Checking the OpenLCB Train Control Protocol Standard

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1 Introduction

This note documents the procedure for checking an OpenLCB implementation against the Train Control Protocol Standard.

The checks are traceable to specific sections of the Standard.

The checking assumes that the Device Being Checked (DBC) is being exercised by other nodes on the message network, e.g. is responding to enquiries from other parts of the message network.

2 Train Control Protocol Procedure

A node which does not self-identify in PIP that it supports the Train Control Protocol should be considered to have passed these checks.

Note that this commands the speed and functions of a locomotive node. Although the commanded speed is quite low, the tests should be run in a way that the associated physical locomotive does not run away.

2.1 Defined Event ID checking

This section checks that the node supports the isTrain event defined in section 4.1 and 6.4 of the Train Control Protocol Standard.

It does this by issuing an Identify Events to the node, and then checking for a Producer Identified reply carrying the isTrain Event ID.

2.2 Check set and query speeds

2.3 Check query controller

2.4 Check set and query functions

2.5 Check emergency stop

2.6 Check controller configuration command and response

2.7 Check memory spaces

This section checks the memory spaces defined in section 7 of the Train Control Protocol Standard.

[1]

2.8

[1] This does not check the information defined by the Function Definition Information Standard.