

Problem Report Briefing



FIT Asia

Pattaya Thailand

May 26th 2014

Introduction

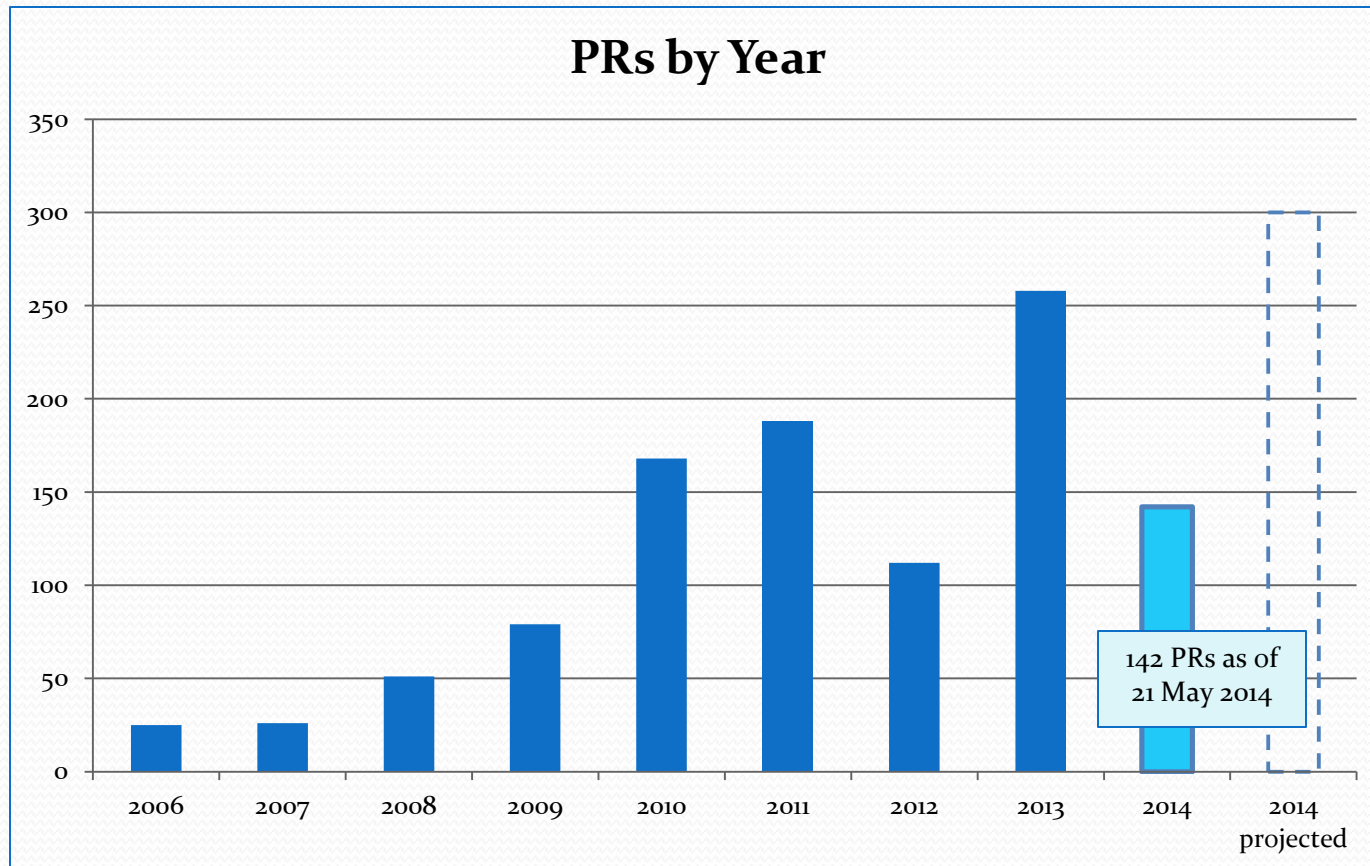
- PRs filed via FIT Asia, ISPACG-CRA, NAT DLMA, IPACG CRA
Problem Reporting website: <http://www.ispacg-cra.com/>
- FIT-Asia ANSPs need to register with the website
- Website hosted by Airways Corporation of New Zealand Limited
- PR numbering scheme appends initials of prime investigator

