



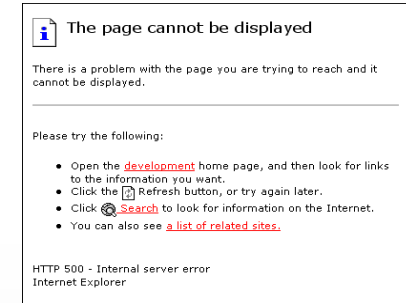
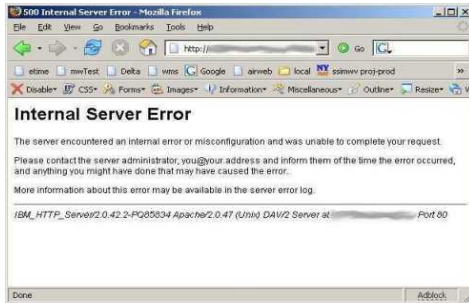
Top Web 2.0 Performance Probleme

dynaTrace
software

Warum Web Performance wichtig ist?



Umsatz, Loyalität und Reputation sind gefährdet

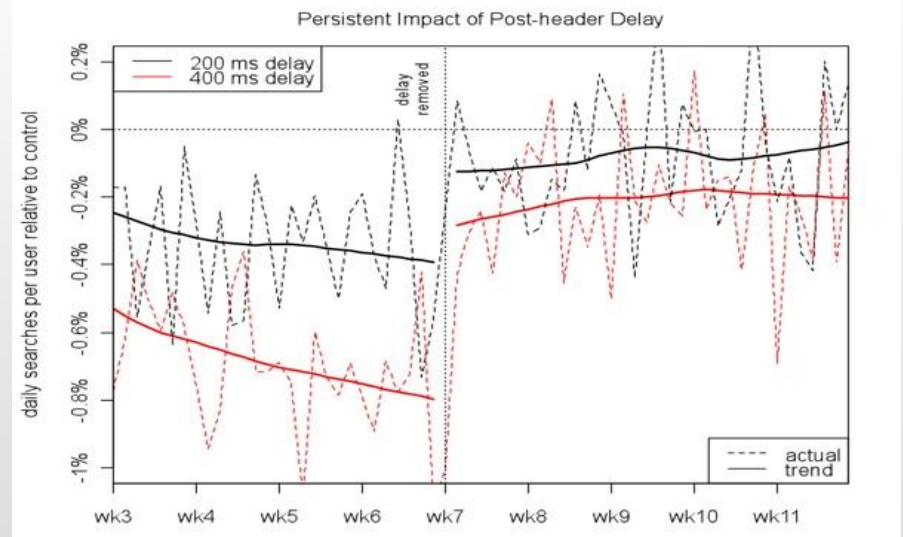


Die Auswirkungen durch Studie belegt

	Distinct Queries/User	Query Refinement	Revenue/User	Any Clicks	Satisfaction	Time to Click (increase in ms)
50m s	-	-	-	-	-	-
200m s	-	-	-	-0.3%	-0.4%	500
500m s	-	-0.6%	-1.2%	-1.0%	-0.9%	1200
1000m s	-0.7%	-0.9%	-2.8%	-1.9%	-1.6%	1900
2000m s	-1.8%	-2.1%	-4.3%	-4.4%	-3.8%	3100

