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1 PRS_LogAndTraceProtocol

1.1 Specification Item PRS_Dlt_00635

Trace References:

RS_LT_00032

Content:

The following Dlt Commands using the following Services IDs shall be supported:

| Service ID | Dlt Command Name | Description |
|------------|----------------------------|---|
| 0x01 | SetLogLevel | Set the Log Level |
| 0x02 | SetTraceStatus | Enable/Disable Trace Messages |
| 0x03 | GetLogInfo | Returns the LogLevel for registered applications |
| 0x04 | GetDefaultLogLevel | Returns the LogLevel for wildcards |
| 0x05 | StoreConfiguration | Stores the current configuration non volatile |
| 0x06 | RestoreToFactoryDefault | Sets the configuration back to default |
| 0x0A | SetMessageFiltering | Enable/Disable message filtering |
| 0x11 | SetDefaultLogLevel | Sets the LogLevel for wildcards |
| 0x12 | SetDefaultTraceStatus | Enable/Disable TraceMessages for wildcards |
| 0x13 | GetSoftwareVersion | Get the ECU software version |
| 0x15 | GetDefaultTraceStatus | Get the current TraceLevel for wildcards |
| 0x17 | GetLogChannelNames | Returns the LogChannel's name |
| 0x1F | GetTraceStatus | Returns the current TraceStatus |
| 0x20 | SetLogChannelAssignment | Adds/ Removes the given LogChannel as output path |
| 0x21 | SetLogChannelThreshold | Sets the filter threshold for the given Log Channel |
| 0x22 | GetLogChannelThreshold | Returns the current LogLevel for a given LogChannel |
| 0x23 | BufferOverflowNotification | Report that a buffer overflow occurred |
| 0x24 | SyncTimeStamp | Reports synchronized absolute time |

RfCs affecting this spec item between releases 1.4.0 and 1.5.0:

- RfC #78317: [DLT] Add explicit time stamp exchange to enable synchronized tracing of multiple ECUs

Problem description:

To make usage of nodes synchronized using the StbM or another time synchronization technology, it is necessary to extend the exchange of time stamps in the DLT protocol by an exchange of explicit base time stamps.

Agreed solution:

The following change are to be done:

1. [PRS_Dlt_00635] Add a new line for the following Dlt command:

Service ID: 0x24

Dlt Command Name: SyncTimeStamp

Description: Reports synchronized absolute time

2. Add new chapter after 5.3.17-> 5.3.18 Synchronized TimeStamp

3. Add new requirement in new chapter (5.3.18) as follows:

Service name: SyncTimeStamp

Service ID [hex]: 0x24

Sync/Async: Synchronous

Reentrancy: Not Reentrant

Request Parameter

Number :none

Response parameter:

Number: 1

Name: status

Type: uint8

Description: 0==OK, 1==NOT_SUPPORTED, 2==ERROR

Number: 2

Name: synctimestamp

Type: TimeStamp

Description: structure contains time stamp which represents the synchronized absolute time starting from 1970-01-01.

Unit32 Nanoseconds part of the time

Unit 32 Seconds part of the time

Unit16 Seconds part of the time (MSB)

Description: The Dlt module sends this message to report the synchronized absolute time. The message will be sent once when message transmission is started and then every 10 minutes. If not supported, NOT SUPPORTED shall be reported. The message shall also be sent after a jump in the time is detected, e.g. leap time or synchronization status.

—Last change on issue 78317 comment 35—

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.2 Specification Item PRS_Dlt_00770

Trace References:

RS_LT_00037

Content:

| | | | |
|--------------------|---------------|---------------|---|
| Service name: | | SyncTimeStamp | |
| Service ID [hex] | | 0x24 | |
| : | | | |
| Sync/Async: | | Synchronous | |
| Reentrancy: | | Non Reentrant | |
| Request Parameter | | | |
| Number | Name | Type | Description |
| | | | |
| Response Parameter | | | |
| Number | Name | Type | Description |
| 1 | status | uint8 | 0 == OK 1 == NOT_SUPPORTED 2 == ERROR |
| 2 | synctimestamp | TimeStamp | structure contains time stamp which represents the synchronized absolute time starting from 1970-01-01. Unit32 Nanoseconds part of the time Unit 32 Seconds part of the time Unit16 Seconds part of the time (MSB) |





| | |
|--------------|---|
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