

PingER Iran Internet interrupted November 2019

Event

See the [report from Netblocks](#) November 15th, 2019 where it says *Network data from the NetBlocks internet observatory confirm disruptions with multiple fixed-line and mobile providers in Iran, amid protests against rising fuel prices. The outages have partial (update: now near-total, see below) impact at the time of writing affecting multiple cities including Tehran.*

Daily Impact on some metrics

Unreachability

Looking at the PingER daily Unreachability (i.e. all up to 30 pings sent each 30 minutes do not respond, [see here for more details](#)) metric for the Iran target host we see below:

Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21
EDU.SLAC.STANFORD.PINGER	IR.AC.MOFIDU.WWW	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.083	0.000	0.000	0.000	0.000	0.000	60.417	100.000	100.000	100.000	66.667
EDU.SLAC.STANFORD.PINGER	IR.AC.EIU.WWW	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.917	100.000	100.000	100.000	100.000	
EDU.SLAC.STANFORD.PINGER	IR.IASBS.AC.N1	2x	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	
EDU.SLAC.STANFORD.PINGER	IR.IRANBBF.WWW	2x	0.000	0.000	0.000	2.083	0.000	0.000	6.250	0.000	0.000	0.000	2.083	0.000	0.000	0.000	0.000	12.500	16.667	22.917	22.917	16.667	25.000
EDU.SLAC.STANFORD.PINGER	IR.IRISSEF	2x	0.000	0.000	0.000	0.000	0.000	0.000	2.083	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.500	16.667	8.333	25.000	25.000	25.000
EDU.SLAC.STANFORD.PINGER	IR.IUT.AC.N1	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.167	0.000	0.000	0.000	0.000	0.000	0.000	2.083	50.000	100.000	41.667
EDU.SLAC.STANFORD.PINGER	IR.SABANET.WWW	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.167	100.000	100.000	100.000	100.000	43.750
EDU.SLAC.STANFORD.PINGER	IR.SHARIF	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	68.750	100.000	91.667	100.000	41.667
EDU.SLAC.STANFORD.PINGER	IR.UT.AC.N1	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.333	100.000	66.667	0.000	0.000
Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21

Notes:

- The measurements are all from the monitor at SLAC identified as EDU.SLAC.STANFORD.PINGER.
- The targets (or Remote-sites) are all in Iran (they all identified by their nickname which begins with the TLD for Iran (IR.)
- IR.IASBS.AC.N1 has not been reachable since we started monitoring it in July 2019, so it can be ignored.

Packet loss

Or see the daily losses below:

Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21
EDU.SLAC.STANFORD.PINGER	IR.AC.MOFIDU.WWW	2x	0.000	0.000	0.000	1.207	0.000	0.379	0.000	0.000	0.379	0.189	0.726	0.189	0.000	4.097	0.000	8.692	34.051	.	.	.	3.490
EDU.SLAC.STANFORD.PINGER	IR.AC.EIU.WWW	2x	0.947	1.515	0.757	0.758	0.568	0.915	1.484	0.379	1.136	1.136	1.775	0.758	1.673	1.294	2.178	1.914	.	.	.	.	.
EDU.SLAC.STANFORD.PINGER	IR.IRANBBF.WWW	2x	0.189	0.379	0.568	0.379	0.000	0.189	0.000	0.379	0.947	0.189	0.379	0.379	0.000	0.000	0.000	16.373	39.868	0.620	3.433	0.000	0.000
EDU.SLAC.STANFORD.PINGER	IR.IRISSEF	2x	0.000	0.189	0.189	0.379	0.189	0.189	1.907	0.000	0.379	0.481	0.000	0.379	0.379	0.189	0.000	17.971	32.121	0.379	1.120	0.362	0.000
EDU.SLAC.STANFORD.PINGER	IR.IUT.AC.N1	2x	8.587	7.588	2.722	5.264	5.152	5.342	3.314	7.194	8.378	6.968	2.052	4.006	5.408	5.850	3.661	21.164	81.378	74.071	79.721	.	7.263
EDU.SLAC.STANFORD.PINGER	IR.SABANET.WWW	2x	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.326	0.568	0.000	1.365	1.294	0.189	0.802	.	.	.	0.595	
EDU.SLAC.STANFORD.PINGER	IR.SHARIF	2x	0.000	0.000	0.000	0.000	1.806	0.189	0.000	0.758	0.189	0.000	0.726	0.000	0.379	0.000	0.189	0.189	0.588	.	91.667	.	0.000
EDU.SLAC.STANFORD.PINGER	IR.UT.AC.N1	2x	0.000	0.379	0.000	0.000	1.042	0.000	1.378	0.189	0.379	1.724	0.189	0.189	0.189	0.000	0.000	0.189	0.000	.	0.000	0.189	0.189
Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21

Notes:

IR.IUT.AC.N1 (aka [www.iut.ac.ir](#)) has had similar losses (> 2%) going back over 3 months and could be ignored.

