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

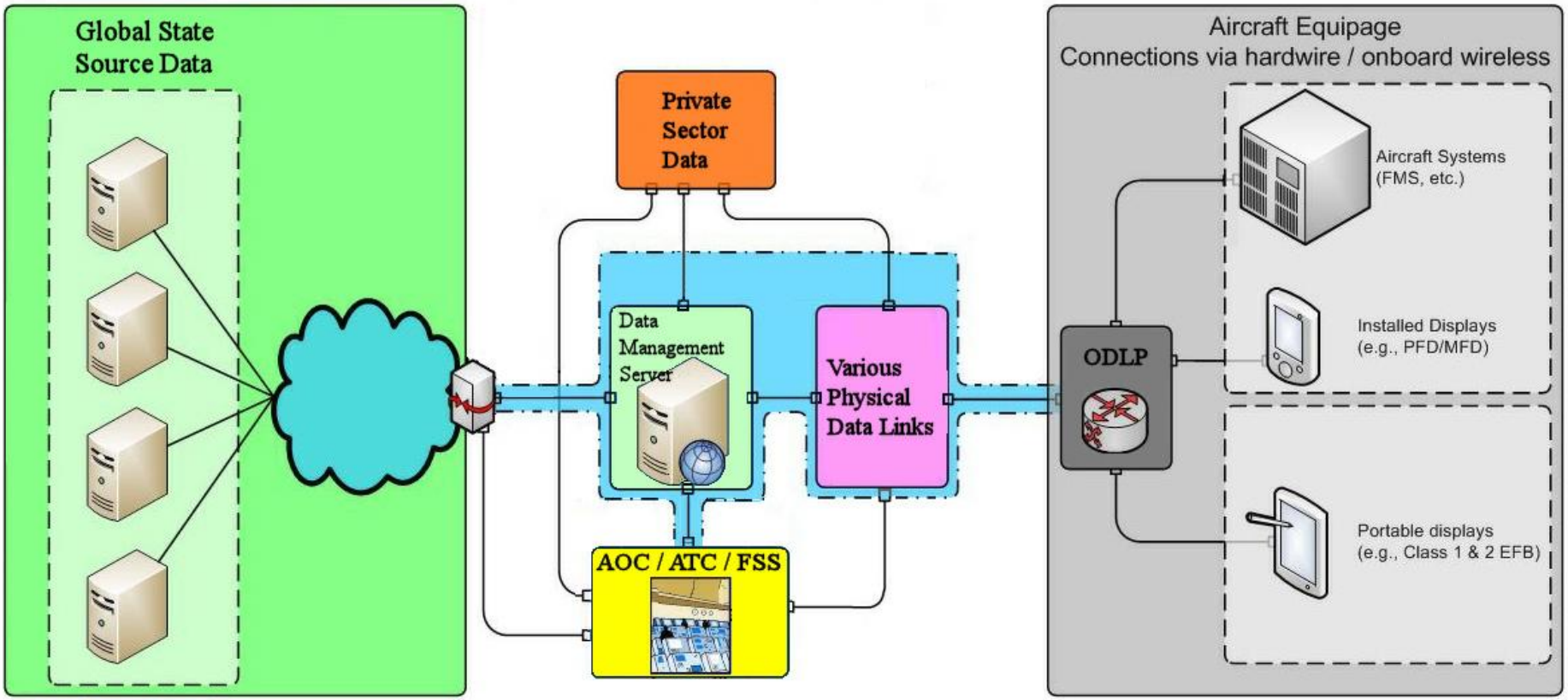
Sub-Group 2 – ConUse Document

- 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

SG-3 Data Link Metrics

- 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

Notional Physical Architecture



Acronyms:

AOC: Airline Operational Control
EFB: Electronic Flight Bag
FMS: Flight Management System
FSS: Flight Support Services
ODLP: Onboard Data Link Processor

