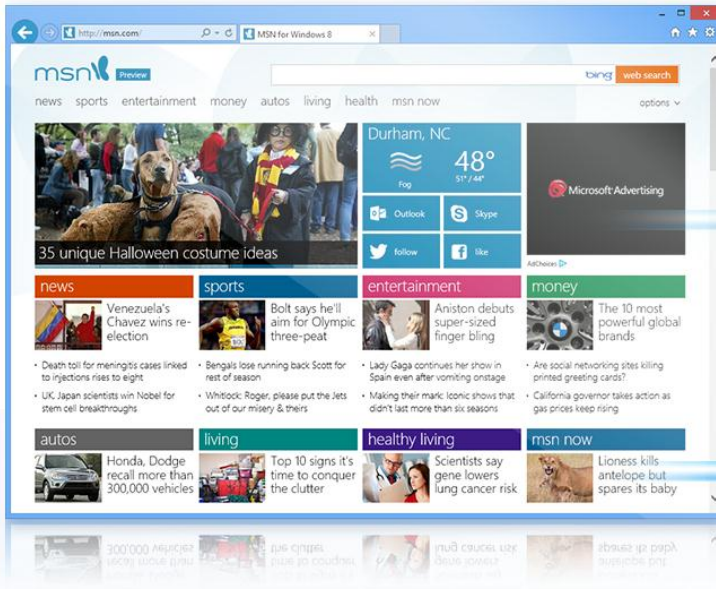


## MSN for Windows 8



Pages loaded up to

# 6.26x FASTER

than previous versions

and up to

# 10.02x FASTER

than competitor sites

Consumers rely on portal Web sites to get their news. While many elements of a site's design and features can influence consumer preference, load time is especially important. When a site loads noticeably slower than competing sites, it can be a deal-breaker. We tested the load times for several new MSN for Windows 8 sites—Home, Sports, News, Entertainment, and Finance—along with the load times of the previous versions of these sites and a number of competing sites. Our findings? The MSN for Windows 8 sites loaded dramatically faster than MSN classic—up to 6.26 times faster. Compared to the competitor sites we tested, the MSN for Windows 8 sites loaded up to 10.02 times faster. This improved speed can translate to a smoother, more seamless and dynamic experience for users.



## LOAD TIME, LOAD TIME, LOAD TIME

The old joke about there being three important factors in real estate—location, location, location—has an analogue in the world of Web browsing. If the time a site takes to load is unusually long, no other factors seem to matter to users.

In 1997, Web usability guru Jakob Nielsen stated<sup>1</sup> “speed must be the overriding design criterion.” Thirteen years later, in a 2010 article,<sup>2</sup> he reiterated the message: “A snappy user experience beats a glamorous one, for the simple reason that people engage more with a site when they can move freely and focus on the content instead of on their endless wait.”

With this knowledge in mind, PT undertook a test of MSN for Windows 8 homepage and channels, along with the previous versions of the sites, and those of several competitors. To determine the average load time of the pages, we accessed each site 10 times at four different times of day. The MSN for Windows sites loaded up to 6.26 times faster than the previous sites and up to 10.02 times faster than the competitor sites.

[Appendix A](#) presents the configuration specifics of our test system, [Appendix B](#) presents the details of our testing and results analysis, and [Appendix C](#) presents detailed results.

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<sup>1</sup> “The Need for Speed,” Jakob Nielsen’s Alertbox for March 1, 1997. Available at <http://www.useit.com/alertbox/9703a.html>.

<sup>2</sup> “Website Response Times,” Jakob Nielsen’s Alertbox, June 21, 2010. Available at <http://www.useit.com/alertbox/response-times.html>

# MSN WEB SITES VS. COMPETITOR SITES

In this section, we show the load time advantage MSN for Windows 8 channels had over competing Web sites in our testing.

## Home pages

Figure 1: The initial load time for of the new MSN home page was up to 2.72 times faster than that of competing Web sites.

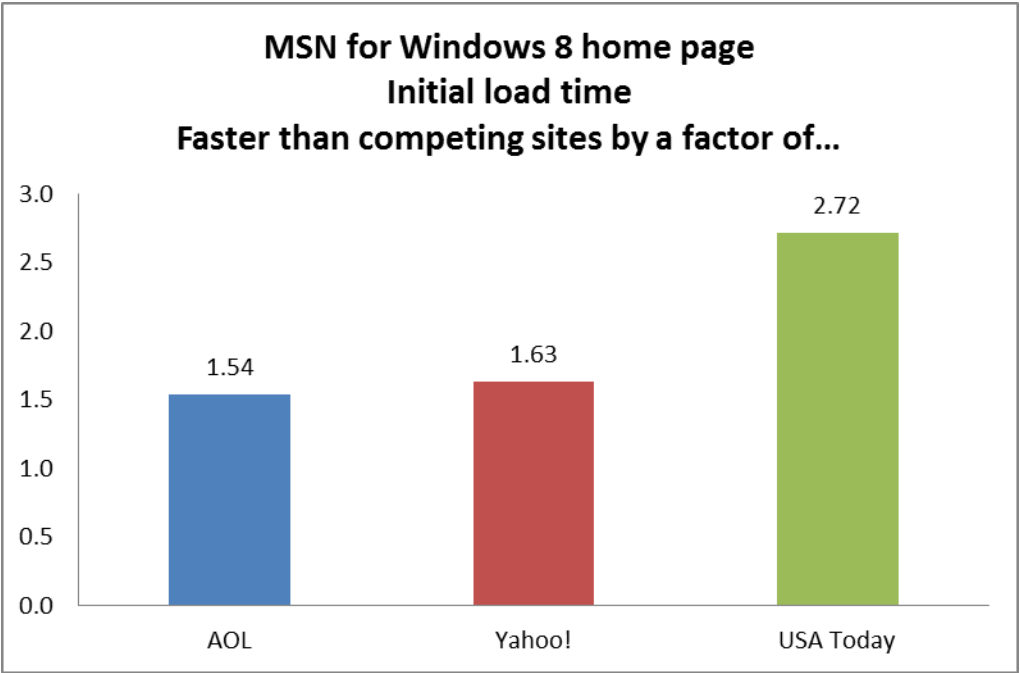
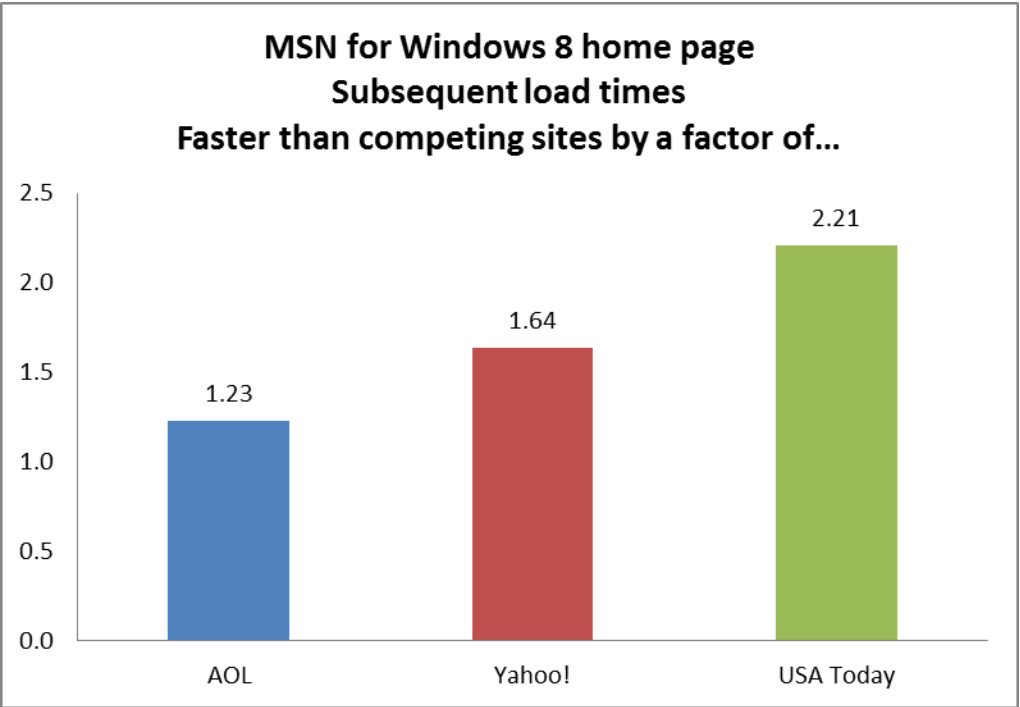


Figure 2: The subsequent load time of the new MSN home page was up to 2.21 times faster than that of competing Web sites.



Sports sites

Figure 3: The initial load time of the MSN for Windows Fox Sports NFL page was up to 10.02 times faster than that of competing sports sites.

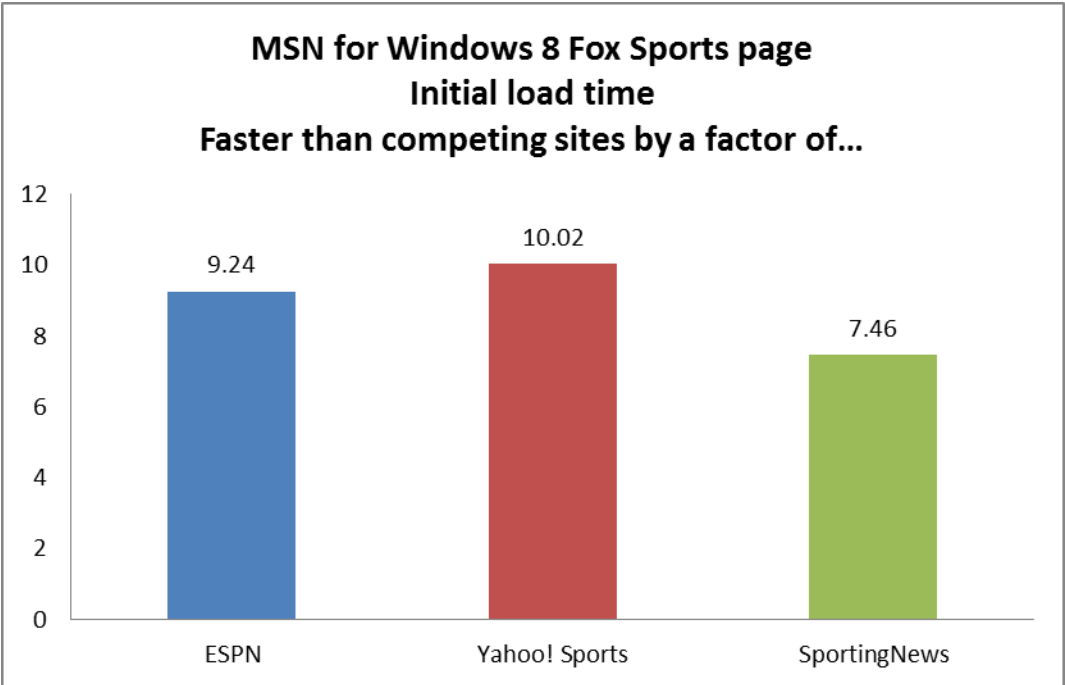
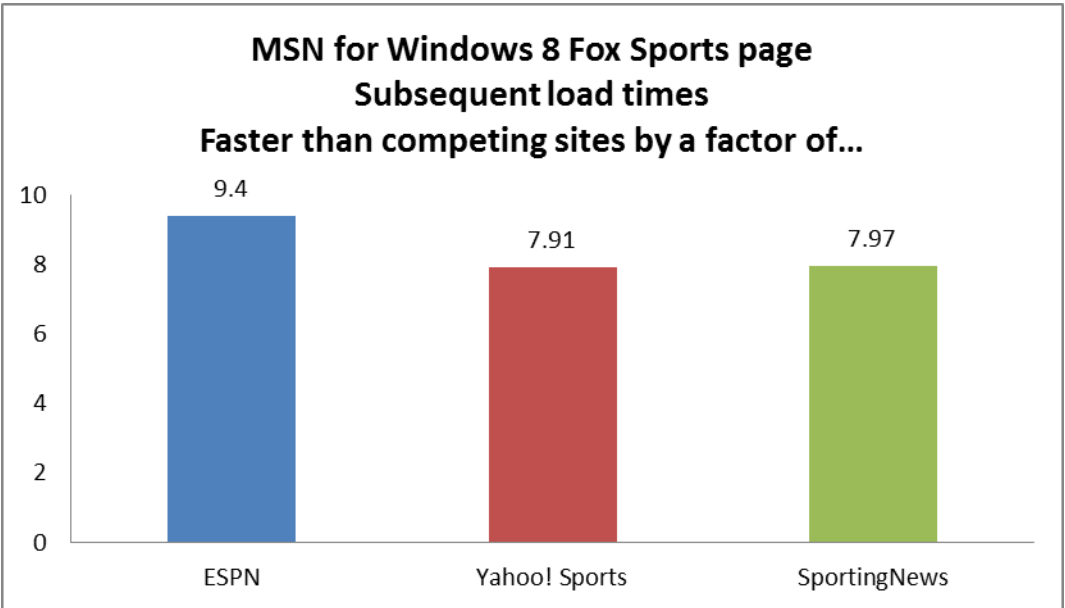


Figure 4: The subsequent load time of the MSN for Windows Fox Sports NFL page was up to 9.4 times faster than that of competing sports sites.



