

IBM Commerce

Website Performance Optimization

With WebSphere
Digital Experience



Ok I'm gone.
~40%

And I never come back!
~80%

As well as my friends!!!
~50%

Google
Deutschland

Erweiterte Suche
Sprachoptionen

[Über Google](#) [Google.com](#)

[Anmelden](#)

0.0s

0.5s

1.0s

1.5s

2.0s

A:



B:



0.0s

0.5s

1.0s

1.5s

2.0s

A:



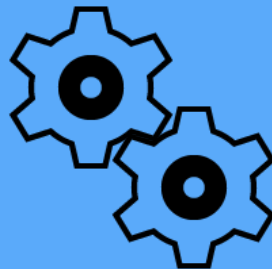
B:



The 3 pillars of web performance



Network



Compute



Render

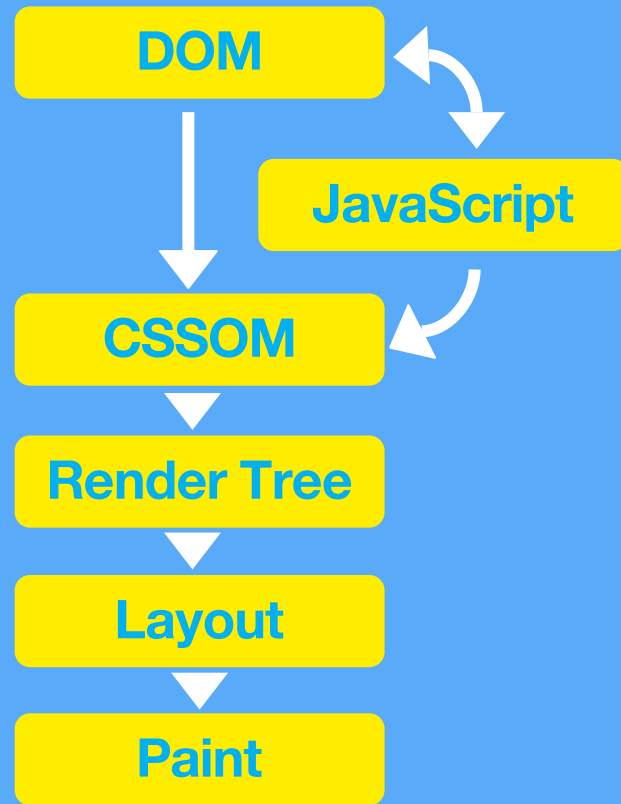
Measure first then optimize

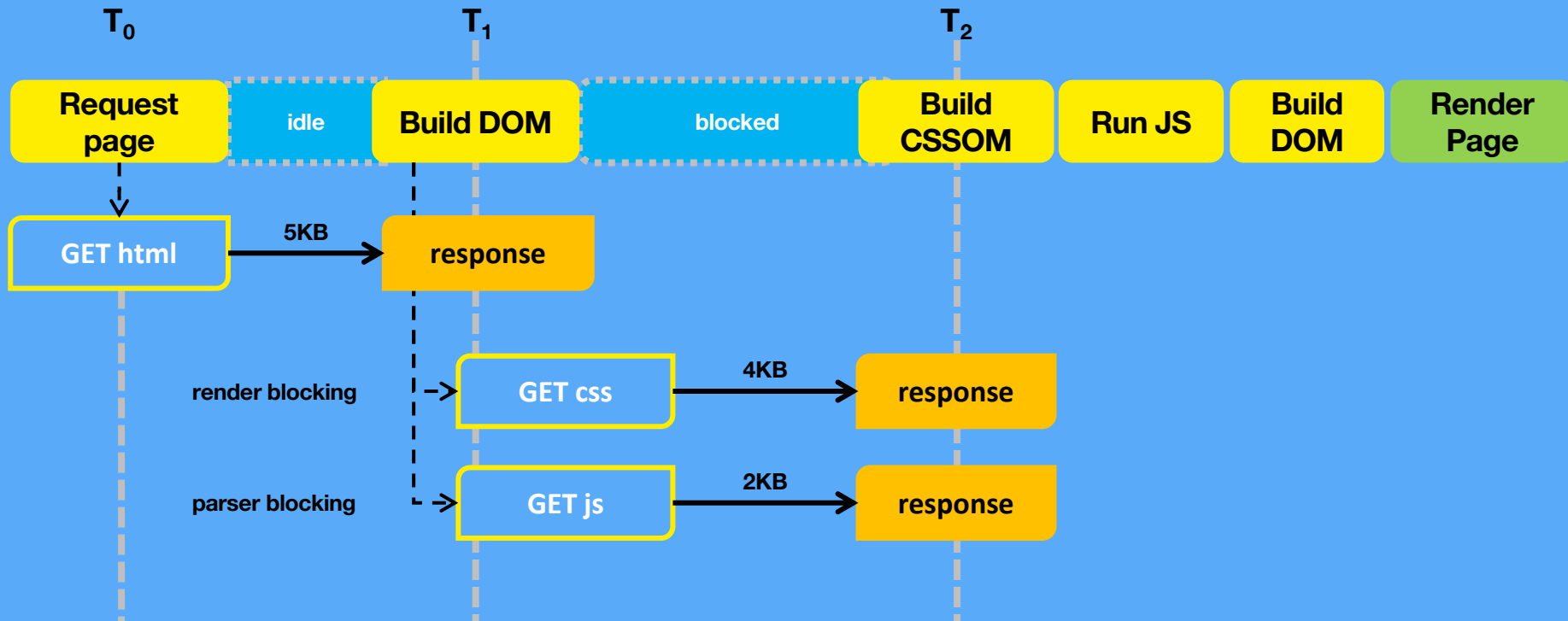
How to measure properly is an area on it's own
If you're interested come to me after the talk 😊

