

Extended Ping (EPING)

draft-bonica-intarea-eping-01

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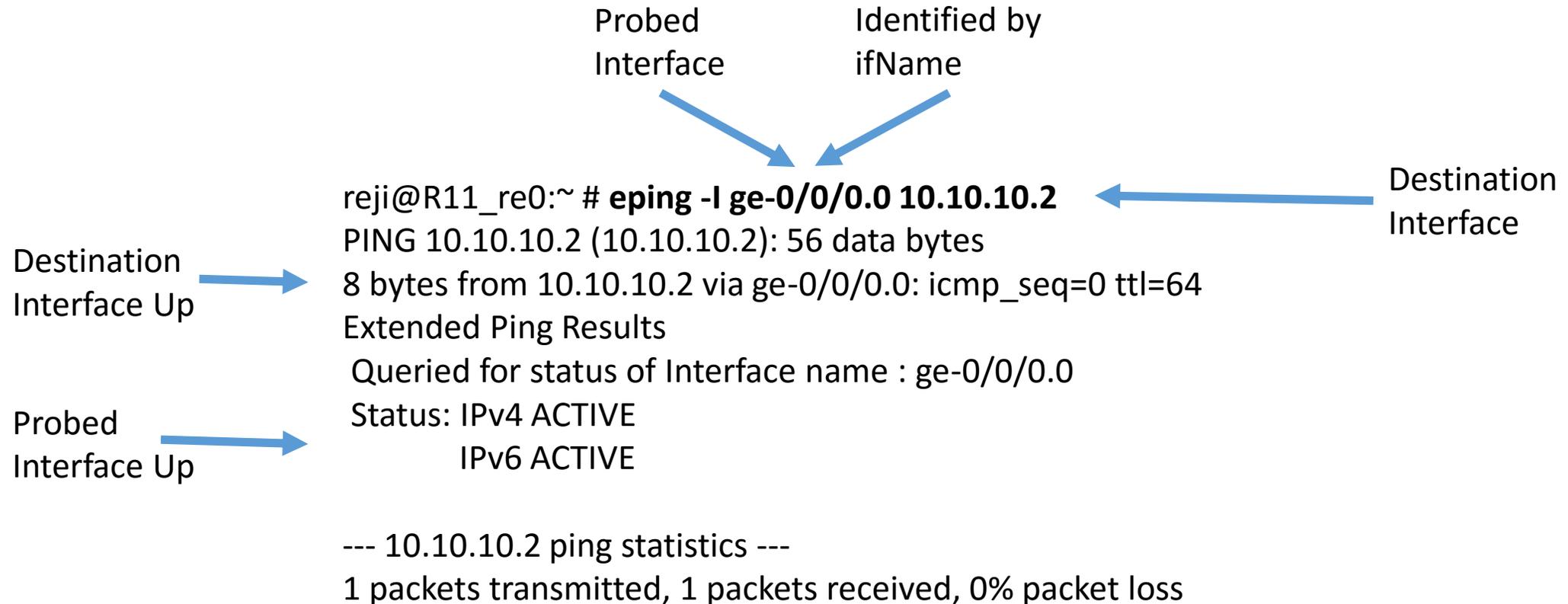
Motivation

- An operator deploys a router with
 - An unnumbered IPv4 interface
 - An IPv4 interface numbered from RFC 1918 address space
 - An IPv6 interface whose only interface is link-local
- Sadly, these interfaces cannot be pinged from all points on the Internet
- EPING to the rescue!

