



International Civil Aviation Organization

The Combined Sixth Meeting of the FANS Implementation Team, Bay of Bengal (FIT-BOB/6) and the Third Meeting of the FANS Implementation Team, South-East Asia (FIT-SEA/3)

Bangkok, Thailand, 22 – 25 November 2005

Agenda Item 4: Central Reporting Agency – Bay of Bengal
Agenda Item 5: Central Reporting Agency – South East Asia

REPORT OF CRA JAPAN

(Presented by Japan)

SUMMARY

This paper presents the information analyzed through the monitoring activity by the CRA Japan for the ATS data link operation in Tokyo FIR.

1. Introduction

1.1 The Air Traffic Control Association Japan (ATCA-Japan) has taken the role of CRA activities in Tokyo FIR for the Informal Pacific ATC Coordinating Group, FANS Interoperability Team (IPACG FIT) since 2001.

1.2 The total number of Problem Reports (PRs) received from IPACG FIT members was 380 as of October 2005. The CRA has also produced the monthly Periodic Status Reports on the end-to-end system performance of ATS datalink operations in Tokyo FIR.

1.3 This paper provides the meeting with the information concerning the identified trend of problems, and the end-to-end system performance, as a result of analysis for the 6-month period between January and June 2005.

2. Problem Reports

2.1 Although the received PRs do not cover all deficiencies experienced in the past by the operators, the analyses were made with the forty-six (46) PRs received during this period. When the problems were classified in functions, 35% were related to the message delivery problems, 30% were CPDLC and 13% were ADS. When classified in causal factors, 32% were avionics, 26% were air/ground communication, 15% were operational.

2.2 Some lessons were learnt from these problems. These are the problems caused by:

- a. rapid operation of log-on after log-off (cockpit operation);
- b. confusion with the wrong tail number filled in the flight plan (dispatcher);
and
- c. delay response to pilot request causing unrecognized MRN (controller).

3. End-to-End System Performance

3.1 The monthly system performance on ATS data link operations was analyzed with the data recorded at Tokyo ACC during the same 6-month period. It was confirmed that all analyzed values met the criteria specified in the FANS Operations Manual.

4. Action by the meeting

4.1 The meeting is invited to note the information contained in this paper.

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Attachment:

Report of CRA Japan (Power Point)

