Thirty-Ninth Meeting of the
Informal South Pacific ATS Coordinating Group
(ISPACG/39)

Thirty-Second Meeting of the
FANS Interoperability Team
(FIT/32)

Port Moresby, Papua New Guinea
9 April 2025

Agenda Item 1: CRA Problem Report Briefings

Future Air Navigation System (FANS) Problem Report (PR) Briefing

Presented by the Central Reporting Agency (CRA)

SUMMARY

This paper describes recent investigation and disposition of submitted FANS PRs that are relevant to the ISPACG FIT.

1 INTRODUCTION

1.1 FANS stakeholders may submit PRs for investigation via the http://www.fans-cra.com/ website.

a) Airways New Zealand graciously hosts and maintains this website.

b) Stakeholders from multiple areas use this website, including the South Pacific area (ISPACG FIT), the North and Central Pacific area (IPACG FIT), the Asia area (FIT-Asia), and the North Atlantic area (NAT TIG).

1.2 Between preparation of the previous FANS PR briefing for the FIT/31 meeting held in June 2024 and preparation of this FANS PR briefing in March 2025, FANS stakeholders submitted 92 PRs via the website, of which 11 PRs (12%) occurred in the South Pacific area. For comparison, the previous FANS PR briefing indicated that FANS stakeholders submitted 183 PRs, of which 26 PRs (14%) occurred in the South Pacific area.

1.3 Figure 1 illustrates the number of PRs that FANS stakeholders submitted per calendar year starting in 2006. The dotted line and associated number in the figure represent a linear projection of the number of PRs that will be submitted in 2025.

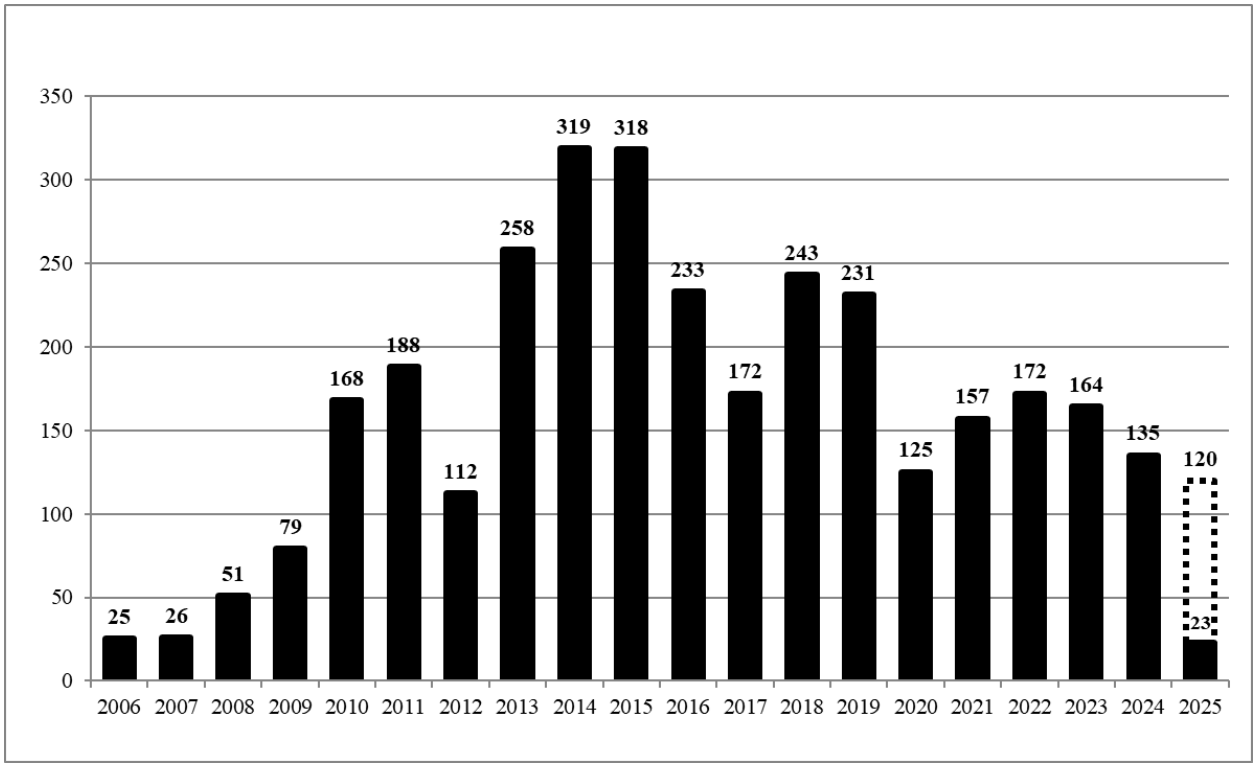

Figure 1. FANS PRs Per Year

1.4 PR status definitions include the following:

- **Raised:** The PR originator submitted the PR but the CRA has not yet processed it.
- **Active:** The CRA processed the PR and assigned it for investigation.
- **Open:** The CRA completed the PR investigation but some form of corrective action is required before the CRA can close it.
- **Open – Fix Available:** The appropriate stakeholder implemented corrective action and a fix is available for installation.
- **Closed:** The appropriate stakeholder implemented corrective action.
- **Closed As Duplicate:** The CRA is already tracking the same problem with another PR.
- **Closed – Monitoring:** The CRA cannot determine the corrective action and will monitor future PRs for any recurrences of the problem.

