Echo Request and Echo Reply for Overlay Networks

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Recap

- Terminology:
  - switched from ping to “Echo Request” and “Echo Reply”
- Overlay Echo Request Transmission:
  - MUST use the appropriate encapsulation of the monitored overlay network;
  - Overlay network's header MUST be immediately followed by the Overlay OAM Header;
  - Message Type field in the Overlay OAM Header MUST be set to Overlay Echo Request value

Security Considerations

- Overlay EchoRequest/Replay operates within the domain of the overlay network and thus inherits any security considerations that apply to the use of that overlay technology and, consequently, underlay data plane.
- Possible approaches of attacking an overlay node using Overlay Echo Request/Reply:
  - send Overlay Echo Requests to overload the node, i.e. DoS;
  - tampering with Echo Request/Reply to misrepresent state of the overlay network;
  - unauthorized use of Echo Request/Reply to obtain information about overlay/underlay network.
- To mitigate risks:
  - throttle control packets to the control plane;
  - use Sendler’s Handle, Sequence Number and, possible, Timestamp block;
  - source address validation

Traceroute in Overlay

- What is traceroute in an Overlay Network?
- Does any overlay have TTL?
  - NSH introduced TTL in the latest update
- Or is traceroute expected to trace the underlay?

Next steps

- Welcome comments from the WG
- Asking WG to consider adoption of the draft
- Thank you