NAME

sc_prefixscan — scamper driver to test if a set of IPv4 links are point-to-point.

SYNOPSIS

sc_prefixscan [**-D**] [**-i** *infile*] [**-o** *outfile*] [**-p** *port*] [**-l** *logfile*]
[**-U** *unix-socket*] [**-w** *wait*] [**-x** *prefixlen*]

sc_prefixscan [**-r** *data-file*] [**-x** *prefixlen*]

DESCRIPTION

The **sc_prefixscan** utility provides the ability to connect to a running `scamper`(1) instance and use it to collect data to infer if an IPv4 link is likely a point-to-point link using the prefixscan method. An address B is the in-bound interface of a router in a traceroute path if we find an alias A' of the address A returned for the previous hop and A' is a /31 or /30 mate of B, i.e. the link between A and B is a point-to-point link. The prefixscan method infers A and A' are aliases if the IPIDs in responses to five alternating probes sent one second apart monotonically increase and differ by no more than 1,000, or probes to A and A' elicit responses with a common source address. The first technique is a pairwise comparison similar to Ally, and the second is the Mercator technique. The supported options to **sc_prefixscan** are as follows:

-D causes **sc_prefixscan** to detach and become a daemon.

-i *infile*
specifies a file containing a list of IPv4 address pairs adjacent in traceroute paths to test if they are point-to-point links.

-o *outfile*
specifies the name of the output file to be written during the data collection phase. The output file will use the `warts`(5) format.

-p *port*
specifies the port on the local host where `scamper`(1) is accepting control socket connections.

-l *logfile*
specifies the name of a file to log progress output from **sc_prefixscan** generated at run time.

-r *data-file*
specifies the name of the data file to be parsed for point-to-point link inferences that were collected by **sc_prefixscan** in a previous data collection.

-U *unix-socket*
specifies the name of a unix domain socket where a local `scamper`(1) instance is accepting control socket connections.

-w *wait*
specifies the length of time in seconds to wait between probing the same IPv4 address with different methods. By default, **sc_prefixscan** waits five seconds between methods.

-x *prefixlen*
specifies the maximum size of prefix to consider. By default, **sc_prefixscan** considers up to an IPv4 /30 prefix.

EXAMPLES

Given a traceroute with the following path:

```
traceroute to 192.0.30.64
1 192.0.2.1
2 192.0.32.10
```

```
3 192.0.31.8
4 192.0.30.64
```

then to collect data to infer if the implied IPv4 links are point-to-point, put the links in a file named infile.txt formatted as follows:

```
192.0.2.1 192.0.32.10
192.0.32.10 192.0.31.8
192.0.31.8 192.0.30.64
```

and use a `scamper`(1) daemon listening on port 31337 using:

```
sc_prefixscan -i infile.txt -o outfile.warts -p 31337
```

To obtain the inferred point-to-point links from outfile.warts:

```
sc_prefixscan -r outfile.warts
```

SEE ALSO

`scamper`(1), `sc_ally`(1), `sc_ipiddump`(1), `sc_wartsdump`(1), `sc_warts2text`(1), `sc_warts2json`(1),

M. Luckie and k. claffy, *A Second Look at Detecting Third-party Addresses in Traceroute Traces with the IP Timestamp Option*, Proc. Passive and Active Measurement Conference 2014.

R. Govindan and H. Tangmunarunkit, *Heuristics for Internet Map Discovery*, Proc. IEEE INFOCOM 2000.

N. Spring, R. Mahajan, and D. Wetherall, *Measuring ISP topologies with Rocketfuel*, Proc. ACM SIGCOMM 2002.

AUTHORS

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