PR Type Definitions

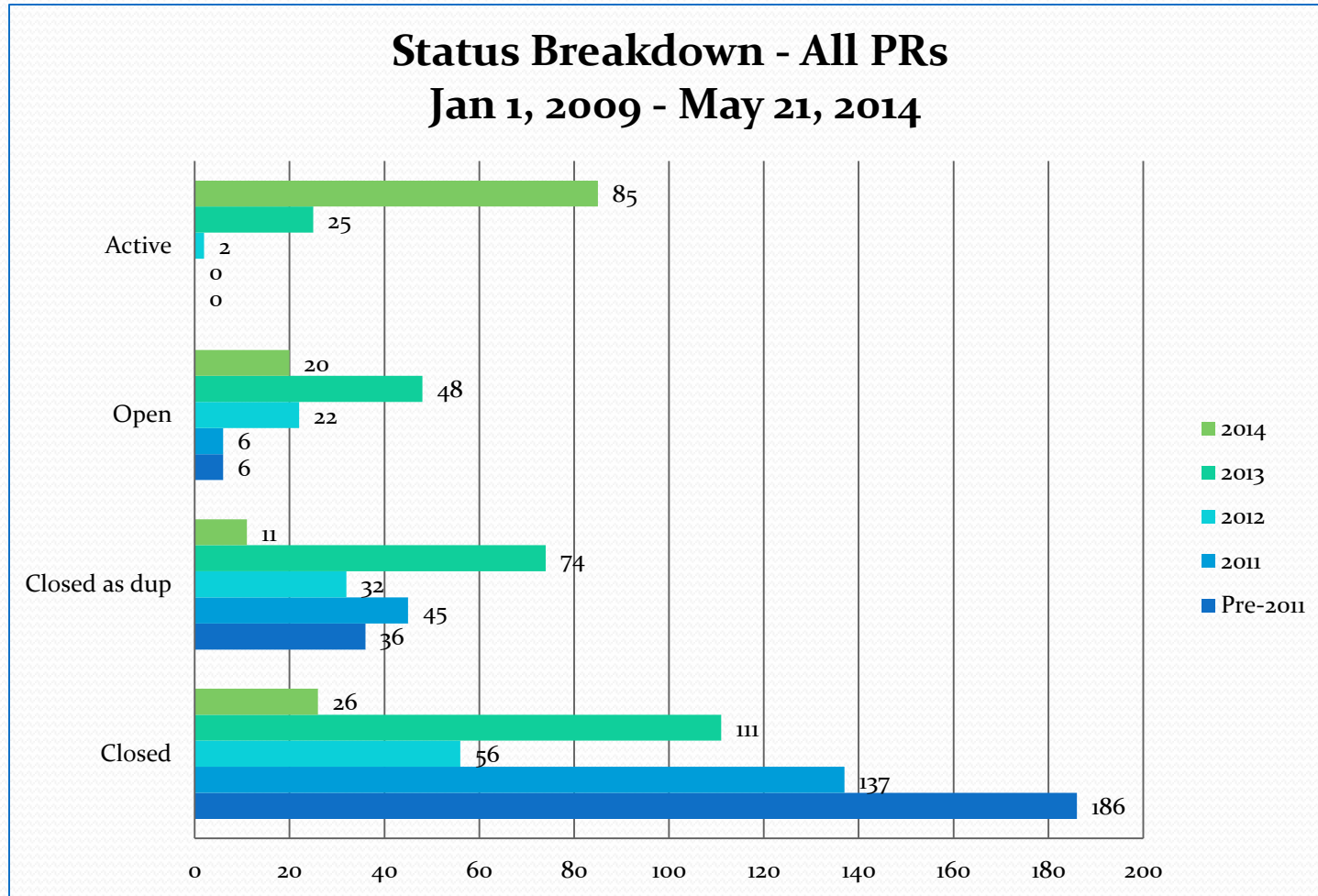
- Website choices: **AIR, GROUND, NETWORK, TBA**
- CRA tracking breaks out as:
 - **AIR – procedural** – Problem due to flight crew action
 - **AIR – technical** – Problem due to avionics fault
 - **GROUND** – Problem due to issue at ATSU
 - **NETWORK** – Problem at GES or in network
 - **Mult** - Problems occurred in more than one area
 - **None** - Problem was a non-problem
 - **TBA** – To Be Assigned – problem type not yet determined

