOD's relationship with GSA and their other FTS 2000 users is rapidly changing to one of a partnership.

The first step in this new relationship has already been accomplished. A Joint Concept Review Committee (JCRC) was constituted early this year to determine the issues associated with consolidating DISN, Government Emergency Telecommunications Service, and the post-FTS 2000 acquisitions. The JCRC assessed technical, economic, and management issues associated with the proposed consolidation and found no overwhelming issue or combination of issues that represented an insurmountable obstacle to consolidation. The council also found that inclusion of DOD data services in a combined acquisition represents a significant increment of progress toward establishing a National Information Infrastructure (NII) as advocated by the National Performance Review. Additionally, the volume of DOD data requirements applied to a joint venture with GSA is likely to yield significant cost savings due to increased traffic volumes. Pursuant to the Committee findings, we have reached agreement with GSA and the other principal users of FTS 2000 services to begin planning a joint acquisition.

4.2 DOD Concerns

The current DOD communications system managed by DISA is a composite of DOD-owned and leased subsystems and networks comprising facilities, personnel and material. As such, the acquisition of new services as presently envisioned must recognize and address the following to achieve success:

- There are numerous contracts, totalling millions of dollars with varying expiration dates, that are directly supporting existing Service and Agency information service requirements. The expiration dates of these contracts will occur prior to the award of the post-FTS 2000 contract. Cost and political/legal constraints associated with extending these contracts must be weighed against the cost and feasibility of recompetition pending availability of services under the joint acquisition
- Some of the DOD owned legacy systems have not amortized their investment value. The schedule for transfer of services supported by these systems must consider the value of these unamortized assets and their effect on life cycle service costs
- Some of the DOD leased systems contracts, which may extend beyond the dates that services become available under the joint acquisition, may be subject to contract termination liability costs for early termination. The scheduling of the transfer of services supported by these systems must consider these costs
- Most of the overseas DOD communications and information services are currently supported by government owned infrastructure interconnected by a mix of government owned and leased circuits. The leased circuits conform to the local national standards. Many of these systems have been in place for many years and do not use the current U.S. technology. Studies have shown that while the cost of telecommunications via the public networks are rapidly decreasing in CONUS, this has not been the case globally. Therefore, to meet the telecommunications needs of the military forces overseas, even with a joint venture, we envision the continuation of a minimal U.S. owned (or perhaps jointly owned with our Allies) communications infrastructure. The actual OCONUS configurations will be worked out on case-by-case basis, depending on the host country policies, telecommunications capabilities and the threat scenario. We see very few technical obstacles with interfacing with the public networks overseas, since most of the standards being established are international, and the DOD's thrust is to go with commercial off-the-shelf (COTS) wherever possible
- Interconnection and interoperability of all services and critical features during the transition of DOD users to the jointly acquired services

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- Identification of any DOD requirements that may not be suitable for inclusion in a joint effort
- Potential problems associated with integrated management of multiple vendor networks. The experience we have gained with our original DISN strategy will be applied here
- Agreement on schedule priorities that are responsive to the users
- Budget constraints will cause DOD planning, programming and budgeting documents developed several years ago to be reassessed and reprioritized in response to new Program Budget Decisions (PBD) and Defense Management Review Directives (DMRD).
- We are working through the Acquisition Working Group to address concerns such as these, and develop strategies to resolve them.

4.3 Next steps

Planning for the sharing of responsibilities between GSA, DOD, and the other FTS 2000 agency participants has already begun. This activity will continue as the agencies' requirements and various acquisition strategy alternatives are being evaluated.

Chairman GLENN. General, what do you see as the principal acquisition and implementation risk posed by the effort to consolidate civilian and defense needs, and what steps should be taken to minimize those risks? You addressed those briefly in your statement, but would you expand on that a little bit, please?

General PAIGE. The most significant risk, as I see it, is that of meeting the needs of the war-fighters in a dynamic changing environment. It is a risk, but I believe there are risks in any acquisition, particularly one of this size. We will not let anything deter or impact the efficiency of the department, our ability to go to war. To me, that is a risk that can be avoided and the risk that must be avoided.

We need to ensure that the civilian agencies are not adversely impacted by the costs that might be associated with some of the military requirements, such as assured service and global extension. These are all issues that I believe we can take care of and we should address in the months ahead, as we get down to the details in every alternative that we can possibly look at to try and bring about the coordination and the consolidation of effort that we are looking for.

Chairman GLENN. Interoperability in a multi-vendor environment is very, very important. That means we have to have very clear standards set, standards-based requirements. How is your work moving forward to identify those requirements?

General PAIGE. The work is moving forward to identify those requirements. I do not consider the requirements other than the security requirements to be that much different from the commercial marketplace. As you probably know, we within the Department of Defense are trying to migrate to international standards everywhere we can to commercial standards. Most of our defense communications networks and systems have been using international standards for many years now, and that is one of the advantages that the birth of the Defense Communications Agency, the Defense Information Systems Agency brought about.

As you may know, DISA has a center under their joint engineering organization, they have a center for standards. They work closely with NIST. As a matter of fact, they provide significant funding to NIST to try and keep the country ahead or abreast in the international arena and to foster those standards that are of

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significance to us within the Department of Defense and to us as the Nation overall.

Chairman GLENN. You bring up the international standards. I was going to ask a question about that a little later, but I will do it now. Is there any major difference in international standards between your requirements in defense and civilian network requirements or other agencies of government that have some international communications problem also? Are there different standards that have to be met because of your requirements for classified communications and things like that, or are these pretty well the same in the international community for defense and civilian traffic?

General PAIGE. I will address it and then leave it to General Short, as the Manager of the National Communications System, in addition to being the Director of DISA.

I believe that the most significant difference is in security. When you look at it, most of the agencies of our government that have a need for communications externally, if that is the question, they too are concerned about security, and they get that same security from NSA. NSA provides that or is responsible for providing that to all the agencies of the Federal Government.

As far as standards are concerned, the standards relate greatly to the manufacturer manufacturing the protocols and what not, manufacturing of equipment, software protocols, that sort of thing.

General SHORT. Secretary Paige, I do not think I can add too much to that. I certainly would agree that security standards represent the most critical set of standards. However, as the manager of the NCS, one of the things that I have noted is that as we are moving more to coalition and as we are moving more to international organizations, standards bodies are meeting more frequently and addressing those concerns as you expressed, Senator Glenn.

Again, things do not move quite as fast as we would like in these standards bodies, National or international. But I can report today that there is movement, there are meetings and these things are being addressed.

Chairman GLENN. General Paige, as far as the actual communications going on, your classified communications requirement for a secure communications would be a small percentage of your overall communications requirement, I presume. Would that be correct?

