



**Agenda Item 5: Development of the Technical Infrastructure and Interoperability for
 ATS/ATM Automated Systems**

FAA TELECOMMUNICATIONS INFRASTRUCTURE (FTI)

(Presented by the United States)

SUMMARY

This paper presents FAA's efforts to modernize its telecommunication infrastructure through a comprehensive program that took into account all the current and future requirements to support ATS efficiently and in a cost effective manner.

1. BACKGROUND

1.1 The FAA recognized it was time to modernize its infrastructure in a way that would take into account future and legacy requirements. In the past 10 years telecommunication technologies have evolved and matured enough to fulfill ATS requirements in a more efficient manner while maintaining a high level of availability. These technologies also have the ability to accommodate emerging requirements in ways that existing technologies cannot without become prohibitively expensive.

2. DISCUSSION

2.1 The FAA began to modernize its telecommunication infrastructure in 2002 under the FAA Telecommunications Infrastructure (FTI) Program. The FTI prime contract was awarded to Harris Corporation on July 15, 2002. Harris will serve as the FTI systems integrator. The purpose of FTI is to provide the full range of telecommunications services required by existing and future FAA programs and to provide those services at market-competitive prices. The FAA intends to use the FTI contract as a vehicle for implementing a new vision of FAA telecommunications and telecommunications management. The FTI service contract pursues a strategy that takes maximum advantage of competition, performance-based contracting, economies of scale, and technology refresh.

2.2 To meet FAA-unique performance and information security requirements, the FTI contractor established a private network infrastructure that makes optimum use of commercial service offerings and is tailored to the FAA's requirements. The FTI network conforms to the National Airspace System (NAS) Architecture and provides the FAA means for obtaining services to support inter-facility,

intra-facility, and mobile communications requirements. The list of NAS modernization programs that will make use of FTI services includes:

- Standard Terminal Automation Replacement System (STARS)
- Notice to Airmen (NOTAM)
- Modernization and Replacement Program (ATCT/TRACON)
- En Route Communications Gateway (ECG)
- Digital Voice Recorder System (DVRS)
- Operational & Supportability Implementation System (OASIS)
- User Request Evaluation Tool Core Capability Limited Deployment (URET-CCLD)
- ASOS Controller Equipment Information Display System (ACE IDS)
- Digital Airport Surveillance Radar (ASR-11)

2.3 The FTI network will enable the FAA to transition from leased and owned legacy networks that are reaching the end of their contract or service lives. The total scope of the program allows *eventual* replacement by FTI of the functions performed by the following FAA telecommunications networks:

- Leased Interfacility NAS Communications System (LINCS)
- Bandwidth Manager (BWM) and its FAA IP-Routed Multi-user Network (FIRMNet)
- Data Multiplexing Network (DMN) Phase III
- FAA Telecommunications Satellite System (FAATSAT)
- Hawaii LINCS
- National Airspace Data Interchange Network Packet-Switched Network (NADIN PSN), or NADIN II.
- Administrative Data Transmission Network (ADTN)

2.4 The FTI Program provides a modern, highly reliable, consolidated network infrastructure in an integrated approach that will substantially improve telecommunications services within the FAA's NAS and non-NAS infrastructures when the network implementation is completed. FTI employs routing and switching-based technologies in combination with traditional dedicated circuits to achieve more efficient bandwidth utilization. Through this approach, the FTI program enables the FAA to control telecommunications costs in the face of increasing demand while improving information security. FTI provides a common infrastructure to meet operational voice, data and video requirements using an integrated service delivery model wherein the vendor is responsible for providing an end-to-end solution, and will deliver approximately 30,000 services to over 5,000 NAS facilities.

3. Conclusion

The Members of the meeting are invited to take note of the information presented in this paper.