M2PA Protocol Modules for TTCN-3 Toolset with TITAN User Guide

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About This Document

How to read This document

This is the User Guide for the M2PA protocol module. The M2PA protocol module is developed for the TTCN-3 Toolset with TITAN. This document should be read together with the Function Specification [3].

Presumed Knowledge

To use this protocol module, the knowledge of the TTCN-3 language [4] is essential.

System Requirements

Protocol modules are a set of TTCN-3 source code files that can be used as a part of TTCN-3 test suites only. Hence protocol modules alone do not put specific requirements on the system used. However in order to compile and execute a TTCN-3 test suite using the set of protocol modules the following system requirements must be satisfied:

- TITAN TTCN-3 Test Executor 1.7.pl0 or higher installed. For installation guide see [1].

Protocol Modules

Overview

Protocol modules implement the message structure of the corresponding protocol in a formalized way, using the standard specification language TTCN-3. This allows defining of test data (templates) in the TTCN-3 language [4] and correctly encoding/decoding messages when executing test suites using the TITAN TTCN-3 test environment.

Protocol modules are using TITAN`s RAW encoding attributes [2] and hence are usable with the TITAN test toolset only.

The table below contains the implemented M2PA messages and the corresponding TTCN-3 type records. Using these type records, templates can be defined to send and receive a given message.

Message name	Reference	Corresponding type record in *M2PA_Types.ttcn*
User Data	[5] 2.3.1	M2PA_DATA
Link Status	[5] 2.3.2	M2PA_LINK_STATUS

Installation

The set of protocol modules can be used in developing TTCN-3 test suites using any text editor. However to make work more efficient a TTCN-3 enabled text editor is recommended (For example, `nedit`, `xemacs`). Since the M2PA protocol is used as a part of a TTCN-3 test suite, this requires TTCN-3 Test Executor and a C compiler be installed before the module can be compiled and executed together with other parts of the test suite. For more details on the installation of TTCN-3 Test Executor see the relevant parts of [1].

Encoding Decoding and Other Related Functions

For encoding and decoding the messages two functions are available.

- Function `enc_PDU_M2PA` makes simple RAW encoding without any modification on the input M2PA message.

- Function `dec_PDU_M2PA` makes simple RAW decoding without any modification on the input octetstring.

Terminology

TITAN TTCN-3 Test Executor.

Abbreviations

IETF

Internet Engineering Task Force

MTP2

Message Transfer Part 2

M2PA

MTP2 User Peer-to-Peer Adaptation Layer

RFC

Request for Comments

TTCN-3

References

[1] Installation Guide for the TITAN TTCN-3 Test Executor

[2] Programmer's Technical Reference for the TITAN TTCN-3 Test Executor

[3] M2PA Protocol Modules for TTCN-3 Toolset with TITAN,, Function Specification

[4] ETSI ES 201 873-1 v.3.2.1 (02/2007)
The Testing and Test Control Notation version 3. Part 1: Core Language

[5] IETF RFC 4165
Signaling System 7 (SS7) Message Transfer Part 2 (MTP2) - User Peer-to-Peer Adaptation Layer (M2PA)