News sites

Figure 5: The initial load time of the MSN for Windows 8 News page was up to 6.58 times faster than that of competing news sites.

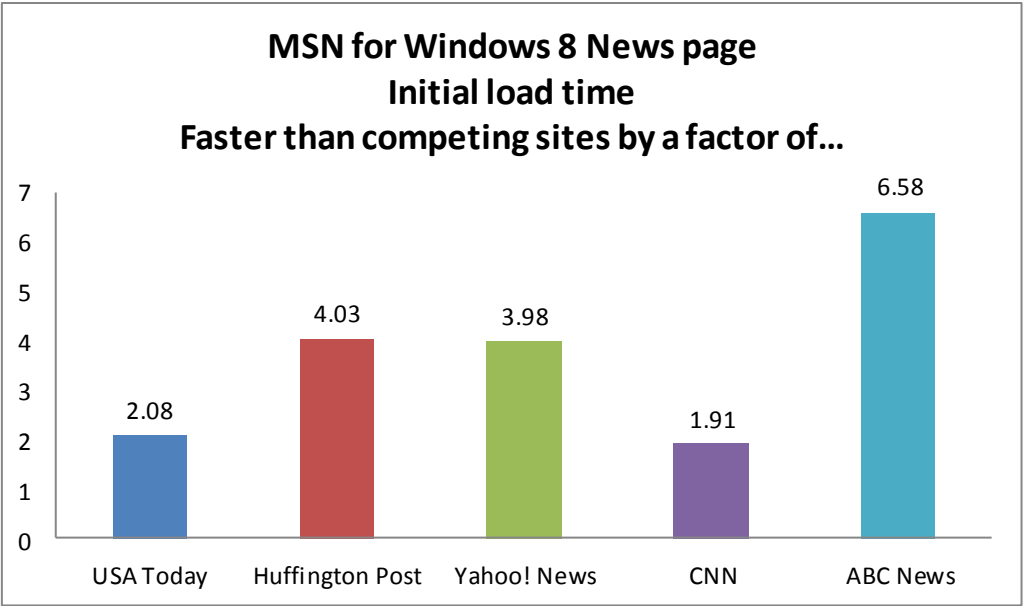
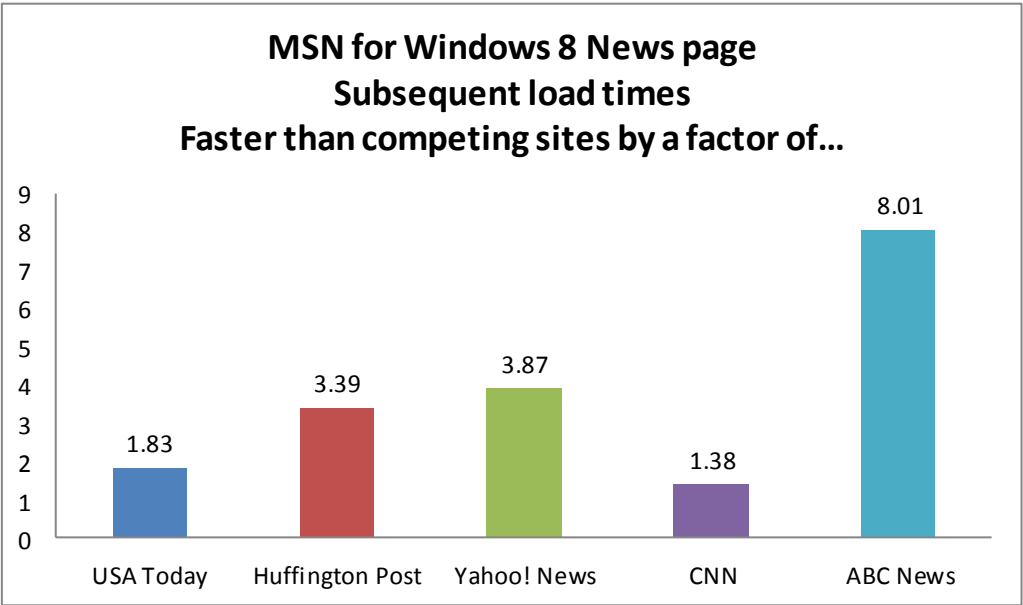


Figure 6: The subsequent load time of the MSN for Windows 8 News page was up to 8.01 times faster than that of competing news sites.



Entertainment sites

Figure 7: The initial load time of the MSN Entertainment page was up to 3.24 times faster than that of competing entertainment sites.

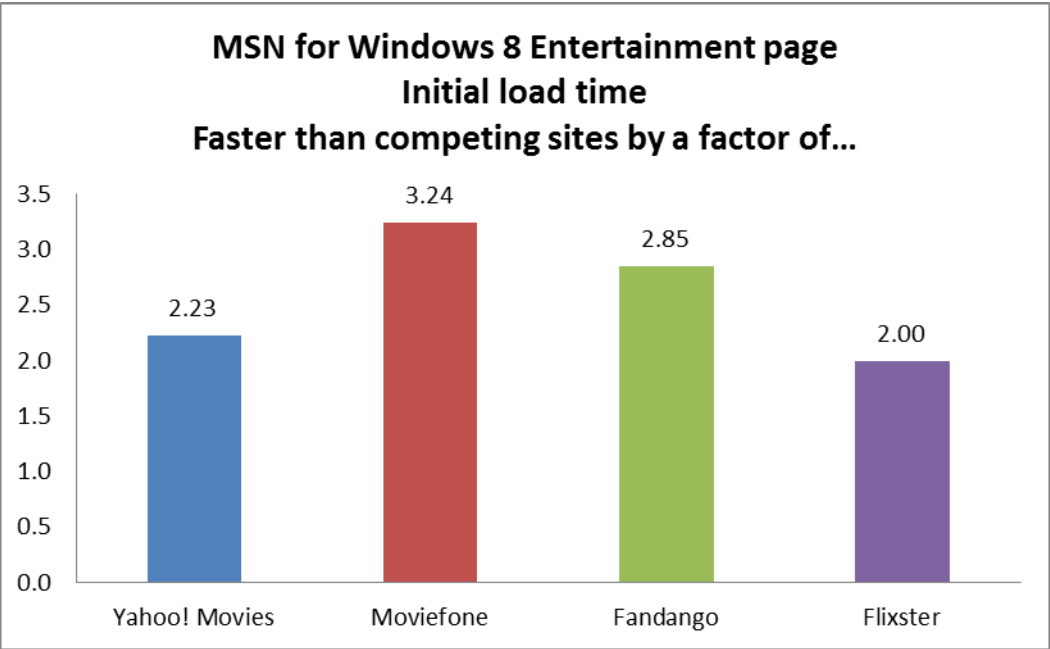
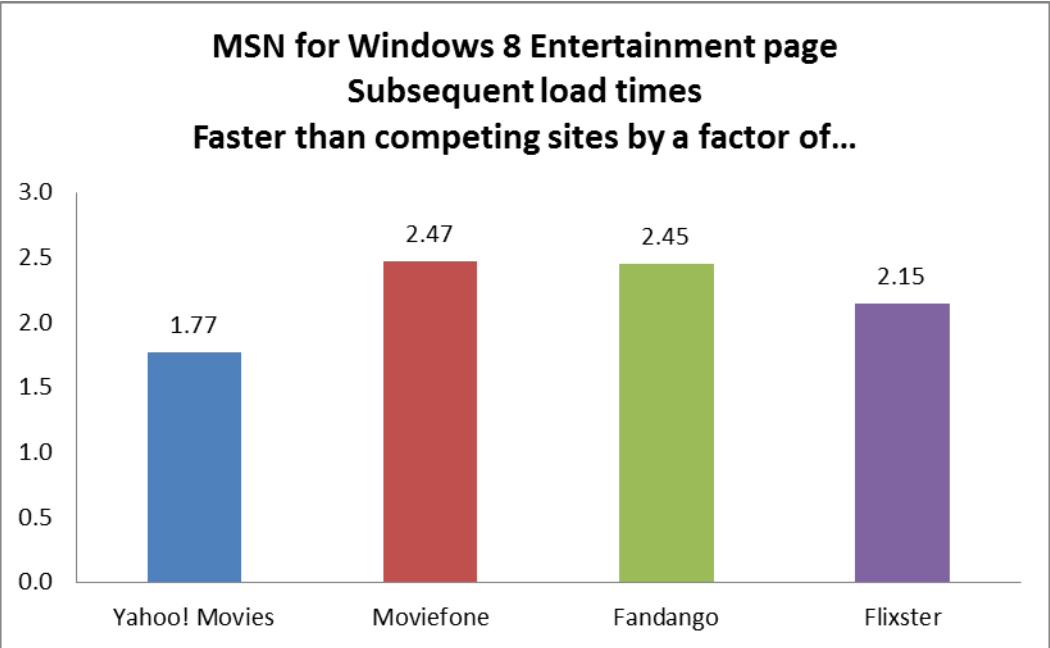


Figure 8: The subsequent load time of the MSN Entertainment page was up to 2.47 times faster than that of competing entertainment sites.



Finance sites

Figure 9: The initial load time of the MSN Money page was up to 3.54 times faster than that of competing finance sites.

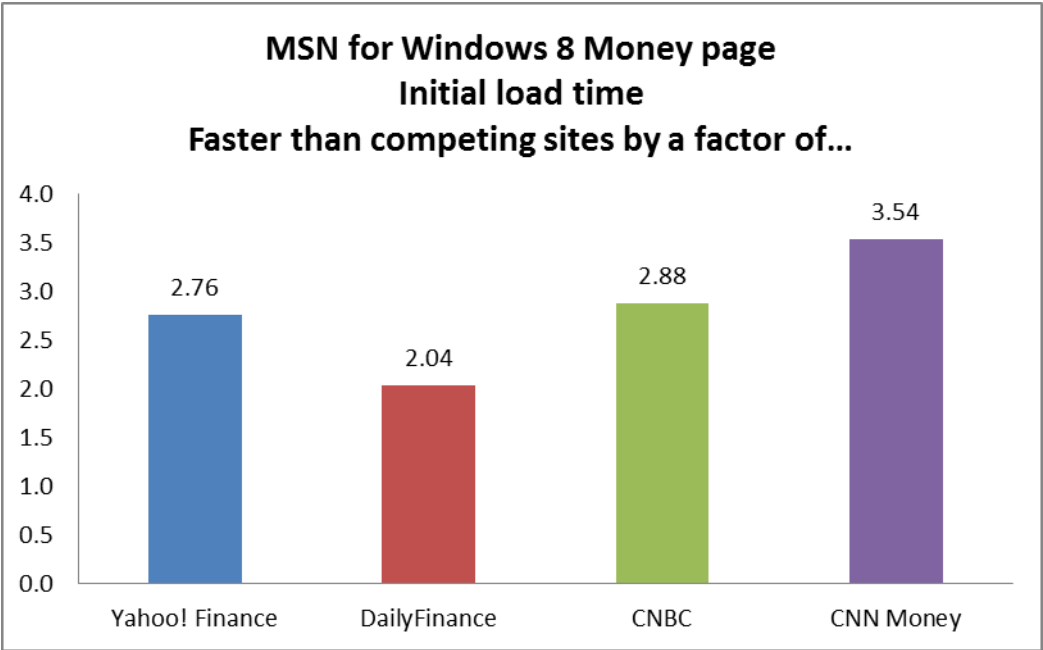
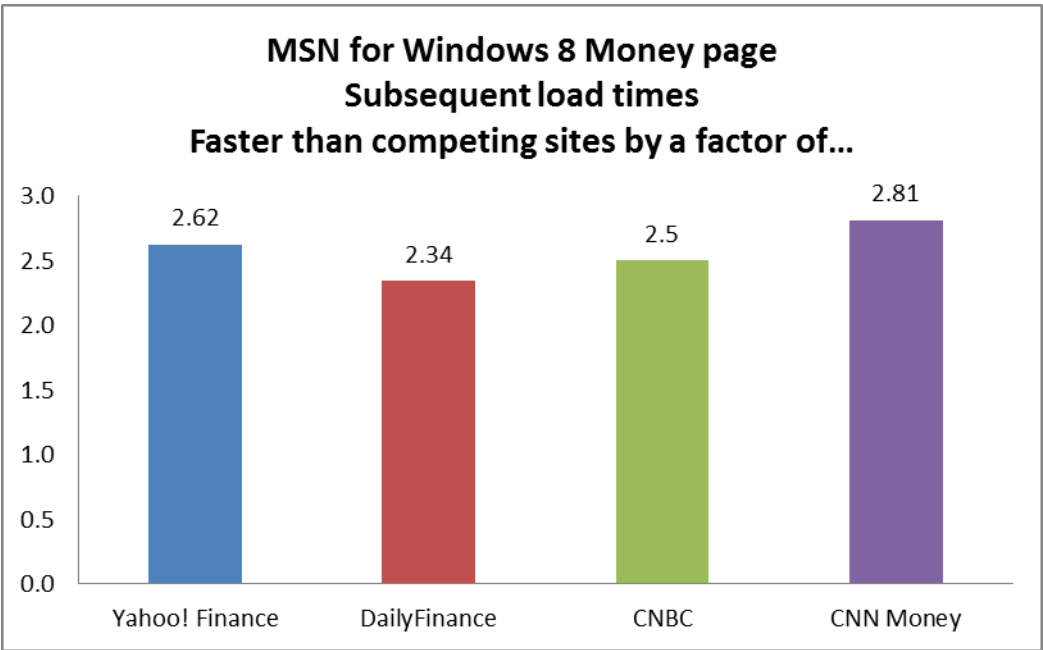


Figure 10: The subsequent load time of the MSN Money page was up to 2.81 times faster than that of competing finance sites.



