

Firefox vs Chrome

FF and Chrome exhibit different performance when executing various network speed tests.

- FF and Chrome exhibit different performance when executing various network speed tests.
- Sometimes the upstream is better on FF or Chrome.
- In other tests, the downstream is better on one or the other.
- When executing the popular SpeedTest.Net web-based speed test, Chrome is better in BOTH directions.
- Whenever possible, I restricted operation to only a single TCP stream.
- I used Wireshark to verify quantity of TCP connections in use.
- Testing was alternated back and forth between FF and Chrome. So, as close as was possible, corresponding tests were running in similar network conditions.
- Five runs of each Speed Test were executed on each browser.

I executed the following Speed Tests

- Internet Health Test
- SpeedTest.Net
- DSL Reports
- UCLA SpeedTest

Firefox Browser version: 66.0a1 64-bit (version prior to 2019-01-06)

Chrome Browser version: 73.0.3642.0 (Official Build) dev (64-bit)

Internet Health Test (single tcp stream)

On this test, Chrome achieves better UPSTREAM performance
(50% to 100% improvement in upstream, based on cursory inspection)
Downstream performance appears to be equivalent using this test.


Sorry I could not get the sequence of tests to match-up
between the executions in the two browsers!

File Edit View History Bookmarks Tools Help

Internet Health Test

internethealthtest.org

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 428.24 Mbps

Share

Tweet Share Mail

Link http://www.internethealt

Advanced

Zayo	810.72 Mbps	314.17 Mbps
GTT	85.85 Mbps	108.35 Mbps
Cogent	425.85 Mbps	321.59 Mbps
Tata	390.54 Mbps	298.03 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

Internet Health Test

Not secure | internethealthtest.org

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 414.06 Mbps

Share

Tweet Share Mail

Link http://www.internethealthtes

Advanced

Zayo	781.90 Mbps	515.95 Mbps
Tata	402.20 Mbps	461.33 Mbps
GTT	105.07 Mbps	273.11 Mbps
Cogent	367.06 Mbps	434.53 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

File Edit View History Bookmarks Tools Help

Internet Health Test

internethealthtest.org

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 472.62 Mbps

Share

Tweet Share Mail

Link http://www.internethealt

Advanced

Zayo	915.80 Mbps	372.33 Mbps
GTT	114.50 Mbps	130.96 Mbps
Cogent	440.29 Mbps	302.37 Mbps
Tata	419.89 Mbps	332.10 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

Internet Health Test

Not secure | internethealthtest.org

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 443.26 Mbps

Share

Tweet Share Mail

Link http://www.internethealthtes

Advanced

Zayo	802.85 Mbps	521.74 Mbps
Tata	396.84 Mbps	523.33 Mbps
GTT	156.90 Mbps	131.91 Mbps
Cogent	416.47 Mbps	466.26 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

File Edit View History Bookmarks Tools Help

Internet Health Test

internethealthtest.org

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 434.90 Mbps

Share

Tweet Share Mail

Link http://www.internethealt

Advanced

Zayo	811.28 Mbps	334.56 Mbps
GTT	107.53 Mbps	268.62 Mbps
Cogent	437.89 Mbps	377.86 Mbps
Tata	382.88 Mbps	252.78 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

Internet Health Test

Not secure | internethealthtest.org

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 432.35 Mbps

Share

Tweet Share Mail

Link http://www.internethealthtes

Advanced

Zayo	825.29 Mbps	525.96 Mbps
Tata	281.34 Mbps	444.63 Mbps
GTT	218.90 Mbps	127.23 Mbps
Cogent	403.85 Mbps	448.27 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

File Edit View History Bookmarks Tools Help

Internet Health Test

internethealthtest.org

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 478.79 Mbps

Share

Tweet Share Mail

Link http://www.internethealt

Advanced

Zayo	868.35 Mbps	365.35 Mbps
GTT	171.85 Mbps	129.51 Mbps
Cogent	438.39 Mbps	306.20 Mbps
Tata	436.58 Mbps	328.79 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

Internet Health Test

Not secure | internethealthtest.org

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 432.47 Mbps

Share

Tweet Share Mail

Link http://www.internethealthtes

Advanced

Zayo	801.24 Mbps	378.21 Mbps
Tata	406.73 Mbps	495.38 Mbps
GTT	129.22 Mbps	125.52 Mbps
Cogent	392.68 Mbps	514.98 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

File Edit View History Bookmarks Tools Help

Internet Health Test

internethealthtest.org

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 452.74 Mbps

Share

Tweet Share Mail

Link http://www.internethealt

Advanced

Zayo	830.47 Mbps	366.84 Mbps
GTT	199.62 Mbps	102.08 Mbps
Cogent	413.70 Mbps	363.20 Mbps
Tata	367.17 Mbps	344.35 Mbps

This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)


Questions or Concerns: help@internethealthtest.org

Internet Health Test

Not secure | internethealthtest.org

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

What Is This? Internet Health Test



100% COMPLETE

Location:
Closest Server: Los Angeles CA

Test Again

Your Results

Average Speed 433.15 Mbps

Share

Tweet Share Mail

Link http://www.internethealthtes

Advanced

Zayo	789.33 Mbps	354.54 Mbps
Tata	420.01 Mbps	424.95 Mbps
GTT	119.95 Mbps	109.11 Mbps
Cogent	403.30 Mbps	483.89 Mbps

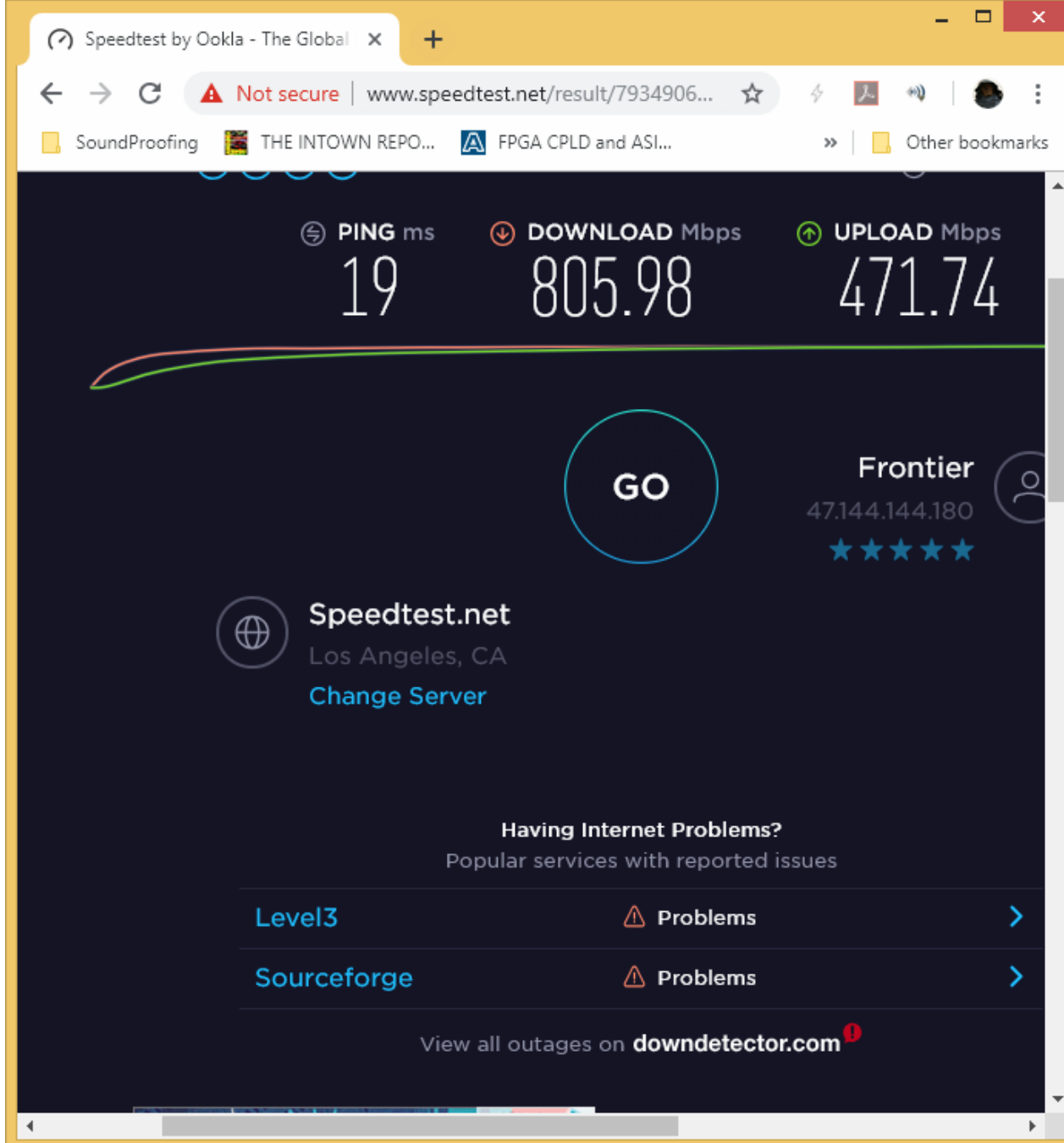
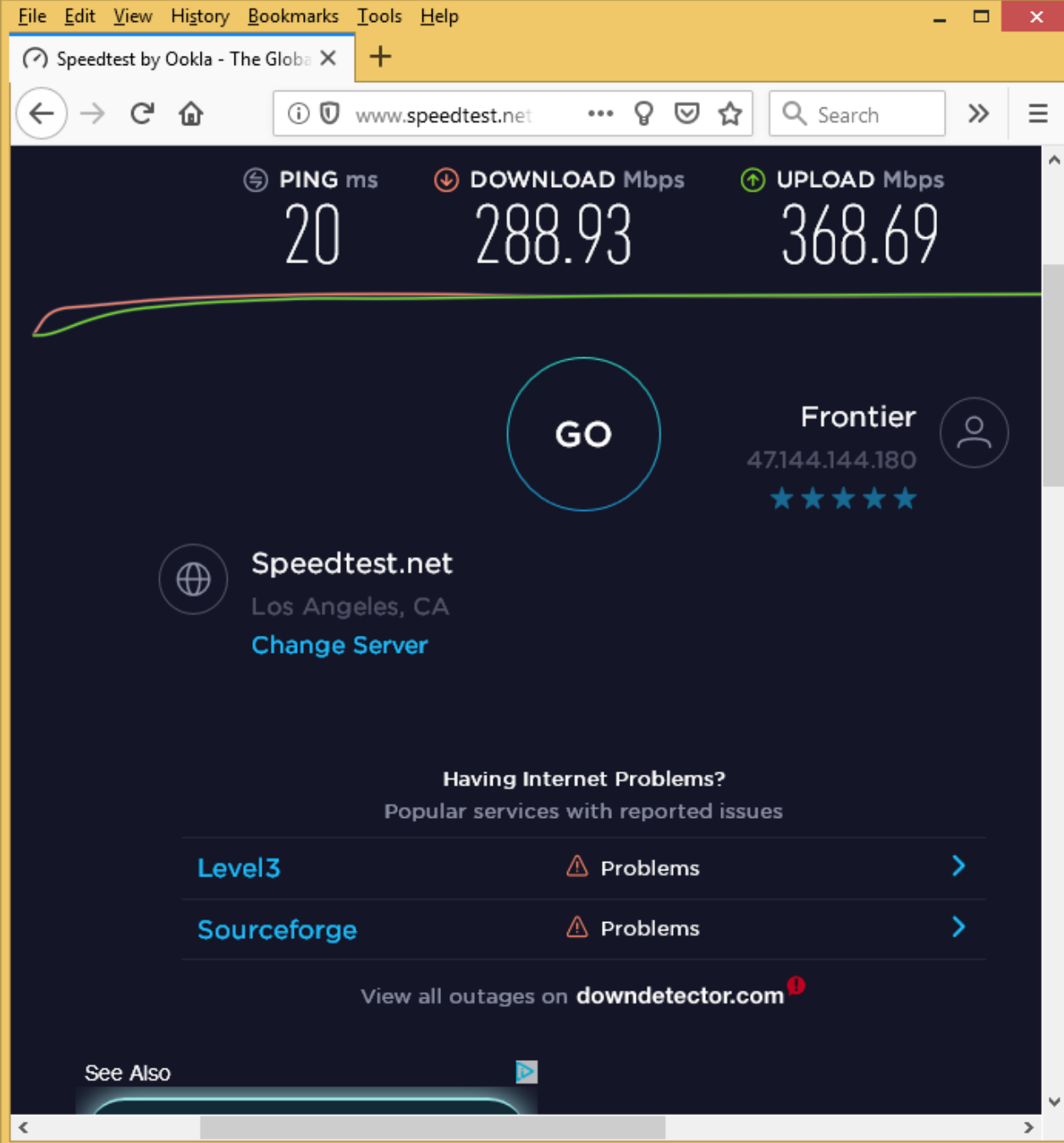
This test uses M-Lab code and infrastructure for performance measurements. [Learn more about M-Lab and its data policies.](#)