**COMBINED FIT-BOB/6 and FIT-SEA/3 MEETING
22 – 25 November 2005 Bangkok, Thailand**

Report of CRA Japan - Lessons Learnt from Problem Reports in IPACG FIT -

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Japan**

IPACG FANS Interoperability Team

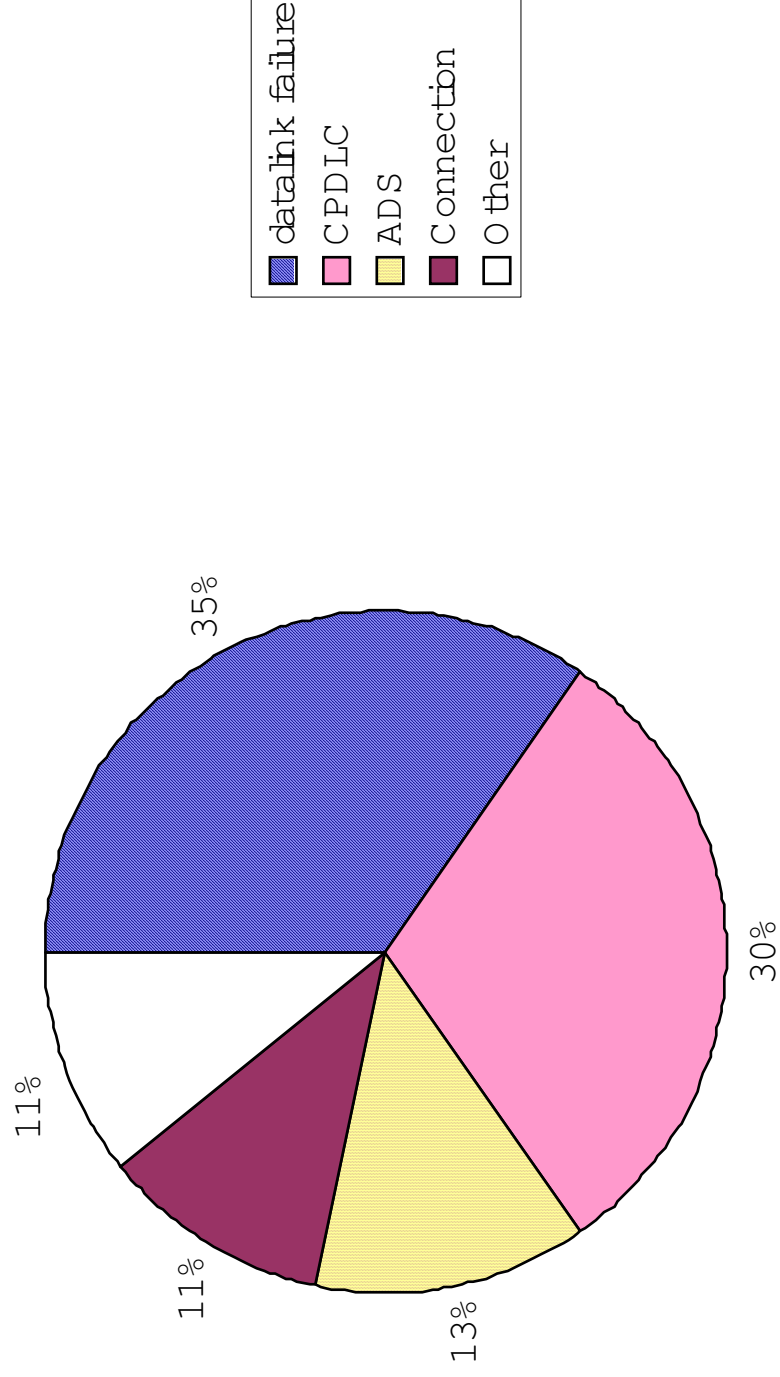


Trend of Problem Reports

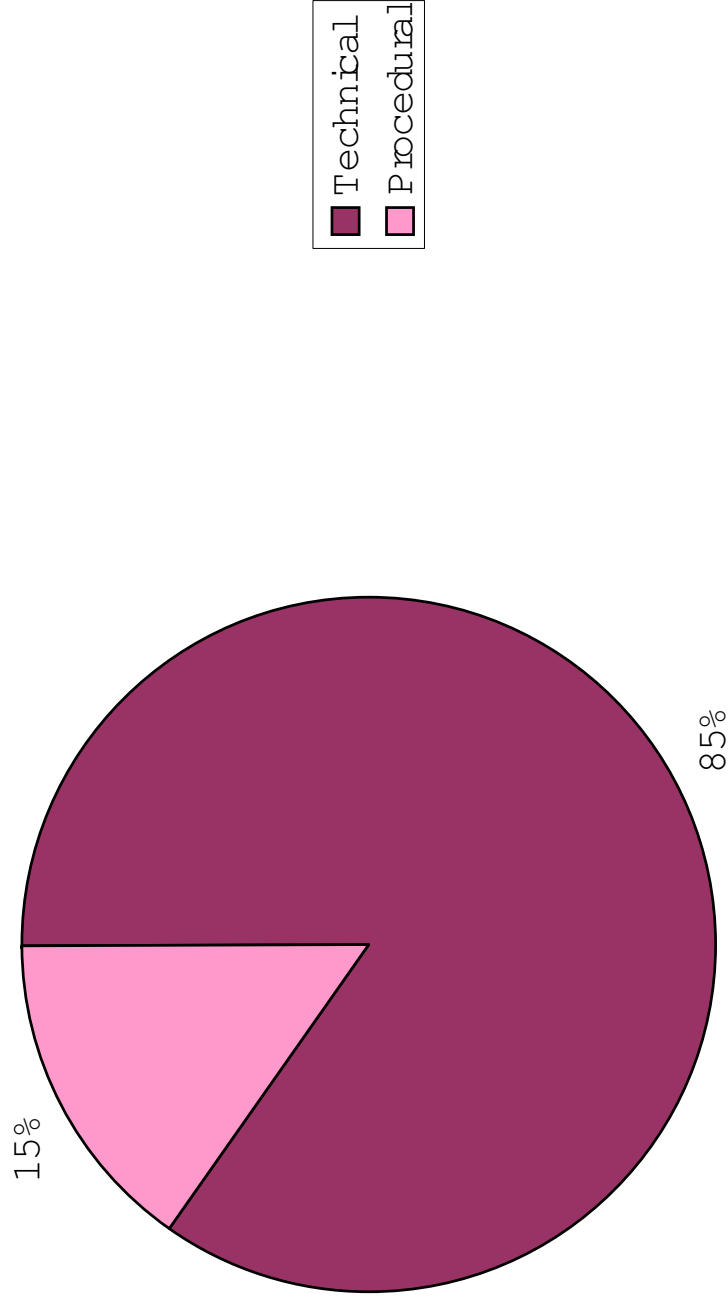
January – June, 2005

