



WHITE PAPER



# SITECATALYST DATA COLLECTION

Image Request Download Times

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Version 2.0





# 1 SiteCatalyst Data Collection

SiteCatalyst data collection is accomplished by making a special image request to Omniture's data collection servers. In most implementations, JavaScript code is placed on the web pages being tracked. When a tagged web page loads in a visitor's browser, the browser executes our JavaScript code, performing logic to capture visitor information and populate tags correctly. The last step of JavaScript processing is an image request to a Omniture data collection server which collects the 50data being submitted and returns a 1x1 transparent image to the visitor's browser.

As the typical bottleneck in browser processing is the time it takes to download page elements (images, et cetera) from web servers, the time required for the browser to execute the JavaScript code is negligible. However, the last step where the visitor's browser requests an image from the Omniture data collection server does add to the total page download time. The overall affect on page download time depends on the website visitor's proximity (in Internet hops not geographic distance) to Omniture's data collection servers.

## 1.1 Information Purposes Only

The purpose of this white paper is to provide information for troubleshooting purposes only. No part of this document provides an explicit or implicit service level guarantee. Please refer to your SiteCatalyst service agreement for further information regarding SLAs.

## 1.2 Testing Methodology

All download time measurements recorded herein were taken during January 2005 from locations around the world using Keynote Systems, an independent 3<sup>rd</sup> party auditor of system performance.

*"Keynote is The Internet Performance Authority with an extensive infrastructure of over 1,600 measurement computers in more than 50 cities worldwide that capture and store over 60 million Internet performance measurements daily. Keynote is also frequently cited by the media regarding Web performance data and analysis, and the company's market-leading Web performance indices for vertical markets and leading customer research provides critical business insight into online customer experiences, industry trends and competitive Web strategies."*  
– Extract from Keynote's website (<http://www.keynote.com>)

SiteCatalyst provides data tracking for http and https (secure) pages. Due to protocol differences the download time for secure images is significantly higher. For documentation purposes we have measured and reported download times separately for the two protocols.

## 1.3 Handshake Request

Once every 30 minutes during a visitor's session, the image request to Omniture performs a handshake to verify that the visitor's browser allows persistent cookies to be set. This handshake effectively doubles the download time for that one image request, but it only happens once every 30 minutes. For the vast majority of visitor image requests no handshake is done, so for testing purposes we purposefully constructed the test URL to bypass the handshake in order to document the performance that users receive the majority of the time.

## 2 Image Request Download Times by Region

The following tables show a breakdown of the image request download times by global region.

### 2.1 Download Time Averages

Location	http request (milliseconds)	https request (milliseconds)
Asia	.516	1.107
East Cost – North America	.181	.653
Europe	.443	1.032
Midwest – North America	.146	.558
West Coast – North America	.046	.391
South America	.405	.886
Africa	1.020	1.872
Australia	.053	1.161

### 2.2 Asia

Location	http request (milliseconds)	https request (milliseconds)
Bangalore VSNL	.764	1.549
Beijing Netcom	.424	1.257
Guangzhou ChinaTel	.636	1.287
Hong Kong HKT	.315	1.088
Kuala Lumpur TM	.471	1.384
Mumbai	.767	1.460
New Delhi VSNL	.540	1.675
Seoul BORANet	.525	1.074
Seoul Kormet	.328	1.158
Singapore SingTel	.677	1.297
Taipei Hinet	.485	1.057
Tianjin Netcom	.669	1.050
Tokyo IJ	.400	.0872
Tokyo NTT	.216	.0797
<b>Average – Asia</b>	<b>.516</b>	<b>1.107</b>

### 2.3 East Coast – North America

Location	http request (milliseconds)	https request (milliseconds)
Atlanta AT&T	.162	.551
Atlanta Sprint	.144	.482
Atlanta Verizon	.145	.447
Boston Sprint	.149	.729
Boston Verizon	.168	.731
Miami Verizon	.183	.641
Montreal Verizon	.224	.612
New York AT&T	.177	.445
New York Cogent	.245	.524
New York SBC	.171	.708
New York Savvis	.191	.728
New York Sprint	.218	.720
New York Verizon	.200	.655
Philadelphia Internap	.142	.699
Philadelphia Level3	.152	.677
Pittsburgh Cogent	.161	.755

Tampa Qwest	.176	.690
Toronto Bell	.165	.689
Washington, D.C. AT&T	.195	.842
Washington, D.C. Cogent	.167	.701
Washington, D.C. Qwest	.169	.606
Washington, D.C. Savvis	.204	.684
Washington, D.C. XO	.266	.697
<b>Average– East Coast– North America</b>	<b>.181</b>	<b>.653</b>

