RTCP HR – High resolution VoIP Metrics Report Blocks
draft-ietf-avt-rtcphr-02

IETF 70, Vancouver

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- Changes since IETF 69
- Remaining issues
- Last call?
Changes since IETF 69

• Removed informative text on RTCP and translators – draft-hunt-avt-rtcptrans
• Number of report block types reduced from 9 to 3
• Added SDP control based on profiles
Changes (1) – 3 block types, not 9

• Doesn’t affect metrics details – metrics options are at sub-block level
• Used to have two dimensions of block type
  – Cumulative/Interval/Alert (retained)
  – Locally Generated/Relayed from Remote IP Endpoint/Relayed from Remote Ext Endpoint
  – No longer have second dimension
Changes (1) – how to report the “external” network

- Three cases – local system is an end system, a mixer, or a translator
- End systems cannot, and mixers should not, relay external transport metrics
  - So should not relay complete RTCP HR report blocks
  - But may report external application quality (e.g. RTCP HR Call Quality sub-block)
- Translators relay reports, preserving SSRC information about the measuring system and the source of the measured RTP
- Section 5 contains detailed procedure for relaying by RTP systems
  - Translators commonly relay reports
  - End systems or mixers MAY relay reports within a single network cloud
Changes (2) – SDP control by profile

- SDP control was “FFS” in earlier drafts
- Options considered: none (i.e. config only), HR on/off, detailed control, or profiles
- Precedent - RTCP XR (RFC 3611) uses detailed control (block level, & parameters within)
- Detailed control for HR would involve:
  - Block (cumulative/interval/alert)
  - Which metrics (sub-blocks) and parameters within
  - Forwarding behaviours
- This looks too complex so we propose profile-based control in section 7.3 of the draft
Changes (2) – SDP control by profile

- Proposal would require an IANA registry of profiles
  - Example non-trivial profile called prf-trans in section 7.3.3
- Proposed new syntax is a list of xr-prf in the forward direction:
  
  “a=rtcp-prf:* [xr-prf *(SP xr-prf)] CRLF
- For unicast Offer/Answer, list is in order-of-preference (section 7.4)
- Terminating system picks one and returns it
- Not restricted to controlling RTCP HR
- Pre-defined profiles include “use RFC3550 only”, “use your configured default”, and “none”
Changes (2) – SDP control by profile

- Translators observe exchange but may not understand the profile agreed by end systems/mixers, or may understand the profile but not implement it fully.
- Current ideas for translators which don’t understand/don’t implement agreed profile are as follows…
  - Translator which doesn’t understand the profile should try to become transparent
    - SHOULD forward RFC 3550 RTCP (translated)
    - MAY forward any further RTCP which it understands & can translate
    - MUST NOT generate its own reports
  - Translator which understands but doesn’t fully implement the profile has a choice:
    - EITHER do its best to participate (translate and forward, and generate its own reports as requested, as far as it is able)
    - OR try to become transparent as above
    - Choice will depend on policy, and the translator’s level of capability to participate
- This area needs discussion/agreement with experts in sipping and/or mmusic
Remaining issues

• Consensus on “SDP profile” approach
• Add new section on how to report via draft-ietf-sipping-rtcp-summary-02?
• Other things you tell us about!
• Nits
Working group last call

- We believe the current draft -02 has fixable rough edges but no showstoppers
- We think the next draft should be suitable for WGLC
- Your review and comments please, to help complete this work!
• Thank you…

• … any questions?
Backup slides
Changes (1) Reports and external systems

- The following slides address whether we need the dimension of block types
  - Locally Generated
  - Relayed from Remote IP Endpoint
  - Relayed from Remote Ext Endpoint
- Clearly need blocks which are Locally Generated!
- Don’t need “Relayed from Remote IP Endpoint” because the local system can just relay the report under the remote RTP system’s SSRC/CNAME
- Remaining question is whether we need “Relayed from Remote Ext Endpoint”. Three cases:
  - (1) local RTP system is an end system and remote external system is not an RTP system
  - (2) local RTP system is a translator and remote external system is an RTP system
  - (3) local RTP system is a mixer and remote external system is an RTP system
- These three cases analysed below and show we don’t need, and shouldn’t have, the Locally Generated/Relayed from Remote IP/Relayed from Remote Ext dimension
- Hence only 3 blocks, for Cumulative/Interval/Alert
Changes (1) - Case 1: RTP end system

- No RTP/RTCP externally so no transport reports are available from the external cloud.
- End system could supply (as RTCP to RTP peer) application-level summary of quality of external network if it has this data. Covered by Remote metrics in the Call Quality sub-block.
- It’s not possible to find values for the mandatory Loss/Discard and Delay (transport-level) sub-blocks which would be needed to populate a true RTCP HR report which could be “Relayed from remote Ext endpoint”.
- Suggests not appropriate to have a mechanism for forwarding full HR reports from external systems.
Changes (1) Case 2: RTP translator

- Translator can make its own measurements and send them out under its own SSRC/CNAME
- Translator can forward reports made by other RTP systems (end systems, mixers, and other translators) under the other system’s SSRC/CNAME
- No need for additional block types
- see draft-hunt-avt-rtcptrans-00
Changes (1) Case 3: RTP mixer

- Mixer should not forward transport-level reports between clouds, e.g. from external to internal cloud (RFC3550)
- Mixer could supply (as RTCP HR to RTP peer in both directions) application-level summary of quality of network “other side of mixer” if it has this data. Covered by Remote metrics in the Call Quality sub-block.
- Suggests not appropriate to have extra block types for forwarding full HR reports from external systems across mixers