46 Reports

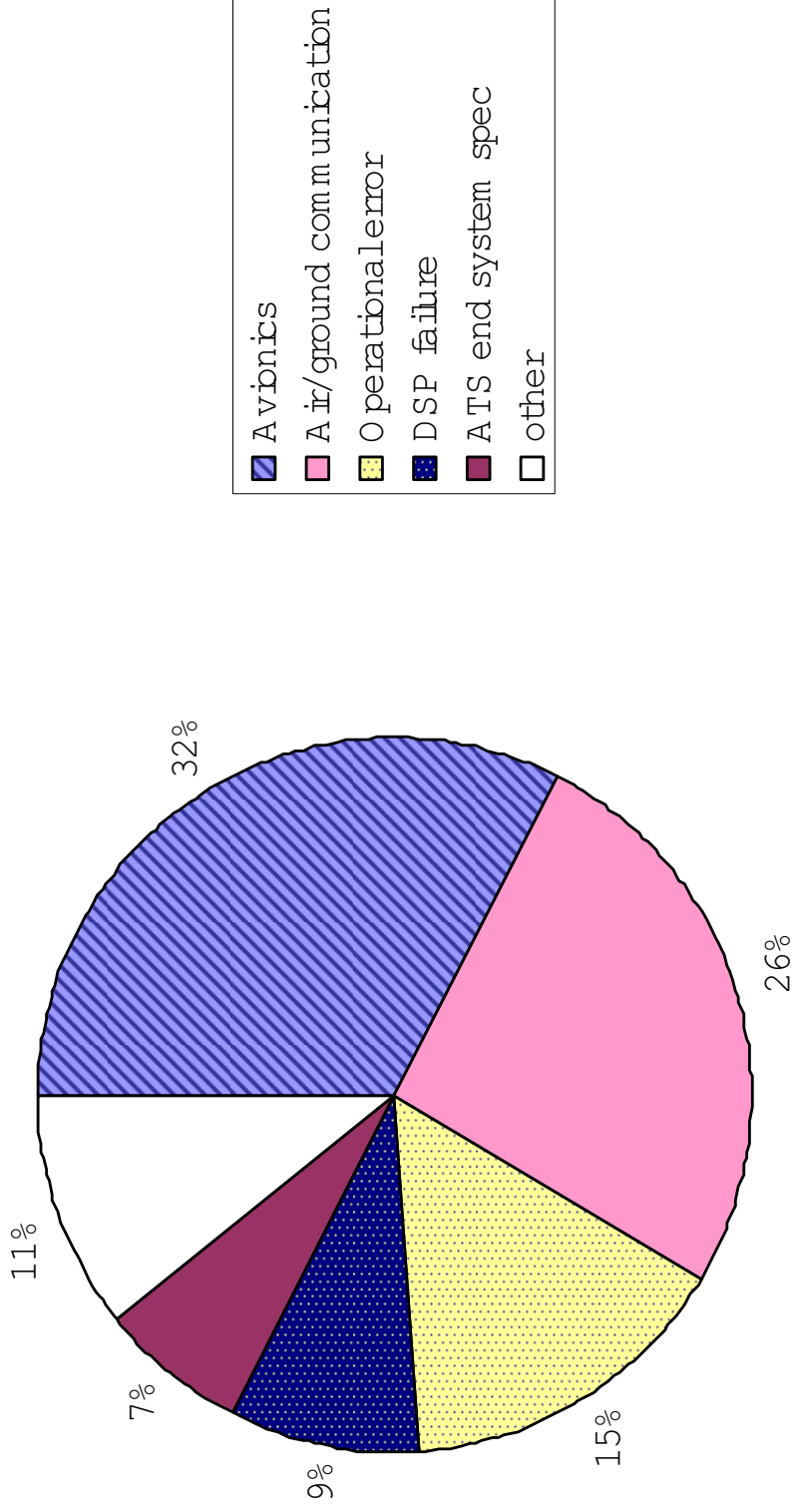
Classified in Functions



Classified in Factors



Classified in Causal Factors

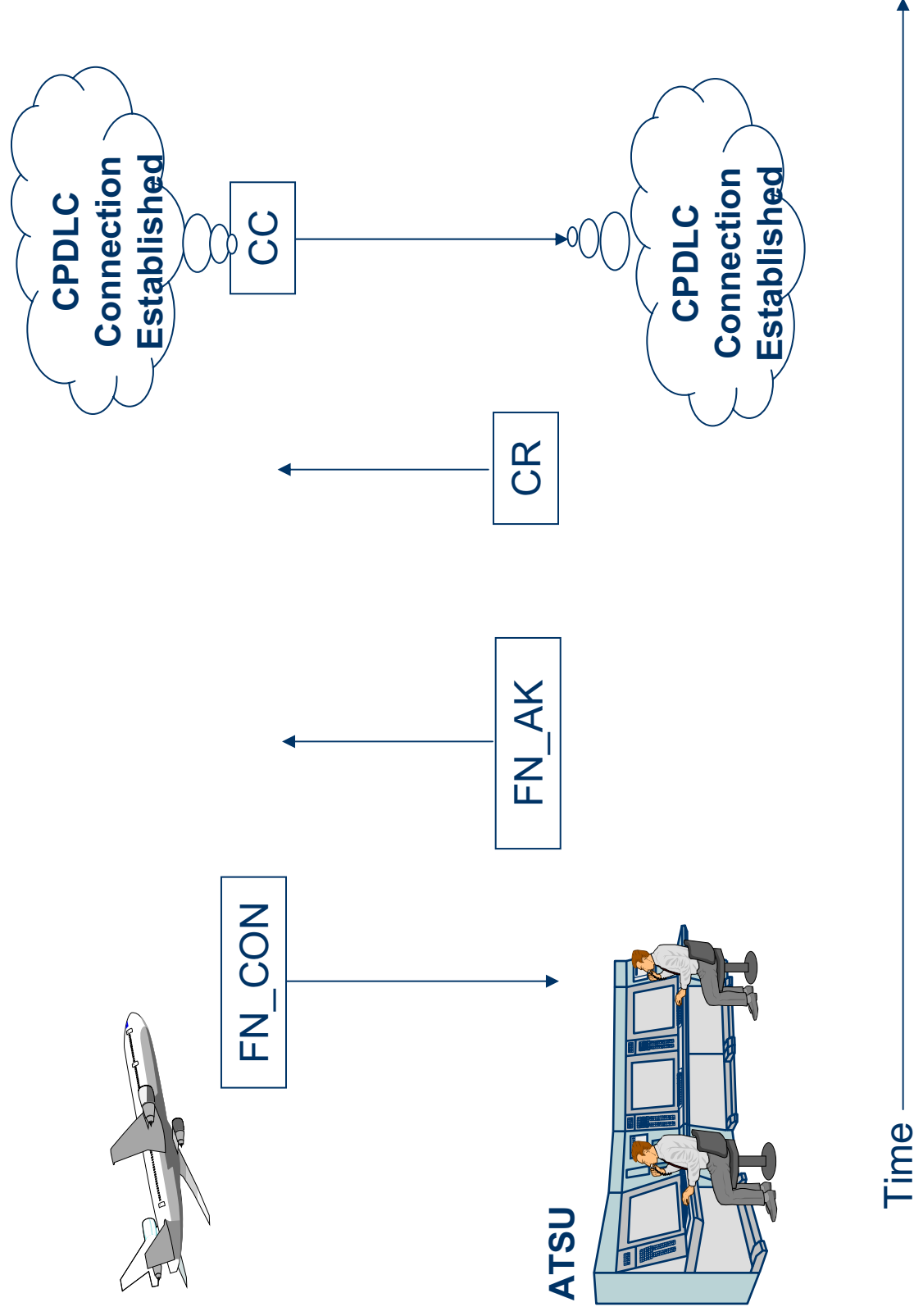


Problem Reports

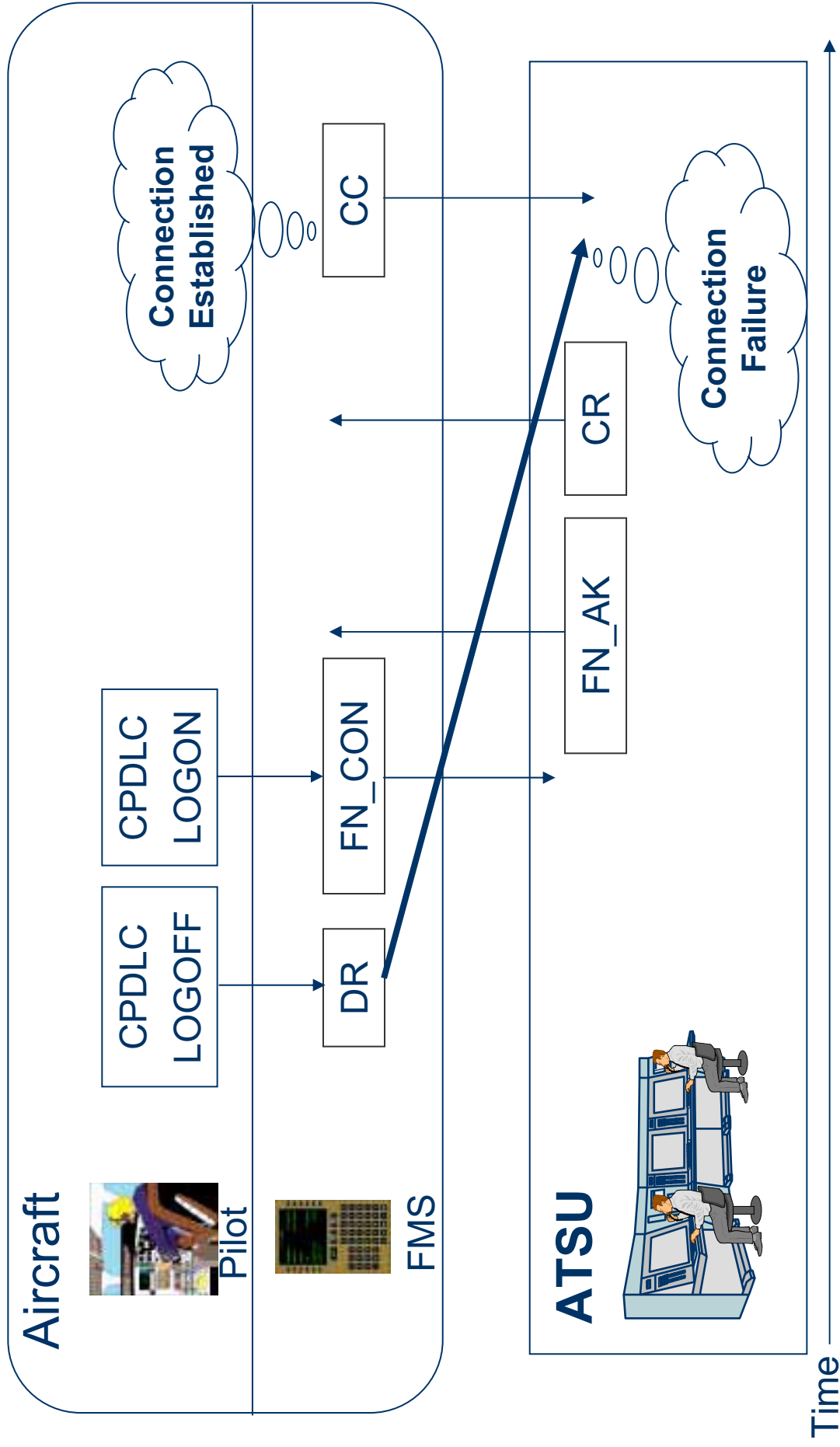
CPDLC Connection Failure

- While the downlink messages from the aircraft successfully reached the ATSU, uplink from ATSU was unsuccessful.
- With no response from the ATSU, the pilot disconnected and tried to re-connect CPDLC in a very short time. This caused a sequence error of message to reach ATSU.
- Then, the connection was failed at ATSU, and the connection established at airborne side.
- It was learnt that pilots should make a pause to re-connect after disconnection of CPDLC.

Normally it goes like this:



