

SC186 WG4 Meeting Minutes, August 27-29, 2002

Attendees:

Jonathan Hammer, (MITRE CAASD)	Jim Maynard (UPS-AT)
Joel Wichgers, (Rockwell Collins)	Greg Stayton (ACSS)
Steve Koczo, (Rockwell Collins)	Bill Morris (Raytheon)
Michael Petri (FAA WJHTC)	Gene Wong (FAA, 8/28)
Bob Hilb (via phone on 8/27)	Bill Petruzel (FAA, 8/28)
Bob Manning (DoD, 8/27)	
Randy Bone (MITRE CAASD)	
Ganghuai Wang (MITRE CAASD)	
Stan Jones (MITRE CAASD)	

Tuesday 8-27-02

0. Agenda Discussion

Review comments on ASA MASPS Chapter 1, ASIA and ASSA Apps
Randy Bone and Bob Hilb on CDTI
Chapter 2 and 3 discussion

1. Review of Comments on Draft ASA MASPS Chapters 1, ASIA, and ASSA Apps

Brief review of comments by Tom Mosher: His general comments raise that service levels need better definition; some concern that report rates (e.g. 2 sec, 95%) requirements cannot be met by data links; position requirements are too conservative.

We need to specify the range for each application.

Action item - Joel and Jonathan to review Tom Mosher's comments for ASSA and ASIA, respectively to attempt to resolve them.

2. Randy Bone Presentation on CDTI Features for ASA Applications

Applications considered: EVA, ASSA, FAROA, ASIA applications. Tables indicate Required, Optional elements. Bob Hilb has CD and ACM CDTI feature tables.

Surface map related CDTI features were viewed as basic, but are now being addressed in other SC forums (e.g., SC-181). Focus of the ASSA features will be more on the traffic considerations. We should note that there are a number of ways to depict the maps. SC-186 WG4 should address roles of runways and taxiways on the CDTI.

FAROA Features – Discussion

On-ground / in air status indication: Required or Desirable? Is it provided via transmit or does the receiver make the determination?

Transmitting aircraft needs to transmit on-ground / airborne status, or unknown.

For ADS-B, aircraft will know this status.

For TIS-B, this status may not be known about traffic, thus it is uplinked as ‘unknown’.

Greg: From experience, using TCAS, on-ground indication is often incorrect.

Jonathan: In the safety analysis, does lack of this status information or it being incorrect result in a hazard? **Joel action to review issue of lack of reliable on-ground indication for ASSA and FAROA hazards / safety study.**

Discussion about 1000 ft – 1500 ft being a threshold for determining whether traffic is of concern.

Helicopters hovering?

Surface Map should be added as a feature (row in table) for ASSA and FAROA.

Capabilities, e.g., ‘Autozoom’ for “access to runway environment with minimal actions”.

Discussion about ‘own-ship’ and ‘traffic position’: If a map is shown, traffic needs to be shown correctly relative to the map. Same for own ship.

Heading information?

Ground track information?

Action item to WG1: Question: For surface applications is there a requirement to display a target that does not report its heading with a non-directional symbol?

Stan – Concerning refresh requirements / age when target should no longer be displayable. This can be parameter specific (or could be lumped in with SV). Try to lump in with SV when possible. For Flight ID, one needs to receive it only one time. For surface applications, ‘heading’ requires special consideration, i.e., needs to be updated (this has been addressed in DO242-A). **Bob H. action:** Joel requested Bob to review the ASSA section on this (section D.2.2.4.2), items 11 and 12 to see if it meets his concerns on heading.

ASIA CDTI feature discussion:

This table requires review of WG1.

Will add speed cue.

Pan – ability to move display not tied to own-ship.

Alert – needs updating based on ASIA analysis work.

Will combine traffic bearing and range into ‘traffic position’.

Jim M. – **We will need to put section cross-reference numbers next to CDTI features, to identify where they are further defined in the document. WG4 editorial action.**

CD / ACM / EVA CDTI feature discussion – presented by Bob H. :

Discussion on horizontal velocity vector – agreed it is desirable.

‘Location of loss of separation’ feature – could be some type of zone ring.

WG1 will address CSPA features at their next meeting and provide inputs to WG4 for review.

Lunch Break

3. Service Levels Discussion – Strawman from Jonathan and Stan

Distinction between Service Levels and Capability Classes – Stan.

We may not need to encode all capabilities in a service level – Jim.

Quality factors

What are the qualifiers?

Applications may be disjoint.

ADS-B MASPS grouped 1) coverage range, and 2) data elements / content into A0-A3.

A0-A3 versus NIC/NAC levels.