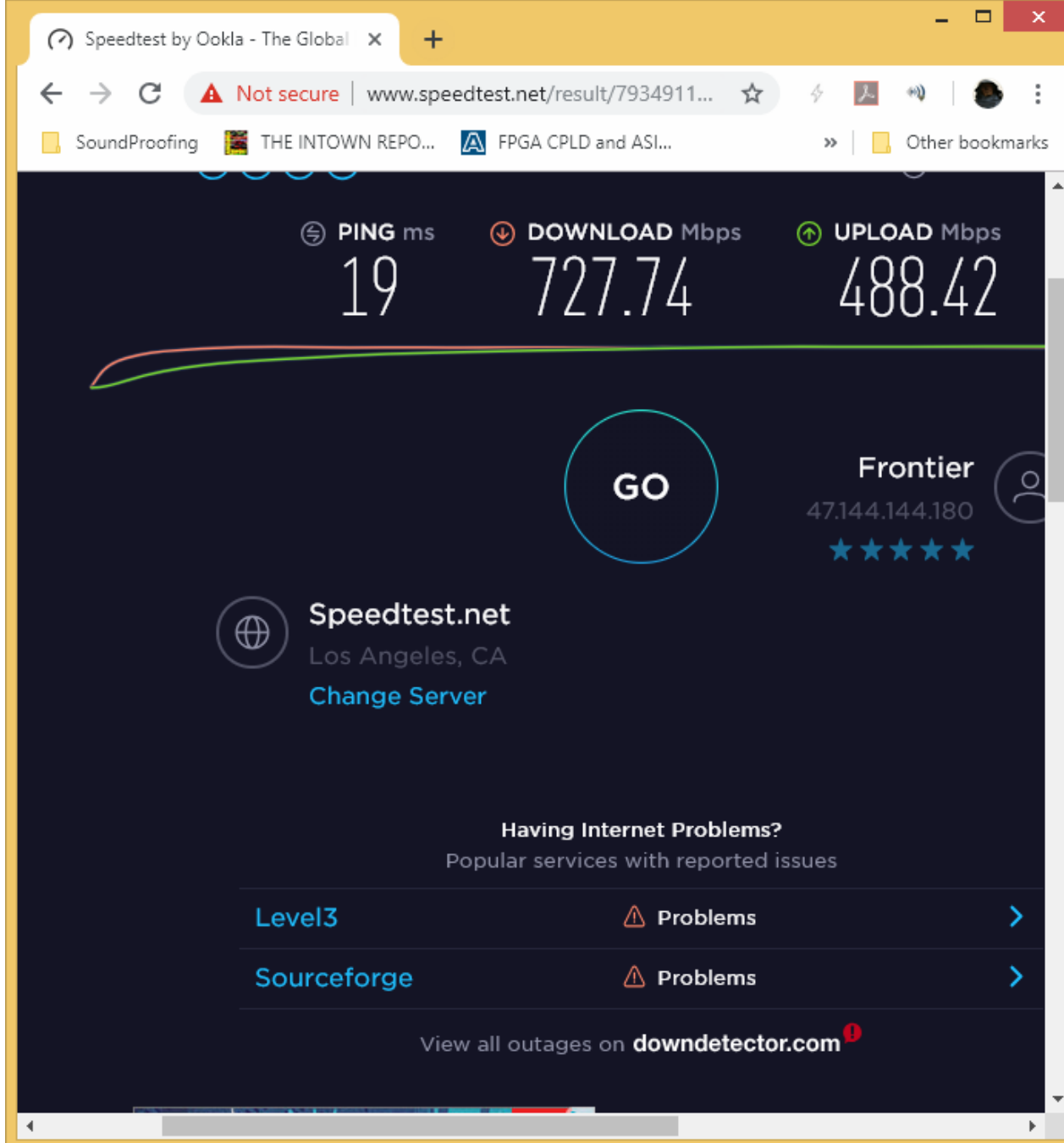
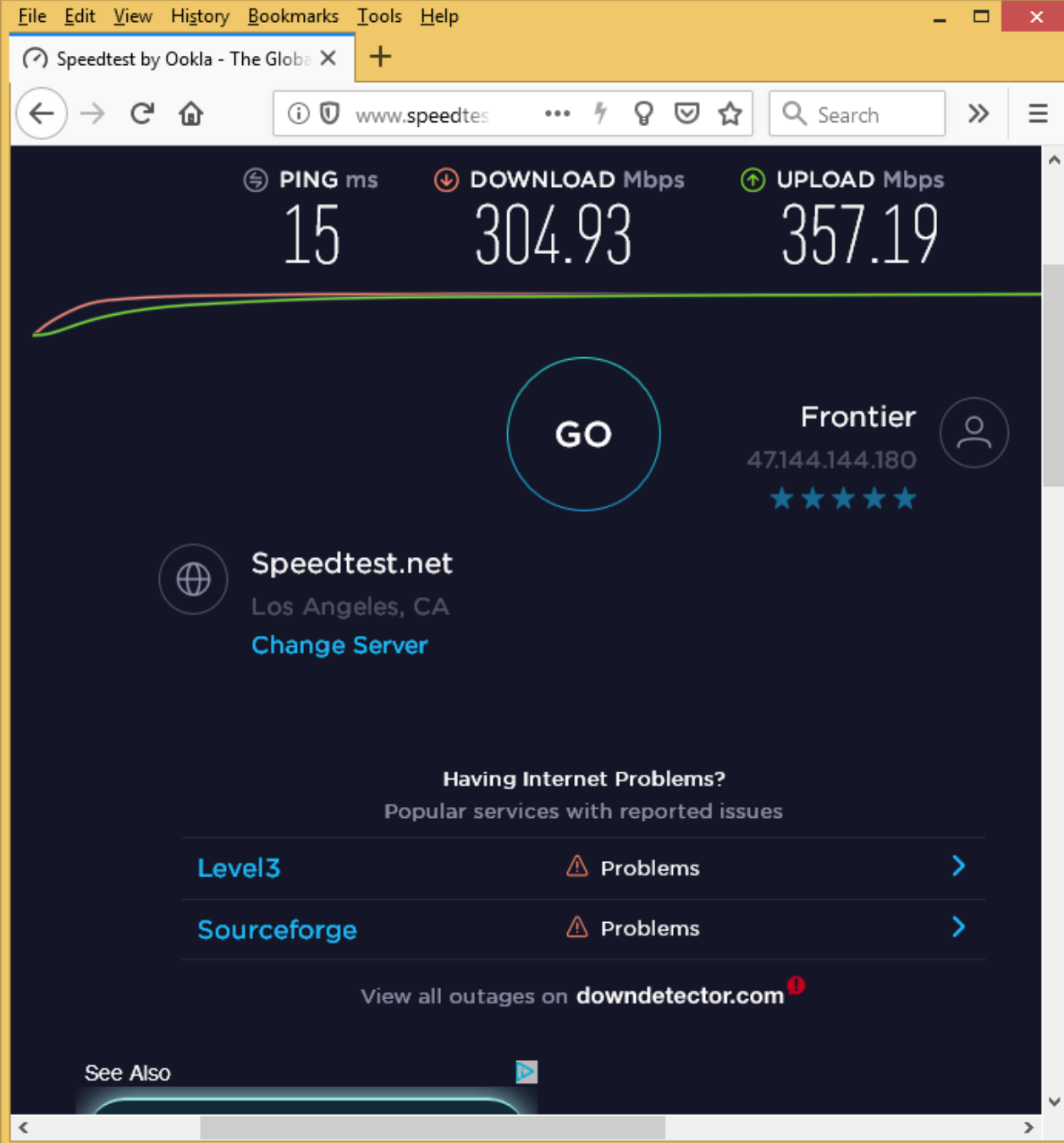
Questions or Concerns: help@internethealthtest.org

