Location of transport information for BUNDLE groups

draft-ejzak-mmusic-bundle-alternatives-01

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Transport info in SDP for BUNDLE

• Goal: consider modifications to BUNDLE to:
  – maximize compatibility with legacy equipment
  – optimize BUNDLE consistent with Option A
• Consider separately: first offer, first answer, subsequent offer, subsequent answer
• Alternatives for location of transport info:
  – Repeated in all valid m lines of BUNDLE group (current BUNDLE)
  – In 1st valid m line of BUNDLE group (draft, modified)
  – In a new/separate m line (not considered further due to similarity with mmt)
Constraints

• Legacy equipment must see unique ports
• When BUNDLE is negotiated, intermediates must not see multiple valid 5-tuples
• These seemingly contradictory requirements might be addressable by some combination of:
  – Extra SDP offer/answer exchanges
  – Invalid/unspecified address
• Allocating host only candidates for some m lines might also reduce overhead
Concerns with current BUNDLE

- Subsequent offers repeat valid transport info in all valid m lines in the group
  - In 3pcc scenarios, there is potential to send such an offer to legacy equipment, which may fail the session
  - Duplicate data needs to be validated
- All successful initial exchanges negotiating BUNDLE require 2 offer/answers
Proposal in draft (modified)

• 5-tuple for BUNDLE determined by transport info from first valid (non-zero port) m line in SDP offer and first valid m line in SDP answer

• First and subsequent offer:
  – valid and unique ports and addresses for all m lines
  – Option of only host candidates for lines 2-N (new)

• First and subsequent answer when using BUNDLE:
  – Invalid/unspecified address for valid m lines 2-N

• Send extra offer if:
  – any rejected m lines appear in answer to avoid 5-tuple endpoints represented by different m lines or
  – BUNDLE not selected and candidates are missing for lines 2-N
Concerns raised with alternate proposal

• This use of unspecified address is a “design error” or that one way media flow might be possible
  – RFC 3264 requires support and says that no packets are to flow for the m line in either direction
  – Can be modified to mean that no transport information is specified for the m line

• The 3pcc scenario indicated is not likely
  – Disagree. Numerous call flows demonstrate how it might work.

• Intermediates might choke
  – Only systems forwarding BUNDLE attributes or supporting BUNDLE will see an SDP answer with unspecified address
Comparison

<table>
<thead>
<tr>
<th>BUNDLE</th>
<th>BUNDLE enhancement proposal</th>
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</thead>
<tbody>
<tr>
<td>First and subsequent offers use different formats</td>
<td>All offers use same format</td>
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<tr>
<td>Repeated transport info in m lines needs to be validated</td>
<td>Only one instance of transport info in SDP for a BUNDLE group</td>
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<tr>
<td>Potentially fail session in 3pcc scenarios with legacy systems</td>
<td>All offers are legacy safe</td>
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<tr>
<td>All successful BUNDLE negotiations need two offer/answers</td>
<td>Most negotiations finish with one offer/answer</td>
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<tr>
<td>Idea of limiting to host only candidates in subsequent lines is applicable</td>
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<tr>
<td>All answers are legacy safe</td>
<td>Invalid/unspecified address in answer exposed to systems supporting BUNDLE</td>
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Resolution?

- Are there other factors to consider?
- If group can “live with” either approach, determine if there is a preference