

PMTU Discovery Using STUN

draft-petithuguenin-behave-stun-pmtud-02

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Path MTU Discovery

- Needed for any protocol on top of UDP that needs to know the maximum packet size that can be sent.
- RTP (video, png), SIP, etc...
- TFTP over TURN!

PLPMTUD - RFC 4821

- Describes a robust method for Path MTU Discovery
- Describes implementation for TCP and SCTP.
- No implementation for UDP

STUN Usage for PMTUD

- Not a PMTUD mechanism, but a set of tools to implement RFC 4821
- Because STUN (RFC 5389) contains a multiplexing mechanism, it can be used with various protocols.

PMTUD STUN Tools

- Sending a Probe (IP packet with a size higher than the current PMTU).
- Report mechanism.
- Mapping of Probing Results:
 - Probe Success
 - Probe Failure
 - Timeout Failure
 - Probe Inconclusive
 - Full-Stop Timeout

Probing

- New Probe STUN method.
- Uses the PADDING attribute defined in draft-ietf-behave-nat-behavior-discovery

Reporting Method 1: Simple

- The Probe is sent in a STUN transaction.
- Limited to 3 retransmissions.
- Using timeout is not recommended by RFC 4821.

Reporting Method 2: Complete

- The Probe is sent as a STUN indication.
- A separate Report transaction is used to retrieve the identifiers of UDP packets received before the Report request.

Reporting Method 2: Checksum variant

- A checksum is calculated for each packet sent on each side.
- The Report response contains the time ordered list of checksum received.

Discovery Mechanisms

- Cannot sent STUN packets if the server does not support it.
- A discovery mechanism should be specified for each protocol.

Next

- WG Item?
- Questions?