

NAME

sc_ally — scamper driver to run Ally on a list of candidate aliases.

SYNOPSIS

```
sc_ally [-?D] [-a infile] [-o outfile] [-p port] [-U unix-socket] [-f fudge]
        [-i probe-wait] [-O options] [-q attempts] [-t logfile]
        [-w waittime]

sc_ally [-d dump-id] [-O options] [file ...]
```

DESCRIPTION

The **sc_ally** utility provides the ability to connect to a running `scamper(1)` instance and have a set of IPv4 address-pairs tested for aliases using the Ally technique. For each address pair in the file, **sc_ally** establishes which probe methods (UDP, TCP-ack, ICMP-echo) solicit an incrementing IP-ID value, and then uses the Ally technique on pairs where a probe method is able to obtain an incrementing IP-ID for both addresses. **sc_ally** can also infer which IP addresses are aliases using the Mercator common source address technique as a byproduct of the UDP probing that **sc_ally** does. The output of **sc_ally** is written to a `warts(5)` file, which can then be processed to extract aliases. The options are as follows:

- ? prints a list of command line options and a synopsis of each.
- D causes **sc_ally** to detach and become a daemon.
- a *infile* specifies the name of the input file which consists of a sequence of IPv4 address-pairs, one pair per line.
- o *outfile* specifies the name of the output file to be written. The output file will use the warts format.
- p *port* specifies the port on the local host where `scamper(1)` is accepting control socket connections.
- U *unix-socket* specifies the name of a unix domain socket where `scamper(1)` is accepting control socket connections.
- d *dump-id* specifies the number identifying an analysis to conduct. The current choices for are 1-3, and are:
 - 1: dump aliases inferred using the Ally (IPID-based) technique.
 - 2: dump aliases inferred using the Mercator (common source address based) technique.
 - 3: dump aliases inferred using both Ally and Mercator techniques.
- f *fudge* specifies the fudge factor to use when (1) inferring if IPIDs are assigned from a counter, and (2) inferring if two addresses share the same counter.
- i *probe-wait* specifies the inter-probe gap for both ping and Ally measurements, in milliseconds. The default is 1000ms (1 second); the minimum is 200ms, and the maximum is 2000ms.
- O *options* allows the behavior of **sc_ally** to be further tailored. The current choices for this option are:
 - **nobs**: do not consider byte swapped IPID values when inferring if IPID values are assigned from a counter.

- **tc**: dump transitive closure when reporting aliases.
- q** *attempts*
specifies the number of times to try Ally when one of the addresses is unresponsive.
- t** *logfile*
specifies the name of a file to log output from **sc_ally** generated at run time.
- w** *waittime*
specifies the minimum length of time, in seconds, to wait between completing a measurement to a particular IP address and issuing the next.

EXAMPLES

Given a set of IPv4-address pairs in a file named `infile.txt`:

```
192.0.2.1 192.0.32.10
192.0.2.2 192.0.31.8
192.0.2.3 192.0.30.64
```

and a `scamper(1)` daemon listening on port 31337, then these address-pairs can be tested for aliases using `sc_ally -a infile.txt -o outfile.warts -p 31337`

To obtain a list of inferred alias pairs using the Ally technique from a `warts(5)` file:

```
sc_ally -d 1 outfile.warts
```

To obtain a list of inferred routers using a transitive closure of alias pairs inferred using the Ally and Mercator techniques:

```
sc_ally -d 3 -O tc outfile.warts
```

SEE ALSO

`scamper(1)`, `sc_radargun(1)`, `sc_wartsdump(1)`, `sc_warts2text(1)`,

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

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

A. Bender, R. Sherwood, and N. Spring, *Fixing Ally's growing pains with velocity modeling*, Proc. ACM/SIGCOMM Internet Measurement Conference 2008.

AUTHORS

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