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

Dávid Juhász

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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.

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 [3] is valuable when reading this document.

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 [3].

Protocol modules are using Titan's RAW encoding attributes [3] 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 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 [4].

Unimplemented Messages, Information Elements and Constants

None.

Protocol Modifications/Deviations

See the Ericsson Requirement Specification for Global Call reference [4] for the implementation of the Global Call Reference Parameter.

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
dec_PDU_ISUP_backtrack_noCIC	octetstring	PDU_ISUP

Terminology

No specific terminology is used.

Abbreviations

TTCN-3

Testing and Test Control Notation version 3

References

[1] 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] TITAN TTCN-3 Test Executor, Document Survey

[4] Requirements Specification : Global Call Reference for ISUP and BICC, MSC R12, Rev C