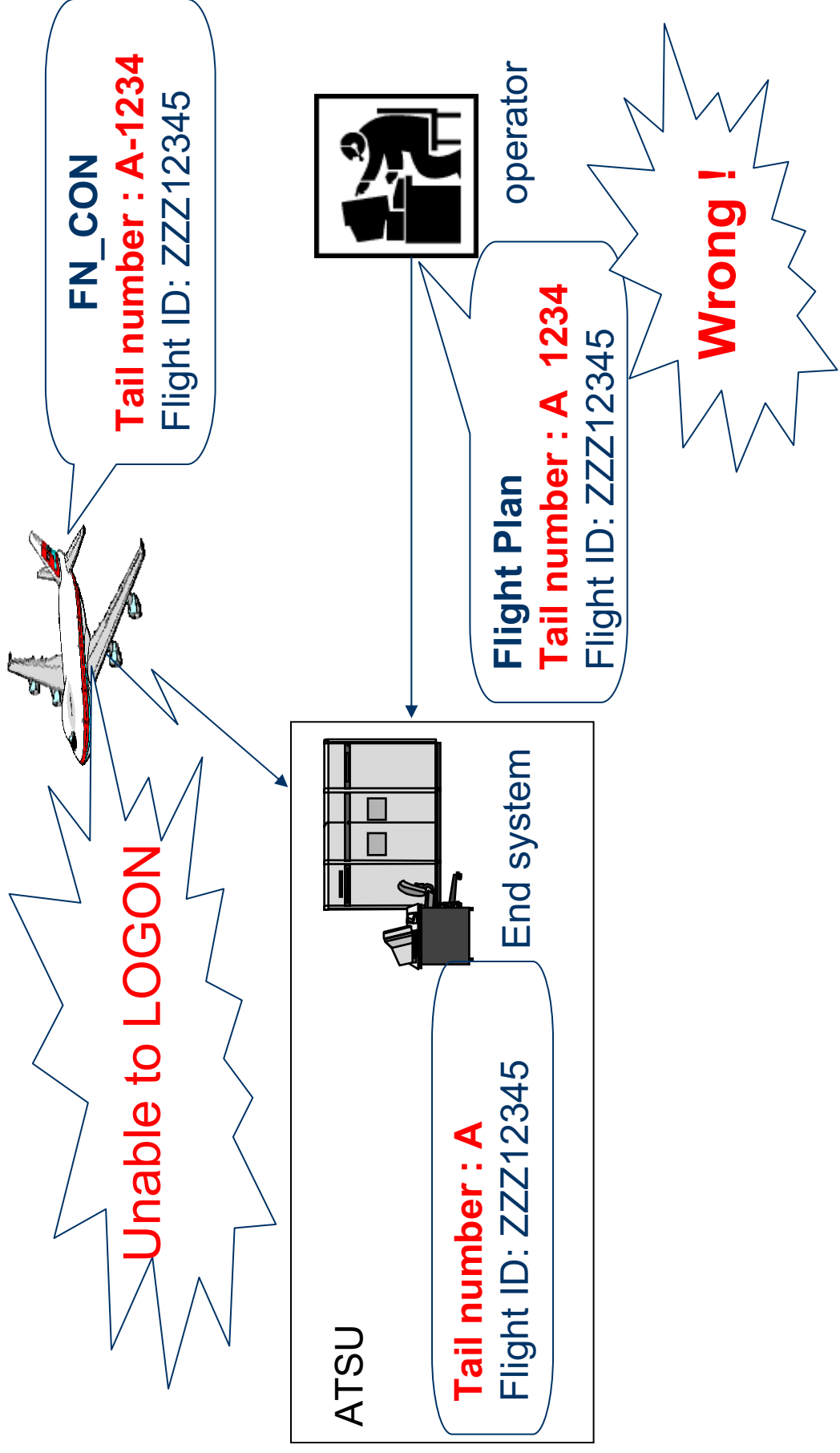
What happened in this case was;



Wrong Tail Number in Flight Plan

- An aircraft failed CPDLC connection.
- Tail Number in the FN_CON did not match to the Tail Number filled in the flight plan.
- Cause of the connection failure was the wrong tail number written in the flight plan.
- Wrong Tail Number could trigger a confused situation
- Wrong Flight ID will also bring about the same situation.

