What should be the scope of a monitoring architecture for RTP?

draft-hunt-avt-monarch-01

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(Presented by Roni Even)

Background

- "Submit Monitoring Architecture for RTP for Informational" is an AVT goal for Feb 2011
  - Should underpin the AVT work area "Specification of metric blocks for use with the RTCP Extended Report (XR) framework"
- draft-hunt-avt-monarch-00 (expired) tried a broad scope
- draft-hunt-monarch-01 (current) focuses narrowly on how to construct new RTCP XR blocks
- The work is chartered and need input documents.
- For today:
  - What scope would AVT like to see?
  - Who would like to contribute?
  - Who would like to review?

In more detail (1a) – scope of monarch-00

- Desirability of a minimum number of re-usable metrics across different RTP applications
- Metrics of transport and application performance
  - AVT should define a framework to carry metrics
  - And might define transport metrics
  - Prefer to adopt established metrics
- Layered approach
  - Packet transport metrics applicable to most RTP applications
  - Application metrics for subsets of RTP applications
    - Examples: audio noise floor, mean level; media delay, echo
    - Video examples needed
- Packet transport metrics typically apply to single packet segments, application metrics often to the entire user-to-user connection

In more detail (1b) – scope of monarch-00

- A method for choosing re-usable metrics at each layer
  - Identify useful/essential metrics per-application and per-layer
  - Eliminate overlap in metric design between applications, within each layer
  - Aiming at one metric per impairment, usable across multiple applications
- Thoughts on options for metrics of transport performance (loss/delay/delay variation)
  - Carry raw arrival data in RTCP? Histogram summaries? Reporting following transport “exceptions”?
- A review of requirements and taxonomy for audio application metrics
  - Primarily describing ITU-T work
  - Need to add similar review for video if this scope item is adopted
- Issue of moving metrics to wherever they are needed
  - By RTCP? In signalling? In a management protocol?
- Not included in monarch-00, but may be desirable in a broad-scope metrics architecture:
  - Who wants which metrics, where and why? (a broad question!)
- Question: does the broad scope of monarch-00 exceed AVT’s (or even IETF’s) domain and remit?
  - Application metrics end-to-end imply a scope wider than RTP, the Internet, and IP-based applications

In more detail (2) – scope of monarch-01

- Restricted to consideration of adding new RTCP XR blocks
- Proposes a “few metrics per block type, many re-usable block types” model
  - Rather than large, application-specific blocks
- Proposes an optimisation to avoid repetition of identification information in multiple blocks in the same RTCP XR packet
- Provides an example block design
- Discusses RFC 3550 guidance on RTCP reporting by translators
  - (Though we believe that many practical transport-only translators would need major re-design in order to source RTCP packets – views?)
- Discusses (briefly) the interaction with conferencing topologies described in RFC 5117
  - Concludes that, provided RTCP reporting adheres to RFC 3550, RFC 5117 will apply unchanged
- Final section asks whether RTCP XR block namespace is large enough
  - Should a standardised method for expansion be developed?

Reactions on mailing list so far:

- Following Roni's question of 5 May, Dan Romascanu (as WG participant), Peter Musgrave, Peilin Yang and Alan Clark supported the work going forward
- After monarch-01 appeared…
  - Peter Musgrave (24 May) broadly supportive of monarch-01, with specific comments
  - Peilin Yang (8 June) preferred monarch-00
  - Qin Wu (1 July) preferred monarch-00, and has suggestions for additional broad-scope topics

Questions

- What scope would AVT like to see?
  - Like monarch-00? Or monarch-01?
  - Or something different?
- What do you think?

- Oh… and…

- Who would like to contribute?
  - If scope is like monarch-00, need video experts!
- Who would like to review?

Thanks!