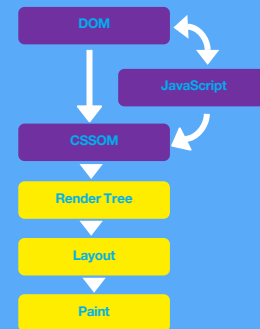
Critical Rendering Path

Prioritizing the display of content that relates to
the current user action

Critical Rendering Path

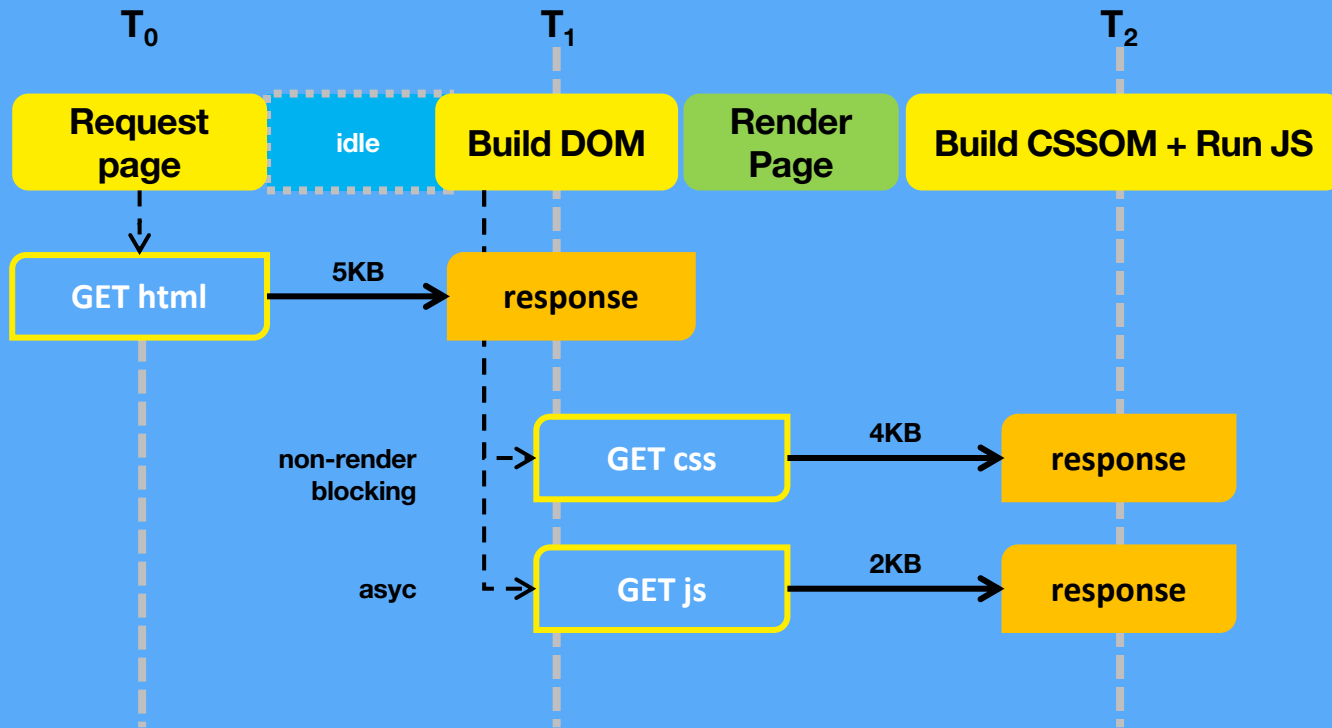


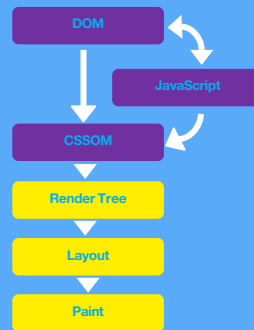




How to improve

- Minimize # of critical resources
- Minimize the critical path length
- Minimize # of critical bytes





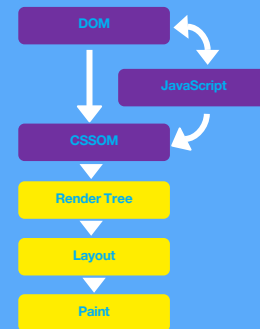
The Obvious

Enable Compression

Leverage Browser Cache

Reduce Server response time

(I hope you visited the talk yesterday 😊)



The not so evident

(Remove unnecessary resources)

Minify resources

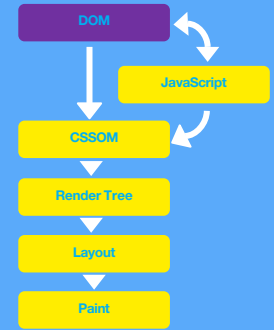
Optimize images

Optimize fonts



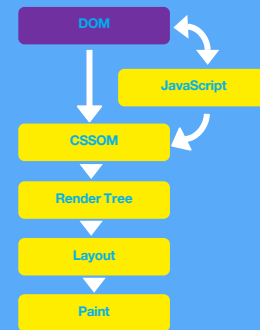
```
<!DOCTYPE html>
<html>
  <head>
    <title>Hello World</title>
    <style type="text/css,,"/>
  </head>
  <body>
    <p>Some content</p>
    <img href= '...'>
    <script href='/someurl' />
  </body>
</html>
```

Top Down



Remember: Model of the web is synchronous
HTTP/2 changes this

```
<!DOCTYPE html>
<html>
  <head>
    <title>Hello World</title>
    <style type="text/css,,"/>
  </head>
  <body>
    <p>Some content</p>
