15TH MEETING OF THE ISPACG FANS INTEROPERABILITY TEAM (FIT/15)

(Papeete, Polynésie Française, 11th – 12th March 2008)

Meeting Report

1.0   Review and approve agenda

1.1   Eric Lieutaud of SEAC welcomed participants. Brad Cornell, the FIT Chairmen, introduced the proposed agenda. The agenda was accepted as presented.

1.2   Gordon Sandell (FAA CRA) will record the minutes.

1.3   Working Papers (WP), Information Papers (IP), and PowerPoint Presentations (PP) will be available on the ISPACG website.

2.0   Stakeholder Reports

2.1   Each of the South Pacific stakeholders (operators, Air Navigation Service Providers and Datalink Service Providers) gave a brief overview of their recent experiences and expectations.

2.2   United Airlines (Gene Cameron) stated that UAL was grateful for finally getting the ability to use equipment they had put on the airplanes in the 1990s. An LAX to Sydney flight uses around 45000 gallons of fuel at $3 a gallon. DARPS, UPRs etc. have cut costs so it's what keeps them in business. This is necessary for airlines' survival

2.3   QANTAS (Graham Rennie) echoed UAL's theme. He offered bouquets to Airways for UPRs from Auckland (although QANTAS can't use it) and also Christchurch UPRs. They are looking for operational DARPS across the Pacific, and he noted that fuel costs are overriding other costs to make this all happen.

2.4   LAN-Chile are working on UPRs. They noted a saving of 2000kg of fuel per flight, and offered their thanks to those who have helped them.

2.5   Air New Zealand (Mark Shepherd) reiterated UAL's comments on fuel. They are benefiting from UPRS from the Auckland VOR. DARPS is very important to them, although they are not doing it today, but that's an internal issue. He also noted they were getting benefits from NZ-Japan UPRs. He thanked all those who made it possible.

2.6   Air Calin noted they will be operating UPRs very soon on Japan and South Korea routes, saving 5-10 minutes on each leg. ETOPS/RNP 4 let them take advantage of high altitude winds.

2.7   Air Tahiti Nui noted that they are now FANS-A+ equipped, using the SATCOM high-speed channel. They noted that they have experienced boundary transfer problems and issues with erroneous data that may be a crew issue.

2.8   Tahiti ACC noted they are changing systems around May-October of this year. Currently they offer UPRs, but not DARPS. They expect more functionality including DARPS and separation reduction in mid-2009.

2.9   FAA (Dennis Addison) noted they were working several projects with significant fuel savings. Unrestricted 30/30 trials have continued since 2007, and there have been no significant SATCOM outages since last August. The FAA is looking to expand PACOTS tracks between Japan and Hawaii to save over 2.2 million kg of fuel, and UPRs between Narita and Sydney/Brisbane, as well as UPRs to Russian far east routes, saving up to 40min flying time, or 3-5,000lb per flight. They are improving PACOTS track generation by removing restrictions (with JCAB). Oceanic tailored arrivals have been in trials since 12/07, with a savings of 800lb per arrival. They have had 34 full TAs, and 87 partial TAs as of Feb 18, and there will be a TA symposium in Tokyo on March 27. They have also been performing HFDL trials with Hawaiian (2 flights), and are now awaiting a software fix from Honeywell to avoid dropouts. The FAA will also be undertaking a trial with iridium (there will be an IP on this at ISPACG, and Tom Kraft is the lead on this). The study on 50 longitudinal in Anchorage FIR is continuing.

2.10   Fiji noted they have 2 projects to complete by the first quarter of 2009; ADS-B and the FTS replacement.

2.11   Chile (Jose Carrasco) noted that their system is not yet completed, and that they have an issue dealing with routes not on 5degree increments.