1.5 PR type definitions include the following:

- **TBA**: To be assigned
- **Air – Procedural**: Flight crew issue
- **Air – Technical**: Avionics issue
- **Ground – Procedural**: Air traffic controller issue

- **Ground – Technical**: ATS unit system issue
- **Network**: Communication service provider or SATCOM service provider issue
- **Multiple**: Multiple types of issues
- **None**: Report is a non-problem

2 DISCUSSION

2.1 The CRA notes the following updates to old PRs which are relevant to the ISPACG FIT:

a) 777 AIMS BPV18 software is currently expected to become available in the fourth quarter of 2025. This software will resolve PRs 2292-SN (inability to initiate logon), 2821-SH (no timestamp in CPDLC downlink message with dM63 NOT CURRENT DATA AUTHORITY), and 3090-SH (inability to initiate logon) and also implement the ACARS RAT1 function (to improve PBCS time performance in VHF-to-SATCOM transition areas).

b) 747 NG FMC BP4.1 software is currently expected to become available in July 2025. This software will resolve PRs 2892-KS (inability to initiate logon) and 3251-GM (incorrect rounding of certain Mach speeds on ATC LOG page and printouts).

c) 787 CMF BPv7 software is currently expected to become available in April 2026. This software will resolve PRs 2685-MM (inability to send downlink messages), 3119-MM (truncated CPDLC position reports when wind direction is between 0.0° and 0.9°), 3264-MM (incorrect rejection of CPDLC connection requests), 3344-MM (incorrect rejection of CPDLC connection requests), and 3534-MM (incorrect wind direction in ADS-C reports when wind direction is between 126° and 234°) and also implement the ACARS RAT1 function (to improve PBCS time performance in VHF-to-SATCOM transition areas).

d) 3486-RA, Closed / Air – Technical. Airways New Zealand (and also the FAA) reported that several Boeing 777s operated by the same aircraft operator simultaneously used both Inmarsat SATCOM and Iridium SATCOM, which resulted in poor ACP (because uplink messages evidently succeeded only via Iridium SATCOM) as well as duplicate ADS-C reports (because the avionics transmitted the reports via both Inmarsat SATCOM and Iridium SATCOM). The aircraft operator, which added the Iridium SATCOM avionics, has installed avionics software to address this issue.

e) 3511-MM, Closed / Ground – Technical. An Air New Zealand Boeing 787 flight crew reported that they received eleven MONITOR uplinks during an eight-minute period. The ATS provider deployed a technical solution to this problem in May 2024.

f) 3656-CJ, Closed – Monitoring / Air – Technical. Airways New Zealand reported PBCS performance degradation below 95% RSP 180 requirements for a Fiji Airways Airbus A330 utilizing SATCOM media. Airbus determined that the SATCOM unavailability was due to low signal power caused by a loose coaxial connection and provided troubleshooting recommendations to the operator. A recent report from Airways New Zealand indicated that the PBCS performance of the aircraft had improved. The CRA notes that this PR has a similar root cause as PRs 3631-RP and 3665-CJ.

g) 3668-RP, Closed / None. NiuSky Pacific reported receiving a duplicate CPDLC downlink response from a China Airlines Airbus A350. Analysis by Airbus indicated that the duplicate was a retransmission due to a VHF to SATCOM transitions. The CRA closed this PR as a non-problem on the basis that the aircraft correctly rerouted the downlink to SATCOM according to the ACARS protocols and that occasional duplicate downlinks are an unavoidable consequence of mobile RF (wireless) data communications. The CRA also recommends that ATS providers consider detecting and discarding duplicate downlinks like avionics detect and discard duplicate uplinks; please see ICAO Doc 10037 (GOLD) 1st Edition Section 1.2.1.1.5 (including Note 1) and Appendix C.20 as well as problem G6 in the FANS Problem-Solution Tracker (available at https://www.fans-cra.com/performance/list/all_regions).

