

What are Third-party Components Doing to Your Site's Performance?

Andy Davies & Simon Hearne, Velocity Barcelona 2014



<https://www.flickr.com/photos/leejordan/485457837>

Third-party = Infrastructure and code
managed by someone else

Guy Podjarny, Velocity Santa Clara, 2014

Types of Third-parties

Revenue Attribution

Analytics

Personalisation
(inc device detection)

AB & MV Testing

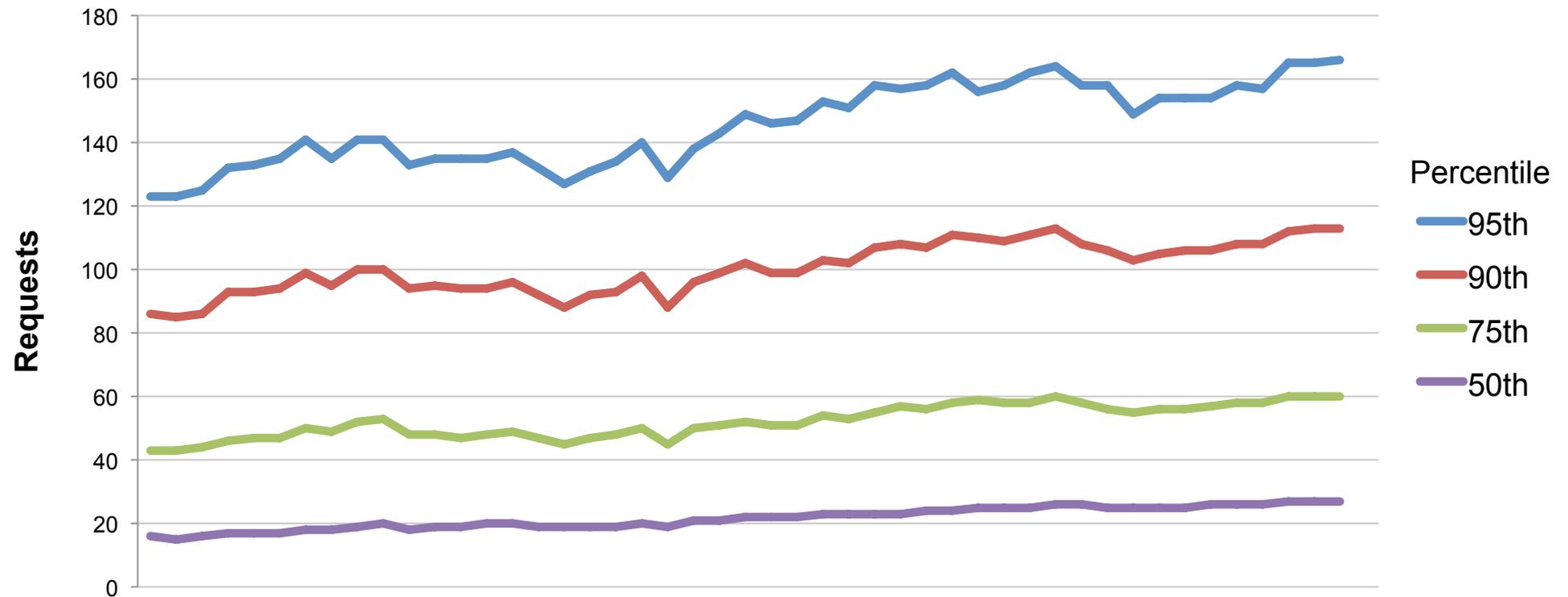
Advertising

Critical content
(inc font foundries)

Product images

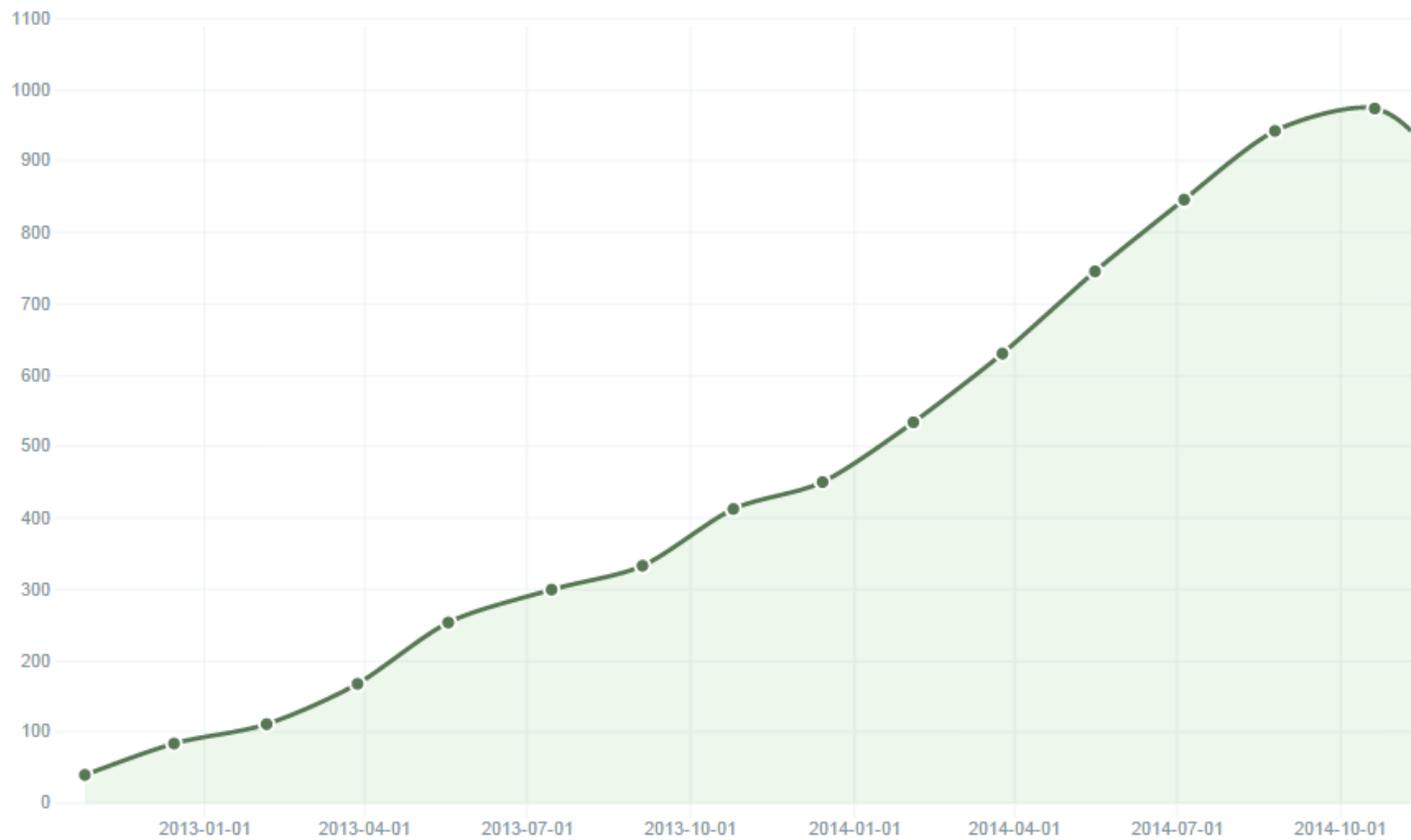
Value added content
(comments, reviews)