Unmittelbar

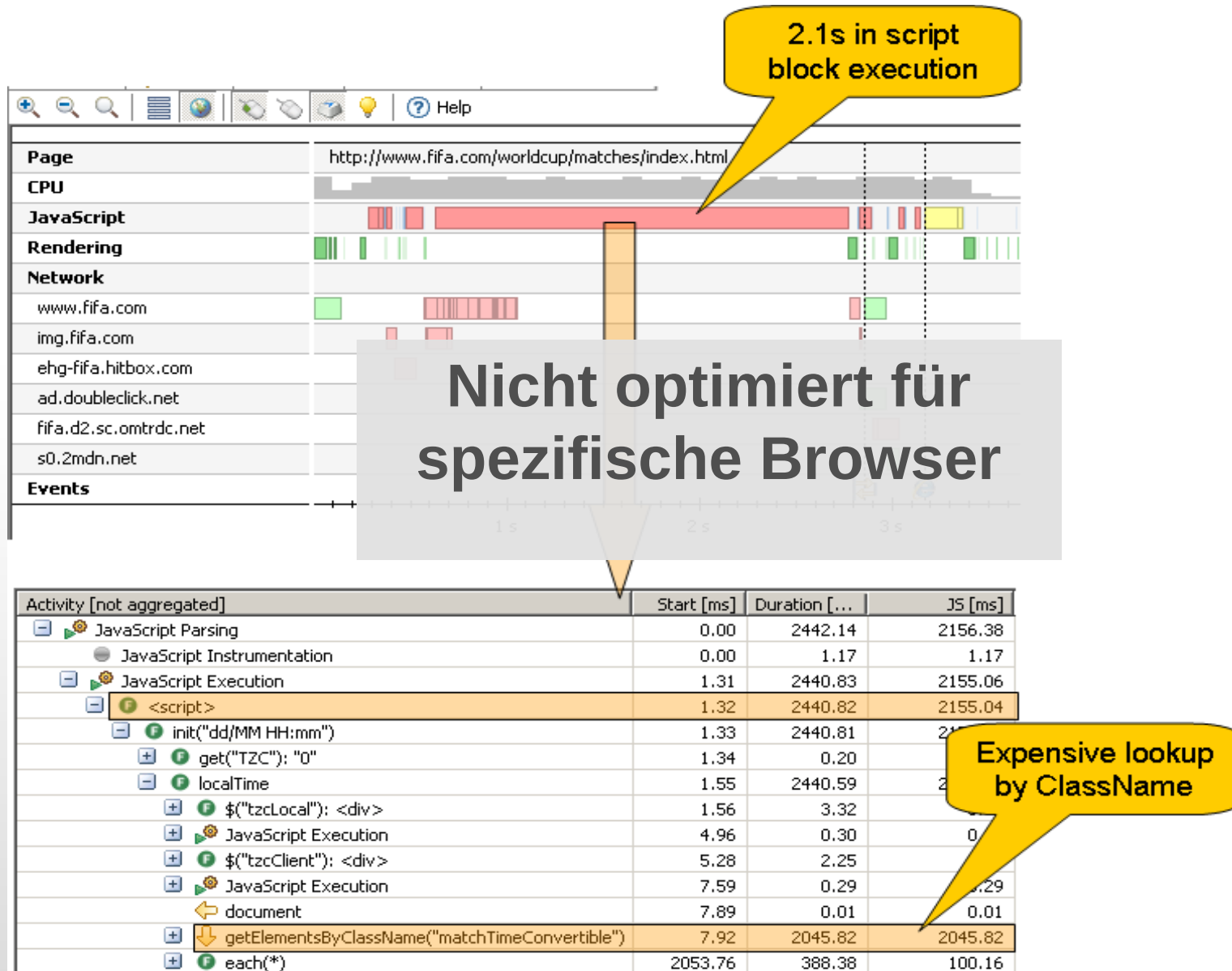
Langfristig



Die Top Probleme die wir uns nun ansehen

- Langsame CSS Selektoren auf „älteren“ Browsern
 - <http://blog.dynatrace.com/2009/11/09/101-on-jquery-selector-performance/>
 - <http://blog.dynatrace.com/2009/11/30/101-on-prototype-css-selectors/>
- Veraltete JavaScript Libraries
 - http://www.dzone.com/links/r/how_bad_outdated_javascript_libraries_are_for_pag.html
- Zu viel AJAX/XHR Communication
 - <http://blog.dynatrace.com/2010/08/12/ajax-best-practices-reduce-and-aggregate-similar-xhr-calls/>
 - <http://blog.dynatrace.com/2011/03/04/real-life-ajax-troubleshooting-guide/>
- Aufwändige DOM Manipulationen
 - <http://blog.dynatrace.com/2010/04/14/week-15-optimizing-data-intensive-webpages-by-example/>
- Klassiker: Zu viele Ressourcen, Schlechtes Caching
 - <http://blog.dynatrace.com/2010/06/04/hands-on-guide-verifying-fifa-world-cup-web-site-against-performance-best-practices/>

Langsame CSS Selektoren



Veraltete JavaScript Libraries

Start Page Performance Report

URL	Rank	First Impressio...	onLoad Tim...	Fully Loaded [ms]	On Server [ms]	On Client [ms]	Ø Interactive...	Remarks
http://news.yahoo.com/	C(71)	112	4175	8757	8120	1483	0	50 Requests, 2 Redirects, 28 uncached, 116ms in Wai...