General PAIGE. No, sir. In the future, I would submit that, as you have probably heard, the problems with Internet, the hacker's ability to get out there and get into the databases of any of these systems, I think it is very significant, very important that we start securing all of our communications systems, not just those in defense, but those across the Federal Government sector and certainly some of industry, as well.

It would be awful if we did not proceed and move out within the Federal Government sector to protect the critical databases that are out there, that if the hackers could get into them, could bring this country right to its knees.

Chairman GLENN. GAO testified that the current central management functions for telecommunications, to quote them, "may or may not be viable for post-FTS 2000 management." Currently, the

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IMC provides GSA with program and policy advice for the FTS 2000 network. What role do you see that organization playing in a post-FTS 2000 environment?

General PAIGE. I will start with that. I see the IMC as continuing to play a role in the post-FTS 2000 environment. In fact, depending on how we can progress with the consolidation and how many players within the Federal Government sector we can bring in with us as a part of the action, not just GSA and DOD, but hopefully State and some of the others will come in, and I see the IMC as playing a very significant role.

General Short?

General SHORT. The IMC, along with the acquisition working group, in terms of assessing the requirements, in terms of being able to assess changes in technology, in terms of being able to just look at the regulatory program and policy changes—I see the IMC as a viable group in the post-FTS 2000 environment.

Chairman GLENN. In the past, there have been questions regarding the appropriate level of DOD participation in FTS 2000. You have noted that DOD currently has contracts with varying termination dates, thus services on those contracts will need to be handled elsewhere. Do you anticipate increased DOD use of FTS 2000?

General SHORT. Yes, sir. As you perhaps have gathered from the written documents, we already are the largest user of FTS 2000, and we certainly expect to see growth in that usage as a continuation. So I would tell you just point-blank yes, we will continue to use it and we expect growth.

General PAIGE. I would like to make a comment on that, too. I do not want anyone to believe that all of the study and all of the looking into the planning necessary to bring about the consolidation effort has been accomplished by the joint committee that we have. I believe we now have to go deeper, much deeper, and I am not going to be driven by the contract termination dates and what not. If necessary, to be sure what we do in terms of the consolidation, that we can pull it off and do it efficiently, if it means that we must go out and make some changes to the existing contracts, then we will do that, and I am sure that GSA probably shares that view.

I make that point, simply because the DCTN contract expires long before the FTS 2000 contracts. The most important thing to me is to do the necessary detail planning, and if we have to make some extensions, then we will do that.

Chairman GLENN. Given the breadth of options available in the commercial market, agencies more than ever need to identify and link services required to their missions and to pick the right options. Now, can that be done through an integration services vehicle, or is there another way that can best be done?

General SHORT. Well, I would answer that affirmatively, sir. I think the ability to relate agency and missions to the services available in the commercial marketplace is absolutely key, and our experience shows us that that certainly can be accomplished individually, but much more efficiently through an integration service contract that is looking across the breadth and depth of an effort.

Chairman GLENN. You contract out for that, in effect?

General SHORT. Yes, sir.

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Chairman GLENN. In a multi-vendor environment like that envisioned for DISN, would the system integrators still put all that together? Would they play the key role in that?

General SHORT. Yes, sir. The systems integrator is the coordinator, and he is also the element that affects the cooperation that is absolutely essential amongst the various service providers on a solicitation of the type that we are seeking. So the systems integrator certainly is the lightening rod and brings it all together through coordination, cooperation and certainly the kind of oversight necessary to assure interoperability and continuity.

Chairman GLENN. DOD originally proposed implementation of DISN far-term ahead of the post-FTS 2000 initiative. DOD was proposing to use an integration support contractor to aid in identifying requirements and deciding on the appropriate strategy for network management. Is that in place? What is the status of that effort?

General PAIGE. No, sir. We delayed that contract award until such time as we get through the detailed planning that is necessary with GSA, and then we can decide whether we go with an integration contractor that will integrate not only those things that we get from the consolidated effort, but also those things that we bring from our own government-owned systems, such as DSCS and other communications capabilities, we might have a separate contract to do that. On the other hand, as we progress with the study with GSA, it might be possible to have one single contractor. We have not reached a decision on that, so we are holding.

Chairman GLENN. We had an industry day presentation last September, and as part of that industry day, we discussed the strategy for acquiring DISN in the far term. DOD noted it would be specifying levels of communications services and performance, rather than particular technologies. Obviously, they have to go together somewhat, but have those services and associated performance levels been identified and validated yet?

General SHORT. The communications services and performance requirements have been identified, and we have those now in a draft document for the DISN and CONUS. The primary services that were are speaking of, voice, data, imagery, dedicated transmission and wireless services, we are currently in the process now of validating these requirements through the joint staff and OSD. I would like to point out that the currently validated and operational requirements are being met by the systems that we have in being today.

Chairman GLENN. What is your timetable for release of those criteria for comment and for finalization?

General PAIGE. I would not like to give a timetable for it, because I would not want to release that until we have done all of the study that is necessary between GSA and DOD. The requirements that DOD has and those that the rest of the Federal Government sector have, the differences are primarily in band widths, data rates and that sort of thing. So the basic services I think are essentially the same. We have to address not only CONUS, but we have to address also what are we going to do outside of CONUS, are we going to bring that together also as a part of this integrated effort. There

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is a lot of work, a lot of detail yet to be done, let there be no doubt about that.

Chairman GLENN. Booz Allen & Hamilton recently completed a benchmarking study of defense telecommunications, discussing the effect of military unique features—MUFs, as they are called—on communications service costs. They analyzed 24 MUFs, and found that 20 of 24 MUFs actually had commercial equivalents that appear to match or exceed DOD's functional needs.

I guess the first question would be do you agree with their results? Given these results, there appear to be opportunities to improve mission performance by tapping into the commercial market. Do you agree with their study? And how is DOD positioning itself to identify and exploit those opportunities?

General SHORT. Senator Glenn, we called for that study from Booz.

General PAIGE. And we paid for it.

General SHORT. I just want to point out that my organization and DOD certainly have and will continue to work closely with industry in the satisfaction of requirements. However, I would like to point out that in the past, some solutions to our requirements were not commercially available, causing DOD to create some specific specifications for industry.

I would like to also point out that today many of these special features are commercially available and will be obtained from the marketplace without the need for any of the unique requirements. Now, the four things that Booz Allen pointed out were multi-level precedence and preemption, denial of service, encryption and something we called HEMP, high-level electromagnetic pulse.

In fact, today only the denial of service and the preemption create any significant problem. HEMP is no longer being acquired, and multi-level precedence can be obtained through commercial solutions. We are looking into solutions now for preemption and for denial of service, and will make decisions as the technology evolves, based upon cost and risk. So I can say to you that, yes, there is some truth, a lot of truth in the Booz Allen study, but we have taken that and with the evolving technologies out there, I think that most of the features, with the exception of what I have mentioned, can be obtained through the marketplace, and we will continue to look at those that are creating concerns.