Making more and more Third-party requests

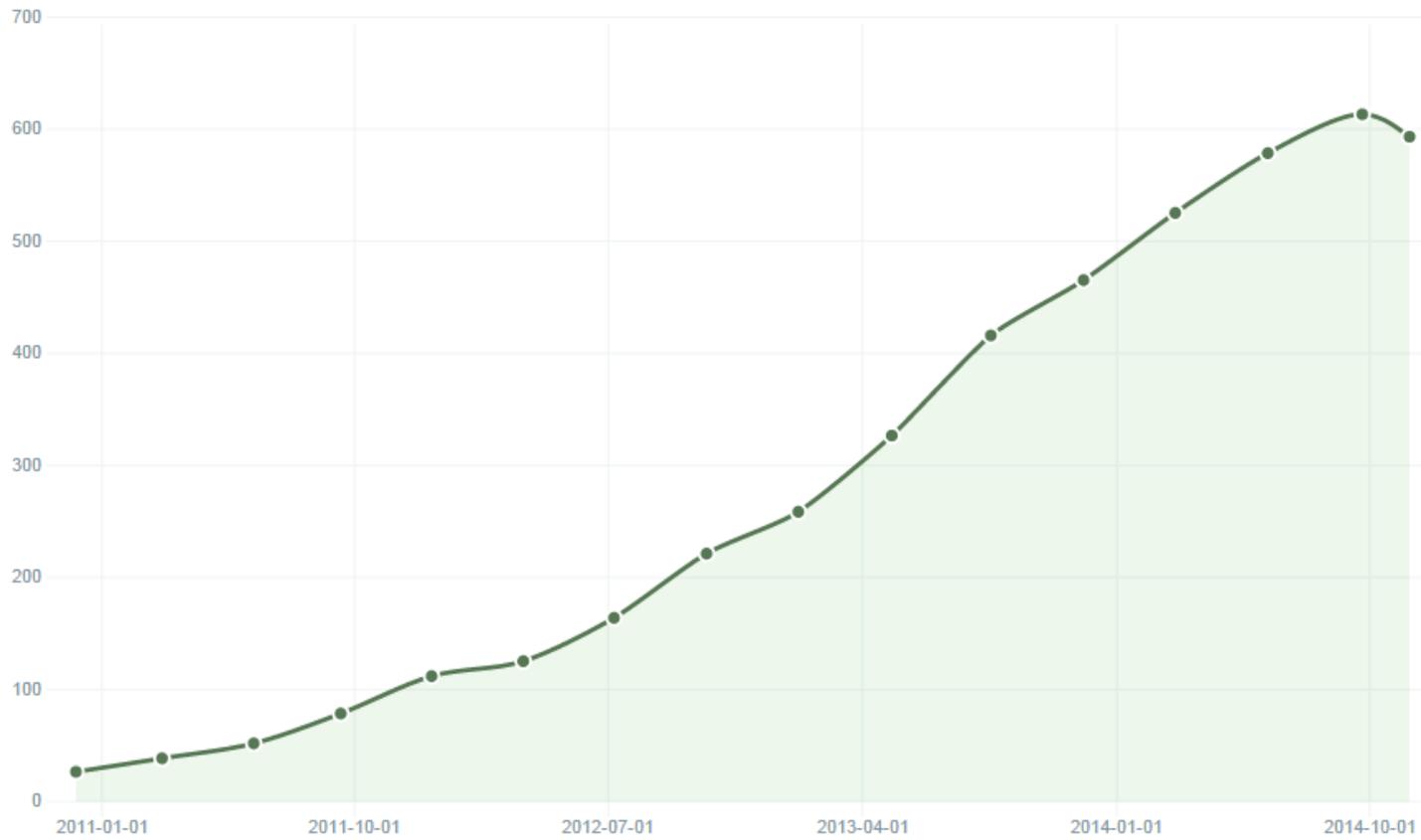


HTTP Archive Jan 2011 to Nov 2014

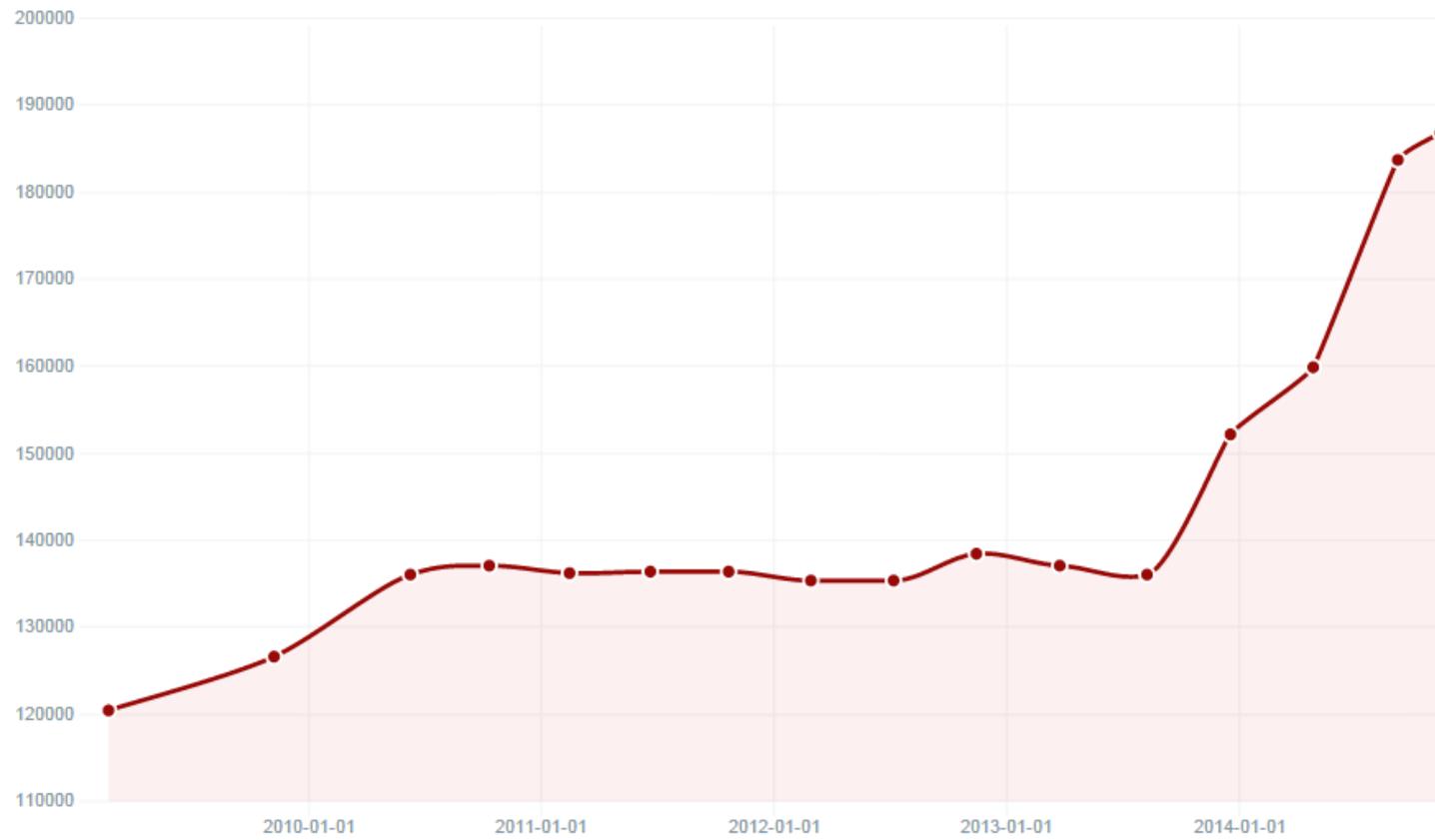
Google Tag Manager



Optimizely



DoubleClick



It's not just Third-parties



Fourth-party calls: What you don't know can hurt your site... and your visitors

JULY 14, 2011 BY JOSHUA BIXBY IN UNCATEGORIZED 9 COMMENTS ♥ 0

There's a growing awareness of the fact that third-party content can cause a major hit to your site's performance. Good. Great. Now we need to tackle what I've dubbed "fourth-party calls". **Not only can these insidious server calls leach performance, they also have massive security implications.**

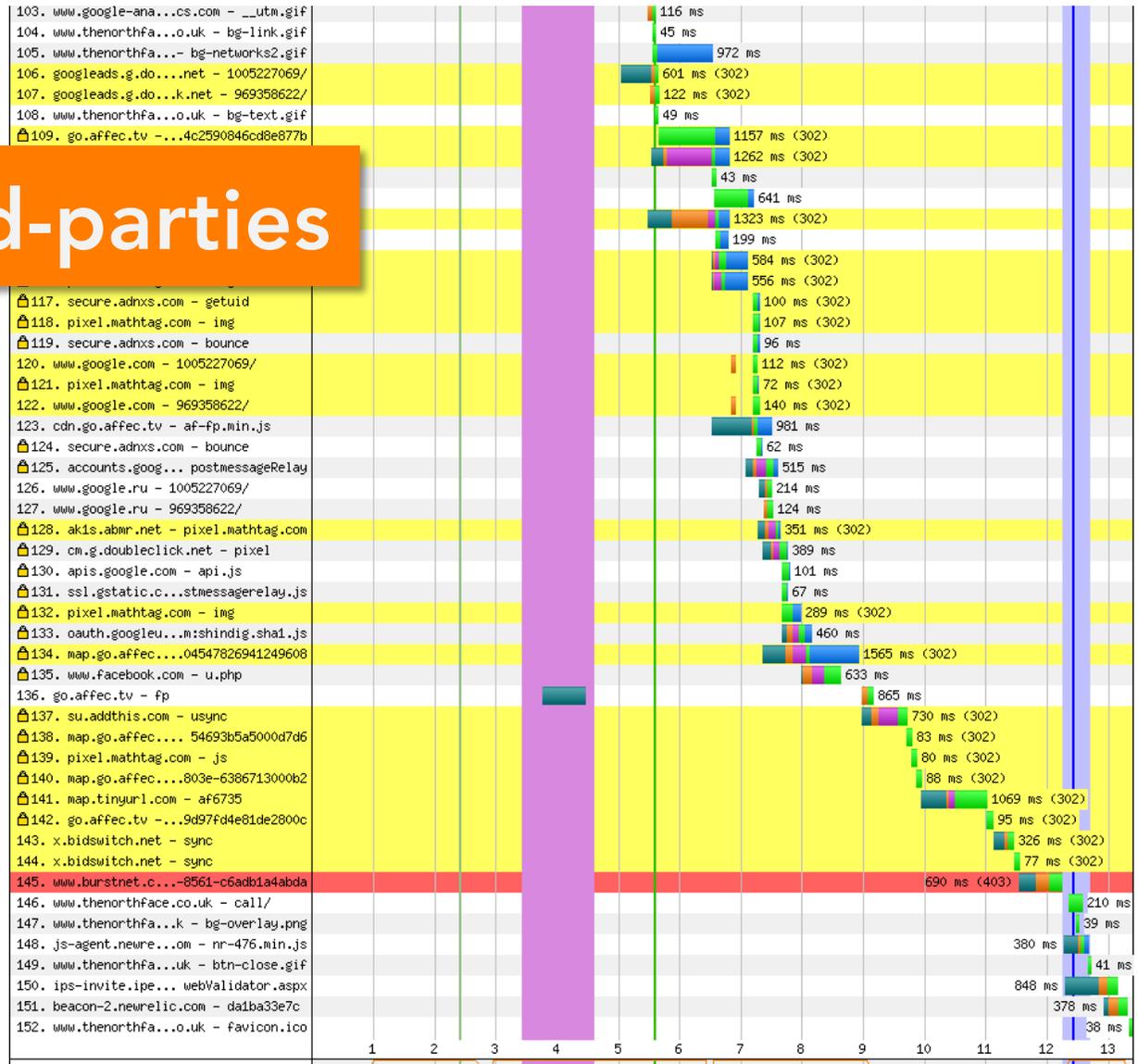
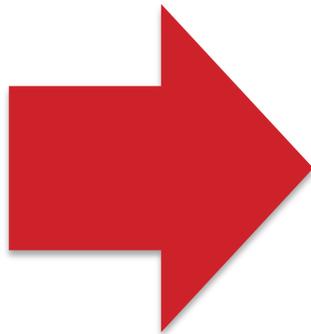
Before I get into this, let me back up a little.

I came across this slide today, which reminded me how difficult the job of a marketer is on an ecommerce site. Look at all of the different technologies and intermediaries that exist between advertisers and publishers (click to see a larger version):



<http://www.webperformancetoday.com/2011/07/14/fourth-party-calls-third-party-content/>

It's not just Third-parties



A close-up photograph of a large pile of Euro coins, showing various denominations and their intricate designs. The coins are stacked and scattered, creating a textured, metallic surface. A black rectangular text box is positioned in the upper left quadrant of the image.

Third-parties – a necessary evil?

SPOFs – extreme end of performance range



But what about general performance?

Where did we get our data from?



