RTCA’s SC-206, Aeronautical Information and Meteorological Data Link Services

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Today’s Agenda

- **SC-206 Aeronautical Information and Meteorological Data Link Services**
  - Sub-group overview
  - Notional (functional) data link architecture
  - Discussion of potential AIS & MET products and services
  - Deliverables / timelines
  - Discussion
Background – RTCA SC-206

- **Scope:** Develop standards to provide AIS & MET Data Link Services
- **Five uplink services envisioned, plus crosslink and downlink**
  - Three (3) MET uplink services
  - Two (2) AIS uplink services
  - Plus MET crosslink and downlink

- **Sub-group overview:**
  - **SG-1** -- OSED for aircraft-derived MET data for wake vortex and other downlink and crosslink applications
    - Link specific -- makes use of the 1090 ES / UAT link
    - 1090 ES / UAT OSED document being released in October for December “Final Review and Comment” (FRAC)
  - **SG-2** -- ConUse document & MASPS / MOPS planning
  - **SG-3** -- Service delivery architecture recommendations
Sub-Group 2 – ConUse Document

○ Holistic overview of how the AIS and MET data link services are envisioned to be used

○ ConUse document on track for March 2012 FRAC

○ Key directions / assumptions:
  • Multiple service providers likely
  • Onboard and ground processing should support multiple communications links
  • Onboard processing should provide information to multiple clients (e.g., FMS, portable and installed displays, etc.)

○ Related issue:
  • Latent need to ensure collaborative decision making (CDM) among flight deck, AOC / FSS, and ATC
Intent is to make architectural recommendations in support of future MASPS / MOPS deliverables

Data link metrics being used:
- Geographic coverage
- Altitude coverage
- Frequency band
- Data rate (throughput) uplink
- Data rate (throughput) downlink
- Multiple access scheme
- Available standards (maturity)
- Latency
- Quality of service

Architecture recommendations document’s March 2012 delivery date may shift to right
Acronyms:
AOC: Airline Operational Control
EFB: Electronic Flight Bag
FMS: Flight Management System
FSS: Flight Support Services
ODLP: Onboard Data Link Processor
Related FAA Policy Guidance

AFS ongoing:

- AC 120-76B – Guidelines for the Certification, Airworthiness, and Operational Approval of Electronic Flight Bag Computing Devices. (Draft)

AFS FY12 work program:

- AC 00-45G – Aviation Weather Services
  - Enables new airman written test questions pertaining to AIS & MET data link services
- AC 00-62 – Internet Communications of Aviation Weather and NOTAMS
- AC 00-63 – Use of Cockpit Displays of Digital Aeronautical and Operational Information
  - Revision will include request / reply, contract, and broadcast for advisory-use and normal-use communications
  - Trickle down changes anticipated to Aeronautical Information Manual, Chapter 7-1, and FAA Order 8900.1

AIR-130 related activities:

- TSO-C157a – Aircraft Flight Information Services-Broadcast (FIS-B) Data Link Systems and Equipment. (Published 9-9-11)
- AeroMACS TSO – SC-223 Developing MOPS – (TSO to follow approximately six months post MOPS)
Future MASPS / MOPS – Need TBD:
• AIS + MET Uplink [Advisory Comm.]
• MET Downlink / Crosslink [Normal Comm.]

Note: All timeline dates beyond 2011 are tentative
Other Related Data Link Activities

- **SAE G-10 Human factors**
  - MET & AIS flight deck human factors ARPs.

- **AEEC Project Paper 830** -- Aircraft / Ground Information Exchange (AGIE)

- **AEEC Project Paper 839** -- Manager of Air-Ground Interface Communications (MAGIC)
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