Estimated throughput

Or the estimated throughput

Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21
EDU.SLAC.STANFORD.PINGER	IR.AC.MOFIDU.WWW	2x	1573.914	1463.473	1430.777	608.294	1857.491	712.242	1711.925	1698.511	886.902	1172.321	980.245	1137.966	1572.852	237.112	1585.439	188.799	84.720	.	.	.	288.012
EDU.SLAC.STANFORD.PINGER	IR.AC.EIU.WWW	2x	487.933	364.201	312.121	815.950	588.825	663.822	362.195	719.647	413.230	616.112	330.493	521.732	346.736	397.132	380.618	270.636	.	.	.	.	.
EDU.SLAC.STANFORD.PINGER	IR.IASBS.AC.N1	2x	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
EDU.SLAC.STANFORD.PINGER	IR.IRANBBF.WWW	2x	1042.400	812.328	717.015	890.230	1528.867	1093.207	1430.039	196.061	527.113	1230.759	761.820	717.622	1380.152	.	1876.982	1688.215	130.488	84.018	493.094	294.273	1730.895
EDU.SLAC.STANFORD.PINGER	IR.IRISSEF	2x	1435.826	1168.494	1259.809	890.891	1311.620	1092.193	365.388	1433.593	848.501	771.951	1483.953	721.171	710.200	1077.464	1694.325	109.019	94.304	887.971	316.192	988.499	1724.952
EDU.SLAC.STANFORD.PINGER	IR.IUT.AC.N1	2x	165.639	170.062	208.844	204.832	208.593	204.978	260.202	176.988	163.160	181.248	333.264	239.313	211.562	209.841	263.783	105.991	52.998	55.735	54.377	.	180.511
EDU.SLAC.STANFORD.PINGER	IR.SABANET.WWW	2x	1443.546	1445.123	1459.388	1446.995	1466.948	1423.419	1422.473	1425.266	1416.438	412.967	607.288	1375.767	358.114	368.317	1020.018	470.532	.	.	.	.	685.902
EDU.SLAC.STANFORD.PINGER	IR.SHARIF	2x	1627.288	1627.389	1628.553	1613.062	977.565	1173.913	1621.708	951.167	1181.204	1628.493	680.337	1607.779	828.883	1590.802	1134.040	1167.946	671.539	.	50.694	.	1616.388
EDU.SLAC.STANFORD.PINGER	IR.UT.AC.N1	2x	1380.130	794.751	1644.840	1643.304	658.193	1440.897	346.082	1002.817	813.843	378.563	1169.013	1163.802	1159.871	1988.856	1554.782	1164.227	1644.679	.	1669.365	1227.103	1203.111
Monitoring-Site	Remote-Site	7	19Nov01	19Nov02	19Nov03	19Nov04	19Nov05	19Nov06	19Nov07	19Nov08	19Nov09	19Nov10	19Nov11	19Nov12	19Nov13	19Nov14	19Nov15	19Nov16	19Nov17	19Nov18	19Nov19	19Nov20	19Nov21

Aggregated losses

Summary for Sites in Iran seen from EDU.SLAC.STANFORD.PINGER

Tick	min	25th%	avg	median	75th%	90th%	95th%	max	iqr	std dev	# pairs
19Nov01	0.000	0.000	1.188	0.000	0.189	8.367	8.367	8.367	0.189	2.919	8
19Nov02	0.000	0.000	1.256	0.284	0.379	7.588	7.588	7.588	0.379	2.607	8
19Nov03	0.000	0.000	0.529	0.095	0.568	2.722	2.722	2.722	0.568	0.933	8
19Nov04	0.000	0.000	0.998	0.379	0.758	5.264	5.264	5.264	0.758	1.775	8
19Nov05	0.000	0.000	1.095	0.378	1.042	5.152	5.152	5.152	1.042	1.759	8
19Nov06	0.000	0.000	0.900	0.189	0.379	5.342	5.342	5.342	0.379	1.818	8
19Nov07	0.000	0.000	1.035	0.742	1.578	3.314	3.314	3.314	1.578	1.238	8
19Nov08	0.000	0.000	1.112	0.284	0.379	7.194	7.194	7.194	0.379	2.471	8

