

**International Civil Aviation Organization**



**THE SIXTH MEETING OF AERONAUTICAL  
TELECOMMUNICATION NETWORK (ATN)  
IMPLEMENTATION CO-ORDINATION GROUP  
OF APANPIRG (ATNICG/6)**



Seoul, Republic of Korea, 16 - 20 May 2011

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**Agenda Item 4: Review States' ATN/AMHS Implementation Status, Transition and Operational Issues**

**ATN/AMHS SYSTEM COMPOSITION OF REPUBLIC OF KOREA**

(Presented by Republic of Korea)

**SUMMARY**

This information paper provides the ATN/AMHS system composition of the Republic of Korea.

**1. Introduction**

1.1 According to the ICAO ATN/AMHS implementation plan, the Republic of Korea has developed the AMHS system. This information introduces ATN/AMHS systems composition by the Republic of Korea.

**2. Introduction of Main Facility**

2.1 The most outstanding system in the HP server is the rx7640 model because it is compatible to the other 4 operating systems.

2.2 The aeronautical information has been increasing over 10 years in Korea. Last year we have processed 70,000,000 messages. To process rapidly growing aeronautical information, we have introduced EMC Storage. It can handle a lot of data and recover quickly when the database error occurs.

2.3 The ATN router, which is used as form of telecommunication between Korea and China, has been introduced, conforming to the ICAO international standards technology.

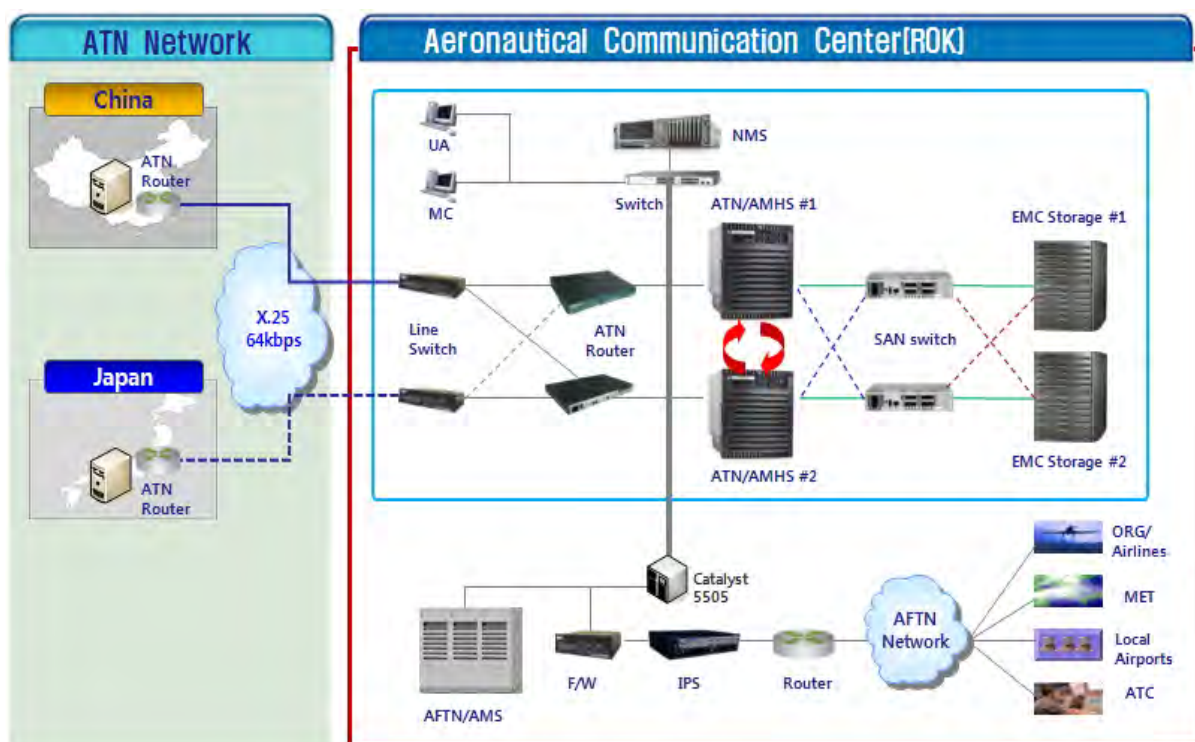
### 3. ATN/AMHS System composition

3.1 AMHS server and storage was configured with redundancy for rapid recovery in case of failure. In addition, the main server to enable automatic and manual switching was constructed by installing cluster software.

