



Revisiting In-band Signaling and Some Potential Applications



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Introduction

- **Objectives**

- › Draw attention to the study of In-band signaling in IETF
- › Looking for collaborations

- **Benefits of In-band Signaling**

- › Control message and data packet take the same path and have the same forwarding process
- › Not new
 - » DiffServ; OAM; Mac learning; TCP-quickstart, ...
 - » Features using IPv6 ext hdr
- › Faster and more scalable than out-of-band signaling (IGP, BGP, RSVP, LDP, etc)
 - » Signaling process can be distributed on NPU, off loaded from CPU.
 - » State self-maintained by data
 - » Easier control of data-plane related features
 - » Easier extraction of data-plane related information

Applications

- **QoS**

- Aggregated or flow based QoS; Transport agnostic; Unicast/mcast
- Experiments: TCP QoS by in-band signaling

Draft-han-iccr-g-arvr-transport-problem

Draft-han-6man-in-band-signaling-for-transport-qos

Draft-han-tsvwg-cc

- Other experiments underway

- **X discovery**

- Path property
Multiple path; ECMP; capacity; latency;
- Forwarding property
Diagnosis and report for network states;

- **Other services**