Challenges of the data



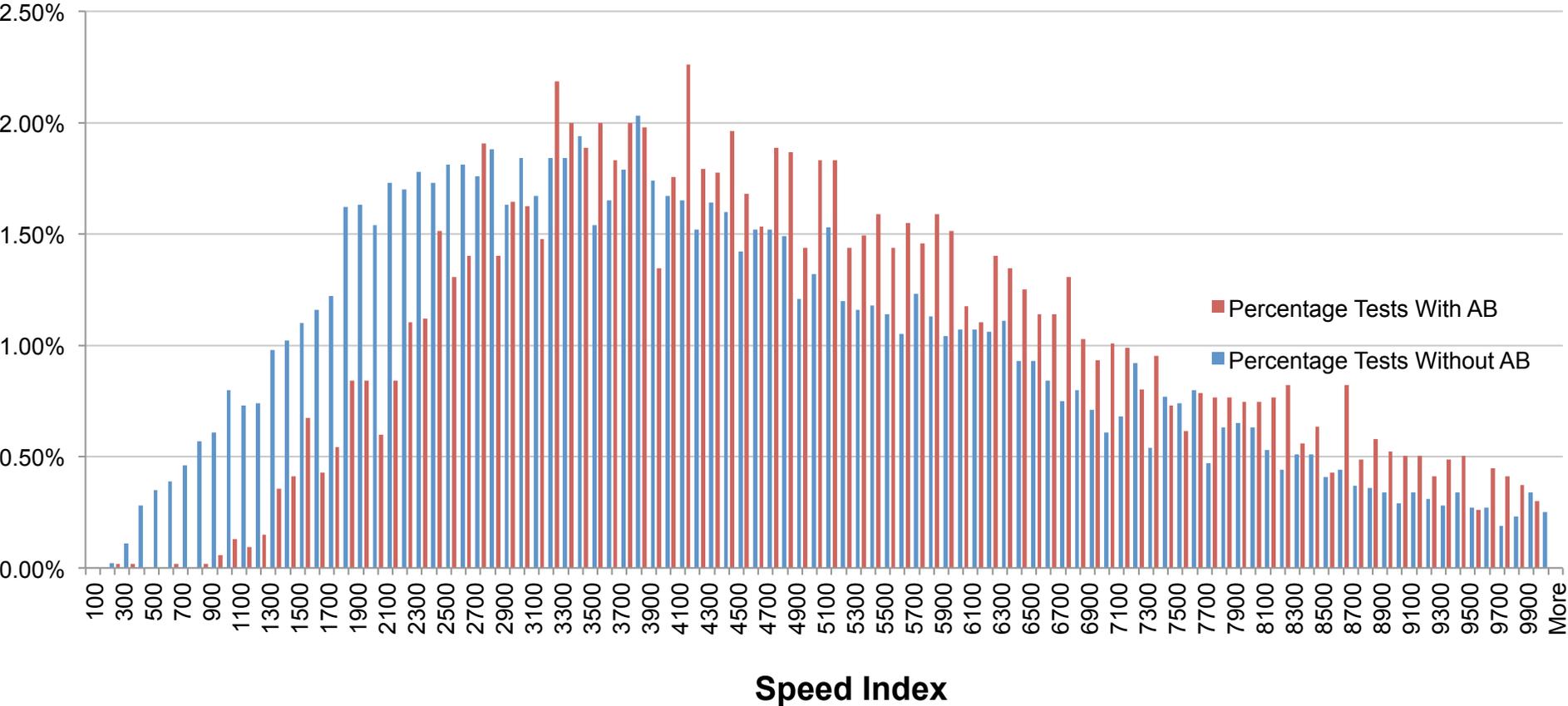
 **WEBPAGETEST**

http
archive

nccgroup
freedom from doubt



How does MVT impact user experience?



What does this mean in practice?