Chairman GLENN. Would the preemption you mentioned be during time periods of emergency, or would you have rules agreed to ahead of time as to when you would go into a preemption mode?

General SHORT. Yes, sir, your point is correct, but those were the two MUFs, military unique features that are of any concern to us now in terms of being readily available in the commercial market.

Chairman GLENN. The last question I wanted to ask, as a matter of fact, was what role do you anticipate the DOD megacenters to play in telecommunications, especially in an environment where civilian and DOD traffic will flow together? Do you see any problems there? You would work out a problem, where if you got into an emergency situation and had high traffic, you could preempt some of those facilities, I gather, is that correct?

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General PAIGE. Well, the megacenters are used as data centers. They have huge computers that process data, legacy systems on a day-to-day basis——

Chairman GLENN. Megacenters are mainly data control points, rather than regular communications?

General PAIGE. That is right. I do not want to confuse them with the management control centers. The megacenters are users of the communications system. They use the communications system to interconnect between themselves and to connect them with the users that are connected to them.

I want to go back to the previous question relative to multi-level precedence preemption. I want to make it clear that today the users out there, the command and control users in the command centers around the world that have that multi-level presence preemption capability, it is our intent that they will still have that capability. We do not intend to lessen the quality of the service that we provide to them, nor the reliability or the availability of the service.

But we plan to do it today based on the technologies that are available today in software and provide that on a full-time basis where it is needed with the software. Only those users that need that will be provided with that capability and, of course, we will be looking at what does it cost to do that via a consolidated network, do we partition the network, or just how do we go about that. Those are some of the details that we will be looking at as we move ahead.

I think it is simple enough to go out and buy service in bulk, but still partition that service so that it meets the critical needs of the Defense Department or any other customer, any other user that is out there. That is why we in Defense are looking at others to jump on the bandwagon and join with us, as we move out with this consolidation and talk about global information infrastructures, National information infrastructures, and so on and so forth.

Chairman GLENN. Thank you very much, gentlemen. We appreciate both of you being here, Generals. We would appreciate an early reply to any additional questions we may have and we will include them in the record.

General PAIGE. We look forward to working with you. Thank you, sir.

Chairman GLENN. We appreciate your being here today. Thank you.

The next witness today is Bob Woods, Associate Administrator of GSA for FTS 2000. Bob has recently taken the reins of the program, after running the MS shop at Veterans Affairs. He has been a great help to the Committee in connection with its oversight efforts in the FTS 2000 program, where he provided needed and valuable input in our survey efforts.

We look forward to your testimony, Mr. Woods. I did not have the names of the people with you. Please introduce your associates, so we will have that for the record.

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TESTIMONY OF ROBERT J. WOODS, ASSOCIATE ADMINISTRATOR, GENERAL SERVICES ADMINISTRATION; ACCOMPANIED BY WILLIAM P. CUNNANE, DEPUTY ASSOCIATE ADMINISTRATOR, AND BRUCE F. BRIGNULL, ASSISTANT DEPUTY ASSOCIATE ADMINISTRATOR

Mr. WOODS. Thank you, Mr. Chairman.

As you said, I recently joined the program and I have brought along the brains of the organization. Mr. Cunnane on my left, who basically runs the current FTS operation, and we believe has done a fine job there, and Bruce Brignull, on my right, who is involved with the post-FTS 2000 effort. They are heavily involved in the program.

Mr. Chairman, I would like to thank you for this opportunity to participate in this hearing, which addresses as topic of considerable and continuing interest to my customers, the Federal Government agencies. The General Services Administration would like to thank this committee, as well as other committees of the Congress, for your long and continuing interest in our program.

Today, FTS 2000 serves over 1.7 million users at thousands of locations across the Nation, its territories and its possessions. The program continues to respond to users' needs for additional features, as well as a vastly increased amount of traffic. In the first 5 years of the contracts, we have incorporated feature and service enhancements to address specific customer requirements, and have made these enhancements available to all of our customers.

FTS 2000 is meeting the increased user demand at or below market prices. This tremendous explosion of growth has occurred within an evolving framework of clear, consistent, and aggressive approaches to price management. By the end of the FTS 2000 contracts, GSA's price management will have resulted in an estimated $3 billion of savings to the Federal user and American taxpayers.

I would like to stray a little bit from my opening statement here. In GAO's remarks, we talked about overhead. We have successfully reduced that from the old FTS, which was around 15 percent, down to what I believe was referred to earlier as 10 percent, and it is now at 8 percent. We believe that we still have some things to do there, but we are aggressively managing that.

The active participation of the Federal agencies is required for both FTS 2000 and post-FTS 2000 success, in our opinion. A principle reason for the success of the program has been and continues to be the active participation and support from our users. During the last 6 years, GSA and the Federal agency users have built the Interagency Management Council (IMC) into a truly productive, pro-active set of advisors to the GSA Administrator.

The post-FTS 2000 environment will be built on the concepts that have made the current program so successful, as well as reflecting the continuing changes in telecommunications technologies, marketplaces and user requirements.

GSA and the IMC have developed an approach leading to the definition of a concept for the post-FTS 2000 environment. This approach was based on the premise that early and open discussion of requirements and acquisition strategies involving users, industry and other interested parties would significantly improve the resulting post-FTS 2000 concept. With that in mind, the IMC formed two

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Subcommittees, which I am sure you have heard of, the Future Communications Services Working Group, which worked most on requirements, and the Acquisition Working Group, who just released their report on the possible acquisition strategies for post-FTS 2000.

The Future Communications Services Working Group was charged with the initial determination of user requirements and the assessment of telecommunications and applications technologies in the 1998 through 2008 timeframe. The Future Communications Services Working Group interviewed roughly 350 persons in Federal Government agencies, as well as 170 persons from 40 private sector organizations and academic institutions. The fundamental post-FTS 2000 requirement is the ability to provide telecommunications services through a mechanism flexible enough to adapt to changing technological, marketplace and regulatory forces.

The Acquisition Working Group was charged with defining an acquisition concept for the post-FTS 2000 environment which would build upon the findings of the Future Communications Services Working Group. The first action taken by the Acquisition Working Group was to seek the input from all interested parties, especially industry. Comments were sought through two mechanisms, a call for written comments and, second, a Concept Development Conference. At our October 1983 conference, the AWG and 500 observers heard from over 30 speakers representing a variety of carrier, integrator, academic, regulatory and congressional points of view.

Only after making a call for written comments and conducting this public conference, did the AWG define eight families of alternative telecommunications strategies. These families of alternatives represent a broad spectrum of possible post-FTS 2000 concepts. Again, all interested parties will have an opportunity to provide written or verbal comments before the Acquisition Working Group selects the post-FTS 2000 acquisition strategy.

