draft-ietf-hip-nat-traversal-04

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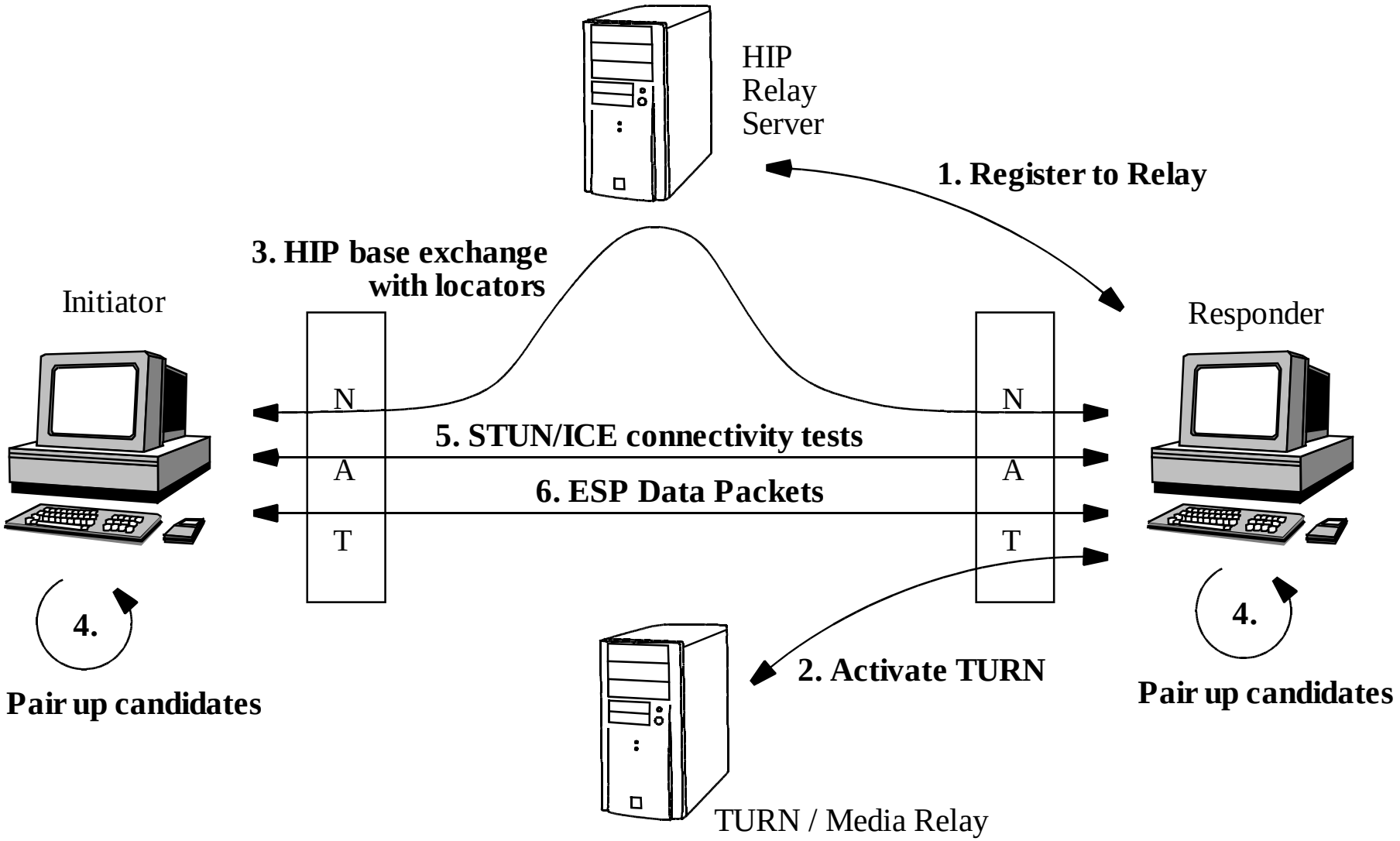
NAT Traversal using HIP

- NAT traversal for HIP signaling and ESP
  - Uses ICE/STUN and UDP encapsulation of HIP and ESP (RFC3948)
  - Works in all scenarios where ICE works
    - Uses direct path if possible; relay as fall-back
- Intended to remove need for application specific NAT traversal solutions
  - Works also with unmodified legacy applications
- Both client and server applications can be located behind different NAT devices

How Does It Work?



Status of the Draft

- Mostly clarifications and refactoring
  - Keepalives, connectivity checks, etc.
  - New editor
  - Full change list posted to the list
- Have been concentrating on implementing this
  - Found some new issues
- Version -05 coming
  - Going to post pre-versions before the next IETF

New Things in -04

- Base exchange and ESP without UDP encapsulation
  - Do BeX with and without encapsulation roughly at the same time; if without works, don't use UDP
- BeX replay protection (heer-hip-middle-auth)
- Removed HIP return-routability check after connectivity checks
  - STUN messages authenticated with HMAC

New Things Coming up in -05

- Bunch of clarifications and missing details
  - Transform parameter format, guidance on when to gather candidates, how the STUN password is drawn, aligning terminology with ice-non-sip (considered in MMUSIC), etc.
- Non-normative intro
- Editorial fixes

Open Issues

- Pacing of the connectivity checks
  - draft-ice: ”min 500ms for non-RTP traffic”
  - With many candidates checks can take long
  - But should not cause congestion either
- Aggressive vs. regular nomination
  - Aggressive is faster but regular works better
- ICE-CONTROLLED flag
  - Do we want to support gatewaying of ice-non-sip?

Open Issues

- Relay could add nonce to forwarded HIP messages
  - Restricts responder's ability to send R1/R2 packets to arbitrary hosts through the relay
  - Requires only constant state at the relay
- What type of locators to send in LOCATOR parameter
  - Type 2 (the one with the UDP port) is a superset of types 0 and 1
  - Does NAT_TRANSFORM parameter affect the type of locators

Implementation Activities

- Ericsson implemented ICE library
  - Next step is to integrate it to HIP
  - Will be released with hip4inter.net implementation
- InfraHIP/HIPL in HIIT integrated PJSIP's ICE implementation
  - Miika will demo this soon
- OpenHIP
  - Not yet updated; still aligned with draft-schmitt-hip-nat-traversal
  - Probably will use PJSIP's ICE too

Design Team Goals for IETF73

- New version of NAT base draft
  - Looking forward to comments
- New draft on mobility and multihoming

References

- http://www.ietf.org/internet-drafts/draft-ietf-hip-nat-traversal-04.txt
- ftp://ftp.rfc-editor.org/in-notes/rfc3948.txt
- http://www.ietf.org/internet-drafts/draft-ietf-mmusic-ice-19.txt
- http://www.ietf.org/internet-drafts/draft-ietf-behave-rfc3489bis-17.txt
- http://www.ietf.org/internet-drafts/draft-rosenberg-mmusic-ice-nonsip-01.txt