Summary (C) Caching (D) Network (A) Server-Side (E) JavaScript/AJAX (C) Timeline KPI's

C(71) is the calculated JavaScript/AJAX Performance Rank

Optimize the JavaScript handlers and AJAX/XHR calls to improve end-user experience for this page.
Read more on [Best Practices on JavaScript/AJAX Performance Optimization](#) on the dynaTrace Community Portal

See how your rank compares to general Best Practices

A B C D E F

You are here: C(71)

There are 15 JS handlers and jQuery-like calls taking longer than 20ms to execute. Reducing execution time and invocation count of these handlers can improve end-user experience. Click through the identified handlers, methods and identify who calls them.

Contributor	Invocations	Exec [ms]
<script>	1	731.45
load event on <document>	1	313.59
getElementsByClassName("yn-menu", undefined, undefined, ...)	1	158.06
getElementsByClassName("dynamic_ad", undefined, undefi...	1	157.88
getElementsByClassName("filter-controls", undefined, undefi...	1	148.01
getElementsByClassName("darla_ad", undefined, undefined, ...)	1	146.76
getElementsByClassName("yn-menu-blog", undefined, unde...	1	144.56
load event on <document>	1	140.52
getElementsByClassName("highlight-viewer", undefined, un...	1	140.47
load event on <document>	1	60.78
unload event on <document>	1	57.34
load event on <document>	1	48.52
getElementsByClassName("showtt", "A", "bd", undefined, un...	1	30.00
getElementsByClassName("toggle-control", "a", <div>, unde...	1	22.86

Back Traces

	Invocations	Exec [ms]
<anonymous>	1	16.11
<script>	1	16.11

```
(function()
{
  var e = new YAHOO.News.Menu({
    activeClass: "menu-active",
    menuToolClass: "yn-menu",
    addMenuMasks: "div"
  });
  var d = YAHOO.util.Dom.getElementsByClassName("yn-menu");
  for(var c = 0; c < d.length; c++)
```

Veraltete JavaScript Libraries (2)

URL	Rank	First Impressio...	onLoad Tim...	Fully Loaded [ms]	On Server [ms]	On Client [ms]	Ø Interactive...	Re...
http://msn.foxsports.com/nhl	F(28)	1525	11473	11473	3350	711	0	22...
http://msn.foxsports.com/nhl/teams	E(56)	1323	4709	4709	3158	346	0	27...
http://msn.foxsports.com/nhl/team/boston-bruins/66...	F(17)	915	8392	8392	7973	3530	0	32...

Summary (F) Caching (A) Network (F) Server-Side (F) JavaScript/AJAX (F) Timeline KPI's



There are 39 JS handlers and jQuery-like calls taking longer than 20ms coming from 36 JS files. 39 script blocks impact the rank

Reducing execution time and invocation count of these handlers [Selectors](#) can improve end-user experience. Click through the identified handlers _methods and identify who called them (Back Traces) and what they call (Forward Traces).

Contributor	Invocations	Total Sum [ms]
onPostLoad	1	745.61
unload event on <document>	1	646.23
_domcontentready	1	184.29
<script>	1	159.90
load event on <document>	1	95.07
load event on <document>	1	92.50
<script>	1	92.32
load event on <document>	1	83.92
load event on <document>	1	82.85
load event on <document>	1	82.07
load event on <document>	1	81.79
load event on <document>	1	81.46
load event on <document>	1	81.30
load event on <document>	1	81.19
load event on <document>	1	80.46
load event on <document>	1	79.98

