RTCA SC-206

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OGC RFI and the AAtS Standards Harmonization

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RTCA SC-206 Overview

- Established in February of 2005 at the request of the FAA
- Complete title is:

  Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services
DO-308 Operational Services and Environment Definition (OSED) for Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services

DO-324 Safety and Performance Requirements (SPR) for Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services

DO-340 Concept of Use (CONUSE) for Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services

DO-339 (down-link MET service description) was released recently however its relevance to AAtS is not directly mappable
Current Work

Terms of Reference (TOR) list four standards in development:

• DO-252A update – MIS
  • Due for delivery in Mid-2014

• UAT FIS-B Minimum Operational Performance Specification – MOPS
  • Due for delivery in Mid-2014

• Architecture Recommendations for Aeronautical Information (AI) and Meteorological (MET) Data Link Services – Recommendations
  • Released for Final Review and Comment (FRAC) on October 1\textsuperscript{st}, 2013

• Aeronautical Information (AI) and Meteorological (MET) Data Link Services Minimum Aviation System Performance Standard – MASPS
  • Scheduled for delivery in Mid-2014; however an extension to Mid-2015 is being considered
RELEVANCE

Context of SC206 and AAtS
While:

- Not all of SC206 functionality and services are applicable to AAtS – Example:
  - Locally provided data link services (Alerting services, D-WIDS, etc.)
  - Crosslink
  - Data link specification

- Not all of AAtS functionality and envisioned available products and uses are applicable to SC206 – Examples:
  - Air Traffic Management information exchanges (reroute information, SWAP routes, EDCT times, etc.)
  - Flight Plans

- There remains considerable overlap between the two
Data Link Concept

- Concept based on the data link system described in DO-308/ED-151, DO-324/ED-175, DO-339, and DO-340
- DO-339 and DO-340 described a wide range of intended uses
  - Intended use dictates performance requirements for data link services
- Wide variety of users able to leverage data link services
- Data Link: a generic term that encompasses different types of data link systems and sub-systems
  - Leveraged from ICAO GOLD
  - RTCA SC-206 is responsible for defining data link standards for aviation
Concepts and Intended Uses

AIS and MET Delivery Services Concept

• Category 1: Primary means of communication. Supports the ATS Function
  • Future applications with specific minimum performance requirements
• Category 2: Useful for communications
  • Currently Exist and Rapidly Expanding with minimal or no performance requirements

Intended uses define performance: being defined

• Range from replacing specific pilot/controller procedures; to,
  • Situational awareness; and,
• Everywhere inbetween
Conceptual Architecture

1. Functional illustration, not a systemic description
2. Based on DO-340 which refined notional architecture in DO-324
3. Describes data link service functions: GDLPF, ODLPF, connecting media (DLSPF)

Note: Appropriate security precautions would be made throughout this architecture.
Logical System and Interfaces

Information Sources

Enterprise Information Service Provider(s)
- Weather Data Service
- Aeronautical Data Service
- ATM Data Service (out-of-scope)

Secure Gateway(s)

Local Data Service

Other Data Service

GDLPF
- Ground Data Link Manager
- Ground Data Link Processor

DLSPF
- Data Link Service
- Interface

ODLPF
- Onboard Data Link Manager
- Onboard Data Link Processor

Portal
- External GDLPF User(s)

Onboard User Application(s)

Onboard User(s)

Note

= System Node
= System Entity
Green = Systems or services that are out of the scope
Yellow = Systems or services that are wholly defined by these recommendations
Yellow with green shadow = Systems or services that are partially within the scope
* = Application to Application interface where the interface is independent of the delivery media
AIS and MET data link services functions