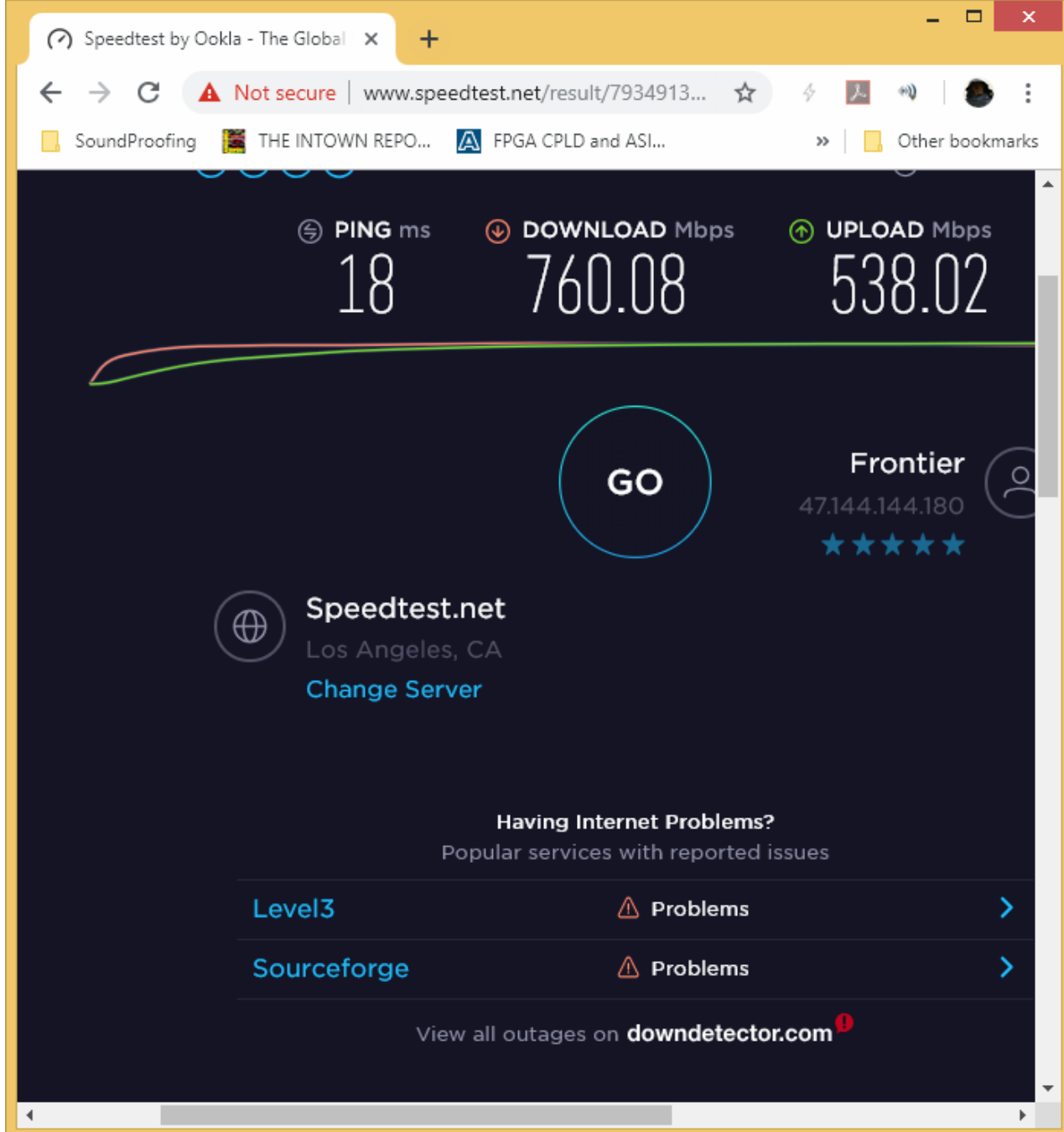
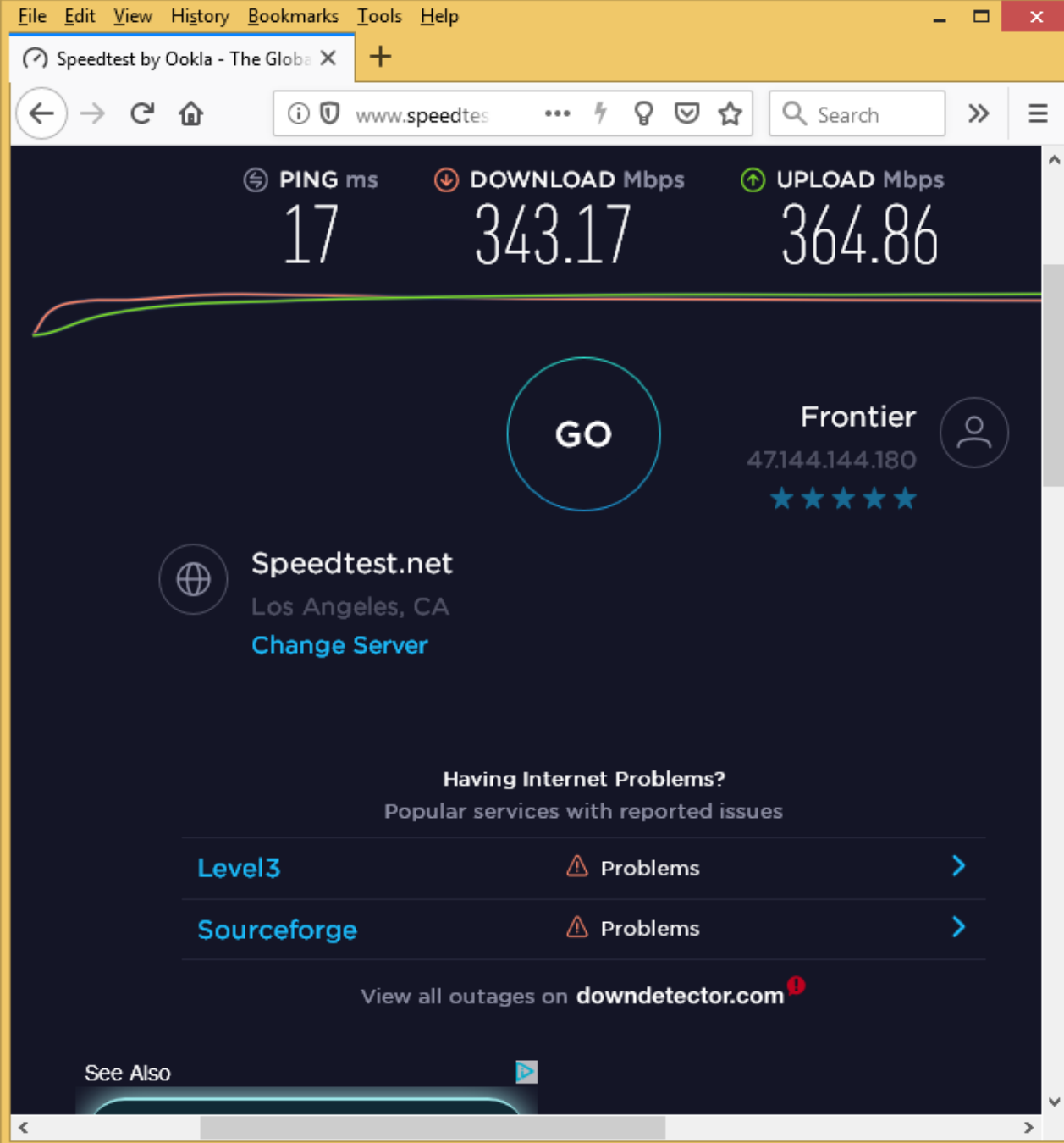
SpeedTest.Net Browser-based test
(each test run optioned for single TCP stream)

Chrome achieves better performance in BOTH directions

Note: The new “single TCP stream” setting silently resets itself after EACH test run. So you cannot just push “GO” to re-test. You must go back to the previous page and select “SINGLE” connections each and every time you run the test. (Must also re-select “SINGLE” each time you select a different test server.)







File Edit View History Bookmarks Tools Help

Speedtest by Ookla - The Global X

www.speedtest.net

PING ms 18

DOWNLOAD Mbps 350.91

UPLOAD Mbps 354.61

GO

Frontier
47.144.144.180
★★★★★

Speedtest.net
Los Angeles, CA
[Change Server](#)

Google Fi

Seamlessly switch between multiple 4G LTE networks - Bring

Speedtest by Ookla - The Global X

Not secure | www.speedtest.net/result/7934915...

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

PING ms 24

DOWNLOAD Mbps 748.47

UPLOAD Mbps 483.80

GO

Frontier
47.144.144.180
★★★★★

Speedtest.net
Los Angeles, CA
[Change Server](#)

Having Internet Problems?
Popular services with reported issues

Level3 Problems

View all outages on [downdetector.com](#)

iolo Take your FREE

File Edit View History Bookmarks Tools Help

Speedtest by Ookla - The Global X

www.speedtest.net

SHARE

Result ID **7934918273**

RESULTS

PING ms **21**

DOWNLOAD Mbps **300.88**

UPLOAD Mbps **357.58**

GO

Frontier
47.144.144.180
★★★★★

Speedtest.net
Los Angeles, CA
[Change Server](#)

Google Fi

Seamlessly switch between multiple 4G LTE networks - Bring your phone to Google Fi.

Speedtest by Ookla - The Global X

Not secure | www.speedtest.net/result/7934919...

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

PING ms **24**

DOWNLOAD Mbps **687.16**

UPLOAD Mbps **464.06**

GO

Frontier
47.144.144.180
★★★★★

Speedtest.net
Los Angeles, CA
[Change Server](#)

Having Internet Problems?
Popular services with reported issues

[Level3](#) [Problems](#)

View all outages on [downdetector.com](#)

Waiting for beacon.krxd.net...