Problem Report Metrics

Growth in Number of PRs per Year

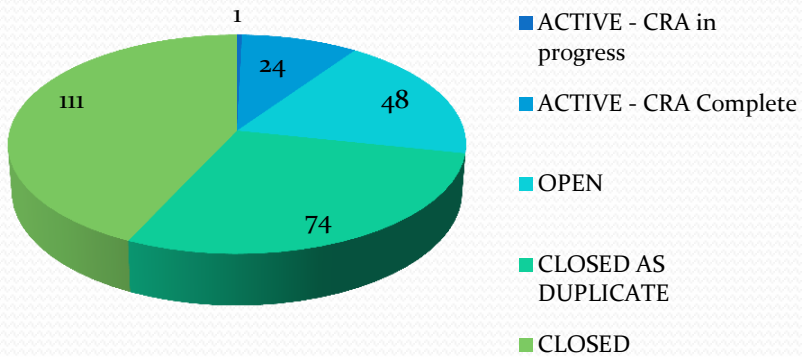


Problem Report Metrics

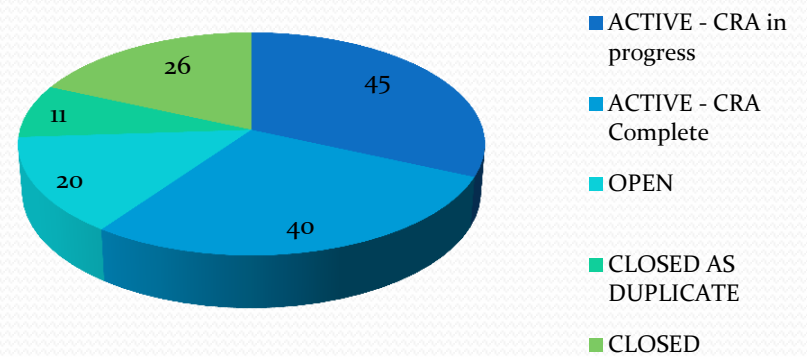


Problem Report Metrics

**All Problem Reports by Status
January 1, 2013 - December 31, 2013**

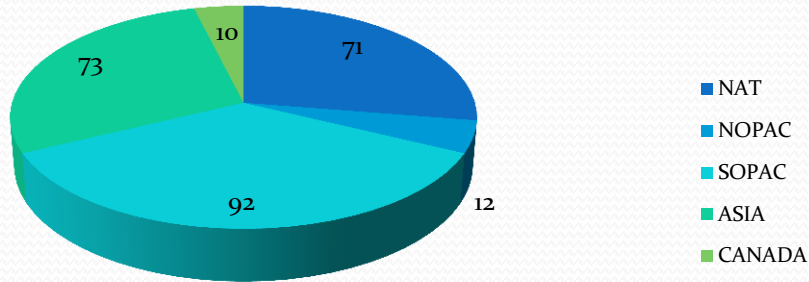


**All Problem Reports by Status
January 1, 2014 - May 21, 2014**

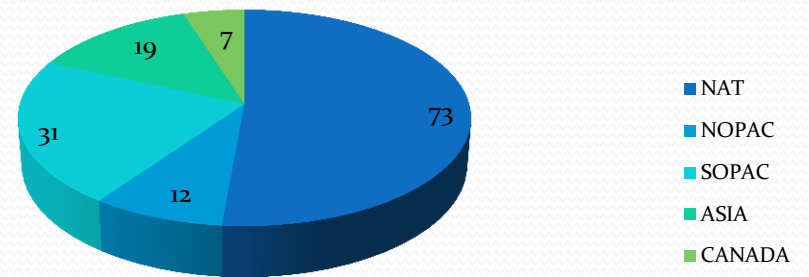


Problem Report Metrics

**All Problem Reports by Region
January 1, 2013 - December 31, 2013**

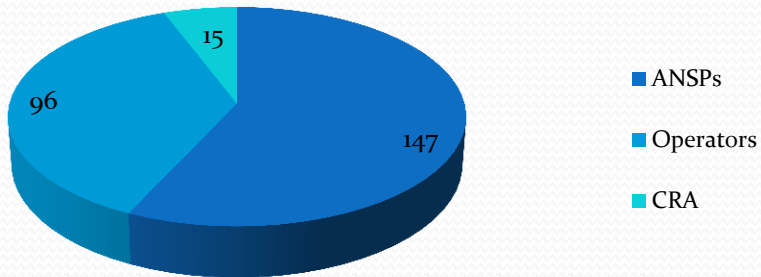


**All Problem Reports by Region
January 1, 2014 - May 21, 2014**

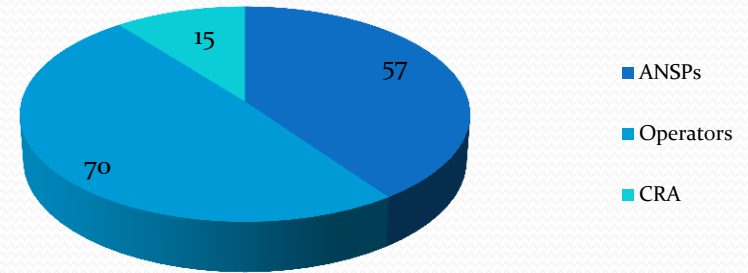


Problem Report Metrics

**All Problem Reports by Reporting Agency Type
January 1, 2013 - December 31, 2013**

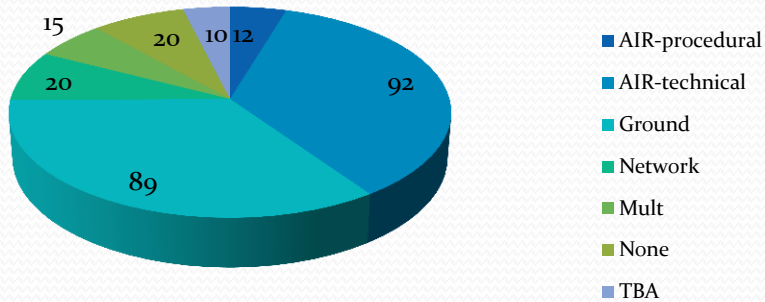


**All Problem Reports by Reporting Agency Type
January 1, 2014 - May 21, 2014**

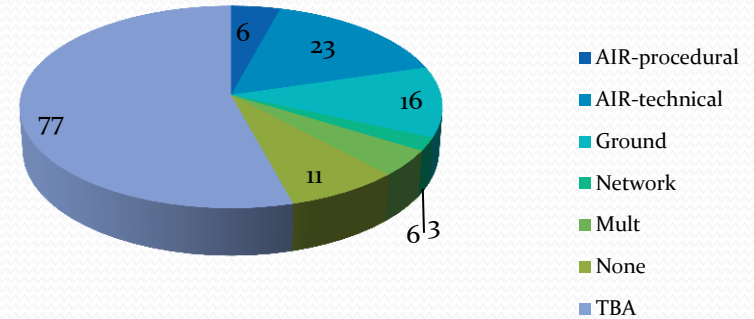


Problem Report Metrics

**All Problem Reports by Problem Type
January 1, 2013 - December 31, 2013**



**All Problem Reports by Problem Type
January 1, 2014 - May 21, 2014**



1240-DN - CLEARANCE CPDLC

Inappropriate use of free text by ANSP

- Flight crew requested a left deviation of 50 Nm due to weather
- The response was “DEV 50NM LOT APPROVED” in free text
- Flight crew understood as “NOT” approved, thinking that an error had occurred when the operator sent it
- Flight crew later contacted center on HF, found out that LOT is Left Of Track
- Use of standard uplink element (UM64) should be used

Note: See GOLD 4.3.2 on the proper use of free text

1269-DN – Unable to logon

