

**The SDP 'txp' Attribute**  
**draft-perkins-mmusic-sdp-txp-00.txt**

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Abstract

This memo defines a new Session Description Protocol (SDP) attribute 'txp'. This is used to indicate that a text device has limited presentation capabilities.

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## 1. Introduction

\*\*\* This draft is a strawman proposal for discussion purposes \*\*\*

The Session Description Protocol (SDP) is a protocol that is intended for describing multimedia sessions for the purposes of session announcement, session invitation, and other forms of multimedia session initiation. One of the most typical use cases of SDP is the one where it is used with the Session Initiation Protocol (SIP).

When interworking with legacy devices through a gateway, an IP based text phone using SIP/SDP may be required to limit its capabilities to match those devices. For example, V.21 textphones are full duplex in transport, but have varying handling of the presentation. Some merges the two sources in one window. Some have a kind of irc-like display with labels in front of the parties text. And yet some do a split in two windows of real-time text from each direction.

In order for an IP-based text phone to display an appropriate user interface when interacting with one of these legacy devices, it is necessary to convey a parameter indicating the limited capability of the legacy device. This memo defines such a parameter.

## 2. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [1].

## 3. The SDP 'txp' Attribute

This specification defines a new media-level value attribute, 'txp'. Its formatting in SDP is described by the following BNF:

```
txp-attribute = "a=txp"
```

The 'txp' attribute indicates that the media stream is originated from a textphone with some presentation limitation. This limited device capability makes it probable that the user should apply formal turntaking habits that are common among text telephone users in the PSTN. The indication should be used for an indication in the user interface.

A typical use case is a connection where one endpoint is an analog textphone of a kind that merges text from both ends in the same window, and the other one is a native IP based real time text capable



terminal. The human user of the IP terminal need to change behaviour when this indication is received, and apply formal turn-taking habits. They may also need to figure out to what extent it is possible to interrupt the other party if the need arises, because that possibility varies between textphone types.

#### **4. The 'txp' Attribute in the Offer/Answer Model**

When it is interacting with a legacy device, an IP text phone may receive an offer that contains the 'txp' attribute. That attribute then acts as a cue to configure the user interface appropriately, although there is nothing in the generated answer to indicate that this has been done (\*\* should there be? \*\*). Similarly, if an answer is received that contains a 'txp' attribute, that indicates that the remote device has limited capabilities, and the user-interface should present some indication of this to the user.

This specification does not define a means to discover whether or not the peer endpoint understands the 'txp' attribute. Indeed, the 'txp' attribute is informative only at the offer/answer model level. The fact that the peer endpoint does not understand the 'txp' attribute does not keep the media session from being established. The only consequence is that user interaction may be initially disrupted, since the user interface will not be configured to match the capabilities of legacy devices, and users will have to intuit that turn taking is needed.

Since the 'txp' attribute does not have to be understood, an SDP answer MAY contain 'txp' attributes even if none were present in the offer. Similarly, the answer MAY contain no 'txp' attributes even if they were present in the offer.

Use of the 'txp' attribute where SDP is used in the declarative style, for example with the Session Announcement Protocol, is for further study.

#### **5. Example**

The following example shows the use of the 'txp' attribute with SDP.

```
v=0
o=Alice 292742730 29277831 IN IP4 131.163.72.4
s=-
c=IN IP4 131.164.74.2
t=0 0
m=text 52886 RTP/AVP 100
a=rtpmap:100 t140/8000
a=txp
```

## 6. Relation to the SDP Content Attribute

There is a proposal to use the SDP Content Attribute to signal that a text device has limited capabilities, using "a=content:txp". This is not an appropriate use of the content attribute, since the content attribute is intended to describe only the content of a media stream, not to define the capabilities of the device that is generating that stream.

## 7. Security Considerations

An attacker may attempt to add, modify, or remove 'txp' attributes from a session description. This could result in an application behaving in an undesirable way. So, it is strongly RECOMMENDED that integrity protection be applied to the SDP session descriptions. For session descriptions carried in SIP, S/MIME is the natural choice to provide such end-to-end integrity protection, as described in [RFC 3261](#). Other applications MAY use a different form of integrity protection.

## 8. IANA Considerations

The new SDP attribute "txp" is registered (see [Section 3](#)). This is a media level attribute and is not dependent on charset.

## 9. Acknowledgements

Most of the text in this draft is taken from the SDP Content Attribute draft ([draft-ietf-mmusic-sdp-media-content-04.txt](#)). Other text comes from suggestions on the MMUSIC mailing list by Gunnar Hellstrom and Arnoud van Wijk.

## **10. Normative References**

- [1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

Author's Address

Colin Perkins  
University of Glasgow  
Department of Computing Science  
17 Lilybank Gardens  
Glasgow G12 8QQ  
UK

Email: [csp@csperskins.org](mailto:csp@csperskins.org)



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