ISO 21806-4:2020 (E)

Road vehicles — Media Oriented Systems Transport (MOST) — Part 4: Transport layer and network layer

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Symbols and abbreviated terms

4.1 Symbols
4.2 Abbreviated terms

5 Conventions

6 Transport layer service interface to upper OSI layers

6.1 Overview of services
6.2 Data type definitions
6.3 Parameters
6.3.1 Parameters — NL/TL to upper layers
6.3.1.1 Overview
6.3.1.2 Application_Event
6.3.1.3 NetInterface_Transition
6.3.1.4 DiagResult
6.3.1.5 Relative_Position
6.3.1.6 Shutdown_Reason
6.3.1.7 Node_Position
6.3.1.8 Maximum_Position
6.3.1.9 Transmission_Status
6.3.2 Parameters — Upper layers to TL/NL
6.3.2.1 Overview
6.3.2.2 Application_Request
6.3.2.3 Network_Startup_Type
6.3.2.4 Number_Of_Retries
6.3.2.5 Priority
6.3.2.6 Group_Address
6.3.2.7 Node_Address
6.3.2.8 EUI_48
6.3.2.9 Bandwidth
6.3.3 Parameters – NL/TL to upper layers and upper layers to TL/NL
6.3.3.1 Overview
6.3.3.2 Media_Interface_ID
6.3.3.3 Length
6.3.3.4 Data
6.3.3.5 MsgID
6.3.3.6 Session_ID
6.3.3.7 Target_Address
6.3.3.8 Source_Address
6.3.3.9 Destination_MAC_Address
6.3.3.10 Source_MAC_Address
6.4 Event indications and action requests
6.4.1 N_EVENT.INDICATE

6.4.2 N_NODE_POSITION.INDICATE
6.4.3 N_MAXIMUM_NODE_POSITION.INDICATE
6.4.4 N_NET_INTERFACE_TRANSITION.INDICATE
6.4.5 N_DIAGRESULT.INDICATE
6.4.6 N_SHUTDOWN_REASON.INDICATE
6.4.7 N_ACTION.REQUEST
6.4.8 N_NETWORK_STARTUP.REQUEST
6.4.9 N_SET_GROUP_ADDRESS.REQUEST
6.4.10 N_SET_NODE_ADDRESS.REQUEST
6.4.11 N_SET_EUI_48.REQUEST
6.5 Control data
6.5.1 N_CONTROL_DATA.RECEIVE
6.5.2 N_CONTROL_DATA.CONFIRM
6.5.3 N_SET_MESSAGE_ATTRIBUTES.REQUEST
6.5.4 N_CONTROL_DATA.SEND
6.6 Packet data
6.6.1 16-bit addressing
6.6.1.1 N_PACKET_DATA_16.RECEIVE
6.6.1.2 N_PACKET_DATA_16.SEND
6.6.2 48-bit addressing
6.6.2.1 N_PACKET_DATA_48.RECEIVE
6.6.2.2 N_PACKET_DATA_48.SEND
6.7 Streaming data
6.7.1 N_ALLOCATE.INDICATE
6.7.2 N_DEALLOCATE.INDICATE
6.7.3 N_CONNECT.INDICATE
6.7.4 N_DISCONNECT.INDICATE
6.7.5 N_SOURCE_DROP.INDICATE
6.7.6 N_STREAMING_DATA.RECEIVE
6.7.7 N_ALLOCATE.REQUEST
6.7.8 N_DEALLOCATE.REQUEST
6.7.9 N_CONNECT.REQUEST
6.7.10 N_DISCONNECT.REQUEST
6.7.11 N_STREAMING_DATA.SEND

7 TL — Transport layer

7.1 TL — Overview
7.2 TL — Data transport mechanism
7.2.1 TL — Transport service
7.2.2 TL — Service for control data
7.2.2.1 TL — Application message service (AMS)
7.2.2.2 TL — Message identifier (MsgID)
7.2.2.3 TL — Control data
7.2.2.4 TL — Telegram identifier (TelID)
7.2.2.5 TL – Telegram length (TelLen)
7.2.2.6 TL — Payload
7.2.2.7 TL — Single transfer
7.2.2.8 TL — Segmented transfer
7.2.2.8.1 TL — Size-prefix for segmented transfer
7.2.2.8.1.1 TL — Purpose
7.2.2.8.1.2 TL — Message size
7.2.2.8.2 TL — Transfer of payload
7.2.3 TL — Service for source data
7.2.3.1 TL — General
7.2.3.2 TL — Packet data
7.2.3.3 TL — Streaming data

