

Ubimex

ATS Message Handling System (AMHS)



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The Ubimex ATS Message Handling System (AMHS) is the 6th generation of IDS AirNav's field-tested and proven ATS Messaging Systems. While AMHS technology is new to the aeronautical industry, IDS AirNav has extensive experience in the underlying X.400 technologies having deployed numerous X.400 message switches around the world. The result of these years of experience is an AMHS system that is both feature-packed and reliable. The core components of Ubimex are:

- Message Transfer Agent (ubiMTA)
- Message Store (ubiMS)
- Access Unit (ubiAU)
- Directory Services (ubiDS)
- User Agent (Ubimex Web)
- Ubimex SWIM Gateway

Ubimex Components

ubiMTA provides the core message switching and AMHS communications of Ubimex:

- Dual-Stack (OSI & IPS)
- x.400 P1 communications with adjacent MTAs
- Delivery/Reception to/from the message store
- Routing of messages, probes and reports
- Automatic generation of reports
- Validation and authentication of originator & recipients
- Detailed transaction and event logging
- High message throughput with low latency
- Support for binary message attachments
- Optional security using x.509 Public Key Infrastructure

ubiMS is a robust database for short & long-term message storage:

- Receives messages from ubiMTA on behalf of users (Inbox)
- Submits messages to ubiMTA on behalf of users (Outbox)
- Keeps all message traffic for a user-configured duration
- Provides high-performance message searches
- Simple tools for backup and archival
- x400 P3 and P7 communications with third party systems

ubiAU (also known as an AMHS/AFTN Gateway) provides bidirectional protocol/message/address conversion between AMHS (x.400) and the following:

- AFTN
- CIDIN
- SITA
- Email
- WMO

ubiDS is an x.500 directory service that contains information about AMHS entities and makes it available to the AMHS community:

- Supports LDAP, DAP, & DSP protocols
- Provides directory lookup for users
- Serves as the validation source for message addressing
- Optionally can store the end user x.509 certificate

Ubimex SWIM/AMHS Gateway provides a robust, standard-based solution for integrating legacy AMHS infrastructures with modern SWIM services.

- Dissemination of SWIM payloads over AMHS using X.400 messages with IHE + FTBP
- Conversion of eFPL messages into ICAO or ADEXP ATS formats
- Automatic invocation of SWIM B2B services upon reception of ICAO or ADEXP ATS messages from AMHS
- Dissemination of SWIM content received via AMHS into the SWIM domain

Ubimex Web User Agent is a secure web-based portal through which both operator and administrator users can perform all the functions of AMHS:

- Operator, Supervisor, Reject, & Intercept Messaging
- AMHS/AFTN Gateway (ubiAU) Control Position
- System Configuration, Maintenance, & Monitoring
- Directory User Agent

Ubimex Web offers operators an integrated environment for AMHS and AFTN messaging modeled after popular email applications such as Microsoft's Outlook Web Client and Google's Gmail:

- View message traffic easily using Personal or Group Inboxes, Outboxes, & Sent Items
- Ease the transition to AMHS by choosing to create messages using AMHS or AFTN views
- Simplify message creation using ICAO-compliant forms
- Save draft messages for future use or setup message templates to reduce repetitive data entry
- Manage contacts using personal and global address books from the directory server

Ubimex Web allows system administrators to configure, maintain and monitor AMHS operations using a graphical user interface:

- Manage users, groups, rights & privileges
- View logs of messaging transactions & system events
- Configure internal AMHS & AFTN system parameters
- Monitor the status of system processes & components
- Run diagnostics to test system performance

Fault tolerance

Ubimex is designed for 24/7 operations in a mission-critical environment.

- No-Single-Point-of-Failure anywhere within the system
- Master & Hot-Standby server architecture with automatic switchover mechanism
- Multiple LANs to ensure network connectivity
- 'n' Replication seamlessly replicates messages from the Master server to any number ('n') of Standby servers
- No blind database replication; 'n' Replication uses shared memory replication at the application level
- Defined process of replication confirmations ensures both the Master & Standby ubiMS are independent but in lock-step
- Standby servers can co-located with the Master or separated geographically at Disaster Recovery Locations
- Software Process Auto-Recovery monitors key applications to detect abnormalities and initiate process restarts

Why Ubimex?

Successful passing of the Eurocontrol Conformance Test Plan (ICAO EUR Doc 020, EUR AMHS Manual, Appendix D)

- Proven interoperability between Ubimex and 3rd party AMHS systems
- No Dependence on 3rd-Party AMHS Software
- Easy Deployment through Web-Based User Agents
- Power of an Oracle Database with no DBA required

