International Civil Aviation Organization

The Ninth Working Group Meeting of Aeronautical Telecommunication Network (ATN) Implementation Co-ordination Group of APANPIRG (ATNICG WG/9)

25 – 26 January 2011, Bangkok, Thailand

Agenda Item 2: Review of ATNICG WG/8 report and progress Action Items

REVIEW OF ATNICG WG/8 REPORT AND PROGRESS ACTION ITEMS

(Presented by United States of America)

SUMMARY

The Asia/Pacific region initiated the Air Traffic Service Message Handling System (AMHS) service in the region in 2005 with AMHS service between Japan and United States. Since then, many States in the region have completed or are in the process of completing the procurement of their AMHS. The following States have informed the ICAO of their AMHS ready status: Australia, Fiji, India, Philippine, Republic of Korea, Singapore, and Thailand. While States in the region procured their AMHS based on the ICAO Doc 9705 Ed. 3 and ICAO Doc 9880, the Aeronautical Communication Panel also developed the ICAO Doc 9896 for ATN/IPS and recommended the underline network using a global IPv6 addressing scheme. The Asia/Pacific region also completed the strategy to support the ATN/IPS.

1. INTRODUCTION

1.1 The Federal Aviation Administration (FAA) and the Japan Civil Aviation Bureau (JCAB) implemented AMHS service in 2005 based on ICAO Doc 9705 Ed. 2.

1.2 The States in the region have procured their AMHS based on the basic service of ICAO Doc 9705 Ed. 3 or ICAO Doc 9880.

13 The AMHS based on ICAO Doc. 9705 Ed. 2 is not compatible to Ed. 3 or ICAO Doc 9880. The FAA has replaced its AMHS to comply with both ICAO Doc 9880 and 9705 Ed. 3.

1.4 The addressing schemes XF as specified in ICAO Doc 9705 Ed. 2 could not be converted to CAAS addressing scheme that has been adopted by the Asia/Pacific region and specified in ICAO Doc 9705 and 9880. ICAO has adopted the use of CAAS addressing scheme, however, many States still plan to use the XF addressing scheme. Therefore, ATNICG has decided that all AMHS in the region will support both addressing schemes.

1.5 The use of X.25 SNDCF and IP SNDCF are allowed under the current plan in the region. The X.25 SNDCF is currently utilized between Japan and USA and will be used between Fiji and USA. Australia and USA are planning to use IP SNDCF.

1.6 USA and United Kingdom (UK) AMHS service will be implemented in first quarter of 2011 and will utilize the IP network using AMHS RFC 1006 as specified in ICAO Doc 9880. It is expected the AMHS service between Singapore and the UK will be identical.

1.7 There are many AMHS service that have been commissioned in other ICAO regions that are using AMHS RFC 1006 over IP network. The AMHS service between Germany and Spain is the only one that is based on IPv6 network.

1.8 Obtaining and implementing of IPv6 is still of concern.

1.9 Transition to IPv6 environment from variety of existing platforms and applications might have impacted the operation of the ATC data distribution.

1.10 The IP security technology and procedures have been discussed and can be resolved in the ATNICG. However, many issues remain to be resolved such as individual State's network policy, management of security procedure, commitment to implement security equipment in a timely manner, the use of public internet, and internet access by other regions.

1.11 It is expected that the future implementation of Very High Frequency Data Link Mode 2 (VDL Mode 2) will be based on IP SNDCF.

1.12 2Uncertainty of the Air-Ground service (e.g. VDL), weather data, and other ATC applications will utilize the ATN ground network, which satisfies their investment.

2. DISCUSSION

2.1 In the 1990s, when the ICAO Aeronautical Telecommunication Network Panel (ATNP) recommended the reason to replace the current AFTN with AMHS was that character based AFTN was too slow and would not be able to accommodate additional data and service. It is no longer the case as AFTN platform has been replaced using high-speed computers.

2.2 The ATNP also considered the AFTN, using the X.25 network protocol, is obsolete with limited the bandwidth. The AFTN has been replaced using either X.25 interface (not X.25 Packet Switching Network) or TCP/IP interface that can support higher speed.

2.3 The security management and implementation issues, which have not been resolved, will lead to a static interface based on bilateral agreements.

2.4 The AMHS compatibility between different versions of ICAO documents will result in a very slow implementation of AMHS in the region. Therefore, the FAA continues to support the Asia/Pacific Region's plan to implement AMHS based on ATN/OSI using either X.25 or IP SNDCF for all BBIS States by 2011. Furthermore, the ICAO should encourage States that utilize AMHS based on Ed. 2 of ICAO Doc 9705 to comply with the AMHS basic service of ICAO Doc 9705 Ed. 3 and ICAO Doc 9880 by 2011. Failing to implement AMHS based on ICAO Doc 9705 Ed. 3 by any of the regional BBIS' will impact the 2011 schedule set by APANPIRG.

2.5 It is recommended that planning to support ATN/IPS and the underline IP network should be discussed however, it will not be considered for implementation until all States with AMHS have completed their inter-connectivity.

3. RECOMMENDATION

3.1 The meeting is requested to review the recommendations in 4 and 5 above and adopt accordingly.

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