As a result of a variety of factors, such as the Federal Government's experiences with FTS 2000, the changing telecommunications industry, emerging new technologies, and rapidly expanding and changing government requirements, as well as a commercial marketplace that is increasingly able to provide telecommunications services that meet DOD requirements, Administrator Roger Johnson and Assistant Secretary Emmett Paige took the initiative to evaluate our overall approach to providing telecommunications services. In February, Mr. Paige and Mr. Johnson directed the formation of the JCRC, the Joint Concept Review Committee, to determine if the post-FTS 2000 and DISN acquisitions could be consolidated.

Overall, the JCRC found no insurmountable obstacles, what we would like to call show-stoppers, to meeting the DOD's requirements in the post-FTS 2000 environment. The JCRC recognized that DOD's cost for intercity voice telecommunications could be reduced. The JCRC also found that a total set of government data communications requirements would represent a significant step towards establishing a government information infrastructure. The seeding of the government information infrastructure holds the potential for yielding significant savings on services provided from a common information infrastructure.

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The JCRC recommended that the existing IMC post-FTS 2000 process already underway be the basis for that joint initiative. DOD is an original and continuing member of the IMC, and we would like to point that out, and is a member of the Future Communications Working group and the Acquisition Working Group. So there has been heavy involvement along the way, and we continue that relationship and think that we should forward it.

I would like to thank you for the opportunity to provide comment here this morning, Mr. Chairman, and welcome the Committee's interest in the continuing procurement of technically-effective, high-quality, and cost-efficient telecommunications services. We are looking forward to including your comments on our initiatives, as we further consider how to best meet our future challenges.

Mr. Chairman, this concludes my verbal statement. We have submitted a written statement for the record, and I would be pleased to answer any questions you or other members may have at this time.

Chairman GLENN. Your entire written statement will be included in the record.

[The prepared statement of Mr. Woods follows:]

PREPARED STATEMENT OF ROBERT J. WOODS

Mr. Chairman, Mr. Ranking Member and Members of the Committee: I would like to thank you for this opportunity to participate in this hearing which addresses a topic of considerable and continuing interest to my customers, the Federal Government agencies. The General Services Administration (GSA) would like to thank this Committee, as well as other committees of the Congress, for your long and continuing interest in the FTS 2000 Program. The successes enjoyed by the FTS 2000 Program owe thanks to these Congressional committees and their staff for their ongoing support and policy direction. We look forward to a productive exchange of ideas in these hearings today.

In your letter to the Administrator of General Services, Roger Johnson, you stated your purpose as the review of future government-wide telecommunications spanning a number of technology, marketplace, and policy concerns. As a result, this morning I will address three primary topics:

1. I will present the current status of the FTS 2000 Program, specifically how FTS 2000 is meeting increased user demand for quality telecommunications services, at prices that safeguard scarce taxpayer dollars.
2. I will address our plans and actions to date for providing our users with telecommunications services in the post-FTS 2000 environment.
3. I will offer comments on the addition of the Department of Defense (DOD) to this post-FTS 2000 environment.

THE FTS 2000 PROGRAM

Through the FTS 2000 services-based contracts, GSA provides to Federal Government users high-quality, modern telecommunications services at or below the best market prices. The FTS 2000 services-based acquisition concept, revolutionary at its inception, continues to reap benefits for Federal users and the American taxpayer.

FTS 2000 continues to respond to users' needs for additional features, as well as increased amount of traffic. Today, FTS 2000 serves more than 1.7 million users at thousands of locations across the Nation, its territories, and possessions. Currently, FTS 2000 carries about 350 million minutes of voice traffic each month (including fax and modem-based data traffic). This is almost three times the 1987 projections and reflects increased user demand, as well as use of advanced features provided by FTS 2000. The Internal Revenue Service and Social Security Administration deliver services to citizens every day on FTS 2000 using two of the world's largest 800 service networks, one provided by Sprint, the other by AT&T. FTS 2000 is currently providing 16 times more dedicated transmission services than projected in 1987. The FTS 2000 services are providing user agencies with capabilities to do their jobs efficiently and economically.

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FTS 2000 continues to strive to keep pace with users' requirements. In the first 5 years of the contracts, we have incorporated feature and service enhancements to address specific customer requirements, and have made these enhancements available to all customers. Within the scope of the contracts, we have worked hard to evolve the service offerings to meet current user needs and to anticipate future needs and technology advances. Overall, FTS 2000 has achieved a level of service and quality commitment unparalleled within the Federal arena for an undertaking of this magnitude and far-reaching importance.

FTS 2000 is meeting the increased user demand at or below market prices. This tremendous explosion of growth has occurred within an evolving framework of clear, consistent, and aggressive approaches to price management. The initial competition for awards established a 10 year baseline of fixed prices for advanced telecommunications services. In addition to the initial competition, FTS 2000 has built-in price redeterminations at contract years 4 and 7 that require the two FTS 2000 contractors to compete head-to-head again. The year 4 price redetermination alone resulted in $450 million of additional savings to the American taxpayer. Using publicly available price comparisons, FTS 2000 prices are managed to ensure that prices stay at or below market prices. By the end of the FTS 2000 contracts, GSA's price management will have resulted in an estimated $3 billion of savings to the Federal user and American taxpayer.

The active participation of Federal agency users is required for FTS 2000 and post-FTS 2000 success. A principle reason for the success of the FTS 2000 Program has been and continues to be the active participation and support from our users. During the last 6 years, GSA and the Federal agency users have built the Congressionally-mandated Interagency Management Council (IMC) into a truly effective, pro-active set of advisors to the GSA Administrator. The IMC has played major roles in the current FTS 2000. For example, the IMC helped to shape and solve such issues as price management, new features, price redetermination, billing management, and network management. In the future, the IMC will continue its active participation in issues such as the year 7 price redetermination, the continued inclusion of new features reflecting advancements in technology, and the definition of the post-FTS 2000 environment. The FTS 2000 Program is much stronger and effective because of the user participation provided through the IMC.

2. POST-FTS 2000 INITIATIVES

The post-FTS 2000 environment will be built on the concepts that have made FTS 2000 successful, as well as reflecting the continuing changes in telecommunications technologies, marketplaces, and user requirements. At the March 1993 meeting of the IMC, the need to begin planning for the post-FTS 2000 environment was identified. During that meeting, the IMC members reviewed the fundamental and successful FTS 2000 principles on which the post-FTS 2000 environment would need to be built. These fundamental principles are:

- Use competitive market pressures with more than one contractor
- Use the commercial telecommunications marketplace to procure services that satisfy user requirements
- Deliver high quality services, at or below market prices
- Allow for the improvement of services over the life of the service contracts to meet evolving user needs and to reflect additions to the commercial marketplace of advancing technologies
- Ensure the active involvement and participation of agency users through the IMC

In the weeks immediately following that March 1993 meeting, GSA and the IMC developed an approach leading to the definition of a concept for the post-FTS 2000 environment. This approach was based on the premise that early, open discussion of requirements and acquisition strategies involving users, industry, and other interested parties, including this Committee and other committees of the Congress, would significantly improve the resulting post-FTS 2000 concept. With that in mind, the IMC formed two Subcommittees: the Future Communications Services Working Group and the Acquisition Working Group.