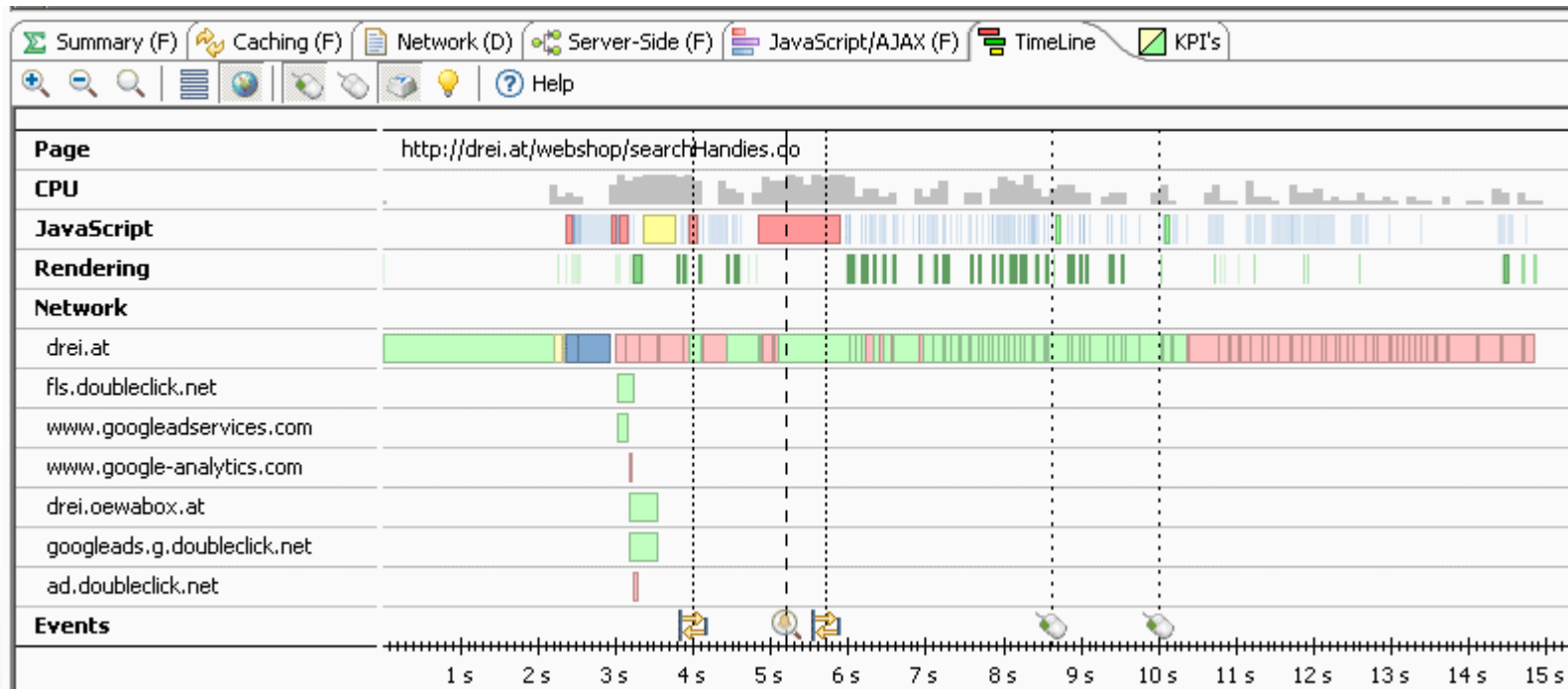
Forward Traces		Invocations	JS [ms]
+	Spry.\$\$(".prev_label", undefir	6228	170.53
+	Spry.\$\$(".comment_link_prev	6228	82.70
+	Spry.\$\$(".prev_label_disabled	6230	81.59
+	Spry.\$\$(".next_label", undefir	6228	81.09
+	Spry.\$\$(".comment_link_next	6230	79.02

```
{
  Spry.$$(".prev_label").addClassName("hide");
  Spry.$$(".comment_link_prev").addClassName("hide");
  Spry.$$(".prev_label_disabled").removeClassName("hid
  Spry.$$(".comment_link_prev_disabled").removeClassNa
  if (document.all)
  {
    showHidePagination(h, 0, "prev_label", "comment_li
```

Veraltete JavaScript Libraries (3)

