



# AIRBUS Status

ISPACG FIT/30 presentation  
EC\_FR\_NL ; EC\_US\_EAR99

April 2023

**AIRBUS**

# General Information

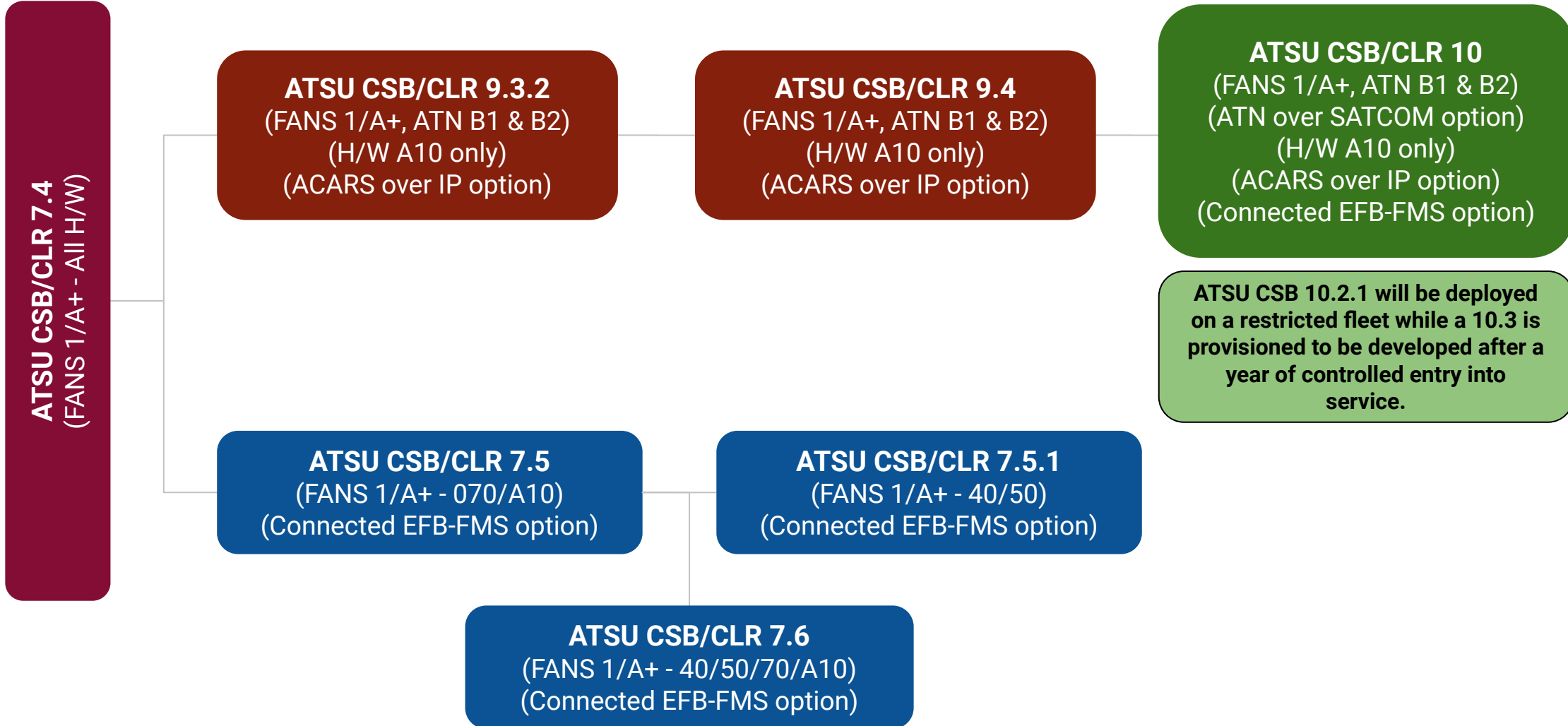
## Status on AIRBUS FANS-related developments

# Airbus developments status (1/3)



S/W version	H/W prereq.	Capabilities	Major Fixes contained	Certification
CSB/CLR9 (a.k.a. 9.3.2)	A10	FANS 1/A+ Or FANS 1/A+ & ATN B1 Or FANS 1/A+ & ATN B1 & B2	<u>Features:</u> B2 (CPDLC & ADS-C) capability, MCDU & DCDU HMI rationalization and improved FMS loading mechanisms... <u>Fixes:</u> <b>Ack'n'Toss</b> , Spurious WILCO, Max Uplink Delay, Next on Busy HF DL removal, Unrecognized MRN, <b>VDL2 hand-offs improvements, Invalid CRC</b>	<b>Certified SB available</b>
CSB/CLR7.5	070/A10	FANS 1/A+	<u>Fixes:</u> <b>Ack'n'Toss</b> , Spurious WILCO, Max Uplink Delay (incl. Midnight issue), Next on Busy HF DL removal, Media Transition improvements (A618-8 RAT1/SAT7 timers), <b>VDL2 hand-offs improvements</b>	<b>Certified SB available</b> Except for H/W 40 & 50 (Dataloading issue)
CSB/CLR9.4	A10	FANS 1/A+ Or FANS 1/A+ & ATN B1 Or FANS 1/A+ & ATN B1 & B2	<u>Fixes:</u> ADS-C not starting at power-on	<b>Certified SB available</b>
CSB/CLR7.5.1	None	FANS 1/A+	<u>Fixes:</u> <b>Dataloading issue on H/W 40 &amp; 50</b>	<b>Certified SB available</b>
CSB/CLR10	A10	FANS 1/A+ Or FANS 1/A+ & ATN B1 Or FANS 1/A+ & ATN B1 & B2	<u>Features:</u> ATN over SATCOM capacity, D-VOLMET (D-ATIS ENR), display of the # of active Monitorings on the DCDU <u>Fixes:</u> Media Transition improvements (A618-8 RAT1/SAT7 timers), Max Uplink Delay Midnight issue, VDL2 ATN-related improvements...	<b>CSB 10.2 Certified (IRIS VLD and CEIS)</b> <b>CSB/CLR 10.3 to be developed</b>

