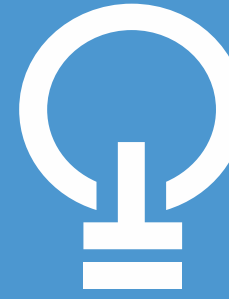


MLAB

Measurement Lab

<http://measurementlab.net>

Independent, Public Interest
Network Performance Measurement



OPEN
TECHNOLOGY
INSTITUTE

@NewAmerica



MLAB

How can we understand our
connections to the Internet?

By Measuring Them!!




Loading...



STEP 1

A user, connected to the Internet by one or another access ISP, runs a test.

STEP 2

The test sends traffic from their device to the closest M-lab measurement point, and back.

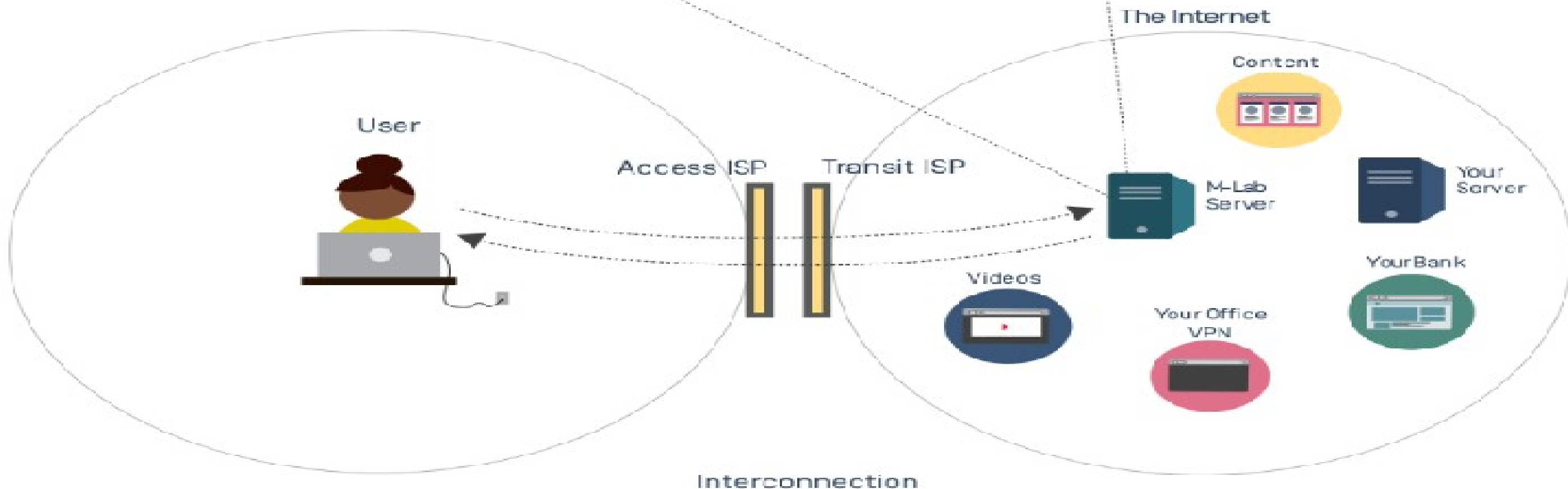
STEP 3

This measures performance from the access ISP into the Internet (not just within the access ISP's network).

STEP 4

The measurements generated by a given test are shown to the user, and put into the public domain.

