

scamper

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What is scamper?

- Packet prober designed for large-scale active measurement of the Internet
 - Probes at supplied packets-per-second rate
- Traceroute
 - tcp, udp, icmp, ipv4, ipv6, paris, pmtud, double-tree, load-balancer
- Alias Resolution
 - mercator, ally, radargun
- Ping
- Sting

Approach

- Original goal to replace use of /sbin/traceroute
- Flexible
 - Standalone measurement utility
 - Control socket: dynamically feed scamper work to do on demand
 - CLI: one-shot measurements
- Portable
 - *BSD, Linux, MacOS X, Solaris

Approach

- Good science
 - Uses best timestamps available
 - Datalink timestamps
 - Socket timestamps
 - Darryl Vietch's TSCclock
 - Binary file format records details of responses and meta-data of measurement

Example Use Cases

- CAIDA IPv6 AS core poster (Brad)
- Dual-stack path analysis (Kenjiro Cho)
- IMC papers:
 - 2005: Inferring and Debugging Path MTU Discovery Failures
 - 2008: Traceroute Probe Method and Forward IP Path Inference

Why implement your measurement techniques in scamper?

- Portability taken care of, e.g.
 - Datalink for putting crafted frames onto a link
 - Route socket for finding appropriate interface
- Event driven; don't have to use threads to get parallelism
- Lends itself to integration with Ark

How to get?

- <http://www.wand.net.nz/scamper/>
 - Source code GPLv2
- FreeBSD, NetBSD, Debian packages.