2.12   Airservices Australia (Adam Watkin) gave a presentation. There have been performance improvements in 2007, with less outages. They have been receiving better feedback from DSPs (SITA and ARINC). As issues, he noted that the Thai A346 has problems, and that weather deviations are still an issue. They are getting offset requests rather than weather deviation requests, also free text weather deviation requests, not receiving a deviation request at all, and seeing airplanes flying deviations in excess of their clearance. In similar vein, they are seeing free text "back on route" messages. They are also still getting cruise climb requests (some "due to weather"!) – Airservices don't issue them. Some crews are performing manual logons (when they should let the transfer process and address forwarding do that). They are also still seeing incorrect logons (erroneous flight number). They also send CPDLC route clearances, get a WILCO response and then see the airplane not complying with the clearance. As always, free text is still a problem. He noted that CONFIRM ASSIGNED LEVEL for airplanes arriving in a block altitude won't be used any longer as they now support blocks. They are using 30/30 East of Australia.

2.13   Airways Corporation of New Zealand (Paul Radford) gave a presentation. He noted there had been substantial performance improvements (particularly since the Perth GES improvements), and performance has been holding steady since January 2007. DSP availability has improved, and non-delivery is around 0.5%. In their ACP analysis, they have noted significant differences between airplane types and between operators using the same airplane type. He noted that it was very easy to determine which operators used high-speed SATCOM channels and which used low-speed, as with the high speed channel around 40% were received in less than10 seconds, and with low-speed very few were. They are using the SPR (DO-306/ED-122) as the basis for analysis. System stability has significantly improved. Airways will be installing FANS on the reserve platform in 2009. He noted they were using a two-stage AFN logon process. At this meeting, Airways would like to adopt the oceanic SPR, discuss what is monitored for SPR, and discuss aircraft/airline performance differences.

2.14   Papua/New Guinea (insert name here) noted they have been performing paper trials on UPRs to Oakland/Narita. Several projects are being processed with Airservices, and the ATM System being upgraded in 2010. They will be presenting a paper.

2.15   SITA (Kathy Kearns) noted that the SATCOM GES upgrades are now complete. SITA has been participating in the FANS SIT chaired by Inmarsat.

2.16   ARINC (Pete Grogan) noted that ARINC has also completed GES upgrades –going second was easier! Santa Paula and Eik have been upgraded since January. There was a new software release a couple of weeks ago in Eik (which will go into Santa Paula in the next 2 weeks) to deal with logon denials. Southbury will be decommissioned shortly (when they will transition to Eik for AOW). ARINC is working with Inmarsat to provide Inmarsat 4/SwiftBroadband service. They are also providing Iridium service for COA and will be participating in trials on that and HFDL.

2.17   IFALPA (Toby Gursanscky) asked if the group was taking steps to monitor the results of the GES upgrades and ensure the capacity meets traffic needs. Kathy Kearns noted the capacity planning work undertaken by FANS SIT and others.

2.18   IFATCA (Gary Laing) noted they were mindful of the need to support airlines, and fuel costs in particular. They support new initiatives / technologies (UPRs, DARPS)., but need to consider their impact on ATC tasks. They need a good conflict detection capability.

3.0   Problem Reports

3.1   Boeing (Gordon Sandell) gave a presentation on the Central Reporting Agency (CRA) problem report activities. The report was prepared by Suzie Ness, who unfortunately could not be present, and sent her regrets. The CRA has received around 40 South Pacific reports (as compared to 100 in the previous 12 months), resulting in 12 new Problem Reports. The remaining PRs were duplicates of existing Problem Reports, addressed known SATCOM performance issues, or did not merit a PR being written, because they covered known equipment failures, or resulted from normal operation of the system.

3.2   Several Problem Reports were discussed in more detail. These included 3 relating to MD-11, two related to B777, two for A330, one for B743, two ground transfer failures, and one interoperability issue (covering different rules for the character set in ICAO unit names between Boeing and Airbus. The latter should be addressed in the FOM.

3.3   Adam Watkin presented WP/3 on incorrect and default time data. He noted differences in rates of default values and erroneous values for different types, and also between airlines with the same airplane type. Paul Radford has suggested that weather deviations may affect it. Adam asked that the CRA investigate this further.

