

Peer-specific Redirection for TURN

`draft-williams-peer-redirect-03`

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Problem Statement

- Bad relay selection can lead to performance problems (e.g. triangle routing), but the issue can't be detected until both peers are known.
- A TURN service with a large set of relay servers could easily work around the problem, but ...
- STUN provides the `ALTERNATE-SERVER` attribute, but TURN only uses it with allocate request error responses.

Solution Summary

- Allow ALTERNATE-SERVER to be sent in responses to ChannelBind and CreatePermission requests.
- Define CHECK-ALTERNATE attribute for backward compatibility support and controlling usage semantics.
- Define XOR-OTHER-ADDRESS attribute to identify the peer's mapped address when permission is requested for its relay address.

Comments on Version 01

- Problem statement is too simplistic; may encourage bad use of the mechanism.
“You must be this high to ride this ride.”
- ICE changes may be required to take advantage of this mechanism.

Updates From 01 to 03

- Adds an additional use case: load balancing.
- Adds a cautionary note about complexity.
“... selecting a relay server to achieve optimal end-to-end routing ... [requires] a detailed real-time view of network connectivity characteristics and the peering relationships between autonomous systems. A naive approach based solely on the physical location of the hosts involved is just as likely to produce negative results as positive ones.”

ICE Activity in mmusic

- Improvements to ICE Candidate Nomination
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- Goals and Requirements
 - Allow Controlling Endpoint to Make Dynamic Decisions
 - Allow Selected Pair Change At Any Time Without Signaling
 - Allow Continuous Addition of Candidates

Next Steps

- The authors see this capability as critical for a broadly distributed 3rd party TURN service. Use can even make relay the best option.
- The working group has no milestone for this effort, but the charter seems to allow adoption of any draft intended to better support WebRTC.
- Call for WG adoption.