The fundamental post-FTS 2000 requirement is the ability to provide telecommunications services through a mechanism flexible enough to adapt to changing technological, marketplace, and regulatory forces. The Future Communications Services Working Group was charged with the initial determination of user requirements and the assessment of telecommunications and applications technologies in the 1998 through 2008 timeframe. Under the leadership of Dr. John OK, Deputy Assistant Secretary for Information Resources Management at the Department of

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Agriculture, the Future Communications Services Working Group interviewed 350 persons in Federal Government agencies, as well as 170 persons from 40 private sector organizations and academic institutions. The Future Communications Services Working Group report, entitled Networking for a Reinvented Government: Federal Telecommunications Requirements and Industry Technology Assessment and released publicly in November 1993, presented the group's major themes as:

- The telecommunications requirements of the Government are, and will remain, extremely broad in nature and varied in detail. Further, for the period 1998–2008, these requirements can be predicted only very approximately, both in quantity and in type.
- Government budgets will be severely constrained for years to come, while demands on the Government to provide services to the citizens are likely to increase. Significant re-engineering of the way in which Government performs its functions is likely. The national Performance Review is an early indication of possible changes.
- Telecommunications technology and services, and the telecommunications industry itself, have been undergoing rapid and profound changes in the past several years. These changes will continue and possible intensify in the years ahead.

Early and open discussion with users and industry will improve the post-FTS 2000 concept. The Acquisition Working Group was charged with defining an acquisition concept for the post-FTS 2000 environment which would build upon the findings of the Future Communications Services Working Group. The first action taken by the Acquisition Working Group was to seek input from all interested parties, especially industry. Comments were sought through two mechanisms.

First, a call for written comments was made in July 1993 and will continue through concept definition in October 1994. To date, we have received comments from 25 interested parties. As written comments are received, they are placed in our publicly available Concept Development Record. This Concept Development Record, similar to the record established for an administrative rule making setting, documents all comments received by GSA and analysis performed by GSA and the IMC's supporting working groups. To ensure ease of access and receipt of comments, we are currently working to make the Concept Development Record available via the Internet.

Second, a Concept Development Conference was held to seek verbal comments from interested parties and nationally-known experts in telecommunications technologies, marketplaces, and regulation. At this October 1993 conference, the Acquisition Working Group and 500 observers heard from over 30 speakers representing a variety of carrier, integrator, academic, regulatory, and Congressional points of view.

Only after making a call for written comments and conducting this public conference did the Acquisition Working Group begin to define alternative acquisition strategies. During the past December, January, and February, the Acquisition Working Group defined alternative telecommunications acquisition strategies. The alternatives were documented in a report entitled *Post-FTS 2000 Acquisition Alternatives White Paper*. This white paper defines eight families of alternative telecommunications strategies. These families of alternatives represent a broad spectrum of possible post-FTS 2000 concepts. Seeking additional comments from vendors, users, and other interested parties, the Acquisition Working Group publicly released the *Post-FTS 2000 Acquisition Alternatives White Paper* in April.

We will respond to clarification questions asked by industry over the next 2 months. In the meantime, we have begun to analyze these eight families of alternatives. We will release the results of this analysis in August of this year. At that time we will again seek comments and suggestions from vendors, users, and other interested parties via written comments to the Concept Development Record. We will again accept verbal comments in open meetings of the Acquisition Working Group during 3 days in September.

Only after all interested parties have had the opportunity to provide written or verbal comments will the Acquisition Working Group select the post-FTS 2000 acquisition strategy. A recommendation from the Acquisition Working Group in October will allow sufficient time to prepare any request for proposals that may then be needed. We have announced a schedule that allows sufficient time to make awards, let me emphasize 'awards' plural, and to plan for transition recognizing that the current FTS 2000 contracts end in 1998. This schedule should be considered tentative pending the selection of the post-FTS 2000 acquisition strategy.

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3. Meeting Department of Defense Requirements in the Post-FTS 2000 Environment

Participation in the post-FTS 2000 environment will afford DOD lowest priced, effective telecommunications through the use of commercially available services. As a result of a variety of factors, such as the Federal Government's experiences with FTS 2000, the changing telecommunications industry, emerging new technologies, and rapidly expanding and changing government requirements, as well as a commercial marketplace that is increasingly able to provide telecommunications services that meet DOD requirements, Administrator Roger Johnson and Assistant Secretary Emmett Paige took the initiative to evaluate our overall approach to providing telecommunications services. In February, Mr. Paige and Mr. Johnson directed the formation of the Joint Concept Review Committee to determine if the post-FTS 2000 and Defense Information System Network acquisitions could be consolidated.

The Joint Concept Review Committee, whose membership consisted of GSA, DOD, and IMC representatives, examined a number of technical, economic, and administrative issues, including:

- Specialized requirements of both defense and civilian telecommunications users
- Competitive impacts on any acquisition strategies
- Cost
- Crisis response capabilities
- Requirements for State and local Government interoperability
- Assuring availability of advanced features and new technologies

The Joint Concept Review Committee prepared a report that documents their findings and recommendations. Members of the Joint Concept Review Committee recognized that any procurement actions taken by the Government would most likely result in multiple contracts, thereby maintaining the competitive aspects of the current FTS 2000 programs. Overall, the Committee found no insurmountable obstacles to meeting the DOD's requirements in the post-FTS 2000 environment. The Joint Concept Review Committee recognized the challenges to be addressed including:

- Minimizing the complexities of management and oversight
- Maintaining aggressive competition
- Assuring interoperability of systems and services

With respect to cost, the Joint Concept Review Committee recognized that DOD's cost for intercity voice telecommunications will be reduced. The Joint Concept Review Committee also found that a total set of Government data communications requirements would represent a significant step towards establishing a Government Information Infrastructure. The seeding of the Government Information Infrastructure holds the potential for yielding significant savings on data services provided from a common infrastructure.

The Joint Concept Review Committee recommended that the existing IMC post-FTS 2000 process already underway be the basis for the joint initiative. These IMC processes, including the Future Communications Services Working Group, the Acquisition Working Group, and the day-to-day working teams, involve the participation of all user agencies, including the DOD. DOD is an original and continuing member of the IMC, the Future Communications Services Working Group, and the Acquisition Working Group.

The Joint Concept Review Committee also recommended that an independent Technical Advisory Board of nationally recognized telecommunications experts review the Joint Concept Review Committee's report and conclusions. GSA and DOD are proceeding with the establishment of this review board.