M-Lab Test





M-Lab's Global Footprint

Servers on Every
Continent and Growing





National Regulators Using M-Lab

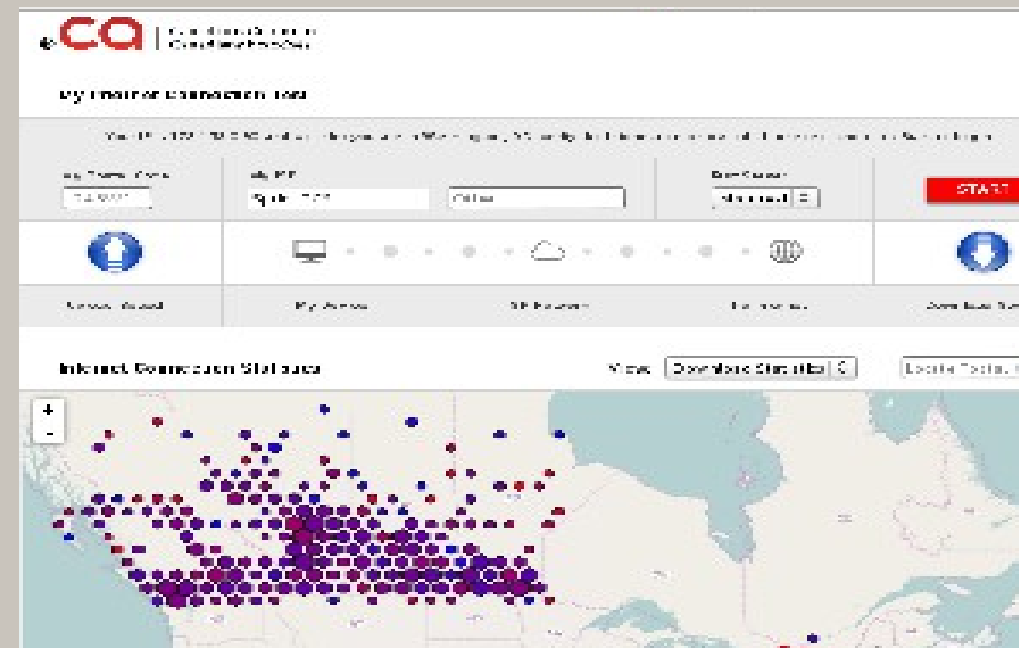
- United States
- Greece
- Austria
- Canada



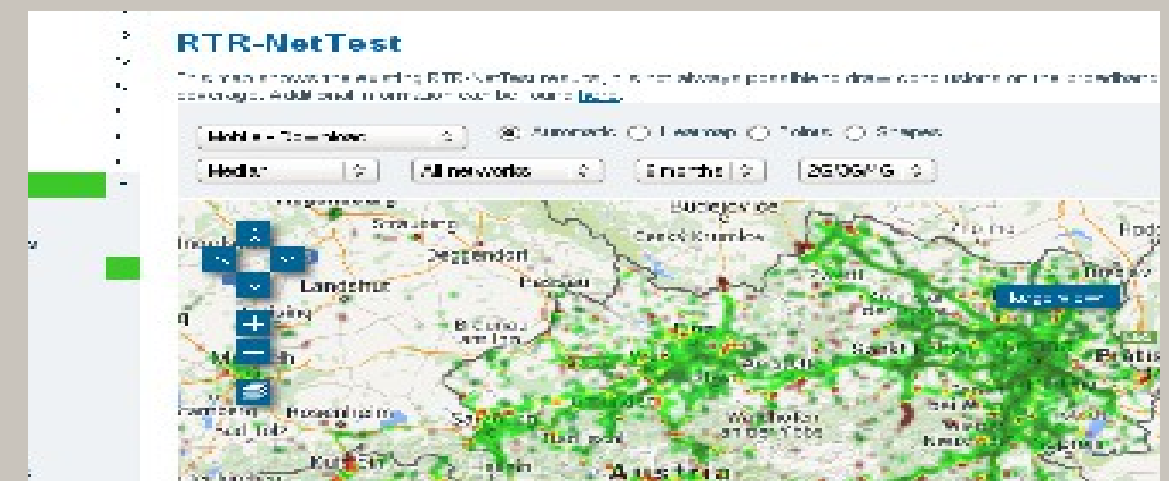
United States (FCC) - <http://www.fcc.gov/reports/measuring-broadband-america-2014>



Greece - <http://hyperiontest.gr/>



Canada - <http://www.cira.ca/>



Austria - <https://www.netztest.at/en/Karte>





Throughput Measurements

M-Lab hosts two active throughput measurements:

- Network Diagnostic Tool (NDT)
- BISmark
- NDT is integrated with numerous applications and receives 200,000 tests from 100,000 clients per day.
- Nearly every country is well-covered.



