

Factsheet

Tests – CDN performance

# CDN Performance

## CDN measurements (TCP)

Supported clients: Whiteboxes, Routers

CDNs are widely used by large websites to distribute static content near to end users. This reduces the burden on the content providers' servers and improves web page load times. Major, well-known CDNs include Akamai, Google and Microsoft. There are a great many smaller CDNs in operation too.

The largest CDN operators will place caches inside ISP networks so that traffic does not even need to leave the ISP network. This is beneficial for both the ISPs (it reduces the load on their transit and peering links) and the CDN operators too (it spreads the content serving burden to a wider array of servers).

The SamKnows CDN test measures performance to multiple CDNs by fetching a small object over HTTP. Care is taken to ensure that the same object (or a very similar one) is fetched from each CDN, to provide comparability between the CDNs themselves. Currently an ~80KiB JavaScript library is fetched from each CDN.

CDNs currently supported for testing are as follows:

- Google
- Amazon AWS/Cloudfront
- Microsoft Azure
- Cloudflare
- Akamai
- Apple

The key metrics captured by the test are as follows:

- TCP connection time
- Download speed
- Object fetch time (lower is better)
- The IP address of the CDN node

Please note that that download speed is not representative of the maximum capacity of the user's broadband connection. An 80KiB transfer is not enough to ramp the line up to full speed. It is instead intended to be indicative of the transfer rate seen for a small object as served by the CDN in question.