



PDEC C5 Patch 2 Release

Release notes

Reference: Airtel-PDEC-RELN-031

Date of issue: 08-Oct-2025

1 Introduction

These are notes for the PDEC C5 Patch 2 Release of the Protocol Decoder software. These notes describe the contents of the release along with other information related to this release.

The PDEC C5 Patch 2 Release is a standalone release and replaces the PDEC C5 Patch 1 release.

1.1 Purpose

The purpose of this release is to address incorrect handling of IDRP Update PDU with first Path Attribute not a Route Separator.

1.2 Summary package contents

This Protocol Decoder release contains the User Guide [RD1] and the following software install files:

Item	Description
Airtel_PDEC_EXE_C5p2_RHEL8.tar.gz	Install file for Red Hat Enterprise Linux 8 64-bit platforms
Airtel_PDEC_EXE_C5p2_Cent72.tar.gz	Install file for CentOS 7.2 64-bit platforms

Table 1: Software items

This release is provided by electronic means.

1.3 System requirements

This release is for the GNU/Linux platform(s) identified in the above table.

1.4 References

[RD1] Protocol Decoder, User Guide, Airtel-PDEC-USG-001, Version 1.15

2 Changes

Changes to the software are documented in this section.

2.1 Between PDEC_C4p5 and PDEC_C5

2.1.1 Problem reports

Problem	Description
PDEC-291	PDEC cannot cope with large ADS-C reports due to buffer size limitations
PDEC-382	Incorrect Message Identifier displayed for ATN B2 Replacement Messages
PDEC-417	ADM field in intermediate file incorrectly displayed as alpha characters
PDEC-418	Incorrect flightId re-used in case of OLDI LOF
PDEC-457	Incorrect data decoding as ADS application message
PDEC-466	PDEC does not handle position with 0W or 0S correctly
PDEC-475	LISAT file contains duplicate data
PDEC-479	CLNP Error logging missing the discarded DUID in the CSV output
PDEC-480	Failure to decode TP4 segmented PDU over more than 2 segments
PDEC-488	Incorrect duplicate detection for out of order TP4 Messages
PDEC-489	Debug mode not behaving as expected

2.1.2 Change Requests

Problem	Description
PDEC-21	Improve logging of CLNP ER PDUs
PDEC-266	Add CM information timeout
PDEC-374	Add detection of incorrectly padded ASE PDUs
PDEC-460	PDEC should support longer hostnames in input files
PDEC-469	PDEC could include the date in the timestamp for each entry in pdus.txt
PDEC-477	ADS Position report format should separate seconds from deciseconds
PDEC-478	Update atsu.csv database to EUR NSAP Address Registry v14_0
PDEC-481	Improve IDRP decoding
PDEC-484	PDEC should allow not producing text output

IMPORTANT NOTICE:

- PDEC-477 changes the output format of the ADS Position Report and may not be backward compatible for existing applications relying on the previous output format, as the seconds are now separated from the deciseconds by a '.'

Example:

- Previous output format: position(47:25:592 19:15:340 level(47))
- New output format: position(47:25:59.2 19:15:34.0 level(47))

Other notes:

- PDEC-266, PDEC-469 and PDEC-484 introduce new command line options. These are documented in the User Guide [RD1]:
 - --quiet – suppresses all output messages
 - --notxt – suppresses generation of *pdus.txt* file
- PDEC-374 introduces a new WARNING message to the text output:
 - ACSE AARE – WARNING: Incorrect ASE PDU padding

2.2 Between PDEC_C5 and PDEC_C5p1

2.2.1 Problem reports

Problem	Description
PDEC-495	Handling of CM Logon Request with missing optional ADEP and ADES causes segmentation fault

2.3 Between PDEC_C5p1 and PDEC_C5p2

2.3.1 Problem reports

Problem	Description
PDEC-500	Incorrect handling of IDR Update PDU with first Path Attribute not a Route Separator

3 Installation procedures

The installation procedure is described in the User Guide [RD1] section 4.

As the PDEC C5 Patch 2 Release is a standalone release and replaces the PDEC C5 Patch 1 release, there is no requirement for the PDEC C5 Patch 1 release to be installed first.

3.1 Git tags

The Git tag used is PDEC_C5p2.

3.2 Directory structure

The install directory structure is described in the User Guide [RD1] section 4.

4 Known problems

Issue	Summary	Notes
PDEC-501	Misleading path attributes display of IDRP UPDATE PDU with more than one Route-ID	This is a problem when decoding IDRP traffic containing an IDRP UPDATE PDU with more than one Route-ID for the same NLRI
PDEC-482	Cannot produce retransmission statistics for GOLD records	This is a problem when generating GOLD statistics
PDEC-384	CM Logon Request knowledge not cleared if Response indicates rejected	This problem leads to incorrect flightId, ADEP and ADES being reported
PDEC-367	CLNP re-assembly can lead to memory leaks and use of old data	This is a problem as memory usage will keep increasing as decoding goes on
PDEC-362	Does not handle TP4 extended format correctly in case of TPDU reassembly	Implementations of the ATN transport layer should propose use of normal format in the CR TPDU. The Extended format should only be proposed when explicitly necessary to meet application Quality of Service requirements.
PDEC-358	In case of LREF, CLNP DT length information are incorrect (offset/total_length)	This is a problem with decoding logs from air-ground mobile connections.
PDEC-276	PDEC produces invalid LISAT output when CM NSAP does not match CPDLC	This is a problem only in the case where the advertised CPDLC NSAP in the CM Logon does not match the local CM NSAP.
PDEC-264	Message replay may lead to corruption of ACSE state machine	This is a problem when CPDLC Abort Requests and followed by a reply CPDLC End Rsp (rejected)
PDEC-229	AVLC Decoder incorrect message concatenation handling	This is a problem with decoding logs from air-ground mobile connections.
PDEC-203	FlightId should not be reset when TP4 CR received from air fails to decode	
PDEC-97	pdec_intermediate does not handle wrapping around msgId for uplink messages	This problem leads to new uplink messages being counted as retransmission.
PDEC-84	pdec_dvip does not decode 8208 CALL REQUEST	This is a problem with decoding logs from air-ground mobile connections.
PDEC-81	Crashes if output files exist and are read-only	
PDEC-77	test_AVLC is not failing when error occurs	This is a test suite issue
PDEC-66	LISAT RouteClearance not implemented	LISAT RouteClearance not implemented. LISAT Distance attribute atwTolerance not implemented.

Issue	Summary	Notes
PDEC-62	pdec_intermediate gives valgrind errors if cannot determine facility designator	This only occurs if the <code>-n</code> option is not used.
PDEC-44	pdec_avlc may produce incorrect information for LREF compressed PDUs	This is a problem with decoding logs from air-ground mobile connections.
PDEC-43	pdec configure script does not check for all necessary libraries	
PDEC-41	pdec_clnp cannot decode log with an extra space after the timestamp	This is a problem for logs produced by Airtel ATN's AGDLS end-system, gnd11.
PDEC-34	Generated pcap files cannot be opened in Wireshark	Files are produced with <code>--pcap</code> command line option.
PDEC-19	Protocol Decoder does not produce GOLD output for PM-CPDLC messages	This is a problem when generating GOLD statistics