YOUR TEST RESULTS

UPLOAD SPEED

15.68 mb/s

DOWNLOAD SPEED

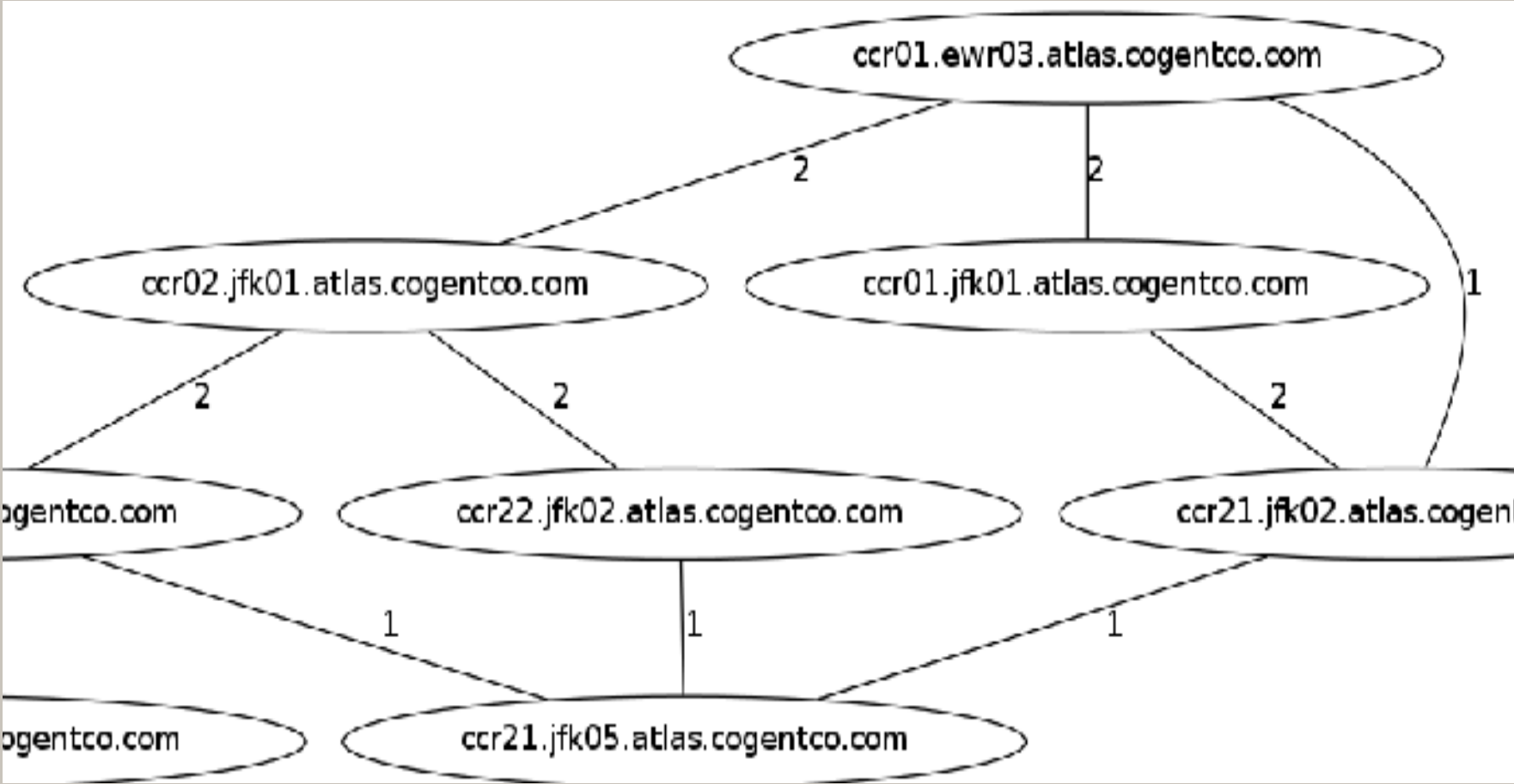
12.53 mb/s

Network latency: 26 msec round trip time
Jitter: 40 msec



More information about M-Lab

Measurement Lab collects paris-traceroutes for every attempt to connect to its sites.



