

Session Description Protocol (SDP)
Alternate Connectivity (ALTC) Attribute
(Update)

draft-boucadair-mmusic-altc

IETF77, ANAHAEIM

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Changes

- A 1st version of the draft has been presented in IETF75 (Stockholm): draft-boucadair-mmusic-ccap
- CCAP has been renamed ALTC as a result of discussions with the authors of draft-garcia-mmusic-sdp-misc-cap
 - CCAP when SDP-CAP-NEG is supported, is defined in draft-garcia-mmusic-sdp-misc-cap
- New co-authors

The problem to be solved?

- Still the same as what has been presented in Stockholm
 - IPv4 address depletion will be there...
 - IPv6 is the only perennial solution
 - Some address sharing solutions such as DS-Lite and NAT64 CGNs will be introduced
 - A mix of DS and DS-Lite customers should be considered
 - We need to encourage the use of IPv6 transfer capabilities **with an existing IPv4 service core**
 - IPv6-enabled elements must be introduced in the access segment
 - The **extra cost** to enable ICE to solve a simple problem is not justified. Connectivity checks may not be required
 - Sdp cap neg **overhead** may not be envisaged for some SPs

Use Cases

- ALTC may be required in several scenarios, a non exhaustive list is provided
 - A dual-stack UAC initiating a SIP session without knowing the address family of the ultimate target UAS
 - An IPv6-only UA wishes to avoid using a NAT64
 - A SIP UA behind a DS-Lite CGN
 - A SIP Service Provider or Enterprise domain of IPv4-only and/or IPv6-only UA, which provides interworking by invoking IPv4-IPv6 media relays, wishes to avoid invoking such functions and let media go end-to-end as much as possible
 - A SIP Service Provider or Enterprise domain of a UA, which communicates with other domains and wishes to either avoid invoking IPv4-IPv6 interworking or let media go end-to-end as much as possible
 - A SIP Service Provider providing transit peering services for SIP sessions, which may need to modify SDP in order to provide IPv4-IPv6 interworking, but would prefer to avoid such interworking or avoid relaying media in general, as much as possible
 - Etc.
- Multicast use case: <http://tools.ietf.org/html/draft-venaas-behave-v4v6mc-framework-01>

ALTC Solution

- Rely on the basic SDP attribute production rules (RFC4566) to solve this issue
 - In some contexts, it is not needed to define/support a generic framework for conveying two addresses of distinct address family in the same SDP offer
 - Suggested reading: Section 4.3 of draft-rosenberg-rai-modest-proposal
- Backwards compatible
- Simple

ALTC at a glance

o=- 25678 753849 IN IP4 192.0.2.1

c=IN **IP4 192.0.2.1**

m=audio **12340** RTP/AVP 0 8

a=altc:1 IP6 2001:db8::1 45678

a=altc:2 IP4 192.0.2.1 12340

ALTC follows the recommendations of RFC 4566 for extending SDP. When ALTC is not supported by the remote party, ALTC lines will be ignored

ALTC at a glance

o=- 25678 753849 IN IP4 192.0.2.1

c=IN **IP4 192.0.2.1**

m=audio **12340** RTP/AVP 0 8

a=altc:1 IP6 2001:db8::1 45678

a=altc:2 IP4 192.0.2.1 12340

•ALTC indicates addresses for potential alternative connection types

•Only one ALTC per address type is allowed

ALTC at a glance

```
o=- 25678 753849 IN IP4 192.0.2.1  
c=IN IP4 192.0.2.1  
m=audio 12340 RTP/AVP 0 8  
a=altc:1 IP6 2001:db8::1 45678  
a=altc:2 IP4 192.0.2.1 12340
```

ALTC duplicates the parameters identified in the "c=" and "m=" lines

This design choice allows to detect NATs or other midelboxes that don't understand ALTC

ALTC at a glance

```
o=- 25678 753849 IN IP4 192.0.2.1  
c=IN IP4 192.0.2.1  
m=audio 12340 RTP/AVP 0 8  
a=altc:1 IP6 2001:db8::1 45678  
a=altc:2 IP4 192.0.2.1 12340
```



Distinct ports per AF are
indicated in an SDP
offer

ALTC at a glance

- ALTC must be used at media level never at session level
- When a local host supports ICE and ALTC, both should be used
- In the context of IPv4-IPv6 co-existence, to ensure the backward compatibility with legacy elements, the “c” line is likely to enclose an IPv4 address.
 - If the predominant IP version within a service realm is IPv6, then the “c” line should include an IPv6 address. Doing so, the remote party has more chance to accept the offer and then the session to be established
- ALTC attributes are prioritized in order of appearance
- ALTC may be used in an SDP offer, but should not be inserted in the answer
- By default, unless this is conveyed in other attributes, the RTCP port number is the one included in the selected ALTC line + 1.

ALTC vs. ICEMICROLITE

- Same problem to be solved
- Same requirements
- Same use cases
- Distinct syntax
 - Fundamentally nothing blocking, but need to avoid useless lines
 - Does the WG recommend ALTC or ICEMICROLITE?

Next Steps

- Please suggest