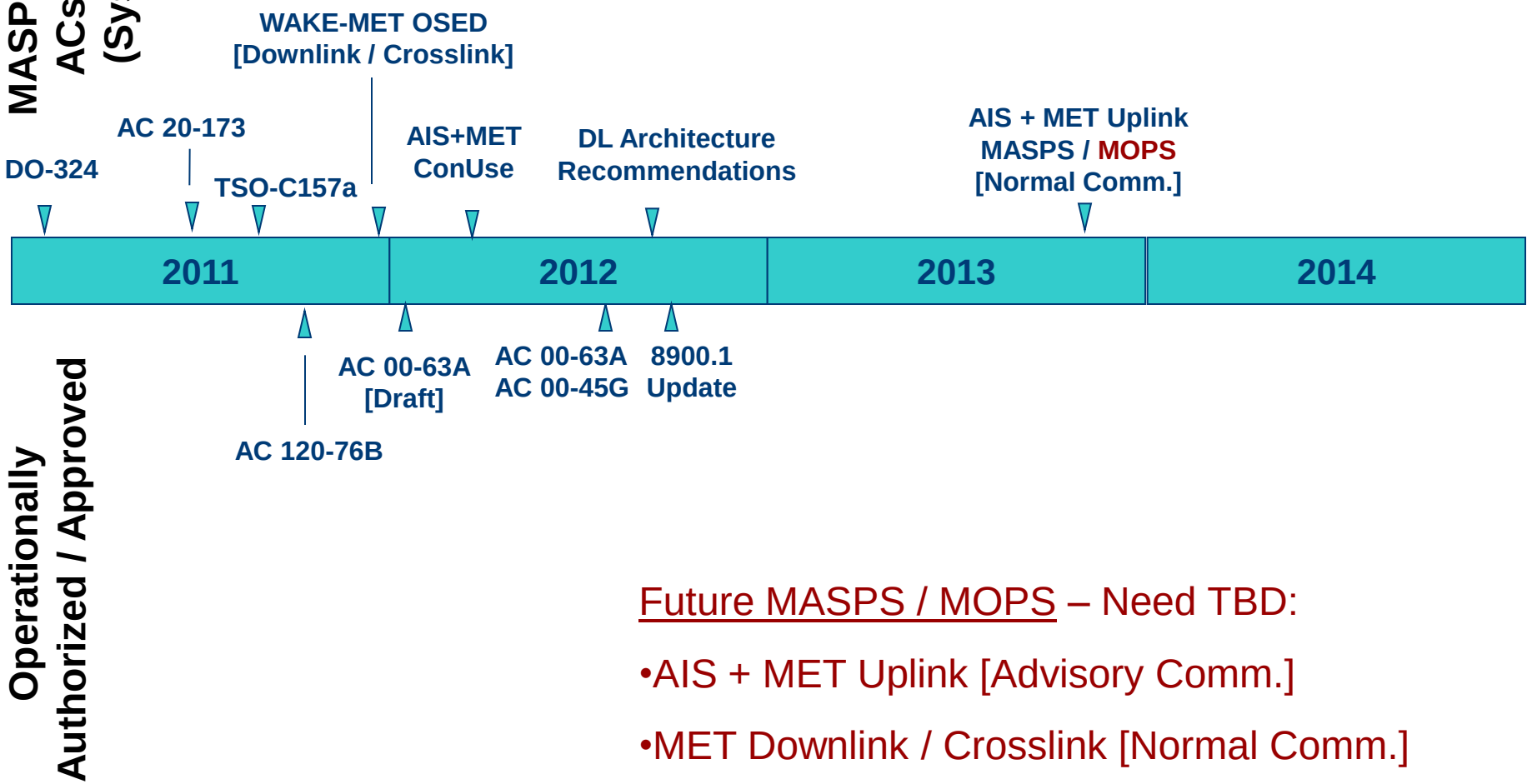
Related FAA Policy Guidance

- **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)
  - AC 20-173 -- Installation of Electronic Flight Bag Components. (Published 9-27-11).
  - AeroMACS TSO – SC-223 Developing MOPS – (TSO to follow approximately six months post MOPS)

SC-206 Landscape



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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