

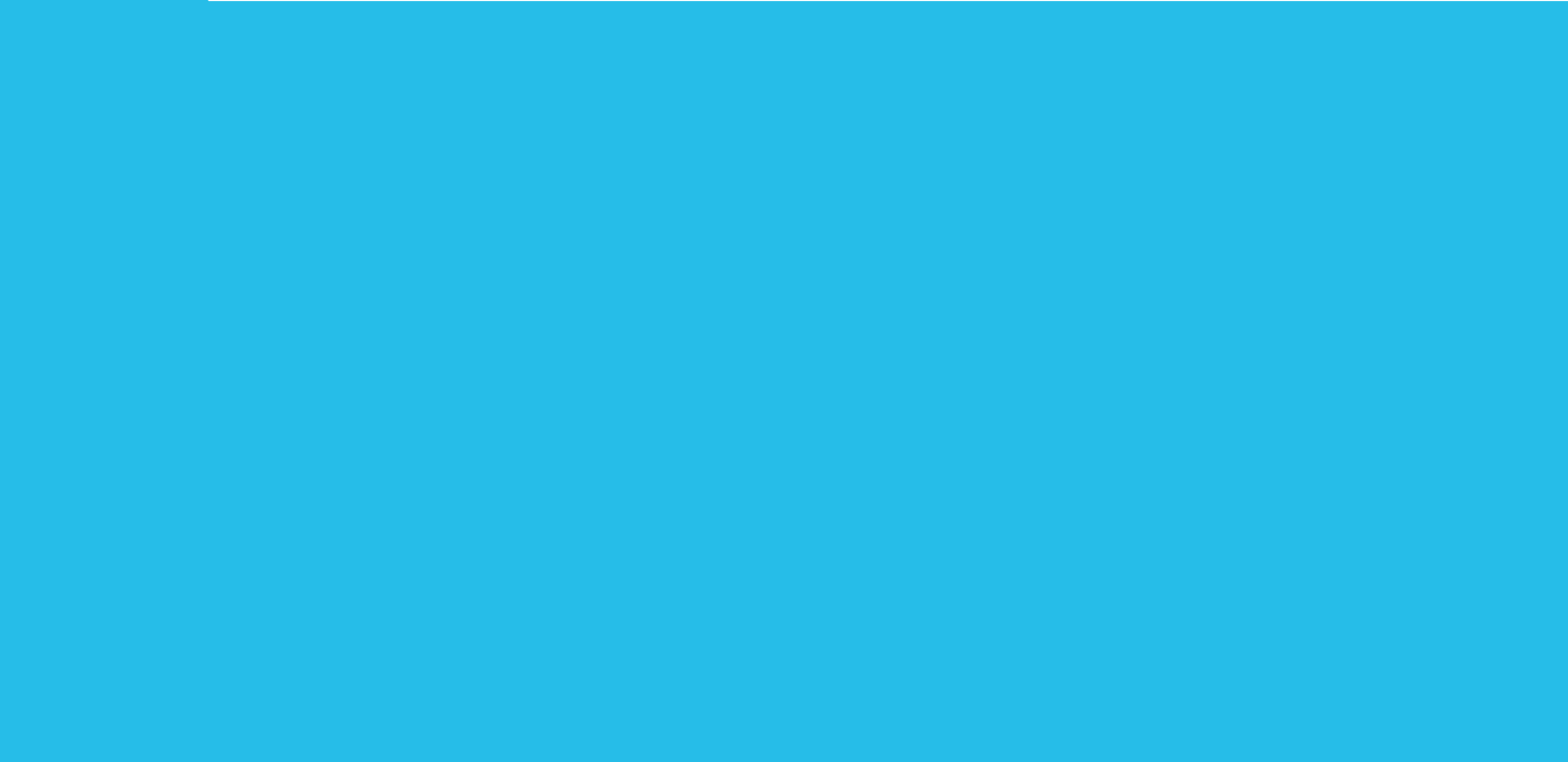
CDN Performance Report

Jun 2014 - Basic Edition

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Overview



This report summarizes Content Delivery Network (CDN) performance based on real user testing conducted by CloudHarmony utilizing a browser based test. This test can be found at <http://cloudharmony.com/speedtest> and is available for any user to run. Additionally, to augment test volume, additional users are recruited to run the test using Amazon Mechanical Turk.