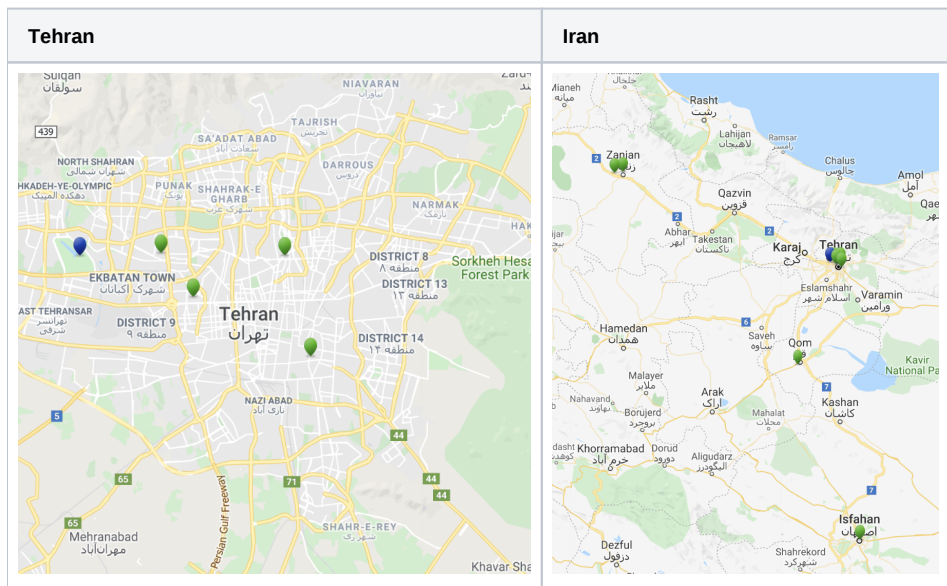
19Nov09	0.000	0.189	1.473	0.379	0.947	8.378	8.378	8.378	0.758	2.815	8
19Nov10	0.000	0.189	1.501	0.808	1.326	6.966	6.966	6.966	1.137	2.293	8
19Nov11	0.000	0.189	0.802	0.647	0.726	2.052	2.052	2.052	0.537	0.734	8
19Nov12	0.000	0.000	0.738	0.284	0.379	4.006	4.006	4.006	0.379	1.343	8
19Nov13	0.000	0.000	1.174	0.379	1.365	5.408	5.408	5.408	1.365	1.821	8
19Nov14	0.000	0.000	1.591	0.742	1.294	5.850	5.850	5.850	1.294	2.209	8
19Nov15	0.000	0.000	0.777	0.095	0.189	3.661	3.661	3.661	0.189	1.383	8
19Nov16	0.189	0.189	8.412	5.303	16.373	21.164	21.164	21.164	16.184	8.887	8
19Nov17	0.000	0.568	31.331	33.086	39.868	81.378	81.378	81.378	39.300	30.045	6
19Nov18	0.379	.	25.023	0.620	74.071	74.071	74.071	74.071	.	42.477	3
19Nov19	0.000	1.120	35.188	3.433	79.721	91.667	91.667	91.667	78.601	46.315	5
19Nov20	0.000	.	0.184	0.189	0.362	0.362	0.362	0.362	.	0.181	3
19Nov21	0.000	0.000	1.648	0.189	3.490	7.263	7.263	7.263	3.490	2.778	7

