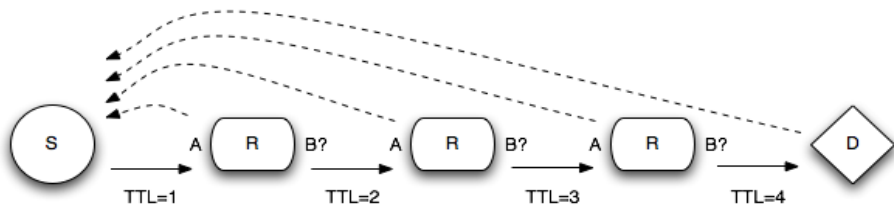
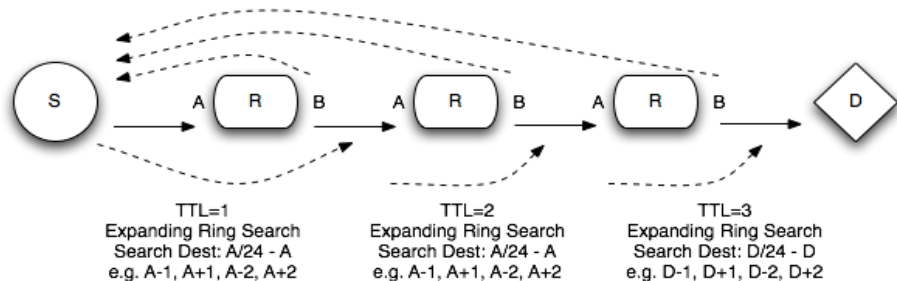


traceroute



traceface



traceface in action

```
$ sudo ./traceiface.pl www.nanog.org
1 > 140.192.249.1      0.48 ms
2 > 140.192.9.181    0.52 ms
2 < 140.192.9.177    3.36 ms
3 > 140.192.9.148    0.48 ms
3 < 140.192.9.145    0.77 ms
4 > 140.192.9.154    1.78 ms
4 < 140.192.9.153    0.63 ms
5 > 192.122.182.17   6.81 ms
5 < 192.122.182.18   5.33 ms
6 > 198.108.1.50     7.52 ms
6 < 198.108.1.2      6.97 ms
```

Notes

- May be useful for discovering more complete topology
- May help pinpoint forwarding response time delays
- ICMP most likely to solicit responses from routers
- Egress hop address tends to be ± 1 from upstream neighbor
- Prototype code, not perfect, but you'll get the idea:
 - ▶ <http://condor.depaul.edu/~jkristof/traceiface/>