Indication of support for keep-alive

draft-holmberg-sip-keep-02

Christer Holmberg
PROBLEM

• draft-ietf-sip-outbound-16 defines two functionally separated mechanisms:
  – Flow mechanism
  – SIP signalling keep-alive mechanism

• NOT possible for SIP entity to indicate explicit support of the keep-alive mechanism
OUTBOUND FLOWS

• Outbound **registration** initiated flow:
  – Outbound flow(s) established during registration
  – Keep-alives implicitly negotiated

• Outbound **dialog** initiated flow:
  – Outbound flow is established during dialog establishment
  – Keep-alives NOT implicitly negotiated
PREVIOUSLY IN IETF

• Concensus not to specify explicit keep-alive indication to draft-ietf-sip-outbound.

• Statement that such indication should be specified in a separate draft
NUTSHELL

• Allows SIP entities to indicate support of, and use, the NAT keep-alive mechanisms defined in draft-ietf-sip-outbound

• Hacks, e.g. based on frequent re-registrations (very common today), can be avoided if keep-alives can be negotiated.
USE CASE #1: Outbound not supported

- Outbound is not – for whatever reason – supported/implemented, but still requirement to negotiate keep-alives

- Hack solution: indicate support of Outbound even if only the keep-alive mechanism is supported
USE CASE #2: Outbound dialog initiated flows

• When an outbound dialog initiated flow is established, keep-alive is not implicitly negotiated
• Keep-alive must be separately negotiated
USE CASE #3:
Non-registration emergency calls

• Emergency call made by non-registered user
• Keep-alive needed during the session
USE CASE #4: Intermediate-to-intermediate

• "Heartbeat" type-of function between specific intermediates during a session
  – Not necessarily for NAT keep-alive purpose

• Useful for SIP provider peering, proxy-to-PSTN-GW, etc.
USE CASE #5: SIP IP-PBX Trunks

• Many Enterprises have fairly permanent PBX-to-Service-Provider connections

• IP-PBC and SP need to detect liveness of connections, even when no calls are being made
  – To choose alternate routing path
  – Don’t want to wait for call request timeouts
  – Need some check to be able to revert when it’s back up

• Today SIP OPTIONS is often used for this
  – Heavy, cumbersome, and has some interop issues
REQUIREMENTS

REQ 1: It shall be possible for a SIP entity acting as a UAC to indicate explicit support of the keep-alive techniques defined sip-outbound towards the next hop.

REQ 2: It shall be possible for a SIP entity acting as a UAS to indicate explicit support of the keep-alive techniques defined sip-outbound towards the previous hop.

REQ 3: It shall be possible for SIP entities to negotiate explicit usage of the keep-alive techniques defined in sip-outbound.

REQ 4: It shall be possible to negotiate whether the duration of the negotiated keep-alives is for a registration, a session, a certain amount of time, or until the cease of sending keep-alives is explicitly negotiated.
PROPOSAL

• Agree on use-cases and requirements
• Adopt the draft as a WG item
THANK YOU!