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ISUP ITU-T Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification

Contents

1 Introduction

1.1 Revision history

Date	Rev	Characteristics	Prepared
2004-10-01	PA1	First draft version	ETHEKR
2004-10-01	A	Updated after inspection	ETHEKR
2006-05-10	PB1	New decoding function added	ETHGBH
2011-05-11	PC1	Fast encoding and backtrack decoding functions added	EDVIJUH

1.2 How to Read this Document

This is the Function Specification for the set of ISUP ITU-T protocol modules. ISUP ITU-T 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 ISUP ITU-T 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] 2/155 17-FAY 112 020 / 4
     ITU-T ISDN User Part, Section A : Formats and Codes,
     Rev. A

[2] ETSI ES 201 873-1 v.3.1.1 (06/2005)
     The Testing and Test Control Notation version 3. Part 1: Core
     Language

[3] 109 21-CNL 113 365-2 Uen
     ISUP ITU-T Protocol Modules for TTCN-3 Toolset with TITAN, Product
     Revision Information

[4] 1095-CRL 113 200
     TITAN TTCN-3 Test Executor, Document Survey

[5] EED/X 1056-174 Uen,
     Requirements Specification : Global Call Reference for ISUP and BICC,
     MSC R12, Rev C

1.5 Abbreviations

TTCN-3   Testing and Test Control Notation version 3

1.6 Terminology

No specific terminology is used.

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 [4] and hence is 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 ISUP ITU-T protocol. The modules are based on the Ericsson implementation of ISUP ITU-T (see [1]) with the modifications described in the Ericsson Requirement Specification for Global Call reference [5]

3.1.1 Unimplemented Messages, Information Elements and Constants

None.

3.1.2 Protocol Modifications/Deviations

See the Ericsson Requirement Specification for Global Call reference [5] for the implementation of the Global Call Reference Parameter.

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. In order to be able to decode ISUP encapsulation in SIP -which doesn't contain the Circuit Identification Code at the beginning of the ISUP message- there is an extra decoding function for messages which doesn't contain any CIC. Implemented encoding/decoding functions:

Name	Type of formal parameters	Type of return value
enc_PDU_ISUP	PDU_ISUP	octetstring
dec_PDU_ISUP	octetstring	PDU_ISUP
dec_PDU_ISUP_noCIC	octetstring	PDU_ISUP
enc_PDU_ISUP_fast	PDU_ISUP	octetstring
dec_PDU_ISUP_backtrack	octetstring	PDU_ISUP

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dec_PDU_ISUP_backtrack_noCIC octetstring   PDU_ISUP