Frame Relay Protocol Modules for TTCN-3 Toolset with Titan, Description

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Functionality

The Frame Relay protocol module implements the message structures of the related protocol [4] 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.

The Frame Relay protocol module uses Titan's RAW encoding attributes [3] and hence is usable with the Titan test toolset only.

Implemented Protocols

This set of protocol modules implements protocol messages and constants of the Frame Relay protocol as described in [4].

Modified and Non-Implemented Protocol Elements

Only default address field format (See A.2 [4]) is implemented.

Ericsson-Specific Changes

None.

Backward Incompatibilities

None.

System Requirements

Protocol modules are a set of TTCN-3 source code files that can be used as 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 version CRL 113 200 R7A (1.7.pl0) or higher installed. For Installation Guide see [2].

NOTE	This version of the test port is not compatible with Titan releases earlier than CRL 113 200 R7A.

Usage

Installation

The set of protocol modules can be used in developing TTCN-3 test suites using any text editor; however, to make the work more efficient a TTCN3enabled text editor is recommended (for example `nedit`, `xemacs`). Since the Frame Relay protocol is used as a part of a TTCN-3 test suite, this requires TTCN-3 Test Executor 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 section of [2].

Configuration

None.

Examples

None.

Interface Description

Top Level PDU

The top level PDU is the TTCN-3 records PDU_Frame_Relay.

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 and decoding functions

Name	Type of formal parameters	Type of return value
`f_PDU_Frame_Relay_Enc`	in PDU_Frame Relay	octetstring
`f_PDU_Frame_Relay_Enc`	in octetstring	PDU_Frame_Relay

Terminology

None.

Abbreviations

PDU

Protocol Data Unit

TTCN-3

Testing and Test Control Notation version 3

References

[1] ETSI ES 201 873-1 v4.4.1 (2012-04)
The Testing and Test Control Notation version 3. Part 1: Core Language

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

[3] Programmer’s Technical Reference for Titan TTCN–3 Test Executor

[4] ITU-t Q.922
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