Activity [not aggregated]	Start [ms]	Duration [ms]
  Spry.\$\$(".prev_label", undefined)	11.88	170.53
 Spry.\$\$.tokenizeSequence(".prev_label")	11.89	0.00
 Spry.\$\$.addExtensions(*)	11.90	0.09
  Spry.\$\$.processTokens(*, *)	11.99	170.32
  Spry.\$\$.getMatchingElements(*, *)	12.01	170.30
 <document>.getElementsByTagName("")	12.03	0.01
 length: 2787	12.05	0.36
  Spry.\$\$.Token.prototype.match(<html>, true): false	12.42	0.03
 <html>.className: ""	12.44	0.00
  Spry.\$\$.Token.prototype.match(<head>, true): false	12.46	0.02
 <head>.className: ""	12.48	0.00
  Spry.\$\$.Token.prototype.match(<link>, true): false	12.49	0.02
 <link>.className: ""	12.51	0.00
  Spry.\$\$.Token.prototype.match(<meta>, true): false	12.53	0.02
  Spry.\$\$.Token.prototype.match(<meta>, true): false	12.57	0.02
  Spry.\$\$.Token.prototype.match(<meta>, true): false	12.61	0.02
  Spry.\$\$.Token.prototype.match(<title>, true): false	12.65	0.02
  Spry.\$\$.Token.prototype.match(<meta>, true): false	12.68	0.02
  Spry.\$\$.Token.prototype.match(<meta>, true): false	12.72	0.02
  Spry.\$\$.Token.prototype.match(<link>, true): false	12.75	0.02

Zu viele AJAX/XHR Calls



There are 50 AJAX calls that contribute 136289.86ms to the end user performance experience

Reduce the number of AJAX Calls and can improve the [server-side processing time](#) to speed up this page.

	URL	Size [bytes]	T...	MIME	Status
	http://drei.at/details/6117.json	88	4.55	text/plain	HTTP/1.1 200 OK
	http://drei.at/details/6116.json	88	4.53	text/plain	HTTP/1.1 200 OK
	http://drei.at/details/6114.json	88	4.41	text/plain	HTTP/1.1 200 OK
	http://drei.at/details/6115.json	88	4.39	text/plain	HTTP/1.1 200 OK
	http://drei.at/details/31010.json	88	4.33	text/plain	HTTP/1.1 200 OK

Zu viele AJAX/XHR Calls (2)

	URL	Cached	Kind	Status	MIME	Size [bytes]	Time Chart	Start Ti...	Total [s]	Networ...	Wait [s]	Server [s]
	http://drei.at/details/31092.json	no	AJAX	200 OK	text/plain	166		4.86	1.10	1.10	0.00	1.10
	http://drei.at/Medien/media/960/imag...	no	Net	200 OK	image/gif	43		4.87	0.15	0.14	0.00	0.14
	http://drei.at/portal/media/960/hand...	no	Net	200 OK	image/png	19441		4.88	1.20	1.05	0.14	1.04
	http://drei.at/details/29954.json	no	AJAX	200 OK	text/plain	166		4.89	1.13	0.92	0.21	0.92
	http://drei.at/details/30650.json	no	AJAX	200 OK	text/plain	127		4.91	1.25	0.14	1.11	0.13
	http://drei.at/details/30332.json	no	AJAX	200 OK	text/plain	166		4.93	1.29	0.13	1.15	0.13
	http://drei.at/details/29953.json	no	AJAX	200 OK	text/plain	166		4.94	1.35	0.12	1.23	0.12
	http://drei.at/portal/media/960/hand...	no	Net	200 OK	image/png	17925		4.95	1.46	0.19	1.26	0.19
	http://drei.at/details/31093.json	no	AJAX	200 OK	text/plain	166		4.96	1.48	0.12	1.35	0.12
	http://drei.at/portal/media/960/hand...	no	Net	200 OK	image/png	17738		4.98	1.58	0.15	1.43	0.14
	http://drei.at/details/30190.json	no	AJAX	200 OK	text/plain	201		4.99	1.58	0.12	1.45	0.12
	http://drei.at/portal/media/960/hand...	no	Net	200 OK	image/png	15632		5.00	1.96	0.40	1.56	0.39
	http://drei.at/details/32310.json	no	AJAX	200 OK	text/plain	166		5.01	1.89	0.33	1.55	0.33
	http://drei.at/portal/media/960/hand...	no	Net	200 OK	image/png	20800		5.02	2.06	0.16	1.89	0.16
	http://drei.at/details/29955.json	no	AJAX	200 OK	text/plain	166		5.03	2.06	0.13	1.92	0.13
	http://drei.at/details/30331.json	no	AJAX	200 OK	text/plain	166						0.12
	http://drei.at/details/29730.json	no	AJAX	200 OK	text/plain	166						0.15
	http://drei.at/details/30330.json	no	AJAX	200 OK	text/plain	88						0.12
	http://drei.at/details/32790.json	no	AJAX	200 OK	text/plain	88						0.15
	http://drei.at/details/31091.json	no	AJAX	200 OK	text/plain	88						0.12
	http://drei.at/details/31090.json	no	AJAX	200 OK	text/plain	88						0.13
	http://drei.at/details/30630.json	no	AJAX	200 OK	text/plain	127						0.12
	http://drei.at/details/32210.json	no	AJAX	200 OK	text/plain	127						0.12
	http://drei.at/details/29951.json	no	AJAX	200 OK	text/plain	88						0.13
	http://drei.at/details/28590.json	no	AJAX	200 OK	text/plain	88						0.15
	http://drei.at/details/31830.json	no	AJAX	200 OK	text/plain	127						0.12
	http://drei.at/details/30490.json	no	AJAX	200 OK	text/plain	127						0.12
	http://drei.at/details/27791.json	no	AJAX	200 OK	text/plain	88						0.16
	http://drei.at/details/27790.json	no	AJAX	200 OK	text/plain	166						0.12

```

{
  "mobiles": [
    {
      "title": "Samsung S8500 Wave",
      "tariff": "",
      "actualprice": "0,-",
      "withprice": "",
      "withoutprice": "",
      "premiumprice": "",
      "minimumprice": "0,-",
      "id": "31092",
      "onStock": "N"
    },
    {
      "title": "SonyEricsson X10 ",
      "tariff": "",
      "actualprice": "0,-",
      "withprice": "",