LateRooms-MMBlocked



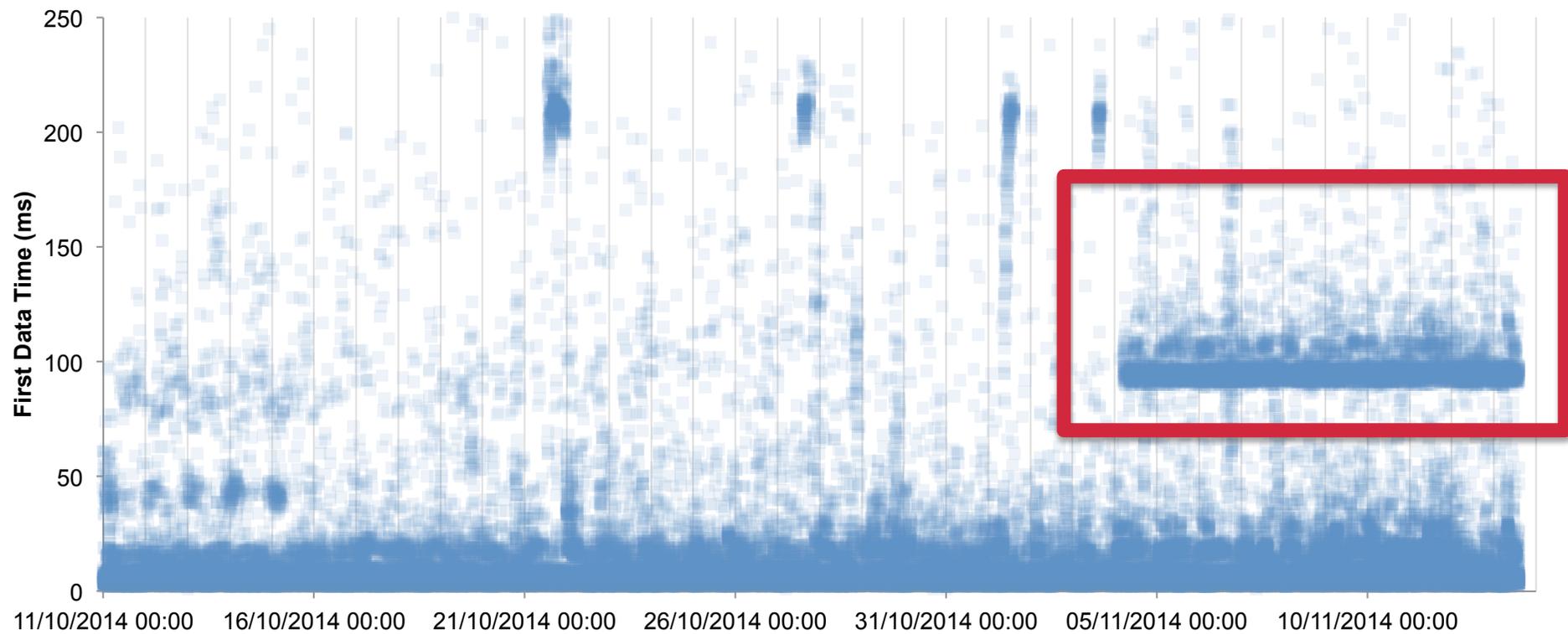
0.0

LateRooms-MMNotBlocked

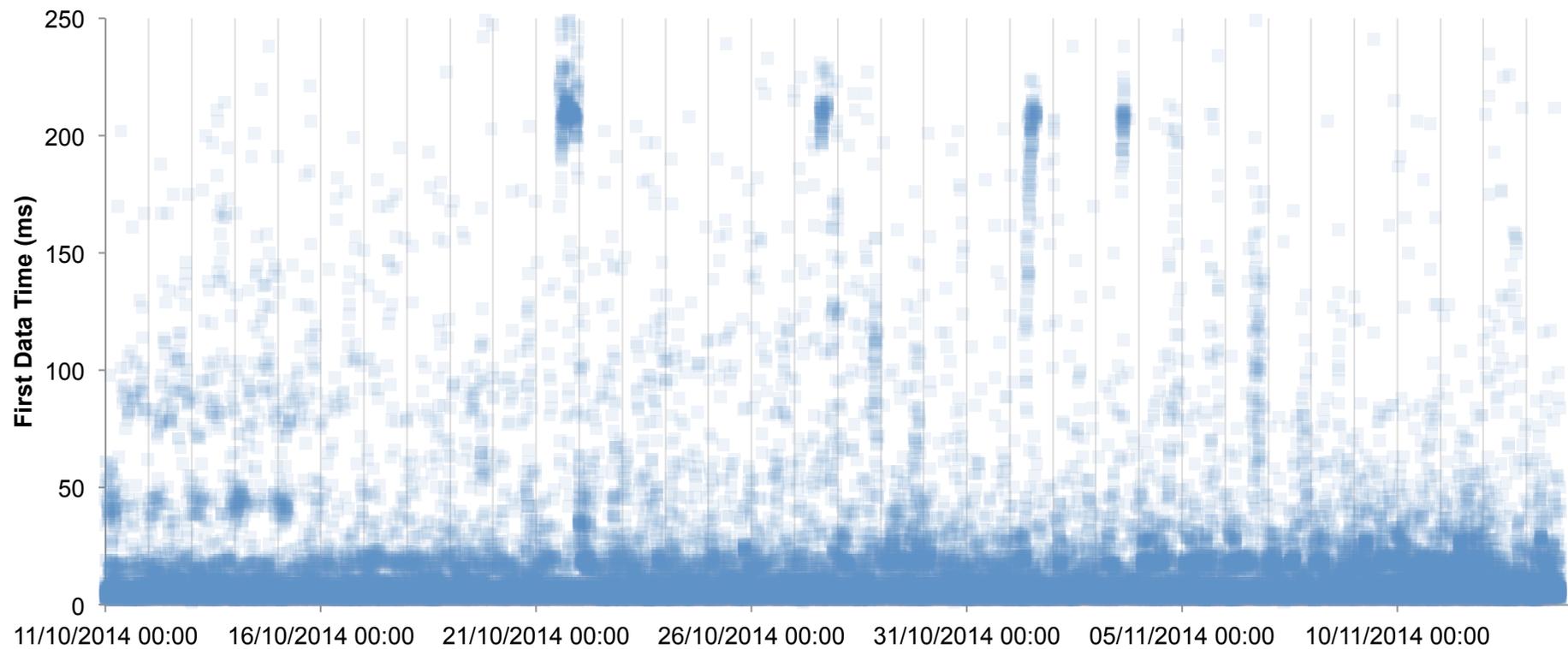


0.0

Maxymiser's performance



Maxymiser's performance

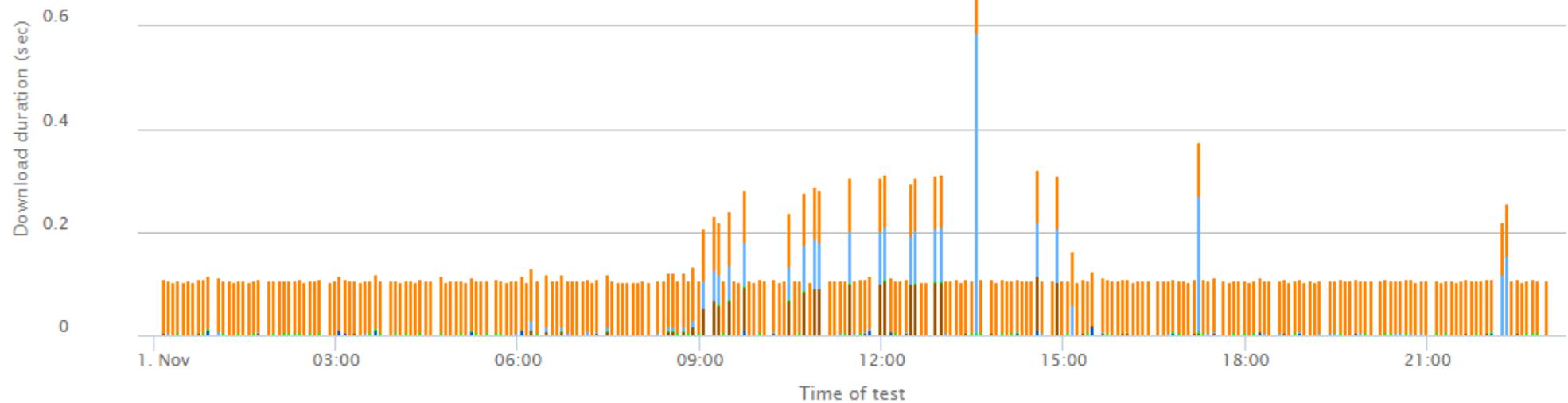


Speed vs Time Object (Component)



Home Page - <http://service.maxymiser.net> - <http://service.max...boots/js/mmcore.js>

Visible in monitoring data too



■ DNS ■ Connect ■ SSL ■ Request Sent ■ Data Start ■ Content

And yes... they use a CDN

Customer Reviews...

Write a review

Audit your Third-parties... ...understand what they're doing



Value of Product  4.5

1-8 of 8 Reviews

Sort 



Dizzything

★★★★★ · 12 days ago

4.5 stars great item overall

Essex, United Kingdom

Review 1

Votes 0

Bought this for my 7 year old daughter for Xmas. It was just what I was looking for as my daughter wanted a pushchair that she could have her baby facing as well as away. Great value for money . Height is perfect as my daughter is tall for her age. Good and sturdy. My only criticism is that the fittings on the

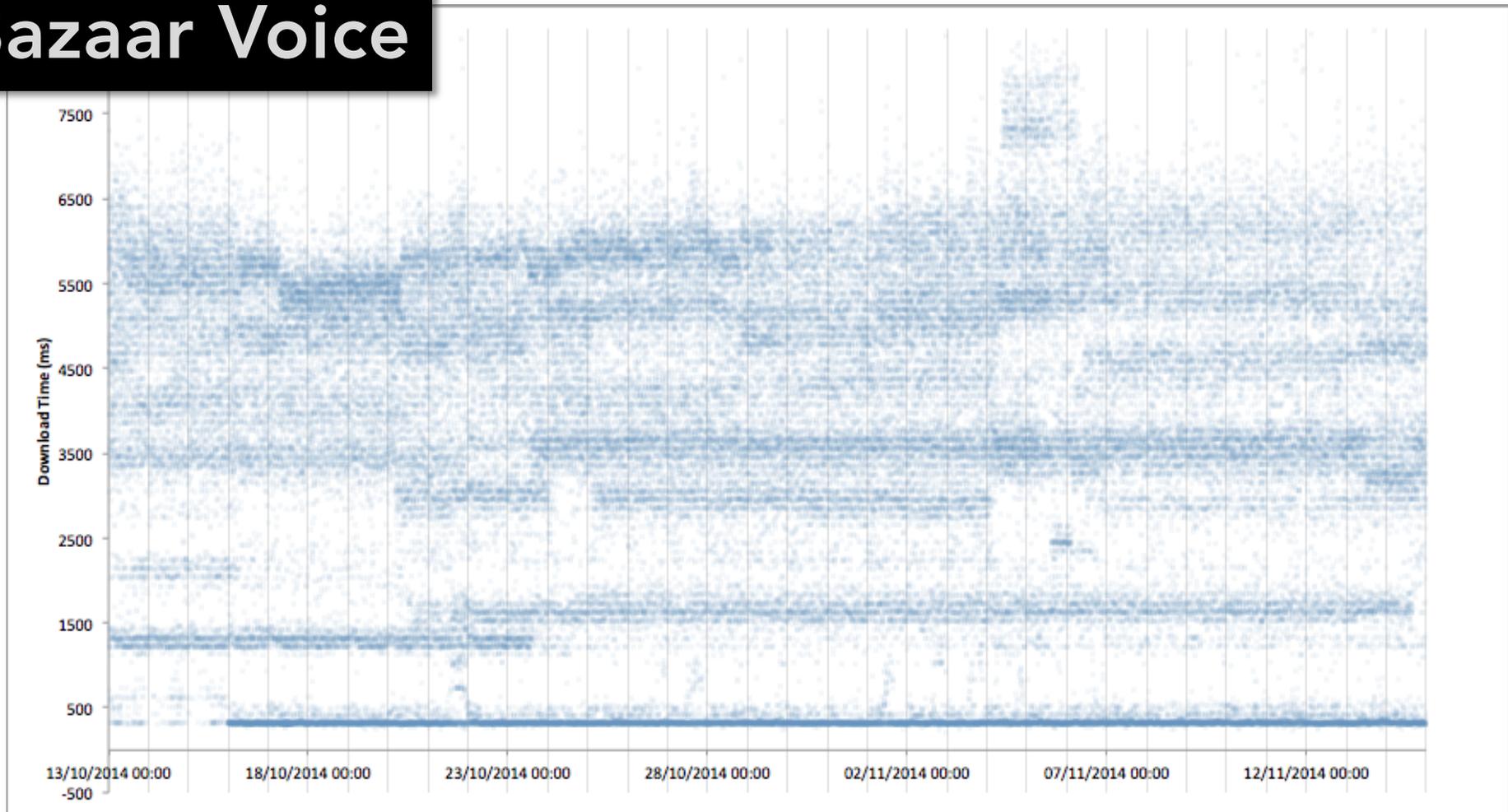
Quality of Product



BazaarVoice = 224KB over the wire, 917KB uncompressed

Yes, I recommend this product.

Bazaar Voice



What's in the bundle?

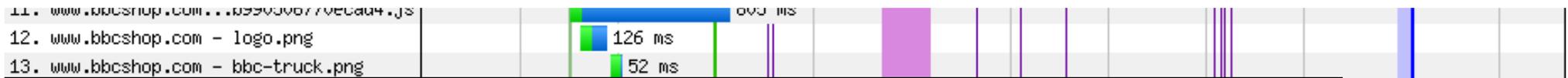
```
/*  
RequireJS
```

```
-----  
MIT  
(c) 2010-2011, The Dojo Foundation All Rights Reserved
```

