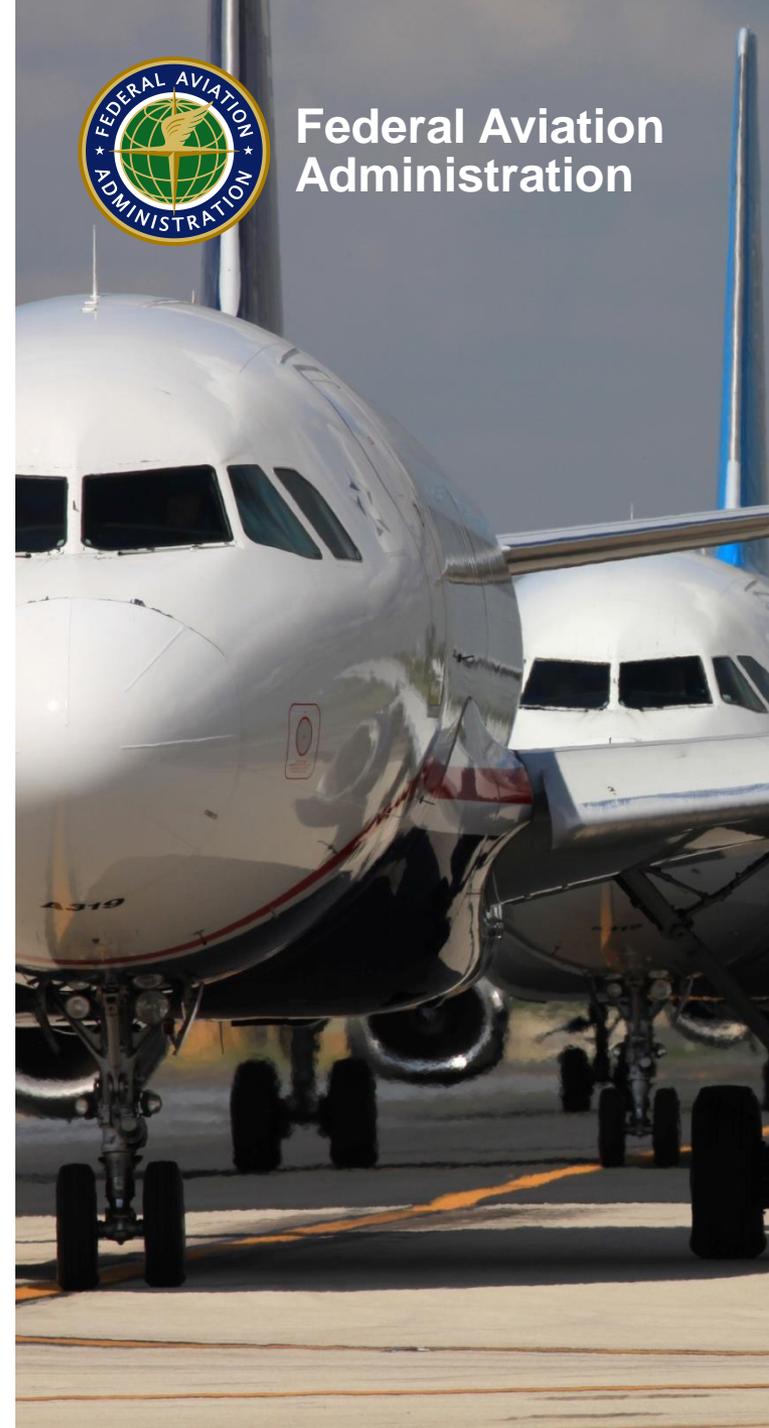


Communications From the Current Environment to SWIM Environment

ICAO SWIM Workshop
Bangkok, Thailand
16-18 May, 2016



Federal Aviation
Administration



The Issue

How to Provide Near-to-Medium Term Transport of XML and Other SWIM-Like Data

- **Evolution to SWIM Will Take Time**
- **Therefore, Communications Methods May Need to Evolve as Well**



Possible Methods of Message Transport

SWIM Service Provider Network

Regional VPNs

- Asia/Pacific Common Regional VPN (CRV)
- Pan-European Network Service (PENS)
- North Atlantic Network Upgrade (NANU)

Current/Planned AMHS Connectivity*

* Focus of this discussion



Federal Aviation
Administration

What is AMHS?