# MSN WEB SITES: MSN FOR WINDOWS 8 VS. MSN CLASSIC

In this section, we show the load time improvement the MSN for Windows sites had versus the previous versions of the sites in our testing.

Figure 11: The initial load time for MSN for Windows 8 pages was up to 6.26 times faster than that of the previous versions of the pages.

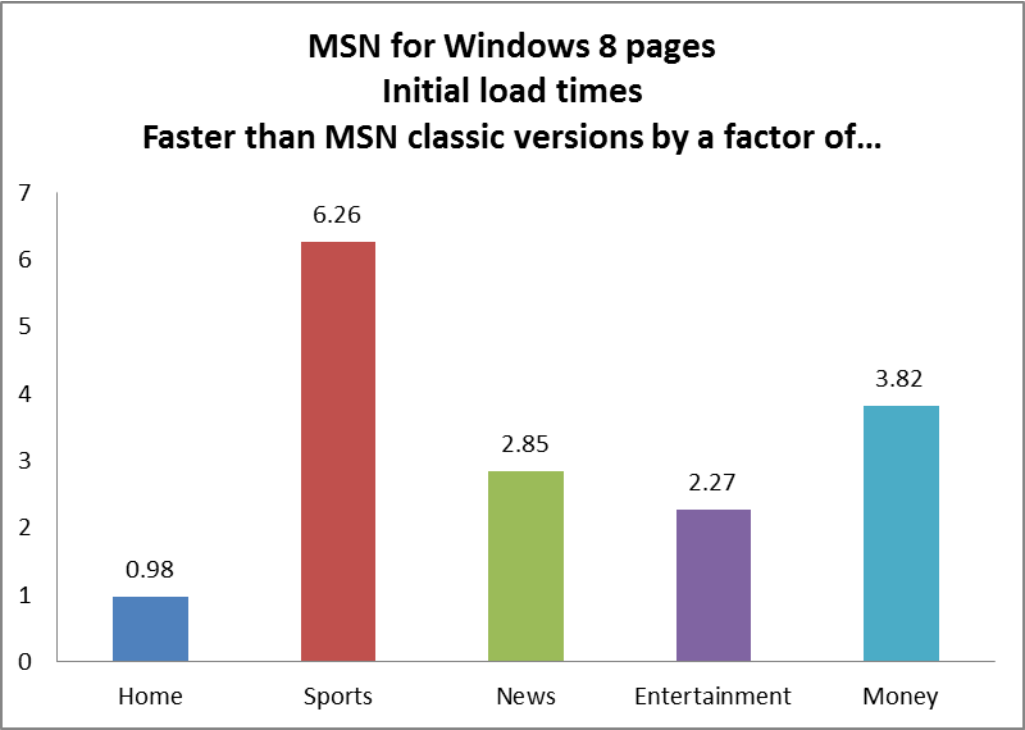
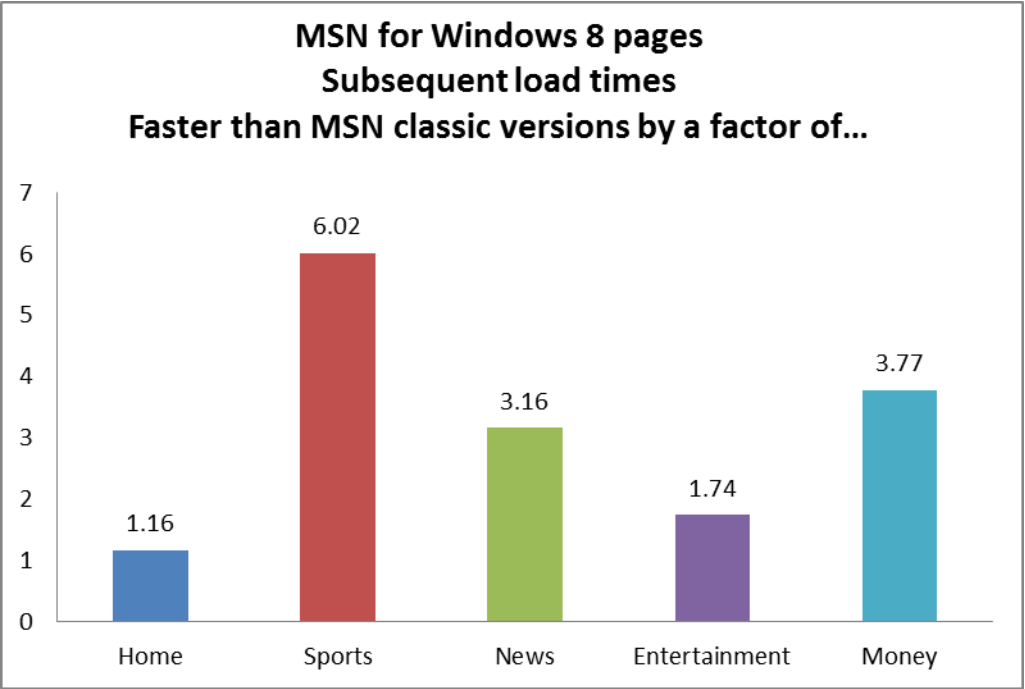


Figure 12: The subsequent load time for MSN for Windows 8 pages was up to 6.02 times faster than that of the previous versions of the pages.





## MSN WEB SITES VS. COMPETITOR SITES – CONTENT PAGE TESTING

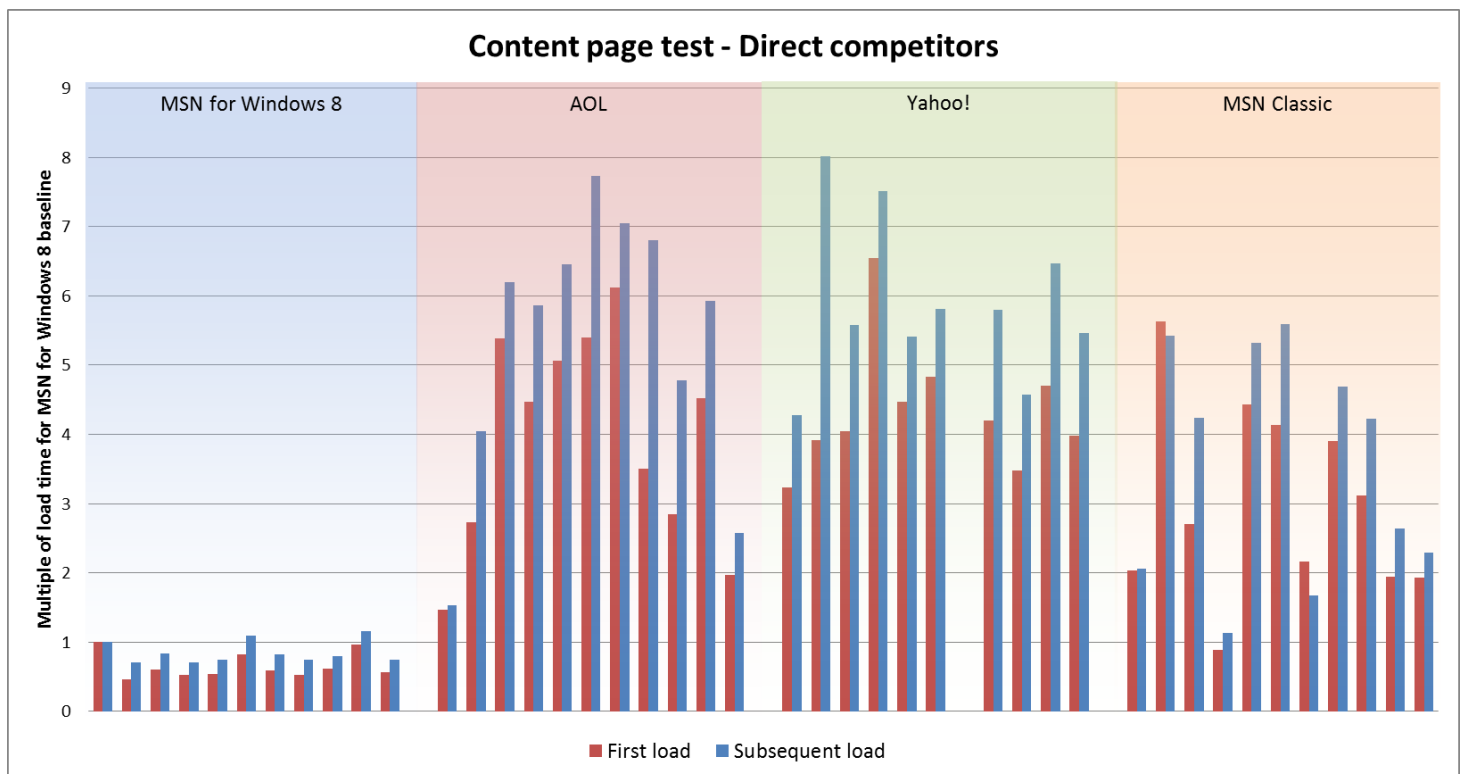
In this section, we compare the MSN for Windows Web sites to a wide range of competitor Web sites and content pages. For details on this test, see [Appendix C](#).

Figures 13 through 16 present the median times for both first and subsequent loads.

### Direct competitors content page test

Figure 13 compares the load times for MSN for Windows 8 Web pages with those for pages from competing sites. The average time for MSN for Windows 8 pages was...

- 6.3 times faster than the average for AOL pages on the first load
- 6.2 times faster than the average for AOL pages on the repeat load
- 6.7 times faster than the average for Yahoo! pages on the first load
- 6.5 times faster than the average for Yahoo! pages on the repeat load
- 4.7 times faster than the average for MSN Classic pages on the first load
- 4.3 times faster than the average for MSN Classic pages on the repeat load



**Figure 13: The load times of MSN for Windows 8 Web pages were up to 8.01 times faster than those of competing pages. See [Appendix C](#) for full URL details.**

## Finance pages

Figure 14 compares the load times for the MSN for Windows 8 finance site with those for pages from competing finance sites. The average time for MSN for Windows 8 pages was...

- 5.0 times faster than the average for Yahoo! pages on the first load
- 5.1 times faster than the average for Yahoo! pages on the repeat load
- 3.2 times faster than the average for Daily finance pages on the first load
- 3.6 times faster than the average for Daily finance pages on the repeat load
- 5.4 times faster than the average for WSJ pages on the first load
- 5.6 times faster than the average for WSJ pages on the repeat load
- 8.3 times faster than the average for Forbes pages on the first load
- 8.5 times faster than the average for Forbes pages on the repeat load

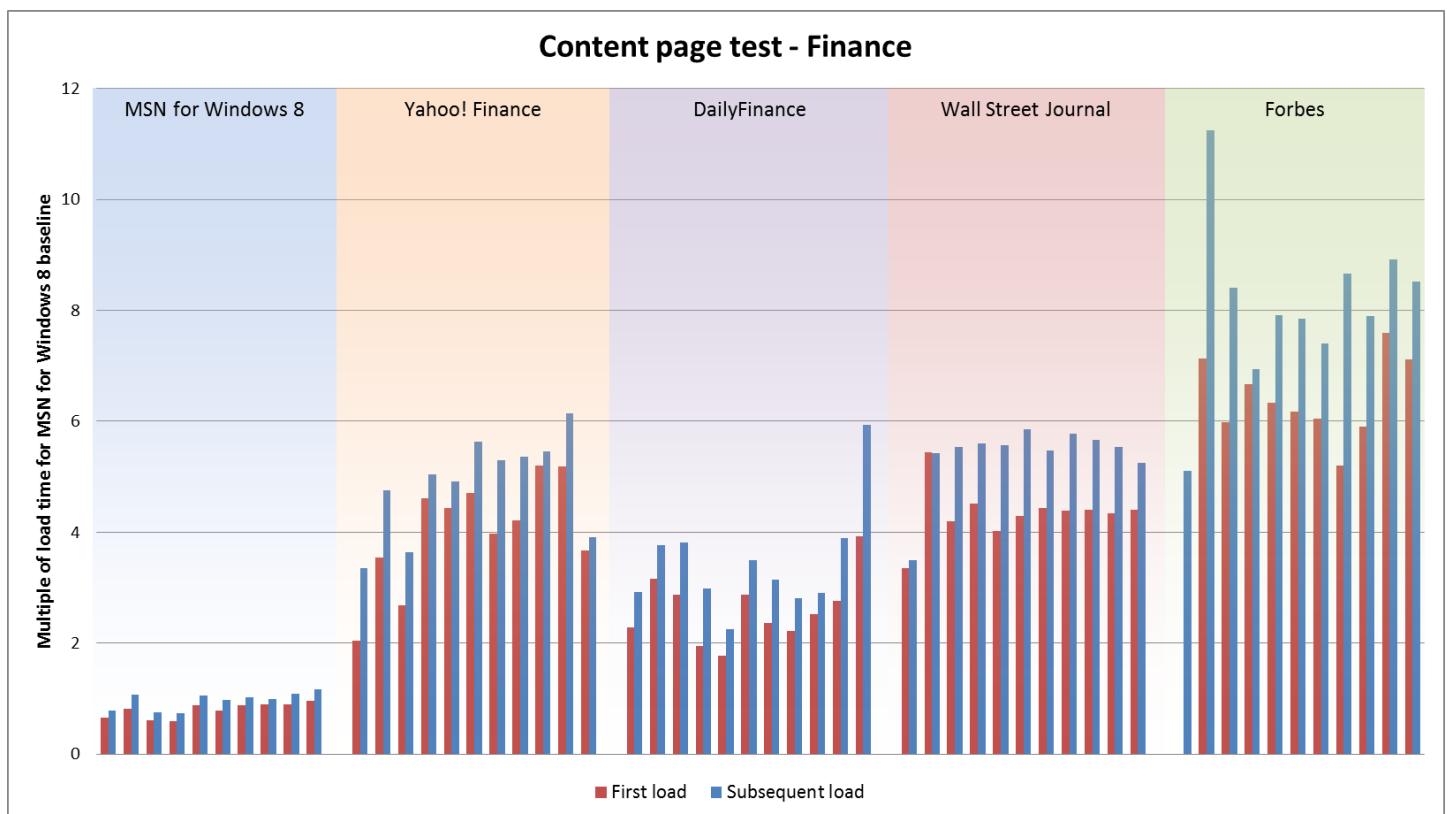


Figure 14: The load times of MSN Money Web pages were up to 11.25 times faster than those of competing finance pages. See [Appendix C](#) for full URL details.

