TCNOpen	Open Source Developement

TRDP

Train Real Time Data Protocol

TRDP 1.0.1.0 Conformance Test Report

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Author :	Tomáš Svoboda
Organisation :	UniControls
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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

DOCUMENT SUMMARY SHEET
This document contains the TRDP test report

Participants		
Name and Surname	Organisation	Role
Svoboda Tomáš	Unicontrols	Participant

History			
V1	23 May 13	Armin-H. Weiss	Initial version
V2	14 June 13	Tomas Svoboda	Tests for release 1.0.1.0

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Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.

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1. Introduction

1.1. Purpose

This document documents the results of the TRDP implementation conformance tests.

1.2. Intended Audience

This document is intended to be used as template for documenting the results of the TCNOpen TRDP implementation verification.

1.3. References/Related Documents

Reference	Number	Title
[Wire]	IEC61375-2-3	TRDP Protocol (Annex A)
[Req]	TCN-TRDP1-D-BOM-003	TRDP System Requirement Specification
[TestSpec]	TCN-TRDP1-D-BOM-031	TRDP Conformance Test Specification

Table 1: References

1.4. Abbreviations and Definitions

Abbreviation	Definition

Table 2: Abbreviations and Definitions

2. Conformance Tests

The following tests verify the conformance of the TCNOpen TRDP implementation for TRDP Version 1.0.1.0 (SVN r967). For testing the programs "test/pdpatterns/trdp_pd_test.c" and "test/mdpatterns/trdp_md_test.c" delivered with this TRDP version were used.

2.1. Process Data

PD tests verify the exchange of process data between two devices A and B. All in [wire] defined PD patterns are tested.

All the test cases run continuously in parallel during the test session.

2.1.1. Testconfiguration

IP address device A: 10.10.24.100

IP address device B: 10.10.24.101

Multicast address: 239.255.24.2

2.1.2. PD1: Windows/TCNOpen - Linux/TCNOpen

Pattern	Destination	Direction	Data Size in Bytes	Period in ms	Result
PUSH	unicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
	multicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
PULL	unicast / unicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK
	multicast / multicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK

Table 3: PD1 Test Results

2.1.3. PD2: Linux/TCNOpen - Windows/TCNOpen

Pattern	Destination	Direction	Data Size in Bytes	Period in ms	Result
PUSH	unicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
	multicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
PULL	unicast / unicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK
	multicast / multicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK

Table 4: PD2 Test Results

2.1.4. PD3: Windows/TCNOpen - Windows/TCNOpen

Pattern	Destination	Direction	Data Size in Bytes	Period in ms	Result
PUSH	unicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
	multicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
PULL	unicast / unicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK
	multicast / multicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK

Table 5: PD3 Test Results

2.1.5. PD4: Windows/UC - Windows/TCNOpen

Pattern	Destination	Direction	Data Size in Bytes	Period in ms	Result
PUSH	unicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
	multicast	A->B, B->A	256	100	OK
				250	OK
			1432	100	OK
				250	OK
PULL	unicast / unicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK
	multicast / multicast	A->B->A, B->A->B	256	500	OK
			1432	500	OK

Table 6: PD4 Test Results

2.2. Message Data

MD tests verify the exchange of message data between two devices A and B.
All defined MD patterns are tested on both supported transmission protocols TCP and UDP.

2.2.1. Testconfiguration

IP address device A: 10.10.24.100
IP address device B: 10.10.24.101
Multicast address: 239.255.24.2

2.2.2. MD1: Windows/TCNOpen - Linux/TCNOpen

Protocol	Pattern	Destination	Re-plies	Direction	Data Size in Bytes	Result
UDP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	notify	multicast	0	A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	?	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	?	A->B->A->B	64	OK
					32k	OK
TCP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32k	OK

Table 7: MD1 Test Results

2.2.3. MD2: Linux /TCNOpen - Windows /TCNOpen

Protocol	Pattern	Destination	Re-plies	Direction	Data Size in Bytes	Result
UDP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	notify	multicast	0	A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	?	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	?	A->B->A->B	64	OK
					32k	OK
TCP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32k	OK

Table 8: MD2 Test Results

2.2.4. MD3: Windows/UC - Linux/TCNOpen

Protocol	Pattern	Destination	Re-plies	Direction	Data Size in Bytes	Result
UDP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	notify	multicast	0	A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	?	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	?	A->B->A->B	64	OK
					32k	OK
TCP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32k	OK

Table 9: MD3 Test Results

2.2.5. MD4: Linux /TCNOpen - Windows /UC

Protocol	Pattern	Destination	Re-plies	Direction	Data Size in Bytes	Result
UDP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	notify	multicast	0	A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32k	OK
	request/reply	multicast/unicast	?	A->B->A	64	OK
					32k	OK
	request/reply/confirm	multicast/unicast	?	A->B->A->B	64	OK
					32k	OK
TCP	notify	unicast	0	A->B	64	OK
					32k	OK
	request/reply	unicast	1	A->B->A	64	OK
					32k	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32k	OK

Table 10: MD4 Test Results