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# Introduction

## Revision history

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Rev | Characteristics | Prepared |
| 2008-11-13 | PA1 | First draft version | ETHEKR |
| 2013-09-06 | A | References updated | ESCHZOL |
|  |  |  |  |
|  |  |  |  |

## How to Read this Document

This is the Function Specification for the set of WTP protocol modules. WTP protocol modules are developed for the TTCN-3 Toolset with TITAN. This document should be read together with Product Revision Information [[3]](#PRI).

## Scope

The purpose of this document is to specify the content of the WTP protocol modules. Basic knowledge of TTCN-3 [[2]](#TTCN3_CORE_LANGUAGE) and TITAN TTCN-3 Test Executor ‎[5] is valuable when reading this document.

## References

1. WAP-224-WTP-20010710-a  
   Wireless Application Protocol  
   Version 10-Jul-2001
2. ETSI ES 201 873-1 v3.2.1 (2007-02)  
   The Testing and Test Control Notation version 3; Part 1: Core Language
3. 109 21-CNL 113 619-1 Uen  
   WTP Protocol Modules for TTCN-3 Toolset with TITAN, Product Revision Information
4. 2/198 17-CRL 113 200/3 Uen  
   Programmer’s Technical Reference for the TITAN TTCN-3 Test Executor
5. 1/198 17-CRL 113 200/3 Uen  
   User Guide for the TITAN TTCN-3 Test Executor

## Abbreviations

WTP Wireless Transaction Protocol

TTCN-3 Testing and Test Control Notation version 3

## Terminology

TITAN TTCN-3 Test Executor (see [‎[5]](#TITAN_UG)).

# 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]](#TTCN3_CORE_LANGUAGE) and correctly encoding/decoding messages when executing test suites using the TITAN TTCN-3 test environment ‎[5].  
Protocol modules are using TITAN’s RAW encoding attributes [[4]](#TITAN_UG) and hence are usable with the TITAN test toolset only.

Please note: This version of the protocol module is not compatible with TITAN releases earlier than R7A.

# Functional specification

## Protocol version implemented

This set of protocol modules implements protocol messages and constants of the WTP protocol. The modules are based on WAP-224-WTP-20010710-a (see [[1]](#GTP_TS_29060)). The following messages are implemented:  
 Concatenation  
 Invoke  
 Result  
 Ack  
 Abort  
 Segmented Invoke  
 Segmented Result  
 NegativeAck

### Unimplemented Messages, Information Elements and Constants

N/A

### Protocol Modifications/Deviations

N/A

## 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\_WTP PDU\_WTP octetstring

dec\_PDU\_WTP octetstring PDU\_WTP