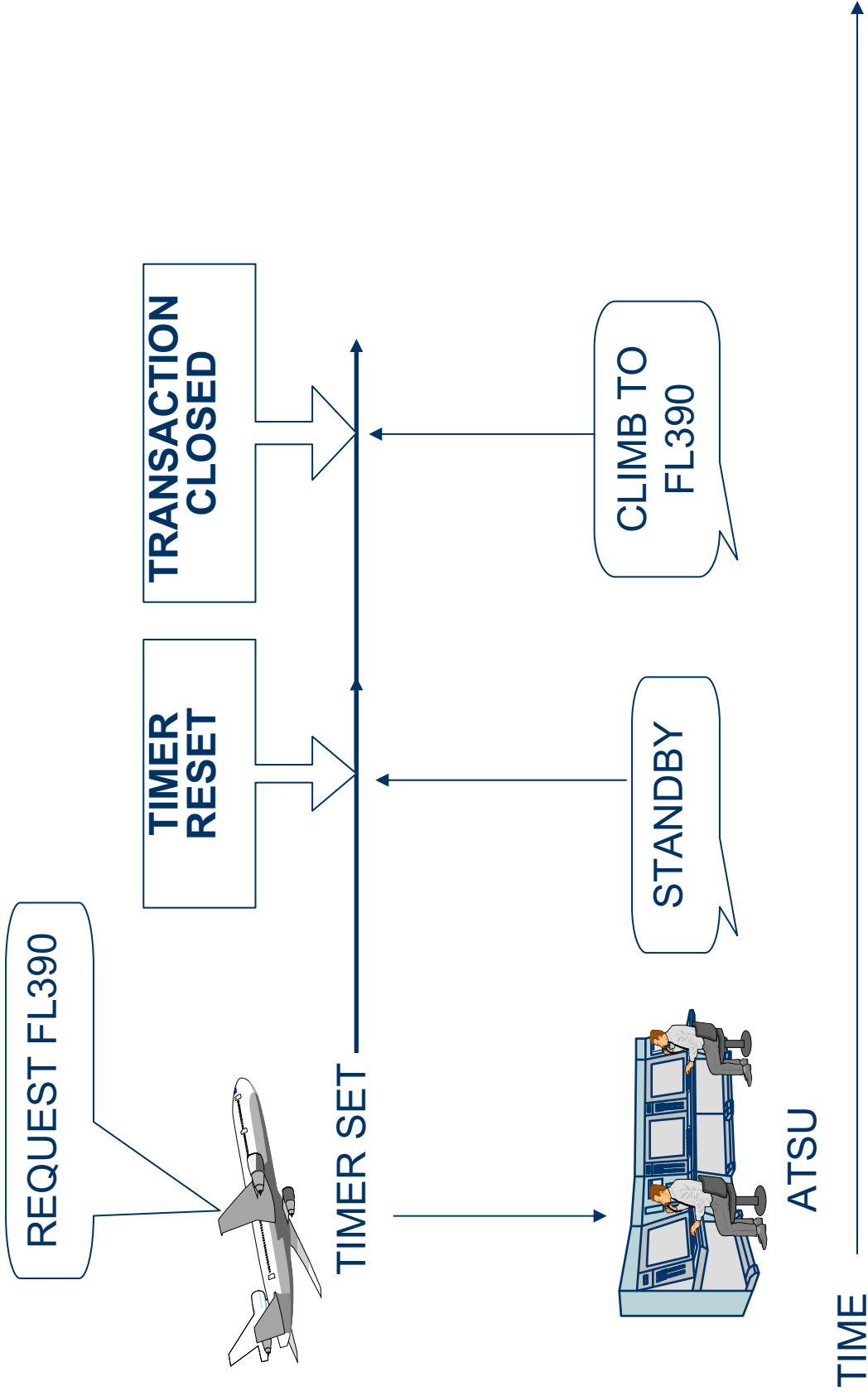
Unable to LOGON



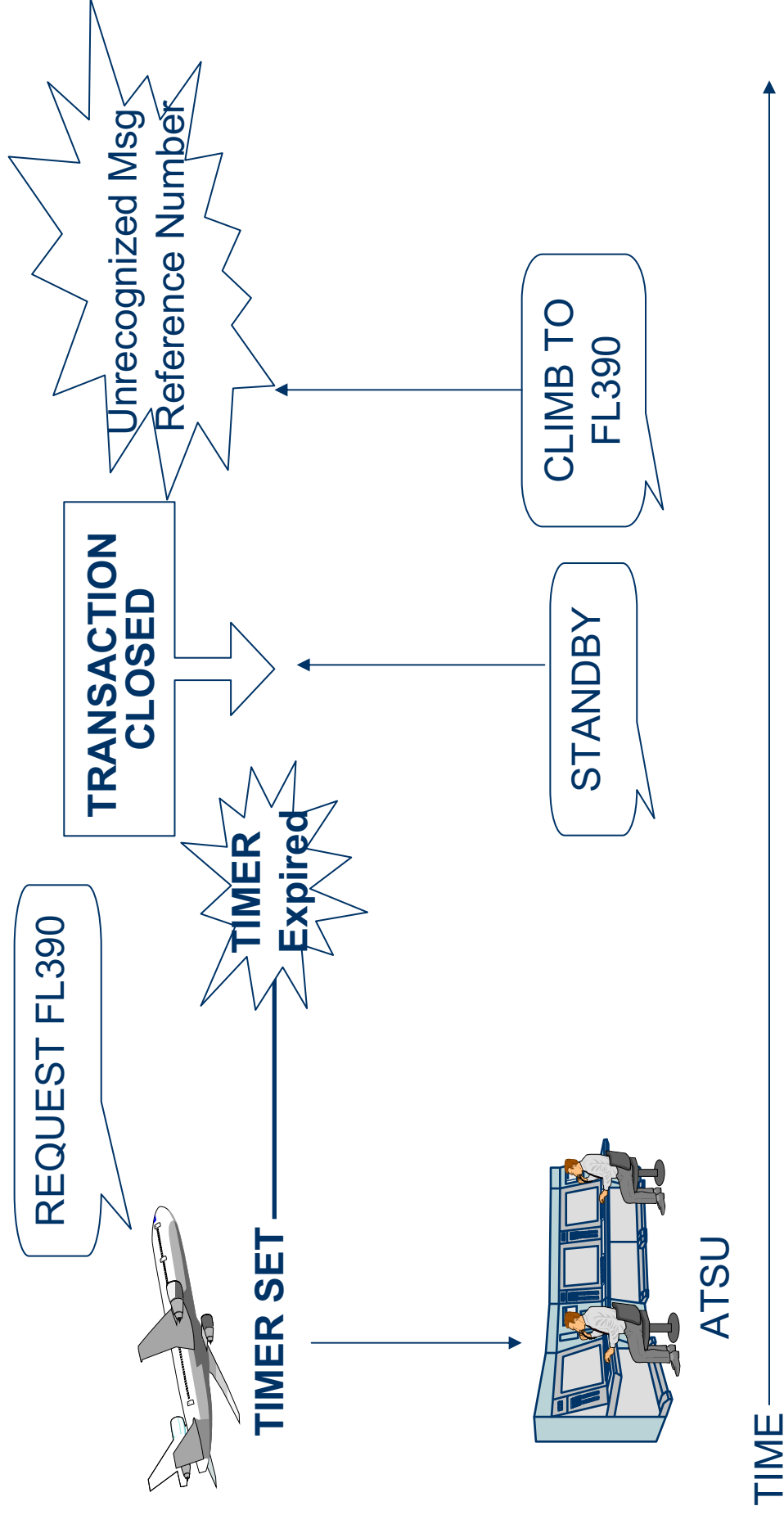
Error Response to ATC Clearance

- Avionics downlinked “REQUEST FL390” and set a timer for waiting the clearance.
- ATSU uplinked “STANDBY” 8 minutes later, but the timer has already expired.
- The clearance uplinked from ATSU was also invalidated.
- Controllers should be aware that aircraft set the timer waiting for the response. After expired, the clearance or response is ignored, and an error message is sent to ATSU.

