International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Series H

Supplement 14

(10/2015)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Gateway control protocol: SDP codepoints for gateway control – Release 2

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Supplement 14 to ITU-T H-series Recommendations

Gateway control protocol: SDP codepoints for gateway control – Release 2

Summary

Gateway control protocols may require additional session description protocol (SDP) codepoints for specific interworking functions supported at bearer plane level beyond, for example, the SDP information used by call control protocols.

Supplement 14 to ITU-T H-series Recommendations summarizes SDP codepoints that have been identified in the time-frame from June 2000 to the date of approval of this Supplement. It identifies SDP codepoints that meet ITU-T H.248.x sub-series requirements for gateway control protocols and that are available for general use by the wider standards community.

Release 1 of this supplement covers:

– SDP codepoints for the ITU-T H.248 based control of transport layer security (TLS) and datagram transport layer security (DTLS) traffic in ITU-T H.248 media gateways;

– preliminary SDP codepoint information for stream control transmission protocol (SCTP) traffic [ITU-T H.248.97].

Release 2 adds:

– information about the Internet Assigned Numbers Authority (IANA) registration process;

– fixes SDP codepoint information as required for ITU-T H.248.97.

This supplement is used as a codepoint repository for the Internet Engineering Task Force (IETF) driven registration process of SDP codepoints with the IANA.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H Suppl. 14	2014-07-11	16	11.1002/1000/12309
2.0	ITU-T H Suppl. 14	2015-10-23	16	11.1002/1000/12685

* To access the Recommendation, type the URL http://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID. For example, http://handle.itu.int/11.1002/1000/11830-en.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

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1 Scope

Gateway control protocols such as ITU-T H.248.1 may require additional session description protocol (SDP) codepoints for specific interworking functions supported at bearer plane level, beyond, for example, the SDP information used by call control protocols.

Supplement 14 to ITU-T H-series Recommendations [ITU-T H.248.x] summarizes SDP codepoints that have been identified in the time-frame from June 2000 to the date of approval of this Supplement. It identifies SDP codepoints that meet the [ITU-T H.248.x] sub-series requirements for gateway control protocols and that are available for general use by the wider standards community.

Release 1 of this Supplement covers:

– SDP codepoints for the ITU-T H.248 based control of transport layer security (TLS) traffic [ITU-T H.248.90] and datagram transport layer security (DTLS) traffic [ITU-T H.248.93] in ITU-T H.248 media gateways; and

– preliminary SDP codepoint information for stream control transmission protocol (SCTP) traffic [ITU-T H.248.97].

Release 2 adds:

– information about the Internet Assigned Numbers Authority (IANA) registration process;

– fixes SDP codepoint information as required for [ITU-T H.248.97].

This Supplement is used as a codepoint repository for the Internet Engineering Task Force (IETF) driven registration process of SDP codepoints with IANA.

2 References

[ITU-T H.248.x] ITU-T H.248.x-series of Recommendations, *Gateway control protocol.*

[ITU-T H.248.1] Recommendation ITU-T H.248.1 (2013), *Gateway control protocol: Version 3.*

[ITU-T H.248.15] Recommendation ITU-T H.248.15 (2013), *Gateway control protocol: SDP ITU-T H.248 package attribute.*

[ITU-T H.248.39] Recommendation ITU-T H.248.39 (2014), *Gateway control protocol: ITU-T H.248 SDP parameter identification and wildcarding.*

[ITU-T H.248.90] Recommendation ITU-T H.248.90 (2014), *Gateway control protocol: ITU-T H.248 packages for control of transport security using transport layer security (TLS).*

[ITU-T H.248.93] Recommendation ITU-T H.248.93 (2014), *Gateway control protocol: ITU-T H.248 packages for control of transport security using the datagram transport layer security (DTLS) protocol*.

[ITU-T H.248.97] Recommendation ITU-T H.248.97 (2015), *Gateway Control Protocol: H.248 support for control of SCTP bearer connections*.

[IETF RFC 4566] IETF RFC 4566 (2006), *SDP: Session Description Protocol.*

[IETF RFC 4572] IETF RFC 4572 (2006), *Connection-Oriented Media Transport over the Transport Layer Security (TLS) Protocol in the Session Description Protocol (SDP).*

[IETF IANA REG] IETF draft-leiba-cotton-iana-5226bis (2015), *Guidelines for Writing an IANA Considerations Section in RFCs.*
<https://tools.ietf.org/html/draft-leiba-cotton-iana-5226bis-11>

[IETF IANA SDP] IETF draft-schwarz-mmusic-for-gw (2015), *SDP codepoints for gateway control.*
<http://tools.ietf.org/html/draft-schwarz-mmusic-sdp-for-gw-03>

[IETF SCTP SDP] IETF draft-ietf-mmusic-sctp-sdp (2015), *Stream Control Transmission Protocol (SCTP)-Based Media Transport in the Session Description Protocol (SDP).*
<http://tools.ietf.org/html/draft-ietf-mmusic-sctp-sdp-14>

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Supplement

This Supplement defines the following term:

3.2.1 codepoint: The combination of a "signalling parameter" plus assigned "value" in protocol engineering. The "value" represents a codepoint (or code position) in the code space.