## News pages

Figure 15 compares the load times for the MSN for Windows 8 news site with those for pages from competing news sites. The average time for MSN for Windows 8 pages was...

- 6.9 times faster than the average for Yahoo! pages on the first load
- 6.8 times faster than the average for Yahoo! pages on the repeat load
- 6.3 times faster than the average for NY Times pages on the first load
- 6.4 times faster than the average for NY Times pages on the repeat load
- 9.7 times faster than the average for CNN pages on the first load
- 8.8 times faster than the average for CNN pages on the repeat load

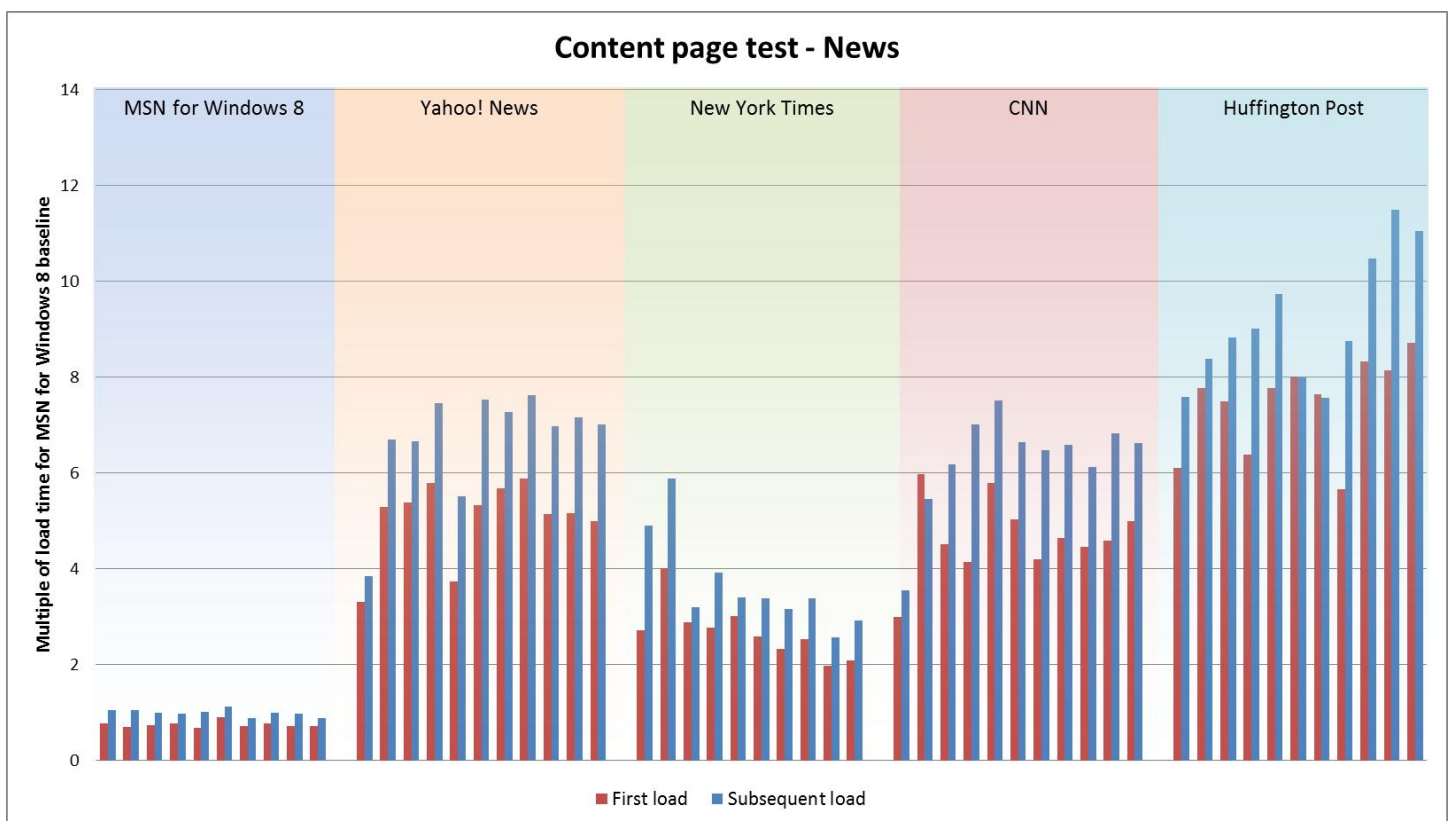


Figure 15: The load times of MSN News Web pages were up to 11.5 times faster than those of competing news pages. See [Appendix C](#) for full URL details.

## Sports pages

Figure 15 compares the load times for the MSN for Windows 8 sports site with those for pages from competing sports sites. The average time for MSN for Windows 8 pages was...

- 5.6 times faster than the average for ESPN pages on the first load
- 5.3 times faster than the average for ESPN pages on the repeat load
- 10.0 times faster than the average for Yahoo!Sports pages on the first load
- 10.2 times faster than the average for Yahoo!Sports pages on the repeat load
- 7.7 times faster than the average for NFL.com pages on the first load
- 7.5 times faster than the average for NFL.com pages on the repeat load
- 7.6 times faster than the average for USA Today sports pages on the first load
- 7.8 times faster than the average for USA Today sports pages on the repeat load

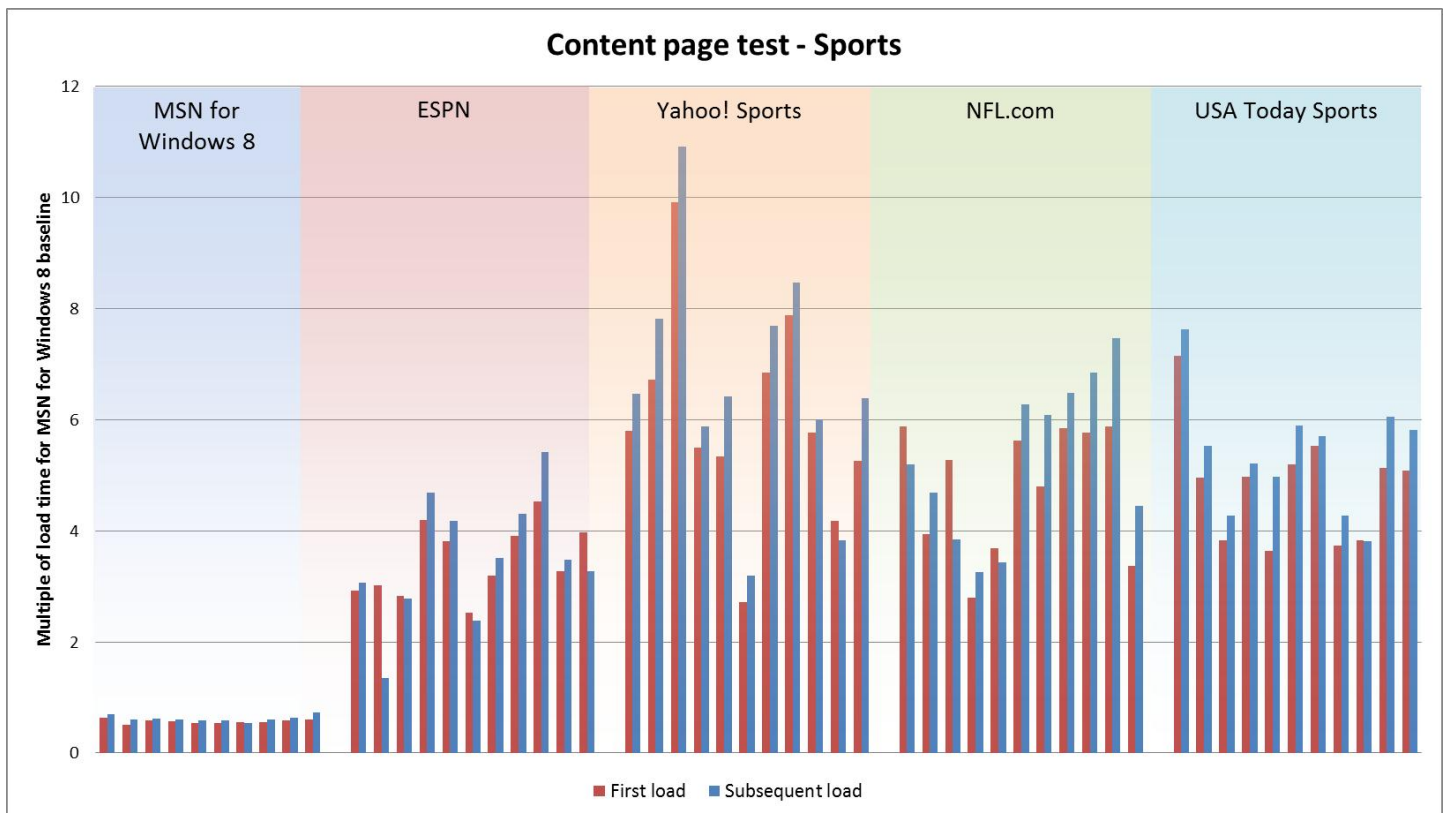


Figure 16: The load times of MSN Fox Sports Web pages were up to 10.92 times faster than that of competing sports pages. See [Appendix C](#) for full URL details.

## CONCLUSIONS

Below we present some additional findings from our testing. Detailed test results are in [Appendix C](#).

- MSN for Windows 8 was more than four times faster on average than major online competitors were as measured by page load time across the landing site, topic hubs, and articles. Major online competitors include Yahoo! and AOL, as well as sites such as CNN for news, ESPN for sports, etc.
- MSN for Windows 8 was more than five times faster on average than Yahoo! as measured by page load time across the landing site, topic hubs, and articles.
- Sports on MSN for Windows 8 was more than seven times faster on average than other major online sports sites, e.g., ESPN and NFL.
- News on MSN for Win 8 was more than three times faster on average than other major news sites, e.g., CNN and NYT.
- Finance on MSN for Win 8 was more than four times faster on average than other major news sites, e.g., WSJ and Forbes.
- MSN's NFL page loaded nearly 5 seconds faster than the ESPN NFL site, which allows our users to check game scores and jump into interesting articles in the blink of an eye.
- Yahoo's Finance landing site loaded nearly 2 seconds slower than the MSN Money landing site.
- MSN's news landing site loaded over 3 seconds faster than Yahoo! News and Huffington Post landing sites, which means users can be in the know faster, explore news in a new fluid way, and browse images that load instantly.

## APPENDIX A – SYSTEM CONFIGURATION INFORMATION

Figure 17 provides detailed configuration information for the test systems.

