L2TP 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 L2TP protocol modules. L2TP protocol modules are developed for the TTCN-3 Toolset with TITAN.

Scope

The purpose of this document is to specify the content of the L2TP protocol modules. Basic knowledge of TTCN-3 [2] and TITAN TTCN-3 Test Executor [3] is valuable when reading this document.

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 [2] and correctly encoding/decoding messages when executing test suites using the Titan TTCN-3 test environment [3].

Protocol modules are using Titan's RAW encoding attributes [4] and hence are usable with the Titan test toolset only.

Functional Specification

Protocol Version Implemented

This set of protocol modules implements protocol messages and constants of the L2TP protocol. The modules are based on RFC 2661 with the modifications specified in Unimplemented Messages, Information Elements and Constants and Protocol Modifications/Deviations.

Unimplemented Messages, Information Elements and Constants

None.

Protocol Modifications/Deviations

None.

Encoding/Decoding and Other Related Functions

This product also contains encoding/decoding functions, which assure correct RAW encoding of messages when sent from Titan and correct RAW decoding of messages when received by Titan. Implemented encoding/decoding functions:

Name	Type of formal parameters	Type of return value
`enc_PDU_L2TP`	PDU_L2TP	octetstring
`dec_PDU_L2TP`	octetstring	PDU_L2TP

The hiding of AVP attribute values described in section 4.3 of [1] is implemented. The shared secret can be given as a configuration file parameter.

Terminology

TITAN TTCN-3 Test Executor (see [3]).

Abbreviations

AVP

Attribute Value Pair

IETF

Internet Engineering Task Force

L2TP

Layer Two Tunneling Protocol

TTCN-3

Testing and Test Control Notation version 3

References

[1] IETF RFC 2661
Layer Two Tunneling Protocol "L2TP"

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

[3] User Guide for the TITAN TTCN-3 Test Executor

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