

Aeronautical message switching system for UK



Implementation of an aeronautical message switching system and gateways for NATS.

Project Highlights

- Forms the NATS central messaging switching service for all types of aeronautical messages
- Guarantees the interoperability of the UK national airspace systems with the international ATC networks
- Implements the largest message switching system in Europe, receiving more than 1.4 million aeronautical messages per day
- Provides a reliability of > 99.99999%

Client profile

NATS is the UK's leading provider of air traffic services, handling 2.5 million flights and 250 million passengers in UK airspace, covering the UK and eastern North Atlantic. It delivers air traffic services to 13 UK airports, Europe, the Middle East and Asia.

NATS and Frequentis Comsoft's relationship stretches back to 1993 when they joined forces to accomplish UK-RADNET, the first countrywide radar data distribution network. Another major success is ERCAMS, a nationwide infrastructure programme to monitor all 23 NATS en-route radar sites based on Frequentis Comsoft's CMS/XA.

AIDA-NG

AIDA-NG is a unified Message Handling System for all types of aeronautical data based on the European Communication Gateway (ECG) software designed in cooperation with leading ANSPs and EUROCONTROL. Thanks to its universal connectivity, AIDA-NG can be deployed in any national environment to enable interoperability with international ATC networks.

It is the only AMHS/AFTN implementation that provides fully integrated and uniform message handling facilities, including efficient queue handling and tracing for all connected networks. With its easy-to-use SOAP interface, AIDA-NG is the ideal platform for implementation of a SWIM/ AMHS gateway.

“NATS chose Frequentis Comsoft to provide this essential gateway based on our good experience and our specialist's assessment of the suitability of their proven technology. Both teams worked optimally together, fully meeting our goals for greater productivity and providing a safe, efficient and highly resilient air traffic management service for our customers.”

Tim Bullock, Director Supply Chain, NATS

Aeronautical message switching system that offers exceptional scalability, throughput and reliability

The challenge

NATS has a highly demanding requirement for accuracy and throughput of their messaging services as the UK AFTN/AMHS COM Centre serves as the central entry points to the EUR NAT region for other ICAO regions (NAM, SAM, ASIA-Pacific).

In order to guarantee the interoperability of the UK national airspace systems (NAS) with the international ATC Networks (FMTP, OLDI, IFPS) NATS needed a reliable gateway system.



The solution

AIDA-NG's sophisticated messaging framework and versatile connectivity ensures that all data is sent and received as required, providing secure and reliable data transfer. For this reason AIDA-NG was able to master all of NATS' operational messaging requirements.

AIDA-NG acts as the central UK AFTN/AMHS Message Switch serving the whole EUR NAT region and several inter-regional connections (NAM, Asia-Pacific) with the highest throughput values and utmost reliability.

In addition AIDA-NG acts as an FMTP/FDE-ICD gateway guaranteeing future interoperability. Universal filtering and routing capabilities for OLDI messages allow NATS a phased and secure migration of their airspace to the modernised NAS, saving considerable time and expense.

Furthermore, AIDA-NG implements the highly business critical Flight Plan Reception Suite Automation (FPRSA) gateway which guarantees the interoperability of NAS with the EUROCONTROL Integrated Flight Plan

Processing System (IFPS) by providing a complex protocol and message conversion algorithm with comprehensive correction and change facilities. FPRSA is a cornerstone for the provision of an efficient and safe air traffic service for the UK FIR (Flight Information Region).

AIDA-NG will support NATS' migration to SWIM, and any subsequent structural changes, by providing the AMHS/SWIM gateway (support of multiple SWIM interfaces, conversion, individual filtering, database management). Universal copying and diversion functions for incoming and outgoing messages in AIDA-NG mean that any migration scenario to SWIM would be covered.

Benefits at a glance

- Aeronautical message switching system that offers exceptional scalability, throughput and reliability.
- Support of international AFTN/AMHS COM centres of any size and in any environment.
- Interoperability between any national messaging environment and international ATC networks.
- Ready to support the transition from AMHS to SWIM.

FREQUENTIS

FREQUENTIS COMSOFT GmbH
Wachhausstr. 5a
76227 Karlsruhe, Germany
Tel: +49 721 9497-0
www.frequentis.com

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