

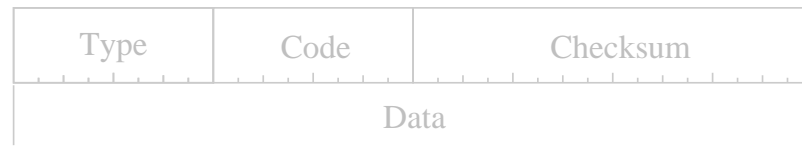
# ICMPv6

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- ◊ Entirely new protocol
  - ICMP: Protocol 1
  - ICMPv6: Protocol 58
- ◊ ICMP Error Message
  - Types 0..127
- ◊ ICMP Information messages (Requests/Replies)
  - Types 128..255
- ◊ Error messages return as much of original packet as fits
  - So ICMP packet will not be bigger than 1280 bytes

# ICMPv6

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- ◊ Just the same as ICMP (for IPv4)

# ICMPv6 Error messages

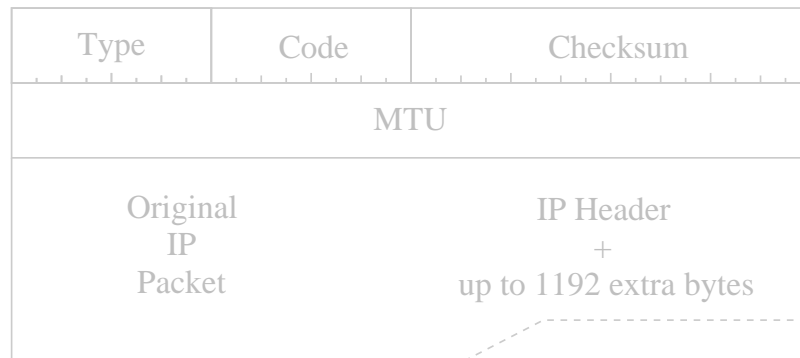
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- ◊ Destination Unreachable Type 1
- ◊ Packet Too Big Type 2
- ◊ Time Exceeded Type 3
- ◊ Parameter Problem Type 4
  
- ◊ Deleted
  - Source Quench
- ◊ Moved to Informational
  - Redirect

## ICMPv6 Unreachable

- ◊ Same format as for IPv4
  - Except more of failed packet expected to be included
- ◊ Only 5 codes
  - No Route
  - Communication Admin Prohibited
  - Going Out of Scope
  - Address Unreachable
  - Port Unreachable

## ICMPv6 Packet Too Big



- ◊ Replaces IPv4 Unreachable: Need Fragmentation
- ◊ MTU specifies the MTU that was too small for packet
  - Allows PMTU Discovery
- ◊ Separate code from Unreachable
  - allows unreachables to be blocked
  - still allow "too big" to be received

## ICMPv6 Errors Concluded

- ◊ Time Exceeded
  - Identical to IPv4 ICMP (with more data)
- ◊ Parameter Problem
  - Similar to IPv4 parameter problem
    - 32 bit pointer
    - code indicates general problem
      - 0 bad header field
      - 1 unrecognised next header
      - 2 unrecognised option