ANSP logon identifier change coordination

- Multiple reports
- ANSP changed the login identification from VCCC to VCCF
- When changing logon identifiers ANSP must coordinate with BOTH DSPs and adjacent ANSPs
- Issue was resolved by DSPs updating their routing tables

1270-RP – Unable to get a response

ANSP response time to CPDLC climb requests

- Took three requests in 18 min to get a response to a climb request
- The second request was sent 6 minutes after the first
- The third request was sent 11 minutes after the second
- The response was received 1 minute after the third request

Note : GOLD section 4.4.3.3 provides procedures for use of STANDBY uplinks when responses to downlink requests will be delayed

1271-DN – Connection problem

Aircraft SATCOM failure

- Multiple error messages were displayed on board aircraft
- The issue was due to aircraft SATCOM SDU failure
- Status CLOSED

Note: Per GOLD the flight crew should notify ATC via voice when SATCOM or DATALINK fails when using CPDLC or ADS.

1272-DN – No CPDLC connection

ANSP logon identifier change coordination

- Flight crew was not able logon
- Datalink Service Provider did not have the updated ATC center address to route the logon
- Status: CLOSED (as duplicated to 1269-DN)

1273-DN - requested 'Offset' due to wake turb, response was cleared to 'Deviate'

Offset requested, Weather Deviation Clearance uplinked

- Flight crew requested REQUEST OFFSET DUE to WAKE TURBULENCE
- The response was CLEARED TO DEVIATE

1274-DN - free text use

Free text ETA uplink requests for waypoints not in the aircraft flight plan.