4.0   System Performance

4.1   Thales (Craig Roberts) presented an update on downlink performance statistics. There is no uplink data. VHF performance is well above 95%, and CPDLC over SATCOM generally meets the 95% criterion. ADS-C over SATCOM is in the range 93-96% (3 out of 5 ATSUs are below the target, including 2 of the busier ones). We are generally meeting the 99% delivery requirement (although there was a problem last June). As regards 30/30 performance, everyone meets 93.5% for CPDLC and ADS. There has been a 30-50% increase in datalink traffic since 2004. Almost 40% of the available message elements are "never sent" (which he defined as <0.001% of total messages or <30 times ever). 16 uplink message elements account for 92% of the total usage

5.0   Oceanic Safety ad Performance Requirements (SPR).

5.1   Christophe Cassiau-Haurie presented WP/2 on Safety requirements. He noted that the A350 airplane is designed against DO-306 (the oceanic SPR). This includes a requirement to time-stamp uplinks, and another requirement to notify controllers for missing responses.

5.2   Bob Hansen noted that Ocean21 system does not time-stamp uplinks. This should be changed within a year. They are looking at developing RCP/240D and RCP/400D timers to comply with the other requirements. He noted that we need each ATSU to address their compliance with the SPR.

5.3   Paul Radford presented a working paper noting that the SPR adds 24 requirements, and that the NZ system complies with 22 of them, and partially complies with one other (SR-14). SR-15 is the one they are non-compliant.

5.4   It was noted that the information in the paper should be brought forward to other venues, including FITBOB, IPACG and NATFIG.

5.5   Paul Radford presented WP/3 on monitoring requirements. He noted that up to now monitoring has been against the FOM requirements, and proposed that they should now reflect the SPR requirements. Appendix A of the paper contains draft language to incorporate the SPR into the FOM. Airways have started monitoring SPR requirements to provide ACP, ACTP and Actual Crew Response. They have found significant differences between airplane types and between operators on the same type. Investigation/analysis continues. He noted the significant performance benefits from using the SATCOM high-speed channel. He asked that the datalink working group be tasked with developing the reporting requirements. NATSPG has made some amendments to the monitoring requirements at their February meeting in Paris, and he recommended that the Asia/Pacific region be asked to align themselves with those changes. These are in Appendix D.

5.6   Tom Kraft provided an overview of performance-based communication (WP/7). He listed the relevant standards in ICAO and RTCA/EUROCAE documents. The key document applicable to ISPACG is DO-306/ED-122, and it needs to become a global standard, applicable to all regions. Additional requirements are being proposed, beyond those in DO-306, including system outage limits, and increasing availability from 99.9% to 99.99%. He asked that ISPACG address how to promulgate RCP in the region, and indicated they should recognize DO-306/ED-122 with the additional requirements. There was some discussion on what should happen when the monitoring indicated a performance requirement was not being met. Andrew Tiede noted that RVSM monitoring is always after-the-event, and if the target level of safety is not met that is not regarded as a reason to terminate RVSM, but as a reason to start corrective action, and this should be the model for RCP monitoring. A recommendation was made by the meeting for ISPACG to adopt DO-306/ED-122 as amended by the SATCOM Improvement Team.

5.7   Tom Kraft presented a working paper reviewing the FOM (WP/12), and contrasting it with DO-306/ED-122 to determine what needs to change. While system monitoring is a significant element, there are additional areas that need to change, including licensing, validation and message sets. He noted that the proposal to use ROGER (um3) as a response to MAYDAY or PAN PAN PAN downlinks may introduce interoperability problems. Tom's recommendation was to align the FOM with DO-306, and make any additional changes needed to promote global adoption of the FOM. The conclusion of the discussion was that this would be worked through the datalink working group.

