



ICAO Message Handling Systems

ICAO Aeronautical Telecommunication Network

ICAO has established standards and recommended practices that require all contracting states to introduce the Aeronautical Telecommunication Network (ATN). The Aeronautical Data And Message Handling System – ADAMS – from Avitech supports this through its ATS Message Handling Service (ATSMHS) applications and the gateways between AFTN, CIDIN, and AMHS.

ADAMS has been developed to facilitate the gradual transition from AFTN to ATN/AMHS and to ensure interoperability between AFTN and AMHS as well as CIDIN and AMHS during that transition. Regional requirements like the European Communication Gateway (ECG) are also implemented.

ADAMS Features

Based on a modular structure and design the component parts are scalable for small to large COM Centres and systems. Single and multi switch systems including network solutions are configurable. The maximum message length is 20 thousand characters for all message types.

ADAMS comprises the following packages

- AFTN Switch and Gateway
- CIDIN Switch and Gateway
- AMHS Switch
- ATN Lower Layers

- System, Network and Application Management
- End User Station

ADAMS AFTN Switch and Gateway

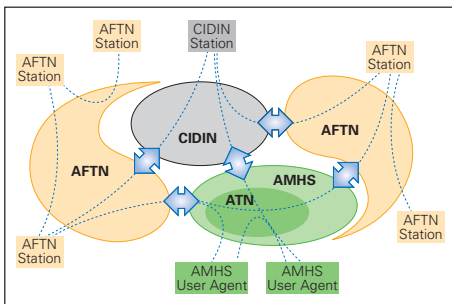
This is an AFTN switch using MTP procedures. X.25 connections, TCP/IP, asynchronous connections, X.3, and X.29 can be used. Routing and relaying with multiple addressee indicators and the processing of ITA-2 and IA-5 message formats are supported. The gateway ensures that messaging between AFTN and CIDIN and the AMHS/AFTN gateway is a seamless transition towards AMHS.

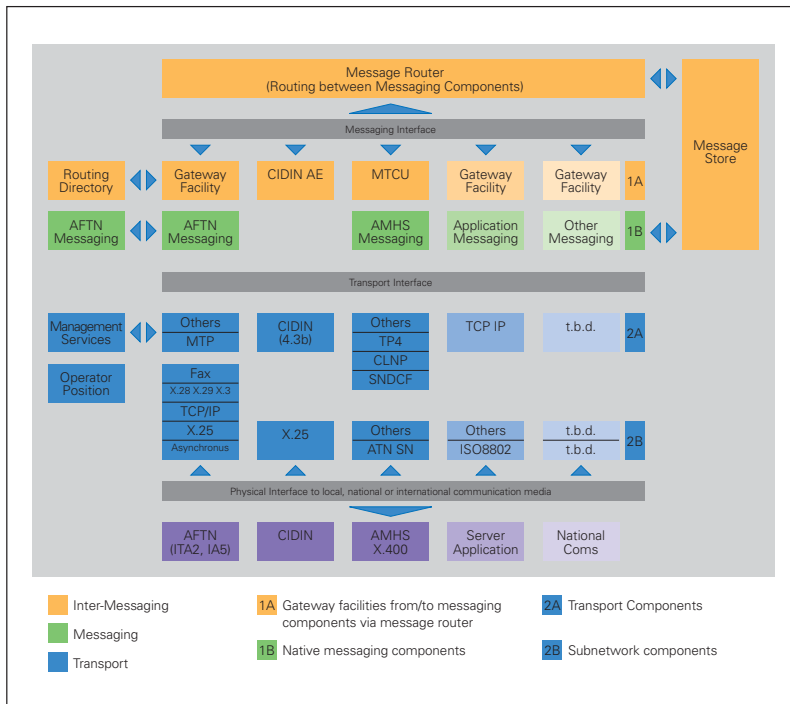
ADAMS CIDIN Switch and Gateway

This is a CIDIN switch which ensures reliable end-to-end responsibility, multi dissemination, and CIDIN operator messages. The CIDIN/AFTN gateway ensures messaging between AFTN and CIDIN and the AMHS/CIDIN gateway, and facilitates the seamless transition to AMHS.

ADAMS AMHS Switch

This is an ICAO SARP 3 compliant AMHS switch using MTAX.400 procedures. The message transfer and control unit and the user agent provide the functionality for interpersonal messaging. XF and CAAS addressee schemas are supported. The gateways to AFTN and CIDIN ensure a seamless transition during AMHS implementation.





was established in 1992 with the delivery of the world's first operational CIDIN link. And In 1996 Avitech AG implemented the first nationwide AMHS for the combined German Armed Forces with 40 MTAs. This system is still fully operational and will be upgraded to SARP 3 compliance in 2004. A second AMHS system is in operational use in the Republic of Korea since 2002 using one MTA and 70 End User Stations combining AFTN and AMHS functionality.

Options

The implementation of the X.500 directory service with DAP, LDAP, DSP is available as an option. For interfacing to other services or gateways and LDAP access to other directory servers an X/Open API can be used.

System Requirements

The minimum system requirements are HP/UX 11.x, SunSolaris 9, or Red Hat Linux AS 9 for the message switch and MS Windows 2000 or XP for the Monitor and Control Position and the End User Station.

Conformance Statement

The ADAMS AFTN/CIDIN/AMHS package concept is designed to assist in the implementation of an Aeronautical Fixed Service and an Aeronautical Telecommunication Network to ICAO Annex 10 Volume II and III and EUR CIDIN Manual recommendations.

The ADAMS system conforms to the requirements of the ICAO Manual of Technical Provisions for ATN, Sub-Volume III (Doc 9705) and fully considers and implements the recommendations of the ICAO Manual of Planning and Engineering for AFTN (Doc 8259); the ICAO Comprehensive ATN Manual (Doc 9739) and the ICAO EUR AMHS Manual Draft.

ATN Lower Layers

The ADAMS system supports the ATN lower layers including TPO, IDR, CLNP, ES-IS, IS-IS, as well as X.25, IP V4/V6, DLPI, and LAP B. They are integrated into the ADAMS products from our partners and delivered together with the AMHS package.

System, Network and Application Management

The system, the network, the routing and the application management for ADAMS is integrated into the Monitor and Control Position (MCP). This unit covers all functionality necessary for operating the switches, the gateways, the network, the users, the applications and their safety and security. The MCP for AFTN, CIDIN, AMHS messaging is designed to have a common integrated and harmonised user interface. This assists operators and minimises training for the transition to AMHS. It consists of a user-friendly windows based interface for all management functions and the menu structure is designed to ensure the proper workflow and operator interaction.

ADAMS End User Station

This is available for both the AFTN and the AMHS switches. The AFTN switch communication is X.29/PAD, X.25 SVC/PVC, TCP/IP and asynchronous. The AMHS User Agent is part of the end user station and communicates by using P7 protocol over TCP/IP. If enforced message delivery is required then the P3 protocol is available.

The Human Machine Interface for AFTN and AMHS is completely harmonised to assist the operator transition from AFTN to AMHS. The End User Station includes templates for generating NOTAM, SNOWTAM and Flight Plans and has a configurable local message store to enable rapid tracing and retrieval of both transmitted and received messages.

Experience, Technology, Leadership, References

Avitech AG's experience in aeronautical data and message switching traces back to the 1970's when the first ADAMS system went into operation. Avitech's technology leadership

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