- Flight crew received request for ETA to a waypoint (FIR boundary) using free text
- Position report at logon did not contain ETA to the waypoint
- Waypoint was not in the active route
- Status: CLOSED as duplicate of PR-1301-DN

1297-SN – ADS only

Restarting CPDLC when an existing connection exists

- Airbus investigation in progress
- Crew tried several times to notify ground ATC center but as the ATC center was still connected it never sent the Connection Request to the avionics.
- A good improvement will also be for the ATC center to send CR1 when receiving a notification (even if already connected).

1299-SN - Free text use

ANSP procedures

- Flight was cleared to deviate 15NM L/R of route whilst avoiding severe tropical WX
- ATC continuously requested “report back on route” at 1815, 1820, 1821
- At 1928, sent free text message "Deviation now cancelled“
- Airplane was less than 2 nm off track and converging, so responded with Back on route
- Comments have been provided to ATC
- Status CLOSED

1300-DN - Delayed reply

Climb request sent during FIR transfer, Next center did not establish CPDLC connection

- Requested higher level at 1118Z
- After no reply from ATC, sent “when can we expect” message at 1123Z
- Received “unable” response at 1125Z
- After end service next center did not establish CPDLC connection
- Status: OPEN

1301-DN – Estimated time request

ANSP uplink ETA free text requests for waypoints not in the flight plan even when ADS contract is active.

- The initial Position Report did not contain FIR boundary point
- FIR boundary point was not in the active route
- The flight crew had to modify the route to include the FIR boundary point and resent the position report
- Status OPEN

1302-DN – No Contact clearance

Automatic Handoff Procedures

- No CPDLC clearance received from ATC
- Flight crew had tuned it in to monitor themselves
- The Contact uplink was not sent
- The connection was terminate without a transfer
- Status OPEN

1303-DN - Free text report ETA

ANSP uplinks ETA free text requests for waypoints even when ADS contract is active.

- Free text Report ETA message could not be rejected
- Waypoint was fixnext +1
- The only way to request ETA for the Fixnext +1 is free text since it is not available in the message set including Position Report
- For free text uplink, REJECT is not available by design
- Status OPEN

1304-DN – Unable to logon

Potential logon boundary issue. Review GOLD procedures

- Unable to logon to ATC
- The logon was rejected
- The rejections were due to either the aircraft current position not being in the logon center's airspace or the filed flight plan having not been enabled at the time the logon was sent
- Status OPEN