4 Abbreviations and acronyms

This Supplement uses the following abbreviations and acronyms:

DTLS Datagram Transport Layer Security

SCTP Stream Control Transmission Protocol

SDP Session Description Protocol

TLS Transport Layer Security

5 Conventions

None.

6 Registration process

6.1 Process for ITU-T H.248-specific SDP registrations

Fundamentally, IANA registrations should be based on IETF Standards Track RFCs, particularly in the case of technologies owned by the IETF, such as SDP. The ITU-T could, but should not, bypass the IETF in the case of SDP-related registrations with IANA. The ultimate goal of unambiguous protocol semantics implies a single instance, which reviews and coordinates registration requests with IANA. Figure 1 summarizes the principles of the process followed by ITU-T Study Group 16 with respect to IANA registration requests originated by the ITU-T H.248 protocol:

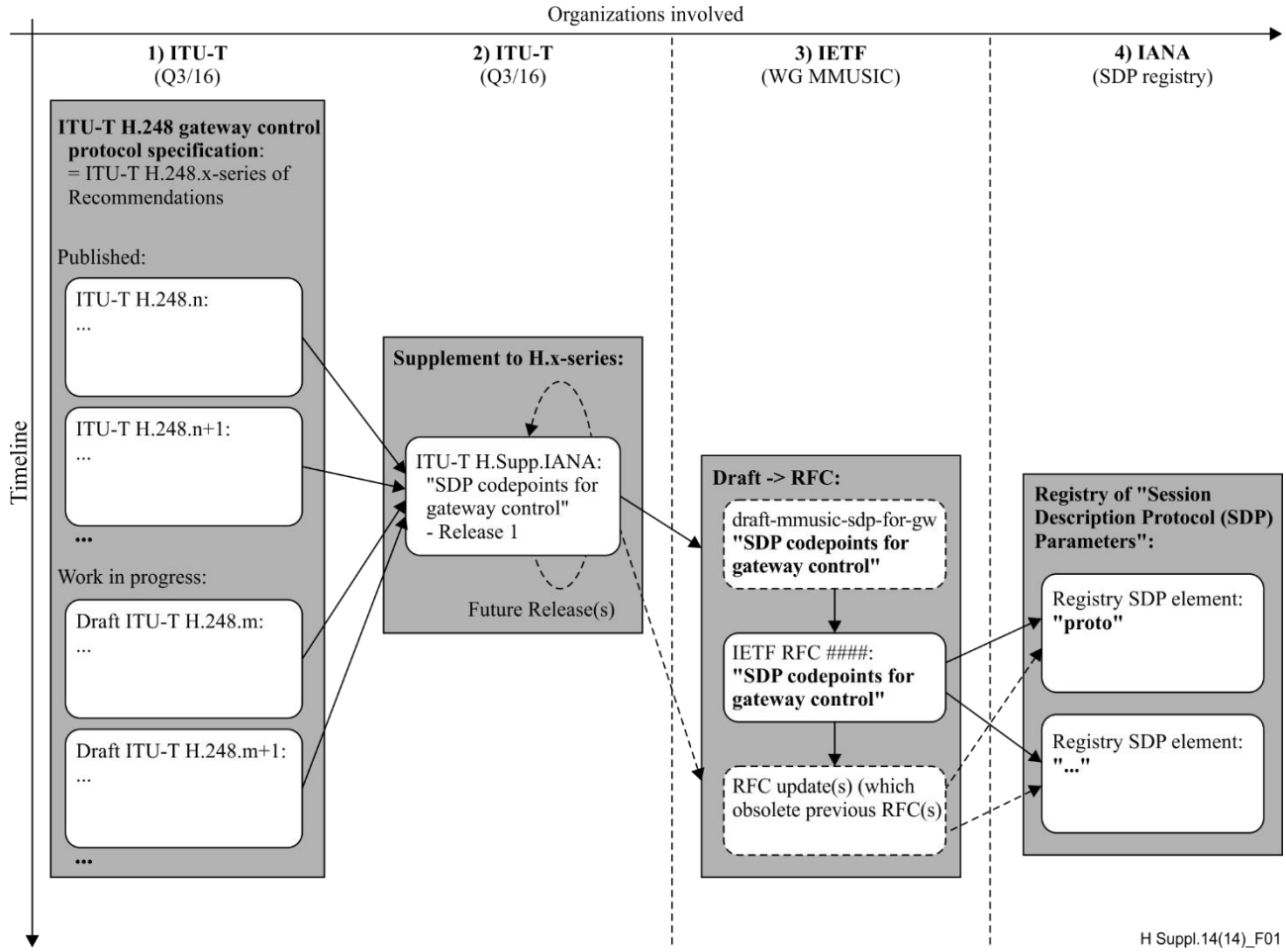

Figure 1 – IANA SDP registry – Process for ITU-T H.248-specific SDP registrations