2.2 The CRA received the following significant new PRs which occurred in the South Pacific region:

a) 3739-MM, Active / TBA. An Air New Zealand Boeing 787 flight crew reported that a CPDLC transfer from Auckland Oceanic to Nadi failed. ACARS message log analysis by the CRA indicates that the problem occurred because SITA could not deliver the END SERVICE uplink message from Auckland Oceanic to the aircraft. The CRA assigned SITA to investigate why it could not deliver the message, as well as Airways New Zealand to consider resending failed uplinks one time after a short delay in accordance with PANS-ATM (ICAO Document 4444 Section 14.3.8) guidance.

b) 3747-RA, Closed / Air – Procedural. An Air New Zealand Boeing 777 flight crew reported that they could not successfully log on to Oakland Oceanic during two consecutive flights. The FAA indicated that the flight plans filed for those flights did not include the J5 (Inmarsat SATCOM) or J7 (Iridium SATCOM) equipage indicator that it requires for a successful log on to Oakland Oceanic.

c) 3759-CJ, Active / TBA. Airservices Australia reported an Airbus A333 that rejected multiple CPDLC uplinks due to its latency monitor function and sent downlink responses with timestamps earlier than the associated uplink. The CRA assigned this PR to Airbus for investigation.

d) 3760-RP, Active / TBA. The FAA reported a Boeing 767-300ER that downlinked five ADS-C position reports containing inaccurate ETA estimates for the AHNDO fix. The PR is currently under investigation by Boeing.

e) 3767-CJ, Active / TBA. Airservices Australia reported a Boeing 737 MAX flight crew that indicated multiple Direct To clearance uplinks were not received by the aircraft. During that same period, other uplinks (such as SQUAWK and MONITOR) were received by the aircraft. The CRA notes that there have been similar reports in the NAT. The PR is currently under investigation by Boeing, with plans to install a pre-configured CMU on an operator's aircraft to capture data needed for the investigation.

f) 3772-MM, Active / TBA. Airways New Zealand reported that it received a CPDLC clearance request from an Air New Zealand Boeing 787 when it was not yet the current data authority. Boeing and Honeywell are investigating this PR.

2.3 The CRA received the following significant new PRs which occurred outside the South Pacific region, but which are relevant to the ISPACG FIT:

a) 3723-MM, Closed / Multiple. The FAA reported that an aircraft operating in Oakland Oceanic airspace received a CPDLC climb clearance from a test system, not from an air traffic controller. ACARS message log analysis by the CRA indicates that a pilot, maintainer, or other individual logged on to and established a CPDLC connection with the test system while the aircraft was on the ground between flights and that the connection remained established for the next flight, which evidently caused the flight crew to believe that the CPDLC connection was established with Oakland Oceanic and that an air traffic controller provided the CPDLC climb clearance. Eventually, the situation was corrected through HF voice communications and a CPDLC connection was established between the aircraft and Oakland Oceanic. The operator of the test system made several changes to the system to prevent the problem from recurring, including implementing a timer that automatically terminates any CPDLC connections after 20 minutes and responding automatically to any CPDLC clearance requests with UNABLE and TEST SYSTEM ONLY free-text.

b) The CRA is also aware of multiple PRs in other regions that were caused by the effects of GPS interference on the FANS AFN, CPDLC, and ADS-C applications (particular incorrect aircraft time and position information). Aircraft and avionics manufacturers are aware of these problems and are working to improve the robustness of their GPS avionics to better respond to and recover from GPS interference.

2.4 The CRA received the following less-significant new PRs which occurred in the South Pacific region:

a) 3716-CJ, Closed / TBA. NiuSky Pacific reported that an expected ADS-C periodic report was not received from a Boeing 737 MAX. The CRA obtained

ACARS logs for the reported date, but the logs did not contain the event in question. Without further data to investigate, the CRA closed the PR.

b) 3706-NI, Active / TBA. The FAA reported intermittent datalink issues with a Gulfstream GLF4, during which no downlinks were received from the aircraft and MAS failures were returned in response to uplinks. The CRA assigned this PR to Gulfstream for investigation.

c) 3711-MM, Closed / None. Airways New Zealand reported that the aircraft operator of a PBCS-certified Bombardier Global 7500 filed flight plans for it that indicated VDL Mode 2 (J1) and VDL Mode A (J3) equipage but the aircraft used only Iridium SATCOM. The CRA closed this PR based on the aircraft operator indicating that it sold the aircraft and the aircraft will no longer be operated in the South Pacific region.

d) 3712-MM, Closed / Air – Procedural. Airservices Australia reported that it received evidently spurious AFN contact messages from a Gulfstream G200 indicating that the aircraft was located at Tampa International Airport in the state of Florida in the southeastern United States. The CRA closed this PR based on ARINCDirect (the aircraft operator's flight support services provider) forwarding a request to the aircraft operator to refrain from sending spurious AFN contact messages.

e) 3776-MM, Active / TBA. An Air New Zealand Boeing 787 flight crew reported that a CPDLC transfer from Ujung Pandang to Manila failed. ACARS message log analysis by the CRA indicates that the problem occurred because Ujung Pandang did not perform AFN address forwarding to Manila and did not terminate its CPDLC connection as the current data authority by the time that the aircraft crossed the FIR boundary. The CRA assigned AirNav Indonesia to investigate this PR further.

3 ACTION BY THE MEETING

3.1 The CRA invites the ISPACG FIT to:

a) note the content of this paper and

b) promote expeditious resolution of Active and Open PRs.