M3UA Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification

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How to Read This Document

This is the Function Specification for the set of M3UA protocol modules. M3UA protocol modules are developed for the TTCN-3 Toolset with TITAN.

Scope

The purpose of this document is to specify the content of the M3UA protocol modules.

General

Protocol modules implement the message structures of the related protocol in a formalized way, using the standard specification language TTCN-3. This allows defining of test data (templates) in the TTCN-3 language 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 [1] and hence are usable with the TITAN test toolset only.

Functional Specification

Protocol Version Implemented

This protocol module contains the protocol messages and elements of the M3UA protocol (see [4]).

Modifications/Deviations Related to the Protocol Specification

Implemented Messages

All message types listed in protocol description [4] are implemented.

Protocol Modifications/Deviations

None.

Encoding/Decoding and Other Related Functions

This product contains encoding/decoding functions that provide for the correct encoding of messages when sent from TITAN and correct decoding of messages when received by TITAN. For encoding and decoding the message two functions are available:

- Function `enc_PDU_M3UA` makes simple RAW encoding without any modification on the input M3UA message.
- Function `dec_PDU_M3UA` makes simple RAW decoding without any modification on the input octetstring.

Implemented encoding/decoding functions:

Name	Type of formal parameters	Type of return value
`enc_PDU_M3UA`	PDU_M3UA	octetstring
`dec_PDU_M3UA`	octetstring	PDU_M3UA

Terminology

TITAN TTCN-3 Test Executor.

Abbreviations

IETF
: Internet Engineering Task Force

IP
: Internet Protocol

MTP3
: Message Transfer Part 3

M3UA
: MTP3 User Adaptation Layer

RFC
: Request for Comments

TTCN-3
: Testing and Test Control Notation version 3

References

[1] Programmer’s Technical Reference for the TITAN TTCN-3 Test Executor

[2] ETSI ES 201 873-1 v.3.1.1 (06/2005)The Testing and Test Control Notation version 3. Part 1: Core Language

[3] M3UA Protocol Modules for TTCN-3 Toolset with TITAN, User Guide

[4] IETF RFC 3332
Signaling System 7 (SS7) Message Transfer Part 3 (MTP3) – User Adaptation Layer (M3UA)