Wireshark · Conversations · Intel(R) 82579V Gigabit Network Connection: Ethernet 2

Firefox

Ethernet · 21	IPv4 · 128	IPv6 · 1	TCP · 233	UDP · 84									
Address A	Port A	Address B	Port B	Packets	Bytes	Packets A → B	Bytes A → B	Packets B → A	Bytes B → A	Rel Start	Duration	Bits/s A → B	Bits/s B → A
192.168.1.20	55519	52.52.241.73	443	16	7746	8	1814	8	5932	43.724554	0.0472	307 k	1006 k
192.168.1.20	55522	52.52.241.73	443	17	7806	8	1810	9	5996	43.733061	0.0441	328 k	1086 k
192.168.1.20	55507	8.39.36.144	80	11	7256	4	891	7	6365	42.973202	0.0999	71 k	509 k
192.168.1.20	55500	104.254.150.69	80	13	8531	5	1590	8	6941	42.956616	0.1872	67 k	296 k
192.168.1.20	55498	104.254.150.69	80	15	8699	7	1699	8	7000	42.950992	0.2565	52 k	218 k
192.168.1.20	55499	8.39.36.144	80	16	9814	6	1661	10	8153	42.952802	0.2891	45 k	225 k
192.168.1.20	55501	104.254.150.69	80	14	10 k	5	1590	9	8501	42.957175	0.2134	59 k	318 k
192.168.1.20	50980	23.222.218.103	443	22	9630	8	902	14	8728	3.928241	39.7962	181	1754
192.168.1.20	52747	172.217.5.66	443	64	17 k	23	7348	41	9702	12.439790	31.5725	1861	2458
192.168.1.20	52751	151.101.197.194	80	30	18 k	12	2285	18	15 k	2.157770	41.5293	440	3034
192.168.1.20	55517	23.74.147.187	80	71	75 k	17	2755	54	72 k	43.713439	0.6194	35 k	940 k
192.168.1.20	55521	23.74.147.187	80	92	98 k	21	3626	71	94 k	43.731139	0.6006	48 k	1260 k
192.168.1.20	55496	104.200.152.122	8080	107,481	676 M	41,014	672 M	66,467	4295 k	27.157552	15.0916	356 M	2277 k
192.168.1.20	55494	104.200.152.122	8080	676,162	673 M	210,052	11 M	466,110	662 M	10.984013	15.6307	5820 k	338 M

☐ Name resolution ☐ Limit to display filter ☐ Absolute start time

Conversation Types ▾

Copy ▾ Follow Stream... Graph... Close Help

Wireshark · Conversations · Intel(R) 82579V Gigabit Network Connection: Ethernet 2

Chrome

Ethernet · 7	IPv4 · 54	IPv6	TCP · 74	UDP · 38									
Address A	Port A	Address B	Port B	Packets	Bytes	Packets A → B	Bytes A → B	Packets B → A	Bytes B → A	Rel Start	Duration	Bits/s A → B	Bits/s B → A
192.168.1.20	55405	8.39.36.144	80	12	12 k	3	4424	9	8277	3.839004	28.3582	1248	2334
192.168.1.20	55555	104.254.150.13	80	14	12 k	5	4974	9	7078	32.049660	0.1190	334 k	475 k
192.168.1.20	55559	104.254.150.13	80	10	6116	5	4976	5	1140	32.049973	0.0606	657 k	150 k
192.168.1.20	55560	104.254.150.13	80	21	17 k	7	5084	14	12 k	32.050048	0.1347	301 k	741 k
192.168.1.20	55556	104.254.150.13	80	32	34 k	8	9867	24	24 k	32.049744	0.2495	316 k	786 k
192.168.1.20	55557	104.254.150.13	80	34	33 k	10	9977	24	23 k	32.049822	0.2529	315 k	735 k
192.168.1.20	55558	104.254.150.13	80	38	40 k	10	14 k	28	25 k	32.049899	0.8183	140 k	253 k
192.168.1.20	55545	104.254.150.77	80	27	41 k	9	36 k	18	4335	32.007116	0.8861	333 k	39 k
192.168.1.20	55543	104.200.152.122	8080	983,657	1399 M	57,012	3114 k	926,645	1396 M	0.000000	15.0948	1650 k	740 M
192.168.1.20	55544	104.200.152.122	8080	88,325	891 M	33,764	887 M	54,561	3559 k	16.269875	15.0766	471 M	1888 k

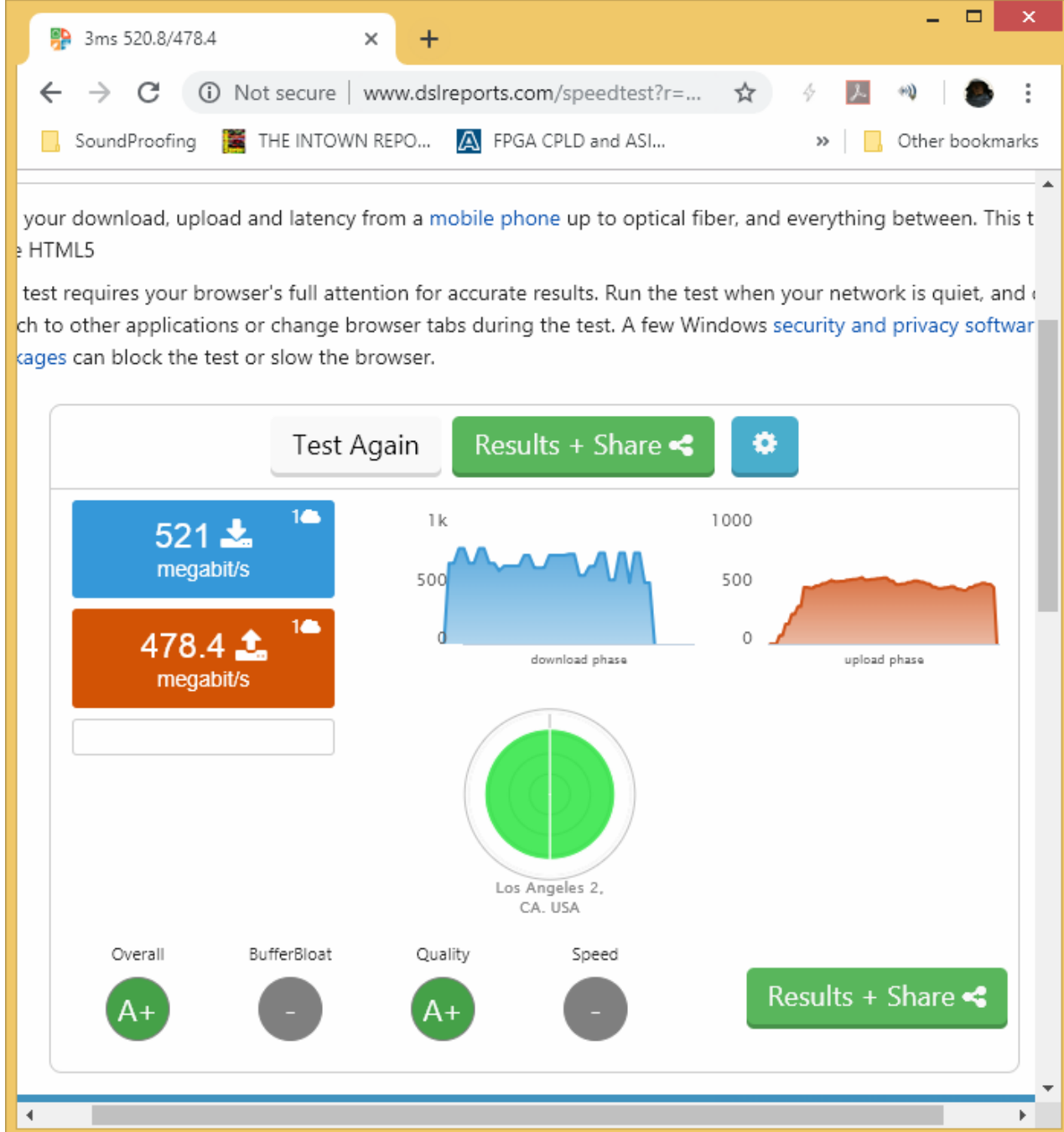
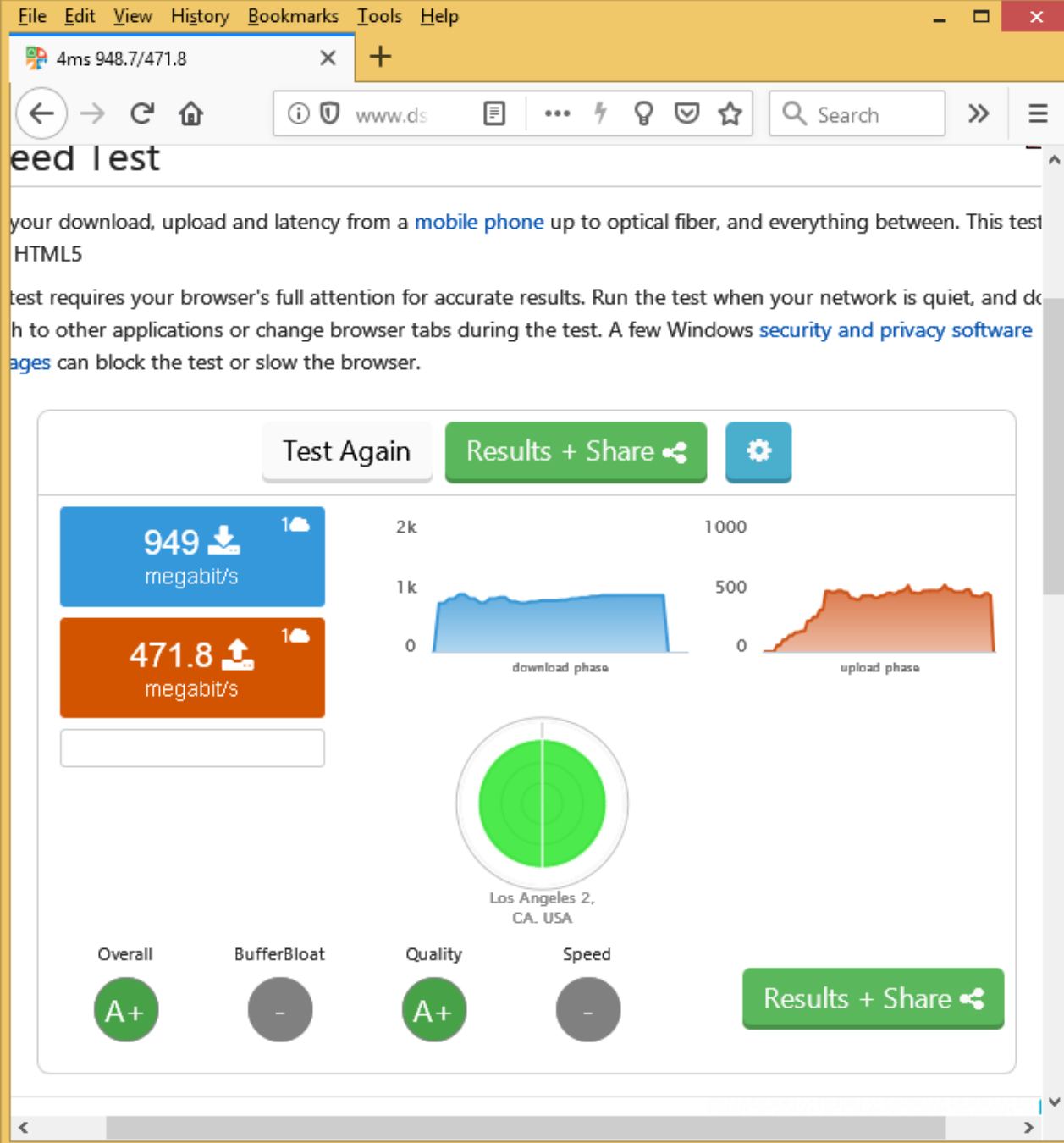
☐ Name resolution ☐ Limit to display filter ☐ Absolute start time