When controller's response sent in time



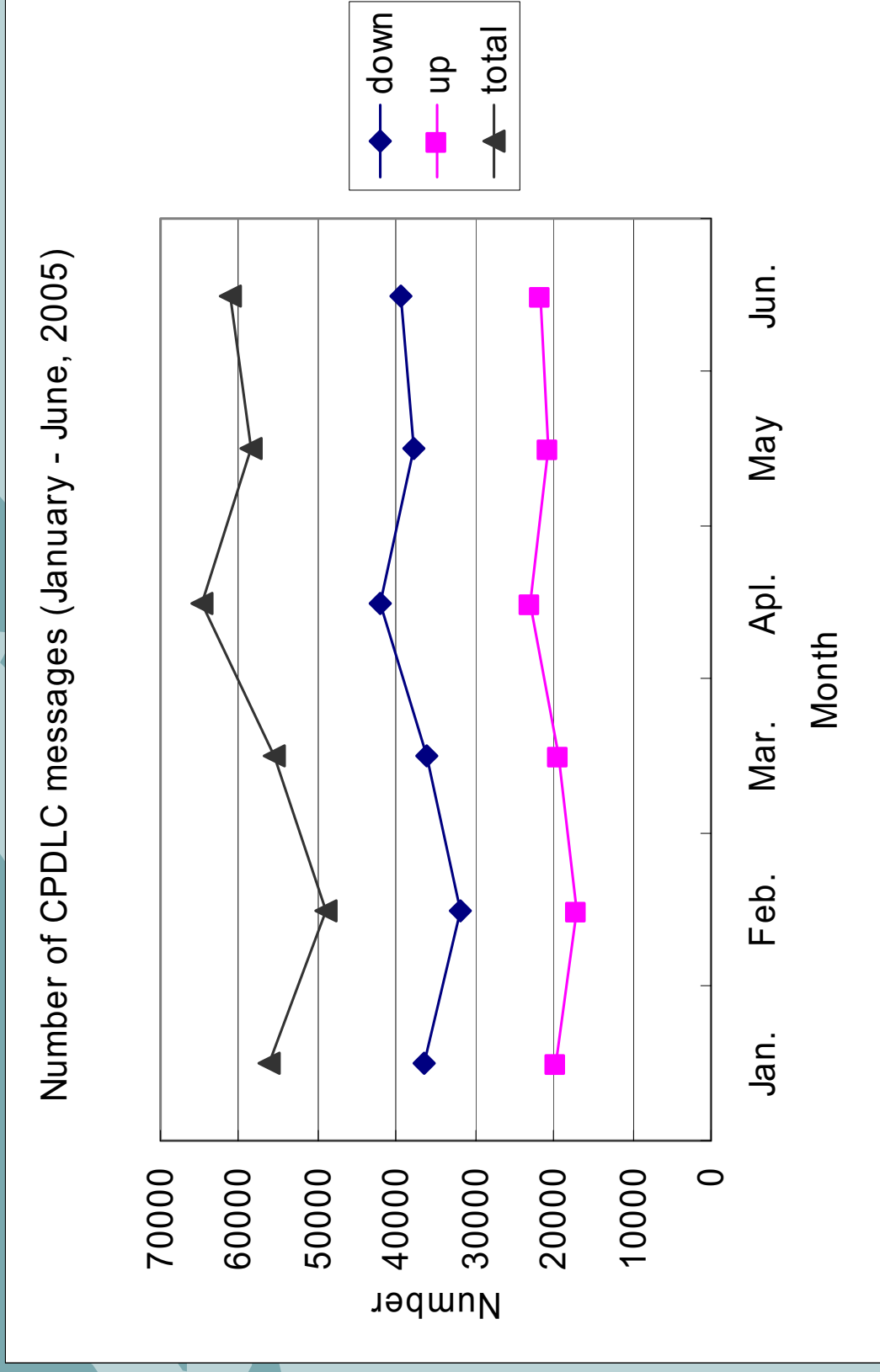
After timeout, the clearance becomes invalidated