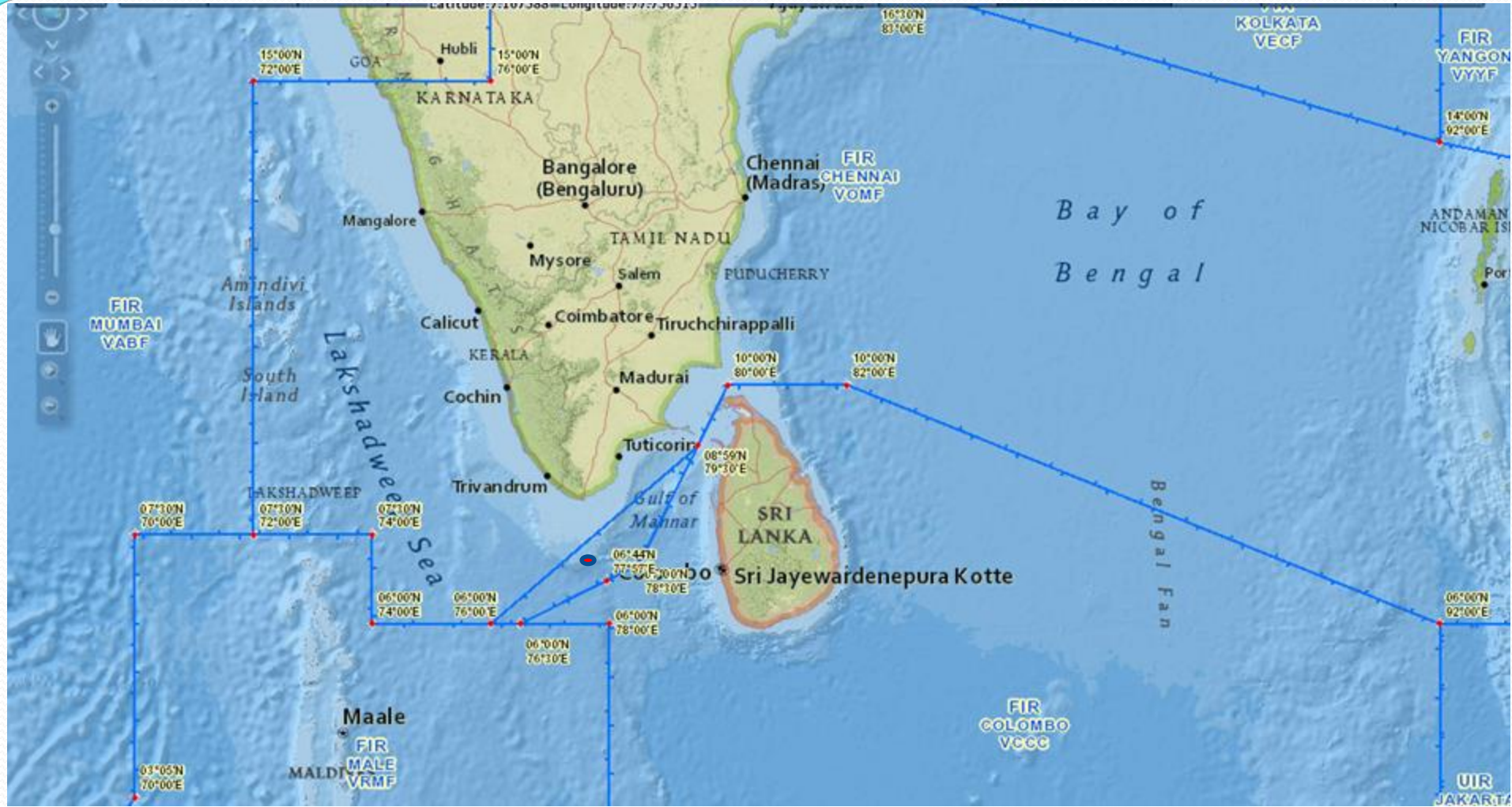


Chart 24

1305-DN - Poor communication

Timely responses to CPDLC downlinks, Automatic handoff procedures

- No reply on CPDLC
- Three position report were sent at 22:01, 22:07 and 22:11
- Free text downlink ANSWERING YOUR SELCAL NO REPLY ON 6661 OR 8879
- Position report at 22:45
- There was no uplink
- There was no transfer
- Status OPEN

1310-DN – No connection

Potential logon boundary issue. Review GOLD procedures

- Got CPDLC connection then End service
- Received End Service right after the initial Position report
- Aircraft was near but not within the FIR boundary
- Status: OPEN

1338-DN – Disconnection of CPDLC

Unexpected CPDLC disconnect, appears to be an issue with ANSP system

- CPDLC with ATC was disconnected 3 times, requiring re-notification every time
- The three disconnect were unexpected
- Status OPEN

1349-DN – Auto transfer, Connection lost

Automatic handoff procedures

- 4 letter to 7 letter code mapping was not in place between ARINC and SITA.
- Melbourne not currently configured to support auto handoffs to Jakarta

1408-DN - No auto transfer

Automatic handoff procedures, Use of free text

- Analysis shows data link working correctly
- Active center ANSP did not initiate auto transfer
- No NDA or address forwarding
- Also sent free text “CONFIRM NEXT CENTER YMMM”
- Terminated CPDLC connection with an illegal combination of DR1 and END SERVICE
- Crew manually logged off the current center and logged onto next center.

Note: Review GOLD section “2.2.4.5 Transferring CPDLC connections” for approved auto transfer procedures

1414-SN - No periodic report being received

Potential ANSP automation system issue

- ADS/CPDLC established but no periodic report being received
- the airplane was transmitting ADS periodic reports as requested by ATC
- A ground station problem is suspected
- Status OPEN

1420-SN - CPDLC message not delivered

Automatic handoff procedures

- CPDLC message not delivered and received error in message window
- it appears that the active center failed to send the END SERVICE message to allow the next center to become the active connection
- The flight crew manually terminated the connection with the active center at 1804 and re-logged onto the next center
- Status OPEN

1421-SN - CPDLC message not delivered

Automatic handoff procedures

- CPDLC message not delivered and received error in message window
- ATC was established as the inactive CPDLC connection
- At 17:59:49 the controller sent a contact instruction to the airplane
- Since ATC center did not have an active CPDLC connection, the avionics responded with “Not Current Data Authority”
- Status OPEN