3.2 ATN Router meets the criteria of ICAO Standards and Technology, the redundancy in case of hardware failure was made. ATN router can be switched automatic or manual by line switch. Serial communication (X.25) and TCP/IP ports are also supported.

3.3 Between Korea and China X.25 network was built through a 64Kbps leased line. To implement interfacing with existing AFTN system, AMHS/AFTN Gateway program was developed and mounted.

3.4 The below picture shows the composition of the Republic of Korea ATN/AMHS system.



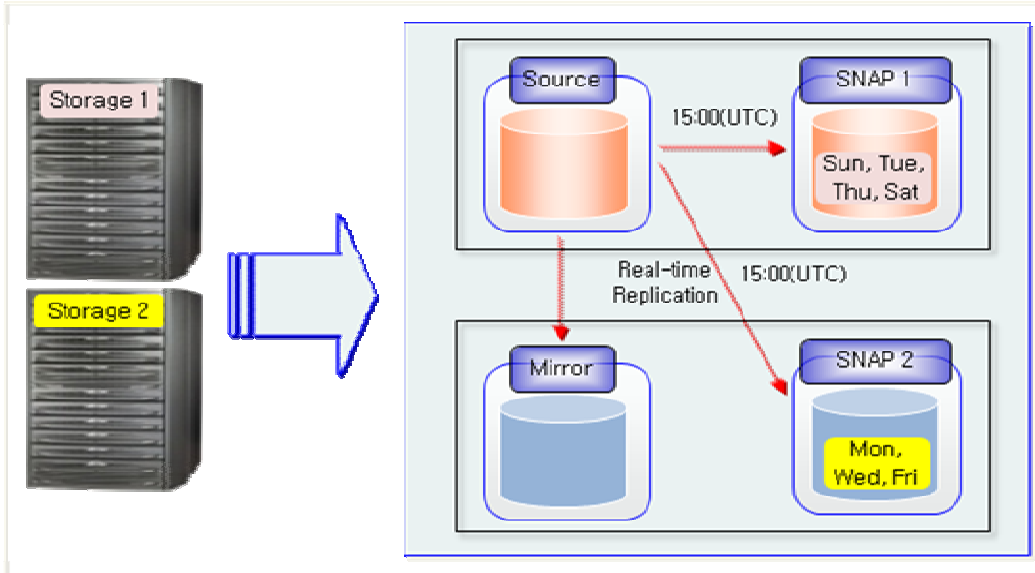
### 4. Database recovery by using the snapshot

4.1 In the past, the main cause of failure in the AFTN system was mainly due to the hardware. However, in the present, database errors are causing failures in the system. In order to prevent errors caused by the database errors, the Republic of Korea has introduced the snapshot. Aeronautical information basically stored in source files and real-time replication in mirror files. A snapshot is a secondary backup and recovery solution. The snapshot composition can recover the lost database speedily in specific time.

4.2 The snapshot contains two original data files which are divided into the source files and mirror files. The mirror files copy from the source. In depth, the snapshot disc 1 which copies from the source files on Sunday, Tuesday, Thursday and Saturday. On the other hand, snapshot disc 2 copies from the source files on Monday, Wednesday and Friday.

4.3 This snapshot plans to implement on UTC at 15:00 which takes less traffic time.

4.4 The below picture shows the composition of the snapshot.



## 5. Action Taken by the Meeting

5.1 The meeting is invited to note the technical information on composition of ATN/AMHS in the Republic of Korea can be shared with ICAO member States in Asia Pacific Region.

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