Test Methodology

To facilitate testing, we maintain duplicate content with each CDN included in the analysis. This content includes a javascript file, and images of various sizes which are used to measure both latency and throughput between end user and CDN. A copy of the test files is available at <https://github.com/cloudharmony/web-probe>.

Latency

To measure latency, an 8 byte javascript file (small enough to be contained within a single TCP/IP packet) is downloaded 10 times and the median time in milliseconds captured. Taking multiple samples is helpful to cache recursive DNS entries that might otherwise affect performance. To avoid browser caching, random query strings are appended to each request. Each CDN is configured to ignore such strings for the purpose of edge caching.

Throughput

To measure throughput, various sized image files are downloaded repeatedly following a brief warmup period used to determine optimal sizes to select for testing. For users with slower connections, smaller image files are selected, while users with faster connections use larger test files. Throughput is measured in megabits/second using base 2 calculations.

User Location

User location is determined based on IP address using MaxMind GeoIP databases. Location data along with performance metrics are stored within a database and aggregated monthly to produce this report.

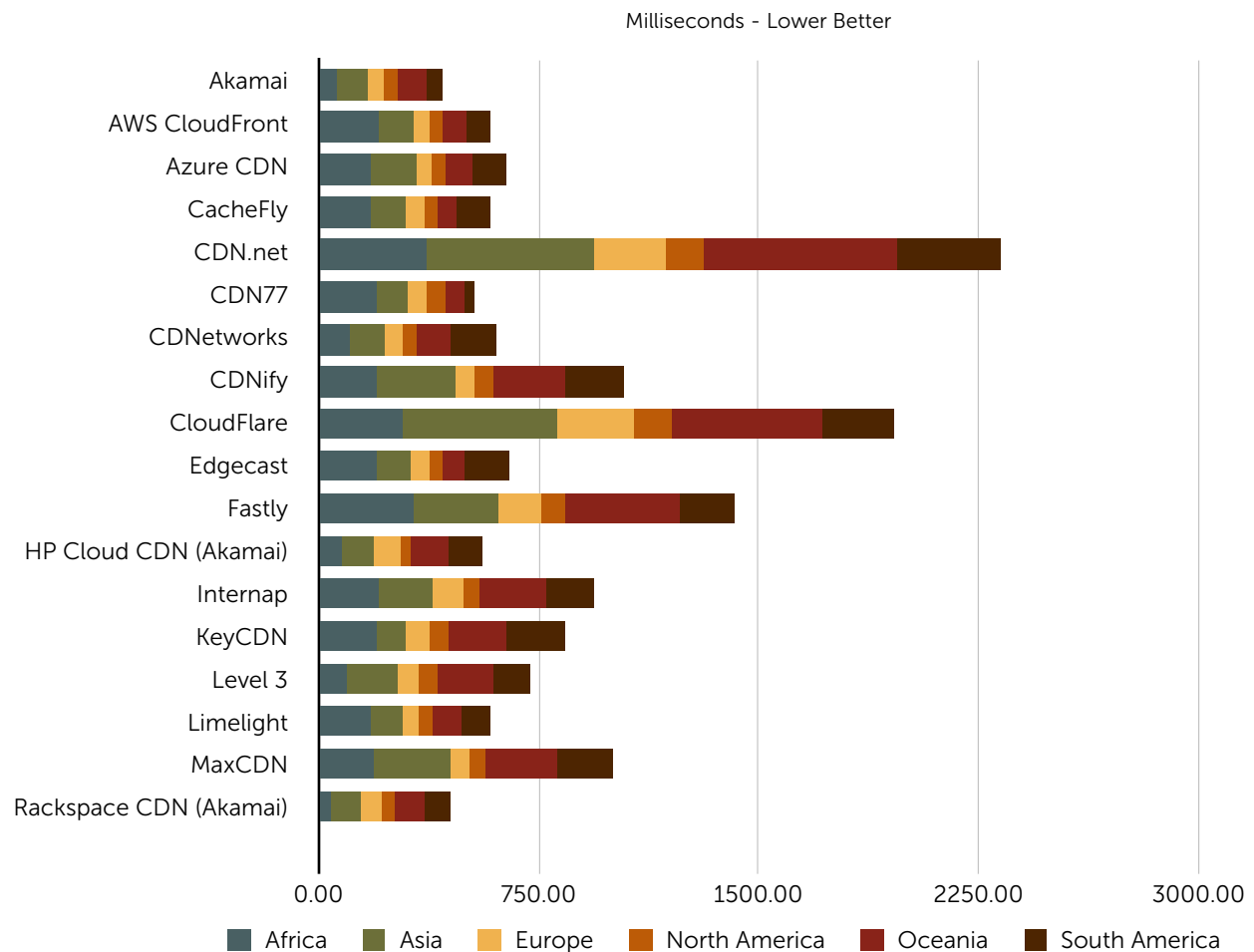
Test Results



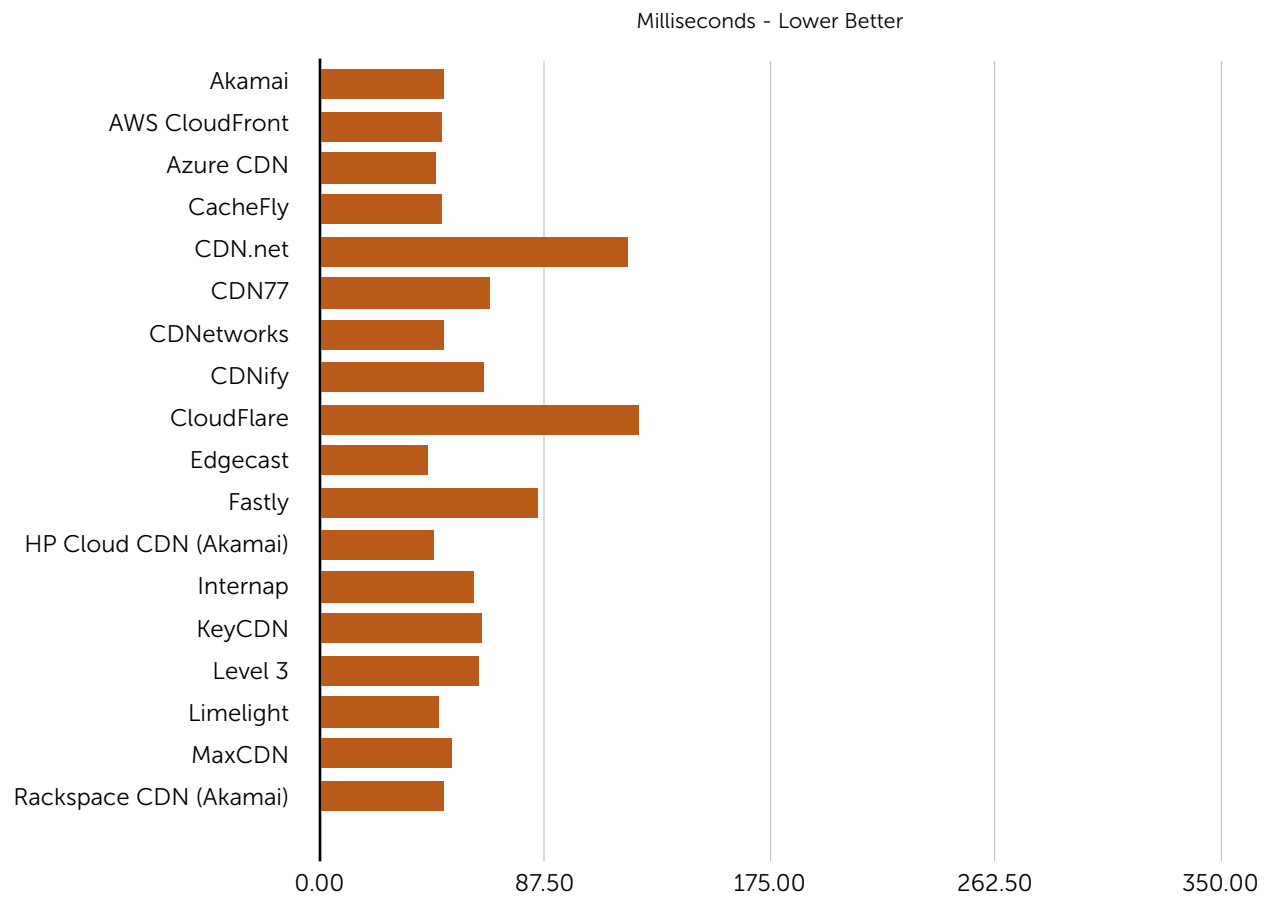
Latency

The following stacked bar chart summarizes latency for all CDNs in all geographical regions. A smaller bar signifies better overall latency globally. Each segment within the bar represents latency for a different continent. This graph is followed by individual content graphs and finally by a data table.

