Global Information
Management

AATS:
Enabling Improved
Collaborative
Decision Making

Presented By: Biruk Abraham

Date: August 26, 2015



# Agenda

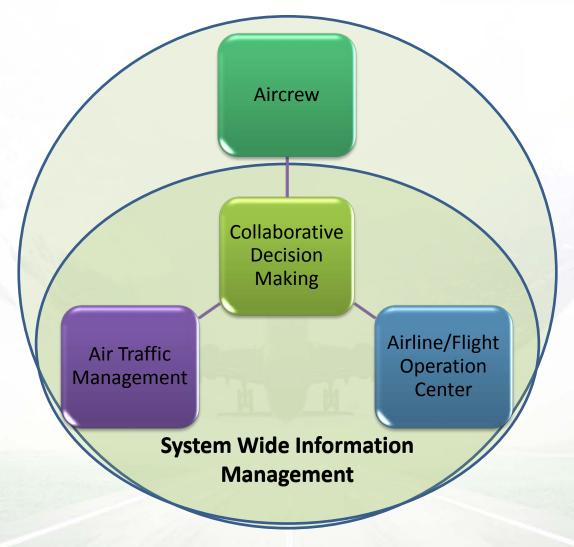
- Concept Overview
- Phase I Accomplishments
- Phase II Demonstration Scenarios
- Schedule





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# **Concept Overview**

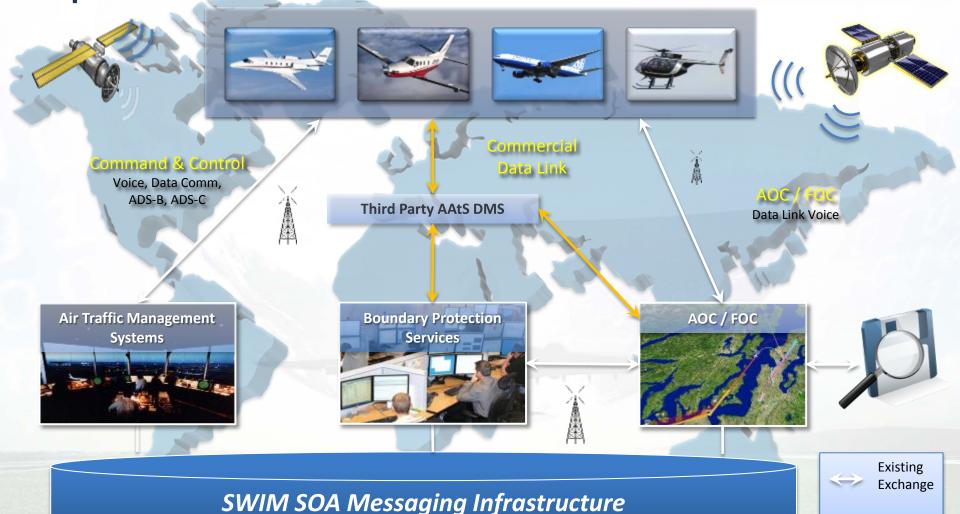




# **Operational Environment**

Air Transportation Information Exchange Conference -

**Global Information Management** 



Weather Information Sources

Aeronautical Information
Sources



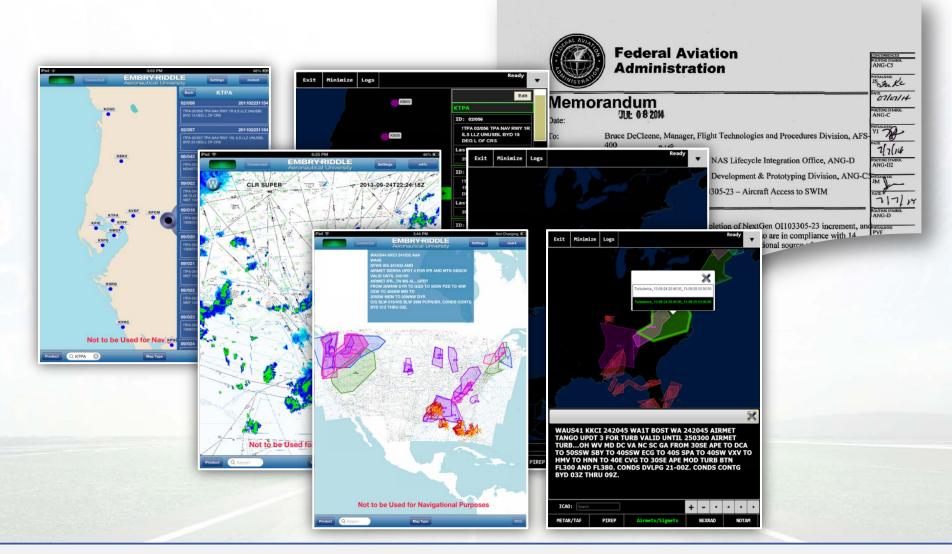
Flight Information Sources





AAtS Exchange

### Phase I Accomplishments





# Phase II Demonstration Scenarios

- Flight Information Update
- Electronic Pilot Report Submission
- Aircraft Preference Publication
- Airborne Reroute Negotiation

