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

Scope

The purpose of this document is to specify the content of the UDP 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 [3] and hence is usable with the TITAN test toolset only.

Functional Specification

Protocol Version Implemented

This set of protocol modules implements protocol messages and constants of the UDP protocol (see [1]) with the modifications specified in Modifications/Deviations Related to the Protocol Specification .

Modifications/Deviations Related to the Protocol Specification

None.

Encoding/Decoding and Other Related Functions

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

Name	Type of formal parameters	Type of return value
f_UDP_enc	(UDP_packet)	returns octetstring
f_UDP_dec	(octetstring)	returns UDP_packet

The product also provides some additional functionality to the user via the following functions. The f_UDP_pseudo_header_enc() can be used to encode the UDP pseudo header. The f_UDP_checksum() can be used to calculate the UDP checksum value.

Name	Type of formal parameters	Type of return value
f_UDP_pseudo_header_enc	(UDP_pseudo_header)	returns octetstring
f_UDP_checksum	(octetstring)	returns OCT2

Terminology

No specific terminology is used.

Abbreviations

RFC

Request For Comments

TTCN-3

Testing and Test Control Notation version 3

UDP

User Datagram Protocol

References

[1] RFC 768 – User Datagram Protocol

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

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