RTSP 2.0

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Magnus Westerlund
Martin Stiemerling
Henning Schulzrinne
Anup Rao
Rob Lanphier

Copyright Issues

- The IETF has adopted new IPR contributor rules in [RFC5378], which results in a changed model of copyright. The baseline is that "The IETF Trust and the IETF must obtain the right to publish an IETF Contribution as an RFC or an Internet-Draft from the Contributors." (taken from Section 3.1 of [RFC5378]).
- This memo has plenty of text taken from [RFC2326] and thus the associated copyright. Magnus Westerlund has solicited the authors of [RFC2326] and this memo to transfer the copyright to the new model, i.e., to the IETF trust and the IETF. Most of the authors have responded and transferred their copyright. However, not all of them have. This is the first reason for the currently used boiler plate (and thus the current status), i.e., with pre5378Trust200902. See also this document [IETF-Trust-License-Policy] for more information.
- Furthermore, this memo does contain text that has been copied and modified from [RFC2616]. Older versions of this memo solely linked to the particular places. Linking to the HTTP/1.1 specification was not appropriate anymore, as the text was not fitting to RTSP 2.0 needs and had to be adapted. Thus text copied from HTTP/1.1 is still under copyright prior to [RFC5378].

Incorporated HTTP Text

- replaced HTTP references by text
  - adapted and Integrated HTTP text to RTSP 2.0
  - done in most places, except security considerations
- Two sections are almost a full copy
  - 18.1. Validation Model (HTTP)
  - 18.2. Invalidation After Updates or Deletions (HTTP)
- Needs carefully review if done properly

GET_PARAMETER model & usage clarifications.

- Completely new text in -20
- two ways of specifying the parameters to be retrieved:
  - including headers which have been defined for that usage (see next slide)
  - or in the body
- ways are not new, but described in a better way
- added text in header sections to describe how they are used

GET_PARAMETER headers

- The headers that MAY be used for retrieving their current value using GET_PARAMETER are:
  - Accept-Ranges
  - Media-Range
  - Media-Properties
  - Range
  - RTP-Info

Speed

- Speed has now a definition that supports:
  - Elastic speed values for buffer filling or progressive style sessions
  - Forced speed value for local ”scale” operations
- Speed header now takes an interval that the server should deliver within
- Server is to use highest possible value within the range that is supported by underlying transport path
- If not possible to keep within range media adaptation is to occur to enable value in range.

Speed Examples

- Speed: 1.0-3.0
  - Buffer filling case where server shall not drop below nominal delivery but may go up to 3 times faster
- Speed: 2.5-2.5
  - Local ”scale” operations forcing server to use 2.5 times nominal delivery rate, media adaptation if path can’t support 2.5 bit-rate increase
- Speed: 0.6-5
  - Progressive download style application that uses large buffers and also can allow slower than nominal delivery to maintain media quality. Suitable for reliable transport (TCP)

RTP Sequence number

- Added an exception to the RTP sequence number rule being montonically increasing:
  - The exception is for PLAY responses in ”Live” sessions.
  - Happens after a PAUSE at the later PLAY
  - Allows for Server to not individually rewrite sequence number for live media forwarding

Inconsistent RTP sequence number handling in C.3

- Email Jaehwan Kim 03/13
- Some doubts about the new text on RTP sequence number handling
- Old:
  - 1) RTP layer is assumed to be independent from RTSP layer
  - 2) RTP timestamps must reflect real time
  - 3) RTP sequence number must be monotonically increased
- - New:
  - Reflect effects of RTSP signaling
  - Allow gaps in RTP sequencing
- Gap in RTP-Info but what about RTP level

RTP and RTCP MUX

- Implemented as an optional feature, not mandated on either side
- Servers can indicate support in SDP
- Client requests usage
- Server either accepts or deny usage
- If server deny it simply take the configuration as it is:
  - Thus RTCP transport address is needed for fallback reasons if server hasn’t signalled in SDP

Other Significant Changes / Open Issues

- Server killing the session in ready state despite keep-alives
  - Discussion on the mailing list
  - New text - needs feedback
- RTSP *From* header
  - Allows to include URI
  - But is that needed, or is *mailbox* sufficient
- Possible interaction between speed/scale not clarified in text
  - Speed/scale are seen to be orthogonal
  - But needs textual description

Next Steps

- Authors will do consistency checking
- Aims at publishing another update before end of April
- Intendes this to be the last chance to really affect what the technical content:
  - So please provide comments NOW!
  - The bar for technical changes will be raised

- ***Again: READ and COMMENT it NOW***