Air Traffic Services Message Handling System

- **Global Communications Network That Offers Improvement/Enhancement Over Existing AFTN Network**

Benefits of AMHS:

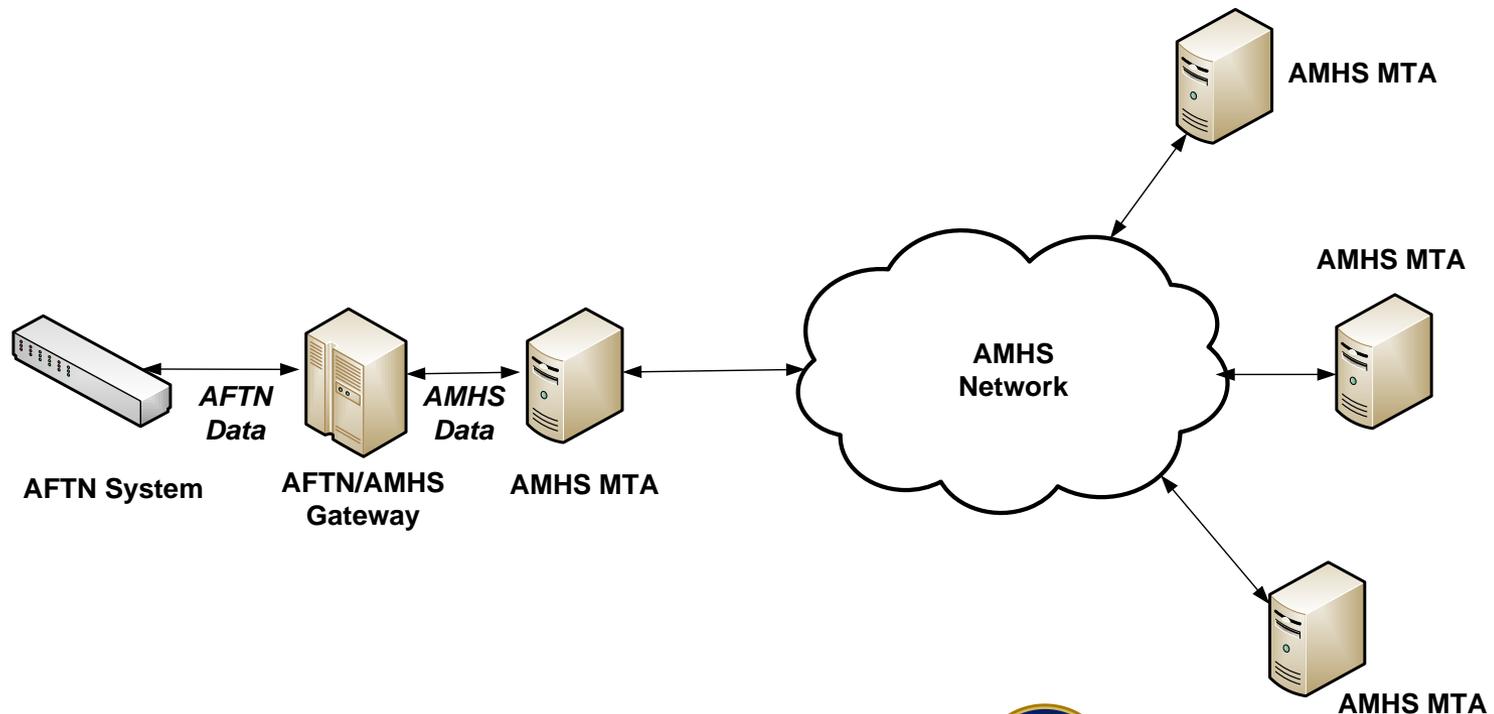
- **Larger Message Size**
- **Greater Number of Addresses**
- **Expanded Character Set (full ASCII support vs. IA5)**
- **Ability to Include Attachments**



Co-Existence of AFTN & AMHS

Use of AFTN/AMHS Gateways

- Gateway Concept is a Typical Strategy During Transition Period
- Provides Conversion from One “Protocol” to Another



