

# Proposed PLDM support over NC-SI RBT Commands (Work-In-Progress)

This document proposes new commands and AEN to be added into NC-SI standard, in order to include full support of PLDM using NC-SI commands over RBT. It is expected that the MC will assure that PLDM requests from the NC are handled at a sufficient rate to avoid any PLDM timeout on the NC.

The new proposed commands provide the following additional functionality:

- Query pending PLDM commands from the NC to the MC
- Method for responding to PLDM command which originate from the NC
- Pending PLDM request AEN to lower the needed MC polling rate

## 1. Command Types

The new Commands and AEN are listed in **Table 1** below.

**Table 1 Related commands and Messages**

Command Description	Section
Query Pending NC PLDM Request	2.1
Send NC PLDM Reply	2.2
Pending PLDM request AEN	3.2

In addition, the proposal requests a change to **Transport Specific AEN Enable Command (0x55)**.

## 2. Commands definition

In order to maintain the PLDM message common fields unchanged, there is no way to modify the existing “PLDM” command 0x51. For this reason 2 new commands as defined below 0x56, 0x57 are required.

### 2.1. Query Pending NC PLDM Request (0x56)

The Query Pending NC PLDM Request may be used by the Management Controller to read the status of pending PLDM commands which the NC needs to send to the MC. Only one PLDM request can be handled at any time. When multiple requests are pending in the NC, each will be handled independently and the order at which requests are provided to the MC is decided by the NC.

Bits				
Bytes	31..24	23..16	15..08	07..00
00..15	NC-SI Header			
16..19	Checksum			
20..45	Pad			

### 1.1.1 Query Pending NC PLDM Request Response (0xD6)

Currently no command-specific reason code is identified for this response (see Table 2).

**Table 2 – Query Pending NC PLDM Request Response Packet Format**

Bits				
Bytes	31..24	23..16	15..08	07..00
00..15	NC-SI Header			
16..19	Response Code		Reason Code	
20..	PLDM Message Common Fields			Reserved
	PLDM Message Payload (zero or more bytes) + Payload Pad			
	Checksum			
	Pad			

**Table 3 – Query Pending NC PLDM Request Response parameters**

Name	Meaning
PLDM Message Common fields	Optional, included only when there is a pending request
PLDM Message Payload	Optional, included only when there is a pending request

### 2.2. Send NC PLDM Reply (0x57)

The Reply Pending PLDM command may be used by the Management Controller to provide the PLDM command response to previously read PLDM command from the NC that requires a response (Rq = 1, D = 0 in PLDM Message Common Fields). The response to this command further provides indication to the MC regarding additional pending PLDM NC commands.

Bits				
Bytes	31..24	23..16	15..08	07..00
00..15	NC-SI Header			
16..19	PLDM Message Common Fields			PLDM Completion Code

20..	PLDM Message Payload (zero or more bytes) + Payload Pad
	Checksum
	Pad

### 1.1.2 Send NC PLDM Reply Response (0xD7)

Currently no command-specific reason code is identified for this response (see Table 2).

**Table 4 – Reply NC PLDM Response Packet Format**

		Bits			
Bytes	31..24	23..16	15..08	07..00	
00..15	NC-SI Header				
16..19	Response Code		Reason Code		
20..23	Reserved			Flags	
24..27	Checksum				
28..45	Pad				

**Table 5 – Reply NC PLDM Response Parameters**

Name	Meaning
Flags bit 0 – Pending request	0 – No pending PLDM command from NC to MC 1 – The NC has pending PLDM command to the MC
Flags bits 7:1 - Reserved	Reserved, always return 0.

## 3. Pending PLDM request AEN and associated enablement commands

An optional medium specific AEN is defined. This AEN allows the NC to notify the MC regarding a pending PLDM command that the NC has to send to the MC.

As a transport specific AEN, this AEN is enabled using the transport specific AEN enable command, and is controlled by bit 1 in Transport Specific AENs enable field.

The AEN Type for this AEN shall be 0x71 and is described below.

### 3.1. Transport Specific AEN Enable Command (0x55)

Network Controller implementations shall support this command on the condition that the Network Controller generates one or more transport specific AENs defined in this specification or other NC-SI bindings such as DSP0261. The AEN Enable command enables and disables the different transport specific AENs supported by the Network Controller. The Network Controller shall copy

the AEN MC ID field from the AEN Enable command into the MC ID field in every subsequent AEN sent to the Management Controller as defined in AEN Enable command

Table 6 illustrates the packet format of the Enable Transport Specific AENs command.

**Table 6 –Transport Specific AENs Enable Command Packet Format**

Bits				
Bytes	31..24	23..16	15..08	07..00
00..15	NC-SI Header			
16..19	Reserved		Transport Specific AENs enable	
20..23	Checksum			
24..45	Pad			

**Table 7 –Transport Specific AENs enable field format**

Bit Position	Field Name	Value Description
0	Medium Change AEN Control (0x70)	0b = Disable Medium Change AEN 1b = Enable Medium Change AEN Relevant only for NC-SI/MCTP
1	Pending PLDM Request AEN (0x71)	0b = Disable Pending PLDM Request AEN 1b = Enable Pending PLDM Request AEN Relevant only for NC-SI/RBT
2..15	Reserved For future AEN	Reserved

### 1.1.3 Transport Specific AENs Enable Response (0xD5)

In the absence of any error, the package shall process and respond to the Transport Specific AENs Enable command by sending the response packet and payload shown in Table 8.

**Table 8 –Transport Specific AENs Enable Response Packet Format**

Bits				
Bytes	31..24	23..16	15..08	07..00
00..15	NC-SI Header			
16..19	Checksum			
...	Pad			

### 3.2. Pending PLDM Request AEN

The Pending PLDM Request AEN is used to alert the MC that there is a pending PLDM request for the MC in the NC. This AEN allows for the MC to poll for pending PLDM request on the NC at a lower rate.

This AEN should be sent if there is a new pending PLDM command that is available in the NC designated to the MC, which was not reported to the MC through **Send NC PLDM Reply Response (0xD7)**. A Pending PLDM Request AEN should not be sent from the time the NC recognizes an incoming **Query Pending NC PLDM Request (0x56)** until the NC sends **Send NC PLDM Reply Response (0xD7)** for the PLDM request.

**Table 9 – Pending PLDM Request AEN format**

Bits	
Bytes	31..24      23..16      15..08      07..00
00..15	NC-SI Header
16..19	Reserved      AEN Type = 0x71
20..23	Checksum
24..45	Pad