System	Dell Vostro 3555
<b>General</b>	
Number of processor packages	1
Number of cores per processor	2
Number of hardware threads per core	1
System power management policy	Balanced
Processor power-saving option	AMD PowerNow!
<b>CPU</b>	
Vendor	AMD
Model number	E2-3000M APU
Stepping	B0
Socket type and number of pins	Socket FS1 (905)
Core frequency (GHz)	1.8
L1 cache	64 KB + 64 KB (per core)
L2 cache	1 MB (512 KB per core)
<b>Platform</b>	
Vendor	Dell
Motherboard model number	0K89MF
Motherboard chipset	AMD A55/A60M
BIOS name and version	Dell A04 (10/24/2011)
<b>Memory module(s)</b>	
Vendor and model number	Samsung M471B5773CHS-CH9
Type	PC3-10600
Speed (MHz)	1,333
Speed running in the system (MHz)	1,333
Timing/Latency (tCL-tRCD-tRP-tRASmin)	9-9-9-24
Size (MB)	2,048
Number of memory module(s)	1
Amount of RAM in system (MB)	2,048
Chip organization (single-sided/double-sided)	Double-sided
Channel (single/dual)	Single
<b>Hard disk</b>	
Vendor and model number	Western Digital WD3200BPVT-75JJ5T0
Number of disks in system	1
Size (GB)	320
Buffer size (MB)	8
RPM	5,400
Type	SATA 3.0 Gb/s
Controller	AMD SATA Controller
Driver	AMD 1.1.4.6 (06/11/2012)

System	Dell Vostro 3555
<b>Operating system</b>	
Name	Microsoft Windows 8 RTM
Build number	9200
Service Pack	NA
File system	NTFS
Kernel	ACPI x64-based PC
Language	English
Microsoft DirectX version	11
<b>Graphics</b>	
Vendor and model number	AMD Radeon HD 6380G
Type	Integrated
Chipset	AMD Radeon HD 6380G
BIOS version	BR41243.bin
Total available graphics memory (MB)	1,011
Dedicated video memory (MB)	512
System video memory (MB)	0
Shared system memory (MB)	499
Resolution	1,366 x 768
Driver	AMD 8.97.10.6 (06/19/2012)
<b>Sound card/subsystem #1</b>	
Vendor and model number	High Definition Audio Device (IDT High Definition Audio)
Driver	Microsoft 6.1.7601.17514 (11/19/2010)
<b>Sound card/subsystem #2</b>	
Vendor and model number	High Definition Audio Device
Driver	Microsoft 6.2.9200.16384 (07/25/2012)
<b>Ethernet</b>	
Vendor and model number	Realtek PCIe GBE Family Controller
Driver	Realtek 8.1.1020.2011 (10/20/2011)
<b>Wireless</b>	
Vendor and model number	Dell 1701 802.11b/g/n
Driver	Microsoft 5.100.245.20 (03/13/2012)
<b>Optical drive(s)</b>	
Vendor and model number	PLDS 8A8SH
Type	DVD-RW
<b>USB ports</b>	
Number	4
Type	3 USB 3.0, 1 USB 2.0/eSATA
Other	Media card reader
<b>IEEE 1394 ports</b>	
Number	0
<b>Monitor</b>	
LCD type	LED
Screen size	15.6"
Refresh rate	60 Hz

<b>System</b>	<b>Dell Vostro 3555</b>
<b>Battery</b>	
Type	Dell J1KND 6-cell Lithium-ion
Rated capacity	11.1V / 4,300 mAh (48Wh)

Figure 17: System configuration information for the test system.



## APPENDIX B - HOW WE TESTED AND ANALYZED RESULTS

We created a PowerShell script that started and stopped HttpWatch for each Web site listed below. The script was set to open each Web site 10 times after clearing out the cache (initial load time) and 10 times without clearing out the cache (subsequent load time).

### Setting up the test

1. Install Windows 8 RTM on the notebook under test.
2. Purchase and download HttpWatch Professional v8.5 from <http://www.httpwatch.com/buy/>.
3. Copy the script files needed to the C:\logs directory.
  - a. Home page test URLs:
    - <http://t.msn.com>
    - <http://www.aol.com>
    - <http://www.yahoo.com>
    - <http://www.usatoday.com>
    - <http://www.msn.com>
  - b. Sports page test URLs:
    - <http://t.foxsports.msn.com/nfl>
    - <http://espn.go.com/nfl/>
    - <http://sports.yahoo.com/nfl/>
    - <http://aol.sportingnews.com/nfl>
    - <http://msn.foxsports.com/nfl>
  - c. News page test URLs:
    - <http://t.news.msn.com/>
    - <http://www.usatoday.com/news/index>
    - <http://www.huffingtonpost.com/>
    - <http://news.yahoo.com>
    - <http://www.cnn.com/US/>
    - <http://abcnews.go.com>
    - [http://www.msnbc.msn.com/id/3032525/ns/us\\_news/](http://www.msnbc.msn.com/id/3032525/ns/us_news/)
  - d. Entertainment/movies page test URLs:
    - <http://t.entertainment.msn.com/movies>
    - <http://movies.yahoo.com>
    - <http://www.moviefone.com/>
    - <http://www.fandango.com>
    - <http://www.flixster.com>
    - <http://movies.msn.com>
  - e. Finance page test URLs:
    - <http://t.money.msn.com>
    - <http://finance.yahoo.com>
    - <http://www.dailyfinance.com>
    - <http://www.cnbc.com>
    - <http://money.cnn.com>
    - <http://money.msn.com>

For the Content section of our testing, we selected URLs from the top five media sites , as reported by comScore MediaMetrix, September 2012.

## Running the test

Note: We conducted 10-run iterations of the test at three different times of day to reflect varying Web traffic conditions. The times of day were morning and afternoon of November 15 and 16, 2012.

1. Boot the system.
2. Type `po` to bring up the Windows 8 search, and right click on Windows Power Shell to run as Administrator.
3. Type `cd c:\logs` and press Enter.
4. Type `set-executionpolicy bypass` and press Enter.
5. Type `c:\logs\httpwatchscript.ps1` and press Enter to start the test.
6. After the test has completed, type `c:\logs\summarizelogs.ps1` to generate the results log.
7. Shut down the system.
8. Repeat steps 1 through 7 two more times.

## Calculating the wins for MSN for Windows 8

1. For each URL, identify the median load time from the four runs.
2. For each group (home, sports, news, entertainment, finance), calculate how many times faster the MSN for Windows 8 page load time is than the competition's page load time and report as "factor of X faster."
3. For each group (home, sports, news, entertainment, finance), calculate how many times faster the MSN for Windows 8 page load time is than the MSN Classic page load time and report as "factor of X faster."
4. Take the average of the five "factors of X faster" medians of the five groups for the competitor's URLs and report that as the average number of times faster MSN for Windows 8 pages are than competitor pages.
5. Take the average of the five "factors of X faster" averages of the five groups for the MSN classic URLs and report that as the average number of times faster MSN for Windows 8 pages are than MSN classic pages.

## APPENDIX C – DETAILED TEST RESULTS

Home pages	Time 1	% Diff	Time 2	% Diff	Time 3	% Diff	Time 4	% Diff	Avg. % diff from the MSN for Windows site
<b>Initial load time</b>									
http://t.msn.com	1.043	100%	1.137	100%	0.994	100%	1.076	100%	0%
http://www.aol.com	1.723	165%	2.013	177%	1.421	143%	1.412	131%	154%
http://www.yahoo.com	1.749	168%	1.72	151%	1.622	163%	1.815	169%	163%
http://www.usatoday.com	2.936	281%	2.652	233%	3.045	306%	2.871	267%	272%
http://www.msn.com	1.199	115%	1.245	109%	0.877	88%	0.864	80%	98%
<b>Subsequent load time</b>									
http://t.msn.com	0.9	100%	0.914	100%	0.909	100%	0.903	100%	0%
http://www.aol.com	1.046	116%	1.24	136%	1.06	117%	1.09	121%	123%
http://www.yahoo.com	1.481	165%	1.554	170%	1.499	165%	1.394	154%	164%
http://www.usatoday.com	2.156	240%	2.027	222%	1.948	214%	1.887	209%	221%
http://www.msn.com	1.181	131%	1.211	132%	0.913	100%	0.893	99%	116%

Figure 18: Load times for home pages.

Sports pages	Time 1	% Diff	Time 2	% Diff	Time 3	% Diff	Time 4	% Diff	Avg. % diff from the MSN for Windows site
<b>Initial load time</b>									
http://t.foxsports.msn.com/nfl	0.588	100%	0.547	100%	0.638	100%	0.689	100%	0%
http://espn.go.com/nfl/	5.184	882%	5.672	1037%	5.759	903%	6.007	872%	924%
http://sports.yahoo.com/nfl/	5.073	863%	9.082	1660%	5.337	837%	4.461	647%	1002%
http://aol.sportingnews.com/nfl	4.795	815%	4.577	837%	4.793	751%	4.005	581%	746%
http://msn.foxsports.com/nfl	3.191	543%	3.264	597%	4.617	724%	4.405	639%	626%
<b>Subsequent load time</b>									
http://t.foxsports.msn.com/nfl	0.491	100%	0.499	100%	0.626	100%	0.574	100%	0%
http://espn.go.com/nfl/	4.932	1004%	4.866	975%	5.358	856%	5.316	926%	940%
http://sports.yahoo.com/nfl/	4.65	947%	4.157	833%	3.832	612%	4.437	773%	791%
http://aol.sportingnews.com/nfl	4.004	815%	4.684	939%	3.76	601%	4.77	831%	797%
http://msn.foxsports.com/nfl	2.381	485%	2.369	475%	4.092	654%	4.549	793%	602%

Figure 19: Load times for sports Web sites.

News pages	Time 1	% Diff	Time 2	% Diff	Time 3	% Diff	Time 4	% Diff	Avg. % diff from the MSN for Windows site
<b>Initial load time</b>									
http://t.news.msn.com/	1.361	100%	2.980	100%	0.963	100%	0.907	100%	100%
http://www.usatoday.com/news/index	2.585	190%	2.545	85%	2.632	273%	2.587	285%	208%
http://www.huffingtonpost.com/	3.858	283%	4.515	152%	5.432	564%	5.572	614%	403%
http://news.yahoo.com	4.722	347%	3.616	121%	6.219	646%	4.334	478%	398%
http://www.cnn.com/US/	2.485	183%	2.478	83%	2.455	255%	2.208	243%	191%
http://abcnews.go.com	10.621	780%	11.423	383%	3.144	326%	10.357	1142%	658%
http://www.msnbc.msn.com/id/3032525/ns/us_news/	2.933	216%	2.836	95%	3.735	388%	4.007	442%	285%
<b>Subsequent load time</b>									
http://t.news.msn.com/	1.850	100%	2.470	100%	0.999	100%	0.966	100%	0.000
http://www.usatoday.com/news/index	2.558	138%	2.576	104%	2.356	236%	2.454	254%	183%
http://www.huffingtonpost.com/	3.569	193%	4.335	176%	4.899	490%	4.800	497%	339%
http://news.yahoo.com	3.170	171%	3.958	160%	6.243	625%	5.718	592%	387%
http://www.cnn.com/US/	2.100	114%	2.072	84%	1.828	183%	1.649	171%	138%
http://abcnews.go.com	11.452	619%	12.557	508%	10.300	1031%	10.105	1046%	801%
http://www.msnbc.msn.com/id/3032525/ns/us_news/	4.727	256%	4.053	164%	4.149	415%	4.128	427%	316%

Figure 20: Load times for news Web sites.

Entertainment pages	Time 1	% Diff	Time 2	% Diff	Time 3	% Diff	Time 4	% Diff	Avg. % diff from the MSN for Windows site
<b>Initial load time</b>									
http://t.entertainment.msn.com/movies	1.035	100%	1.136	100%	1.790	100%	1.083	100%	0.000
http://movies.yahoo.com	2.625	254%	3.079	271%	2.498	140%	2.465	228%	223%
http://www.moviefone.com/	3.337	322%	4.297	378%	4.823	269%	3.532	326%	324%
http://www.fandango.com	3.730	360%	3.871	341%	3.526	197%	2.624	242%	285%
http://www.flixster.com	2.021	195%	2.866	252%	2.763	154%	2.132	197%	200%
http://movies.msn.com	2.772	268%	2.793	246%	2.075	116%	3.021	279%	227%
<b>Subsequent load time</b>									
http://t.entertainment.msn.com/movies	1.155	100%	1.853	100%	1.403	100%	1.057	100%	0.000
http://movies.yahoo.com	2.367	205%	2.709	146%	2.121	151%	2.157	204%	177%
http://www.moviefone.com/	2.822	244%	2.969	160%	3.566	254%	3.496	331%	247%
http://www.fandango.com	3.210	278%	3.486	188%	2.791	199%	3.328	315%	245%
http://www.flixster.com	2.402	208%	3.470	187%	2.716	194%	2.859	270%	215%
http://movies.msn.com	2.165	187%	2.573	139%	2.194	156%	2.267	214%	174%

Figure 21: Load times for entertainment Web sites.

Finance pages	Time 1	% Diff	Time 2	% Diff	Time 3	% Diff	Time 4	% Diff	Avg. % diff from the MSN for Windows site
<b>Initial load time</b>									
http://t.money.msn.com	1.181	100%	1.343	100%	1.045	100%	1.070	100%	0.000
http://finance.yahoo.com	3.160	268%	3.386	252%	3.064	293%	3.114	291%	276%
http://www.dailyfinance.com	1.982	168%	2.474	184%	2.807	269%	2.079	194%	204%
http://www.cnbc.com	3.244	275%	3.420	255%	3.398	325%	3.193	298%	288%
http://money.cnn.com	3.899	330%	4.471	333%	3.785	362%	4.180	391%	354%
http://money.msn.com	5.372	455%	5.857	436%	3.180	304%	3.554	332%	382%
<b>Subsequent load time</b>									
http://t.money.msn.com	1.198	100%	1.223	100%	1.072	100%	1.087	100%	0.000
http://finance.yahoo.com	3.184	266%	3.070	251%	2.816	263%	2.886	266%	262%
http://www.dailyfinance.com	2.923	244%	2.890	236%	2.456	229%	2.449	225%	234%
http://www.cnbc.com	2.878	240%	2.957	242%	2.845	265%	2.737	252%	250%
http://money.cnn.com	3.204	267%	3.587	293%	3.078	287%	3.013	277%	281%
http://money.msn.com	5.920	494%	5.490	449%	2.973	277%	3.146	289%	377%

Figure 22: Load times for finance Web sites.

