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AMENDMENT 1
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Road vehicles — Unified diagnostic services (UDS) —

Part 1: **Application layer**

AMENDMENT 1

Véhicules routiers — Services de diagnostic unifiés (SDU) —

Partie 1: Couche application

AMENDEMENT 1

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This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

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Road vehicles — Unified diagnostic services (UDS) —

Part 1:
Application layer

AMENDMENT 1

8.4, Table 2

Replace "80_{16} to 82_{16}" with "80_{16} to 83_{16}".

Replace "83_{16} to 88_{16}" with "84_{16} to 88_{16}".

11.6.2.3, Table 240, entry "memorySize"

Replace

"The memorySize shall be greater than 1."

with

"The memorySize shall be greater than 0000_{16}.".

12.2.2.1, Table 296, entry "#5"

Replace "Memory Selection" with "MemorySelection".

12.2.4, Table 299, entry "31_{16}"

Replace

"This NRC shall be returned if the specified groupOfDTC parameter is not supported."

with

"This NRC shall be returned if the specified groupOfDTC or MemorySelection parameter is not supported.".

12.3.1.1, last paragraph

Replace

"When using paged-buffer-handling to read DTCs (especially for SubFunction = reportDTCByStatusMask), it is possible that the number of DTCs can decrease while creating the response. In such a case the response shall be filled up with DTC 000000_{16} and DTC status 00_{16}. The client shall treat these DTCs as not present in the response message."

with

"The service ReadDTCInformation can result in responses that contain information from many DTCs (such as reportDTCByStatusMask, reportDTCSnapshotIdentification, reportDTCExtDataRecordByRecordNumber, ...). With paged-buffer-handling to read DTCs it is possible that:

— the DTC status is changing and thus the number of DTCs matching the filter is decreased; or

— the DTC is removed due to fault memory overflow and thus no more data to read is available.

In this case the response shall be filled up with DTC 000000_{16} and statusOfDTC 00_{16}. In case of SubFunction reportDTCExtDataRecordByRecordNumber the DTCExtDataRecord data bytes shall be also filled up with 00_{16}.

12.3.1.19

Replace all occurrences of "DTCExtDataRecordNumber" with "UserDefDTCExtDataRecordNumber" in 12.3.1.19.

12.3.2.1, Table 312, entry #6

12.3.2.2, Table 317

12.3.2.3, Table 318

12.3.3.2, Table 335

12.3.5.17, heading

12.3.5.17.1

12.3.5.17.3, Table 388 (2 occurrences)

12.3.5.17.3, Table 389 (2 occurrences)

Replace

"reportDTCExtendedDataRecordIdentification"

with

"reportDTCExtDataRecordByRecordNumber".

12.3.2.3, Table 318

Replace the table cell "UserDefDTCSnapshotRecordNumber" with the following two table cells:

DTCSnapshotRecordNumber
DTCSnapshotRecordNumber is a 1-Byte value indicating the number of the specific DTCSnapshot data record requested for a client defined DTCMaskRecord via the reportDTCSnapshotByDTCNumber Sub-Function.
DTCSnapshot data record number 00_{16} and $F0_{16}$ shall be reserved for legislated purposes (e.g. VOBD). DTCSnapshot records in the range of 01_{16} through EF_{16} and $F1_{16}$ through FE_{16} shall be available for vehicle manufacturer specific usage. A value of FF_{16} requests the server to report all stored DTCSnapshot data records at once.

UserDefDTCSnapshotRecordNumber

UserDefDTCSnapshotRecordNumber is a 1-Byte value indicating the number of the specific DTCSnapshot data record requested for a client defined DTCMaskRecord via the reportUserDefMemoryDTCSnapshotRecordByDTCNumber SubFunction.

UserDefDTCSnapshot records in the range of 00_{16} through FE_{16} shall be available for vehicle manufacturer specific usage. A value of FF_{16} requests the server to report all stored UserDefDTCSnapshot data records at once.

12.3.2.3, Table 318, entry for DTCReadinessGroupIdentifier

Replace

“specifies the reference to the the DTC readiness group and associated”

with

“specifies the reference to the DTC readiness group and associated”.

12.3.2.3, Table 318

Add an additional row to the table:

UserDefDTCExtDataRecordNumber

UserDefDTCExtDataRecordNumber is a 1-Byte value indicating the number of the specific DTCExtendedData record requested for a client defined DTCMaskRecord on a user defined fault memory via the reportUserDefMemoryDTCExtDataRecordByDTCNumbesubfunction. The UserDefDTCExtendedDataRecordNumber ranges are defined in D.8.