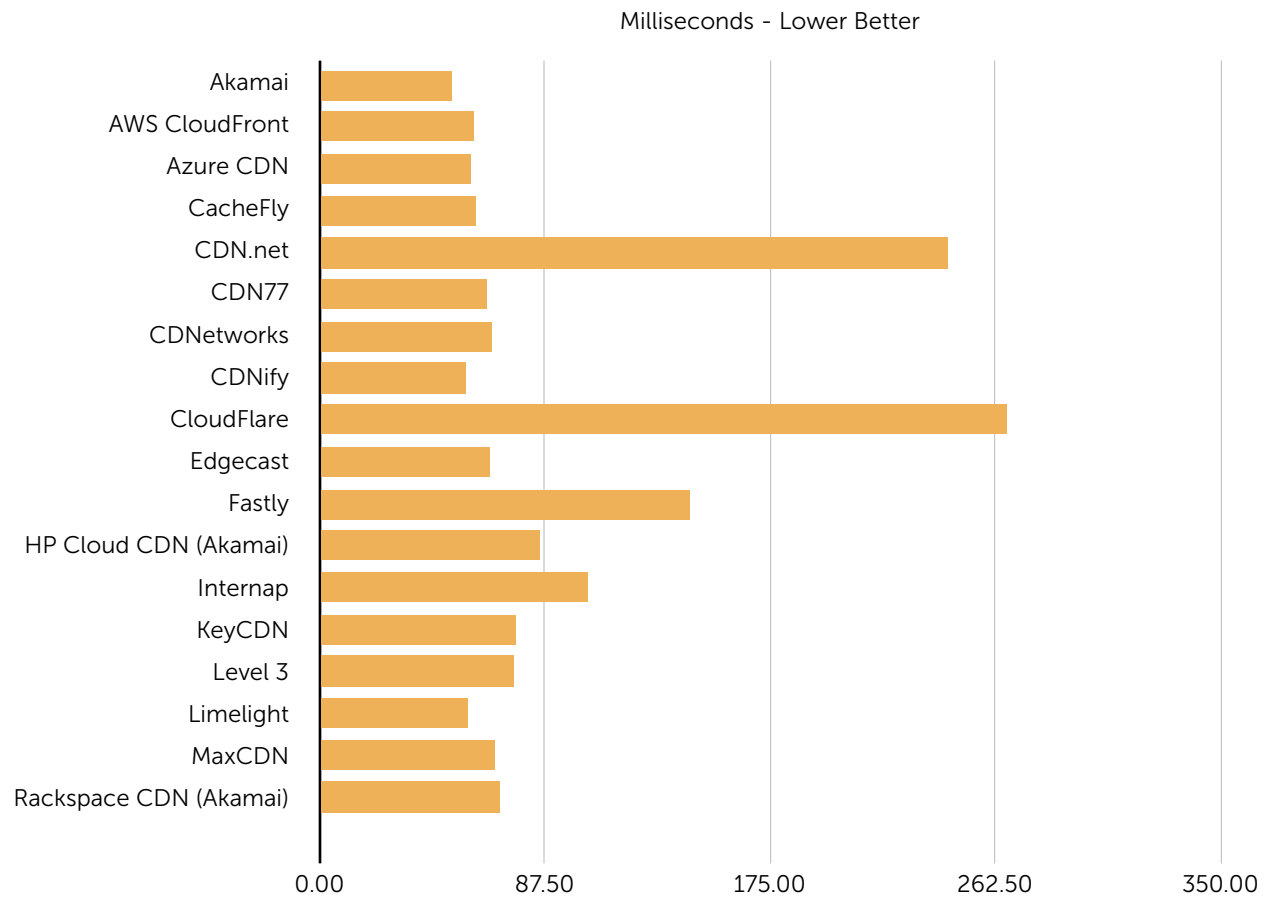
Mean CDN Latency - Aggregate



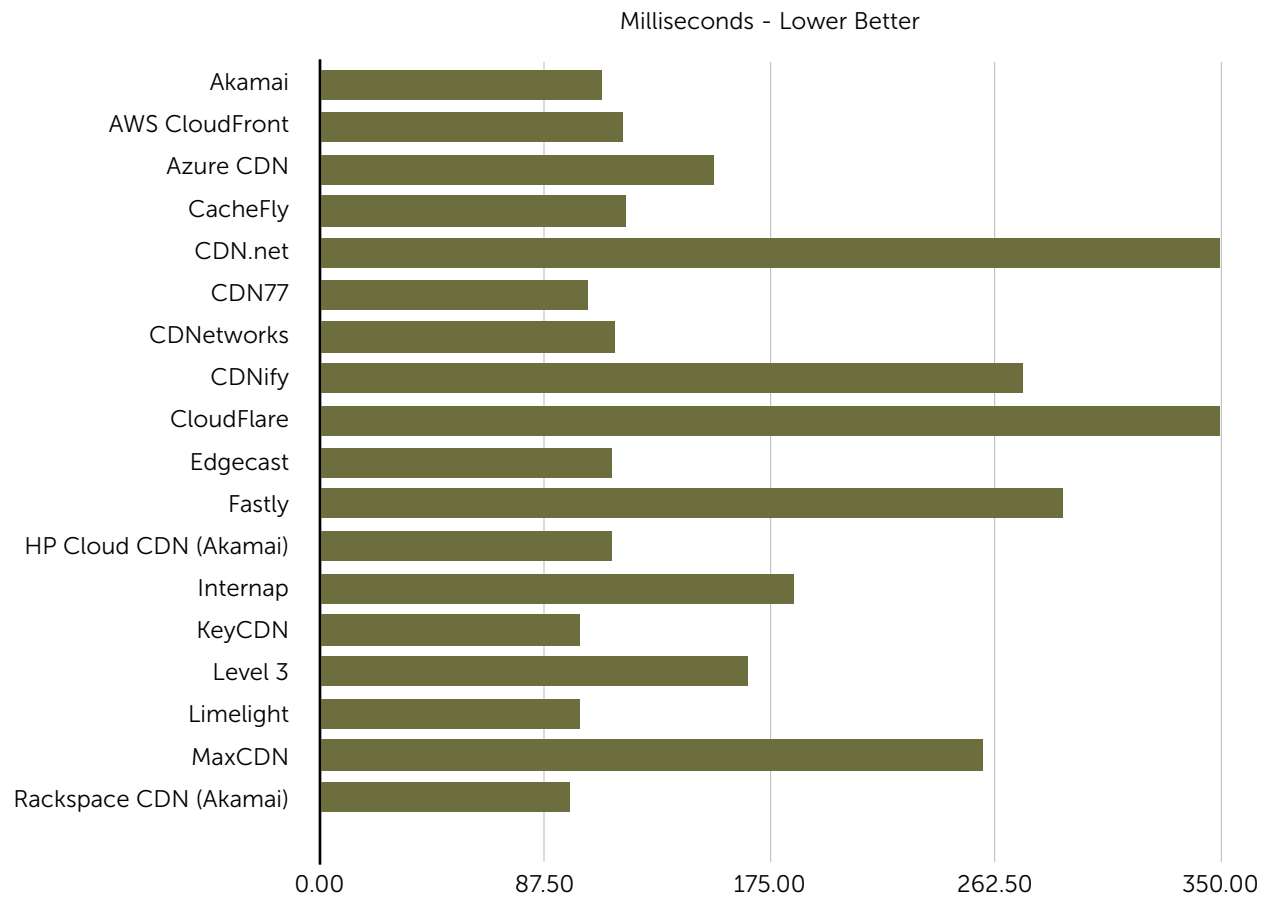
Mean CDN Latency - North America



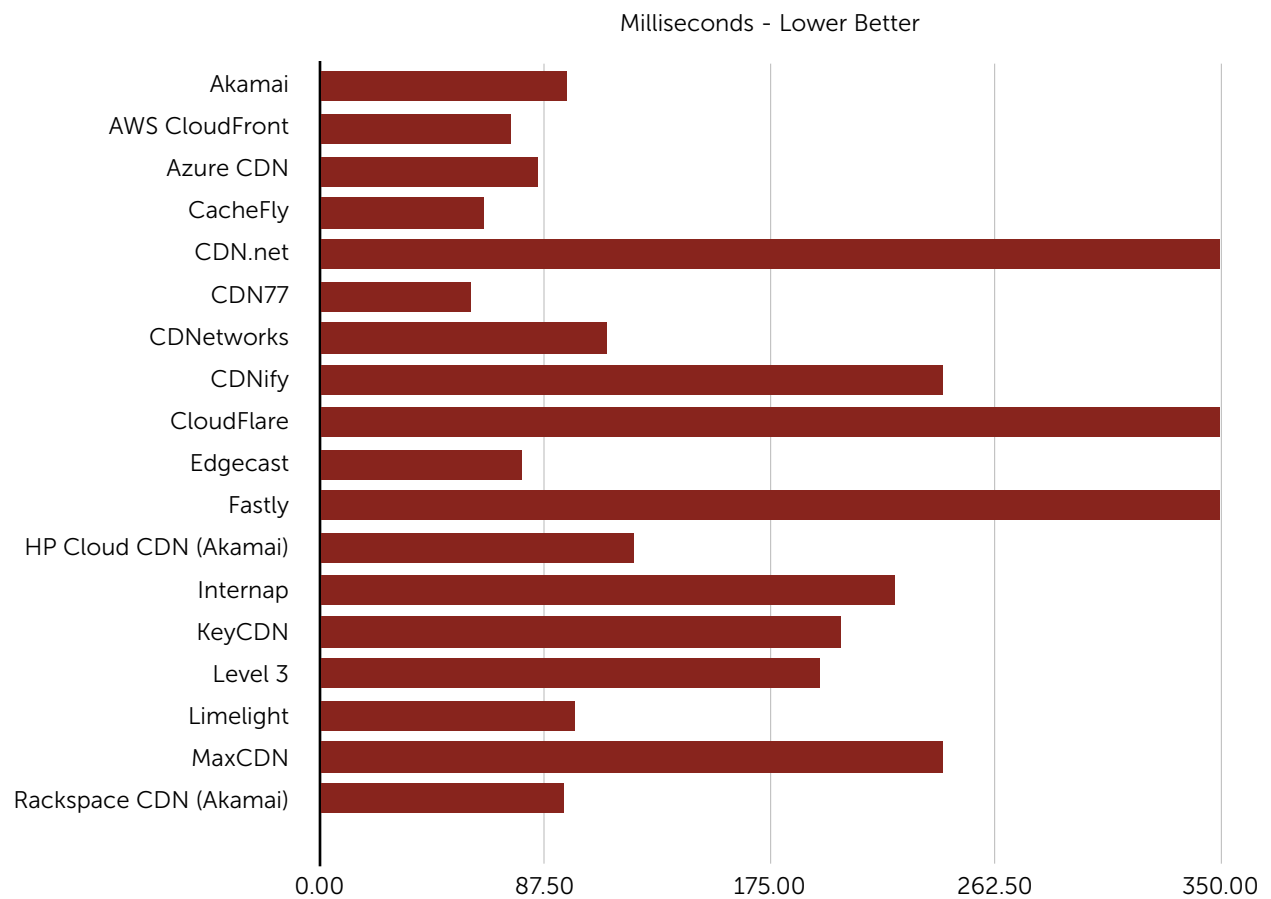
Mean CDN Latency - Europe



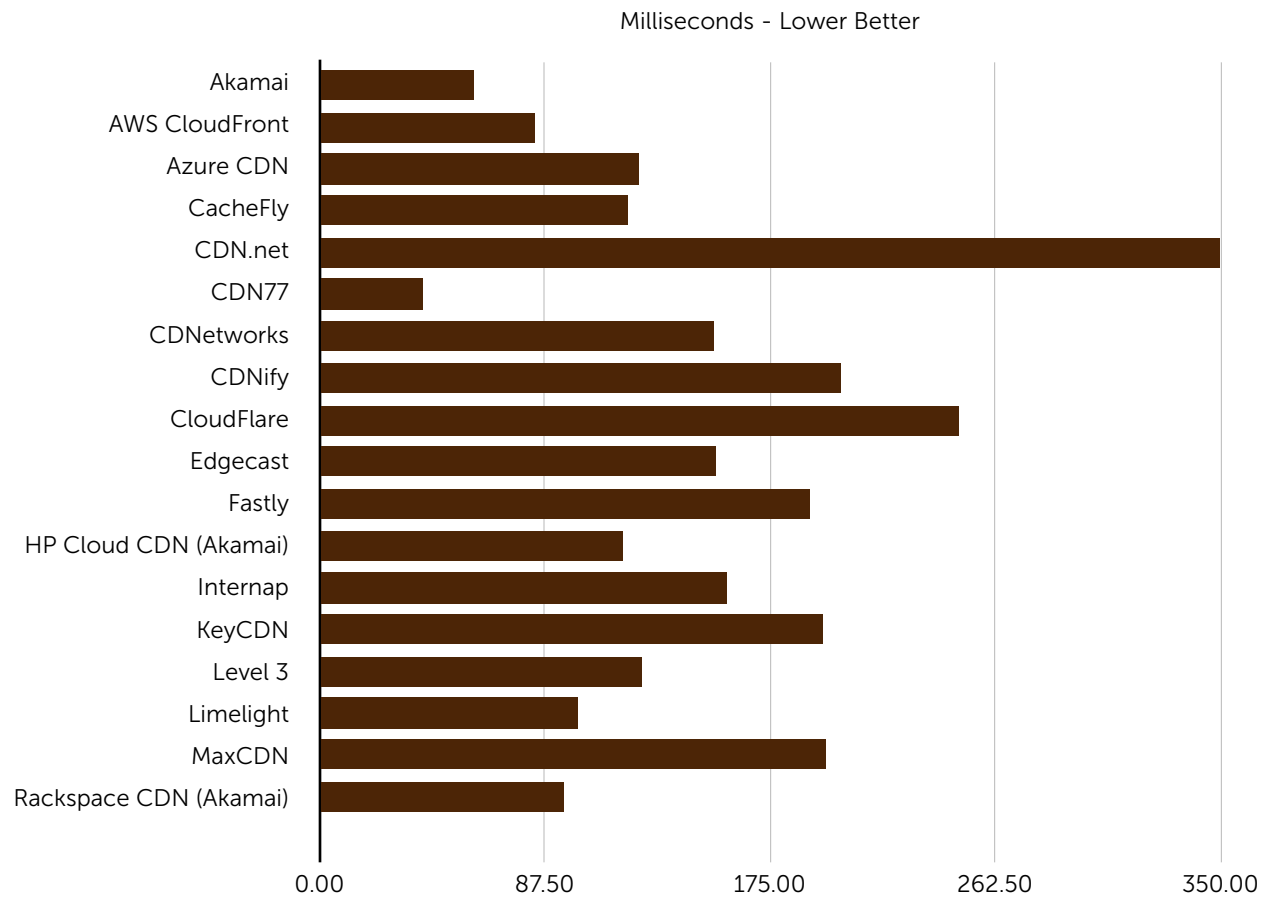
Mean CDN Latency - Asia



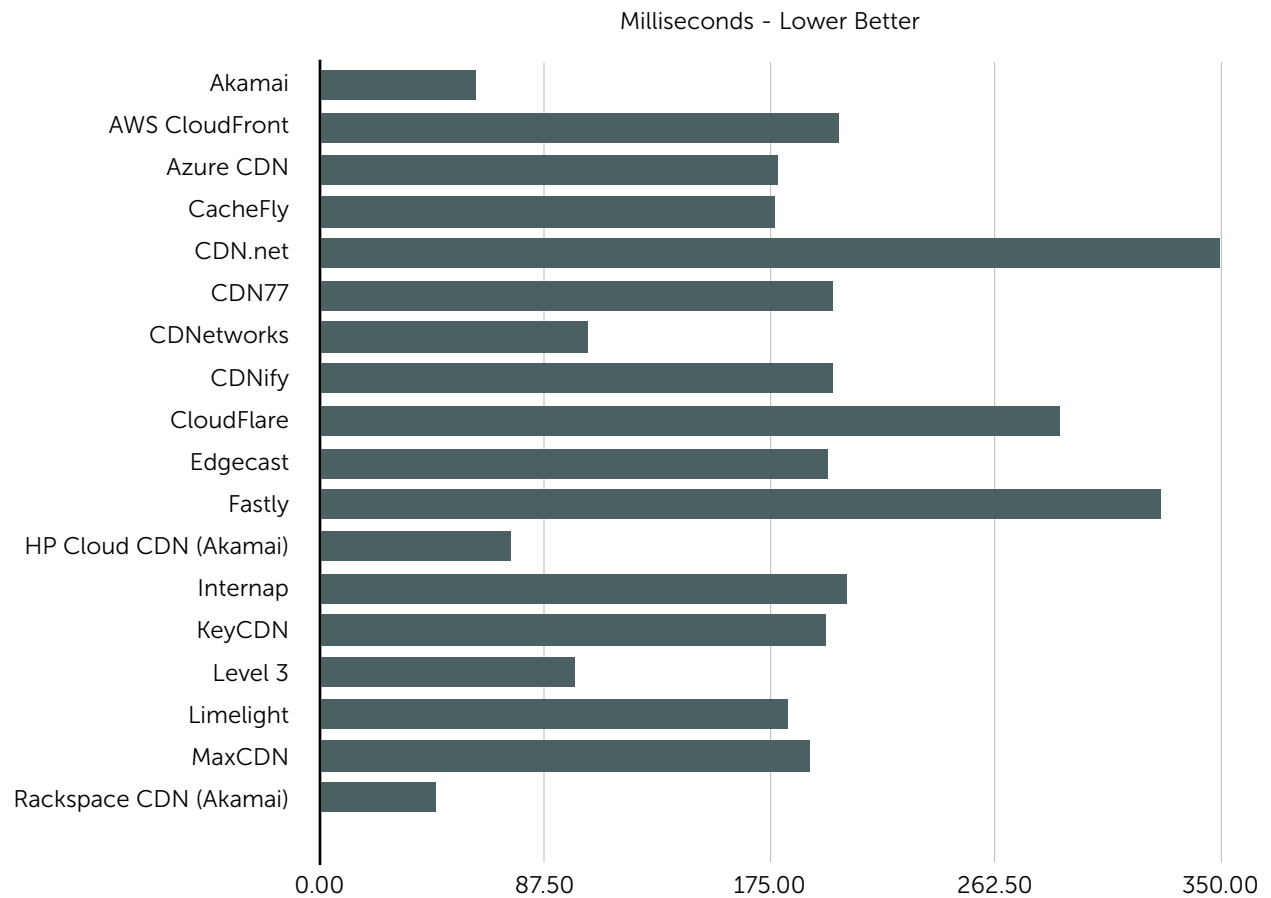
