Ben Everard

Web performance improvements
you can make in one hour

Who’s this guy?

Pre-talk shout-outs...

Andy Davies
http://andydavies.me

Steve Souders
http://www.stevesouders.com/

Why is performance so important?

"If an e-commerce site is making $100,000 per day, a 1 second page delay could potentially cost $2.5 million in lost sales every year."

http://blog.kissmetrics.com/loading-time/?wide=1

"Amazon found that it increased revenue by 1% for every 100 milliseconds of improvement"

http://sites.google.com/site/glinden/Home/StanfordDataMining.2006-11-28.ppt

Measuring

Your toolbox...

Yahoo! YSlow

Google page speed labs

Google Page Speed

Others...

Chrome Dev Tools

Firebug

WebPagetest

Slowy App

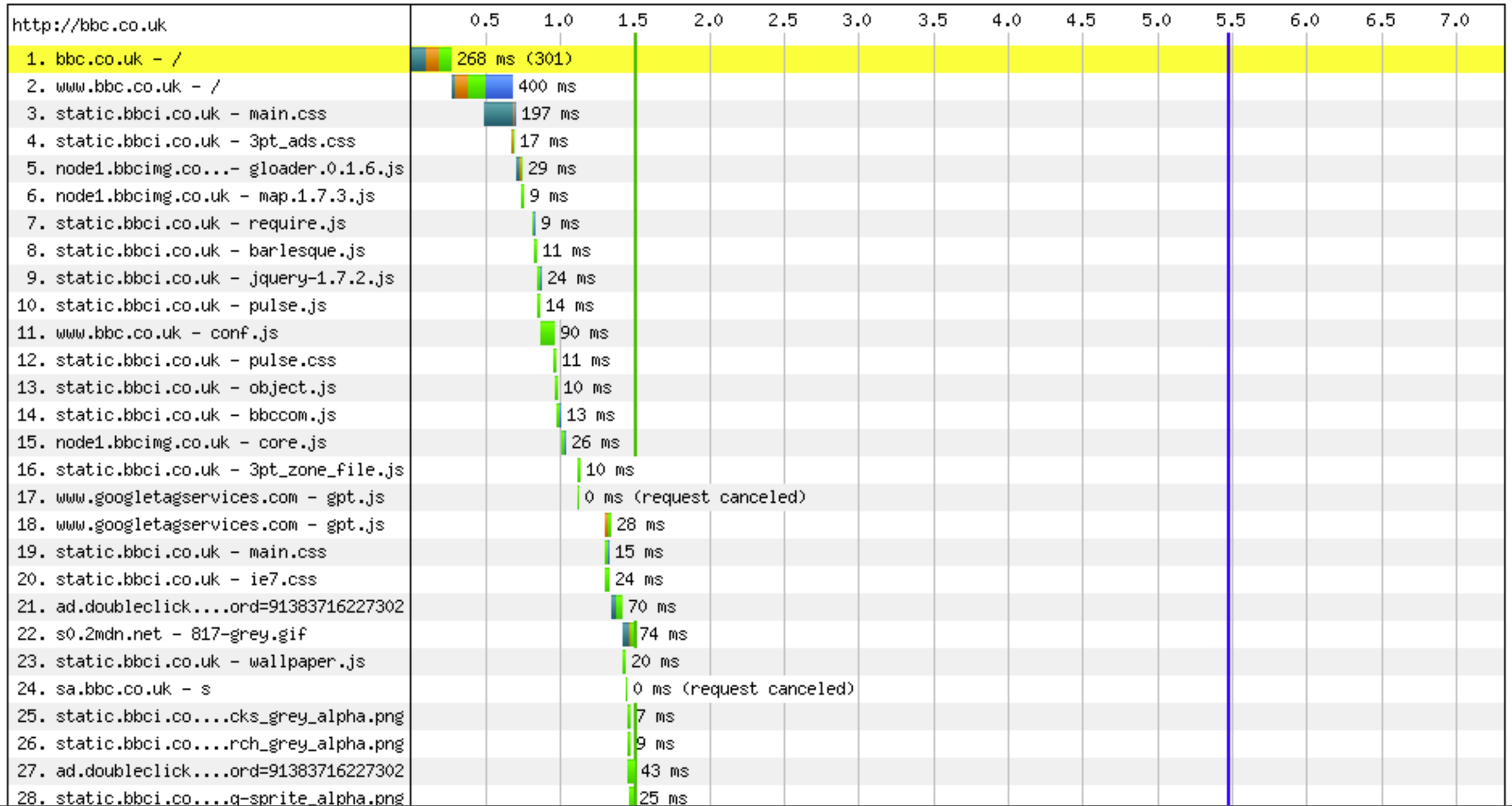
et al...

