FAA ATN AMHS

by

James Moulton

AOS 900/ONS

ATN Program Overview

- FAA has developed the following ATN Products:
  - AMHS with integrated AFTN/AMHS gateway
  - AMHS User Agents

AMHS Product Descriptions

- AMHS
  - Implements ICAO Doc. 9705 ed. 2:
    - MTA based on Asia/Pac AMHS ICD
    - AFTN/AMHS Gateway based on Asia/Pac ICD
    - Proprietary UA
    - Proprietary Control Position
    - X.25 interfaces to AFTN
    - LAN interfaces to ATN router

AMHS Product Description (2)

- AMHS UA
  - based on JAVA technology
  - access to remote Message Transfer Agent (MTA)
  - allows for both AFTN over X.400 and X.400 message generation
  - provided with customization if required

AMHS Product Architecture

- Hardware
  - MTA
    - either single workstation or dual/redundant workstation with automatic switch-over
    - NetBSD
  - Control Position/X.25 interface
    - PC (Windows)
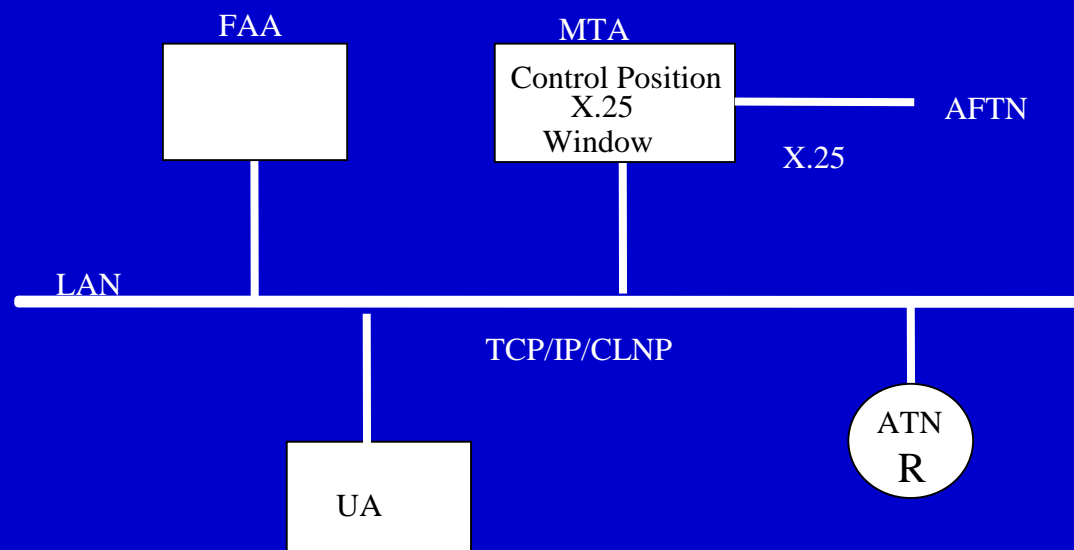 - UAs
    - any network capable computer

AMHS Product Architecture (2)

- Software
  - all software written in C except UA
  - file based for reliability

AMHS Product Architecture (3)

FAA

MTA

Control Position
X.25
Window

AFTN

X.25

LAN

TCP/IP/CLNP

UA

ATN
R

MTA and Control Position

- Flow control
  - implements priority mechanisms for processing messages
  - all processing is file based
- Loss of X.25
  - files stored at control position until error cleared
  - MTA message processing continues during X.25 errors

MTA and Control Position (2)

- X.25 Status Monitoring
  - card monitor
  - circuit monitor
- Probes and Non-Delivery Reports (NDR)
  - NDRs generated and received by MTA
  - sent to control position
  - database of AFTN and AMHS messages for NDR correlation
  - Probes supported

MTA and Control Position

- Scripts for log file maintenance
  - run in background
  - creation of CD-ROM of log files
- Statistics
  - basic gathering of statistics and log information
  - database recording of statistics

MTA and Control Position

- MTA has no HMI - all through the control position
- Control Position - window based
  - editing of messages with errors
  - control of the MTA

User Agent (UA)

- JAVA-based HMI
  - Both AFTN over X.400 and X.400 message creation screens
- Storage of all received/read messages
  - Sorted by selected fields
  - Address management with lists and address book
- Generation of probes

Demonstration System