

TULIP and UNDNS

UNDNS

Undns is a package that uses the naming conventions of routers to estimate their location. It is part of [Rocketfuel](#) which is a project of a team from University of Washington.

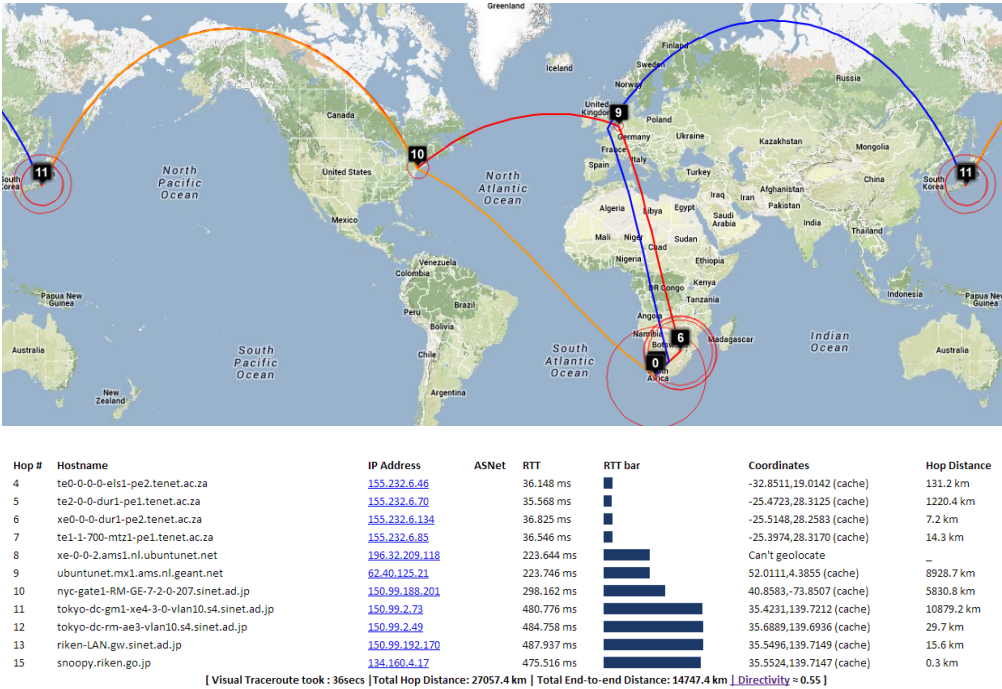
The project is quite old (last updated in 2006) and hence some of the heuristics are outdated. Also not all of the routers are supported including those part of ESnet. Furthermore, since the script uses hostnames to find the location, it obviously doesn't work for routers with only IP addresses.

In our experience, it only works for a handful of routers.

Examples

-TULIP trace is red, Maxmind trace is blue and Undns trace is orange.

Traceroute from `brunsvigia.tenet.ac.za` (Cape Town, South Africa) to `ping.riken.jp` (Tokyo, Japan). Here Undns misses Europe and Maxmind misses North America. TULIP shows the actual path.



Traceroute from `pinger.cern.ch` (Switzerland) to `mel-a-ext1.aarnet.net.au` (Melbourne, Australia). Here Undns is only able to identify the last two hops in Sydney and Melbourne respectively. It is unable to identify the routers in North America.



Hop #	Hostname	IP Address	ASNet	RTT	RTT bar	Coordinates	Hop Distance
3	xe-0-3-0.110.rtr.newy32aoa.net.internet2.edu	138.71.46.37		123.880 ms	■	40.5624,-74.3641 (cache)	6250.2 km
4	et-3-0-0.101.rtr.wash.net.internet2.edu	138.71.45.1		121.985 ms	■	39.0943,-77.2697 (cache)	297.3 km
5	et-5-0-0.104.rtr.atla.net.internet2.edu	138.71.45.6		128.799 ms	■	32.8023,-82.4514 (cache)	841.5 km
6	et-1-0-0.105.rtr.hous.net.internet2.edu	138.71.45.13		144.278 ms	■	30.3162,-95.3743 (cache)	1255.9 km
7	et-5-0-0.111.rtr.losa.net.internet2.edu	138.71.45.21		176.822 ms	■	34.0124,-118.2695 (cache)	2191.8 km
8	aarnet-2-is-jmb-776.stlwa.pacificwave.net	207.231.241.4		183.364 ms	■	47.6585,-122.2893 (cache)	1555.9 km
9	et-1-0-0.bb2.a.syd.aarnet.net.au	202.158.194.109		326.424 ms	■	-33.8827,151.2026 (cache)	12492.3 km
10	ge-7-0-0.bb1.b.mel.aarnet.net.au	202.158.194.64		322.417 ms	■	-37.8367,144.9866 (cache)	712.7 km
11	mel-a-ext1.aarnet.net.au	202.158.195.132		322.487 ms	■	-37.8372,144.9853 (cache)	0.1 km

