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SMPP protocol module for TTCN-3 Toolset with TITAN, Function Description

# Abstract

The purpose of this document is to specify the functionality and usage of the SMPP protocol module.

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# Revision history

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| --- | --- | --- | --- |
| Date | Rev | Characteristics | Prepared |
| 2013-03-06 | PA1 | First draft version | ETHGASZ |
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# How to Read this Document

This is the Function Description for the SMPP protocol module. The SMPP protocol module is developed for the TTCN-3 Toolset with TITAN. This document should be read together with Product Revision Information [2].

# Functionality

The SMPP protocol module provides type definitions, encoder, and decoder functions to handle SMPP messages defined by the standard [3].

## Implemented protocols

The SMPP protocol module implements the messages, and information elements defined in Short Message Peer to Peer Protocol Specification v5.0, Document Issue 1.2 [3].

### Supported SMPP messages

The test port supports sending and reception of the following SMPP PDUs as defined in [3]

* BIND\_TRANSMITTER
* BIND\_TRANSMITTER\_RESP
* BIND\_RECEIVER
* BIND\_RECEIVER\_RESP
* BIND\_TRANSCEIVER
* BIND\_TRANSCEIVER\_RESP
* OUTBIND
* UNBIND
* UNBIND\_RESP
* SUBMIT\_SM
* SUBMIT\_SM\_RESP
* SUBMIT\_MULTI
* SUBMIT\_MULTI\_RESP
* DELIVER\_SM
* DELIVER\_SM\_RESP
* ENQUIRE\_LINK
* ENQUIRE\_LINK\_RESP
* CANCEL\_SM
* CANCEL\_SM\_RESP
* REPLACE\_SM
* REPLACE\_SM\_RESP
* GENERICK\_NACK

Other SMPP PDUs are accepted on reception, but only the protocol header is decoded.

PDU encoding/decoding is based on RAW attributes [4].

## System Requirements

In order to operate the SMPP test port the following system requirements must be satisfied:

* TITAN TTCN-3 Test Executor version R8B (1.8.pl1) or higher installed. Please note: This version of the test port is not compatible with TITAN releases earlier than R8B.

## Installation

Since the SMPP test port is used as a part of the TTCN-3 test environment this requires TTCN-3 Test Executor to be installed before any operation of the SMPP test port. For more details on the installation of TTCN-3 Test Executor see the relevant section of [4].

## Encoder, decoder functions

The SMPP protocol module declares the following encoder, and decoder functions:

external function f\_decode\_SMPP(in octetstring data, out SMPP\_PDU pdu) return integer  
 with { extension "prototype(backtrack)" }

external function f\_encode\_SMPP(in SMPP\_PDU pdu, out octetstring data)  
 with { extension "prototype(fast)" }

## Message length calculation function

The following function can be used to calculate the length of the received message. The function returns the length of the received message in octets or -1 if the length can’t be calculated.

external function f\_msg\_length(in octetstring data) return integer

# References

1. ETSI ES 201 873-1 v4.5.1   
   The Testing and Test Control Notation version 3. Part 1: Core Language
2. 109 21-CNL 113 772-1  
   SMPP Protocol Module for TTCN-3 Toolset with TITAN, Product Revision Information
3. Short Message Peer to Peer Protocol Specification v5.0, Document Issue 1.2, SMPP Developers Forum
4. 2/198 17-CRL 113 200/3 Uen  
   Programmer’s Technical Reference for TITAN TTCN–3 Test Executor