

Benchmarking Neighbor Discovery
(draft-cerveney-ippm-nd-
benchmarking)

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History

- Suggested by Ron Bonica at IETF 85 BMWG meeting
- Draft v00 presented and discussed at IETF 86 (Orlando)
- Draft v02 discussed at IETF 88 (Vancouver)
- Draft v04 completed / submitted February 2014
- Draft v05 (minor tweaks to test cases) submitted June 2014

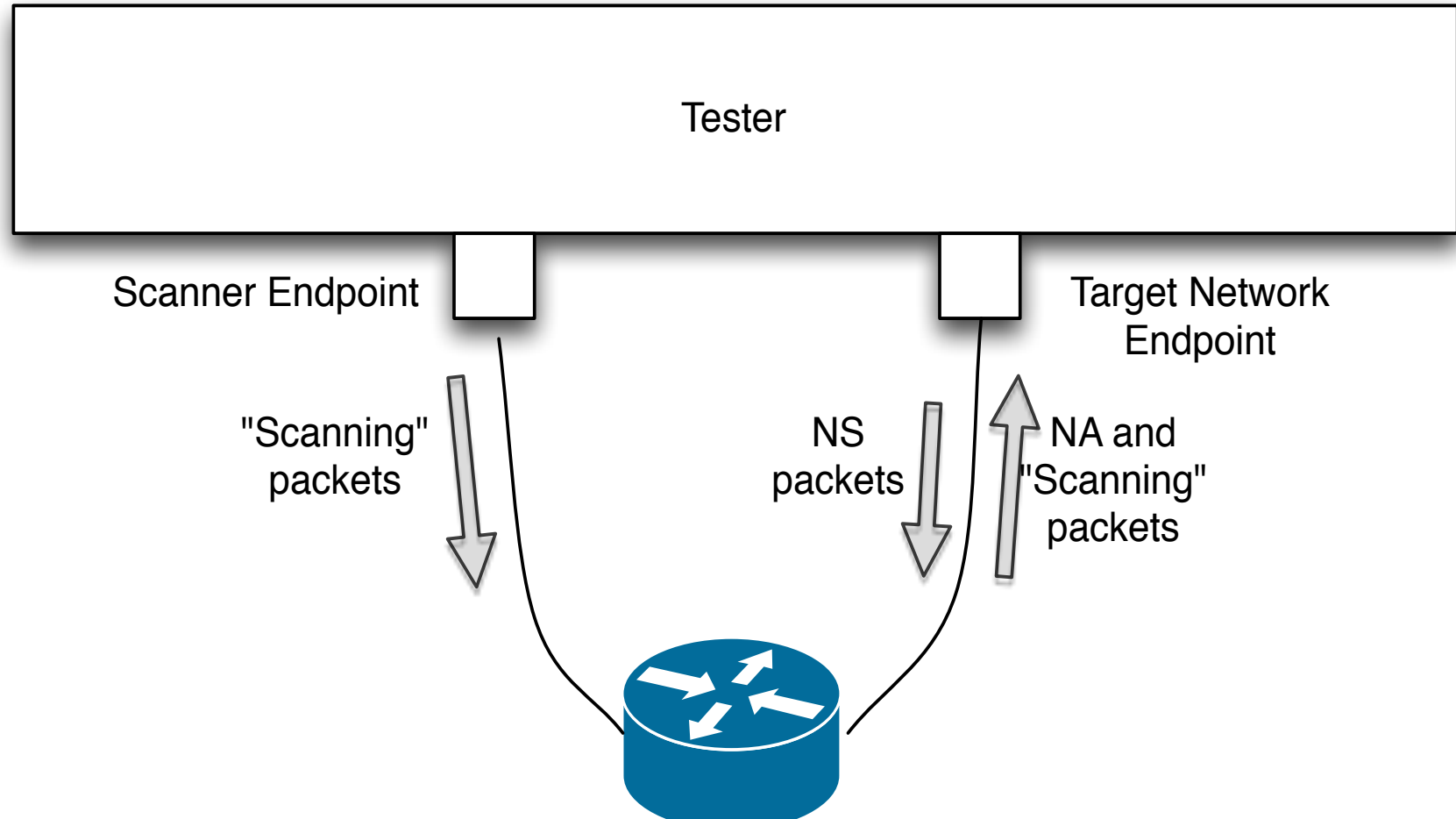
Neighbor Discovery (ND) Problem Background

- The problem is described and documented in RFC 6583, “Operational Neighbor Discovery Problems.”
- Scan a typical IPv4 subnet (2^{24} addresses), no “harm” done.
- Start scanning a typical IPv6 subnet (2^{64} addresses), create excessive neighbor cache state on intermediate node, impacting node’s forwarding

Benchmarking Neighbor Discovery

- Creates a methodology, including measurements, which characterize how a node behaves under stress due to heavy neighbor discovery activity.

Basic Test Network and Methodology



Tests Defined

- Stale Entry Time Determination
- Neighbor Cache Exhaustion Determination
- Determine Neighbor Discovery Behavior During Address Scans
- Pre-established Flow Treatment
- Stopped Flow Recovery Behavior

What's New in -05 / What's Next

- What's New
 - Really minor tweaks to test cases
- What's Next
 - Refinement via implementation
 - Seeking people interested in developing reference implementation