Median value of medians is 0.379

Hosts monitored in Iran

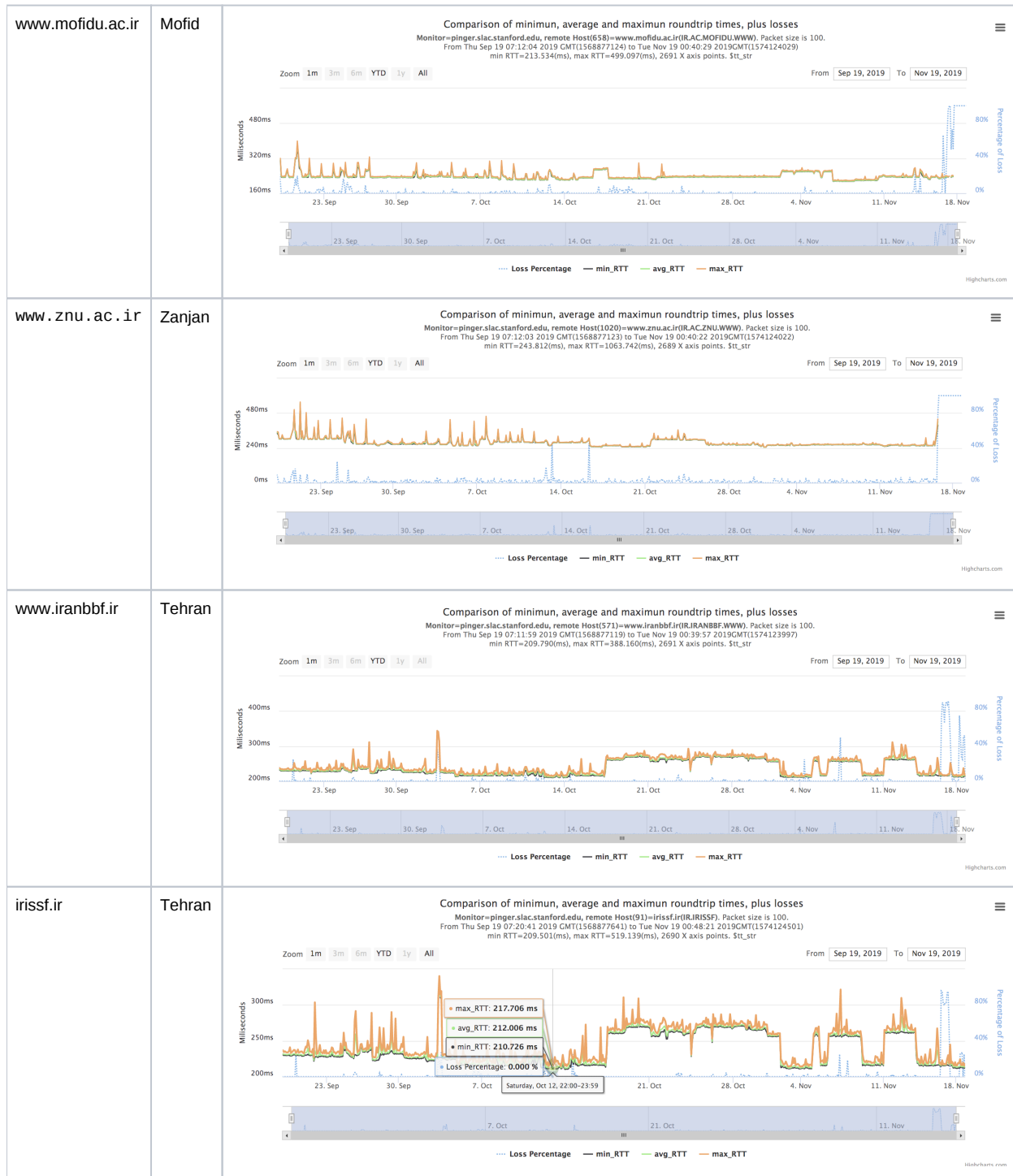
Nick name	IP Name	Site	Location
IR.AC.MOFIDU.WWW	www.mofidu.ac.ir	Mofid University	Mofid
IR.AC.ZNU.WWW	www.znu.ac.ir	University of Zanjan	Zanjan
IR.IRANBBF.WwW	www.iranbbf.ir	Federation Islamic Republic Iran Body Building and Fitness	Tehran
IR.IRISSF	irissf.ir	Azadi Sports Complex, Azad Road Karaj	Tehran
IR.IUT.AC.N1	www.iut.ac.ir	Isfahan University of Technology	Isfahan
IR.SABANET.WWW	www.sabanet.ir	Saha Data Transmission Company	Tehran
IR.SHARIF	www.sharif.ir	Sharif University	Tehran
IR.UT.AC.N1	www.ut.ac.ir	University of Tehran	Tehran

