Addendum to CiA DS-205-2 „CAL LMT Protocol Specification“

CAN Power Management Layer Configuration Services
CiA Draft Standard 205-2A

Revision: 1.30

Date: 25.11.2002

1 Scope.

This document contains the proposed additions to the existing Layer Management Protocol Specification CiA/DS-205-2. The additions cover new LMT node identification protocols and configuration services to support a non-trivial CAN Power Management Layer which defines a Standby Capability. .

2 References.

/1/ CiA DS-205-2 V1.1, „LMT Protocol Specifications“, February 1996.
/2/ CiA DS-205-1 V1.1, „LMT Service Specifications“, February 1996.
/3/ CiA DS-150 V1.1, „Optional CAN Power Management Layer Specification“, May 1997.
/4/ CiA DS-205-1A V1.2, „Addendum to CiA DS-205-1 CAL LMT Service Specification“, May 1997.

3 General Description.

3.1 LMT Perspective.

No additions.

3.2 LMT Slave synchronisation.

No additions.

3.3 LMT Protocol descriptions.

No additions.

4 Switch Mode Protocol.

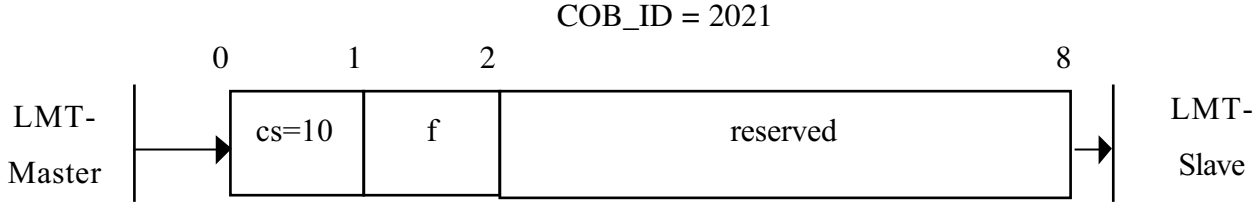
No additions.

5 Configuration Protocols.

The following configuration service protocols are added:

5.1 Configure Standby Support.

This protocol is used to implement the Configure Standby Support service.



cs: LMT command specifier. (10 for this service).

f: The LMT Standby Support Flag value to be passed to the Session. Layer Service Unit via S_SET_STANDBY_SUPPORT service:

0: set Standby Support OFF

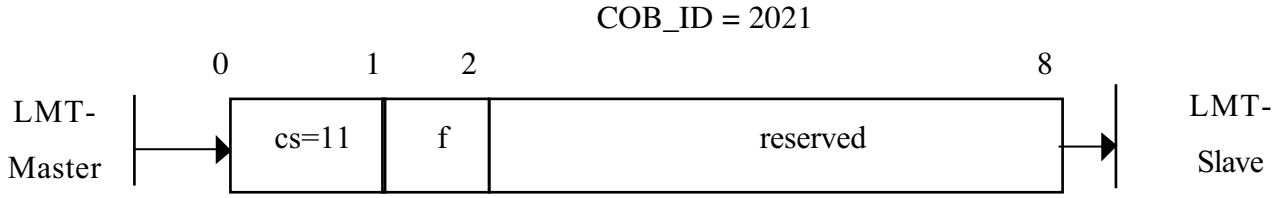
1: set Standby Support ON

2-255: reserved for further use by CiA.

reserved: Reserved for further use by CiA. Should be set to zero.

5.2 Configure Hardware Sleep Support

This protocol is used to implement the Configure Hardware Sleep Support service.



cs: LMT command specifier (11 for this service)

f: The LMT Hardware Sleep Flag value, to be passed to the Power Management Layer Service Unit via S_SET_HARDWARE_SLEEP_SUPPORT service.:

0: set Hardware Sleep Support OFF

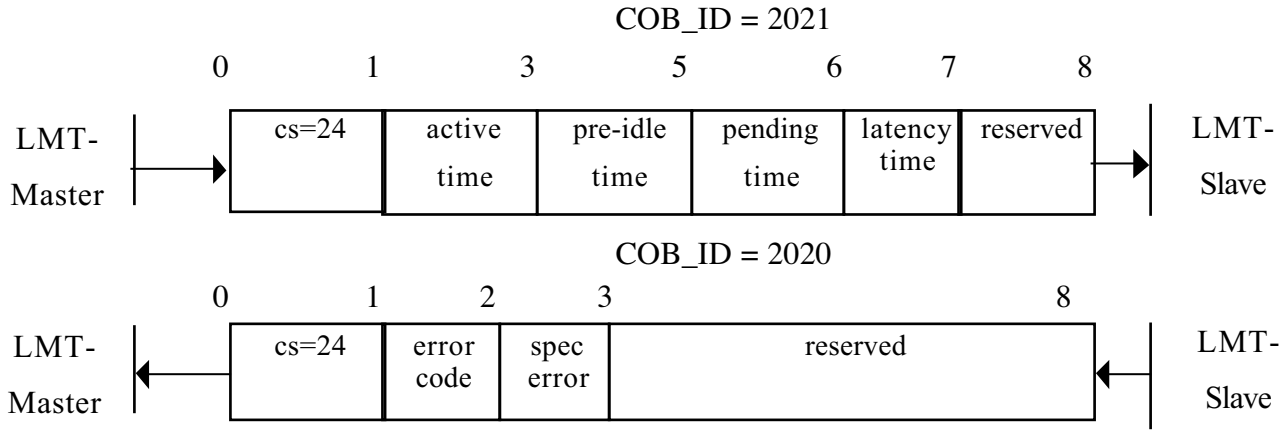
1: set Hardware Sleep ON

2-255: reserved for further use by CiA.

reserved: Reserved for further use by CiA. Should be set to zero.

5.3 Configure Power Management Layer Timing Parameters

This protocol is used to implement Configure Power Management Layer Timing Parameters service.



cs: LMT command specifier (24 for this service)

active time: The minimum time window value. The time unit is 1 ms. To be passed to the Power Management Layer Service Unit via S_SET_MINIMUM_ ACTIVE_TIME service.

pre-idle time: The pre-idle time value. The time unit is 1 ms. To be passed to the Power Management Layer Service Unit via S_SET_PRE_IDLE_TIME service.

latency time: The latency time value. The time unit is 1 ms. To be passed to the Power Management Layer Service Unit via S_SET_LATENCY_TIME service.

pending time: The pending time value. The time unit is 1 ms. To be passed to the Power Management Layer Service Unit via S_SET_PENDING_TIME service.

error code: 0: protocol successfully completed.

1: requested timing parameters can not be supported.

2-254: reserved for further use by CiA.

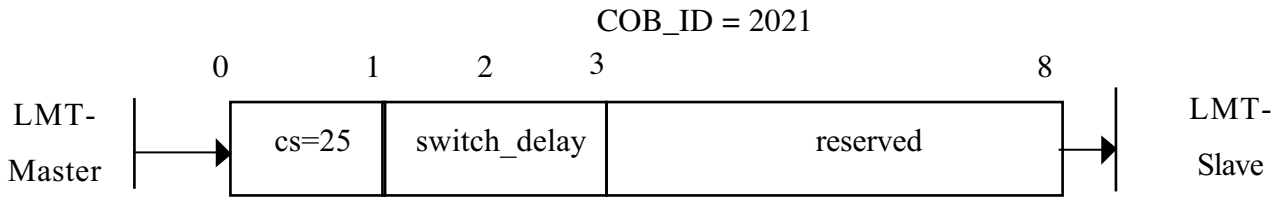
255: implementation specific error occured.

spec error: If the error code equals 255, spec error code gives an implementation specific error code, otherwise it is reserved for further use by CiA and should be zero.

reserved: Reserved for further use by CiA. Should be set to zero.

5.4 Activate Power Management Layer Timing Parameters

This protocol is used to implement the Activate Power Management Layer Timing Parameters service.



cs: LMT command specifier (25 for this service)

switch_delay: The duration of the two periods of time to wait until the Power Management Layer timing parameters switch is done (first period) and before transmitting any CAN message with the new timing parameters after performing the switch (second period). The time unit of switch delay is 1ms.

reserved: Reserved for further use by CiA. Should be set to zero.

6 Inquire Protocols.

No additions.