[Visual Traceroute took : 34secs | Total Hop Distance: 25597.7 km | Total End-to-end Distance: 16560.1 km | [Directivity](#) = 0.65]

Traceroute from [www-wanmon.slac.stanford.edu](#) (Menlo Park,USA) to [nust.edu.pk](#) (Islamabad, Pakistan). Undns fails to locate even a single router.



Hop #	Hostname	IP Address	ASNet	RTT	RTT bar	Coordinates	Hop Distance
1	134.79.197.131	134.79.197.131	AS3671	0.435 ms		37.4178,-122.2020 (cache)	0.1 km
2	rtr-core1-p2p-serv01-02.slac.stanford.edu	134.79.253.253	AS3671	0.308 ms		37.4178,-122.2020 (cache)	0.0 km
3	rtr-border2-p2p-core1.slac.stanford.edu	134.79.252.141	AS3671	0.368 ms		37.4178,-122.2020 (cache)	0.0 km
4	slac-mr2-p2p-rtr-border2.slac.stanford.edu	192.68.191.249	AS3671	0.255 ms		37.4178,-122.2020 (cache)	0.0 km
6	sacrcr5-ip-a-sunncr5.es.net	134.55.40.3	AS293	4.168 ms	■	38.8948,-121.5655 (cache)	173.6 km
7	denvcr5-ip-a-sacrcr5.es.net	134.55.50.202	AS293	25.037 ms	■	39.7444,-104.9792 (cache)	1429.6 km
8	kanscr5-ip-a-denvcr5.es.net	134.55.49.58	AS293	35.501 ms	■	40.9859,-97.1059 (cache)	681.8 km
9	chicrc5-ip-a-kanscr5.es.net	134.55.43.81	AS293	46.538 ms	■	42.0598,-88.5048 (cache)	726.5 km
10	starcr5-ip-a-chicrc5.es.net	134.55.42.42	AS293	46.739 ms	■	42.1455,-88.4460 (cache)	10.7 km
11	198.125.140.182	198.125.140.182	AS291	49.348 ms	■	41.7171,-87.6243 (cache)	83.1 km
12	tengige0-2-0-1.daltr1.Dallas.opentransit.net	193.251.242.129	AS5511	75.424 ms	■	Can't geolocate	-
13	tengige0-4-0-6.ashtr2.Ashburn.opentransit.net	193.251.243.250	AS5511	91.352 ms	■	Can't geolocate	-
14	pos0-6-0-0.pastr1.Paris.opentransit.net	193.251.240.69	AS5511	170.513 ms	■	Can't geolocate	-
15	gigabitethernet1-0-0.marcr2.Marseille.opentransit.net	193.251.151.20	AS5511	177.066 ms	■	48.4410,2.3139	6691.0 km
17	static-10GE-KH1275-P01-SwB.pie.net.pk	202.125.128.156	AS17557	312.956 ms	■	24.9389,67.1232 (cache)	6138.9 km
18	rwp44.pie.net.pk	221.120.251.30	AS17557	310.474 ms	■	24.8878,67.0668 (cache)	8.0 km
19	rwp44.pie.net.pk	221.120.236.190	AS17557	332.600 ms	■	33.6827,73.0545 (cache)	1138.1 km

[Visual Traceroute took : 348secs | Total Hop Distance: 17081.4 km | Total End-to-end Distance: 11967.3 km | [Directivity](#) = 0.70]