In light of the Joint Concept Review Committee recommendations and pending the results of the Technical Advisory Board review, we are already working together. Clearly, there are business reasons related to increased quality of service offerings available to users, flexibility in meeting user needs and missions, and lower costs that justify us beginning to work together. Secretary Paige and my boss, Roger Johnson, have indicated their support for this initiative. The agency representatives to the IMC have also indicated their support. The commitment is evident, and I will work hard to carry forward this endeavor.

I thank you for the opportunity to provide comment here this morning and welcome the Committee's interest in the continuing procurement of technically-effective, high-quality, and cost-efficient telecommunications services. We look to including your comments on our initiatives as we further consider how best to meet our future challenges. I look forward to providing any information I can to aid the Committee as it addresses the implications of our undertakings.

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Chairman GLENN. The JCRC concluded that there were no overwhelming issues or combination of issues that represent an insurmountable obstacle to the consolidation of civilian and military telecommunications acquisitions. Some significant issues exist, and some of those may involve the nature of military unique requirements. Is GSA working those through the JCRC, are you addressing that individually, or how are you going to take care of these matters with the military?

Mr. WOODS. We probably should state at this time that the JCRC essentially was an ad hoc committee set up specifically to look at the consolidation. The consideration of the future requirements issues will be handled by the AWG, the Acquisition Working Group, as we work through our process over the next few months.

We are not only dealing with DOD's unique requirements. I might State that they are not the only ones with unique requirements. There are a number of agencies that also have requirements that do not fit the mainstream, we do have that issue, as we go forward.

But we are working with the users in the Acquisition Working Group. We will be working through those business areas that we feel are productive. There will be some that obviously will not be and will be procured in a manner that is unique probably to that organization. So we are not going to try to be all things to all organizations. We will pick those business areas that make the most sense to combine, and we will move forward from there. So we will continue the studies and the analysis, to make sure that there is a good business case for the combination.

Chairman GLENN. General Paige mentioned this area of unique service is probably one that is going to expand, too. I think that is what he was alluding to a little while ago when he said this is not just the military, it is economic. We need to be concerned about the hackers getting into databases so we are going to need requirements and standards. Are you prepared to address all of those things, too?

Mr. WOODS. Mr. Chairman, we are prepared to do that, but I would add to that that things like security are becoming issues that we have to address across the board. Although defense security requirements are probably some of the most stringent in government, we have also got security requirements in the financial community. We, you may know, we are embarking on a fair amount of outreach to our citizens, and as we do more of that and we deal with issues of citizen privacy data, we will have to deal with security across the board.

We believe that we are going to have to analyze those requirements in some depth, and we believe security requirements are expanding across the board, DOD and civilian agencies, as well.

Chairman GLENN. Given the size and complexity associated with combined acquisitions like this, what will GSA's role be in managing the process and ensuring that GSA's timeframes for contract award are met?

Mr. WOODS. I might say that the Administrator of GSA, under the provisions of the Brooks Act, will remain responsible for the procurement of telecommunications services for Federal Government users. However, as was noted in the GAO testimony, to be

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successful, we must involve all our users in this process. So the IMC type process we think is critical to managing this program well.

In addition, as you have seen, we have formed two Subcommittees that have been extremely active, one dealing with the future requirements and one dealing with the acquisition strategy itself. So the agency personnel are working with us on a day-to-day basis to be sure that their requirements are met.

As you mentioned in the opening comment about me, I have spent some time in agencies and was a very active agency customer that pushed the program to meet the needs. So we are very much in tune with that, and we understand that those requirements have to be met across the board in order to be productive.

Chairman GLENN. The success of interoperability in a multi-vendor environment is going to hinge on having some very clear standard based requirements. What steps have you taken to identify those? Where do we stand with the establishment of such standards?

Mr. WOODS. I think the answer is yes to both alternatives to some degree. We are handling the agency's needs through the IMC mechanism and getting input from them to be sure their requirements are met, and that we understand their interoperability requirements.

As one of the earlier witnesses mentioned, we have more and more need to interact with State and local government, as we look at reinventing. So the interoperability extends beyond the Federal establishment.

We will work with the IMC and its Subcommittees to be sure that those standards issues are dealt with and, more importantly, the functional interoperability issue is dealt with, and we are keeping the door open for industry to come in with comments and to provide input to that as we go along. So we are going to try to stay in the mainstream of what is available in the industry, but still push the interoperability requirements, because we think they are real.

Chairman GLENN. Has GSA developed any evaluation criteria to judge the strengths and weaknesses of alternative strategies since there are several different ways we can approach this communications problem.

Mr. WOODS. Yes.

Chairman GLENN. How do you judge those things? Do you have the criteria developed for that?

Mr. WOODS. We have started the process. We are not complete. But some of the criteria that have surfaced so far in the workings with the Acquisition Working Group, the criteria that have surfaced so far that are important in the judging of a future acquisition strategy include such factors as maximizing adaptability and flexibility, providing easy access to a broad telecommunications marketplace, providing competition and maximizing its benefits, maintaining state-of-the-art telecommunications services, providing access to external organizations such as the State and local governments we have mentioned, and provide a significant degree of integration and interoperability.

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So factors like that, along with reliability and performance and a simple pricing structure, have surfaced as potential criteria so far. We do not think that is a complete list. It is still fairly early in the analysis. But those type of factors will be used in judging our acquisition approach.

Chairman GLENN. In looking at this and thinking of some of the problems we had in the original implementation of FTS 2000, we got ourselves stuck in that contract in a rapidly changing market. At that time we said we are going to force everybody in, and this committee in fact played a role in doing exactly that, to the dismay of some people across government that still have not gotten the word to this day, I am afraid. But we forced everybody into a buying net that we thought was going to give us a big advantage, and it has to some extent.

But I think when we are considering the follow-on to FTS 2000, we really have to consider whether, in a rapidly changing environment, how much of this we can contract for government-wide, where every department and every agency has got to be part of it. You cannot go out and do your own contracting. On the other hand, we do not want every contractor traipsing into every office all over Washington. That would be an extremely wasteful thing from everybody's standpoint, including the government.

But you could have, say, a one-stop shopping center, where somebody keeps up with all the advantages of all the new technologies and makes that the place where agencies come to see what is available in the marketplace and then does their contracting. Now, those are basically different concepts. I am not suggesting one or the other. I am just suggesting that at this point when we are talking about follow-on to FTS 2000, that something like that should at least be considered. Now, are you considering something that basic?

Mr. WOODS. We are considering it, and the Acquisition Working Group's report that just came out recently defined eight families of alternatives, and that approach of multi-contracts dealing either with span of service or functional requirement or even region of the country type approach. They are listed in there and they are basic to the consideration.

