

# 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.

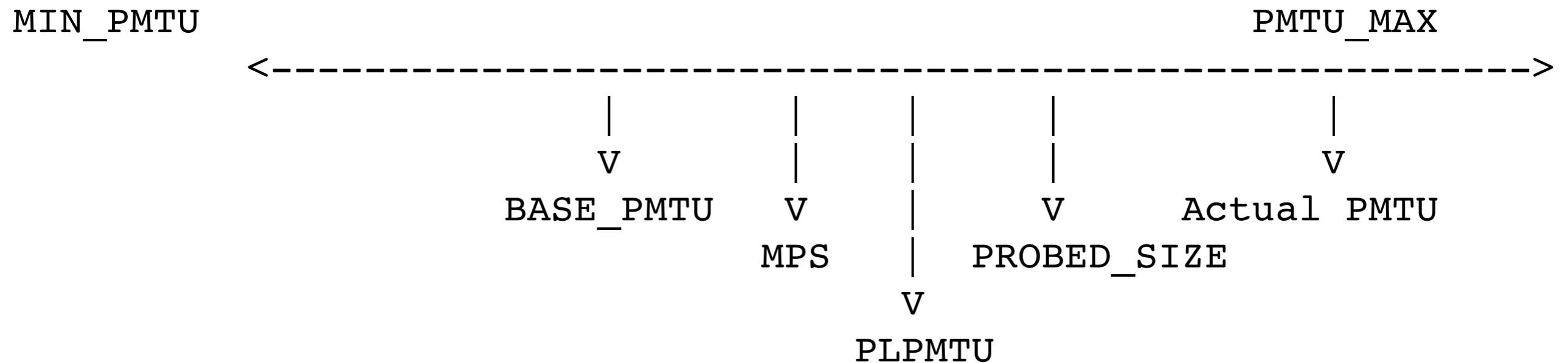
# Changes since draft-ietf-tsvwg-datagram-plpmtud-01

- 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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**September 2018**

# Future Components

3. Error states

4. Resilience

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**November 2018**