P2PSIP Clients Discussion

Spencer Dawkins
spencer@mcsr-labs.org

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What Clients Are

• From “Concepts and Terminology”:
  – A node participating in a P2PSIP Overlay that is less capable than a P2PSIP Peer in some way.
  – The role of a P2PSIP Client is still under debate, with a number of competing proposals, and some have suggested removing the concept entirely (see the discussion on this later in the document).
  – If clients exist, then it has been agreed that they do have the ability to add, modify, inspect, and delete information in the overlay.
  – Note that the term client does not imply that this node is a SIP UAC. Some have suggested that the word 'client' be changed to something else to avoid both this confusion and the implication of a client-server relationship.
What Clients Are Not

- Not the equivalent of “peers” in a “super-peer/peer” architecture
- Not “the peers behind NATs”
Where Clients Are

--->PSTN

+-------+  N  +-------+  +-------+  /  
|       |  A  |       |  | Gateway |-/  
|  UA   |#####T#####|  UA   |#####|  Peer  |#####
| Peer  |  N  | Peer  |  | G  |  #  P2PSIP
|  E  |  A  |  F  |  +-------+  #  Client
|    |    |    |  #  Protocol
|  +-------+  N  +-------+  #  |
|  #  |
|  A  |
|  NATNATNATNAT  #  |
|  NATNATNAT  #  |
|  N  +-------+  P2PSIP Overlay  #  |
| A  |  T  |  |
| UA  |  N  |
| Peer  |  A  |
| D  |  T  |  P2PSIP Peer Protocol  #  |
|    |    |    |  #  |
|  +-------+  A  +-------+
|  #  |
|  T  #  |
|  #  N  +-------+
|  #  A  |  |
|  #  
|  #  Proxy  #  |
|  #  Redir  #  |
|  N  | Peer  |  Peer  |
| A  |  P  |  R  |
| T  +-------+  \

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What Problem Are We Trying To Solve?

- Do we need Clients for overlay scalability?
  - Having agreed use cases would help a lot, of course
- Are they different from SIP UAs?
- Do they speak vanilla SIP, or modified SIP?
- How do they interact with distributed database?
- How do they route SIP requests?
Modes of Operation

Interaction with Database
1. Directly accesses database and understands data structure
2. Client protocol Get/Put operations
3. Treats overlay as SIP Registrar

Routing of SIP Requests
1. Retrieves target contact or route from overlay, sends request to that contact or route
2. Uses relatively fixed peer in overlay as outbound proxy, sends all SIP requests there
Idea: Client as Storage Node

- Storage nodes store data on behalf of the overlay (usually via a binding from a peer), but aren’t themselves visible as peers in the overlay.
- Someone suggested that this could be coupled to client role and client protocol
- Proposed: Keep storage node function separate and don’t confound client definition and protocol
- Proposed: Defer further storage node discussion until somebody comes up with a credible use case.
Basic Client Picture
Basic Client Questions

- Do we all agree that all of these cases are desirable?
- Do we all think that all peers can do any of these things?
- Do we all think that all peers can do more than one of these things at the same time?
- Where are we?