



ADS-B NAS Wide Acquisition – Industry Day

June 19, 2006

Overview of RTCA Activities for ADS-B



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Overview

- RTCA
- Special Committee (SC) -186
 - History
 - Committee Structure
 - Documents Published
 - Work Plan

Mission and Organization

- Mission: Help implement change to improve aircraft operations
 - Concepts, requirements, policies, procedures, electronics technology
 - *Concept of Operations and Vision for the Future of Aviation*
 - Task Forces: GPS, data link, Free Flight, Certification
 - Recommended Performance Standards, Technical Documents
- Organization
 - Private not-for-profit corporation
 - Governance – Policy Board and Board of Directors
 - Task Forces
 - Work Program
 - Program Management Committee – Define the work program; approve products
 - Special Committees – Performance Standards, Technical Documents

How Do We Operate?

- Function as Federal Advisory Committee
 - Federal Register announcements
 - Meetings open to the public
 - Recommendations reflect government / industry consensus
 - Work performed by volunteers
- Any new task based on Terms of Reference
 - Clear statement of issue
 - Deliverable(s)
 - Leadership
 - Schedule

Current RTCA Special Committees

- SC-209 – ATCRBS/Mode S Transponder
- SC-208 – Aeronautical Mobile Satellite Services
- SC-207 – Airport Security Access Control Systems
- SC-206 – Aeronautical Information Services (AIS) Data Link
- SC-205 – Software Considerations
- SC-204 – 406 MHz Emergency Locator Transmitters (ELTs)
- SC-203 – Unmanned Aircraft Systems
- SC-202 – Portable Electronic Devices
- SC-189 – Air Traffic Services Safety and Interoperability Requirements
- **SC-186 – Automatic Dependent Surveillance – Broadcast**
- SC-159 – Global Positioning System (GPS)
- SC-147 – Traffic Alert and Collision Avoidance (TCAS)
- SC-135 – Environmental Testing

SC-186 History

- First Terms of Reference approved by RTCA Technical Management Committee – Feb. 1995
- First meeting – Feb. 1995
 - 80 attendees
 - Roughly 300 committee members
- Thirty Seventh meeting – June 16th, 2006
- Terms of Reference – Revision 10

SC-186 Leadership & Working Groups

- **SC-186 Co-Chairs**
 - Vincent Capezzuto, FAA
 - Rocky Stone, United Airlines
 - DFO – Stephen George, FAA
- **Working Group Structure**
 - Six Working Groups
 - Requirements Focus Group

SC-186 Working Groups

- **WG-1, Operations and Implementation**
 - Co-Chairs – Jim Walton, UPS and Randy Bone, MITRE/CASSD
- **WG-2, TIS-B MASPS**
 - Co- Chairs – Andrew Zeitlin, MITRE/CAASD and Ken Staub, Trios Assoc. Inc.
- **WG-3, ADS-B 1090 MHz MOPS**
 - Thomas Pagano, FAA and Bob Semar, United Airlines

SC-186 Working Groups

- **WG-4, Application Technical Requirements**
 - Co-Chairs - Jonathan Hammer, MITRE/CAASD and Steve Koczo, Rockwell Collins, Inc.
- **WG-5, UAT MOPS**
 - Co-Chairs - George Ligler, PMEI and Rich Jennings, FAA
- **WG-6, ADS-B MASPS**
 - Co-Chairs – Tom Foster, Trios Assoc. Inc. and Stuart Searight, FAA
- **Requirements Focus Group**
 - Co-Chairs – Stuart Searight, FAA and Jorg Steinleitner, Eurocontrol

Requirements Focus Group -- RFG

- FAA/Eurocontrol activity
 - European initiative
 - Outgrowth of Technical Link Assessment Team
 - Identify international applications of ADS-B
 - Harmonize Europe / US applications
 - Establish operational safety and performance requirements
 - World-wide interoperability via ICAO Panels, Regional Coordination Groups
- SC-186 committed to supporting the RFG activities

Products and Uses

- Minimum Aviation System Performance Standard (MASPS)
 - Describes the system
 - Provides rationale for:
 - Operational goals, requirements, system characteristics
 - Typical applications within a defined airspace

- Minimum Operational Performance Standard (MOPS)
 - Provides the standards for specific equipment
 - All components to properly perform “system” function
 - Basis for FAA Technical Standard Orders (TSO)