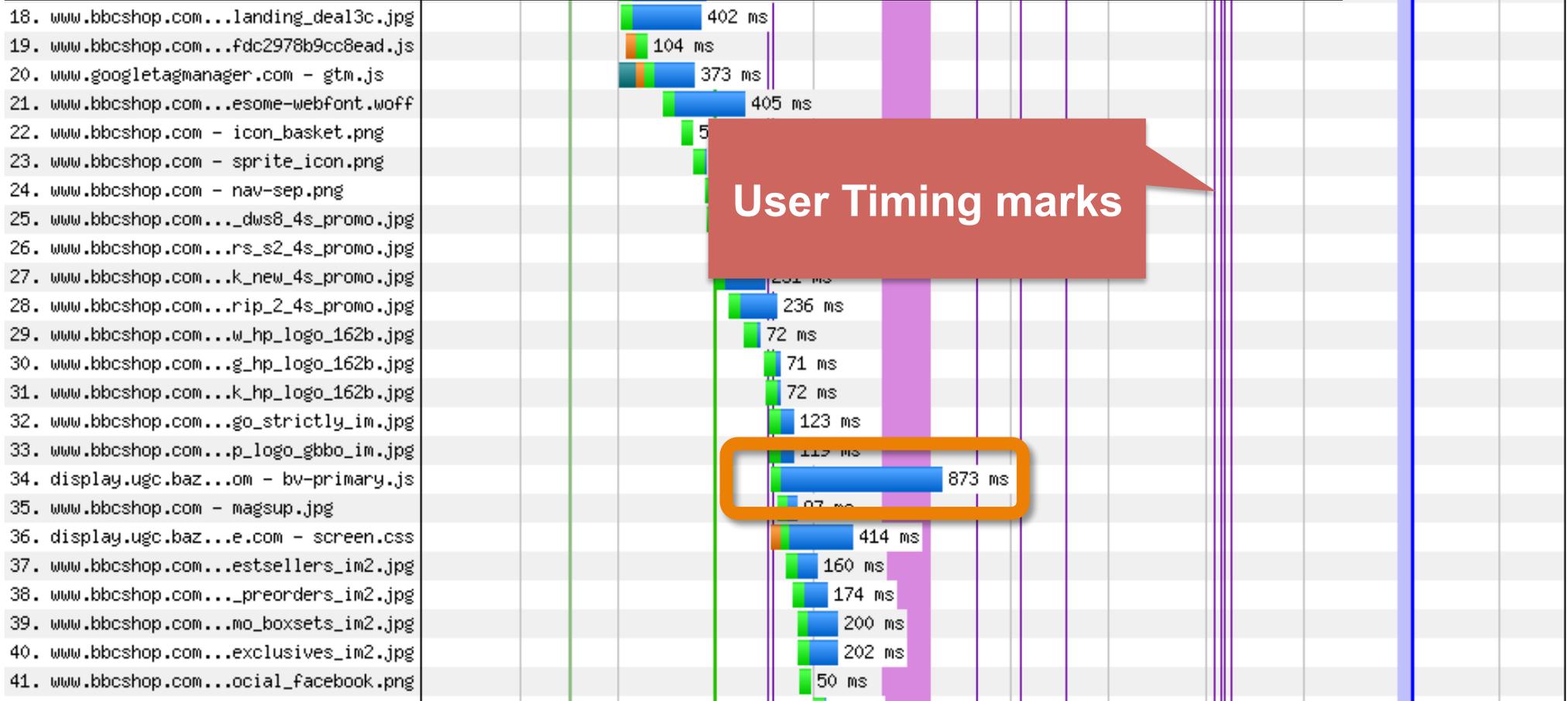
```
jQuery.js
```

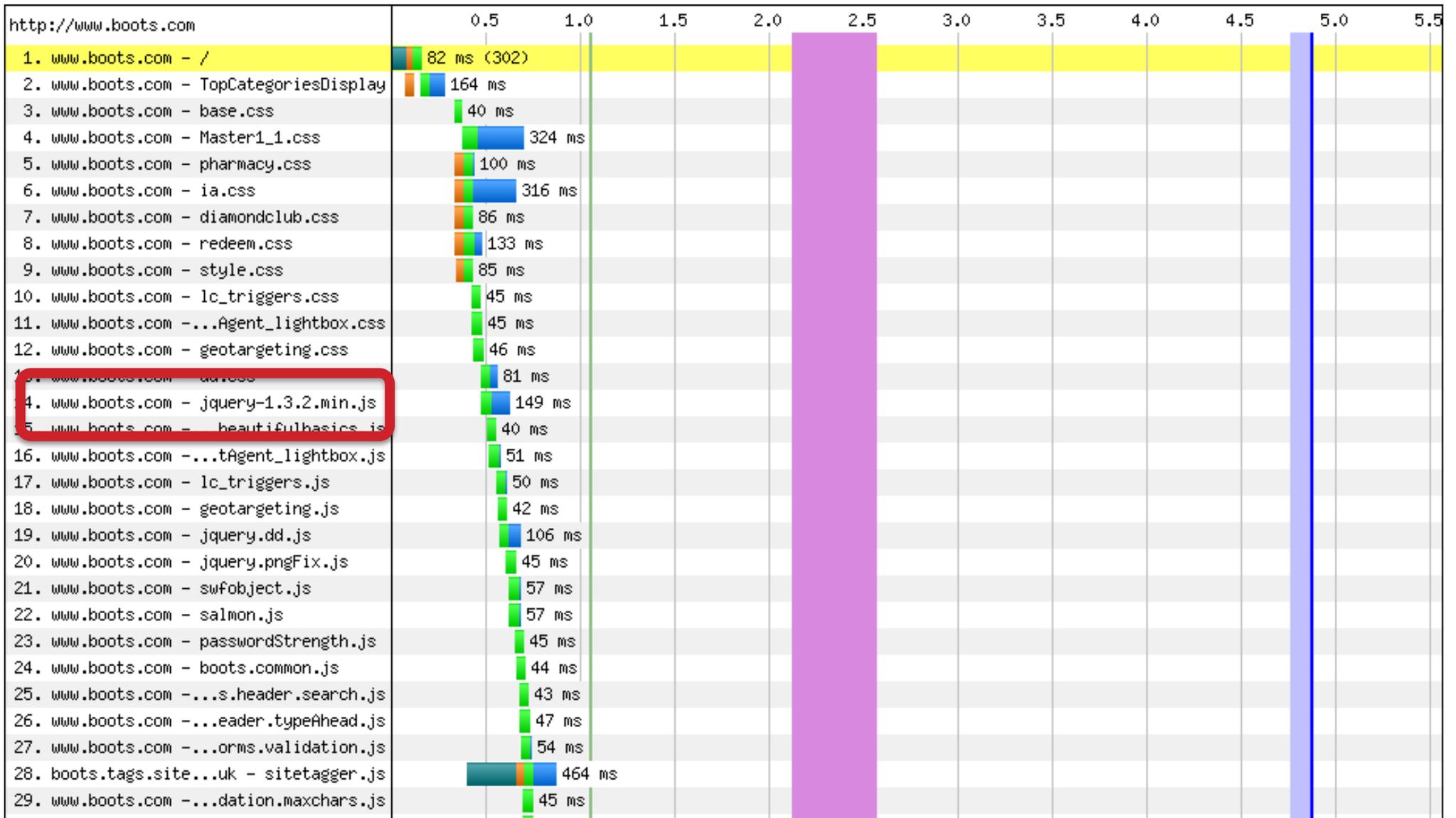
```
-----  
MIT  
(c) 2009 John Resig
```

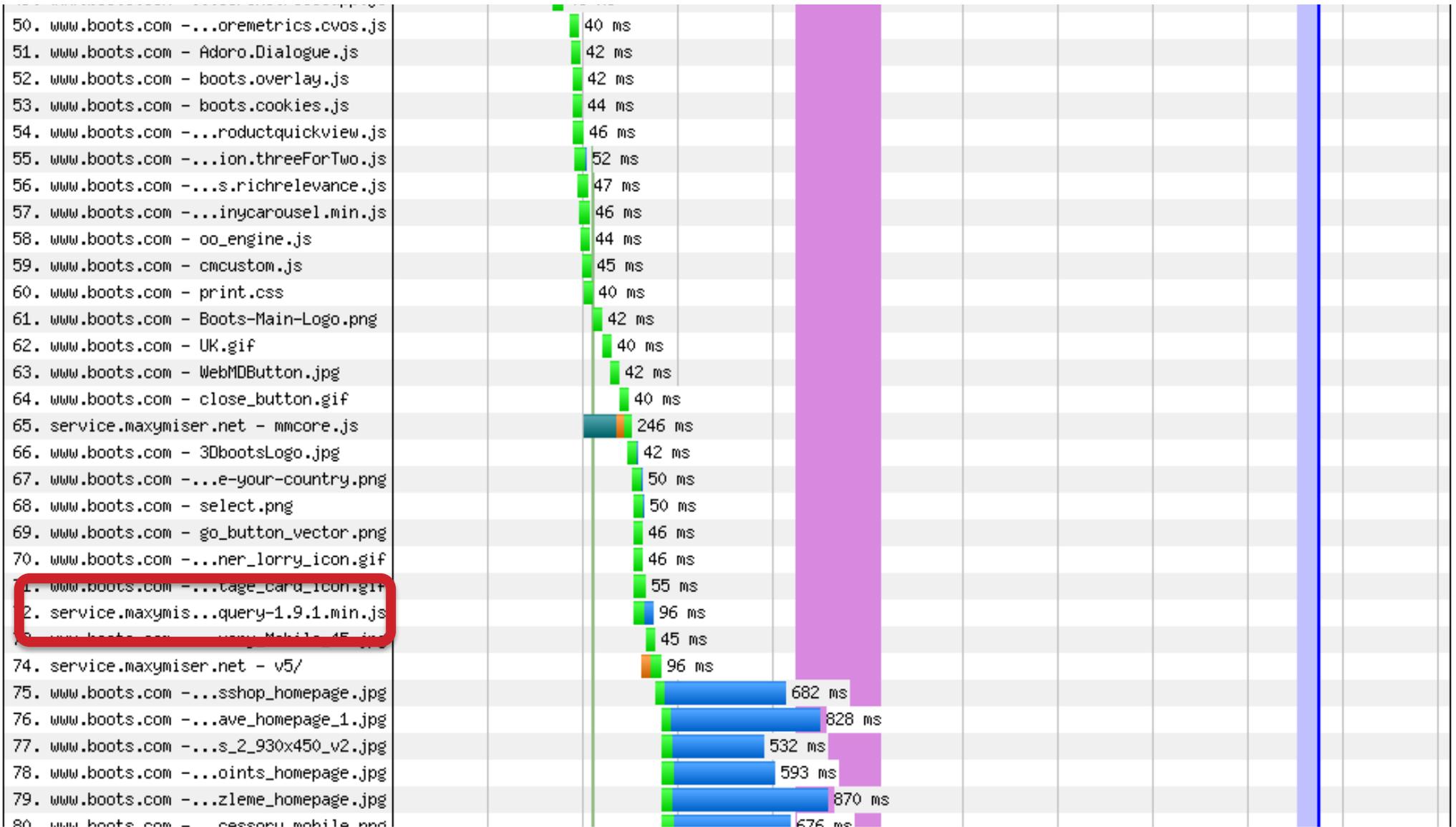
```
RequireJS  
jQuery.js  
Backbone  
Underscore.js  
Handlebars.js  
json2.js  
Lawnchair  
easyXDM  
Moment.js  
Boilerplate-Boilerplate  
Cohorts  
parseUri 1.2.2  
FitText.js 1.1  
WTFPL  
usertiming.js  
asEvented
```



But yet they insert User Timing marks!

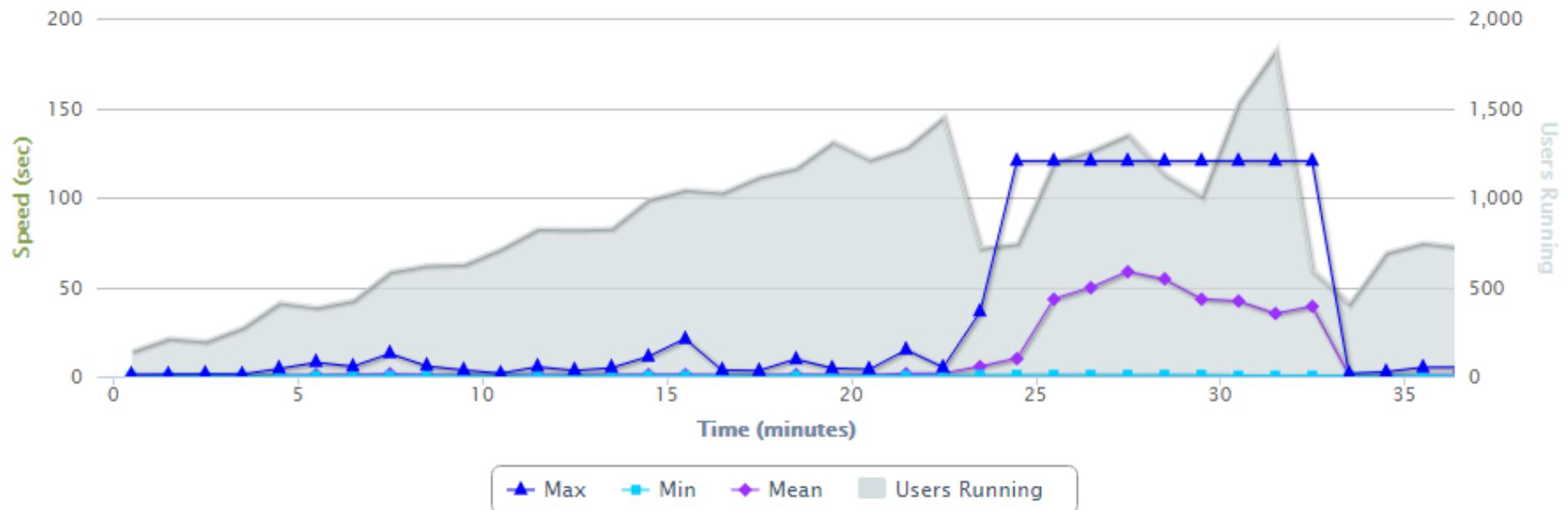






Do they perform as well as you?