## 2.4 Europe

Location	http request (milliseconds)	https request (milliseconds)
Amsterdam KPN	.383	.820
Amsterdam Verizon	.452	.897
Berlin Level3	.502	1.039
Brussels Belgacom	.326	.938
Brussels Verizon	.411	.885
Copenhagen TDC	.361	1.001
Dublin Eircom	.339	.945
Frankfurt DTAG	.509	1.166
Frankfurt Verizon	.341	.915
Frankfurt ViaNet	.380	.812
Frankfurt MediaWays	.559	1.004
Geneva Swisscom	.530	1.145
Hamburg TeliaSonera	.488	1.130
Helsinki Sonera	.475	.999
Lisbon Telepac	.416	1.179
London BT	.460	.961
London C&W	.425	.801
London Level3	.310	.777
London PSI	.411	1.029
London Verizon	.325	.734
Madrid Orange (FT)	.562	.863
Madrid Telefonica	.586	1.474
Milan Inet	.397	1.038
Moscow Comstar	.728	1.377
Munich C&W	.377	1.238
Oslo Dataguard	.442	.992
Paris Colt	.485	1.172
Paris Orange (FT)	.497	.934
Paris Telecom Italia	.457	1.654
Paris Verizon	.319	.894
Stockholm Telia	.423	1.153
Vienna Telekom	.547	1.197
Warsaw Supermedia	.404	.905
<b>Average – Europe</b>	<b>.443</b>	<b>1.032</b>

## 2.5 Midwest – North America

Location	http request (milliseconds)	https request (milliseconds)
Calgary Telus	.193	.690
Chicago AT&T	.168	.679
Chicago SBC	.124	.393
Chicago Savvis	.141	.638

Cleveland SBC	.206	.452
Cleveland XO	.186	.582
Dallas AT&T	.114	.489
Dallas SBC	.115	.490
Denver Qwest	.105	.448
Denver Verizon	.098	.696
Detroit Level3	.208	.362
Houston NTT	.133	.507
Houston Verizon	.114	.477
Mexico City Avantel	.241	.718
Milwaukee Cogent	.140	.485
Minneapolis Global Crossing	.164	.477
Phoenix AT&T	.151	.514
St. Louis Level3	.101	.723
St. Louis XO	.102	.722
<b>Average – Midwest – North America</b>	<b>.146</b>	<b>.558</b>

## 2.6 West Coast – North America

Location	http request (milliseconds)	https request (milliseconds)
Los Angeles AT&T	.042	.599
Los Angeles Cogent	.043	.600
Los Angeles Qwest	.045	.603
Los Angeles SBC	.050	.690
Portland Time Warner	.087	.386
San Diego AT&T	.058	.221
San Diego Level3	.038	.201
San Diego NTT	.050	.511
San Francisco AT&T	.015	.336
San Francisco Sprint	.017	.180
San Francisco Verizon	.032	.191
San Jose XO	.018	.156
Seattle Internap	.070	.405
<b>Average – West Coast – North America</b>	<b>.046</b>	<b>.391</b>

## 2.7 South America

Location	http request (milliseconds)	https request (milliseconds)
Sao Paulo Telfonica	.405	.886
<b>Average – South America</b>	<b>.405</b>	<b>.886</b>

## 2.8 Africa

Location	http request (milliseconds)	https request (milliseconds)
Johannesburg IS	1.020	1.872
<b>Average – Africa</b>	<b>1.020</b>	<b>1.872</b>

## 2.9 Australia

Location	http request (milliseconds)	https request (milliseconds)
Sydney Optus	.518	1.106
Sydney Telstra	.532	1.215
<b>Average – Australia</b>	<b>.053</b>	<b>1.161</b>

## 2.10 Further Assistance

If through internal testing you suspect your image downloads are slower than what is documented here, please contact Omniture ClientCare to run additional tests and document performance specific to your account via Keynote. Keep in mind the following caveats that we have frequently encountered.

- The status bar of many common browsers (including Internet Explorer) does not accurately reflect what the browser is currently waiting for. For example, your status bar may report that your browser is waiting for image 1 to download when network packet tests will show that your browser has actually received image 1 already and is currently waiting for image 2.
- Some robots that test page download performance do not execute JavaScript properly and may yield incorrect results.
- Many page download performance services and tools mask visitor detection which may result in a handshake for every image request which is not indicative of the actual performance real visitors receive.



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