Unmanaged Networks, tunnels, etc.

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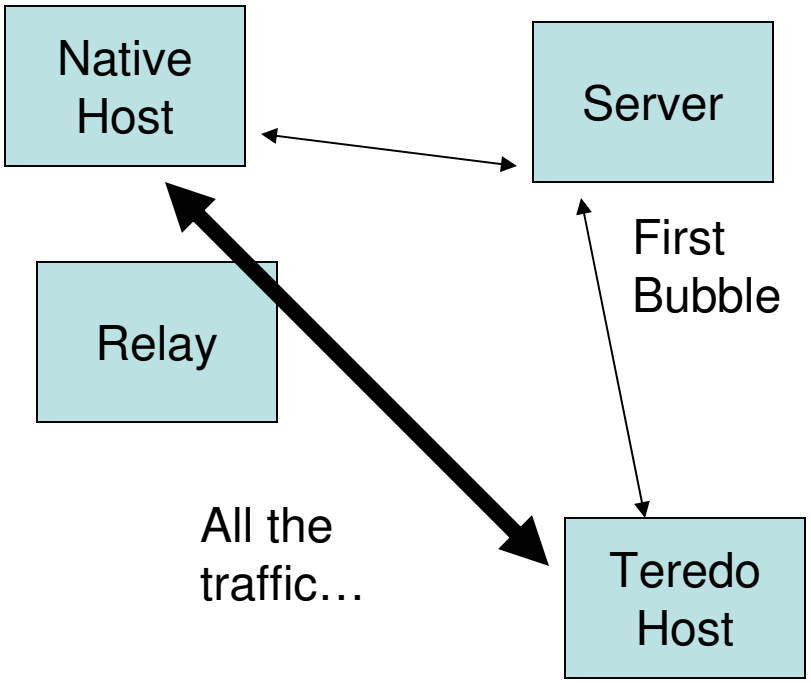
Issue: automatic vs. configured

- Automatic tunnels allow for automatic deployment, which “applications” like
  - But automatic solutions tend to work better between users of same technology, require relays towards “native IPv6” or other technologies
- Configured or brokered tunnels allow for more controlled service, often better quality
  - But the economics of providing tunnel services mostly make sense if provided within a single ISP
  - And it is not automatic…

Tunnel configuration needs work

- Current “tunnel broker” RFC is “conceptual” in nature
- Need to nail at least one scenario
  - Tunnel broker is provided by the ISP
  - ISP customer easily gets the parameters
  - Tunneling mechanism works through NAT

Issue: Teredo relays



- Native to Teredo requires relays
- Issue
  - No Teredo relays in the network
  - Every native host has to implement a Teredo Relay
  - This creates a “lock-in”
- Solution
  - Implement Teredo relays in the network and run them until Teredo is retired?

Do we have some consensus?

- Tentative algorithm
  - If native connectivity, use it
  - If tunnel service is available, use it
  - If 6to4 is available, use it
  - If everything else fails, use Teredo
- OK, some [including Pekka] would rather never see people using Teredo or 6to4…
  - But then, they should provide native or tunnel service!

Incentives to “move forward”

- Stable addresses
  - Native and tunnel solutions provide stable addresses, adequate for entry in DNS, usage in web servers, etc.
- Better performance
  - Native IPv6 has lower overhead, does not involve relays, etc.
- Multicast
  - Neither 6to4 nor Teredo support multicast, configured tunnels could, native should.

Next steps

- Update the “unmaneval-00” draft
  - Incorporate the “tunnel consideration” text
  - Revise the existing text to reflect the consensus
    - Move all tunnel comparisons to the tunnel consideration section
  - Recommend work on Configured and Opportunistic Tunnels over IP and UDP
    - Example of opportunistic over IP: 6to4,
    - Example of opportunistic over UDP: Teredo