    <img href= '...'>
    <script href='/someurl' />
  </body>
</html>
```



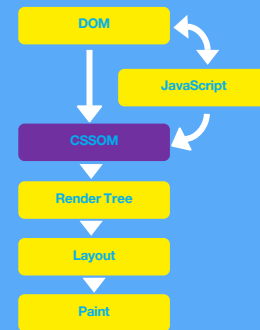
But

Speculative Parsing Resource Priority Assignments

```
body {  
  background: rgba(24,24,24, 0.5);  
}  
  
#footer {  
  padding: 8px 15px;  
}  
  
a {  
  color: red;  
  text-decoration: none;  
}
```

Style Sheet

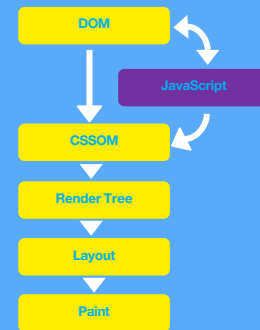
Blocking until loaded
Inline Styles vs. Javascript




```
<script>
  var text = „Hello World“,
      worldIndex = 0;

  for(var x = 0; x < 10; x++) {
    worldIndex++;
  }

  console.log(someVar +
              worldIndex);
</script>
```



Scripts

Parsed and executed immediately

Defer vs. Async

Garbage Collection

`<script>`







`<script async>`



`<script defer>`



-  HTML parsing
-  HTML parsing paused
-  Script download
-  Script execution

```
{  
  "moduleIDs": [  
    "wp_theme_simple",  
    "wp_dyncs_simple",  
    "wp_toolbar_host_view",  
    "wp_portlet_css",  
    "wp_client_ext",  
    ...  
  ],  
  "deferredModuleIDs": [  
    "st_skin",  
    "wp_toolbar_host_edit",  
    ...  
  ]  
}
```

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