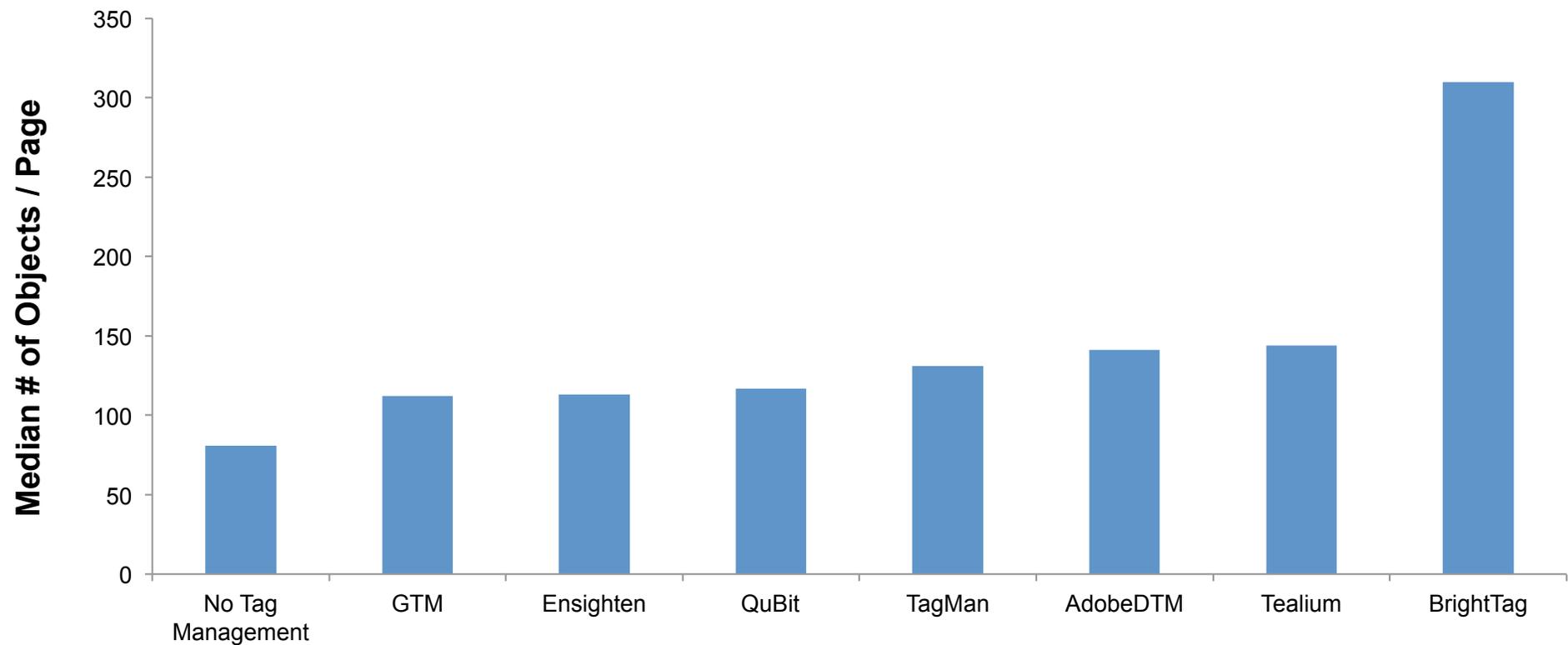
Scenario Results: Object Speed v Users
Scenario: Test 7: Combined - Soak Test - 7000u - 90m
Profile: 2:Browse - 89%
Included: Successful, Warning, Problem, Down



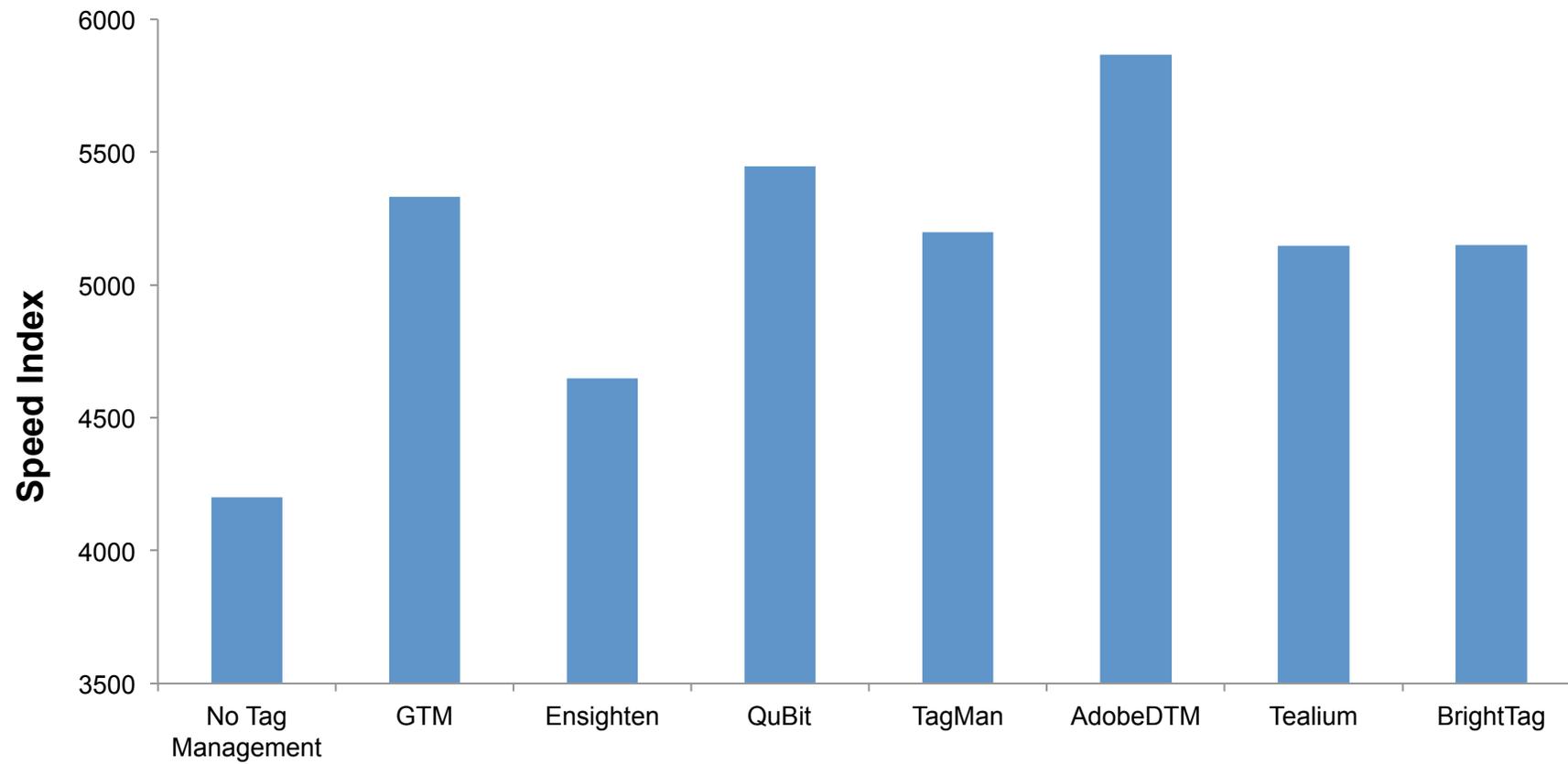
Tag Managers FTW?



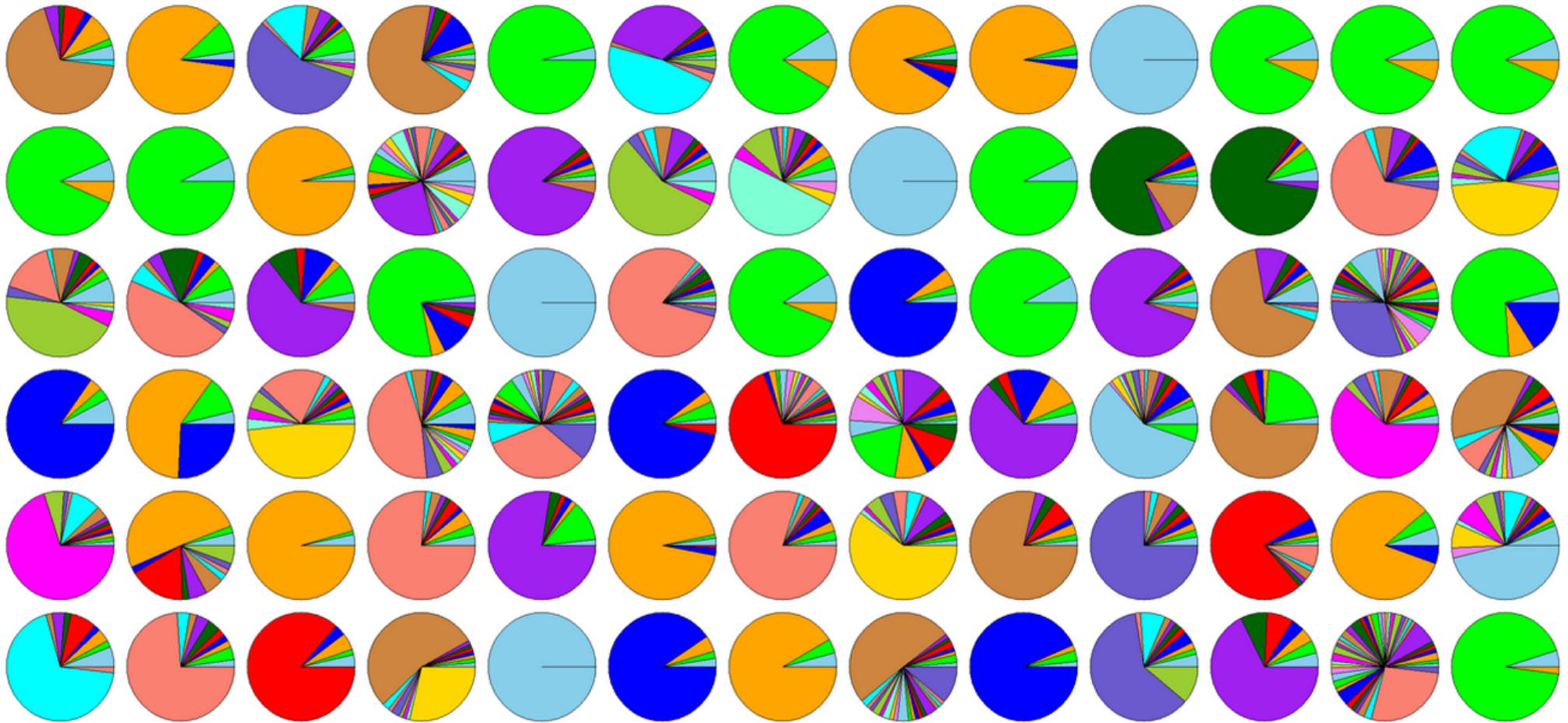
Or are they a new problem?