12.3.2.3, Table 318

Replace “SAE_J2012-DA_VOBD_DTCFormat” with “SAE_J2012-DA_DTCFormat_04”.

12.3.3.1, Table 329

Replace “DTCSnapshotRecord” with “UserDefDTCSnapshotRecord”.

12.3.3.1, Table 330

Replace Table 330 with the following:

A_Data byte	Parameter Name	Cvt	Byte value	Mnemonic
#1	ReadDTCInformation Response SID	M	59_{16}	RDTCIPR
#2	reportType = [reportUserDefMemoryDTCExtDataRecordByDTCNumber]	M	19_{16}	LEV_ RUDMDTCEDRBDN
#3	MemorySelection	M	00_{16}-FF_{16}	MEMYS
C_1: The UserDefDTCExtDataRecordNumber and the extendedData in the DTCExtDataRecord parameter are only present if at least one DTCExtDataRecord is available to be reported.				
C_2: The UserDefDTCExtDataRecordNumber and the extendedData in the DTCExtDataRecord parameter are only present if all records are requested to be reported (UserDefDTCExtDataRecordNumber set to FE_{16} or FF_{16} in the request) and more than one record is available to be reported.				

A_Data byte	Parameter Name	Cvt	Byte value	Mnemonic
	DTCAndStatusRecord[] = [			DTCASR_
#4	DTCHighByte	M	00_{16} to FF_{16}	DTCHB
#5	DTCMiddleByte	M	00_{16} to FF_{16}	DTCMB
#6	DTCLowByte	M	00_{16} to FF_{16}	DTCLB
#7	statusOfDTC]	M	00_{16} to FF_{16}	SODTC
#8	DTCExtDataRecordNumber#1	C_1	00_{16}-FE_{16}	DTCEDRN
	DTCExtDataRecord[]#1 = [			DTCSSR_
#9	extendedData#1 byte#1	C_1	00_{16} to FF_{16}	EDD11
:	:	C_1	:	:
#9+(p-1)	extendedData#1 byte#p]	C_1	00_{16} to FF_{16}	EDD1p
:	:	:	:	:
t	DTCExtDataRecordNumber#x	C_2	00_{16} to FD_{16}	DTCEDRN
	DTCExtDataRecord[]#x = [			DTCSSR_
#t+1	extendedData#x byte#1	C_2	00_{16} to FF_{16}	EDDx1
:	:	C_2	:	:
#t+1+(q-1)	extendedData#x byte#q]	C_2	00_{16} to FF_{16}	EDDxq

C_1: The UserDefDTCExtDataRecordNumber and the extendedData in the DTCExtDataRecord parameter are only present if at least one DTCExtDataRecord is available to be reported.

C_2: The UserDefDTCExtDataRecordNumber and the extendedData in the DTCExtDataRecord parameter are only present if all records are requested to be reported (UserDefDTCExtDataRecordNumber set to FE_{16} or FF_{16} in the request) and more than one record is available to be reported.

12.3.3.2, Table 335

Add an additional row to the table:

DTCSnapshotRecordNumber

Either the echo of the DTCSnapshotRecordNumber parameter specified by the client in the reportDTCSnapshotRecordByDTCNumber request, or the actual DTCSnapshotRecordNumber of a stored DTCSnapshot record.

12.3.3.2, Table 335

Add a new row at the end of the table:

UserDefDTCExtDataRecordNumber

Either the echo of the UserDefDTCExtDataRecordNumber parameter specified by the client in the reportUserDefMemoryDTCSnapshotRecordByDTCNumber request, or the actual DTCExtDataRecordNumber of a stored DTCExtendedData record.

15.6.5.2, Table 486

Replace “server → client” with “client → server “.

Replace “Response” with “Request”.

Annex A, Table A.1, entry “$3A_{16}$”

Replace “SDTF” with “SDVF”.

Annex A, Table A.1, entry “56_{16}”

Replace “CVFIS” with “CVFISD”.

Annex A, Table A.1, entry “57_{16}”

Replace “CVFIC” with “CVFICR”.

Annex C, Table C.1, entry “$FF01_{16}$”

Replace “ReservedForISO15765-5” with “TransportLayerSegmentationSupport”.

