

Circuit-switched descriptions in SDP

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MMUSIC WG meeting

IETF 71, Philadelphia, PA

March 2008

Idea and use cases

- Mobile device has a narrow band IP connectivity. Suitable for SIP, but not for audio. However, a circuit-switch channel is available.
- Idea: establish a SIP session where the audio stream is over circuit-switched technology.
 - Low bandwidth for IP connectivity.
 - Circuit-switched audio available.
 - It is possible to migrate it later to RTP, when the mobile device moves to an area where there is higher bandwidth for IP connectivity.

Requirements

1. Describe a CS audio stream in SDP.
2. Combine the CS audio stream with other media streams in the same session.
3. A CS audio stream may be offered as an alternative to an RTP audio stream.
4. Backwards compatibility.
5. Different list of codecs from RTP or no codec description.
6. Be able to correlate an incoming CS call with that described in SDP.

SDP extensions

c= line: c=<nettype> <addrtype> <connection-address>

- “CS” as <nettype>
- “E164” or “-” as <addrtype>
- E.164 number or “-” as <connection address>

m= line: m=<media> <port> <proto> <fmt> ...

- Circuit identifier number in <port>
- “CS” as <proto>
- Audio codec as <fmt>

Example 1

```
v=0  
o=jdoe 2890844526 2890842807 IN IP4  
  10.47.16.5  
s=  
t=0 0  
m=audio 1 CS AMR GSM  
c=CS - -  
a=setup:actpass  
a=connection:new
```

Alternative media streams

- Reuse of the mcap, tcap, and pcfg attributes specified in the SDP media capabilities negotiation.
- New connection address capability attribute: ccap
 - a=ccap:<c-cap-num> <c-cap-attr> *[<c-cap-attr>]

Example 2

```
v=0
o=jdoe 2890844526 2890842807 IN IP4
  10.47.16.5
s=
t=0 0
m=audio 49170 RTP/AVP 0 8 3
c=IN IP4 10.47.16.5
a=mcap:1 audio GSM AMR
a=tcap:1 CS
a=ccap:1 CS - -
a=pcfg:1 m=1|2 t=1 c=1
```

Next steps

- There is interest for these extension to enable certain deployment scenarios.
- Looks like a straight forward draft.