6.0   FANS SATCOM Improvement Team

6.1   Pete Grogan presented a paper on the FANS SIT. The presentation had originally been given at the AEEC Datalink Users Forum by Gary Colledge of Inmarsat. He presented the history of the group, with 3 meetings having been held to date. He listed several short-term improvements that have been worked, as well as some medium/long-term improvements. These are all encompassed in Change Proposal CP96, and Rockwell-Collins has offered a fee-of-charge service bulletin upgrade for their SDUs. The next meeting of FANS SIT is in San Diego in May.

6.2   Pete Grogan also presented another Gary Colledge presentation on classic Aero services over the I4 satellites, using a single SATCOM antenna for both classic service and SwiftBroadband. Inmarsat will own and operate two GES (Hawaii and Fucino) to support the 3 I4 satellites.

7.0   IRIDIUM

7.1   Mike Meza gave a presentation on Continental's plans to install and use Iridium for ACARS and voice communications (actually prepared by David Pitoniak of Continental Airlines who could not attend sent his regrets to the meeting). It showed the Continental Airlines fleet ACARS equipage. They now have ACARS-over-Iridium on nine airplanes (first flight 2 March 2008). They have 60 aircraft in oceanic operation with no SATCOM and no FANS. Once they have Iridium, the next step will be to introduce FANS on those airplanes. Tom Kraft noted that PARC was working on approval of Iridium for safety services.

7.2   Mike Meza noted that Iridium was already in the procurement process for replacement satellites with a 2013 date to support obsolescence of the existing constellation.

7.3   Tom Kraft briefly summarized his information paper (IP/4) on Iridium. The PARC CWG is meeting in Seattle on 18-20 March to review the plan in the working paper for Iridium validation/approval.

7.4   Adam Watkin presented WP/11, proposing additional airlines be included in the FANS over Iridium project. Cargolux and QANTAS have approached Airservices, and both are interested in participation. Tom Kraft indicated that this would be taken to the next PARC CWG meeting, but that he would prefer to start trials with a single operator and include others later.

8.0   Other Working Papers

8.1   Paul Radford presented working paper WP/5 proposing that the CRA establish a database that would provide airplane configuration data for each operator/airplane type. ARINC/SITA would be able to provide data to populate the database, but keeping it updated would be an issue. NATFIG has also been requesting this, and the aim would be to have a common database. The meeting agreed with his proposals.

8.2   Paul Radford presented WP/6 on airplane registration. In some aircraft the registration number included in the AFN can differ from the one applied by the ACARS MU. Airways has implemented a 2-stage logon process. If the 2 registration numbers differ, it will be rejected. If they match, it will then be subject to flight plan correlation. This is a problem particularly associated with Pegasus FMCs.

8.3   Adam Watkin presented WP/8, which stemmed from an incident in Brisbane airspace, and emphasis the importance of establishing CPDLC data authority with an airplane. In this incident, there were 3 aircraft involved. A level change clearance was sent to the first aircraft (which was now 20 minutes into next FIR) when it should have been sent to the

third aircraft (the same operator, with a similar call sign). Several things happened that could have avoided the incident. There was no CPDLC position report at the FIR boundary, the flight crew could have terminated the CPDLC connection at the FIR boundary, and the next unit hadn't confirmed they were active connection. Adam recommended a FOM change to emphasize the need to make this confirmation.

8.4   Adam Watkin presented WP/10 on the relative timing of multiple ADS reports for the same event, showing significant delays for the second report. Paul Radford noted that AIDC version 3 does allow a ground-ground forwarding of ADS reports, but ATSUs are unlikely to accept having ground-ground only.

8.5   Christophe Cassiau-Haurie presented IP/01 on embedded network acknowledgements in uplinks for ATC and OCL uplink messages. This is because of a bug in earlier ATSU software. This is resolved for ATC uplinks (but not OCL) in FANS-A+. And in the NAT they are applying a 5-second timer as a work-around.

