

AMHS has been promoted since the early 90's as the network to replace the AFTN standard and take over the transmission of flight plans and other related aeronautical data. **Comsoft** bring us up to date.

AMHS introduction picks up pace

The advantage of the X.400 technology used in AMHS is its high transmission reliability, virtually unlimited length of textual messages and the option to include binary attachments. Although the implementation of X.400 as a reliable standard technology seemed straightforward, X.400 products available in the 90's were not ready for application in air traffic control environments, and specialised gateways for the exchange of messages between AMHS and AFTN had to be implemented.

EUROCONTROL member states joined forces to initiate and execute a project for the specification, development and finalisation of the universal message handling system EATM Communication Gateway (ECG). As ECG specifications were a product of consolidated requirements – in terms of functionality, usability and quality – issued by numerous leading air navigation service providers (ANSP), the effect of this EUROCONTROL project was not limited to the EUR region but also contributed to the vital introduction of AMHS worldwide. SITA presented a study on AMHS deployment at the ICAO AMHS workshop in San Domingo in November 2009 showing that COMSOFT's ECG realisation (brand name AIDA-NG) has emerged as by far most adopted AMHS implementation worldwide.

Despite the growing number of AMHS implementations around the globe, there are still rather few international AMHS connections used operationally. In Europe, Germany and Spain ventured forth on this mission in 2004, while the USA and Japan established a first inter-regional connection; the latter however with no unambiguous correlation to the current AMHS standard.

Apart from these, ANSPs seem to have put the establishment of AMHS connections on the back burner. Reasons include additional expenses for adaptation of existing infrastructures, complex AMHS/AFTN address conversion

schemes, lack of appropriate AMHS-ready partners, unknown inherent conformity of partners to AMHS standards and whether interoperability between adjacent systems is given.

But AMHS introduction picked up pace in 2009. At the COMSOFT AMHS User Group (CAUG) meeting in August 2009, Hassan Karam, Director Air Navigation Services of the General Civil Aviation Authority of Abu Dhabi (GCAA), presented the latest operational connection between the United Arab Emirates and Oman, reporting the migration procedure from AFTN to AMHS as amazingly simple. Other CAUG members were encouraged to establish connections with adjacent partners as soon as possible.

Several CAUG members have proceeded to action. Peru and Colombia conducted successful pre-operational tests at the end of 2009, Hong Kong and Macao announced the establishment of their first bilateral operational AMHS link at the beginning of 2010. And an increasing number of CAUG members have either already conducted interoperability tests with neighbouring communication partners or are on the verge of doing so.

From CIDIN to AMHS in Europe

EUROCONTROL Central Flow Management Unit's (CFMU) plans for the migration of their connections with European ANSPs from CIDIN to AMHS play a vital role in this scenario. Recently, interconnection tests between EUROCONTROL's CFMU in Belgium and Deutsche Flugsicherung (DFS) in Germany have been completed and the first AMHS messages were exchanged between the two AIDA-NG systems. The IP-based AMHS connection falls on fertile ground with the impending Pan-European Network Service (PENS)

concept initiated by EUROCONTROL in the context of SESAR, and the success of these interconnection tests can be applied and multiplied by analogy: the majority of CFMU's communication partners also operate AIDA-NG message handling systems and are poised to achieve the same positive results.

Another EUROCONTROL initiative solves the critical task of converting AMHS addressing information into the correct, up-to-date AFTN equivalent and vice versa. Initially, EUROCONTROL has introduced an ATS messaging management centre (AMC) for the EUR region, providing a central repository for maintenance of heterogeneous ATS messaging networks. Conforming systems like AIDA-NG can process AMC generated conversion tables without the need for prior manual adaptations, reflected in enhanced safety and considerably reduced costs.

ICAO recommends that ANSPs worldwide should benefit from the AMC as a global messaging management centre, a preliminary solution before the realisation of a global ATN Directory.

The AMHS train is finally on the right track and the breakthrough of the new technology is definitely about to happen. Recent success stories have shown that the material is mature enough, now it is up to the individual ANSPs to take an active part in this development. ■

