

# BUNDLE

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IETF#92

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## (2) Previously on BUNDLE

- WGLC
- Lots of comments – Thank You!
- Mostly editorial.
- Editorial changes.
- 2<sup>nd</sup> WGLC needed.

## (3) QUESTIONS FOR TODAY

- **Q1:** How do we calculate the bandwidth?
- **Q2:** Future of BAS Offer?

# (4) Q1: What Magnus says

- **CT (Conference Total)**
  - Does not appear to be correct to sum CT values across the bundled media descriptions
  - **Proposal:**
    - Do not sum across bundled line
    - Avoid including at m= level, only session level
- **RR and RS (RTCP Bandwidth)**
  - These are RTP Session level parameters
  - Can be summed over the media description
    - Will ensure that RTCP bandwidth is scaled up with number of media sources accepted
    - Media sources with need for more feedback can set larger values
      - Some difficulties to ensure they actually get corresponding behavior.

# (5) Q1: What the draft says

## 7.3. Bandwidth (b=)

The proposed bandwidth for a bundled "m=" line SHOULD be calculated in the same way as for a non-bundled "m=" line.

The total proposed bandwidth for a BUNDLE group is the sum of the proposed bandwidth for each bundled "m=" line.

The total proposed bandwidth for an offer or answer is the sum of the proposed bandwidth for each "m=" line (bundled and non-bundled) within the offer or answer.

## (6) Q2: Teach yourself BAS

- In initial BUNDLE offer, each m- line contains unique address:port combinations
  - Basic RFC 3264
  - Backward compatibility (remote endpoint does not support, or does not want to use BUNDLE)
- Once usage of BUNDLE has been negotiated, in each subsequent offer each m- line contains the shared BUNDLE address:port
- **BAS is about sending an subsequent offer (BAS offer) as soon as BUNDLE has been negotiated**
  - Make sure that intermediaries that do not support BUNDLE have correct address:port information
- Currently the sending of a BAS offer is a SHOULD

# (7) Q2: What the draft says

## 8.4.2. Bundle Address Synchronization (BAS)

When an offerer receives an answer, if the answer contains a BUNDLE group, the offerer **MUST** check whether the offerer BUNDLE address, selected by the answerer [Section 8.3.2], matches what was assigned to each bundled "m=" line (excluding any bundled "m=" line that was rejected, or moved out of the BUNDLE group, by the answerer) in the associated offer. **If there is a mismatch, the offerer SHOULD as soon as possible generate a subsequent offer**, in which it assigns the offerer BUNDLE address to each bundled "m=" line. Such offer is referred to as a Bundle Address Synchronization (BAS) offer.

## (8) Q2: Suggestion by Thomas Stach

- We should relax the SHOULD for sending of the BAS offer
  - Use-cases where the sending of the BAS offer could cause race conditions with offers sent in the other direction



## (9) Q2: Browsers and BAS

- Browsers will (I am told) include the negotiated BUNDLE address in all bundled m- lines when a subsequent createOffer() is called.
  - The JavaScript application is responsible to creating the BAS offer.
- **Browsers will not automatically generate a BAS offer**
  - WebRTC API does not even support browser initiated offers
  - The JavaScript application must call createOffer()

## (10) Q2: What Christer says

- Making the sending of the BAS offer optional defeats the purpose
  - Intermediaries can not rely on whether a BAS offer will come
  - As BUNDLE conquer the world, intermediaries will hopefully be updated to support it
- Applications can still generate a “BAS offer”, even if we don’t specify it

## (11) Q2: Alternatives

- ALT 1: Keep the text as it is
- ALT 2: Relax the SHOULD-send-BAS
- ALT 3: Remove text about BAS offer
  - Perhaps with a note talking about environments where intermediaries may need correct address:port information

## (12) NEXT STEPS

- IMPLEMENT DECISIONS MADE AT IETF#92
- 2<sup>nd</sup> WGLC

THE END

THANK YOU FOR  
LISTENING!