



International Civil Aviation Organization

**THE TWELFTH WORKING GROUP MEETING OF  
AERONAUTICAL TELECOMMUNICATION NETWORK  
(ATN) IMPLEMENTATION CO-ORDINATION GROUP OF  
APANPIRG (ATNICG WG/12)**



5 – 8 August, Renton, WA, USA

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**Agenda Item 5: SWIM**

**ROADMAP FOR TRANSITION TO SWIM**

(U.S.A./Federal Aviation Administration (FAA))

**SUMMARY**

This presentation presents Asia/Pacific region's Roadmap for Information Management System to plan SWIM data over AMHS.

**ACTION BY THE MEETING**

The meeting is invited to:

- (a) provide feedback on the information contained presented in this presentation;  
and
  - (b) discuss any relevant matters as appropriate.
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# Road Map for Asia/Pacific region's Transition to System Wide Information Management (SWIM)

**Presented by: Vic Patel, FAA**

Presentation to: ATNICG WG#12  
Renton, WAS, 5 – 8 August 2013



**Federal Aviation  
Administration**



# AFTN/AMHS

- The AFTN and AMHS are global Air Traffic Service Telecommunication network
- This service provides a seamless operation that exchanges flight plan and other related data messages to all air traffic control facilities



# System Wide Information Management (SWIM)

- SWIM is an Information Technology (IT) infrastructure that operate in the background to provide data to authorized users to facilitate collaboration across a network domain
- SWIM is being implemented in some States within their network domain
- Some coordination has been taken place to ensure compatibility
- Implement a Service-Oriented Architecture (SOA) in the NAS
- Lower information costs
- Increase speed to establish new interfaces
- Increase common situational awareness



# XML Based Message

- AFTN can support XML with limited message length
- AMHS can support XML based message
- AFTN and AMHS can only distribute the XML
- SWIM can support “Push and Pull” of XML based message

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# Preliminary Road Map

- Continue to implement AMHS
- Implement underlining Internet Protocol (IP) connection for AMHS and other service
- Implement SWIM
- Implement IP network
- Route traffic from AMHS to SWIM



# SWIM Environment

- AMHS will process the message and distribute to SWIM for distribution
- Other applications can program their request to obtain their data based on “Push and Pull” through SWIM



# Moving ahead for IMS

- TOR for SWIM sub group
- Develop CONOPS
  - Define types of information: Weather, NOTAMS, Flight Plans, etc.
- Coordinate with study groups such as OGC, AIM, AIS etc. (TORs, Scope, )
- Prioritize the activities
- Develop plan to migrate from AFTN and AMHS architectures
- SOA Standards required for the region
- Define a SWIM Architecture definition for the region
- Develop profile of SOA Standards for the region
  - Profile data format standards (iWXXM, AIXM, FIXM, Raster formats (GRIB2, NetCDF)
  - Profile data access standards (OGC Web Feature Service, Web Coverage Service, Web Map Service)
- Identify SWIM Core messaging services
  - Request/Reply
  - Pub/Sub
- Develop Regional documents beyond CONOPS. Architecture, and Profiles
  - Policy (SOA Conformance and Governance)
  - IRDs,
  - Guidance
- Gateway requirements development
- Service Adaptors/Gateways to transition from AFTN Messaging to SWIM Messaging
- Conduct Prototyping (individual states and multi-state)

