OpenLCB Checking Implementor Questionnaire

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1 Introduction

Some information about construction of the node being checked can't readily be obtained from active checks on the LCC bus. Some information is needed to make those active checks effective. This questionnaire is meant to deal with both of those by getting specific implementation details from the device implementer.

This questionnaire should be filled out with details from the specific device being checked. If the device does not implement a protocol, mark that section as "Not Applicable".

This is divided into sections corresponding to the specific check plans.

Please feel free to add extra pages as needed.

2 Configuration

1. Are there any optional LCC functions that need to be enabled before checking? E.g. an optional fast clock master that needs to be enabled via configuration. If so, please provide instructions for doing that configuration.

3 Unique IDs

1. What is the Unique ID(s) of the device being checked?
2. Was the Unique ID(s) assigned from a range under the control of the implementor?
3. Does the implementor assign different Unique IDs to individual nodes?

4 CAN Physical Layer

1. Does the device use standard CAN transceiver(s) from recognized vendors?

2. Does the device use standard CAN controller(s) from recognized vendors?
3. Are the CAN jacks wired in parallel as required by Standard section 4? If the device has more than two LCC jacks, how are they to be used?
4. Does the device obey the timing constraints listed in the Standard section 5?
5. Does the device use or provide a DCC signal on the optional conductors?
   (a) If so, does the item have the correct markings?
6. Is the device properly labeled with power sourcing and/or sinking current labels?
   (a) Are the current values listed on the label(s) correct?

5 CAN Frame Transfer Layer

1. Is this node's operation compatible with Standard CAN frames (i.e. not Extended CAN frames) on the CAN bus?
2. Does the node transmit extended-format remote frames (frames with RTR set)?
3. Does the node transmit overload frames?
4. How does the device signal the detection of a duplicate node ID? (See section 6.2.6 of the Standard)
5. Does the device report changes in the CAN link status? (See section 6.2.7 of the Standard)
6. Does the device use the recommended algorithm for generating alias values?
   (a) If not, please describe how the node meets the requirements of the CAN Frame Level Standard section 6.3.

6 Message Transport Layer

1. Standard section 3.5.4 requires that "OpenLCB nodes shall indicate an error when they detect an incoming message with a Source Node ID equal to their own". How does this device do that?
2. Does the device meet the timing requirements in section 3.7 Delays and Timeouts?

7 Simple Node Information Protocol

7.1 Simple Node Information Protocol Providing Devices

1. Does the device provide its SNIP information using the deprecated multi-message form, or does it use the preferred single-message form?

7.2 Simple Node Information Protocol Consumers

1. Does the device properly decode future versions of the SNIP information? (See Section 5.2 of the Standard.)

8 Event Transport Protocol

1. If there are default values configured for Event IDs in the device, from what range are those allocated? Is that a range that has been allocated to the manufacturer?
2. If there are default values configured for Event IDs in the device, are those different for every device manufactured? How is uniqueness guaranteed?
3. Does this device produce Events With Payload?
   (a) If so, when?
4. Does this item consume Events With Payload?
   (a) If so, when?

9 Datagram Transport Protocol

1. Does the device receive and process datagrams?
   (a) If so, please provide the contents of a datagram that will elicit a positive response, and the contents of a datagram that will elicit a negative response.

10 Memory Configuration Protocol

1. Does the device implement sections 4.17 and 4.18 of the Standard? If not, what does the device do when it receives a Lock/Reserve Command datagram?

11 Configuration Definition Information (CDI)

11.1 CDI Providing Devices

1. Which version of the CDI schema does this node provide?
2. Does the device have an `<ACDI>` element in the CDI that it provides? If so, does it also provide separate definition elements for the values in the ACDI?

11.2 CDI Using Devices

1. Does the device decode and display all the element types in section 5.1 of the Standard? If not, which does it not display and what does it to with those?
2. What does the device do with the optional "hint" elements?
3. Does the device properly handle additional, unknown elements? (See Section 6 of the Standard)

12 Firmware Upgrade

1. Does the device implement the Firmware Upgrade Protocol?
2. If the device implements that Firmware Upgrade protocol, please provide a valid upgrade file that will be used during checking.

13 Broadcast Time

1. Does the device use Broadcast Time information?
   (a) If so, which of the four defined clocks are used?
2. Does the device provide Broadcast Time information?
   (a) If so, which of the four defined clocks are provided?

14 Train Control Protocol

1. The Standard section 7.1 says that "A Train Node representing a DCC locomotive ... may, but is not required to provide the last written data upon a read command.". Does this device provide the data in that case?

15 Train Search Protocol

1. Does this device participate in the Train Search Protocol by making search requests?
2. Does this device participate in the Train Search Protocol by replying to search requests?

16 Function Definition Information (FDI)

1. Which version of the FDI schema does this node produce?
2. Does the FDI information from this device use the deprecated “space” and “origin” attributes?