MSRP & Relays

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SIMS & MSRP

- The authors of both drafts & chairs want to take a few good ideas out of SIMS and apply them to MSRP and a Relays draft.
- This should allow MSRP to have all the advantages of SIMS.

Key SIMS Ideas to use

- Don’t mandate length of message when you start sending it so you can interupupt a message being sent
- Allow a message to be sent in chunks
- Connection can be shared (not one connection per session)
- Messages have correlation information

Proposed MSRP Changes

- URLs Identify Endpoints
  - A session is identified by a URL tuple, not a single URL.
  - All SEND requests include the target URL
  - VISIT requests carry the URL of the active party.

Proposed MSRP Changes

- Bring back shared connections.
  - Needed if relays exist
  - Made easier by the next two slides
    - Chunking
    - Interruptible message framing
- If relays exist, we need shared connections
  - relay to relay
  - endpoint to relay
    - If we have endpoint to relay, peer to peer is not that different.

Proposed MSRP Changes

- Change message framing
  - Use boundary, rather than message size
  - Necessary to allow message interruption without destroying connections.
  - Required if connections are shareable.

Proposed MSRP Changes

- Allow Chunking
  - Greatly helps some of the HoL blocking issues.
  - Endpoints should at least be able to receive chunks.
  - Chunking handled at MIME layer
    - message/byteranges

Proposed MSRP Changes

- Allow return-receipt request
  - Servers same purpose as INFORM in SIM
  - Not needed for peer to peer
  - Can this be session-scoped?
    - negotiate in SDP exchange, rather than by requesting it in each SEND request

Co-Media

- Direction attribute not needed with one or more relays
  - Clients always initiate the connection when talking to a relay.
  - Need to allow direction to be ommited, and specify behavior

Co-Media

- Do we really need it at all?
- How common is the use case where one end is behind a NAT, the other end is not, and no relay is available
  - This significantly complicates things
  - Allows optimization to get rid of relay
  - Implementing co-media shows it is very hard to get it to work

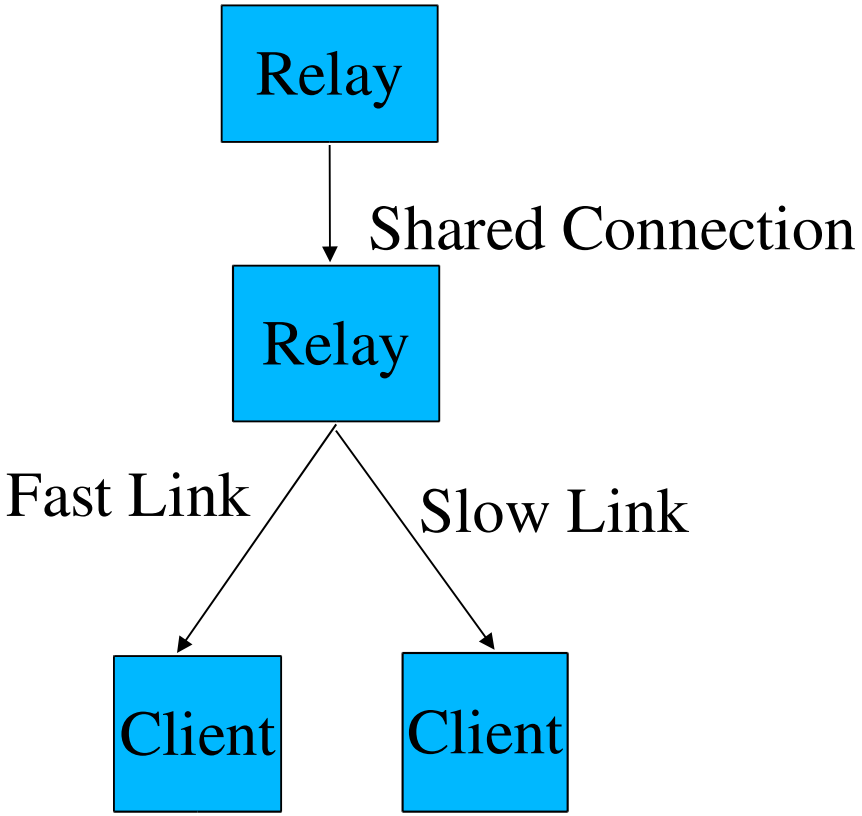
Proposed Relay Draft (MSRP-Relay)

- Get a route set from SDP
- Relays can re-chunk message

Relay Requirements Deadlock

- We have 3 implied requirements that cannot be all solved. These lead to the original issues with relays
  - Connection Sharing
  - Relays with small, fixed buffers
  - No application level flow control

Root Problem



- Relay Must buffer arbitrary number of messages to avoid blocking messages to fast target

Proposal

- Live with it
  - Relays will need to buffer arbitrary amounts of data
  - Relays will reject requests when buffers get too full
    - This rejection is hop-to-hop. Sender may not see the error if there is an intervening relay
    - Return receipt mechanism important here.

MSRP Harmonization

- Ok with changes to base?
- Adopt this direction for relay?

Wrapped Types Issue

- Complex
- Suggestions to simplify
  - CPIM gateway attribute
  - Envelope attribute (single valued)
- Proposal: Leave as is