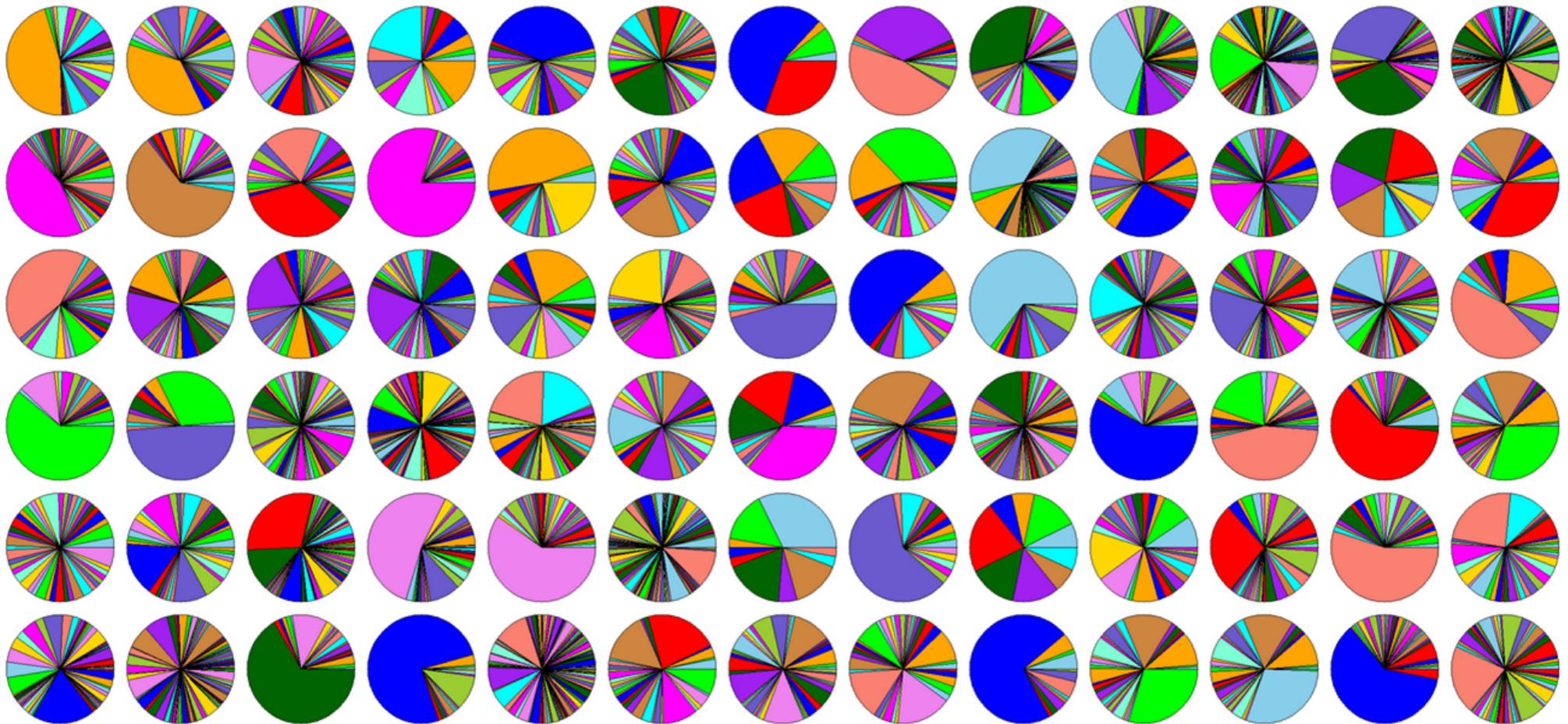
Or are they a new problem ?



Number of Domains (random sample)



Number of Domains (sites with GTM)





**With great power comes
great responsibility**

£££





So what did we learn?



Establish the business value

Load only the tags you need

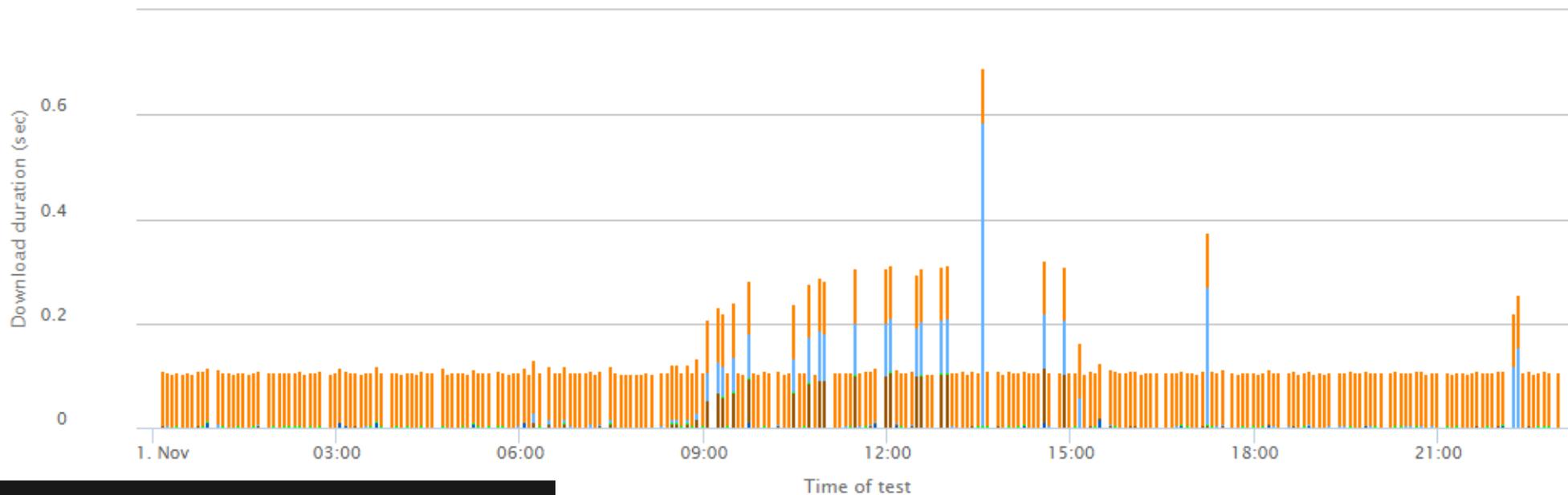




Give them a performance budget

Speed vs Time Object (Component)

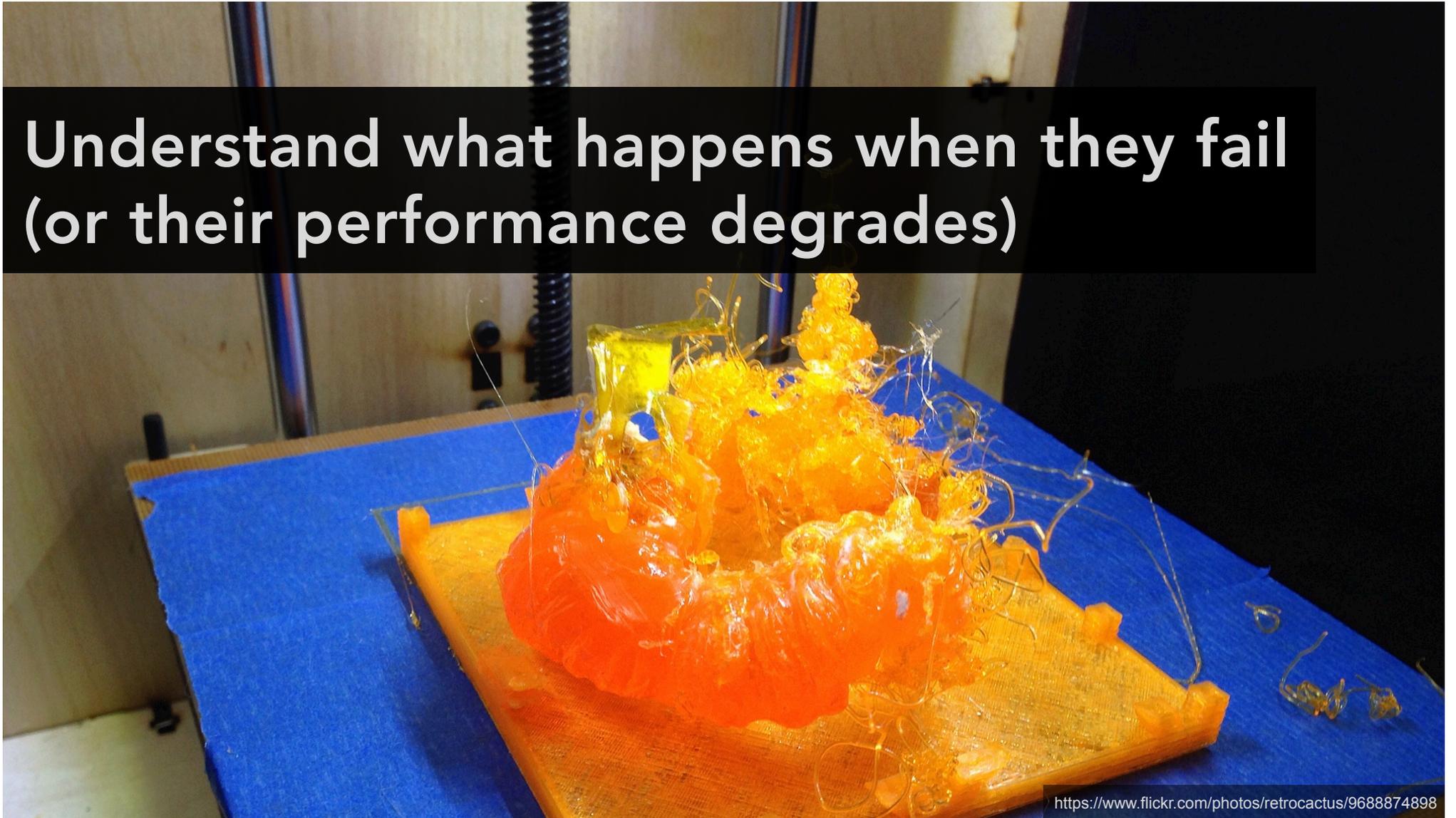
Home Page - <http://service.maxymiser.net> - <http://service.max...boots/js/mmcore.js>



