

## Experiment 1

### Website

25th percentile(seconds)

50th percentile(seconds)

75th percentile(seconds)

Google.com	Youtube.com	Facebook.com	Baidu.com	Qq.com
0.9468502402	0.8330272436	0.7445836663	2.183877587	3.802707136
1.089822412	0.980250001	0.9165533781	2.344518185	4.069336891
1.148600876	1.146327436	1.043983221	2.504354596	4.366814494
Yahoo.com	Taobao.com	Tmall.com	Alipay.com	Aliexpress.com
1.153140366	1.38906914	1.369963229	1.003232121	1.089904785
1.306269288	1.551071048	1.386426449	1.202241182	1.237326622
1.477114975	1.692667067	1.679073751	1.451393723	1.461908519
Sohu.com	Jd.com	Live.com	Naver.com	Instagram.com
2.17569977	1.483604729	0.7862050533	0.904299438	0.9417853355
2.388586402	1.547296882	0.95305264	1.033160448	1.003477931
2.430533826	1.992448807	1.156928539	1.157146454	1.03872025
Sina.com.cn	Weibo.com	Yandex.ru	Reddit.com	Stackoverflow.com
0.8884929419	1.22664398	1.099884033	0.748143971	0.772618413
1.016978025	1.304577947	1.20520699	0.8824685812	0.9111062288
1.082000911	1.449421644	1.28169781	1.027368546	1.057361126
Blogspot.com	Login.tmall.com	Netflix.com	Ebay.com	Tribunnews.com
0.8366454244	1.046223044	0.766712606	0.8692066073	0.830127418
1.036937714	1.113052011	0.9399614334	1.058927536	0.9809491634
1.105866969	1.259453177	1.140511513	1.130163014	1.117721498

International Websites took the longest because their servers are far away like qq.com which is based in China. Websites whose company server is located in the US was the quickest because the distance between the local server and the Authoritative server was shorter.

## Experiment 2:

Local DNS resolver : cmd dig tool

Find the average time to resolve the address for the 25 websites, computed as the average over 10 runs.

### Website

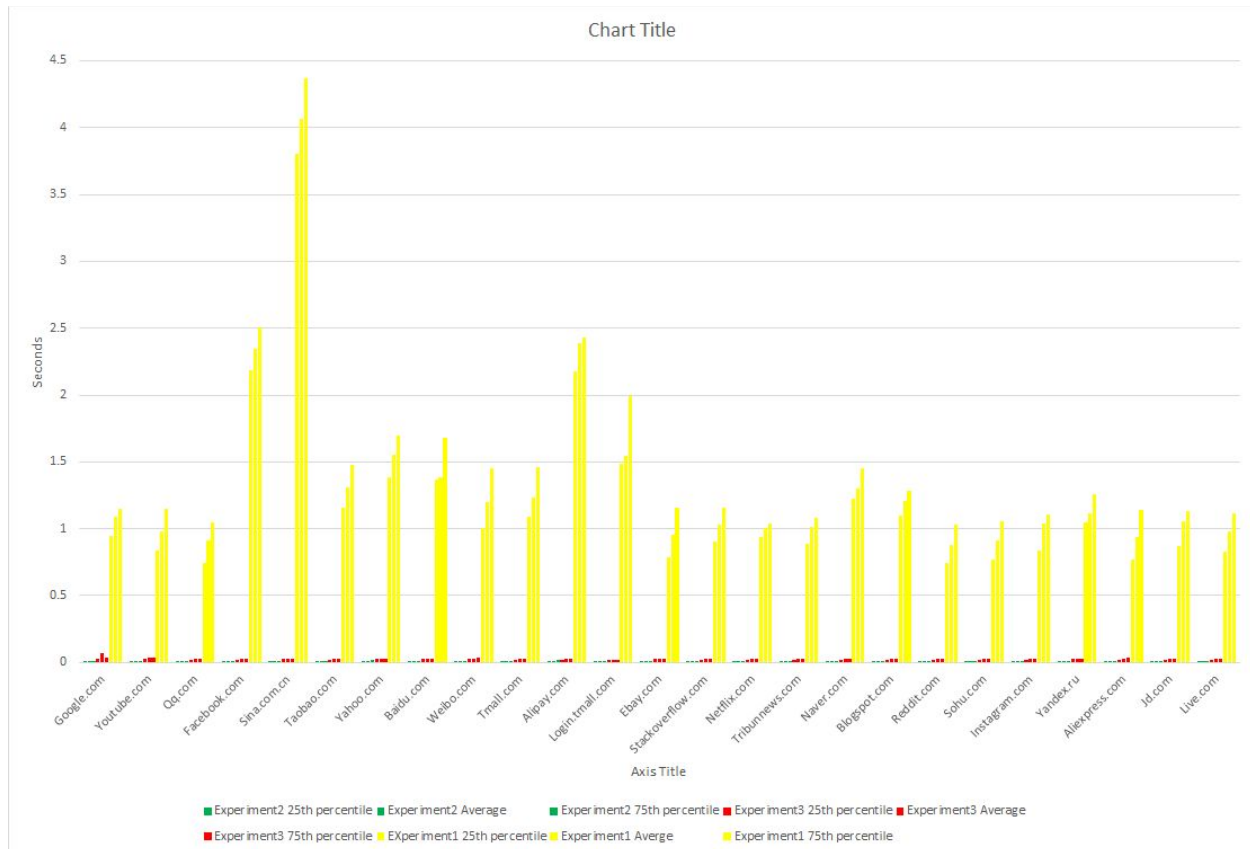
Website Average time(seconds)