Content page test - Direct competitors	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
http://t.msn.com/	0.00	0.00	1	1
http://t.foxsports.msn.com/nfl/saints-deliver-falcons-first-loss	46%	71%	0.46	0.71
http://t.news.msn.com/us/msn-news-honors-veterans-four	60%	83%	0.6	0.83
http://t.entertainment.msn.com/skyfall-soars-to-record-debut?toc=movies++	52%	71%	0.52	0.71
http://t.news.msn.com/politics/official-petraeus-paramour-emailed-state-department-liaison	54%	74%	0.54	0.74
http://t.money.msn.com/retirement-plan/10-things-to-know-about-social-security	82%	109%	0.82	1.09
http://news.msn.com/politics/healing-the-united-states-split-by-presidential-election	59%	82%	0.59	0.82
http://news.msn.com/world/israel-fires-warning-shots-at-syria-over-golan-shelling-1	53%	74%	0.53	0.74
http://t.foxsports.msn.com/college-football/breaking-down-ncaas-big-calls-1	61%	79%	0.61	0.79
http://t.weather.msn.com/local?addlocation=wc:USNC0192	97%	116%	0.97	1.16
http://news.msn.com/science-technology/alaska-ice-tested-as-possible-new-energy-source	56%	75%	0.56	0.75
http://www.aol.com/	147%	153%	1.47	1.53
http://www.huffingtonpost.com/2012/11/11/indianapolis-explosion_n_2111740.html?icid=maing-grid7%7Cmain5%7Cdl1%7Csec1_inlk2%26pLid%3D233192	538%	620%	5.38	6.2
http://www.huffingtonpost.com/2012/11/11/veterans-day-2012-obama_n_2113787.html	447%	586%	4.47	5.86
http://www.huffingtonpost.com/2012/11/11/paula-broadwell-emails-david-petraeus-state-department_n_2114319.html	506%	646%	5.06	6.46
http://www.huffingtonpost.com/2012/11/11/hurricane-sandy-new-jersey-york-power-outage_n_2113856.html	540%	773%	5.4	7.73
http://www.aol.com/local/	273%	405%	2.73	4.05
http://www.dailyfinance.com/2012/11/10/3-compelling-reasons-to-think-an-economic-boom-is-coming/	197%	258%	1.97	2.58
http://www.huffingtonpost.com/2012/11/11/remembrance-day-2012_n_2113538.html	612%	705%	6.12	7.05
http://www.huffingtonpost.co.uk/helena-jidborg-alexander/multiple-sclerosis_b_2104163.html?utm_hp_ref=health-news&ir=Health%20News	351%	681%	3.51	6.81
http://www.huffingtonpost.com/2012/11/11/hurricane-sandy-new-jersey-york-power-outage_n_2113856.html	284%	478%	2.84	4.78
http://www.huffingtonpost.com/2012/11/05/hanna-nadel-leon-degrelle-sister_n_2077204.html	452%	593%	4.52	5.93
http://www.yahoo.com	323%	428%	3.23	4.28
http://finance.yahoo.com/news/secrets-of-the-credit-score-superstars.html	392%	801%	3.92	8.01
http://sports.yahoo.com/blogs/the-turnstile/lance-armstrong-just-happens-pose-next-tour-france-190124213.html	404%	558%	4.04	5.58
http://news.yahoo.com/petraeus-biographer-military-reservist-scholar-180906661.html	654%	751%	6.54	7.51
http://news.yahoo.com/senators-restart-talks-us-immigration-reform-plan-153200663.html	447%	541%	4.47	5.41
http://news.yahoo.com/official-petraeus-paramour-emailed-woman-fla-195406888.html	483%	581%	4.83	5.81
http://health.yahoo.net/articles/nutrition/photos/7-cheapest-ways-eat-healthy#0	*	*	*	*
http://news.yahoo.com/iceman-mummy-finds-closest-relatives-122356990.html	420%	580%	4.2	5.8
http://weather.yahoo.com/?w=2394734	348%	457%	3.48	4.57
http://omg.yahoo.com/photos/happy-50th-birthday-demi-moore-1352414454-slideshow/	470%	647%	4.7	6.47
http://news.yahoo.com/romney-never-overcame-bailout-opposition-ohio-185929937--election.html	398%	546%	3.98	5.46
http://www.msn.com/?ocid=msnclassic	204%	206%	2.04	2.06
http://msn.foxsports.com/nfl/story/New-Orleans-Saints-defeat-Atlanta-Falcons-111112	563%	542%	5.63	5.42

Content page test - Direct competitors	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
http://news.msn.com/us/msn-veterans-gallery-six	270%	424%	2.7	4.24
http://news.msn.com/politics/official-petraeus-paramour-emailed-state-department-liaison	89%	113%	0.89	1.13
http://realestate.msn.com/the-down-payment-chronicles	443%	532%	4.43	5.32
http://www.msnbc.msn.com/id/49764490/ns/health-mens_health/?ocid=msnhp&pos=7	414%	559%	4.14	5.59
http://wonderwall.msn.com/tv/Kanye-and-Kim-accused-of-not-paying-for-ice-cream-1717511.story	216%	167%	2.16	1.67
http://now.msn.com/babies-underwater-a-photo-gallery	390%	469%	3.9	4.69
http://now.msn.com/dog-and-soldier-have-a-happy-reunion	312%	422%	3.12	4.22
http://local.msn.com/weather.aspx?eid=9614&q=Durham-NC&zip=27701	194%	264%	1.94	2.64
http://autos.msn.com/research/compare/default.aspx?c=0&i=0&tb=0&ph1=t0&ph2=t0&dt=0&v=t115524&v=t114699&v=t115757&icid=autos_3701	193%	229%	1.93	2.29
http://now.msn.com/babies-underwater-a-photo-gallery	390%	469%	3.9	4.69

Figure 23: Load times during content page testing.

Content page test - Finance	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
http://t.money.msn.com/business-news/newsarticle?feed=OBR&date=20121109&id=15779692	66%	79%	0.66	0.79
http://t.money.msn.com/how-to-invest/as-tax-hike-nears-a-dividend-binge	81%	107%	0.81	1.07
http://t.money.msn.com/business-news/newsarticle?feed=OBR&date=20121111&id=15781168	61%	76%	0.61	0.76
http://t.money.msn.com/business-news/newsarticle?feed=OBR&date=20121111&id=15781340	60%	74%	0.6	0.74
http://t.money.msn.com/top-stocks/greece-is-still-a-train-wreck-1	88%	106%	0.88	1.06
http://t.money.msn.com/retirement/retirement-planning-if-youre-broke	78%	97%	0.78	0.97
http://t.money.msn.com/top-stocks/is-apple-forming-a-bottom	88%	103%	0.88	1.03
http://t.money.msn.com/saving-money-tips/veterans-day-freebies-and-deals	89%	100%	0.89	1
http://t.money.msn.com/credit-cards/5-credit-card-mistakes-to-avoid	89%	109%	0.89	1.09
http://t.money.msn.com/bill-fleckenstein/same-president-same-challenges	96%	117%	0.96	1.17
http://finance.yahoo.com/	204%	336%	2.04	3.36
http://finance.yahoo.com/blogs/the-exchange/high-potheads-eyed-big-business-233656926.html	355%	476%	3.55	4.76
http://finance.yahoo.com/blogs/daily-ticker/fiscal-cliff-congress-come-reasonable-agreement-end-says-154138016.html	268%	364%	2.68	3.64
http://finance.yahoo.com/blogs/the-exchange/black-friday-sales-gear-leaks-trickle-210533372.html	462%	504%	4.62	5.04
http://finance.yahoo.com/news/wall-street-week-ahead-fiscal-002515955.html	443%	491%	4.43	4.91
http://finance.yahoo.com/news/bernankes-stamp-fed-could-tie-130442423.html	470%	564%	4.7	5.64
http://finance.yahoo.com/news/apples-stumbles-bumps-road-more-163722017.html	397%	530%	3.97	5.3
http://finance.yahoo.com/news/wal-mart-employees-pay-more-051058271.html	422%	536%	4.22	5.36
http://finance.yahoo.com/news/japan-economy-shrinks-0-9-032756882.html	520%	546%	5.2	5.46
http://finance.yahoo.com/news/starbucks-amazon-google-face-uk-001023526.html	519%	614%	5.19	6.14
http://finance.yahoo.com/news/a-new-strategy-for-paying-for-long-term-care.html	367%	391%	3.67	3.91
http://www.dailyfinance.com/	229%	292%	2.29	2.92

Content page test - Finance	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
<a href="http://www.dailyfinance.com/2012/11/09/obama-americans-agree-with-my-approach-on-deficit/">http://www.dailyfinance.com/2012/11/09/obama-americans-agree-with-my-approach-on-deficit/</a>	316%	376%	3.16	3.76
<a href="http://www.dailyfinance.com/2012/11/10/post-election-pop-quiz-what-were-2012s-strangest-ballot-propos/">http://www.dailyfinance.com/2012/11/10/post-election-pop-quiz-what-were-2012s-strangest-ballot-propos/</a>	288%	382%	2.88	3.82
<a href="http://www.dailyfinance.com/2012/11/10/cable-tv-satellite-customers-flee/">http://www.dailyfinance.com/2012/11/10/cable-tv-satellite-customers-flee/</a>	195%	299%	1.95	2.99
<a href="http://www.dailyfinance.com/2012/11/09/oil-rises-consumer-confidence-improves/">http://www.dailyfinance.com/2012/11/09/oil-rises-consumer-confidence-improves/</a>	178%	225%	1.78	2.25
<a href="http://www.dailyfinance.com/2012/11/09/dear-president-obama-sell-gm-government-stake-now/">http://www.dailyfinance.com/2012/11/09/dear-president-obama-sell-gm-government-stake-now/</a>	288%	350%	2.88	3.5
<a href="http://www.dailyfinance.com/2012/11/09/financial-planning-same-sex-couples-tips-advice/">http://www.dailyfinance.com/2012/11/09/financial-planning-same-sex-couples-tips-advice/</a>	236%	315%	2.36	3.15
<a href="http://www.dailyfinance.com/2012/11/09/tax-hike-wealthy-americans-economic-growth/">http://www.dailyfinance.com/2012/11/09/tax-hike-wealthy-americans-economic-growth/</a>	222%	281%	2.22	2.81
<a href="http://www.dailyfinance.com/2012/11/09/j-c-penney-reports-worse-than-expected-third-quarter-loss/">http://www.dailyfinance.com/2012/11/09/j-c-penney-reports-worse-than-expected-third-quarter-loss/</a>	252%	291%	2.52	2.91
<a href="http://www.dailyfinance.com/2012/11/09/what-will-1-million-get-you-in-retirement/">http://www.dailyfinance.com/2012/11/09/what-will-1-million-get-you-in-retirement/</a>	276%	390%	2.76	3.9
<a href="http://www.dailyfinance.com/2012/11/09/identity-theft-how-to-protect-yourself/">http://www.dailyfinance.com/2012/11/09/identity-theft-how-to-protect-yourself/</a>	392%	593%	3.92	5.93
<a href="http://online.wsj.com/home-page">http://online.wsj.com/home-page</a>	336%	350%	3.36	3.5
<a href="http://online.wsj.com/article/SB10001424127887324894104578112853313376048.html?mod=WSJ_hppMIDDLENexttoWhatsNewsSecond">http://online.wsj.com/article/SB10001424127887324894104578112853313376048.html?mod=WSJ_hppMIDDLENexttoWhatsNewsSecond</a>	544%	543%	5.44	5.43
<a href="http://online.wsj.com/article/SB10001424127887323894704578112390176690004.html?mod=WSJ_hppMIDDLENexttoWhatsNewsSecond">http://online.wsj.com/article/SB10001424127887323894704578112390176690004.html?mod=WSJ_hppMIDDLENexttoWhatsNewsSecond</a>	419%	554%	4.19	5.54
<a href="http://online.wsj.com/article/SB10001424127887324894104578113412715240772.html?mod=WSJ_latestheadlines">http://online.wsj.com/article/SB10001424127887324894104578113412715240772.html?mod=WSJ_latestheadlines</a>	451%	560%	4.51	5.6
<a href="http://online.wsj.com/article/SB10001424052970203347104578100664164998712.html?mod=WSJ_hpp_MIDDLENexttoWhatsNewsFifth">http://online.wsj.com/article/SB10001424052970203347104578100664164998712.html?mod=WSJ_hpp_MIDDLENexttoWhatsNewsFifth</a>	402%	557%	4.02	5.57
<a href="http://online.wsj.com/article/SB10001424127887324894104578109000926531558.html?mod=WSJ_hp_mostpop_read">http://online.wsj.com/article/SB10001424127887324894104578109000926531558.html?mod=WSJ_hp_mostpop_read</a>	429%	586%	4.29	5.86
<a href="http://online.wsj.com/article/SB10001424127887324894104578109002624355318.html?mod=WSJ_hpp_MIDDLENexttoWhatsNewsFifth">http://online.wsj.com/article/SB10001424127887324894104578109002624355318.html?mod=WSJ_hpp_MIDDLENexttoWhatsNewsFifth</a>	444%	548%	4.44	5.48
<a href="http://online.wsj.com/article/SB10001424127887324439804578108840573155684.html?mod=WSJ_hp_EditorsPicks">http://online.wsj.com/article/SB10001424127887324439804578108840573155684.html?mod=WSJ_hp_EditorsPicks</a>	439%	578%	4.39	5.78
<a href="http://online.wsj.com/article/SB10001424127887324439804578104933926157320.html?mod=WSJ_hp_EditorsPicks">http://online.wsj.com/article/SB10001424127887324439804578104933926157320.html?mod=WSJ_hp_EditorsPicks</a>	441%	566%	4.41	5.66
<a href="http://online.wsj.com/article/SB10001424127887324894104578113131443122280.html?mod=WSJ_hpp_MIDDLE_Video_Top">http://online.wsj.com/article/SB10001424127887324894104578113131443122280.html?mod=WSJ_hpp_MIDDLE_Video_Top</a>	434%	553%	4.34	5.53
<a href="http://online.wsj.com/article/SB10001424127887324439804578109321281251186.html?mod=new_york_newsreel">http://online.wsj.com/article/SB10001424127887324439804578109321281251186.html?mod=new_york_newsreel</a>	441%	525%	4.41	5.25
<a href="http://www.forbes.com/">http://www.forbes.com/</a>	*	510%	*	5.1
<a href="http://www.forbes.com/sites/johntamny/2012/11/11/its-time-for-election-shattered-republicans-to-walk-back-from-the-ledge/">http://www.forbes.com/sites/johntamny/2012/11/11/its-time-for-election-shattered-republicans-to-walk-back-from-the-ledge/</a>	713%	1125%	7.13	11.25
<a href="http://www.forbes.com/sites/ericavitz/2012/11/11/apple-htc-settle-patent-suits-sign-10-year-licensing-deal/">http://www.forbes.com/sites/ericavitz/2012/11/11/apple-htc-settle-patent-suits-sign-10-year-licensing-deal/</a>	599%	840%	5.99	8.4
<a href="http://www.forbes.com/sites/frederickallen/2012/11/10/romney-the-great-manager-not-nearly-as-good-as-obama-the-election-proved/">http://www.forbes.com/sites/frederickallen/2012/11/10/romney-the-great-manager-not-nearly-as-good-as-obama-the-election-proved/</a>	667%	694%	6.67	6.94
<a href="http://www.forbes.com/sites/ewanspence/2012/11/10/androids-downward-pricing-will-force-googles-advertising-vision-on-every-manufacturer/">http://www.forbes.com/sites/ewanspence/2012/11/10/androids-downward-pricing-will-force-googles-advertising-vision-on-every-manufacturer/</a>	633%	792%	6.33	7.92
<a href="http://www.forbes.com/sites/timworstall/2012/11/11/the-chinese-rare-earths-monopoly-starts-to-fall-apart/">http://www.forbes.com/sites/timworstall/2012/11/11/the-chinese-rare-earths-monopoly-starts-to-fall-apart/</a>	617%	785%	6.17	7.85
<a href="http://www.forbes.com/sites/calebmelby/2012/11/11/why-christies-historic-massive-warhol-sale-wont-tank-the-market/">http://www.forbes.com/sites/calebmelby/2012/11/11/why-christies-historic-massive-warhol-sale-wont-tank-the-market/</a>	605%	741%	6.05	7.41
<a href="http://www.forbes.com/sites/leighsteinberg/2012/11/10/brown-firingbuss-wants-showtime-back/">http://www.forbes.com/sites/leighsteinberg/2012/11/10/brown-firingbuss-wants-showtime-back/</a>	520%	867%	5.2	8.67