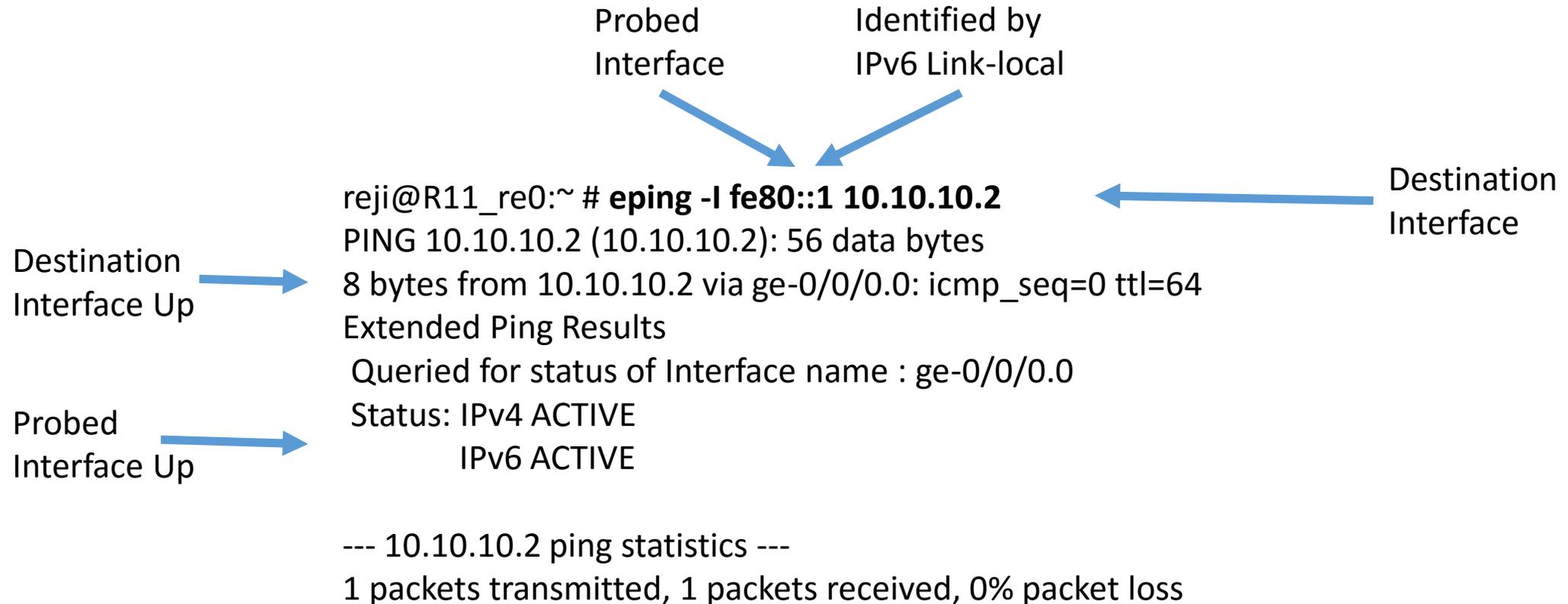
EPING 101

- EPING is an application
 - Very similar to traditional PING
 - Sends a probe message, waits for a reply
- EPING probe distinguishes between
 - The destination interface (i.e., the interface to which the probe is sent)
 - The probed interface (i.e., the interface whose status is being queried)
- The two interfaces are typically different from one another
 - But can be the same
- The destination interface must be identified by a reachable IP address
- The probed interface can be identified by
 - ifName, ifIndex, address (reachable or unreachable)

EPING: User View By ifName



EPING: User View by IPv6 Link-local Address



EPING: Internal View

- EPING relies on two new ICMP messages
 - ICMP Extended Echo
 - ICMP Extended Echo Reply
- ICMP Extended Echo Message
 - Very similar to existing ICMP Echo message
 - Destination address represents the destination interface
 - Message is delivered to destination interface
 - ICMP Extension identifies probed interface
- ICMP Extended Echo Reply message
 - Very similar to existing ICMP Echo Reply message
 - Optional ICMP Extension provides additional details regarding probed interface

Comments Received From Mailing List

- Modify ICMP extension so that probed interface can be identified by MAC address
- Various editorial comments
- New version will be posted after IETF

Next Steps

- Update Draft
- Call for adoption