connection_spec_server_ip	paris_traceroute_hop_src_ip	paris_traceroute_hop
217.163.1.89	217.163.1.65	195.219.83.101
217.163.1.89	195.219.83.101	80.231.130.129
217.163.1.89	80.231.130.129	80.231.154.17
217.163.1.89	80.231.154.17	80.231.153.58
217.163.1.89	80.231.153.58	5.23.24.6
217.163.1.89	5.23.24.6	195.154.1.71
217.163.1.89	195.154.1.71	62.210.74.143
217.163.1.102	5.23.24.6	195.154.1.71
217.163.1.102	195.154.1.71	62.210.74.143
217.163.1.102	80.231.153.58	5.23.24.6
217.163.1.102	80.231.154.17	80.231.153.58
217.163.1.102	80.231.130.129	80.231.130.86

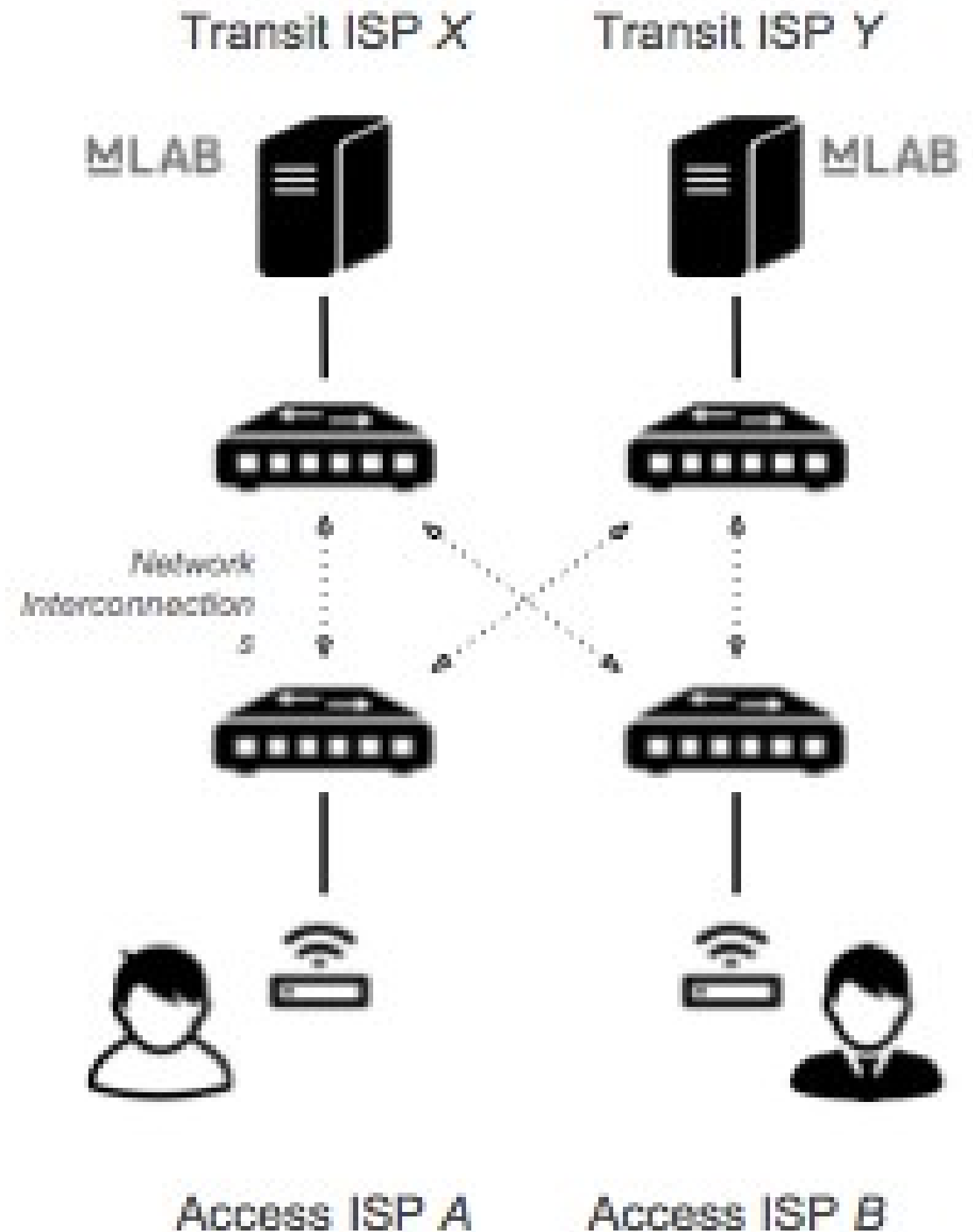
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Measurement Server Placement