1422-DN – Received false ADS emergency alert

- Airbus currently investigating

1423-DN – Level is not updated in data block of situation display

Potential ANSP automation system issue

- Data link was working correctly
- Log contains the “REACHINGFL320” downlink message
- Message was routed correctly to MAACAYA

1424-DN – Level is not updated in data block of situation display

Potential ANSP automation system issue

- Data link was working correctly
- Log contains the “REACHINGFL320” downlink message
- Message was routed correctly to MAACAYA
- Possible problem with ground automation system
- Closed as a duplicate of 1423

1425-DN – Level is not updated in data block of situation display

Potential ANSP automation system issue

- TIME of event in PR could be incorrect
- No climb clearance messages found in the log near the time listed in the PR.
- Insufficient information to investigate
- Based on previous investigations possibly a problem with ground automation

1426-DN – Unable to logon

Potential ANSP automation system issue

- The aircraft and crew logged on sent the required CPDLC position report and then made a weather deviation request.
- The ground system kept sending connection requests.

1427-MM – Failed CPDLC transfer from VABF to VRMF

Automatic handoff procedures

- Analysis shows data link working correctly
- Active center ANSP did not initiate auto transfer
- No NDA or address forwarding
- Crew manually logged off the current center and logged onto next center.

Note: Review GOLD section “2.2.4.5 Transferring CPDLC connections” for approved auto transfer procedures

1429-DN – Unable to logon

Potential ANSP automation system issue

- The flight crew sent several logons
- There was no AFN acknowledgement to any of the logon attempts
- Per the ARINC and SITA logs, it appeared that the downlinks were correctly routed to the ATC

1430-DN – Messages were not delivered to aircraft

Potential ANSP automation system issue

- Per the SITA log for this PR, a contact instruction was uplinked to the airplane .
- The message was successfully delivered to the airplane
- The flight crew sent a WILCO response to the contact instruction.
- The controller resent the contact instruction four minutes later.
- The flight crew responded with WILCO.
- Two minutes after that, the flight crew manually terminated CPDLC.

1431-DN – Messages were not delivered to aircraft

SATCOM to VHF transition issue, Aircraft appeared to be working normally after transition.

- Per the SITA log, there was one uplink sent at 05:33z which was not delivered to the aircraft as indicated by the message assurance (MAS-F). Ground notified of message failure
- The failure reason was “UP INTERCEPT AIRCRAFT NOT LOGGED ON”. This may indicate that the airplane was logging onto a different satellite at this time.
- Shortly after the problem time, the airplane acquired VHF and all comms appeared normal.

1432-DN – Messages were not delivered to aircraft

- The PR date or registration number was incorrect.
- Unable to investigate.
- The PR has been closed

1433-DN – Message was not delivered

- The PR date or registration number was incorrect.
- Unable to investigate.
- The PR has been closed

1434-DN – Demand contract was given but position of aircraft was not updated

Potential ANSP automation system issue

- An ADS report was received at 08:18:49 reporting aircraft present position as N13-43.5, E89-52.4.
At 08:27:37, ATC issued a demand report request.
- An ADS report was received at 08:28:03 in response to the demand request. The aircraft present position was N12-53.7, E90-54.3.

1435-DN – Message not delivered to aircraft

Potential ANSP automation system issue, Use of free text

- Per the SITA log, the flight crew requested climb to FL360
- The controller responded with freetext UNABLE. (Note that the UNABLE message element should be used to close a downlink message rather than freetext).
- The flight crew responded to the free text UNABLE message with ROGER.

1436-DN – Message not delivered to aircraft

Use of free text

- Uplinked a freetext contact instruction (Note that one of the Contact or Monitor message elements should be used rather than freetext).
- The flight crew responded to the free text contact instruction with ROGER.
- The controller sent the END SERVICE message. The message was successfully delivered to the airplane.

1454-RP – No auto transfer

Automatic handoff procedures

- Analysis shows data link working correctly
- Active center ANSP did not initiate auto transfer
- No NDA or address forwarding
- Crew manually logged off the current center and logged onto next center.

