



**INTERNATIONAL CIVIL AVIATION ORGANIZATION  
ASIA AND PACIFIC OFFICE**

**STRATEGY FOR IMPLEMENTATION OF THE  
AERONAUTICAL TELECOMMUNICATION NETWORK (ATN)  
IN THE ASIA/PACIFIC REGION**

**September 2010**

**STRATEGY FOR IMPLEMENTATION OF THE  
AERONAUTICAL TELECOMMUNICATION NETWORK (ATN)  
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**Considering that:**

- 1) the requirement for a robust ground-to-ground Aeronautical Telecommunication Network (ATN) to meet the growing need for digital data communication to support the Air Traffic Management Concept;
- 2) the availability of ICAO SARPs and technical manuals for the ATN based on the OSI protocols (ATN/OSI) and the Internet Protocol Suite (ATN/IPS), and the availability of equipment and readiness of vendors to support both ATN/OSI and ATN/IPS ground-to-ground communications;
- 3) the availability of AMHS Transition and Implementation guidance materials required to assist States to ensure harmonization of procedures and protocols and thereby assure interoperability within the region;
- 4) the need to support States currently using AFTN terminals for communication with other States, and the need to replace these aging terminals with ATS Message User Agents (UA); and
- 5) the backbone States in the Asia/Pacific region have already implemented, or are in the process of procuring and implementing, AMHS based ATN/OSI.

**THE GENERAL STRATEGY FOR THE IMPLEMENTATION OF THE ATN  
INFRASTRUCTURE AND ASSOCIATED ATN APPLICATIONS IN THE  
ASIA/PACIFIC REGION IS AS FOLLOWS:**

- a) strategically deploy a backbone network of ATN/OSI routers and AMHS Message Transfer System (MTS) to provide a reliable infrastructure to initially support ground-to-ground applications and the planned ATN/OSI air-ground applications.
- b) strategically deploy an ATN/IPS backbone network as a private network which comprises dedicated point-to-point circuits without connection to the Public Internet to support data communication, and migrate ATN/OSI router interconnections from X.25 sub-network to IP sub-network connectivity;
- c) permit non-backbone States, and States in other regions with connections to the Asia/Pacific region, to connect their Message Transfer Agents (MTA) to backbone States using either the OSI-based ATN Internet Communications Services (ICS) or the ATN IPS on a bilateral basis;
- d) permit States with limited AFS connections or traffic with other States to operate only UA terminals and to use the MTA of another State, subject to bilateral agreement. Such UA to MTA connections may use the Public Internet subject to appropriate security provisions and access control;

- e) complete migration from AFTN to AMHS within the time frame specified in the FASID ; and
- f) once a robust ATN/IPS backbone network has been established, eventually phase out use of the ATN ICS by AMHS and operate the AMHS MTA network using the ATN/IPS as specified in ICAO Doc 9880 section 3.2.2.2.3.

**IN ORDER TO ACHIEVE THE ABOVE STRATEGY THE FOLLOWING IS REQUIRED OF STATES IN THE ASIA/PACIFIC REGION:**

- g) States shall provide implementation in compliance with Annex 10 SARPS and ICAO Manuals, and with the Plans, Policies and AMHS Transition and Implementation guidance materials adopted by APANPIRG;
- h) Backbone States shall implement AMHS MTAs that support both the ATN ICS and ATN/IPS network services as specified in ICAO Doc 9880 section 3.2.2.2. Non-backbone States may implement MTAs that support either or both network services.
- i) Backbone States shall implement ATN/OSI routers with X.25 sub-network capability and later migrate to IP sub-network capability for interconnection with other Backbone States and Non-backbone States.
- j) States shall work co-operatively to assist each other on a multinational basis to implement the ATN and AMHS in an expeditious and coordinated manner and to ensure system interoperability; and
- k) States shall organize training of personnel to provide necessary capability to maintain and operate the ground-to-ground ATN infrastructure and applications.

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