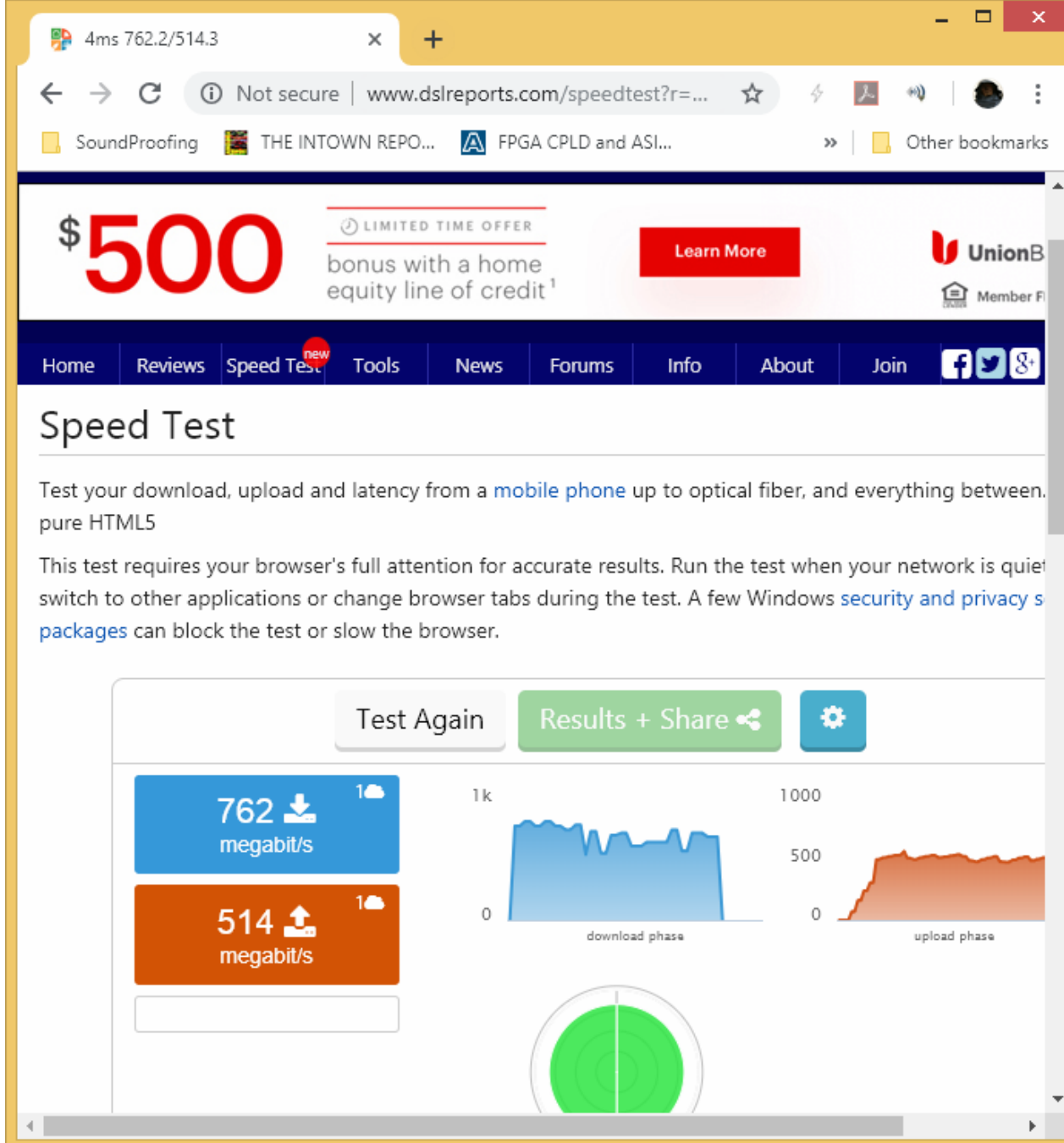
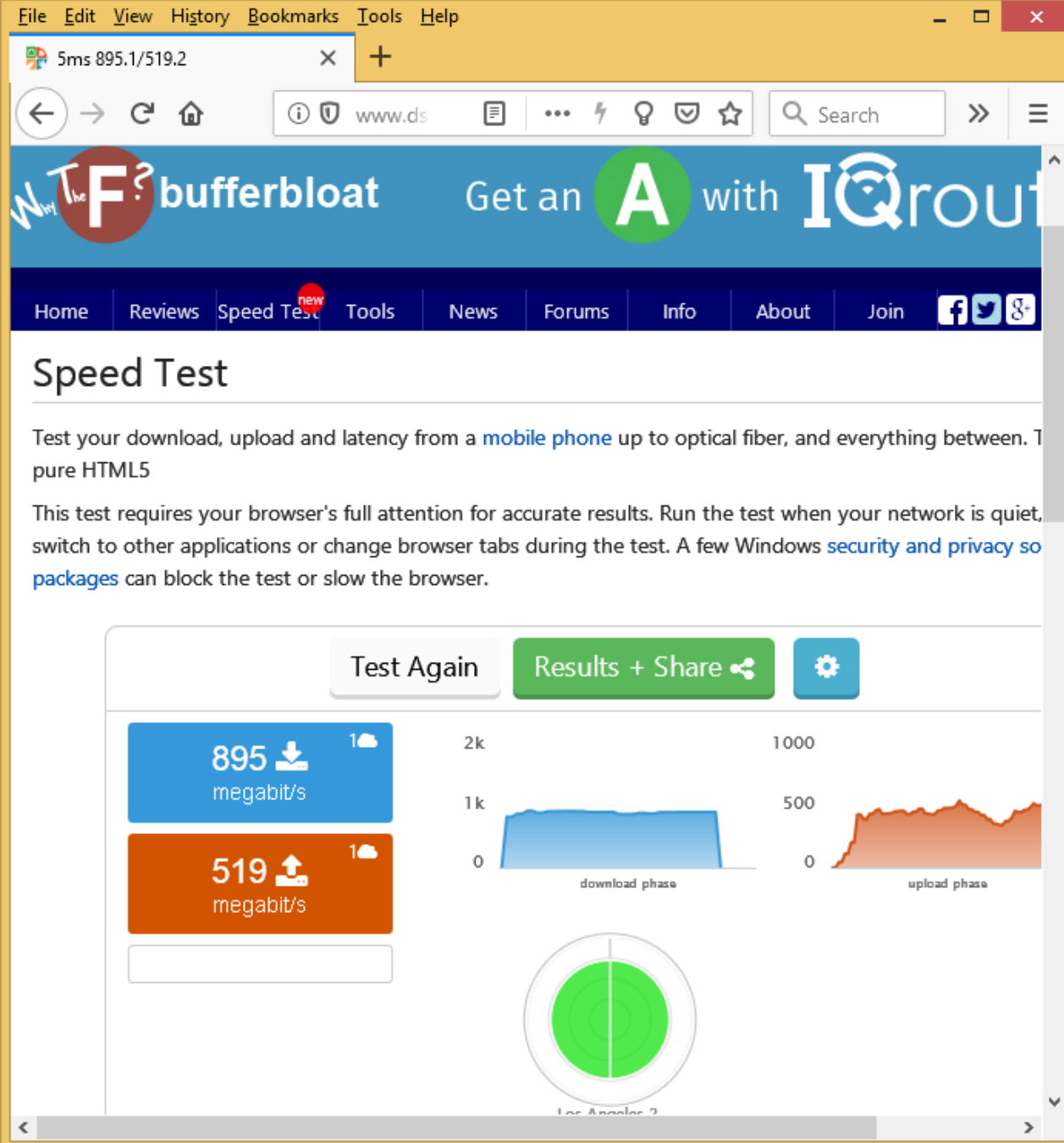
Conversation Types ▾