Lets. Get. Started.

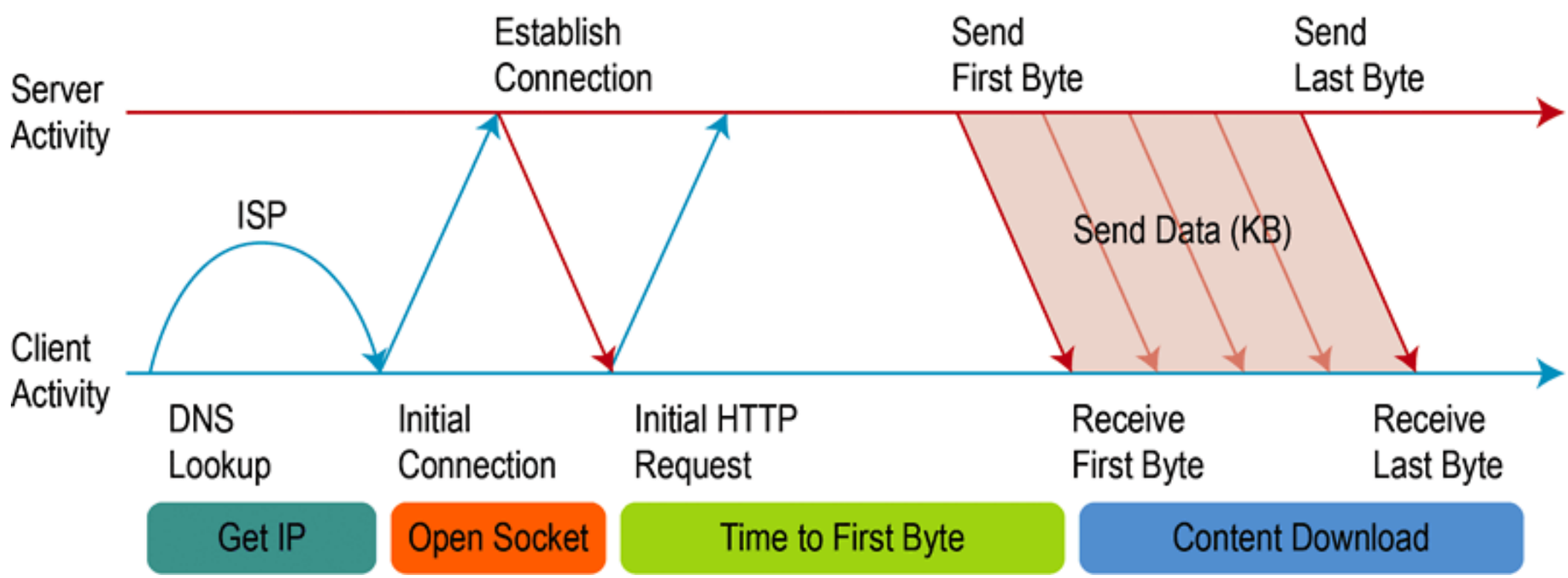
1) Reduce requests

Load Time	First Byte	Start Render	Visually Complete	Speed Index	DOM Elements	Result (error code)	Document Complete			Fully Loaded		
							Time	Requests	Bytes In	Time	Requests	Bytes In
5.472s	0.487s	1.500s	8.500s	2530	1245	0	5.472s	89	797 KB	7.309s	95	801 KB

Waterfall View



The HTTP Request



http://www.websiteoptimization.com/secrets/metrics/10-21-http-request.html

TCP Segmentation

2) Reduce page weight

Mobile Visit Exmoor site

http://m.visit-exmoor.co.uk

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http://m.visit-exmoor.co.uk

Weighs 2MB

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At Exmoor speeds...