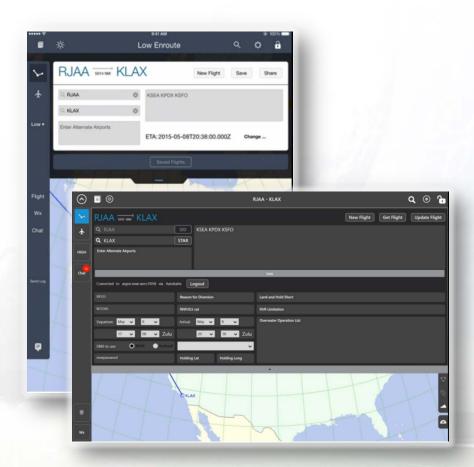






## Flight Information Update

- Flight Object: single source of relevant information about a particular flight
- Flight Object exchange between aircraft and standardized Flight Object services
- Exchanged in the globally interoperable Flight Information Exchange Model (FIXM)



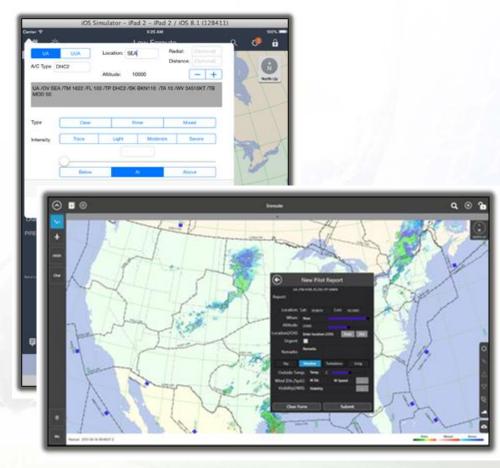




# Electronic Pilot Report

#### Submission

- Flight crews able to electronically publish PIREPs for immediate dissemination via SWIM
- Operators' situational awareness improved
- Weather modeling capabilities enhanced
- Exchanged in in the globally interoperable Weather
   Information Exchange Model (WXXM)







# Aircraft Preference **Publication**

- Traffic flow advisories and constraints provided to flight crews
- Prioritized pre-departure and inflight preferences submitted by operator
- Operator preferences considered in decision support tools
- Exchanged in accordance with appropriate Interface Control Document (ICD)\*

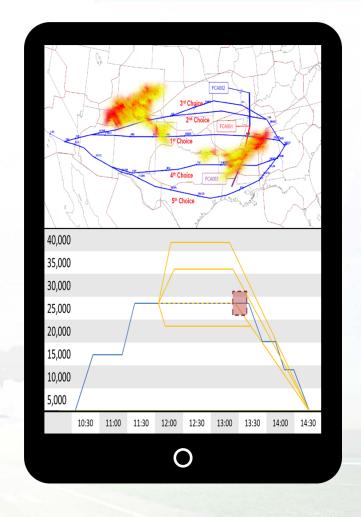
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TVCT	RTC – Relative Trajectory Cost RMNT- Required Minimum Notification Time; provided by the									
IVSI	TVST – Trajectory Valid Start Time; TVET- Trajectory Valid End Time									





# Airborne Reroute Negotiation (4DT)

- Preferences submitted by operator in four dimensions (latitude, longitude, altitude and time)
- Assigned trajectory periodically evaluated for optimization utilizing operator preference
- Updated 4DT trajectory options from TFMS exchanged with operator
- Exchanged in accordance with appropriate Interface Control Document (ICD)\*





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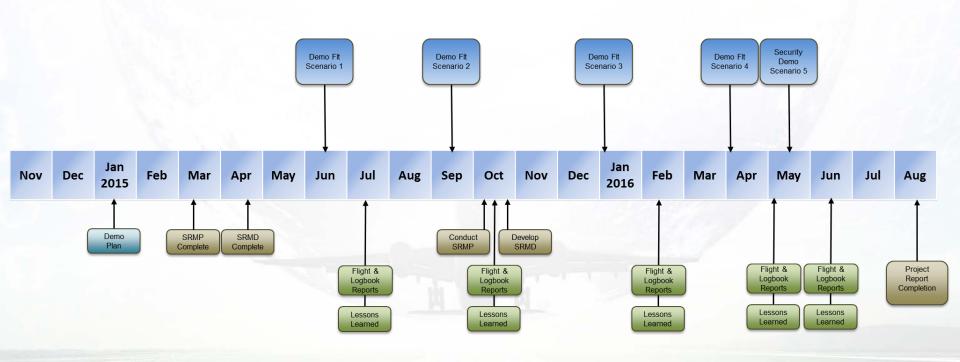
- Malformed XML messages sent from EFB to NESG through DMS
- Various security protection layers detect these messages
- Identify gaps in detection capabilities

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#### **Contact Information**

Biruk Abraham

**AAtS Demonstration Project Manager** 

NextGen Technology Development and Prototyping Division

Email: biruk.abraham@faa.gov