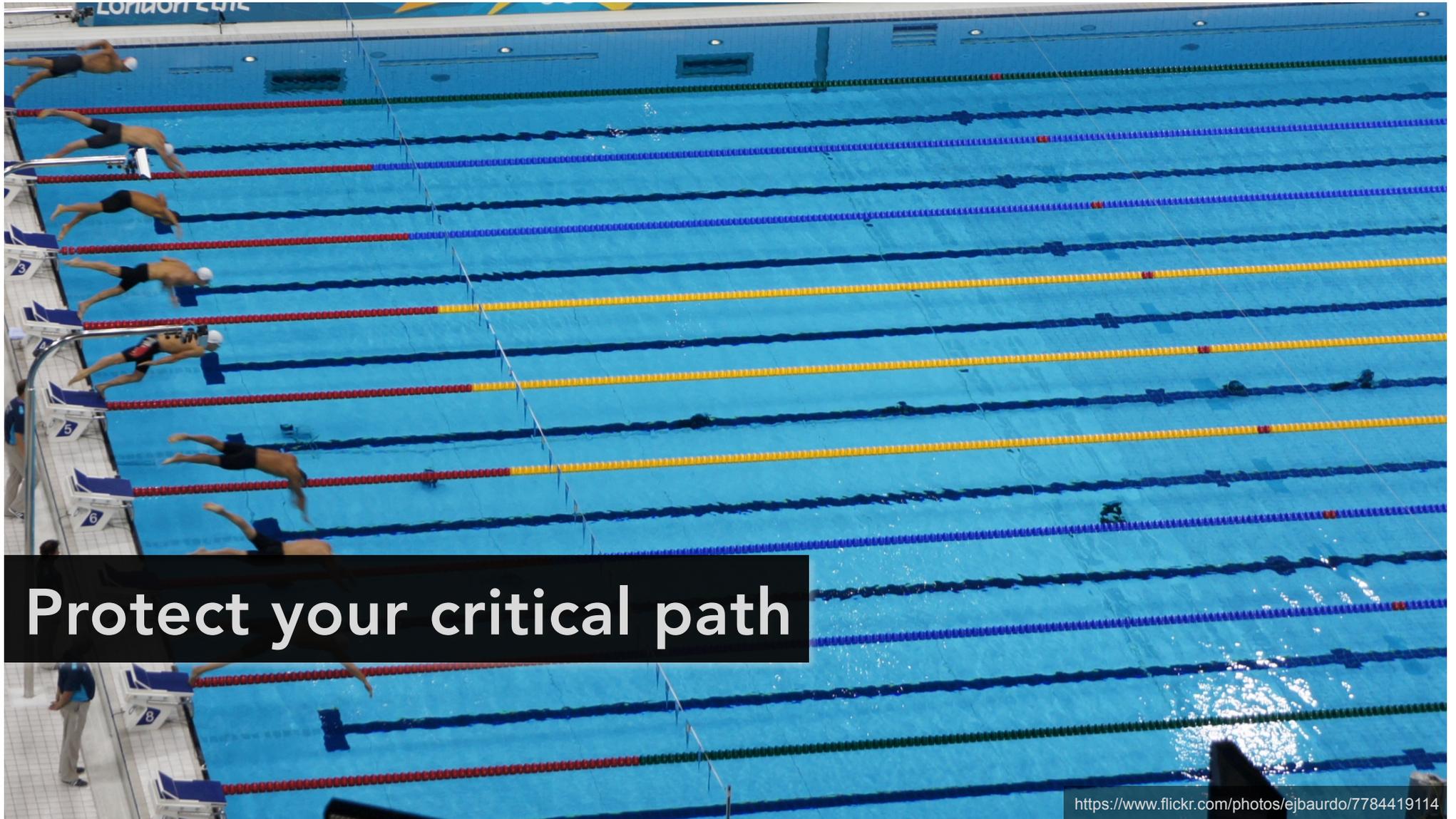
Hold them to it

■ DNS ■ Connect ■ SSL ■ Request Sent ■ Data Start ■ Content

**Understand what happens when they fail
(or their performance degrades)**

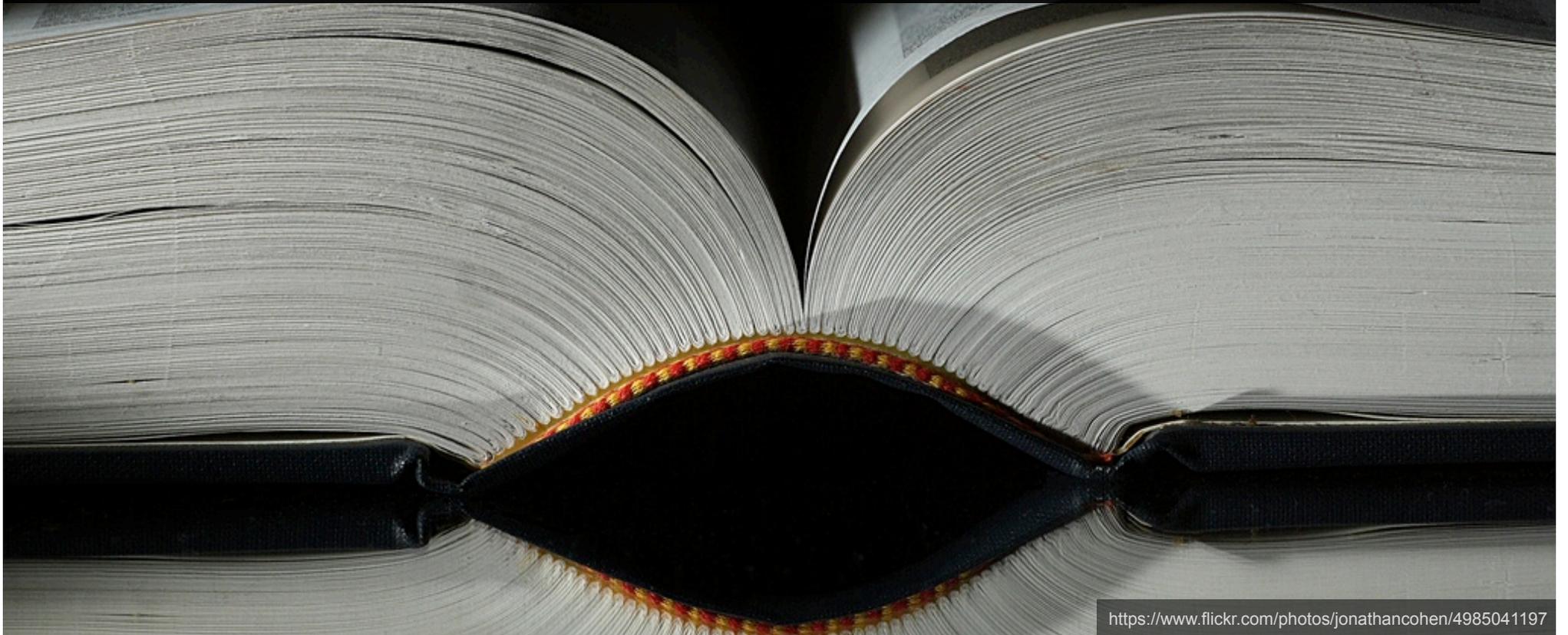


<https://www.flickr.com/photos/retrocactus/9688874898>



Protect your critical path

We don't know enough about third-parties



<https://www.flickr.com/photos/jonathancohen/4985041197>

<http://thirdpartycontent.org>

The Third Party Content Database

We are building an open source database to detect third party web content. Come join us.

[Sign up To Help](#)

Why Detect Third Party Content?

Modern websites contain [more than 7 pieces of externally hosted](#) third party content (3PC). Since the average webpage [includes nearly 100 pieces of content](#), finding the 3PC your site uses can be difficult. This inability to detect 3PC creates two big problems:

1. **You can't manage your risk.** Failures in 3PC can [tank your entire web page](#) and cause both lost visitors and lost sales. You need to know what 3PC you are using, and where it is on your site to manage the risk

JS Manners

JS Manners is a tool to score scripts that 3rd parties (people or companies outside your dev team) provide for you to put on your page. These scripts can save you a lot of time and provide neat features on your site, but they can also be security risks, cause performance problems, and make debugging a nightmare.

Call it the 'YSlow for widgets' if you will.

Rate a script now

Filter the list of tests by disabling those that do not interest you:

Performance

Stability

Footprint

Flexibility

Security

Compliance

Are common 3rd party libraries (eg. jQuery, Underscore, Backbone) included outside of a protected scope (ie is there any chance they may conflict with other instances of the same library that may be included on the page?)

How many objects/variables do component script(s) require in / add to the global scope?

Do component script(s) use document.write?

Do component script(s) produce any console output in normal operation?

Do component script(s) cause any JavaScript errors in normal operation?

<http://jsmanners.com>

- Establish the business value
- Load only the tags you need
- Set performance budgets for third-parties
 - ... and police them
- Understand what happens when third-parties fail
 - ... and protect against it
- Share your experiences

Thank You!

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