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At Exmoor speeds...

- 30 seconds before anything is visible

Mobile Visit Exmoor site

http://m.visit-exmoor.co.uk

Weighs 2MB

At Exmoor speeds...

- 30 seconds before anything is visible
  - Entire site loaded in 7.2 minutes

Mobile Visit Exmoor site

http://m.visit-exmoor.co.uk

Weighs 2MB

At Exmoor speeds...

- 30 seconds before anything is visible
  - Entire site loaded in 7.2 minutes
    - Destroyed my phone battery

75% of page weight
in these two images

Image optimisation

Minify assets

GZIP compression

```
<ifmodule mod_deflate.c>
   AddOutputFilterByType DEFLATE
      text/text
      text/html
      text/plain
      text/xml
      text/css
      application/x-javascript
      application/javascript
</ifmodule>
```

http://git.io/XTDjng

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beneverard.co.uk

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WEB DEVELOPER

Elements Resources Network Sources Timeline Profiles Audits Console PageSpeed

Name / Path	Method	Status / Text	Type	Initiator	Size / Content	Time / Latency	Start Time (25.19 s, 37.79 s, 50.39 s, 1.0 min, 1.3 min)
beneverard.co.uk	GET	200 OK	text/html	Other	3.4 KB / 8.9 KB	32 ms / 31 ms	
default.include.08dea7.css / cdn.beneverard.co.uk/wp-cor	GET	200 OK	text/css	beneverard.co.... / Parser	8.5 KB / 36.6 KB	55 ms / 51 ms	
jquery.min.js / ajax.googleapis.com/ajax/lib:	GET	200 OK	text/ja...	beneverard.co.... / Parser	33.1 KB / 91.4 KB	71 ms / 29 ms	
modernizr-custom.js / cdn.beneverard.co.uk/wp-cor	GET	200 OK	applica...	beneverard.co.... / Parser	6.3 KB / 17.2 KB	67 ms / 64 ms	
default.include-footer.4e... / cdn.beneverard.co.uk/wp-cor	GET	200 OK	applica...	beneverard.co.... / Parser	7.8 KB / 20.7 KB	63 ms / 57 ms	
hjv3ozo.js / use.typekit.net	GET	200 OK	text/ja...	beneverard.co.... / Script	8.7 KB / 28.3 KB	173 ms / 113 ms	

All Documents Stylesheets Images Scripts XHR Fonts WebSockets Other

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Elements Resources Network Sources Timeline

Name / Path	Method	Status / Text	Type			
beneverard.co.uk	GET	200 OK	te	d.co....	8.5 KB	55 m
default.include.08dea7.css cdn.beneverard.co.uk/wp-cor	GET	200 OK			36.6 KB	51 m
jquery.min.js ajax.googleapis.com/ajax/lib	GET	200 OK		rd.co....	33.1 KB	71 m
modernizr-custom.js cdn.beneverard.co.uk/wp-cor	GET	200 OK	a		91.4 KB	29 m
default.include-footer.4e... cdn.beneverard.co.uk/wp-cor	GET	200 OK	appli	o....	6.3 KB	67
hjv3ozo.js use.typekit.net	GET	200 OK	text/ja...	Sc	17.2 KB	

3.4 KB

8.9 KB

25.19 s 37.79 s 50.39 s 1.0 min 1.3 min

All Documents Stylesheets Images WebSockets Other

3) Caching

```
<IfModule mod_expires.c>
   ExpiresActive On
   ExpiresByType text/css "access plus 1 year"
   ExpiresByType application/javascript "access plus 1 year"
   ExpiresByType text/javascript "access plus 1 year"
   ExpiresByType text/html "access plus 1 hour"
   ExpiresByType text/richtext "access plus 1 hour"
   ExpiresByType text/plain "access plus 1 hour"
   ExpiresByType text/xml "access plus 1 hour"
   ExpiresByType image/gif "access plus 1 year"
   ExpiresByType image/jpeg "access plus 1 year"
   ExpiresByType image/png "access plus 1 year"
   ExpiresByType image/x-icon "access plus 1 year"
</IfModule>
```

Cache busting!

http://domain.com/screen.css

http://domain.com/screen.css?v=2

filemtime()

4) Loading assets...

