

PR Review

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North Atlantic PRs

PR 1660 : spurious Lat / Long given in ADS POS

Issue:

NATS reported unexpected lat/long in ADS-C predicted route frame.

Analysis:

Scenario different from PR 1557 , although same airline (AWE).

Two issues:

1) Ground ATCo complained of erroneous ETG.

Analysis shows Default Data were sent by the A/C but seemed to have been displayed to the ATCo screen as erroneous ones (erroneous UTCs were displayed on ground for the predicted time at the NEXT, NEXT +1 fixes).

Note: Predicted value are not available until FMS re-computation is completed.

DEFAULT DATA SHOULD BE DISPLAYED AS SUCH TO CONTROLLERS.
UNDER INVESTIGATION

2) Wrong Lat / Long

On going investigations (with very few data!!)

PR 1758 : Unauthorized climb due to misunderstanding CPDLC Msg

Issue:

Shanwick reported that aircraft climb to FL350 without receiving clearance. The pilot says that the clearance was received by CPDLC.

Analysis:

A request to climb to FL 350 was sent by the pilot. The ground answered “ STAND BY” , and the “STAND BY” reply was displayed to the pilot. There is no other clearance msg and the air-ground msg sequence does not reveal any missing message .

TO BE CLOSED

PR 1502 : ADS-C performance issue with one A345 operator in New York

Issue:

FAA reported very poor performance for two ARA aircraft in 2013.

Analysis:

Analysis highlighted a Satcom issue. The airline was contacted and asked to report any further issue with associated Satcom internal logs, but ...without answer!

Beginning 2015 FAA reported that the aircraft performance was still very bad. The airline has again been contacted for data retrievals (internal logs and status of communication means). Airbus is waiting for these data

UNDER INVESTIGATION

PR 1406 : A333 makes multiple partial ADS reports

Issue:

Isavia reported receiving multiple ADS-C reports with default values

Analysis:

Air/ground analysis confirms that there is no predicted data in ADS-C projected profile report for an hour or so . No internal traces available to explain this loss of predictions.
No such further reports have been received so far → Considered as an isolated case

ON OVERSIGHT

PR 1368 : ADS-C Report contained incorrect NEXT and NEXT+1

Issue:

FAA reported erroneous ADS-C lat/long data for NEXT and NEXT+1 waypoints

Analysis:

Air/ground analysis confirms that lat/long data for NEXT and NEXT +1 waypoint is erroneous.

Air/ground traces point to the following scenario :

A periodic contract is sent just after a waypoint sequencing.

However, performed laboratory tests did not allow to reproduce the issue.

ON OVERSIGHT

South Pacific (and other areas) PRs

PR1644: Unexpected uplink message received

Issue:

Air Services Australia reported that a free text was received from A380 UAE435 asking YBBB center to confirm a new ATC F-PLN had been sent through CPDLC.

No such uplink had been sent by YBBB.

Analysis:

The message "CROSS ATMAP AT OR BEFORE 15:57" sent by YBBB is loadable in the FMS and as such, may be considered as a flight plan change by a crew.

This message was duplicated by the network => displayed twice to the crew.

The crew wilco'ed both occurrences. The second response triggered an 'ERROR' message from the ground. This may have disturbed the crew.

In future standards duplicated messages will be discarded to avoid such a confusion.

Corrected in FANS A+B standard available Q1 2015
TO BE CLOSED

PR 1622, 1623, 1627: Loss of ADS-C - A332

Issue:

Air Services Australia reported several occurrences where ADS-C was “lost” (ADS-C reports not received) between CANDY and CLAMY. Controllers reported that after numerous demand contract requests, ADS-C reports were eventually received again

Analysis:

Due to poor VHF coverage (where datalink toggles between VHF and Satcom) some ADS-C uplinks were sent again by the ground. This leads on-board ADS application to reject some ADS contract retransmission already received by sending consecutive NACKs (Negative Acknowledgements) on the same connection. As per design (ED100A standard) if three consecutive NACKs are sent on the same connection, the airborne ADS application sends a disconnect request with a reason code 0.

PR 1624, PR 1242 - CPDLC not available - A332

Issue:

Air Services Australia reported that CPDLC Connection could not be established with A330.

Analysis:

The ground traces analysis shows multiple on board FANS system resets (leading to a total loss of the datalink capability). This occurs when the aircraft is in Climb and the crew sends a Position Report message with the appended "CLIMBING TO FLxxx" message.

To be linked to PR 1242

UNDER MONITORING
NOT REPRODUCED IN LAB

PR 1848, PR 1415, PR 1472, PR 1473, PR 1475, 1463, 1506 – Unable to establish CPLDC with A388

Issue:

Air Services Australia reported that CPDLC Connection could not be established with A380.

Analysis:

A380 FANS system resets when the pilot tries to send a CPDLC position report while the aircraft is in climb.

CORRECTED IN NEXT FANS A+B STANDARD (GLOBAL
RETROFIT, AVAILABLE MARCH 2015)

PR 1827 – No WILCO to uplink

Issue:

Air New Zealand reported that the WILCO to a clearance was never received even though the clearance was executed.

Analysis:

The WILCO does not appear in SITA air/ground traces. However there is a missing msg in the same time frame that would suggest the msg did leave the aircraft.