The process is outlined in more detail as follows:

1. ITU-T: ITU-T H.248 protocol specifications reuse existing IANA-registered SDP codepoints, but could identify additional SDP codepoints, as for example those that are the subject of dedicated use cases. Such extensions to the ITU-T H.248 gateway control protocol are normally related to new ITU-T H.248 "package" definitions, which are published as part of the [ITU-T H.248.x]-series of Recommendations. However, new SDP codepoints could be also derived as the result of (package-less) ITU-T H.248 *procedures* or as a result of specific SDP usage according to an ITU-T H.248 "profile".
2. ITU-T: This Supplement is used as a repository for:
   a) the documentation of already registered ITU-T H.248-specific SDP codepoints with IANA; and
   b) the collection of newly identified codepoints.
3. IETF: MMUSIC, the IETF multiparty multimedia session control working group, is presently responsible for the SDP. The content of this ITU-T supplement is mapped onto an IETF draft, for example [IETF IANA SDP] (due to become an RFC), which becomes the baseline for the IANA registration request.
4. IANA: Registration on request by IETF.

The process is not a single activity but rather is open to recurrent updates because:

– ITU-T Supplements support "Release" versions; and

– IETF RFCs could be replaced (obsoleted) by new RFCs.

6.2 Background information on IANA registration process

[IETF IANA REG] describes the IANA registration process and guidelines for writing IANA considerations. There is a specific situation where an existing IANA registry is requested to be updated from outside the IETF. [IETF RFC 4566] represents the framework document for SDP codepoints and its clause 8 contains the IANA consideration section. In order to be consistent with [IETF IANA REG], the following policies are particularly relevant:

– **Registration policy**: The same policy applies as for the core RFC of the SDP (i.e., [IETF RFC 4566]). This is the well-known registration policy "*RFC required*" (clause 4.7 of [IETF IANA REG]), which is a superset of policies "*Experts review*" and "*Specification required*". The importance of the concerned SDP codepoints justifies such a stringent registration policy.

– **Registration requirements**: The requirements related to documentation and update of existing registrations (according to clause 3 of [IETF IANA REG]) are covered.

– **Contact person**: It is recommended that the contact (in the IANA registry) for the SDP codepoints requested is the ITU-T TSB, due to the aspects related to "private persons" as outlined in clause 9.5 of [IETF IANA REG].

7 SDP codepoints for IANA registration

7.1 SDP codepoints related to wildcarding

The ITU-T H.248-specific SDP wildcards "-", "~", "r", "l" and "[0-F]" (see [ITU-T H.248.39]) can be used in various SDP lines and line fields, see Table 1.

Such wildcards represent a codepoint space, but are outside of the scope of any IANA registry.

NOTE – The wildcard characters are compliant with the SDP grammar according to [IETF RFC 4566].

Table 1 – SDP codepoints related to wildcarding

Type	SDP name (value)	Reference
Various SDP field elements	"-", "~", "r", "l" and "[0-F]"	[ITU-T H.248.39]

7.2 SDP codepoints related to SDP "m=" line <proto> element

See Table 2.

Table 2 – SDP codepoints related to SDP "m=" line <proto> element

Type	SDP name (value)	Reference
proto	"TLS"	[ITU-T H.248.90]
proto	"TCP/TLS" "SCTP/TLS"	[ITU-T H.248.90] (Note 1)
proto	"DTLS"	[ITU-T H.248.93]
proto	"UDP/DTLS" "DCCP/DTLS"	[ITU-T H.248.93]
proto	"SCTP"	[ITU-T H.248.97] (Note 2)
proto	"SCTP/DTLS"	[ITU-T H.248.97] (Note 2)
proto	"DTLS/SCTP"	[ITU-T H.248.97] (Note 2)

Table 2 – SDP codepoints related to SDP "m=" line <proto> element

Type	SDP name (value)	Reference
NOTE 1 – Codepoint "TCP/TLS" is already registered, based on [IETF RFC 4572]. NOTE 2 – The table entry may be deleted when [IETF SCTP SDP] becomes an RFC.		

7.3 SDP codepoints related to SDP "a=" lines

7.3.1 SDP attribute "ITU-T H.248 package"

[ITU-T H.248.15] defines an ITU-T specific extension for SDP. The SDP attribute "`a=h248item:`" allows for the carriage of general ITU-T H.248 properties in the local and remote descriptor in the textual ITU-T H.248 encoding.

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Printed in Switzerland
Geneva, 2016