# Airbus developments status (2/3)





# Airbus developments status (3/3)



S/W version	Capabilities	Major Fixes/Evolutions contained	Certification
A380 ATC CLA4.2	FANS 1/A+ & ATN B1	Spurious WILCO, Max Uplink Delay	/
A380 ACR S3		Media Transition improvements	/



S/W version	Capabilities	Major Fixes/Evolutions contained	Certification
A350 CLV1.4	FANS 1/A+ & ATN B1	Spurious WILCO, Max Uplink Delay	/
A350 ACR S4		Media Transition improvements	/
A350 ACR PRODB		VGS Hand-Off management (QoS-based criteria)	<b>Certified</b> <b>SB available</b>



S/W version	Capabilities	Major Fixes/Evolutions contained	Certification
IMAA BL7.5	ATN B1	ATN B1 initial certification	<b>Certified</b>
IMAA BL8.0A	FANS 1/A+ or ATN B1	FANS 1/A+ initial certification and ATN altitude req fix	<b>Certified</b>
IMAA BL8.0A2	FANS 1/A+ or ATN B1	No changes to CPDLC application	<b>Certified</b>
IMAA BL8.0A3	FANS 1/A+ & ATN B1	FANS/ATN seamless transfer, Eurocontrol blacklist fixings, Clearance format, AFM limitations (dm59/dm26, WHEN CAN WE + altitude, flight plan loads)	<b>Q4 2023</b>

## Operators assistance in retrieving internal ATSU/ACR traces is welcome!



- **On A320/A330/A340**

- Internal ATSU (router) ISM traces can be retrieved with a capable Dataloader, following a specific AMM task
- These traces are stored during about 10 to 15 days (depending on A/C activity and datalink use)
- They are only available from ATSU S/W CSB/CLR7.x, and with H/W version A10



- **On A380/A350**

- Internal ACR (router) NAIF traces can be retrieved via a USB key, following a specific AMM task
- These traces are stored during a few days (depending on A/C activity and datalink use)

# Problem Reports Analyses

# General Status overview since ISPACG/FIT29

- Since ISPACG/FIT29, a total of 11 new PR have been allocated to Airbus by the DLMA
  - 5 PRs have been analyzed and will be presented
  - Two PRs are still under investigation on Airbus side : PR-3230 and PR-3489 (received on March the 10th)
  - Additional data are expected from the operator in order to conclude on the following 3 PRs: PR-3441, PR-3445 and PR-3468
  - The A/G logs could not be retrieved for 1 PR even after 2 reminders : PR-3442=> This PR is proposed to be closed
- Among the 5 PRs analyzed, the following breakdown was observed:
  - 2 due to delays on the satcom link, further data expected to understand the reason for these delays.
  - 1 without avionic issue, to be further analyzed by the ANSP
  - 1 without avionic issue, behavior suspected to be linked with crew actions
  - 1 with no root causes (to be monitored)



# PR 3440 : CM Contact Failure / PR-3469 : Unable to connect on datalink - A350

## PR analysis

- These two PRs opened by NiuSky Pacific Limited report issues on CM Contact procedures from AYPM to YBBB from 2 different A350 A/C from the same Operator.
- The A/G logs retrieved shows that (hour for one occurrence but the overall phenomenon is the same):
  - The Satcom link is not available throughout the flight:
    - The PFR data show that there was a Satcom failure during this flight.
    - The operator was contacted to confirm that maintenance actions were conducted on the Satcom side (w/o answer).
  - The VHF and HF link are working sporadically throughout the contact procedure (due to VHF coverage for the VHF and bad performances for the HF link).
  - Then the following occurs:
    - The AFN Contact Uplink from AYPM to YBBB is received on board and answered by a FN\_RESP (reason code: "Successful") through HF at 20h36.40.
    - At this time, even if this message is not present on the ground traces, the FN\_CON transmission to YBBB should have been attempted and the ATST1 Timer is launched in the Aircraft (Timer of 10 minutes for waiting the AFN Acknowledgement).
    - After 10 minutes, since no FN\_AK was received from YBBB, the Contact procedure is considered as failed with the reason "Protocol Error".
    - The FN\_COMP message is then transmitted to the originator Center AYPM with the Reason code set to Protocol-Error.