Mean CDN Latency - Oceania



Mean CDN Latency - South America



Mean CDN Latency - Africa



Latency Data Table

Values in this table are mean latency in milliseconds for all tests within the report period. A lower value signifies lower (better) latency.

Service	Africa	Asia	Europe	North America	Oceania	South America
Akamai	60.61	109.41	51.94	48.39	96.30	60.00
AWS CloudFront	201.81	117.89	59.86	47.55	74.31	83.35
Azure CDN	178.26	153.11	59.03	45.74	84.68	123.82
CacheFly	177.11	119.10	60.61	47.67	64.00	120.14
CDN.net	364.89	577.76	244.29	119.58	667.29	352.83
CDN77	199.86	103.96	64.47	66.48	58.24	40.00
CDNetworks	104.36	115.16	66.84	48.79	111.65	152.89
CDNify	199.91	272.72	56.21	64.20	242.32	202.78
CloudFlare	288.05	520.63	266.76	124.32	519.77	248.00
Edgecast	197.60	113.42	65.72	42.21	78.64	154.09
Fastly	326.80	288.62	143.34	84.51	390.12	190.00
HP Cloud CDN (Akamai)	74.72	113.61	85.33	44.22	122.21	117.92
Internap	204.52	184.41	104.25	59.80	223.56	158.61
KeyCDN	196.89	101.49	76.61	62.36	202.78	195.20
Level 3	98.85	166.81	75.12	61.31	194.12	124.57
Limelight	181.73	101.52	57.89	46.56	98.92	100.22
MaxCDN	190.18	258.05	67.86	51.79	242.38	196.21
Rackspace CDN (Akamai)	44.75	97.27	69.89	48.23	95.07	94.60