H.325 as a chance to converge SIP-based terminal designs

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Outline

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H.323, SIP, and H.325

- H.323 (v.1) ratified in 1996, updated regularly since then
  - Original target: packet (IP)-based Multimedia Communication
  - Today: still dominates the VoIP market (both in endpoint and network)…
  - … but looses its dominance to SIP

- SIP started in 1996, RFC 2543 in March 1999 (RFC 2543, ~170 pages)
  - July 2002: RFC 3261 (~270 pages) + accompanying RFCs (100 pages)
  - Original target: make a "black telephone ring"
  - Today: taking over H.323 application space
  - Wireless: 3GPP and 3GPP2 IMS is SIP based
  - NGN? Perhaps exclusively SIP based in practice

- H.325 under discussion since a year or so, no coordinated activities yet, no technical work done.

SIP is just starting to get traction, not on the way out

- Keyword from last page: SIP is *taking over* H.323 application space – slowly
  - SIP Protocol suite still underdeveloped, e.g. multimedia functionality
  - SIP also needs several improvements that could easily be called bug fixes
    - Some call them "fundamental flaws".
  - Quite a bit of legacy H.323 equipment out there (especially in the networks)
- SIP has traction only in certain endpoint architectures
  - Messenger extensions (SIP vs. proprietary)
  - IP telephones (taking over H.323 at a high rate now)
  - Wireless (pretty much all IP-based architectures)
- SIP is nor yet dominant in the core networks

- Stephan's personal view
- SIP is bad, but it's not as bad as many people in the ITU-T think. Let's give it a chance and not waste energy on re-inventing the wheel.

Another angle of though: H.325 vs. NGN and IMS

- NGN == wireline IP + managed QoS + Session Border Control
- IMS == wireless IP + ???
  - Depends on whom you ask
  - radio layer-based QoS and many functions of session border control included as part of radio network technology

- Stephan's personal view
- NGN+IMS: an operator's dream, but a consumer's nightmare
  - Preserves/Re-creates operator based service revenue models
  - If misapplied, could be used to discourage/disable cheap/free services
  - Back to intelligent network, dumb endpoint?
  - Not the IETF's way – procedurally non-trivial to fully adapt SIP
- H.325 project could be used/abused to facilitate these "bad" aspects of NGN/IMS

H.325 and Multimedia Convergence Codecs (MCC)

- Are the two topics related? Not really (technically), but
  - Discussion about desirability, feasibility, and possible gain happen simultaneously…
  - … in the same organization (ITU-T SG16)…
  - … and efforts are coordinated by people who have worked closely together for a decade or so,
  - So it's not inappropriate to discuss the two jointly
- Is there a synergy effect between MCCs and H.325? Perhaps not.
- Is could they be marketed jointly? Perhaps yes. Should they? Perhaps not.

- Video codecs: it's still a bit early to start on H.265, but once started, the standardization should again be run as a large, collaborative effort
  - Convergence Codec goals can be accommodated
- Speech/Audio codec standardization has no history in collaborative work. We are not entirely against trying this, but
  - The technology challenge and resulting IPR playfield are awfully small compared to video – can all the players be accommodated?
  - Nokia has had a very strong position in the speech/audio codec standardization for our key applications – what's our incentive to give up that hard-gained advantage?

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So is there a need for H.325 at all?

- Nokia sees no need for launching an H.325 project aimed as an H.323/SIP replacement
  - Resource consumption in no relationship to likely gain
  - No market pressure whatsoever now – and none in sight
  - Fix SIP (and MEGACO) first. We just need to embrace the IETF's way of doing things (which may well be significantly less efficient than in the ITU-T nowadays)
- However, there may be a place for ITU-T SG16 standardization and H.325 as a specification for SIP-based terminals
  - IETF follows the "toolbox" approach perhaps a bit too strictly
    - No default codecs
    - Minimum set of supported protocol mechanisms too small to allow decent functionality
    - (Still) too strong focus on VoIP, not considering multimedia enough
    - Too much influence and priority setting by 3GPP and 3GPP2
  - 3GPP and 3GPP2 way too politic and too radio-centric
  - Various consortia don't have mechanisms in place to gracefully handle disagreements

H.325: A possible Mission Statement

- Create a standard that ensures minimal interoperability between all major SIP-based terminals
  - 3GPP and 3GPP2 mobile terminals
  - Messengers of the various companies
  - Wireline video conferencing systems
  - VoIP phones and equipment
- Basic approach: limit functionality to the smallest common denominator
  - … but this will not lead to interoperable systems
- When needed: add required functionality based on existing SIP technologies or widely deployed media codecs
  - Speech codecs are the most obvious candidate
- Don't be aggressive with the latest and hottest topics, until H.325 has gained traction
  - No Convergence Codecs, no hottest and latest SIP technologies, and (god forbid) no enhancements of SIP technologies by the ITU-T
  - Refrain from using the H.325 process as an avenue to promote ITU-T technologies

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And why do all this in SG16?

- ITU-T SG16 has the resources and processes in place to take such a work on
  - Logistics
  - Experienced contributors
  - Well developed formal process (including the IPR process)
- IETF is not interested
- Consortia too politic, too short-term oriented, and too fragmented.

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Thank You

Questions? Opinions?

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