<a href="https://www.google.com">Google.com</a>	<a href="https://www.youtube.com">Youtube.com</a>	<a href="https://www.qq.com">Qq.com</a>	<a href="https://www.facebook.com">Facebook.com</a>	<a href="https://www.sina.com.cn">Sina.com.cn</a>
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0.01058855057	0.01043329239	0.009237289429	0.008811950684	0.01027956009
<a href="#">Taobao.com</a>	<a href="#">Yahoo.com</a>	<a href="#">Baidu.com</a>	<a href="#">Weibo.com</a>	<a href="#">Tmall.com</a>
0.0107319355	0.01230657101	0.008042931557	0.008574581146	0.009952354431
<a href="#">Alipay.com</a>	<a href="#">Login.tmall.com</a>	<a href="#">Ebay.com</a>	<a href="#">Stackoverflow.com</a>	<a href="#">Netflix.com</a>
0.01149280071	0.009471392632	0.006134915352	0.005546450615	0.006379055977
<a href="#">Tribunnews.com</a>	<a href="#">Naver.com</a>	<a href="#">Blogspot.com</a>	<a href="#">Reddit.com</a>	<a href="#">Sohu.com</a>
0.006995725632	0.009712576866	0.006845068932	0.007943058014	0.007239294052
<a href="#">Instagram.com</a>	<a href="#">Yandex.ru</a>	<a href="#">Aliexpress.com</a>	<a href="#">Jd.com</a>	<a href="#">Live.com</a>
0.01077377796	0.008933782578	0.009294676781	0.006935596466	0.008262467384

### Experiment 3

Google.com	Aliexpress.com	Reddit.com	Tmall.com	Weibo.com
0.02533751726	0.03005188704	0.02173006535	0.02021092176	0.02482169867
0.07225894928	0.03418295383	0.02421319485	0.02546591759	0.0267152071
0.03371733427	0.0354129076	0.02661150694	0.02851724625	0.02666091919
Facebook.com	Jd.com	Blogspot.com	Qq.com	Naver.com
0.02285975218	0.02427530289	0.02797359228	0.02606570721	0.0207670331
0.02449579239	0.02735993862	0.02924916744	0.03038008213	0.02364087105
0.02660298347	0.02669155598	0.03141975403	0.03379929066	0.02629858255
Netflix.com	Youtube.com	Sohu.com	Stackoverflow.com	Alipay.com
0.02212035656	0.02017480135	0.02388620377	0.0235028863	0.02302885056
0.02578289509	0.02306778431	0.02644078732	0.02761747837	0.02670052052
0.02831560373	0.02239871025	0.02992004156	0.02846688032	0.02989423275
Yandex.ru	Baidu.com	Live.com	Login.tmall.com	Yahoo.com
0.0220708847	0.02111560106	0.02284252644	0.02274292707	0.02306628227
0.02630648613	0.02562596798	0.0288476944	0.0248976469	0.02720234394
0.02980220318	0.02917933464	0.03003960848	0.02770215273	0.02826875448
Instagram.com	Ebay.com	Taobao.com	Sina.com.cn	Tribunnews.com
0.02310490608	0.02488470078	0.02279639244	0.02316939831	0.02307057381
0.02506656647	0.02745819092	0.02923586369	0.02550001144	0.02693190575
0.02653932571	0.03060942888	0.03483039141	0.02785652876	0.02790671587



The result of the experiment showed that my DNS resolver was the slowest because I did a wide search before asking for the next server. I checked each IP address before going to the next server. The result for experiment 2 was quicker than the rest possibly because it was using the stony brook wifi instead of my home wifi. Experiment 3 was done using my home wifi which is slower than the school's wifi speed. Although experiment 2 was faster, experiment 3 had a more consistent speed. Experiment 2 had a few websites that were faster than others by a significant amount to the rate the other websites were using. Experiment 3 was using the google dns which has better security and balance. Google DNS has load balancing which means all servers carry similar weights so traffic is spread out relatively even. The security for Google DNS mitigates most malicious traffic attacks so the servers don't overload, and bottlenecks are reduced.