```

Aufwändige DOM Manipulation

	Invocatio...	JS [ms]
[-] menuContentReady(<div>)	1	170.83
[-] closeMenu	1	170.80
[-] closeMenu	1	170.73
➔ position("absolute")	1	69.83
➔ visibility("hidden")	1	49.74
➔ display("none")	1	49.73

[-] setAttribute(<div>, "className", "topNavMenuItem ddMenuOn ddBorderOn yui-module ddMenuOff")	81.52
➔ <div>.setAttribute("className", "topNavMenuItem ddMenuOn ddBorderOn yui-module ddMenuOff")	81.50

Contributor	Invocations	Exec [ms]
➔ display("none")	11	274.35
➔ <div>.setAttribute("className", "topNavMenuItem ddMenu...	5	84.19
➔ <div>.innerHTML("<!--[if lt IE 7]> <iframe frameborder="0" i...	1	67.52
➔ getElementById("topNavMenuItem-2"): <div>	4	61.96
➔ visibility("hidden")	10	61.68
➔ position("absolute")	9	13.14
➔ addProperty("menuready", *)	10	10.47
➔ <div>.setAttribute("className", "topNavMenuItem ddMenu...	11	10.07

Die Klassiker – zu viele Ressourcen



Expensive Redirect: 1.44s

Large objects (CSS and images)