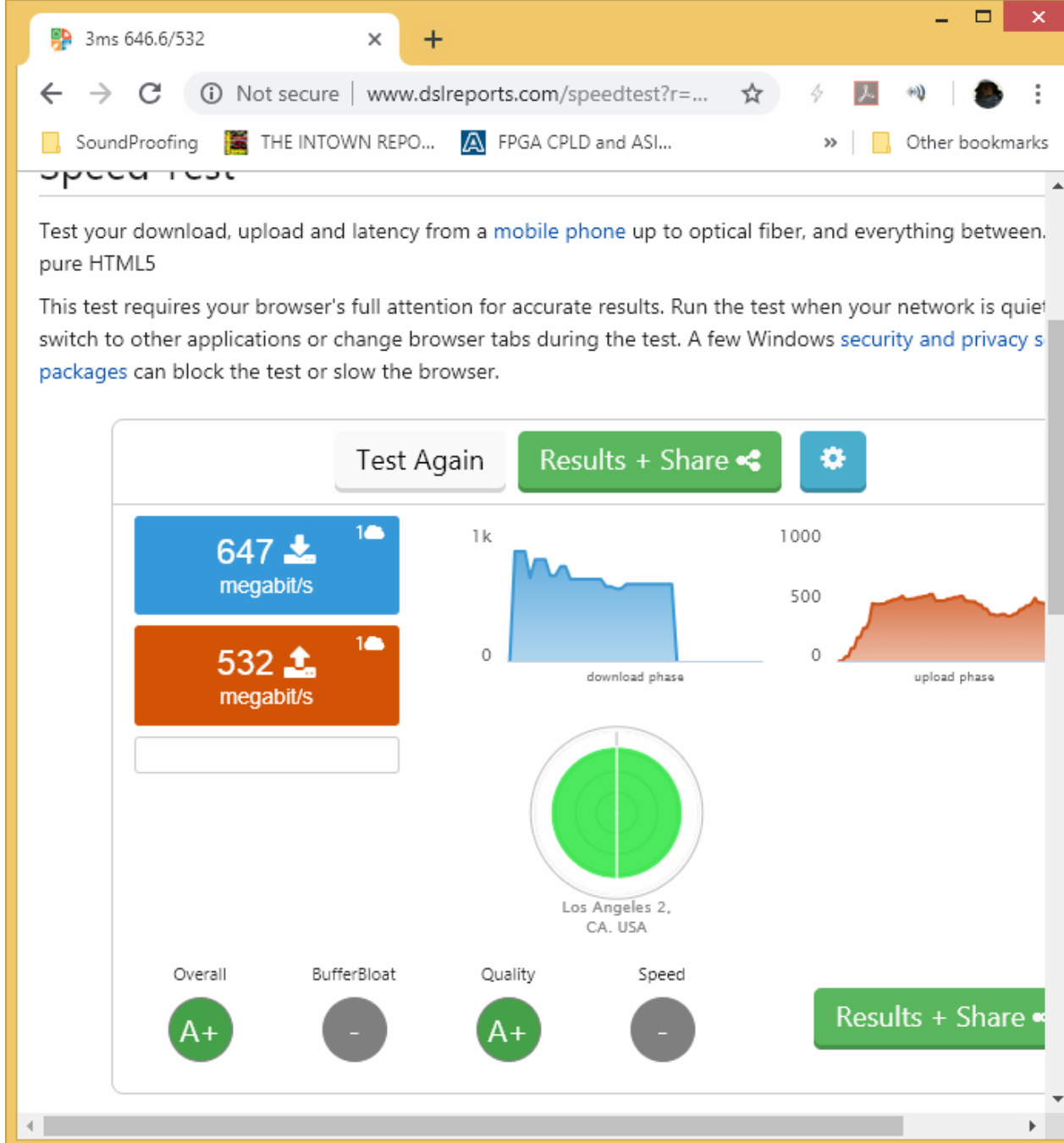
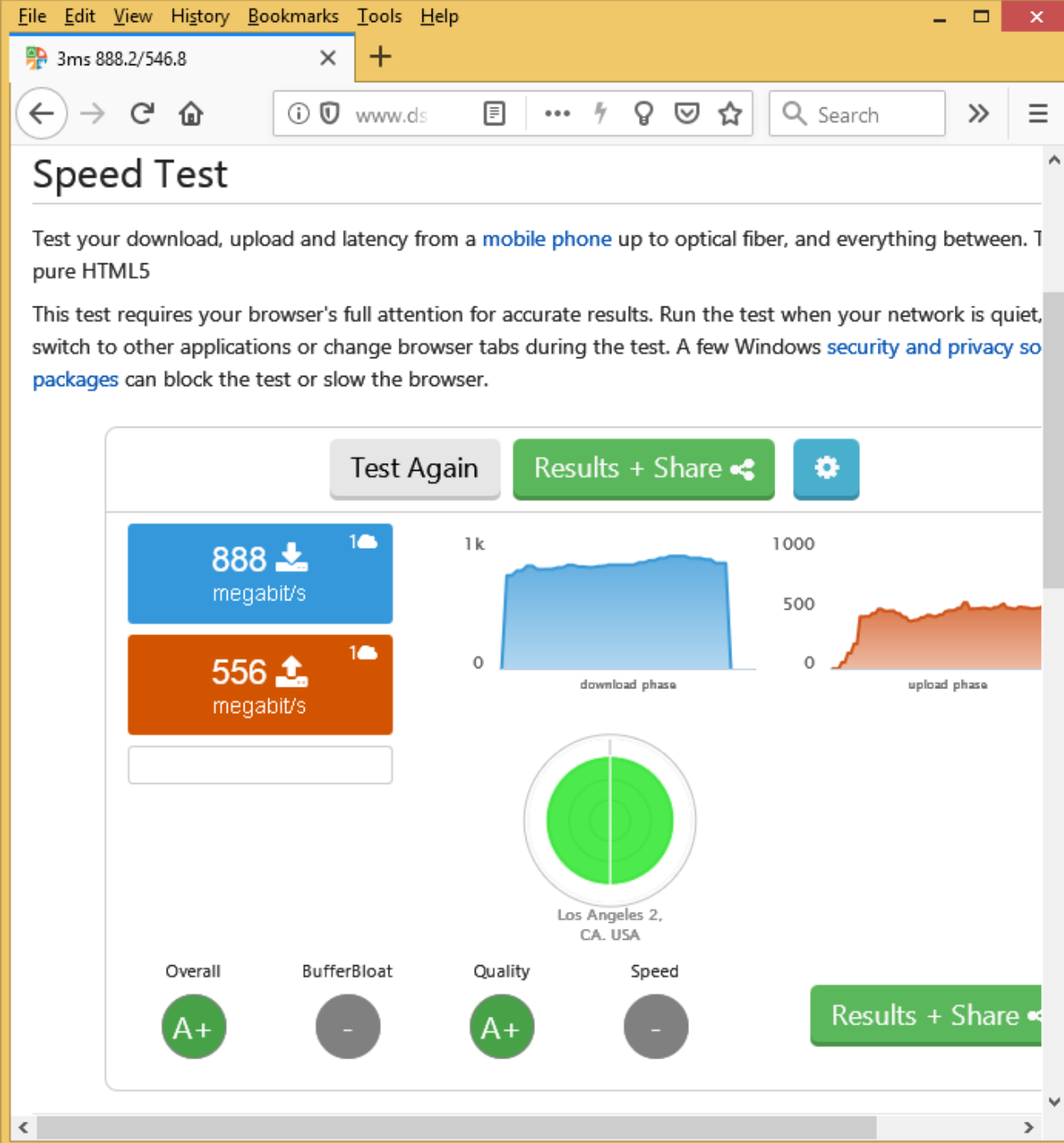
Copy ▾ Follow Stream... Graph... Close Help

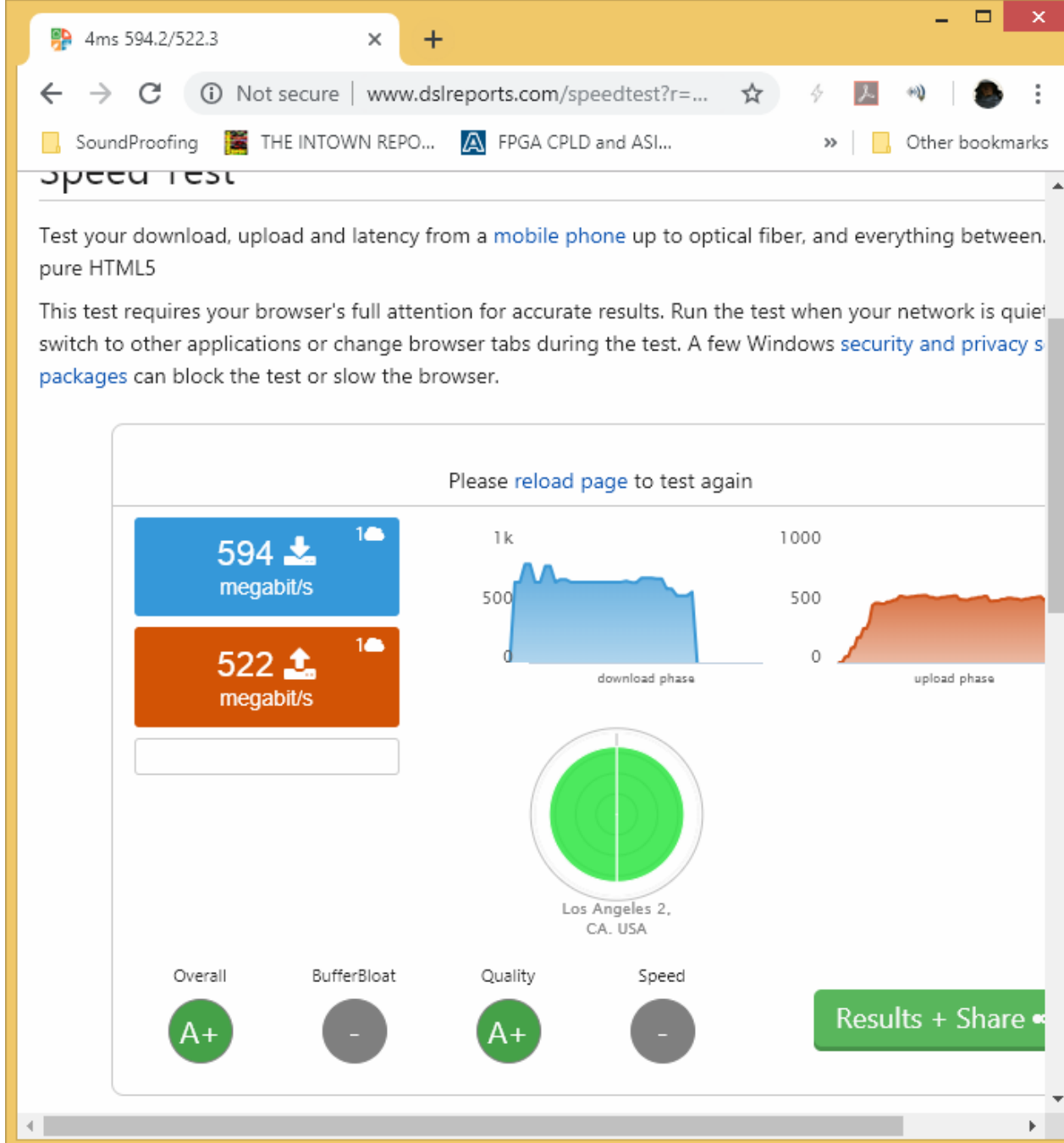
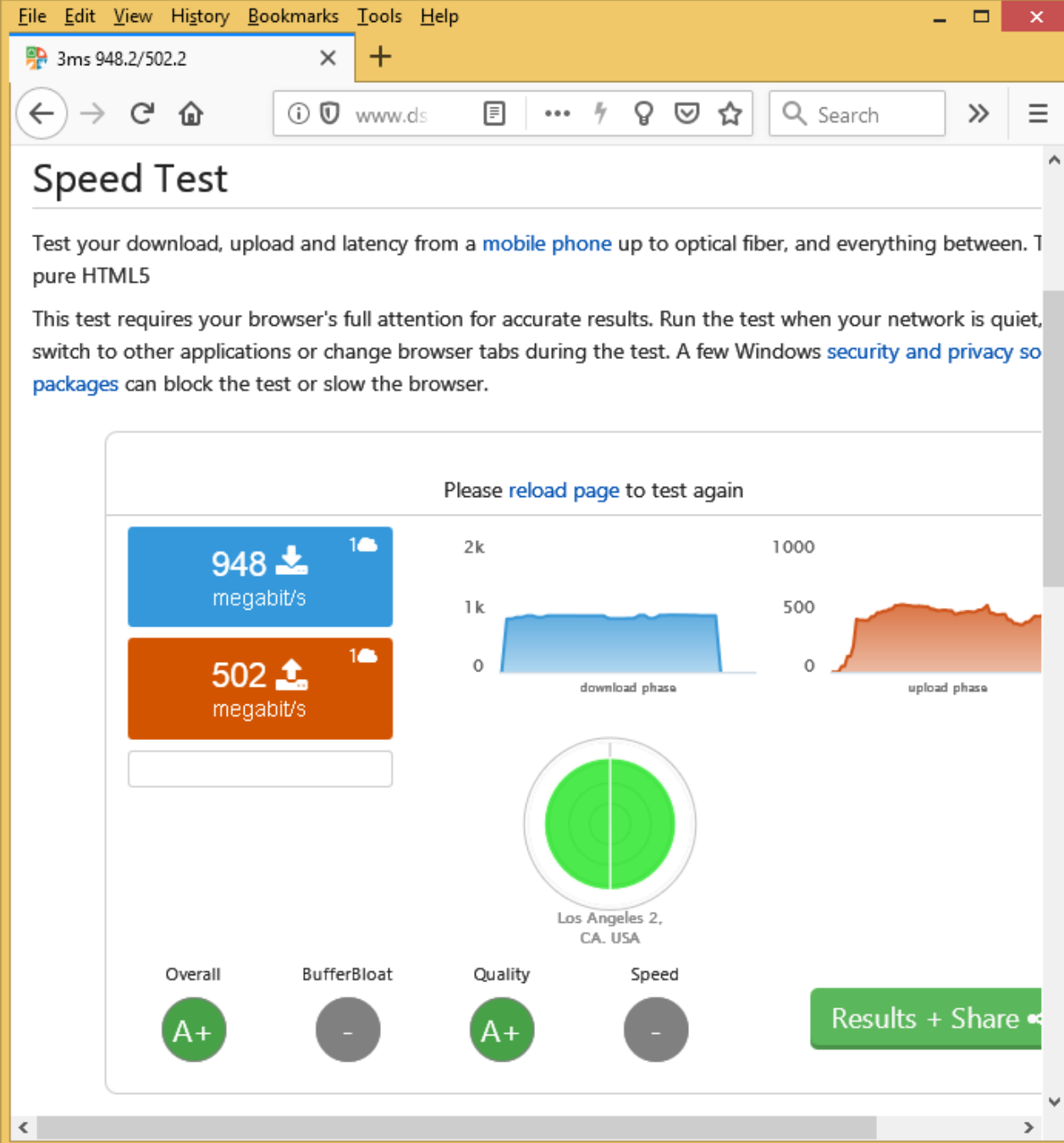
DSL Reports web-based test
(Configured to use only ONE tcp stream)

