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NS (V7.3.0) Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification

Contents

1	Introduction	2
1.1	Revision history	2
1.2	How to Read this Document	2
1.3	Scope	2
1.4	References	2
1.5	Abbreviations.....	2
1.6	Terminology.....	3
2	General	3
3	Functional specification	3
3.1	Protocol version implemented	3
3.1.1	Unimplemented Messages, Information Elements and Constants	3
3.1.2	Protocol Modifications/Deviations	3
3.2	Encoding/Decoding and Other Related Functions	3

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1 Introduction

1.1 Revision history

Date	Rev	Characteristics	Prepared
2008-01-22	PA1	First draft version	ETHEKR
2008-01-23	PA2	Updated after inspection	ETHEKR

1.2 How to Read this Document

This is the Function Specification for the set of NS v7.3.0 protocol modules. NS v7.3.0 protocol modules are developed for the TTCN-3 Toolset with TITAN. This document should be read together with Product Revision Information [3].

1.3 Scope

The purpose of this document is to specify the content of the NS v7.3.0 protocol modules. Basic knowledge of TTCN-3 [2] and TITAN TTCN-3 Test Executor [4] is valuable when reading this document.

1.4 References

- [1] 3GPP TS 48.016 V7.3.0 (2006-12)
3rd Generation Partnership Project; Technical Specification Group GSM
EDGE Radio Access Network; General Packet Radio Service (GPRS);
Base Station System (BSS) - Serving GPRS Support Node (SGSN)
interface; Network Service (Release 7)
- [2] ETSI ES 201 873-1 v.3.2.1 (2007-02)
The Testing and Test Control Notation version 3. Part 1: Core
Language
- [3] 109 21-CNLC 113 578-1 Uen
NS (V7.3.0) Protocol Modules for TTCN-3 Toolset with TITAN, Product
Revision Information
- [4] 1/198 17-CRL 113 200 Uen
User Guide for the TITAN TTCN-3 Test Executor
- [5] 2/198 17-CRL 113 200 Uen
Programmer's Technical Reference for the TITAN TTCN-3 Test
Executor

1.5 Abbreviations

GPRS General Packet Radio Service

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NS Network Service

TTCN-3 Testing and Test Control Notation version 3

1.6 Terminology

TITAN TTCN-3 Test Executor (see [4]).

2 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] and correctly encoding/decoding messages when executing test suites using the Titan TTCN-3 test environment [4].

Protocol modules are using Titan's RAW encoding attributes [5] and hence are usable with the Titan test toolset only.

3 Functional specification

3.1 Protocol version implemented

This set of protocol modules implements protocol messages and constants of the NS protocol. The modules are based on 48.016 V7.3.0 (see [1]) with the modifications specified in 3.1.1 and 3.1.2.

3.1.1 Unimplemented Messages, Information Elements and Constants

None.

3.1.2 Protocol Modifications/Deviations

None.

3.2 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:

<u>Name</u>	<u>Type of formal parameters</u>	<u>Type of return value</u>
enc_PDU_NS	PDU_NS	octetstring
dec_PDU_NS	octetstring	PDU_NS