Slow on Server-Side

	URL	Cached	Kind	Status	MIME	Size [...]	Time Chart	Total [s]	DNS [s]	Conne...	Wait...	Server...	Transfer...
	http://www.fifa.com/worldcup	no	Net	302 ...	-	0		1.44	0.21	0.00	0.99	0.22	-
	http://www.fifa.com/worldcup/	no	Net	200 OK	text/html	75929		0.30	-	-	0.00	0.28	0.01
	http://www.fifa.com/components/style/...	no	Net	200 OK	text/css	781		0.19	-	0.00	0.00	0.18	0.00
	http://www.fifa.com/components/style/...	no	Net	200 OK	text/css	219733		0.50	-	-	0.00	0.49	0.00
	http://www.fifa.com/components/script/...	no	Net	200 OK	application/...	246973		0.98	-	0.01	0.00	0.96	0.01
	http://www.fifa.com/components/script/...	no	Net	200 OK	application/...	51101		0.57	-	0.01	0.00	0.55	0.00
	http://www.fifa.com/components/script/t...	no	Net	200 OK	application/...	37606		0.46	-	0.01	0.01	0.44	0.00
	http://www.fifa.com/components/script/i...	no	Net	200 OK	application/...	129		0.36	-	-	0.19	0.16	0.00
	http://www.fifa.com/components/script/...	no	Net	200 OK	application/...	18956		0.39	-	0.01	0.00	0.37	0.00
	http://www.fifa.com/js/Hitbox/hbx.js	no	Net	200 OK	application/...	15270		0.68	-	-	0.36	0.32	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.44	0.16	0.02	0.00	2.86	0.04
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.37	0.00	0.13	0.00	0.31	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.37	-	0.01	0.12	0.23	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.44	-	0.02	0.12	0.30	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.62	-	0.02	0.12	0.47	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.73	-	-	0.37	0.35	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.32	-	0.02	0.12	1.17	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.79	-	-	0.73	1.05	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.18	-	-	0.79	0.38	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.40	-	0.01	0.12	0.26	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.79	-	-	0.40	0.38	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		0.62	-	-	0.44	0.37	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.03	-	-	0.62	0.40	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.18	-	-	0.81	0.36	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.43	-	-	1.02	0.40	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.55	-	-	1.17	0.37	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.60	-	-	1.18	0.42	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.64	-	-	1.31	0.32	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.75	-	-	1.42	0.32	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.87	-	-	1.54	0.32	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.90	-	-	1.60	0.30	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		1.95	-	-	1.64	0.30	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		2.10	-	-	1.75	0.34	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		2.07	-	-	1.77	0.30	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		2.14	-	-	1.87	0.26	0.00
	http://img.fifa.com/imgml/worldcup/head...	no	Net	200 OK	image/gif	195		2.21	-	-	1.90	0.30	0.00

Zu viele Ressourcen,
Nicht optimierte Inhalte

Growing Wait Time due to too many objects from same domain

Die Klassiker – kein Caching

Summary (E) Caching (F) Network (D) Server-Side (F) JavaScript/AJAX (E) TimeLine KPI's

F(9) is your calculated Browser Caching Performance Rank

Implement the following suggestions to improve performance for revisiting users.
Read more on [Best Practices on Browser Caching](#) on the dynaTrace Community Portal

See how your rank compares to general Best Practices

A B C D E F
You are here: F(9)

Following 62 resources

[Specifying Expires Headers](#) can save up to 746.16kb in transfer size and up to 10781.58ms in download time

	URL	Size [byt...]	Total [s]	MIME	Cache expiration
JS	http://content.usatoda.com/weather/content/_weatherprovisioner.js	1128	5.78	application/javascript	-
PNG	http://i.usatoday.net/news/snapshots/vall115/v115-10-14-retirement.png	2233	0.57	image/png	-
JPG	http://i.usatoday.net/communitymanager/_photos/paw-print-post/2010/10/12/...	3674	0.56	image/jpeg	-
JPG	http://i.usatoday.net/community/_photos/carryon-th.jpg	1866	0.54	image/jpeg	-

Following 49 resources have a very short expires header. 46 are static requests and impact the Rank

[Specifying Longer Expires Headers](#) can save up to 746.16kb in transfer size and up to 10781.58ms in download time

	URL	Size [byt...]	Total [s]	MIME	Cache expiration
GIF	http://i.usatoday.net/_fronts2010/_home/_i/_community/icon-gameon.gif	633	0.54	image/gif	15 Oct 2010 10:07:43...
PNG	http://i.usatoday.net/_fronts2010/_i/v2/belt-button.png	2223	0.53	image/png	15 Oct 2010 10:07:28...
PNG	http://i.usatoday.net/_fronts2010/_i/v2/media-icons-belt.png	776	0.50	image/png	15 Oct 2010 10:06:56...
PNG	http://i.usatoday.net/_fronts2010/_i/directional-icons.png	699	0.49	image/png	15 Oct 2010 10:06:50...

Weitere Ressourcen

- Interessante Links
 - Steve Souders: <http://stevesouders.com>
 - John Resig: <http://ejohn.org/>
 - Web 2.0 Blogs: <http://blog.dynatrace.com/ajax>
 - Web Performance Conference: <http://velocityconf.com>
- Tools
 - dynaTrace Ajax for IE und FF: <http://ajax.dynatrace.com>
 - YSlow for Firefox: <http://developer.yahoo.com/yslow/>
 - PageSpeed for Chrome: <http://code.google.com/speed/page-speed/>