D.2.1,

Replace the list item:

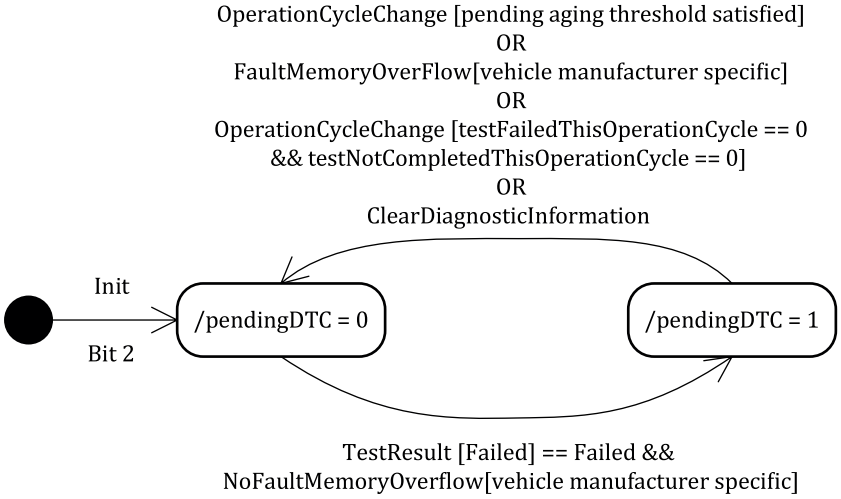
— **Confirmation Threshold:** The confirmed status of a failure is defined as a test having reported 'Failed' for this test for a given number of operation cycles where the test has run to completion. Typically for non-OBD use cases the threshold for operation cycles is defined as one. For OBD use cases this threshold is typically greater than one. Implementations may use a Trip Counter (see Figure D.9) as a trigger for changing the confirmed status from 0 to 1. The Trip Counter counts the number of operation cycles (driving cycles) where a malfunction occurred. If the counter reaches the threshold (e.g. 2 driving cycles) the confirmed bit changes from 0 to 1.

with the following:

— **Confirmation Threshold:** The confirmed status of a failure is defined as a test having reported 'Failed' for a given number of operation cycles where the test has run to completion. Typically for non-OBD use cases the confirmation threshold for operation cycles is defined as zero. For OBD use cases this confirmation threshold is typically greater or equal than one. Implementations may use a trip counter (see Figure D.9) as a trigger for changing the confirmed status from 0 to 1. The trip counter is incremented at the end of an operation cycle if testFailedThisOperationCycle is 1 and counts the number of completed operation cycles where a malfunction occurred. If test result reported a value of "failed" and the trip counter has reached the confirmation threshold, then the confirmed bit changes from 0 to 1.

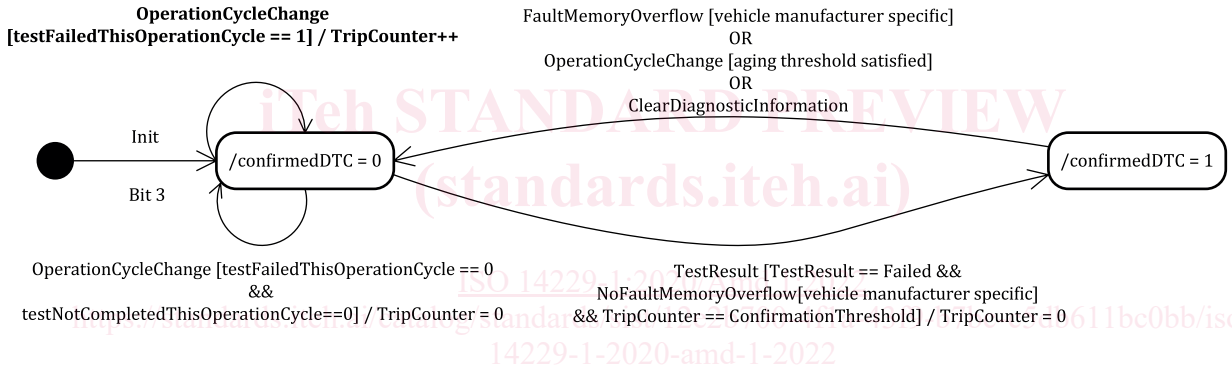
D.2.3, Figure D.3

Replace Figure D.3 with the following:



D.2.3, Figure D.4

Replace Figure D.4 with the following:



D.2.4, Figure D.9

Replace Figure D.9 with the following: