TCP Candidates with Interactive Connectivity Establishment (ICE)

draft-ietf-mmusic-ice-tcp
(and draft-lowe-kamp-mmusic-ice-tcp-framework)

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Background

• UDP-based NAT traversal standardization work (STUN/TURN/ICE) done
• Many applications use TCP instead → need for TCP NAT traversal
• TCP NAT traversal more complicated
  – TCP candidates left out from the original ICE spec
  – ICE TCP: draft-ietf-mmusic-ice-tcp
ICE TCP

• ICE TCP proposes 3 new TCP candidate types: active, passive, and Simultaneous-Open (SO)
  – Send checks from active to passive, and SO to SO
• Low success ratio for direct connectivity
  – Active/passive candidates commonly fail with hosts behind different NATs
  – Simultaneous-Open: ~40% success ratio, not supported on some operating systems
  – Must use relaying (TURN) often → inefficient
ICE TCP Framework

• draft-loweckamp-mmusic-ice-tcp-framework
• Use various protocols for NAT traversal
  – UPnP IGD, NAT-PMP, Teredo, SOCKS, etc.
  – Open-ended framework
• Good chances for improving the success ratio of direct connections
• More methods for relaying
Current Status

• ICE TCP drafts have expired
• (Used to) have fairly high demand for this
  – RELOAD
  – Binary Floor Control Protocol (BFCP)
  – TCP media with RTSP
  – Various other documents referring to ICE TCP
• Consensus on merging the two drafts
  – WG meeting at the 73rd IETF (November 2008)
Next Steps

• Feedback/comments
• New, merged version of the drafts
  – Need review(er)s
• Fix what is fixable but trying to keep it simple
• Document limitations
• WGLC
Open Issues

• Which methods as must-implement?
  – Proposal: act/pass and SO as a must, recommend TURN, informational description of the other proposals and recommend supporting them

• Experimental data would be nice
  – Meaningful prioritization recommendations
  – How well SO works today?
  – How well different middlebox communication methods are supported?