

TRDP

Train Real Time Data Protocol

2.0.2.0 Conformance Test Report

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DOCUMENT SUMMARY SHEET

This document contains the TRDP test report

Participants

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History

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Table of Contents

TABLE OF CONTENTS.....	3
TABLE OF FIGURES.....	4
TABLE OF TABLES.....	4
1. INTRODUCTION.....	5
1.1. Purpose	5
1.2. Intended Audience.....	5
1.3. References/Related Documents	5
1.4. Abbreviations and Definitions	5
2. CONFORMANCE TESTS	6
2.1. Process Data.....	6
2.1.1. <i>Testconfiguration:</i>	6
2.1.2. <i>PD1: Windows/TCNOpen - Linux/TCNOpen:</i>	7
2.1.3. <i>PD1: Linux/TCNOpen - Windows/TCNOpen:</i>	8
2.2. Message Data	9
2.2.1. <i>Testconfiguration:</i>	9
2.2.2. <i>MD1: Windows/TCNOpen - Linux/TCNOpen</i>	10
2.2.3. <i>MD2: Linux/TCNOpen - Windows/TCNOpen</i>	11

Table of Figures

Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.

Table of Tables

Table 1: References	5
Table 2: Abbreviations and Definitions.....	5
Table 3: PD Test Patterns(pdtest-fast-windows).....	7
Table 4: PD Test Patterns(pdtest-fast-linux)	8
Table 5: PD Test Targets	8
Table 6: MD Test Patterns	10
Table 7: MD Test Patterns	11
Table 8: MD Test Targets.....	12

1. Introduction

1.1. Purpose

This document describes tests verifying the conformance of a TRDP implementation.

1.2. Intended Audience

This document is intended to be used for verification of the TCNOpen TRDP implementation.

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
[TestRep]	TCN-TRDP1-D-BOM-032	TRDP Conformance Test Report

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 a specified TRDP Version 2.0.2.0 (SVN 2099). For testing the programs “test/pdpatterns/trdp_pd_test-fast.c” and “test/mdpatterns/trdp_md_test-fast.c” delivered with this TRDP version shall be used.

For documentation of the test results [TestRep] shall be used as template.

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: 10.0.1.1

IP address device B: 10.0.1.22

Multicast address: 239.2.24.1

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: PD Test Patterns(pdtest-fast-windows)

2.1.3. PD1: 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: PD Test Patterns(pdtest-fast-linux)

All the test cases run on two target platforms - Linux and Windows.

Following table summarizes the test targets used for the specific tests:

	Device A	Device B
PD1	Windows/TCNOpen	Linux/TCNOpen

Table 5: PD Test Targets

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: 10.0.1.1.

IP address device B: 10.0.1.22

Multicast address: 239.2.24.1

Following table defines the test cases performed on the two platforms and implementations:

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
					32768	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32768	OK
	notify	multicast	0	A->B	64	OK
					32768	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32768	OK
TCP	notify	unicast	0	A->B	64	OK
					32768	OK
	request/reply	unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32768	OK

Table 6: MD Test Patterns

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
					32768	OK
	request/reply	unicast/unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	unicast/unicast	1	A->B->A->B	64	OK
					32768	OK
	notify	multicast	0	A->B	64	OK
					32768	OK
	request/reply	multicast/unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	multicast/unicast	1	A->B->A->B	64	OK
					32768	OK
TCP	notify	unicast	0	A->B	64	OK
					32768	OK
	request/reply	unicast	1	A->B->A	64	OK
					32768	OK
	request/reply/confirm	unicast	1	A->B->A->B	64	OK
					32768	OK

Table 7: MD Test Patterns

All the test cases run on two target platforms - Linux and Windows.

Following table summarizes the tests performed on the two platforms and implementations:

	Device A	Device B
MD1	Windows/TCNOpen	Linux/TCNOpen
MD2	Linux/TCNOpen	Windows/TCNOpen

Table 8: MD Test Targets