Note: Review GOLD section “2.2.4.5 Transferring CPDLC connections” for approved auto transfer procedures

1455-RP – Clearance disagree between voice and CPDLC

ANSP voice / data link procedure issues

- Analysis shows data link working correctly
- Possible procedural error
- CPDLC uplink to maintain FL360

1464-DN - Unable logon to VABF

- The PR date or time was incorrect.
- Unable to investigate.
- The PR has been closed

1465-SN – No Response to CPDLC Messages

Potential ANSP automation system issue / Procedures

- Crew Report – sent position report and climb request.
- No response
- Logged off and logged on again
- Still no response to CPDLC requests, continued on VHF/HF
- Analysis shows all messages reached the ground per normal operation

1482-MM – Loss of ADS and CPDLC

- After initial logon to VABF, CPDLC and ADS would display ATC DATALINK COMM NOT AVBL
- Possible aircraft SATCOM problem
- Airbus investigating

1483-MM – No Auto Transfer

Automatic handoff procedures

- Active center did not designate next center as NDA, perform AFN address forwarding or send an END SERVICE message
- Flight crew manually terminated connection
- Crew manually logged onto next center

Note: ANSPs not registered with PR website

1493-MM – Failed CPDLC transfer from VRMF to VCCF

Automatic handoff procedures / ANSP ground automation

- Automatic handoff procedures were not followed.
- ANSP ground automation sent 285 incorrect ADS-C event contract requests in a 43 minute period

1494-MM – Failed CPDLC transfer from VCCF to YMMM

Automatic handoff procedures, Use of free text

- ANSP instructed flight crew via free-text message to perform AFN log on to next center ("LOG TO DATA LINK YMMM)"
- ANSP sent non-standard CPDLC DR1 uplink instead of standard END SERVICE message
- Crew manually logged off active center
- Crew manually logged onto next center

1497-RP – Unable to logon to VCCF

ANSP ground automation incorrectly formatting uplinks

- Data shows that uplinks were not encoded correctly to work with 747-400 aircraft.
- Other 747-400 operators have reported similar issues.
- CRA can help resolve formatting problems and help conduct testing

1499-RP – Logon request sent followed by a connection rejected

Automatic handoff procedures / Flight Crew Procedures

- The aircraft logged on successfully. Active ANSP initiated an automatic transfer to NDA. However, this transfer was not successful due to the uplinks from active ANSP being rejected by the network (the uplinks did not contain the MFI- duplicate of issue described in FIT PR 1497-RP).
- Active ANSP did not uplink an end service. Active ANSP should have uplinked an end service regardless of whether the transfer was successful or not, once the aircraft was out of their airspace.
- Later in the flight, the flight crew attempted to manually logon to other centers. However, every time the new center uplinked a CR1, the aircraft downlinked a DR1 because it still had an active connection with previous ANSP. The flight crew should have disconnected the active connection prior to attempting to connect to a new center. The DR1 downlinks in this instance were per design.

1503-MM – No Auto transfer

Automatic handoff procedures, Use of free text

- Auto transfer from YMMM to VCCF no issues
- Auto transfer failed from VCCF to VRMF failed
- VCCF did not setup VRMF as NDA, no address forwarding
- Sent free text CONTACT uplink and ended service.

1507-SN – Data Link connection problem with Colombo

Automatic handoff procedures, Aircraft automation bug

- YMMM had setup auto transfer to VCCF
- Before YMMM sent end service VCCF uplinked position report request.
- Aircraft responded (not CDA)
- Flight crew sent manual logon
- Aircraft didn't respond to connection requests due to a bug (related to media transition)

1521-SN – No successful logon

Automatic handoff procedures, DSP routing tables

- 4 letter to 7 letter code mapping was not in place between ARINC and SITA.
- Melbourne not currently configured to support auto handoffs to Jakarta

1529-SN – Unable to logon

- Flight crew used the wrong logon code.

1530-SN – No Auto Transfer

Automatic handoff procedures

- Active center did not initiate any messages required to transfer the connection
- No NDA, AFN_CAD, or End Service
- At 0352z active center uplinked free text message “AT DUGOS CTC VOMF DATA LINK OR 6655 / 1128HF”

1572-SN – Position not updated after demand contract

1573-SN – Position not updated after demand contract

1574-SN – Position not updated after demand contract

1575-SN – ADS Disconnected Automatically

1576-SN – CPDLC message not transmitted

1577-SN – Receiving error messages

1578-SN – Position not getting updated on situation display

Assigned to Airbus for investigation

1579-SN - ADS Emergency indication received twice

Flight Crew Procedures

- Suspect inadvertent activation by flight crew
- If the logon page is left displayed the pilots foot can sometimes activate ADS emergency due to proximity to foot rest.
- The ADS emergency prompt has been moved on the 747-8
- A retrofit-able guard is available for the 747-400