8 NL — Network layer

8.1 NL — Overview
8.2 NL — Services
8.2.1 NL — States and state transitions
8.2.1.1 NL — Overview
8.2.1.2 NL — Dynamic behaviour of a node
8.2.1.3 NL — NetInterface states

8.2.1.3.1 NL — Overview
8.2.1.3.2 NL — NetInterface state s_NetInterface_Sleep
8.2.1.3.3 NL — NetInterface state s_NetInterface_Off
8.2.1.3.4 NL — NetInterface state s_NetInterface_Init
8.2.1.3.5 NL — NetInterface state s_NetInterface_Normal_Operation
8.2.1.3.6 NL — NetInterface state s_NetInterface_Diagnosis
8.2.1.4 NL — Network wake-up and startup
8.2.1.5 NL — Network shutdown
8.2.2 NL — Network error detection and management
8.2.2.1 NL — Network failure
8.2.2.2 NL — Unlock
8.2.2.3 NL – Handling sudden signal off and critical unlock
8.2.2.4 NL — Undervoltage management
8.2.2.5 NL — General
8.2.2.6 NL — Active voltage UActive
8.2.2.7 NL — Sleep voltage USleep
8.3 NL — Timing
8.3.1 NL — General
8.3.2 NL — Timers
8.3.3 NL — Timing constraints
8.3.4 NL — Network startup and changes
8.3.4.1 NL — General
8.3.4.2 NL — Constraint tWakeUp
8.3.4.2.1 NL — General
8.3.4.2.2 NL — Validity conditions
8.3.4.2.3 NL — Violation consequences
8.3.4.3 NL — Constraint tWaitNodes
8.3.4.3.1 NL — General
8.3.4.3.2 NL — Validity conditions
8.3.4.3.3 NL — Violation consequences
8.3.4.4 NL — Constraint tLock
8.3.4.4.1 NL — General
8.3.4.4.2 NL — Validity conditions
8.3.4.4.3 NL — Violation consequences
8.3.4.5 NL — Timer tConfig
8.3.4.5.1 NL — General
8.3.4.5.2 NL — Start and stop conditions
8.3.4.5.3 NL — Timer expiration
8.3.4.6 NL — Timer tRestart
8.3.4.6.1 NL — General
8.3.4.6.2 NL — Start and stop conditions
8.3.4.6.3 NL — Timer expiration
8.3.5 NL — Network shutdown
8.3.5.1 NL — General
8.3.5.2 NL — Constraint tShutdown
8.3.5.2.1 NL — General
8.3.5.2.2 NL — Validity conditions
8.3.5.2.3 NL — Violation consequences
8.3.5.3 NL — Timer tSSO_Shutdown
8.3.5.3.1 NL — General
8.3.5.3.2 NL — Start and stop conditions
8.3.5.3.3 NL — General
8.3.5.3.4 NL — Timer expiration
8.3.5.4 NL — Timer tUnlock
8.3.5.4.1 NL — General
8.3.5.4.2 NL — Start and stop conditions
8.3.5.4.3 NL — Timer expiration
8.3.5.5 NL — Timer tPwrSwitchOffDelay
8.3.5.5.1 NL — General
8.3.5.5.2 NL — Start and stop conditions
8.3.5.5.3 NL — Timer expiration
8.3.6 NL — General communication
8.3.6.1 NL — General
8.3.6.2 NL — Timer tWaitForNextSegment

8.3.6.2.1 NL — Purpose
8.3.6.2.2 NL — Start and Stop conditions
8.3.6.2.3 NL — Timer expiration
8.4 NL — Data link layer service interface

Annex A (informative) Ring break diagnosis (RBD)

A.1 General
A.2 Functional description
A.3 TimingSlave behaviour
A.4 TimingMaster behaviour
A.5 Ring break diagnosis result
A.6 Alternative behaviour
A.7 Timing
A.7.1 General
A.7.2 Timers
A.7.3 Timing constraints
A.7.4 RBD timers and timing constraint

Page count: 56