We agree that the environment for the next 10 years after FTS 2000 is going to be considerably different than the environment we entered into in this contract. I might say that I believe, in spite of the warts on this program as we went along, I am not sure how well we could have transitioned from old FTS without some type of incentive and some type of encouragement for Federal agencies to do that. It is a somewhat painful process to transition, and we went through that, and I think most Federal agencies would today say that was well worth doing.

But I believe that the next FTS, we are going to have to deal with the flexibility issue that the agencies need and deal with the rapidly changing workplace and marketplace.

Chairman GLENN. How do you do that in a rapidly changing technological environment? With FTS 2000, we had lots of whistles and bells attached like teleconferencing and video conferencing, and these were options people could sign up for. But just requiring

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the option meant that the costs run up a little bit just by consideration of the option, whether the buy took that option or not.

As technology moves ahead now, how do we make contracting that is binding, and yet flexible enough that we can take advantage of these new things as they come on the scene?

Mr. WOODS. Without biasing the outcome of the acquisition strategy, I would have to say that it would suggest that you do more contracts and shorter-term contracts. But because the services vary from very mature type services like voice services, switch voice to video conferencing and other services that are not as mature, I think it would vary the type of service. They are factors that we are going through now. They are factors that the work group is working through, and they do not have an easy job.

Chairman GLENN. But the shorter the contract, probably the less advantage price-wise you are going to have.

MR. Woods. The shorter the contract, the closer you can follow the market, but the less stability you get. You do not get the long-term arrangement with a vendor. So we are going to have to trade off the agency mission needs, we are going to trade off price, and we are going to have to trade off flexibility, and those are going to be the factors that have to come into play.

Chairman GLENN. General Paige and General Short indicated just a moment ago that they are into this. They see their role expanding in this, and I was glad to hear them testify to that effect.

Are you also looking at such things as new weapons systems, satellite systems requirements to communicate with those systems in the field as part of this net, or will that be solely a DOD function?

Mr. WOODS. We have not fully decided that, or at least I have not come to that conclusion, but my sense is there will be some DOD unique requirements that obviously will be outside the turf we are interested in.

Chairman GLENN. My time is up on this round. Thank you.

Senator Roth?

Senator ROTH. Thank you, Mr. Chairman.

I do have an opening statement that I would ask be included in the record.

Chairman GLENN. It will be included in the record.

Senator ROTH. Thank you.

[The prepared statement of Senator Roth follows:]

PREPARED STATEMENT OF SENATOR ROTH

Mr. Chairman, I want to commend you for scheduling today's hearing on government-wide telecommunications policy. Like you, I believe that the continued maintenance of a government-wide telecommunications system is of critical importance to the development of our nation's telecommunications policy.

As we all know, the telecommunications marketplace is incredibly dynamic. These market dynamics are bound to affect the structure of government telecommunications needs, as well as the breadth of its requirements. Thus, as the marketplace changes, so will agency needs and demands. Significantly, the acquisition process needs to take into account the increasingly shorter technology life cycle that applies to telecommunications products and services. In my view, the long run uncertainties of the marketplace demand maximum flexibility in the acquisition process and in the crafting of a post-FTS-2000 telecommunications policy.

During the next decade, it is likely that major changes will continue to occur in the composition and business practices of the local and long-distance markets. The emergence of new technologies and the potential for increased competition by virtue

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of the elimination of local access monopolies will undoubtedly create new opportunities for significant cost savings and improved services in the post-FTS-2000 environment. Importantly, federal telecommunications policy must remain flexible enough to allow technical and service enhancements during the life of the program as needs change and technology develops.

Mr. Chairman, I believe this is a critical time for these discussions. Both the civilian and defense sides of the government are formulating their acquisition strategies for follow-on systems. And like you, I believe that improvements can be made in the process by which the government acquires telecommunications services and products. For example, telecommunications requirements may be better identified in terms of desired performance characteristics, as opposed to just technical or hardware specifications. In addition, the proposed consolidated acquisition of civil and defense requirements may provide for substantial cost-savings.

Mr. Chairman, you and I have worked together for many years in an effort to reform the government's buying system. Over that time, we have made a good deal of progress, though in my view, there is always room for more. As you and I both know, absent meaningful reform, the federal government cannot make major reductions in the cost and time it takes to field a technology. Until the buying system is changed, the results won't change. Last week, I was pleased that we made what I believe is significant progress in this area through Committee passage of the Federal Acquisition Streamlining Act. Today's hearing on government-wide telecommunications policy is another step in the right direction and I look forward to hearing from our distinguished witnesses on this subject.

Thank you, Mr. Chairman.

Senator ROTH. One question I would like to ask is—we all know the critical importance of telecommunications to our economy, our growth, our role in the global economy. Do you see FTS 2000 having a favorable impact on our telecommunications industry? Are we behind the curve in what we do in government, or are our contracts helping our industry lead the way?

Mr. WOODS. Senator, I believe that we have services under contract today that are as modern as any that the industry itself has got to offer. I believe we are getting those services at or below market prices. But I think we also are providing some leadership role and some basis for what will become the government information infrastructure and the basis of the National information infrastructure.

The NII is an extremely broad concept, as you are aware. It includes everything from the physical part of the networks to the services that are provided and the information that flows across that. We believe that this is the government's information infrastructure on a broad scale, and that we should use that opportunity in the post-FTS 2000 and to use it in the current FTS 2000 to encourage the development of a government information infrastructure.

Twenty percent of the current traffic on FTS is outreach to the public, is citizen type services, the Social Security 800 service, the IRS type services. So we believe that that information infrastructure that is depicted in NPR and other parts of reinventing government are already under way and have started. They are not as broad as they could be, but they are started.

Senator ROTH. The National Performance Review, the Vice President's reinventing government study initiative, has that exercised any influence on FTS 2000?

Mr. WOODS. Yes, sir. In fact, there was an earlier question about OSTP's involvement. There is a fairly tight interconnection between the NPR activities. We have a government information technology services group, the GITS work group that oversees what is

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going on in the information business inside the Federal Government. I sit on that group. Its chairman, Jim Flyzik, from Treasury, sits on the IMC. We have a very close interworking relationship there.

So it has had an influence not only in the types of services we provide, in effect that we were doing some of it before we got into NPR, but we are working very closely together to look at what ways to foster E-mail across government, to look at electronic commerce and those types of services. So it has had an influence, it is in fact part of what we are using to shape our current services.

Senator ROTH. One of the things that bothers me is that this is such a fast-changing industry and, consequently, as you have said, flexibility is critically important.

Mr. WOODS. Right.

Senator ROTH. But I find it hard to reconcile 10-year contracts with this fast-changing industry, where 1 year means a lot of difference. Does that make sense?

Mr. WOODS. It keeps me awake nights, also. I might say that Bill Cunnane, who manages our current network, is here and I would ask Bill to comment, because he has had to make this contract change and move and fit as we have gone through this long-term contract, and I think Bill's comments might be helpful.