Content page test - Finance	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
<a href="http://www.forbes.com/sites/williampentland/2012/11/11/new-yorks-electricity-crisis-started-before-sandy/">http://www.forbes.com/sites/williampentland/2012/11/11/new-yorks-electricity-crisis-started-before-sandy/</a>	590%	790%	5.9	7.9
<a href="http://www.forbes.com/sites/aroy/2012/11/09/obamacare-americas-last-entitlement/">http://www.forbes.com/sites/aroy/2012/11/09/obamacare-americas-last-entitlement/</a>	760%	892%	7.6	8.92
<a href="http://www.forbes.com/sites/afontevacqua/2012/11/09/lockheed-ceo-elect-kubasik-fired-over-relationship-with-subordinate/">http://www.forbes.com/sites/afontevacqua/2012/11/09/lockheed-ceo-elect-kubasik-fired-over-relationship-with-subordinate/</a>	712%	852%	7.12	8.52

Figure 24: Load times during Finance content page testing.

Content page test - News	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
<a href="http://t.news.msn.com/politics/petraeus-may-be-called-in-us-inquiry-on-benghazi">http://t.news.msn.com/politics/petraeus-may-be-called-in-us-inquiry-on-benghazi</a>	77%	105%	0.77	1.05
<a href="http://t.news.msn.com/politics/petraeus-biographer-a-military-reservist-scholar">http://t.news.msn.com/politics/petraeus-biographer-a-military-reservist-scholar</a>	70%	105%	0.7	1.05
<a href="http://t.news.msn.com/world/singles-day-chinas-romantic-online-shopping-holiday">http://t.news.msn.com/world/singles-day-chinas-romantic-online-shopping-holiday</a>	73%	99%	0.73	0.99
<a href="http://t.news.msn.com/us/nation-pays-tribute-to-sacrifices-of-veterans">http://t.news.msn.com/us/nation-pays-tribute-to-sacrifices-of-veterans</a>	77%	98%	0.77	0.98
<a href="http://t.news.msn.com/us/vets-preserve-memories-of-war-with-their-own-art">http://t.news.msn.com/us/vets-preserve-memories-of-war-with-their-own-art</a>	68%	102%	0.68	1.02
<a href="http://news.msn.com/world/bbc-must-reform-or-face-uncertain-future-says-chairman-4">http://news.msn.com/world/bbc-must-reform-or-face-uncertain-future-says-chairman-4</a>	90%	112%	0.9	1.12
<a href="http://news.msn.com/world/israel-fires-warning-shots-at-syria-over-golan-shelling-1">http://news.msn.com/world/israel-fires-warning-shots-at-syria-over-golan-shelling-1</a>	72%	88%	0.72	0.88
<a href="http://news.msn.com/world/saudi-king-to-undergo-back-operation-next-week-4">http://news.msn.com/world/saudi-king-to-undergo-back-operation-next-week-4</a>	77%	100%	0.77	1
<a href="http://news.msn.com/politics/study-us-judges-criminal-caseloads-vary-widely">http://news.msn.com/politics/study-us-judges-criminal-caseloads-vary-widely</a>	72%	97%	0.72	0.97
<a href="http://news.msn.com/world/earthquake-strikes-off-guatemalas-coast">http://news.msn.com/world/earthquake-strikes-off-guatemalas-coast</a>	72%	89%	0.72	0.89
<a href="http://news.yahoo.com/">http://news.yahoo.com/</a>	331%	385%	3.31	3.85
<a href="http://news.yahoo.com/obama-hails-veterans-pledges-continued-support-194134516.html">http://news.yahoo.com/obama-hails-veterans-pledges-continued-support-194134516.html</a>	529%	669%	5.29	6.69
<a href="http://news.yahoo.com/delays-power-restoration-storm-anger-163237017.html">http://news.yahoo.com/delays-power-restoration-storm-anger-163237017.html</a>	539%	667%	5.39	6.67
<a href="http://news.yahoo.com/fla-vote-beyond-recount-range-west-wont-concede-202640205--election.html">http://news.yahoo.com/fla-vote-beyond-recount-range-west-wont-concede-202640205--election.html</a>	579%	746%	5.79	7.46
<a href="http://news.yahoo.com/blogs/lookout/holly-petraeus-183728195.html">http://news.yahoo.com/blogs/lookout/holly-petraeus-183728195.html</a>	373%	551%	3.73	5.51
<a href="http://news.yahoo.com/dems-gop-fight-brewing-over-curbing-filibusters-123939041.html">http://news.yahoo.com/dems-gop-fight-brewing-over-curbing-filibusters-123939041.html</a>	533%	754%	5.33	7.54
<a href="http://news.yahoo.com/assad-opponents-agree-unite-224806581.html">http://news.yahoo.com/assad-opponents-agree-unite-224806581.html</a>	568%	727%	5.68	7.27
<a href="http://news.yahoo.com/polish-police-clash-protesters-national-holiday-153104121.html">http://news.yahoo.com/polish-police-clash-protesters-national-holiday-153104121.html</a>	589%	762%	5.89	7.62
<a href="http://news.yahoo.com/boston-romneys-loss-hits-home-115911870--politics.html">http://news.yahoo.com/boston-romneys-loss-hits-home-115911870--politics.html</a>	514%	697%	5.14	6.97
<a href="http://news.yahoo.com/republicans-deal-done-fiscal-cliff-175207026--business.html">http://news.yahoo.com/republicans-deal-done-fiscal-cliff-175207026--business.html</a>	517%	716%	5.17	7.16
<a href="http://news.yahoo.com/syrian-opposition-groups-reach-unity-deal-163006686.html">http://news.yahoo.com/syrian-opposition-groups-reach-unity-deal-163006686.html</a>	500%	701%	5	7.01
<a href="http://www.nytimes.com">http://www.nytimes.com</a>	272%	491%	2.72	4.91
<a href="http://www.nytimes.com/2012/11/12/us/politics/first-republicans-must-find-common-ground-among-themselves.html?hp">http://www.nytimes.com/2012/11/12/us/politics/first-republicans-must-find-common-ground-among-themselves.html?hp</a>	401%	589%	4.01	5.89
<a href="http://www.nytimes.com/2012/11/12/us/politics/a-vote-for-unlimited-campaign-financing.html?hp&amp;_r=0">http://www.nytimes.com/2012/11/12/us/politics/a-vote-for-unlimited-campaign-financing.html?hp&amp;_r=0</a>	288%	320%	2.88	3.2
<a href="http://www.nytimes.com/2012/11/12/world/middleeast/syrian-opposition-groups-sign-unity-deal.html?hp">http://www.nytimes.com/2012/11/12/world/middleeast/syrian-opposition-groups-sign-unity-deal.html?hp</a>	278%	393%	2.78	3.93
<a href="http://www.nytimes.com/2012/11/12/us/lawmakers-question-fbi-handling-of-petraeus-affair.html?hp">http://www.nytimes.com/2012/11/12/us/lawmakers-question-fbi-handling-of-petraeus-affair.html?hp</a>	301%	341%	3.01	3.41
<a href="http://www.nytimes.com/2012/11/12/us/beyond-paula-broadwells-tv-interviews-a-family-focused-life.html?hp">http://www.nytimes.com/2012/11/12/us/beyond-paula-broadwells-tv-interviews-a-family-focused-life.html?hp</a>	259%	338%	2.59	3.38