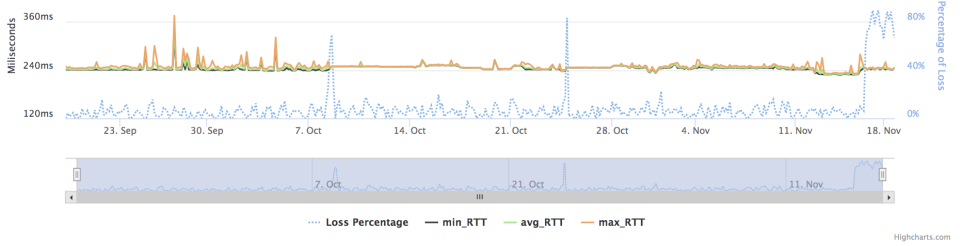
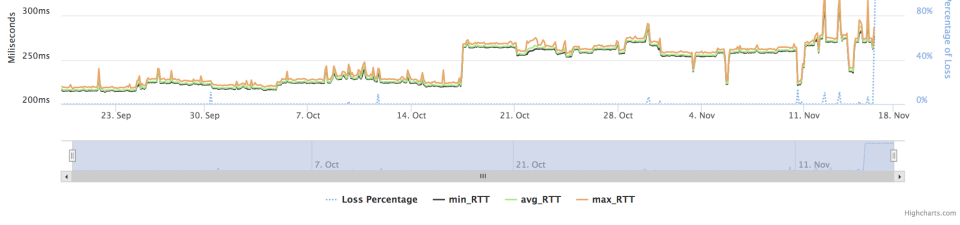
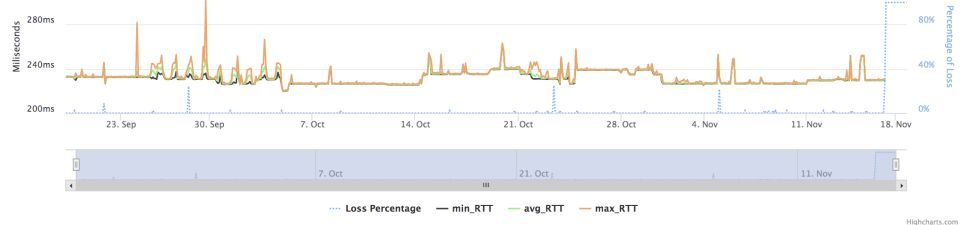
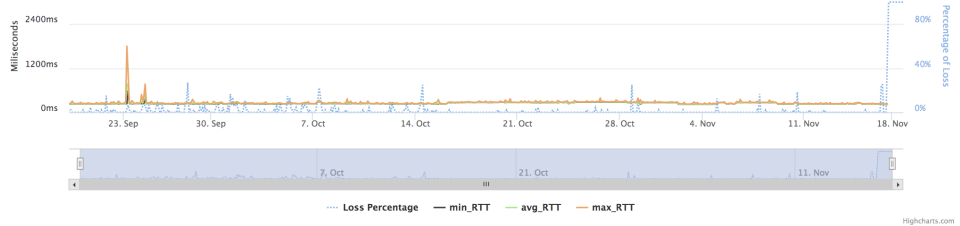
Maps of the targets can be seen below (figures from <https://www.slac.stanford.edu/comp/net/wan-mon/viper/pinger-coverage-gmap.html>).



hourly Impact on ping measurements

Looking in more detail



www.iut.ac.ir	Isfahan	Comparison of minimum, average and maximum roundtrip times, plus losses Monitor=pinger.slac.stanford.edu, remote Host(584)=www.iut.ac.ir(IR.IUT.AC.N1). Packet size is 100. From Thu Sep 19 07:12:03 2019 GMT(1568877123) to Tue Nov 19 00:12:12 2019 GMT(1574122332) min RTT=225.790(ms), max RTT=375.094(ms), 2686 X axis points. \$t_t_str Zoom 1m 3m 6m YTD 1y All From Sep 19, 2019 To Nov 19, 2019  Highcharts.com
www.sabernet.ir	Tehran	Comparison of minimum, average and maximum roundtrip times, plus losses Monitor=pinger.slac.stanford.edu, remote Host(775)=www.sabernet.ir(IR.SABANET.WWW). Packet size is 100. From Thu Sep 19 07:12:06 2019 GMT(1568877126) to Tue Nov 19 00:40:33 2019 GMT(1574124033) min RTT=212.982(ms), max RTT=379.964(ms), 2691 X axis points. \$t_t_str Zoom 1m 3m 6m YTD 1y All From Sep 19, 2019 To Nov 19, 2019  Highcharts.com
www.sharif.ir	Tehran	Comparison of minimum, average and maximum roundtrip times, plus losses Monitor=pinger.slac.stanford.edu, remote Host(797)=www.sharif.ir(IR.SHARIF). Packet size is 100. From Thu Sep 19 07:12:00 2019 GMT(1568877120) to Tue Nov 19 00:40:19 2019 GMT(1574124019) min RTT=211.907(ms), max RTT=461.134(ms), 2690 X axis points. \$t_t_str Zoom 1m 3m 6m YTD 1y All From Sep 19, 2019 To Nov 19, 2019  Highcharts.com
www.ut.ac.ir	Tehran	Comparison of minimum, average and maximum roundtrip times, plus losses Monitor=pinger.slac.stanford.edu, remote Host(975)=www.ut.ac.ir(IR.UT.AC.N1). Packet size is 100. From Thu Sep 19 07:12:06 2019 GMT(1568877126) to Tue Nov 19 00:40:33 2019 GMT(1574124033) min RTT=215.113(ms), max RTT=4793.573(ms), 2691 X axis points. \$t_t_str Zoom 1m 3m 6m YTD 1y All From Sep 19, 2019 To Nov 19, 2019  Highcharts.com