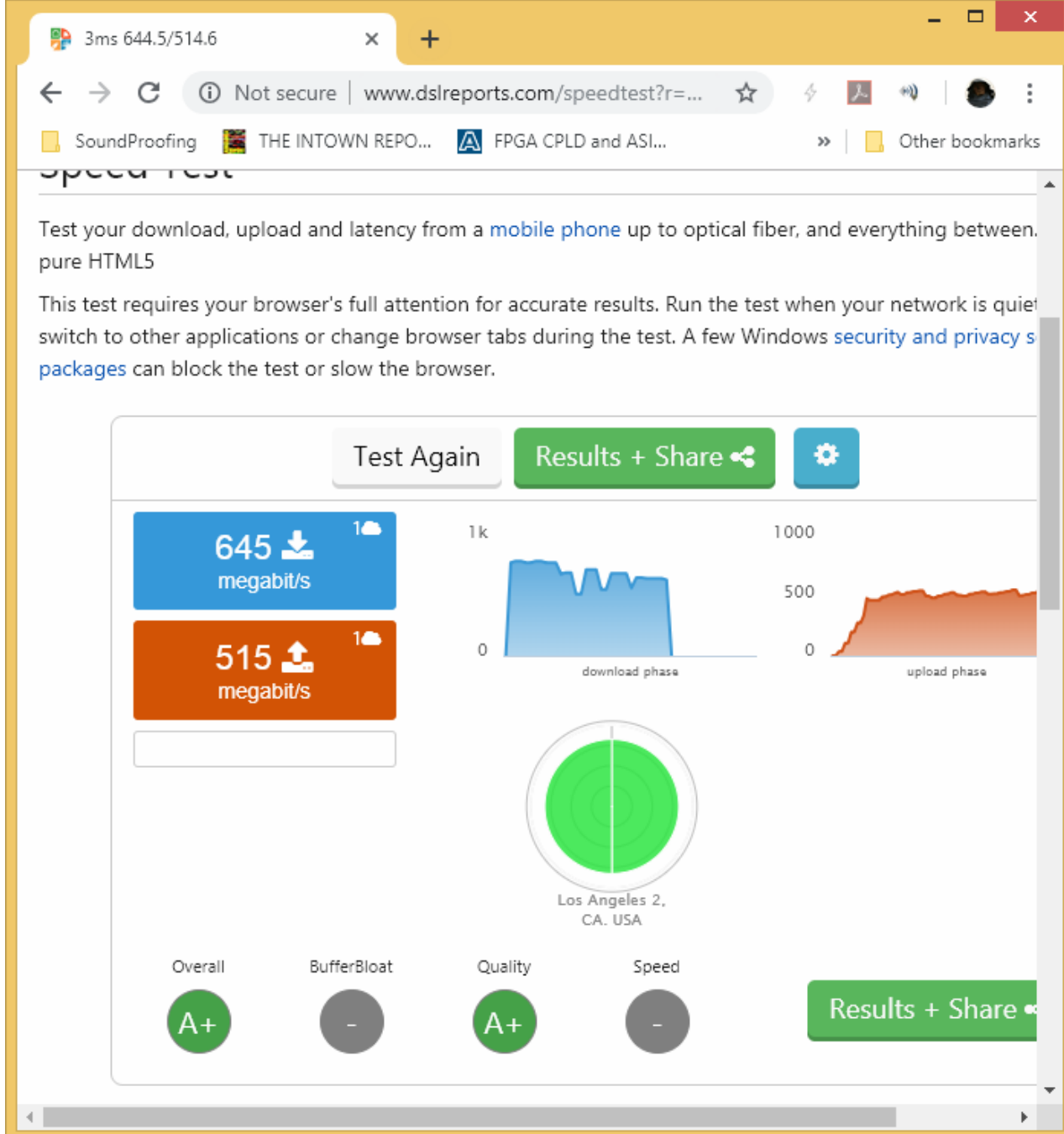
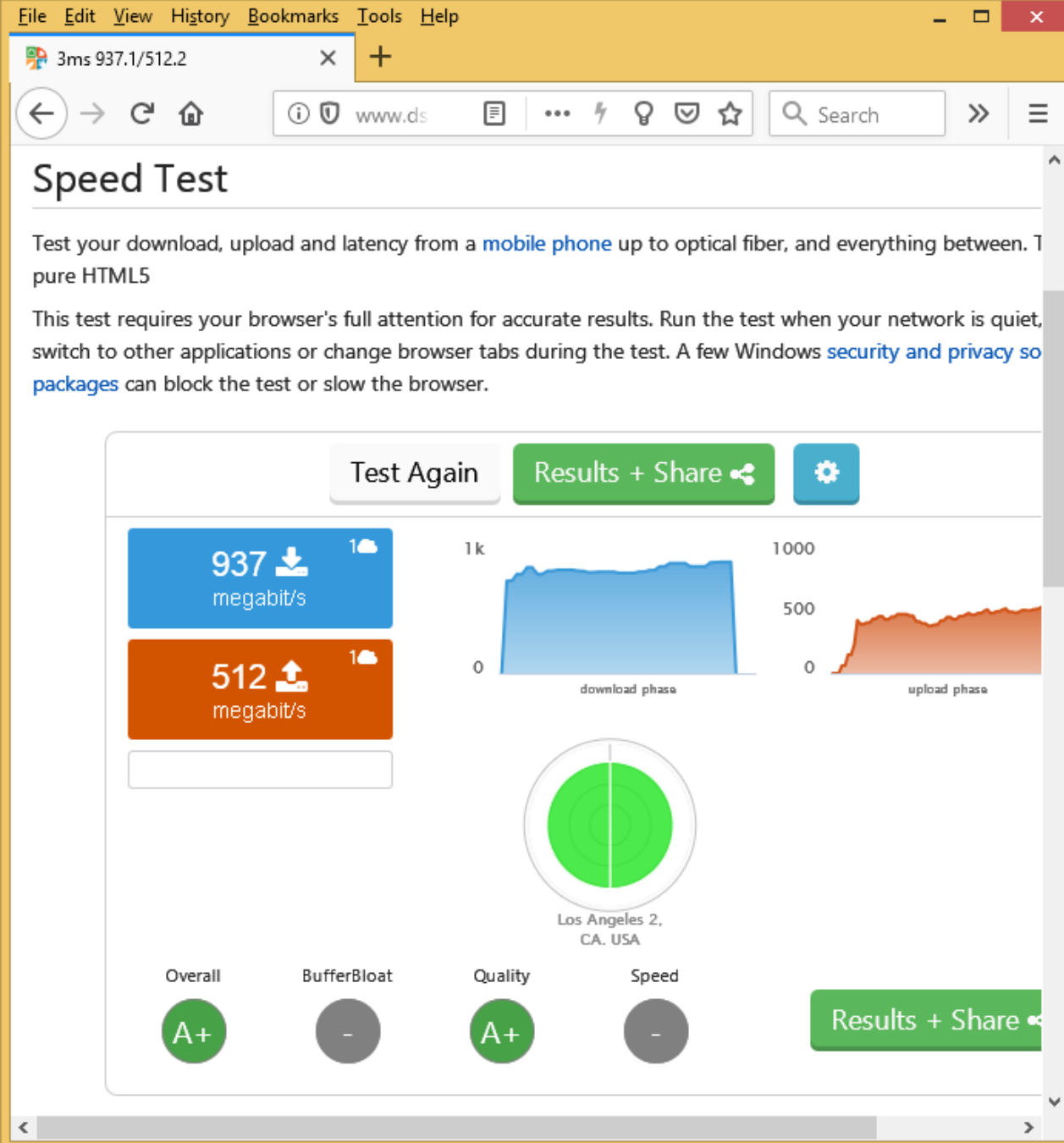
Firefox achieves **MUCH** better downstream!











