Datagram Packetization Layer
Path MTU Discovery
draft-ietf-tsvwg-datagram-plpmtud-03

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Changes since draft-ietf-tsvwg-datagram-plpmtud-01

- Update based on review comments
- Requirements list updated.
- Added more explicit discussion of a simpler black-hole detection mode.
- Added more discussion of implementation within an application.
- Added text on flapping paths.
Changes since draft-ietf-tsvwg-datagram-plpmtud-01

- Updated figures
- Added more discussion on blackhole detection
- Added figure describing just blackhole detection
- Added figure relating MPS sizes
- Updated full state machine artwork for clarity
- Changed all text to refer to /packet probes/validation/ (rather than /verification/).
Terminology Changes

- Effective PMTU -> PLPMTU
- ICMP Verification -> ICMP Validation
Relationships between probe and packet sizes
Review comments

• Igor Lubashev
  • Questions about PTB handling and state machine

• Magnus Westerlund
  • Questions about PTB handling robustness

• Timo Völker
  • UDP based implementation
  • Issues with terminology, variables, state machine
Handling PTB

- PTB in PROBE_DONE
  - Reduce (move to BASE, enter SEARCH for PTB size)

- PTB in PROBE_BASE
  - Move to error state (v4 only)

- PTB in PROBE_SEARCH
  - Three outcomes, depending on the PTB MTU
    - < BASE - ignore (may need ERROR for v4)
    - < PLPMTU - set PLPMTU to base, start search with PTB MTU
    - < PROBED_SIZE - send probe at PTB MTU (PLPMTU was OK)
QUIC

- Partial (non-ICMP) Implementation at IETF 102 Hackathon

- DPLPMTUD is possible with QUIC

- Load balancers will need more state for forward PTB
  - Probes need to carry both SRC ConnectionID and DST ConnectionID
Next Steps

- Redesign spec around core components:
  1. Growth
  2. Reduction
     - Blackhole detection
     - PTB Handling
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Future Components

3. Error states

4. Resilience
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