The issue observed is thus due to delays in the transmission of AFN messages during the Contact procedure because of temporary unavailabilities of communication means.

For PR-3469, delays were also observed on CPDLC exchanges due to the Satcom and VHF unavailabilities.

Further Data are expected on the Satcom side to determine the reason for this unavailability.

## Conclusion

- Airbus propose to let these PRs open until further information is received from the operator about the Satcom equipment.

# PR 3474: Duplicated downlinks received

## PR analysis

Airservices Australia reported that a duplicated downlink request was received from CAL056 (B-18315, A333). When the second request was responded to, the avionics answered with an "unrecognized reference number" error. An identical problem occurred with CAL052 (B-18902, A359).

The analyzed traces showed the following scenario for CAL 056, around event time:

- The aircraft sends to the ground the CPDLC Downlink Message N 027 REQUEST WEATHER DEVIATION [...] with **MIN = 5**  
=> **This message is sent to the ground first through VHF and then through Satcom after the VHF link was lost prior to the 618 ack reception by the A/C. This is a normal behavior and there is no duplication at ATC level, only a repetition at A618 level.**
- The ground sends to the Aircraft the CPDLC Uplink message N 082 CLEARED TO DEVIATE [...] with **MIN = 5 MRN = 5**
- Even if this ATC Uplink message is not acknowledged at 618 level due to disruption on the VHF Mode A link, the aircraft sends to the ground the downlink message DM0 WILCO **MRN = 5**  
=> **This message is properly acknowledged by the ground which implies that the dialog for the Downlink message MIN = 5 is considered as closed by the Aircraft at this moment.**
- Nevertheless, The YBBB ATC sends to the Aircraft another CPDLC Uplink message N 082 CLEARED TO DEVIATE UP [...] with the **MIN = 6 MRN = 5** (certainly linked with the downlink repetitions that occurred through Satcom)
- Since the dialog for the downlink message MIN = 5 is already considered as closed, the aircraft properly sends to YBBB ATC the CPDLC Downlink Message DM62 ERROR [errorinformation] = unrecognizedMsgReferenceNumber

A similar behavior was reported in CAL052 A/G logs

## Conclusion

- The error message (unrecognizedMsgReferenceNumber) was properly generated by the Aircraft after it received an ATC Uplink message referring to a downlink message already answered.
- There is thus no avionic issue.
- Airbus propose to assign the PR to the ANSP in order to determine the reason for the ATC Uplink message second emission performed after the Aircraft CPDLC answer and with another MIN

# PR 3476: A21N - Unable to send CPDLC reports

## PR analysis

Air New Zealand reported that CPDLC Report downlink message was displayed with the status “SEND FAILED”

The analyzed traces showed the following scenario:

- The Current ATC Center sends to the Aircraft the CPDLC Uplink message N 020 CLIMB TO 370 / N 129 REPORT LEVEL 370
- Then a Report Response, automatically prepared by the avionic is displayed on the cockpit and sent by the crew: N 037 LEVEL 370. This message is properly acknowledged.
- Even if the Report Response was already sent, a Free text message is prepared by the crew and sent to the ground N 067 MAINTAINING FL370. This message is properly acknowledged.

According to the Problem Report, the second message is the one that appears as “SEND FAILED”.

Since the two CPDLC messages were properly acknowledged by the ground, this behavior is not the one expected.

Nevertheless, the provided data do not allow determining the reason for the reported behavior.

Further test were performed in order to reproduce the issue but the avionic behavior was found correct (no display of the “SEND FAILED” status)

## Conclusion

- Airbus propose to put this PR under monitoring in order to retrieve more data in case of a new occurrence.

# PR 3480: A21N - 86 AFN Logon Requests in 38 minutes

## PR analysis

The FAA complained about the reception of a 86 AFN Logon request in 38 minutes from an Airbus A321 Aircraft.

The analysis of the the traces showed that:

- During the 38 minutes interval, 39 AFN logon were sent by the A/C (the 86 AFN logon announced in the PR were not retrieved in the traces)
- Each of these messages has a different Message Sequence Number, an Updated Timestamp and an Updated A/C position meaning thus that they are different messages generated by the ATC application
- They are all rejected by the ground (because of the Flight plan information that was not properly filled).
- All the AFN logons are only sent after the answer for the previous one is received from the ground and thus after the information “Notification failed” is displayed to the crew.
- On one specific occasion, the AFN logon response does not reach the ATC application. The consequence is that “Notification failed” is not immediately displayed to the crew.

In this occasion there is a 10 minutes gap without any AFN logon sent to the ground which corresponds to the time the ATC application is waiting for the FN\_AK. Then immediately after the “Notification failed” information is displayed to the crew, a new logon is sent by the A/C.

All these elements makes Airbus believe that these Notification were generated by the crew in response to the indication “Notification failed” displayed after each attempt.

## Conclusion

- There is no evidence of any ATC avionic behavior and thus Airbus suggest to close this PR

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Thank you