Stan’s table: A0-3; A0 Hi altitude, A0 low-altitude: Addressed the link, but not processing and display. Recommended to follow this approach through completion.

Jim – ADS-B MASPS already provides 1) capability codes, 2) operational mode codes, and 3) capability code groupings for service levels.

We need to define the functional and performance requirements by application

We started to redraft Jonathan’s strawman table; Jim Maynard will fill out table for EVAcq, ASIA and ASSA.

Wednesday, August 28, 2002

Resumed discussion of Service Levels; reviewing the table provided by Jim Maynard that combined CDTI display feature by application.

Worked on an outline for chapter 2; **Steve Koczo action to address section 2.1 (introduction).**

Question for WG1: How are applications integrated? How does flight crew deal with multiple applications being active? How does one deal with multiple alerts from various applications?

Lunch Break

Continued with Service Level attribute identification process and developed tables that capture ‘features’ for each ASA application, in an attempt to identify Service Level mappings.

Thursday 8-28-02

Resumed discussion of Chapter 2. Jonathan inserted the ASSAP context diagram, which also identifies the I/Os and generated a draft table that lists data elements needed by each ASA application. This was numbered section 2.3 in the outline.

Jonathan action: Work with Stan on completing a draft of this section, which includes identifying interfaces and data elements needed for each ASA application.

Jim M. action: Develop draft of section 2.2. (Application Requirements) and associated tables.

Discussion about separate or integrated display with TCAS traffic display. We already have notes in the text discussing this.

Steve K action – Revise top-level Figure (2-1) to include a block to support ‘other aircraft systems’, such as for air/gnd indication and provide a new designator (J). Also add data interface from ‘navigation’ to ‘ADS-B transmit’.

Discussion of where the data filtering occurs (in ASSAP or CDTI). Also when pilot selects target, ASSAP needs to provide the data to be displayed to CDTI.

Jim M. action to provide a strawman for ASSAP / CDTI interface (which is paragraph F in the current draft).

Action for WG4-WG1 discussion concerning ‘degraded state’ and corresponding issues concerning CDTI.

Jonathan action – Coordinate with WG1 to schedule a joint meeting time with WG4.

Summary of Action Items for August 27-29, 2002 WG4 meeting

1. Action item - Joel and Jonathan to review Tom Mosier’s comments for ASSA and ASIA, respectively to attempt to resolve them.
2. Joel action to review issue of lack of reliable on-ground indication for ASSA and FAROA hazards / safety study.
3. Action item to WG1: Question: For surface applications is there a requirement to display a target that does not report its heading with a non-directional symbol?
4. Bob H. action: Joel requested Bob to review the appropriate ASSA section which discusses the use of ‘heading’ (section D.2.2.4.2 items 11 and 12) to see if it addresses his concerns.
5. WG4 editorial action suggested by Jim M. – We need to put section cross-reference numbers next to CDTI features, to identify where they are further defined in the document.
6. WG1 will address CSPA features at their next meeting and provide inputs to WG4 for review.
7. Steve Koczko action to write the draft section 2.1 (introduction).
8. Question for WG1: How are applications integrated? How does flight crew deal with multiple applications being active? How does one deal with multiple alerts from various applications?

9. Jonathan action: Work with Stan on completing a draft of this section (2.3), which includes identifying interfaces and data elements needed for each ASA application.
10. Jim M. action: Develop draft of section 2.2. (Application Requirements) and associated tables.
11. Steve K action – Revise top-level figure (Figure 2-1) to include a block to support ‘other aircraft systems’, such as for air/gnd indication and provide a new designator (J). Also add data interface from ‘navigation’ to ‘ADS-B transmit’.
12. Jim M. action to provide a strawman for ASSAP / CDTI interface (which is paragraph F in the current draft). Addresses target filtering, control panel inputs to ASSAP, data block for selected targets, etc.
13. Action for WG4-WG1 discussion concerning ‘degraded state’ and corresponding issues concerning CDTI.
14. Jonathan action – Coordinate with WG1 to schedule a joint meeting time with WG4.

Future WG4 Meetings

October 23-25, NASA Ames, San Jose

November 19-21, DC

December 17-19 editing sessions (via internet) or meeting

January 14-16 editing sessions (via internet)

January 27-29 WG4, January 30-31 plenary DC

February 11-12 editing session (via internet)

March 4-6 West Coast

Telecons

September 12 2:30-5:00 PM ET

October 3 1:00-4:00 PM ET

Document Schedule Discussion

Oct – Review of Appendices

Nov – Chapter 2 complete

Dec – Chapter 3 complete, full MASPS draft pulled together

Jan-Mar – Editorial

Mar – Draft out

April - Ballot

End of meeting minutes