Mr. CUNNANE. Senator Roth, in the present contract we do have the ability to make modifications and bring the new technology on as our agencies require that to meet their mission needs. It takes us a long time. These are mini procurements done within the framework of the large contract.

I think the key to the future will be how quick can we make changes to a contract. Certainly, with shorter contract times, if you do not meet those needs, you have option years, you either can extend or you can find the new service. I think that has to be a tool that will be used.

Also, there may be a little change in the procurement way we would approach making modifications to bring it onto contract, that it would not take us a year and continue to keep us behind the curve. We do not spend any money that goes into research and development today. We are expecting the service and receive the service that is being delivered to the commercial marketplace today. So from a driving force of the industry, we think we are a big player from a usage standpoint, but we do not believe we are driving research and development.

The future, though, in the information highway we very well could be a driver with us in GSA and DOD cooperating together. I think we can drive a lot of the factors that will go into the National Performance Review and the information infrastructure.

Senator ROTH. That is the question I wanted to raise, and I am not sure what the answer is or should be. If we are just following behind the curve and trying to get as close to it as possible, are we missing an opportunity? I cannot think of any area of economic activity more important to the economy of this country and its growth and the creation of jobs. I just wonder, here we have this tremendous customer, the largest in the world, and can it be better utilized in trying to springboard ahead? I think that is something we ought to study and address.

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Mr. CUNNANE. I agree with you, Senator. I think it will be the future and post-FTS 2000 would be the appropriate tool, rather than the present contract that we are living within. We have 4 more years to go, but I believe the Acquisition Working Group is looking to see how we can at least stay even with the marketplace and possibly spring forward, rather than be tailing behind a year or two.

Senator ROTH. Mr. Chairman, I thank you for holding these hearings. I think they are critically important.

Chairman GLENN. Thank you, Senator Roth.

Given the breadth of options available in the commercial market, agencies more than ever need to identify and link services required to their missions. DOD has some very special needs, obviously, but we are getting more specialized needs in other departments of government, too. Now, we are going to have some core activities that are going to be common to everybody. How many of these spinoff activities are we going to be able to take care of under a follow-on FTS arrangement, as opposed to them going off on their own? Do you have a feel for that yet, or is that still to be worked out?

Mr. WOODS. I think it is still to be worked out, but I would also have to report to you that, in our looking at unique needs, they are sometimes in the eye of the beholder. We see some unique needs out there that we obviously would not want to get into the business for everybody and have everybody pay the cost for a very specialized unique need.

On the other hand, when you get into agencies such as FAA or such as Treasury with their financial needs, believe me, they have fairly high security needs, reliability needs, and their interest in the technology is out on the leading edge. So we believe that we have to settle it as we go through, we have to be realistic about where there is a need for joint effort, but I also believe we may be surprised at how much our requirements look alike as we get into them. But it is an analysis we need to do, we need to do it in depth, and we need to be sure of where we are headed, so we keep the risks down. We are not interested in combining things for the sake of combining them. We are interested in getting the best deal for the taxpayer.

Chairman GLENN. In a multi-vendor environment like that envisioned for DISN, what role do you envision for system integrators? We talked about that a little bit ago with DOD.

Mr. WOODS. First of all, the function has to be done by someone. When you are dealing with vertically functional systems, what we often call stovepipe systems that follow program lines, someone has to be able to integrate across program lines and across agencies. Our believe is that systems integration will have to be done by someone.

Now, that does not mean that you have to hire them as a separate entity. It may mean that you decide, once you look at the business opportunity, that that is the best way to do it. But we believe the function of systems integration has to be done, and the question becomes what is the best way of doing that. I believe Defense has found, as many of us have found, that you are often better to go out and contract for that separately and do that with an industry that is used to doing it.

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But systems integration will have to be done. When we get through with this Acquisition Working Group's efforts, there will have some sense of that. That is one of the options being considered in the eight families of alternatives.

Chairman GLENN. You mentioned the megacenters a little while ago. What role do you anticipate DOD megacenters to play in telecommunications, especially in an environment where civilian and DOD traffic will flow together? Do you see any problems in that area?

Mr. WOODS. My biggest concern about megacenters is being sure that we have scoped them properly in terms of their needs, and that we have laid requirements out well in advance, so that they were prepared for the kinds of traffic flows they have. DOD, as well as the Department of Agriculture's Finance Center in New Orleans, the IRS' national Computing Center in Martinsburg, West Virginia, all represent large computing centers that are going to have to be sized to handle and now what they will need and when they will need it. But my sense, Mr. Chairman, is that is well within our capabilities to handle.

Chairman GLENN. You indicated a little while ago also that you are in close touch with the OSTP people, I believe, is that correct?

Mr. WOODS. I am sorry, I did not say that. We are working almost one layer away from them. The Information Infrastructure Task Force that Secretary Brown at Commerce chairs is closely linked in with that. One of his Subcommittees is this GITS Group, this Government Information Technology Services Group. I sit on that group, and we are really doing our integration through them. We are not doing it directly with OSTP. We are doing it by both of them sitting on Secretary Brown's group.

Chairman GLENN. I do not want to force more committee members, but I also do not want to see us go into the post-FTS 2000 environment and all of us feel we are moving in a certain direction, and all at once find out that we are counter to the plans they have in the NPR and we have to adjust. I would hope that we are keeping a close enough liaison with those folks. I presume DOD is. You are a big frog in this pond, and I would hope that you are keeping in close touch with them and keeping them advised. I would think some cross-membership back and forth might be advisable.

We had some problems with FTS 2000 that were not all of our own making. But we worked through the problems and I think came out with some good done with that whole effort, no doubt about that.

Now as we move on to the next generation of whatever it is going to be, it just seems to me we should learn from our past mistakes and get everybody involved with this as much as we possibly can.

I have no more questions. Do you have any other remarks you want to make? Mr. Brignull, you have been very quiet this morning.

Mr. BRIGNULL. No, thank you.

Mr. WOODS. I would close, Mr. Chairman, by saying that I believe the current efforts between us and DOD are productive and we are doing the right things there. I think the difficult thing to

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predict is exactly what are the right business areas for us to combine, and I assure you over the next few months we will determine those and make those happen.

Chairman GLENN. That is great. The working groups that you have formed is something we did not do, not to this extent, at least, back when FTS 2000 was put in. We thought the communications industry, while it was moving ahead, was static enough, that if we just forced everybody into it we were going to have a pool that could just drive prices down. Then the technology and the industry itself got ahead of what we were trying to provide.

I want to see us keeping enough flexibility this time that we make sure that we can take advantage of whatever changes there are. Maybe there will not be any. But if there are, we want to take advantage of them and not get caught in the same trap all over again.

Thank you all very much.

The hearing will stand in recess subject to call of the Chair.

[Whereupon, at 11:15 a.m., the Committee was adjourned, subject to call of the Chair.]

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