draft-barthel-icmpv6-schc-00

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Why care about ICMPv6?

• If it’s IP-enabled, users expect ICMP
  – Delivery error messages
  – Ping
  – TraceRoute

• What about IP-enabled LPWANs?
What is this draft about?

• IPv6-enabled LPWANs
• This draft to propose, describe and specify what should happen regarding ICMPv6
• In scope: RFC4443 (basic ICMPv6)
• Maybe later: RFC4884 (Extended format)
• Not in scope: RFC4861 (ND)

draft-lagos-lpwan-icmpv6-static-context-hc-00
RFC4443 recap

• Defines basic *ICMPv6 message format*

• Defines 4 *Error Messages*
  – Destination Unreachable
  – Packet Too Big
  – Time Exceeded (used by traceroute6)
  – Parameter Problem

• Defines 2 *Informational Messages*
  – Echo Request, Echo Reply (used by ping6)
Scenarios considered

- IPv6
- ICMPv6?
- traceroute?
- Echo Req?
- Echo Reply?

Dev → LPWAN → Internet → Dev

GW, NS, SCHC core

IPv6, ICMPv6?
A few nice technical issues

• RFC 4443 states
  – "ICMPv6 error message MUST include as much of the IPv6 offending (invoking) packet … as possible”
  – Means UDP/IPv6-in-ICMPv6/UDP/IP header compression?

• traceroute6 targets unused UDP port
  – When no rule found, SCHC sends uncompressed (fragmented) packet to Device. 😞
Conclusions

• Please voice your opinion here or on the ML

• Please read the draft and comment
  – Scenarios
  – Technical answers