Testing to UCLA

It appears that FF and Chrome open different quantities of TCP connections to the UCLA test server. This results in very different test results in the upstream direction.

File Edit View History Bookmarks Tools Help

Speedtest

speedtest-csb-01.noc

Speedtest

Start

Your IP: 47.144.144.180

Download

233.22

Mbit/s

Upload

16.63

Mbit/s

Ping

52.57

ms

Speedtest

Not secure | speedtest-csb-01.noc.ucla.edu

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

Speedtest

Start

Your IP: 47.144.144.180

Download

211.80

Mbit/s

Upload

590.15

Mbit/s

Ping

50.43

ms

File Edit View History Bookmarks Tools Help

Speedtest

speedtest-csb-01.noc

Speedtest

Start

Your IP: 47.144.144.180

Download

568.16

Mbit/s

Upload

86.51

Mbit/s

Ping

52.41

ms

Speedtest

Not secure | speedtest-csb-01.noc.ucla.edu

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

Speedtest

Start

Your IP: 47.144.144.180

Download

367.51

Mbit/s

Upload

562.02

Mbit/s

Ping

52.75

ms

File Edit View History Bookmarks Tools Help

Speedtest

speedtest-csb-01.noc

Speedtest

Start

Your IP: 47.144.144.180

Download

244.58

Mbit/s

Upload

86.45

Mbit/s

Ping

52.35

ms

Speedtest

Not secure | speedtest-csb-01.noc.ucla.edu

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

Speedtest

Start

Your IP: 47.144.144.180

Download

209.72

Mbit/s

Upload

634.62

Mbit/s

Ping

52.78

ms

File Edit View History Bookmarks Tools Help

Speedtest

speedtest-csb-01.noc

Speedtest

Start

Your IP: 47.144.144.180

Download

247.65

Mbit/s

Upload

85.91

Mbit/s

Ping

52.81

ms

Speedtest

Not secure | speedtest-csb-01.noc.ucla.edu

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

Speedtest

Start

Your IP: 47.144.144.180

Download

228.88

Mbit/s

Upload

611.16

Mbit/s

Ping

51.51

ms

File Edit View History Bookmarks Tools Help

Speedtest

speedtest-csb-01.noc

Speedtest

Start

Your IP: 47.144.144.180

Download

231.06

Mbit/s

Upload

84.81

Mbit/s

Ping

52.90

ms

Speedtest

Not secure | speedtest-csb-01.noc.ucla.edu

SoundProofing THE INTOWN REPO... FPGA CPLD and ASI... Other bookmarks

Speedtest

Start

Your IP: 47.144.144.180

Download

902.05

Mbit/s

Upload

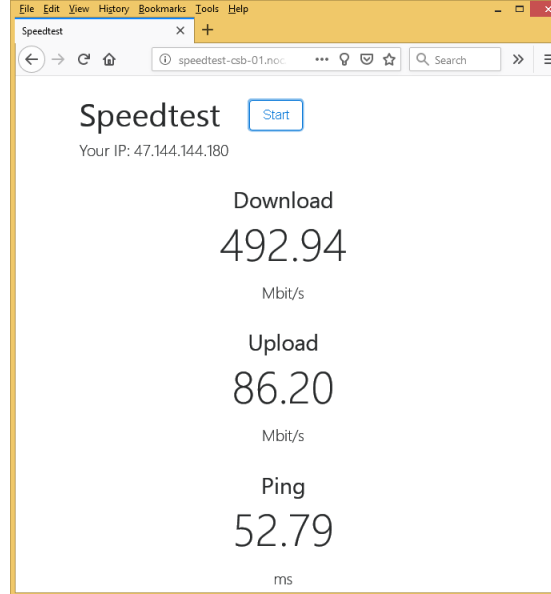
607.80

Mbit/s

Ping

51.89

ms

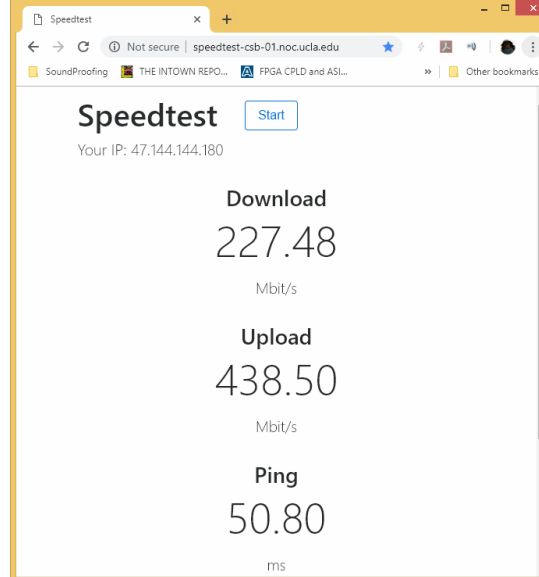


Firefox uses 1
tcp channel upstream to UCLA

Wireshark · Conversations · Intel(R) 82579V Gigabit Network Connection: Ethernet 2													
Ethernet · 13		IPv4 · 14		IPv6 · 2		TCP · 12		UDP · 13					
Address A	Port A	Address B	Port B	Packets	Bytes	Packets A → B	Bytes A → B	Packets B → A	Bytes B → A	Rel Start	Duration	Bits/s A → B	Bits/s B → A
192.168.1.20	64144	74.125.142.188	5228	2	121	1	55	1	66	11.801017	0.0295	14 k	17 k
192.168.1.20	52486	172.217.0.37	443	2	121	1	55	1	66	40.072385	0.0122	36 k	43 k
192.168.1.20	52664	169.232.46.60	80	2	132	1	66	1	66	19.551454	0.0752	7023	7023
192.168.1.20	52665	169.232.46.60	80	2	132	1	66	1	66	19.554586	0.0721	7323	7323
192.168.1.20	52666	169.232.46.60	80	2	132	1	66	1	66	19.554959	0.0717	7366	7366
192.168.1.20	52662	169.232.46.60	80	25,058	29 M	5,660	347 k	19,398	29 M	3.153887	16.4076	169 k	14 M
192.168.1.20	52660	169.232.46.60	80	35,309	44 M	6,359	371 k	28,950	43 M	2.954611	16.6721	178 k	21 M
192.168.1.20	52658	169.232.46.60	80	53,828	66 M	10,522	619 k	43,306	65 M	2.648878	16.9179	293 k	30 M
192.168.1.20	52659	169.232.46.60	80	90,140	120 M	11,064	689 k	79,076	119 M	2.665400	16.8864	326 k	56 M
192.168.1.20	52663	169.232.46.60	80	62,308	75 M	13,093	771 k	49,215	74 M	3.272268	16.2943	378 k	36 M
192.168.1.20	52661	169.232.46.60	80	543,118	642 M	123,529	7077 k	419,589	635 M	3.054692	16.5236	3426 k	307 M
192.168.1.20	52667	169.232.46.60	80	35,451	182 M	5,579	180 M	29,872	1926 k	19.559134	20.3747	70 M	756 k

☐ Name resolution☐ Limit to display filter☐ Absolute start time

CopyFollow Stream...Graph...CloseHelp



Chrome appears to open 6
tcp channels upstream to UCLA
(4 channels are used heavily)

Wireshark · Conversations · Intel(R) 82579V Gigabit Network Connection: Ethernet 2

Ethernet · 22		IPv4 · 26		IPv6 · 1		TCP · 14		UDP · 13					
Address A	Port A	Address B	Port B	Packets	Bytes	Packets A → B	Bytes A → B	Packets B → A	Bytes B → A	Rel Start	Duration	Bits/s A → B	Bits/s B → A
192.168.1.20	64144	74.125.142.188	5228	2	121	1	55	1	66	16.017484	0.0293	15 k	18 k
192.168.1.20	52486	172.217.0.37	443	2	121	1	55	1	66	44.631956	0.0111	39 k	47 k
192.168.1.20	52682	169.232.46.60	80	3	186	2	120	1	66	40.231112	0.0607	15 k	8695
192.168.1.20	52672	169.232.46.60	80	37,766	47 M	6,607	403 k	31,159	47 M	3.482849	16.7233	193 k	22 M
192.168.1.20	52673	169.232.46.60	80	32,932	39 M	7,230	445 k	25,702	38 M	3.582666	16.6232	214 k	18 M
192.168.1.20	52675	169.232.46.60	80	68,997	86 M	12,325	703 k	56,672	85 M	3.782890	16.4220	342 k	41 M
192.168.1.20	52671	169.232.46.60	80	59,715	71 M	12,693	791 k	47,022	71 M	3.280791	16.9255	374 k	33 M
192.168.1.20	52674	169.232.46.60	80	175,080	230 M	23,639	1396 k	151,441	229 M	3.682603	16.5126	676 k	111 M
192.168.1.20	52679	169.232.46.60	80	8,373	28 M	2,787	28 M	5,586	358 k	22.937975	17.4074	12 M	164 k
192.168.1.20	52678	169.232.46.60	80	25,275	87 M	9,154	86 M	16,121	1073 k	22.035834	25.2910	27 M	339 k
192.168.1.20	52681	169.232.46.60	80	47,374	193 M	13,564	190 M	33,810	2176 k	26.965194	18.6614	81 M	933 k
192.168.1.20	52676	169.232.46.60	80	50,771	194 M	16,149	192 M	34,622	2252 k	20.194264	25.2209	60 M	714 k
192.168.1.20	52680	169.232.46.60	80	49,049	206 M	13,653	203 M	35,396	2294 k	23.862829	17.6007	92 M	1042 k
192.168.1.20	52677	169.232.46.60	80	57,487	256 M	14,399	254 M	43,088	2779 k	22.034743	23.4133	86 M	949 k

☐ Name resolution ☐ Limit to display filter ☐ Absolute start time

Conversation Types ▼

Copy Follow Stream... Graph... Close Help

Additional Test results