Potential Use of AMHS For SWIM Transport

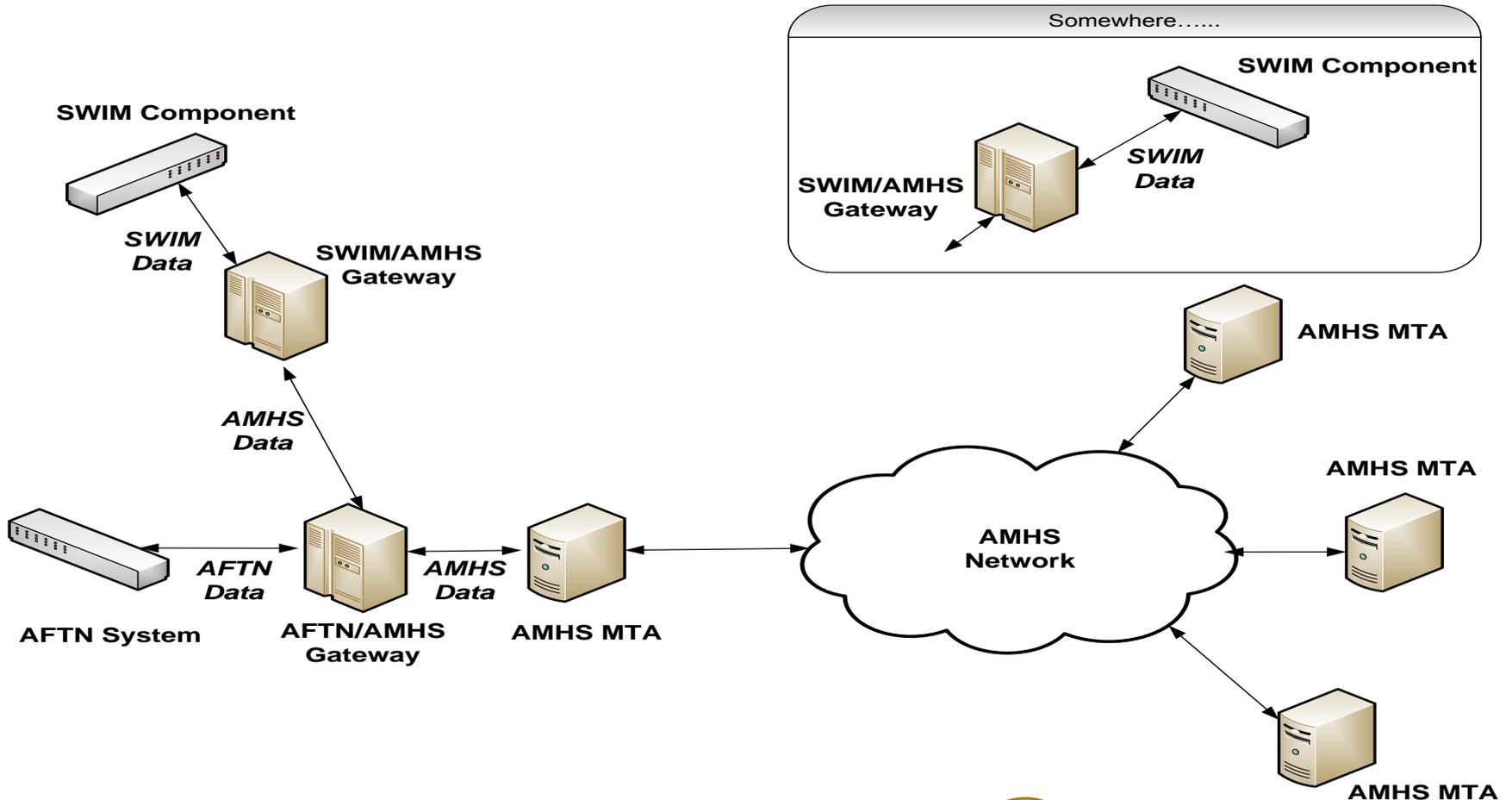
AMHS is Capable of Transporting XML Data

- Large Messages
- ASCII Character Set
- Attachments (character / binary / compressed)



Transfer of Data From SWIM Environment to AMHS

Could Apply a Similar Gateway Concept



Functions Performed by Gateway

Addressing

- **SWIM Environment address could be an AMHS/AFTN type address, or**
- **Address conversion done in Gateway**

Data Compression

- **Would best be done in the Gateway, not by the AMHS**



Functions Performed by Gateway (cont'd)

Attachments

- **Created by gateway or prior**
- **Handed off to AMHS for transport**

Conversion

- **To X.400 protocol used by AMHS**



Validation Done to Date

- **The FAA Has Conducted Tests With Other ANSPs to Determine Feasibility of XML Over AMHS**
- **This Has Been With XML in the AMHS Message Body (vs. Attachments)**
- **Testing Has Confirmed the Ability of AMHS to Send Large Messages of the Full ASCII Character Set**
- **Other ANSPs Have Performed Additional Testing**
- **The FAA Also Plans Future Testing to Validate the Use of Attachments**



Questions ?

