SDP Capability Negotiation

draft-andreasen-mmusic-sdp-capability-negotiation-01.txt

IETF 67
November 9, 2006
Flemming Andreasen (fandreas@cisco.com)
IPR Statement

• Cisco is the owner of one or more pending unpublished patent applications relating to the subject matter of "SDP Capability Negotiation" <draft-andreasen-mmusic-sdp-capability-negotiation-01.txt>.

• If technology in this document is included in a standard adopted by IETF and any claims of any Cisco patents are necessary for practicing the standard, any party will have the right to use any such patent claims under reasonable, non-discriminatory terms, with reciprocity, to implement and fully comply with the standard.

• The reasonable non-discriminatory terms are:
  – If this standard is adopted, Cisco will not assert any patents owned or controlled by Cisco against any party for making, using, selling, importing or offering for sale a product that implements the standard, provided, however that Cisco retains the right to assert its patents (including the right to claim past royalties) against any party that asserts a patent it owns or controls (either directly or indirectly) against Cisco or any of Cisco's affiliates or successors in title or against any products of Cisco or any products of any of Cisco's affiliates either alone or in combination with other product. Cisco retains the right to assert its patents against any product or portion thereof that is not necessary for compliance with the standard.

• Royalty-bearing licenses will be available to anyone who prefers that option.
Recap

• Extend SDP with capability negotiation in a backwards compatible manner

• Originally motivated by inability to negotiate either vanilla or secure RTP

• Viewing the problem a bit broader than that:
  – List of requirements, which include:
    • General transport protocol (RTP profile) negotiation
    • Media type and media format (codec) negotiation
    • Attribute negotiation
  – Solution satisfying those requirements
Example Offer and Answer

Offer

v=0
do=- 25678 753849 IN IP4 128.96.41.1
s=
c=IN IP4 128.96.41.1
t=0 0
m=audio 3456 RTP/AVP 0 18
a=sqn: 0
a=cdsc: 1 audio RTP/AVP 0 18
a=ctrpr: 1 RTP/SAVP
a=capar: 1 a=crypto:1
    AES_CM_128_HMAC_SHA1_32
    inline:NzB4d1BINUAvLEw6UFZ3WSJ+PS
dFcGdUJS8pX1Zj|^20|^1:32
a=pcfg: c=1,2 p=1 a=1
a=pcfg: c=1,2

Answer

v=0
do=- 24351 621814 IN IP4 128.96.41.2
s=
c=IN IP4 128.96.41.2
t=0 0
m=audio 4567 RTP/SAVP 0 18
a=crypto:1
    AES_CM_128_HMAC_SHA1_32
    inline:d0RmdmcmVCspeEc3QGZiNW
    pVLFJhQX1cfHAwJoJ2^20|1:32
a=acfg: c=1,2 p=1 a=1
Major Changes in -01

• Updated -00 requirements based on feedback in Montreal
  – Missed adding two new requirements though:
    • REQ-150: Specify valid combinations of media lines (constraint based)
    • REQ-160: Specify valid combinations of media formats between media streams (constraint based)

• Updated solution to align with the new requirements
  – Simcap (RFC 3407) extensions to allow for new capability types and more general session level capabilities
  – Removed transport addresses capabilities ("a=ctrad" attribute)
  – Allowed for transport protocol capabilities at the session level
  – Defined new "a=capar" attribute for specifying attribute capabilities with a handle (facilitates negotiating attributes)
  – Updated potential configurations (a=pcfg) and actual configurations (a=acfg) to include attribute capability negotiation
Discussion Item #1

• Most importantly, is the general scope and requirements right?

• Two specific requirements to (re)consider:
  • REQ-150: It MUST be possible to specify valid combinations of media lines
    – Is this framework right for that or should we use grouping of media lines here instead (may want to support both constraint-based and required combinations)?
  • REQ-160: It MUST be possible to specify valid combinations of media formats between media streams
    – Can add a fair amount of complexity.
    – Do we really want/need this ability?
Discussion Item #2

• Current solution tries to reuse RFC 3407 (simcap)
  – Attribute capabilities ("a=cpar") didn't work well
    • Introduced new "a=capar" attribute with a handle instead
  – A few extensions needed
    • Wildcarding of "a=cdsc" parameters
    • Allow for things besides "a=cdsc" after "a=sqn"
    • Should probably lift 255 capability number restriction
  – RFC 3407 doesn't separate transport protocol and media formats
    • Works, but is syntactically a bit inconsistent (especially if need to support REQ-150 and REQ-160)

• Should solution be bound by RFC 3407 in any way?
Next Steps

• Consider requirements complete (modulo today's discussion ?)

• Update spec accordingly
  – Also, more detail needed in various places

• Feedback solicited