

SDP Attributes & Multiplexing - Analysis Framework

draft-nandakumar-mmusic-sdp-mux-attributes

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Context - 1

- SDP describes one or more RTP Sessions via attributes
- RTP/RTCP Session(s) characteristics are described with SDP Attributes as:
 - Session Level (S)
 - Media Level (M)
 - Session + Media Level (B)
 - Source level (SR)
- ~250 SDP Attributes registered with IANA till date and more will be added in the future.

Context - 2

- mmusic, rtcweb and clue working groups are considering multiplexing multiple m-lines (m-blocks)

m=line -\

m=line → 5 Tuple (Single RTP Session)

m=line -\

Example: BUNDLE Scheme

(draft-ietf-mmusic-sdp-bundle-negotiation)

Scope of this draft ?

- What is the interaction of m-block multiplexing on SDP attributes ?
- How to analyze future SDP attributes ?

Approach

- **Framework** that categorizes current SDP attributes into following categories :

Category	Summary
NORMAL	Attributes whose semantics remain unchanged.
BAD	Attributes that should not be multiplexed.
IDENTICAL	Attribute's value must be repeated.
SUM	Attributes whose values represent aggregate.
TRANSPORT	Attributes selected for Mux depends on the usage.
SPECIAL	Source RFC must be referred for further handling.

- **Register** these with IANA to enable categorization of future SDP attributes.

CATEGORY: NORMAL

- Definition: Attributes that can be independently specified when multiplexing and retain their original semantics.

ex: sendrecv (B), fmtp(SR), content(M),
bwtype:CT(S), 3GPP-Integrity-Key(S)

CATEGORY: BAD

- Definition: Attributes where multiplexing SHOULD NOT be used.

ex: ulpfec(B), previous-ssrc(SR), ssrc(M),
bcastversion(S), h248item(S)

CATEGORY: IDENTICAL

- Definition: Attributes that must be “identical “ across all the m-blocks being multiplexed.

ex: key-mgmt(B), rtcp-rsize(M),
bcastversion(S), source-filter(B)

CATEGORY: SUM

- Definition: Attributes can be set normally but the software MUST apply the “sum” of all attributes being multiplexed.

ex: bwtype:AS(B), bwtype:RS (B)

CATEGORY: TRANSPORT

- Definition: Attributes that are set normally across m-blocks, but only one is selected depending on the usage.

ex: ice-pwd(B), rtcp(M)

CATEGORY: SPECIAL

- Definition: Attribute needs referring the parent RFC to understand the multiplexing implications.

ex: extmap(B), ssrc-group(M), nack ecn(M)

Next Steps?

- Get consensus on the framework categories.
- Need help to finish classification
 - Collaborators
 - RFC Authors
- Create a IANA section for the draft to add new column to the SDP registries.