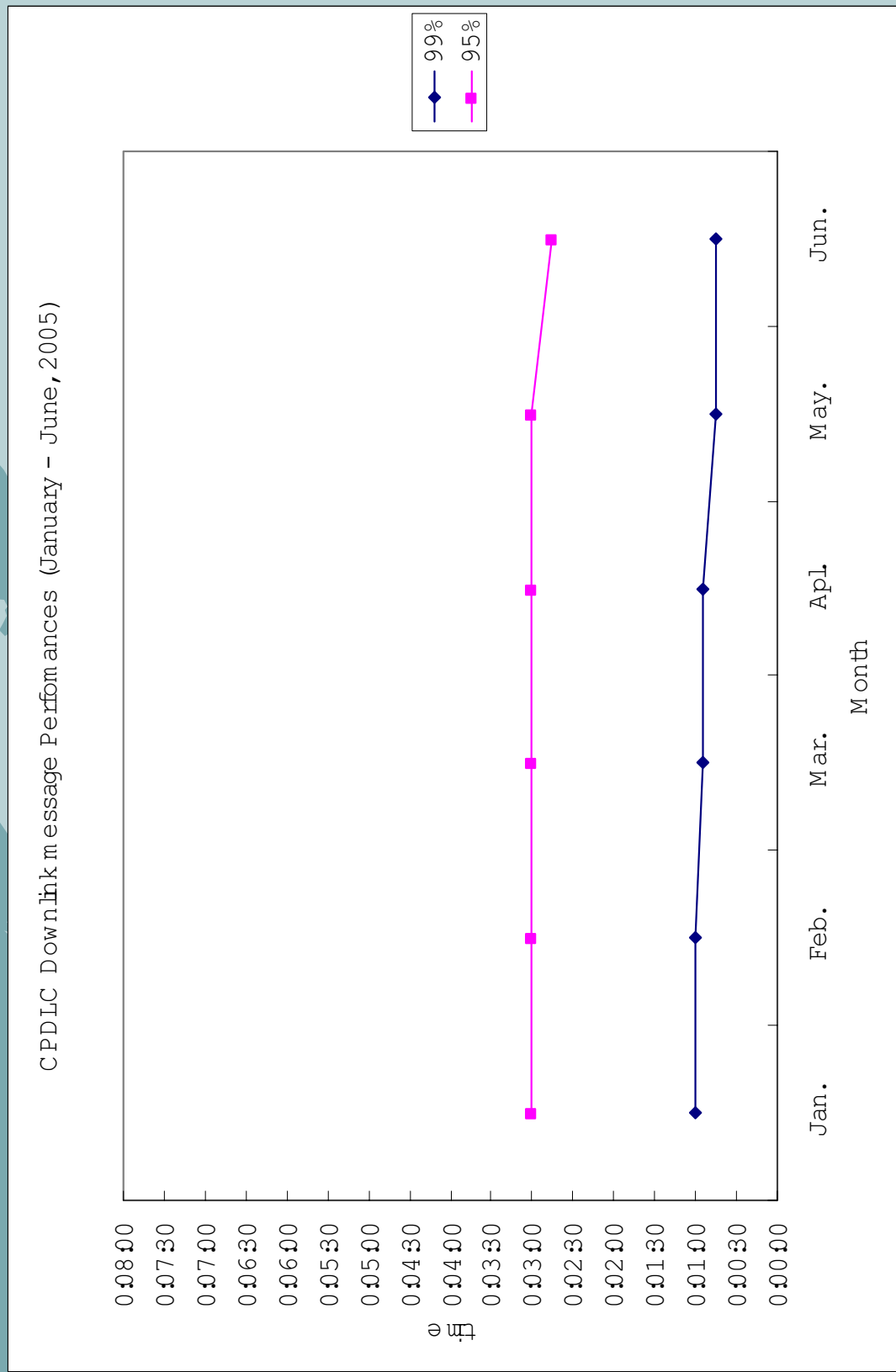


Periodic Status Report

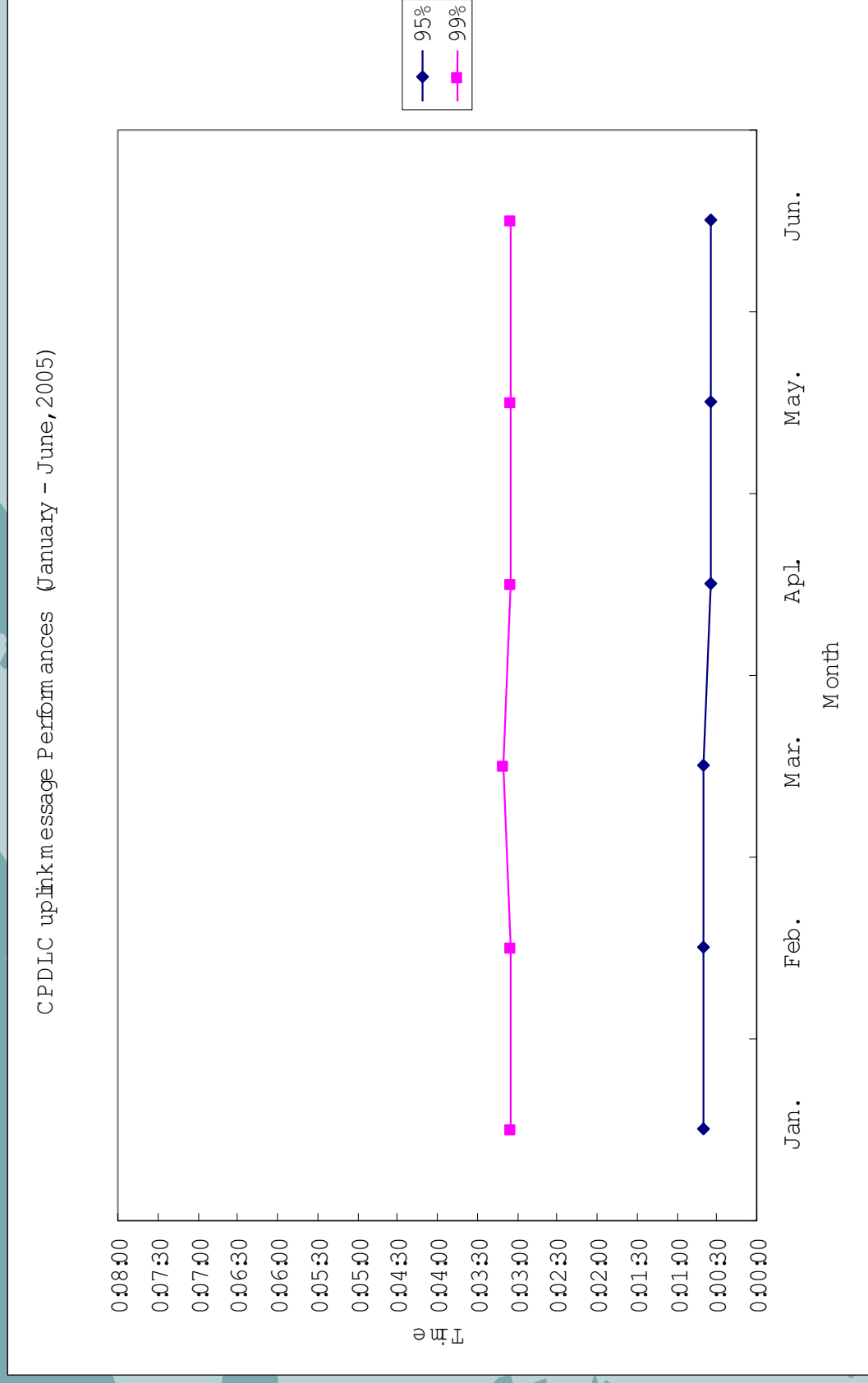
Number of CPDLC messages



CPDLC downlink Message Performance



CPDLC Uplink Message Performance





Conclusion

**ATS datalink monitoring
activities work for the safer
and more stable ADS and
CPDLC operations in the
Asia/Pacific airspace.**



Thank You Very Much

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Website

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**To be accessible to Problem Reports or
Performance data, you are requested to sign
Confidentiality Agreement**

ATS Datalink Monitoring Structure and PRs & PSRs Process