Content page test - News	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
<a href="http://www.nytimes.com/2012/11/12/world/europe/bbc-shaken-by-bungled-report-needs-radical-overhaul-its-chairman-says.html?hp">http://www.nytimes.com/2012/11/12/world/europe/bbc-shaken-by-bungled-report-needs-radical-overhaul-its-chairman-says.html?hp</a>	233%	317%	2.33	3.17
<a href="http://www.nytimes.com/2012/11/12/business/global/greece-renews-struggle-against-tax-evasion.html?hp">http://www.nytimes.com/2012/11/12/business/global/greece-renews-struggle-against-tax-evasion.html?hp</a>	253%	339%	2.53	3.39
<a href="http://www.nytimes.com/2012/11/11/fashion/hurricane-sandy-reveals-a-life-unplugged.html?src=dayp">http://www.nytimes.com/2012/11/11/fashion/hurricane-sandy-reveals-a-life-unplugged.html?src=dayp</a>	197%	257%	1.97	2.57
<a href="http://www.nytimes.com/reuters/2012/11/11/business/11reuters-india-economy-redtape.html?hp">http://www.nytimes.com/reuters/2012/11/11/business/11reuters-india-economy-redtape.html?hp</a>	208%	292%	2.08	2.92
<a href="http://www.cnn.com/">http://www.cnn.com/</a>	300%	355%	3	3.55
<a href="http://www.cnn.com/2012/11/11/us/northeast-weather/index.html?hpt=hp_bn1">http://www.cnn.com/2012/11/11/us/northeast-weather/index.html?hpt=hp_bn1</a>	597%	545%	5.97	5.45
<a href="http://www.cnn.com/2012/11/09/us/vietnam-veteran-cemetery/index.html?hpt=hp_bn1">http://www.cnn.com/2012/11/09/us/vietnam-veteran-cemetery/index.html?hpt=hp_bn1</a>	452%	618%	4.52	6.18
<a href="http://www.cnn.com/2012/11/09/justice/texas-lawyer-arrested/index.html?hpt=hp_bn1">http://www.cnn.com/2012/11/09/justice/texas-lawyer-arrested/index.html?hpt=hp_bn1</a>	415%	701%	4.15	7.01
<a href="http://security.blogs.cnn.com/2012/11/09/drone-incident-over-the-gulf-a-sign-of-the-times/?hpt=hp_bn2">http://security.blogs.cnn.com/2012/11/09/drone-incident-over-the-gulf-a-sign-of-the-times/?hpt=hp_bn2</a>	579%	751%	5.79	7.51
<a href="http://www.cnn.com/2012/11/08/world/asia/china-leadership-change/index.html?hpt=hp_bn2">http://www.cnn.com/2012/11/08/world/asia/china-leadership-change/index.html?hpt=hp_bn2</a>	503%	665%	5.03	6.65
<a href="http://globalpublicsquare.blogs.cnn.com/2012/11/06/how-africa-could-feed-the-world/?hpt=hp_bn2">http://globalpublicsquare.blogs.cnn.com/2012/11/06/how-africa-could-feed-the-world/?hpt=hp_bn2</a>	420%	647%	4.2	6.47
<a href="http://www.cnn.com/2012/11/09/politics/petraeus-cia-resignation/index.html?hpt=hp_bn3">http://www.cnn.com/2012/11/09/politics/petraeus-cia-resignation/index.html?hpt=hp_bn3</a>	465%	659%	4.65	6.59
<a href="http://www.cnn.com/2012/11/09/politics/demographic-political-power/index.html?hpt=hp_bn3">http://www.cnn.com/2012/11/09/politics/demographic-political-power/index.html?hpt=hp_bn3</a>	446%	613%	4.46	6.13
<a href="http://www.cnn.com/2012/11/11/business/greece-bailout-vote/index.html?hpt=hp_t3">http://www.cnn.com/2012/11/11/business/greece-bailout-vote/index.html?hpt=hp_t3</a>	458%	683%	4.58	6.83
<a href="http://www.cnn.com/2012/11/11/world/meast/syria-civil-war/index.html?hpt=hp_t3">http://www.cnn.com/2012/11/11/world/meast/syria-civil-war/index.html?hpt=hp_t3</a>	500%	663%	5	6.63
<a href="http://www.huffingtonpost.com/">http://www.huffingtonpost.com/</a>	610%	758%	6.1	7.58
<a href="http://www.huffingtonpost.com/2012/11/11/bill-kristol-taxes-millionaires_n_2113671.html">http://www.huffingtonpost.com/2012/11/11/bill-kristol-taxes-millionaires_n_2113671.html</a>	778%	838%	7.78	8.38
<a href="http://www.huffingtonpost.com/2012/11/10/democratic-super-pacs-red_n_2104668.html?ref=topbar">http://www.huffingtonpost.com/2012/11/10/democratic-super-pacs-red_n_2104668.html?ref=topbar</a>	749%	882%	7.49	8.82
<a href="http://www.huffingtonpost.com/2012/11/11/carlos-gutierrez-mitt-romney-latinos_n_2113622.html?ref=topbar">http://www.huffingtonpost.com/2012/11/11/carlos-gutierrez-mitt-romney-latinos_n_2113622.html?ref=topbar</a>	639%	901%	6.39	9.01
<a href="http://www.huffingtonpost.com/2012/11/11/greek-austerity-budget-approved-by-parliament_n_2114890.html">http://www.huffingtonpost.com/2012/11/11/greek-austerity-budget-approved-by-parliament_n_2114890.html</a>	777%	974%	7.77	9.74
<a href="http://www.huffingtonpost.com/2012/11/11/senate-immigration_n_2113658.html">http://www.huffingtonpost.com/2012/11/11/senate-immigration_n_2113658.html</a>	802%	799%	8.02	7.99
<a href="http://www.huffingtonpost.com/2012/11/10/allen-west-patrick-murphy_n_2109313.html?ref=topbar">http://www.huffingtonpost.com/2012/11/10/allen-west-patrick-murphy_n_2109313.html?ref=topbar</a>	764%	756%	7.64	7.56
<a href="http://www.huffingtonpost.com/2012/11/09/medicaid-expansion_n_2103384.html?ir=Politics&amp;ref=topbar">http://www.huffingtonpost.com/2012/11/09/medicaid-expansion_n_2103384.html?ir=Politics&amp;ref=topbar</a>	567%	876%	5.67	8.76
<a href="http://www.huffingtonpost.com/2012/11/11/robert-bales-trial-afghanistan-massacre-testimonies_n_2112928.html?utm_hp_ref=world">http://www.huffingtonpost.com/2012/11/11/robert-bales-trial-afghanistan-massacre-testimonies_n_2112928.html?utm_hp_ref=world</a>	832%	1048%	8.32	10.48
<a href="http://www.huffingtonpost.com/2012/11/11/eric-shinseki-veterans-affairs_n_2110080.html?utm_hp_ref=world&amp;ir=World">http://www.huffingtonpost.com/2012/11/11/eric-shinseki-veterans-affairs_n_2110080.html?utm_hp_ref=world&amp;ir=World</a>	814%	1150%	8.14	11.5
<a href="http://www.huffingtonpost.com/2012/11/09/mitt-romney-campaign-cancels-credit-cards-staffers-aids-election-night_n_2099916.html?utm_hp_ref=mostpopular">http://www.huffingtonpost.com/2012/11/09/mitt-romney-campaign-cancels-credit-cards-staffers-aids-election-night_n_2099916.html?utm_hp_ref=mostpopular</a>	871%	1105%	8.71	11.05

Figure 25: Load times during News content page testing.

Content page test - Sports	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
http://t.foxsports.msn.com/johnson-crashes-in-phoenix-race	63%	69%	0.63	0.69
http://t.foxsports.msn.com/nfl/fan-sues-bills-over-3-excess-texts	51%	61%	0.51	0.61
http://t.foxsports.msn.com/mlb/ex-al-president-macphail-dies-1	58%	62%	0.58	0.62
http://t.foxsports.msn.com/college-football/kelly-starts-trumpeting-irish-for-bcs-1	57%	61%	0.57	0.61
http://t.foxsports.msn.com/nfl/49ers-qb-smith-suffers-concussion-1	54%	58%	0.54	0.58
http://t.foxsports.msn.com/manning-ties-marino-as-broncos-roll-1	54%	59%	0.54	0.59
http://t.foxsports.msn.com/nba/pierce-garnett-lead-celtics	55%	54%	0.55	0.54
http://t.foxsports.msn.com/soccer/dynamo-completes-comeback-vs-dc	55%	61%	0.55	0.61
http://t.foxsports.msn.com/ufc/ufc-macao-fight-blog	59%	63%	0.59	0.63
http://t.foxsports.msn.com/college-basketball/wildcats-get-taught-early-lesson-1	60%	73%	0.6	0.73
http://espn.go.com/	293%	307%	2.93	3.07
http://scores.espn.go.com/nfl/boxscore?gameId=321111025	302%	135%	3.02	1.35
http://sports.espn.go.com/nfl/recap?gameId=321111021	283%	278%	2.83	2.78
http://espn.go.com/college-football/story/_/id/8620049/oregon-ducks-climb-no-1-associated-press-poll-alabama-crimson-tide-falls-4th	419%	468%	4.19	4.68
http://espn.go.com/tennis/story/_/id/8620007/roger-federer-novak-djokovic-reach-finale-atp-finals	381%	418%	3.81	4.18
http://espn.go.com/college-football/story/_/id/8620247/washington-state-cougars-review-marquess-wilson-allegations	252%	238%	2.52	2.38
http://espn.go.com/boxing/story/_/id/8618474/wladimir-klitschko-shows-mettle-champion-first-win-emanuel-steward	320%	351%	3.2	3.51
http://espn.go.com/racing/nhra/story/_/id/8612349/nhra-antron-brown-cusp-making-nhra-history	390%	430%	3.9	4.3
http://espn.go.com/mlb/hotstove12/story/_/id/8606737/mlb-winter-forecast-teams-american-league-east	453%	541%	4.53	5.41
http://espn.go.com/ncw/feature/video/_/id/8596667/2012-preseason-all-america-women-basketball-teams	327%	348%	3.27	3.48
http://espn.go.com/espnw/more-sports/8606727/espnw-vendée-globe-samantha-davies-solo-odyssey	397%	327%	3.97	3.27
http://sports.yahoo.com/	580%	647%	5.8	6.47
http://sports.yahoo.com/blogs/nfl-shutdown-corner/saints-end-falcons-unbeaten-streak-play-time-222602561--nfl.html	672%	781%	6.72	7.81
http://sports.yahoo.com/blogs/nfl-shutdown-corner/cowboys-score-two-return-touchdowns-just-over-minute-003906209--nfl.html	991%	1092%	9.91	10.92
http://sports.yahoo.com/blogs/nascar-from-the-marbles/gordon-bowyer-wreck-crews-brawl-garage-002154673--nascar.html	550%	587%	5.5	5.87
http://sports.yahoo.com/news/commissioners-meet-football-playoff-format-203018674--ncaaf.html	534%	641%	5.34	6.41
http://sports.yahoo.com/news/wild-race-blows-championship-open-001048181--nascar.html	272%	319%	2.72	3.19
http://sports.yahoo.com/news/manning-defense-lead-broncos-over-212237859--nfl.html	684%	769%	6.84	7.69
http://sports.yahoo.com/news/saints-end-falcons-unbeaten-run-211835204--nfl.html	788%	846%	7.88	8.46
http://sports.yahoo.com/news/dodgers-bid-25-7-million-184256914--mlb.html	576%	601%	5.76	6.01
http://sports.yahoo.com/news/nba--phil-jackson-debating-whether-to-return-to-lakers-10171209.html	418%	383%	4.18	3.83
http://sports.yahoo.com/blogs/ncaab-the-dagger/south-alabama-makes-early-statement-stunning-upset-florida-190011226--ncaab.html	526%	638%	5.26	6.38
http://www.nfl.com/	588%	519%	5.88	5.19

Content page test - Sports	First load %	Repeat load %	First load factor of MSN	Repeat load factor of MSN
http://www.nfl.com/scores	394%	468%	3.94	4.68
http://www.nfl.com/gamecenter/2012111110/2012/REG10/rams@49ers#menu=highlights&tab=recap	527%	384%	5.27	3.84
http://www.nfl.com/gamecenter/2012111109/2012/REG10/cowboys@eagles#menu=highlights&tab=recap	280%	325%	2.8	3.25
http://www.nfl.com/news/story/0ap1000000093357/article/philadelphia-eagles-done-after-loss-to-dallas-cowboys	368%	343%	3.68	3.43
http://www.nfl.com/news/story/0ap1000000092997/article/michael-vick-suffers-concussion-for-philadelphia-eagles	562%	628%	5.62	6.28
http://www.nfl.com/news/story/0ap1000000093359/article/rex-ryan-stands-behind-mark-sanchez-as-jets-tumble	480%	609%	4.8	6.09
http://www.nfl.com/news/story/0ap1000000092971/article/atlanta-falcons-dream-dashed-by-new-orleans-saints	585%	648%	5.85	6.48
http://www.nfl.com/news/story/0ap1000000092940/article/tampa-bay-buccaneers-are-in-playoff-hunt-with-win	576%	684%	5.76	6.84
http://www.nfl.com/news/story/0ap1000000093342/article/owen-daniels-out-for-houston-texans-with-back-injury	587%	746%	5.87	7.46
http://www.nfl.com/news/story/0ap1000000092986/article/von-miller-peyton-manning-shine-in-broncos-win	336%	445%	3.36	4.45
http://www.usatoday.com/sports/	715%	763%	7.15	7.63
http://www.usatoday.com/story/sports/ncaaf/2012/11/11/coaches-poll-oregon-kansas-state-notre-dame-georgia-alabama/1697257/	496%	553%	4.96	5.53
http://www.usatoday.com/story/sports/nba/lakers/2012/11/11/magic-qa/1697707/	382%	428%	3.82	4.28
http://www.usatoday.com/story/sports/nascar/2012/11/11/jeff-gordon-clint-bowyer-fight-at-phoenix/1698175/	497%	521%	4.97	5.21
http://www.usatoday.com/story/sports/nfl/falcons/2012/11/11/roddy-white-atlanta-falcons-new-orleans-saints/1698479/	364%	497%	3.64	4.97
http://www.usatoday.com/story/sports/nfl/2012/11/11/cowboys-eagles-nick-foles-glimpse-of-future/1698389/	519%	590%	5.19	5.9
http://www.usatoday.com/story/gameon/2012/11/11/philadelphia-eagles-fans-fire-andy-reid/1697513/	553%	571%	5.53	5.71
http://www.usatoday.com/story/gameon/2012/11/11/brian-kelly-notre-dame-no-1-vote-poll/1697731/	373%	428%	3.73	4.28
http://www.usatoday.com/story/sports/nfl/2012/11/11/bengals-giants-week-10/1697759/	382%	381%	3.82	3.81
http://www.usatoday.com/story/sports/nfl/2012/11/11/broncos-panthers-week-10/1697819/	513%	606%	5.13	6.06
http://www.usatoday.com/story/gameon/2012/11/11/nfl-kraft-belichick-spygate/1697287/	509%	581%	5.09	5.81

Figure 26: Load times during News content page testing.

## ABOUT PRINCIPLED TECHNOLOGIES



Principled Technologies, Inc.  
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We provide industry-leading technology assessment and fact-based marketing services. We bring to every assignment extensive experience with and expertise in all aspects of technology testing and analysis, from researching new technologies, to developing new methodologies, to testing with existing and new tools.

When the assessment is complete, we know how to present the results to a broad range of target audiences. We provide our clients with the materials they need, from market-focused data to use in their own collateral to custom sales aids, such as test reports, performance assessments, and white papers. Every document reflects the results of our trusted independent analysis.

We provide customized services that focus on our clients' individual requirements. Whether the technology involves hardware, software, Web sites, or services, we offer the experience, expertise, and tools to help our clients assess how it will fare against its competition, its performance, its market readiness, and its quality and reliability.

Our founders, Mark L. Van Name and Bill Catchings, have worked together in technology assessment for over 20 years. As journalists, they published over a thousand articles on a wide array of technology subjects. They created and led the Ziff-Davis Benchmark Operation, which developed such industry-standard benchmarks as Ziff Davis Media's Winstone and WebBench. They founded and led eTesting Labs, and after the acquisition of that company by Lionbridge Technologies were the head and CTO of VeriTest.

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