9.0   FOM RFCs

9.1   Mark Shepherd presented an RFC to allow electronic CRA problem reporting. Meeting concurred.

9.2   Mark Shepherd presented an RFC on position reporting in Fukuoka FIR. Meeting concurred.

9.3   Mark Shepherd presented an RFC on AT position CONTACT/MONITOR uplink messages, to add guidance that um117 and um120 should only be used when the intent is for immediate compliance. Meeting concurred (with addition of AT time…) after much discussion. It was noted that, on Airbus aircraft, if the condition occurs after the transfer, aircraft monitoring stops and is indicated to the crew.

9.4   Adam Watkin presented an RFC to replace FIR designators with the center name (e.g. BRISBANE instead of YBBB). The meeting noted the need to address conditional versions of these messages and cover the interoperability issue of using spaces in these names. The RFC was withdrawn

9.5   Adam Watkin presented an RFC to update the logon procedures to cover airborne logons. Meeting concurred.

9.6   Adam Watkin presented an RFC on preformatted free text, specifically relating to SECONDARY FREQUENCY, and introducing NO SPEED RESTRICTION. There was a great deal of discussion on appropriate use of speed clearances, and how this message could impact downstream FIRs. The RFC was approved for SECONDARY FREQUENCY. The NO SPEED RESTRICTION was removed from the RFC. It was concluded that there are several issues with use of speed clearances.   A recommendation was made by the meeting for ISPACG to review use of speed clearances.

9.7   Adam Watkin presented an RFC on STANDBY uplinks, emphasizing its use to indicate that the request is being assessed, and that it is not to be used just to indicate receipt of the request. The change to Section 5.4.7.2 was approved.

10.0 Action Items

The action item list from the last FIT meeting was reviewed:

No.	Action	Assignee	Status
13-1	Complete Airservices questionnaire on route clearances	Boeing, Airbus, CMC, USAF	Airbus and Boeing closed, Others Open
13-2	Ensure that the routing of HF data link messages try the alternate DSPs SATCOM service via internetworking before trying HF – DL	ARINC	Closed
14-1	ARINC to keep the CRA up to date with any potential changes to planned GES upgrades.	ARINC	Closed
14-2	SITA to share GES upgrade lesions learned with ARINC.	SITA	Closed
14-3	Iridium to keep the FIT stakeholders up to date with additional constellation upgrade information as it becomes available	Iridium	Closed
14-4	CRA to suggest formation of a SATCOM voice trial to ISPACG.	CRA	Closed
14-5	Provide information on when B742/B743 ADS function will correctly report wind data and provide predicted route group altitudes.	CRA	Open
14-6	Investigate issue with MD-11 loading of um77	CRA, ASA	Closed

11.0 Any Other Business

11.1 Adam Watkin informed the group about a neighboring ATSU that has implemented datalink without publishing any revised Aeronautical Information Publications (AIPs) for its use. The meeting requested that ICAO coordinate with the ATSU to ensure proper operation in that FIR.

Attachment A   FIT 15 Action Item List

No.	Action	Assignee	Status
15-1	Assess ATSU compliance with Oceanic SPR Document (DO-306/ED-122)	ATSUs	Open
15-2	Bring forward ATSU SPR compliance to other bodies	FATBOB, IPACG, NATFIG	Open
15-3	Ensure airframe documentation includes appropriate guidance so that crew response times will meet SPR.	Airframe Manufacturers	Open
15-4	Continue analysis of ADS predicted route data to determine root causes of ETA unavailability and errors	CRA, ASA, ACNZ	Open
15-5	Provide RFC to emphasize need to confirm data authority	ASA	Open
15-6	Develop new monitoring requirements in alignment with Oceanic SPR standard and propose RFC to align the FOM.	Data link working group	Open
15-7	Complete review of the FOM with a goal of achieving adoption of the FOM by all regions providing FANS services	Airservices Australia	Open

Attachment B   FIT meeting recommendations to ISPACG

A recommendation was made by the meeting for ISPACG to adopt DO-306/ED-122 as amended by the SATCOM Improvement Team.

A recommendation was made by the meeting for ISPACG to review use of speed clearances.