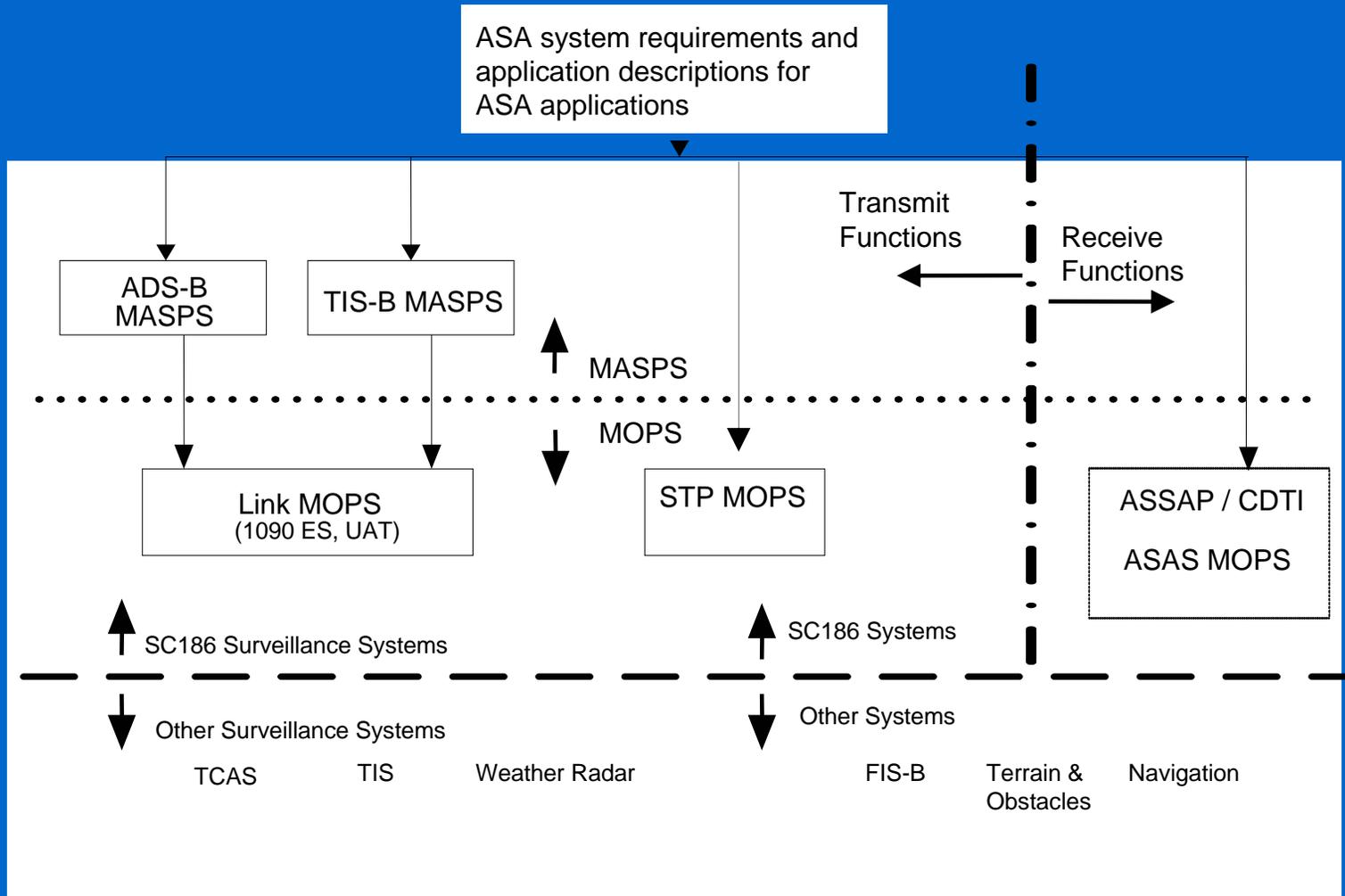
- Technical Guidance Documents / Reports
 - Detailed description of specific equipment, issue, plan or requirement

SC-186 – Documents

- DO-289 – ASA MASPS
 - High level system architecture and sub-system descriptions
- DO-242A – ADS-B MASPS
 - Describes system-wide operational use of ADS-B
- DO-286A – TIS-B MASPS
 - Describes a surveillance service that derives traffic information from ground surveillance sources, broadcasts to ADS-B equipped aircraft or surface vehicles
- DO-260A – 1090 MOPS for ADS-B and TIS-B
 - Airborne equipment characteristics / requirements for 1090 MHz Mode-S extended squitter
- Change 1- DO-260A – PMC consideration review/approval – June 27, 2006
- DO-282A – UAT MOPS
 - Airborne equipment characteristics / requirements utilizing the universal access transceiver
- DO-XXX – STP MOPS
 - Describes a function that processes information prior to the information being broadcast by the ADS-B transmit function
- DO-XXX – ASAS MOPS
 - Adds additional subsystems necessary to fully implement Airborne Surveillance Applications:
 - Airborne Surveillance and Separation Assurance Processing (ASSAP)
 - Cockpit Display of Traffic Information (CDTI)
- DO-259 CDTI Application Description
 - Provides initial CDTI applications descriptions

RTCA SC-186 Document Hierarchy

ASA MASPS



Work Plan

- Airborne Separation Assistance System MOPS
- RFG Documents
- DO-289A (ASA MASPS) for follow-on applications
 - DO-242B
 - DO-260B
 - DO-282B

Recent Milestones & Future Meeting Dates

- June 2006 – ADS-B Week at RTCA
 - Approved DO-XXX – STP MOPS
 - PMC - 3rd Qtr 2006 Meeting
- September 25-28, 2006 – Next Plenary
 - Review/Approve Initial RFG Document
 - Continue ASAS MOPS Development
- January 29 – February 2, 2007 – Follow-on Meeting

Contact RTCA

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Acronyms

- ADS-B – Automatic Dependent Surveillance-Broadcast
- ASA – Aircraft Surveillance Applications
- ASAS – Airborne Separation Assistance System
- ASSAP – Airborne Surveillance and Separation Assurance Processing
- CDTI – Cockpit Display of Traffic Information
- DO – Document
- ES – Extended Squitter
- EUROCAE – European Organisation for Civil Aviation Equipment
- MASPS – Minimum Aviation System Performance Standards
- MOPS – Minimum Operational Performance Standards
- RFG – Requirements Focus Group
- SC – Special Committee
- STP – Surveillance Transmit Processing
- TIS-B – Traffic Information Service – Broadcast
- UAT – Universal Access Transceiver
- WG – Working Group