CSS at the top

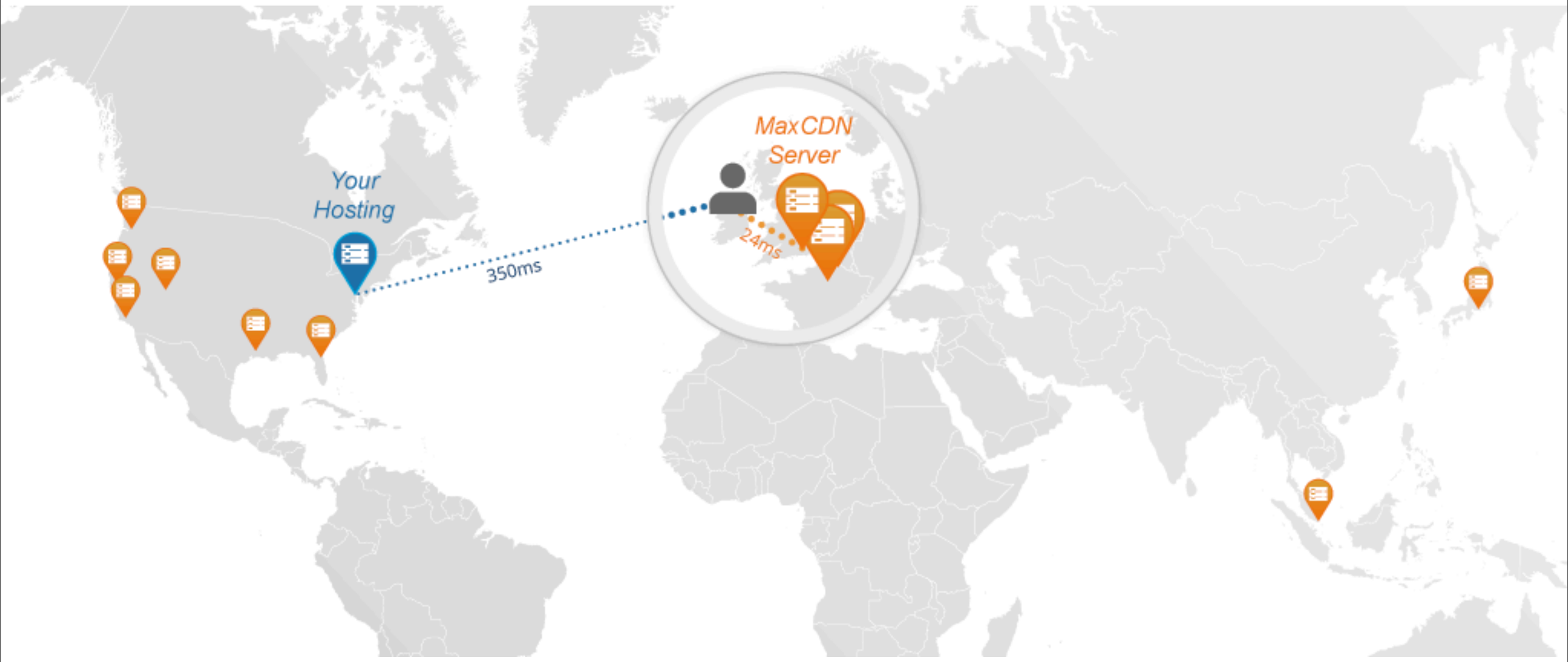
Within the <head> element

JavaScript at the bottom

Just before closing </body> tag

http://davidwalsh.name/html5-async

5) Use a CDN


MaxCDN
Server
Your
Hosting
350ms
24ms

What have we learnt?

1) Reduce requests
2) Reduce page weight
3) Be explicit with caching
4) Loading assets
5) Use a CDN

Thank you

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