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

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# Introduction

## Revision history

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| --- | --- | --- | --- |
| Date | Rev | Characteristics | Prepared |
| 2008-07-01 | PA1 | First draft version | ETHGASZ |
| 2010-12-09 | PA2 | utf8 support added | ETHGASZ |
| 2013-09-06 | A | Updated References | ESCHZOL |
|  |  |  |  |

## How to Read this Document

This is the Function Specification for the SMTP protocol module. SMTP protocol module is developed for the TTCN-3 Toolset with TITAN. This document should be read together with Product Revision Information [4].

## Scope

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

## References

[1] RFC 821 - Simple Mail Transfer Protocol

[2] RFC 822 - Standard for the Format of ARPA Internet Text Messages

[3] ETSI ES 201 873-1 v.2.2.1 (02/2003)  
The Testing and Test Control Notation version 3. Part 1: Core Language

[4] 109 21-CNL 113 598-1 Uen  
SMTP Protocol Modules for TTCN-3 Toolset with TITAN, Product Revision Information

[5] 1/198 17-CRL 113 200/3  
User Guide for TITAN TTCN-3 Test Executor

[6] RFC 2821 - Simple Mail Transfer Protocol

[7] RFC 2822 - Internet Message Format

## Abbreviations

SMTP Simple Mail Transfer Protocol

TTCN-3 Testing and Test Control Notation version 3

## Terminology

No specific terminology is used.

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

Protocol module is using Titan’s TEXT encoding attributes [5] 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 SMTP protocol (see [1]) and the ARPA Internet Text Messages (see [2]) with the modifications specified in 3.2.

## Modifications/deviations related to the protocol specification

### Implemented Messages

All of the SMTP commands, replies and message headers defined in [1] are implemented.

Only the following message header fields implemented from [2]:

* Date
* From
* To
* Cc
* Bcc
* Sender
* Subject

Any other header fields are treated as Unknown\_Header.

### Protocol Modifications/Deviations

The type structure has been based on [2] and [1], but the protocol module is able to handle the messages which are coded according to the newest version of the standards. See [6] and [7]

## Encoding/Decoding 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  
enc\_SMTP\_PDU(in SMTP\_PDU pdu) return charstring

dec\_SMTP\_PDU(in charstring stream) return SMTP\_PDU

enc\_Mail\_PDU(in Mail\_PDU pdu) return charstring

dec\_Mail\_PDU(in charstring stream) return Mail\_PDU

enc\_Mail\_PDU\_utf8(in Mail\_PDU\_utf8 pdu) return octetstring

dec\_Mail\_PDU\_utf8 (in octetstring stream) return Mail\_PDU\_utf8