No airborne internal traces are available to confirm hypothesis or to investigate further

NO DATA AVAILABLE FOR ANALYSIS
TO BE CLOSED

PR 1422, 1749, PR 1751 – ADS Emergency indication

Issue:

BOBASMA (India) reported receiving ADS-C emergency reports while pilots reported everything was fine

Analysis:

A single emergency contract is emitted by the aircraft. The most probable hypothesis seems to be a **pilot error** switching on manually the ADS-C emergency. Just after this, the pilot disconnects the ADS-C and emergency mode.

When ADS-C is re-established, ADS-C reports do not contain the emergency tag (emer switched off on board). However the ground still complains about receiving emergency reports. No such reports can be found in the air/ground traces. We suspect that on ground the emergency tag status displayed has not been updated by the fact that report with no tags were received.

Ground to check the update of emergency indication display to controllers

PR 1572, 1573, 1574, 1578– Position not updated after demand contract

Issue:

MAACAYA reported that the content of ADS-C demand report was not consistent with the position of the aircraft displayed to the controller.

Analysis:

Air/ground traces show that the ADS-C report was matching the information displayed to the controller. The ADS-C data reported in the PR is not what is sent by the aircraft and recorded in the air/ground traces. ADS-C report displayed to the controller is not correct whereas the ADS-C report sent is correct (matching aircraft position)

Ground ATC centre to investigate why there is a discrepancy between ADS-C report received and ADS-C report displayed as ADS-C report received is correct

PR 1620 – Low FOM in ADS-C reports from A320

Issue:

Air Services Australia reported that for several weeks, ADS-C reports with low FOM have been received from SLK aircraft

Analysis:

Low FOM is due to the fact the aircraft time reference was not GPS synchronized (timestamp in the future). When the aircraft time reference is not GPS synchronized, the FOM is downgraded. Aircraft documentation has been updated to underline the need for a GPS time synchronization..

The airline was also informed that they need to synchronize the clock with the GPS (maintenance)

TO BE CLOSED

PR 1602 – DR1 did not contain ERROR [commandedTermination]

Issue:

Air Services Australia reported receiving a DR1 without the ERROR [commanded termination]

Analysis:

A reset of the FANS application occurred with two pending uplinks which were then not answered.

The scenario was played in lab but the problem was not reproduced.

NOT REPRODUCED
UNDER MONITORING

PR 1577 – Receiving error messages

Issue:

BOBASMA (India) reported that exchanges with THY61 were not possible (only error messages were received)

Analysis:

ARINC traces are missing.

Analysis was made with SITA traces only. VHF was not available (probably loss of coverage outside the Malaysian coast). Satcom appeared not to be logged on. This might be linked with an Inmarsat outage reported in the same timeframe.

TO BE CLOSED

PR 1515 – Unable to load UM80

Issue:

Air Services Australia reported that a number of uplink route clearances (including the SHARK fix) could not be loaded

Analysis:

The load fails as SHARK is a duplicate fix

TO BE CLOSED

PR 1514 – Loss of CPDLC, ADS-C - A332

Issue:

Air Services Australia reported that the aircraft was not responding to CPDLC messages and that ADS-C reports were not received in time

Analysis:

Satcom failure with one Satcom manufacturer (Rockwell-Collins)

Satcom dropped off in flight and got back few minutes later

“Known” R-C Satcom failure
Correction at next opportunity

PR 1482 – A380 Loss of ADS and CPDLC

Issue:

Emirates reported that ADS-C and CPDLC were partially not available

Analysis:

Poor SATCOM and HF performance : Messages are missing and several delay transmissions have been noticed.

A SATCOM and HF installation issue is suspected.

The airline was contacted with an Airbus proposal for investigation support.

No airline answer has ever been received . Airbus guess the issue is no longer encountered.

TO BE CLOSED

PR 1486 – Erroneous ADS-C estimate – A332

Issue:

Air Services Australia reported that an erroneous ADS-C estimate was received from ACI880.

Analysis:

Air/ground traces analysis confirms the value for ETG is unexpected (erroneous?).

The PR scenario could not be reproduced in lab / simu. Because of a lack of operational data (FMS internal traces not provided by the airline, very short timeframe available) and no knowledge of pilots' actions, the analysis cannot be pushed further.

TO BE CLOSED

PR 1409 – Unable to load route clearance

Issue:

Air Services Australia reported that an A380 aircraft was not able to load a CPDLC route clearance through the F-PLN SWAP ACTIVE function (To swap the Active F-PLN with the SEC F-PLN where the route clearance has been loaded).

Analysis:

The analysis did not show any issue with the route clearance content. Some deeper analysis are still on going

OPEN

PR 1229 – Potential Problems with A332 ADS-C Reports

Issue:

Air Services Australia reported that A330 was provided with an amended route clearance at 0547 via CPDLC. At 0548, estimate was based on nil wind. A Demand Contract was uplinked at 0550 to resolve the estimate discrepancy, but ADS-C received contained invalid data for estimate.

Analysis:

- The reason why the 0548 estimate was based on nil wind is the loss of wind after insertion of new route in the active flight plan (it was corrected by pilot action) -> **normal behaviour**
 - Predicted group contains default Lat/Long as well as default Alt and ETG :
Predicted Alt and ETG are not available during FMS re-computation time.
Associated Lat/Long are not available due to a FANS application anomaly:
when a field of predicted route is not available, default values are sent for every field of the predicted group.
- This is a regression applicable to our last A320/A330/A340 FANS A+ standard (CSB7.2/CLR7.2). It is not applicable to older standards or A380/A350.

CORRECTED on next FANS A+ Standard (available S2 2015)
TO BE CLOSED