SLOVENSKI STANDARD
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Storitve in protokoli za napredna omreźja (SPAN) ï MTP/SCCP/SSCOP in SIGTRAN (prenos SS7 preko IP) ï Uporabniġka prilagodilna plast sporoļ ilno-prenosnega dela 2 (M2UA) [prevzeti RFC 3331 (2002), spremenjen]

Services and Protocols for Advanced Networks (SPAN); MTP/SCCP/SSCOP and SIGTRAN (Transport of SS7 over IP); Message transfer part 2 User Adaptation layer (M2UA) [Endorsement of RFC 3331 (2002), modified]

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Technical Specification

Services and Protocols for Advanced Networks (SPAN); MTP/SCCP/SSCOP and SIGTRAN (Transport of SS7 over IP); Message transfer part 2 User Adaptation layer (M2UA)

[Endorsement of RFC 3331 (2002), modified]

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

Endorsement notice

The elements of Internet Engineering Task Force Request for Comments RFC 3331 apply, with the following modifications.

Introduction

The present document records the changes to the Internet Engineering Task Force (IETF) RFC 3331 [2] document. RFC 3331 [2] specifies an Internet standard track protocol for the backhauling of Signalling Systems No.7 (SS7) Message Transfer Part 2 (SS7 MTP2) User signalling messages over IP using the Stream Control Transmission Protocol (SCTP) (see RFC 3331 [2]).

1 Scope

The present document specifies the requirements for the MTP2 User Adaptation layer (M2UA), when used in conjunction with the Stream Control Transmission Protocol (SCTP) for the transport of the Signalling System No.7 (SS7) Message Transport Part 3 (MTP3) messages over the Internet Protocol (IP). The document endorses and constrains where relevant the SIGTRAN (IETF) RFC 3331 [2] of M2UA.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI EN 300 008-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP) to support international interconnection; Part 1: Protocol specification [ITU-T Recommendations Q.701 (1993), Q.702 (1988), Q.703 to Q.706 (1993), modified]".

[2] IETF RFC 3331: "Signaling System 7 (SS7) Message Transfer Part 2 (MTP2) - User Adaptation Layer".

NOTE: At http://www.ietf.org/rfc/rfc3331.txt.

[3] ITU-T Recommendation Q.701: "Functional description of the message transfer part (MTP) of Signalling System No. 7".

[4] ITU-T Recommendation Q.702: "Signalling data link".

[5] ITU-T Recommendation Q.703: "Signalling link".

[6] ETSI TS 102 142: "Services and Protocols for Advanced Networks (SPAN); MTP/SCCP/SSCOP and SIGTRAN (Messag of SS7 over IP); Message transfer part 3 User Adaptation layer (M3UA) [Endorsement of RFC 3332 (2002), modified]".

[7] ETSI TS 102 143: "Services and Protocols for Advanced Networks (SPAN); MTP/SCCP/SSCOP and SIGTRAN (Transport of SS7 over IP); Signalling connection control part User Adaptation layer (SUA) [Endorsement of SIGTRAN-SUA-14 (December 2002), modified]".

[8] ETSI TS 102 144: "Services and Protocols for Advanced Networks (SPAN); MTP/SCCP/SSCOP and SIGTRAN (Transport of SS7 over IP); Stream Control Transmission Protocol (SCTP) [Endorsement of RFC 2960 and RFC 3309, modified]".

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AS	Application Server
ASP	Application Server Process
ASPAC	ASP ACtive
ASPIA	ASP InActive

ASPSM	Application Server Process State Maintenance
ASPTM	ASP Traffic Management
BEAT	heartBEAT
BEAT ACK	heartBEAT ACK
DEREG REQ	DE-REGistration REQuest
DEREG RSP	DE-REGistration ReSPonse
ERR	ERroR
IANA	Internet Assigned Numbers Authority
IETF	Internet Engineering Task Force
IIM	Interface Identifier Management
IP	Internet Protocol
M2UA	Message transfer part level 2 User Adaptation layer
MAUP	MAUP

NOTE: Is used in RFC for MTP2 User adaption.

MGC	Media Gateway Controller
MTP	Message Transfer Part
MTP2	Message Transfer Part level 2, the signalling data link layer over SS7
MTP3	Message Transfer Part level 3, the signalling network layer over SS7
NTFY	NoTiFY
REG REQ	REGistration REQuest
REG RSP	REGistration ReSPonse
SCTP	Stream Control Transmission Protocol
SG	Signalling Gateway
SGP	Signalling Gateway Process
SS7	Signalling System Number 7

4 General considerations applicable to transport of Signalling System No.7 over IP

The elements of SIGTRAN adaptation layers apply with the following exceptions and restrictions. The considerations in this clause are common to the present document, TS 102 142 [6] and TS 102 143 [7].

4.1 Transport protocol

The protocol underlying the adaptation layer for transport of SS No.7 signalling information in IP networks shall be SCTP.

4.2 SCTP considerations

The SCTP used shall conform to TS 102 144 [8].

The SCTP payload protocol identifier for messages pertaining to an adaptation layer shall be the one assigned by IANA for that layer. Adaptation layer messages received with neither the IANA payload protocol identifier nor payload protocol identifier equal to 0 shall be silently discarded.

Unordered user messages shall not be used.

4.3 National options

No national options excluded by ETSI standards shall apply to the present document.

4.4 Application Server mode

The Broadcast mode shall not be used.

4.5 Application Server state handling

If multiple Application Server Processes (ASPs) are used within the AS, the AS shall be considered active when the first ASP becomes active, and shall remain active until the last ASP becomes inactive.

4.6 Dynamic registration

Dynamic registration shall not be used for configuration management. The configuration of the system shall be modified only by the management system, and not by the protocol itself.

4.7 Message distribution to the Application Server

The key to enable messages to be distributed to the appropriate AS shall have a granularity no smaller than is allowed by the management messages appropriate to that layer.

4.8 Receipt of unrecognized messages

If a message with an unrecognized message class is received, a Management Error message shall be returned with Error Code "Unsupported Message Class".

5 Considerations applicable to M2UA

5.1 M2UA procedures

The M2UA procedures shall be as defined in RFC 3331 [2] augmented by ITU-T Recommendations Q.701 [3], Q.702 [4] and Q.703 [5] as modified by EN 300 008-1 [1], except where otherwise defined below.

5.2 National options

No national options excluded by EN 300 008-1 [1] shall apply to the present document.

5.3 Dynamic registration

Dynamic registration of Link Keys shall not be used for configuration management. The configuration of the system shall be modified only by the management system, and not by the protocol itself.

5.4 Message distribution to the Application Server

No special considerations for message distribution to the Application Server apply for M2UA.

5.5 Using of the terms MGC (Media Gateway Controller) and ASP (Application Server process)

The terms "MGC" and "ASP" have the same meaning in the present document.