Agenda

- FAA SWIM at a Glance
- SWIM International Collaboration
- Service Discovery in the Context of Global SWIM
SWIM as Data Sharing Backbone of NextGen

Departure
- Pre-Departure Flight Planning
- Current and forecast weather information
- NOTAMS
- Flight restrictions
- Flow information
- Trajectory planning
- Real-time surface movement

En-Route
- Flight re-route information
- Current and forecast weather information
- Updates to NOTAMS
- Flight restriction changes
- Flow information changes

Arrival
- Arrival monitoring information
- Real-time surface movement
- Airport surface movement
- Current weather information

System Wide Information Management

Federal Aviation Administration
Active SWIM Consumers

Updated September 18, 2017

- Airlines (10)
- Industry (93)
- Non FAA Government Entities (12)
- Academia & Research (2)
- Airports, FAA Facilities, & FAA Programs (32)

Serving 149 total users
Wait list for additional user onramping
SWIM International Collaboration

- Global Standards Development
  - Information management standards and best practices
  - Regional SWIM infrastructure and requirements

- Joint Interoperability Demonstrations
  - Leveraging open standards for connectivity between regional SWIM infrastructures

- Collaboration Projects
  - Develop and prototyping information exchange capabilities with international partners

ICAO IMP
APAC TF
Mini Global II
Registry Interoperability
Mini Global II Demonstration

- April 2016
- Leveraging open standards for connectivity between regional SWIM infrastructures

Participants:
- AeroThai
- Airservices
- Australia
- CAAS
- DECEA
- GCAA
- JCAB
- NAV CANADA
- NavPortugal
- TTCAA
Mini Global II Demonstration – Lessons Learned

Exchange models are effective
- Usage of FIXM, AIXM, WXXM is very effective in easily achieving global interoperability.
- Ease of information exchange facilitate operations
- Timely information results in more efficient flight

Security concerns are multi-faceted
- Important to distinguish between network security, transport level security, message level security, access management, and business rules.

Need to accommodate different types of services
- Commercial services vs mandatory ATM services. Not all SWIM services are ANSP owned, need to allow for non-ANSP services.

Usage of open standards works well, avoids vendor lock-in
There is a need for global definition of message metadata
ICAO APAC Task Force Update

- Implement SWIM in APAC Region
  - Requirement Coordination with applications/system owners
  - Regional structure to manage new information exchange over SWIM Services
  - Dual operations to support both legacy services and new services

- Timeframe: now → 2020
Service Discovery Across SWIM Infrastructures

- Today, service descriptions are published in independently owned and managed registries
- To make services globally discoverable, service information needs to be exchanged or consolidated among SWIM registries
Registry Information Exchange between FAA and SESAR

Semantic Interoperability
Semantic Mediation of Taxonomies
Bridge governance policy differences between SESAR and FAA

Syntactical Interoperability
Service Description Conceptual Model (SDCM) 2.0
Common data model to describe SWIM services

Technical Interoperability
Registry Interchange Module (RIM)
Web service specification for service metadata exchange
RIM Demonstration

Find Flight services that are ready for consumption from all available SWIM registries.

pass the query

return all services that match the query

NSRR
contains FAA services that match the query

Simulated Registry
contains SESAR services that match the query

pass the query

receive response
### Flight Data Publication Prototype

The Flight Data Publication Service will be made up of three modules: the primary module which provides and updates.position information and times as calculated by the trajectory prediction algorithm. It also provides AMTS data. The other two modules: the threat module and the threat analysis. The threat module is responsible for the position of the aircraft. The threat module also provides position and times as calculated by the threat prediction algorithm. It also provides AMTS data. The threat analysis module provides position and times as calculated by the threat analysis algorithm. It also provides AMTS data. The threat analysis module is responsible for the position of the aircraft. The threat analysis module also provides position and times as calculated by the threat analysis algorithm. It also provides AMTS data.

### Real-Time Application

The Real-Time Application Service will be made up of three modules: the primary module which provides and updates.position information and times as calculated by the trajectory prediction algorithm. It also provides AMTS data. The other two modules: the threat module and the threat analysis. The threat module is responsible for the position of the aircraft. The threat module also provides position and times as calculated by the threat prediction algorithm. It also provides AMTS data. The threat analysis module provides position and times as calculated by the threat analysis algorithm. It also provides AMTS data. The threat analysis module is responsible for the position of the aircraft. The threat analysis module also provides position and times as calculated by the threat analysis algorithm. It also provides AMTS data.

### Services with links to the authoritative information

- [Flight Data Publication Service](http://www.faa.gov/air_traffic)
- [Real-Time Application Service](http://www.faa.gov/air_traffic)

### Taxonomies are translated
Demo Under the Hood


Body: 

Pretty Print XML

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