M-Lab servers are in multiple, well connected transit networks

Our tests mirror the consumer experience – tests that cross ISP interconnection boundaries

This allows us to make inference comparisons about data from Access ISPs connected to different Transit ISPs



COMPOSE QUERY

Query History

Job History

API Project

No datasets found in this project.

Please create a dataset or select a new project from the menu above.

publicdata:samples

- github_nested
- github_timeline
- gsoc
- natality
- shakespeare
- trigrams
- wikipedia

New Query

```
1543 PARSE_IP(web100_log_entry.connection_spec.remote_ip) BETWEEN 3639693824 AND 3639694079 OR
1544 PARSE_IP(web100_log_entry.connection_spec.remote_ip) BETWEEN 3640184832 AND 3640185027 OR
1545 PARSE_IP(web100_log_entry.connection_spec.remote_ip) BETWEEN 3642532608 AND 3642532863 )
1546 ORDER BY
1547     day_timestamp, server_ip, client_ip;
1548
1549
```

RUN QUERY

Save Query

Save View

Show Options

Query complete (51.6s elapsed, 0 B processed)

Query Results 9:21pm, 12 Jan 2015

Download as CSV

Save as Table

Row	day_timestamp	server_ip	client_ip	raw_download_rate	min_rtt	
1	1375320272	38.106.70.147	188.137.88.190	1.2128788828219895	92	
2	1375320272	39.106.70.147	166.137.96.190	1.2129798828219895	92	
3	1375323684	38.106.70.147	166.137.105.244	0.10470654031243713	500	
4	1375323684	38.106.70.147	166.137.105.244	0.10470654031243713	500	
5	1375357796	38.106.70.147	198.228.197.249	25.548208166465677	32	
6	1375357796	39.106.70.147	198.228.197.249	25.548208166465677	32	
7	1375361153	38.106.70.147	166.199.181.81	1.556854899614244	90	

First < Prev Rows 1-7 of 345 Next > Last

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Raw Data: BigQuery
Web Access

Structured Database Access

←

https://cloud.google.com/sdk/

Google


🔍

⬇


🏠

☆

📁

Google Cloud Platform

Google Cloud SDK X Search this site 🔍

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Solutions

Pricing

Customers

Documentation

Support

Partners

Free Trial

Contact Sales

Products > Documentation > Google Cloud SDK

< Developer Tools

▼ Cloud SDK


Overview

▶ Command Line Tool Guide (gcloud)

▶ Accessing Services with gcloud

▶ Client Libraries

Usage Statistics



Google Cloud SDK contains tools and libraries that enable you to easily create and manage resources on Google Cloud Platform, including [App Engine](#), [Compute Engine](#), [Cloud Storage](#), [BigQuery](#), [Cloud SQL](#), and [Cloud DNS](#).

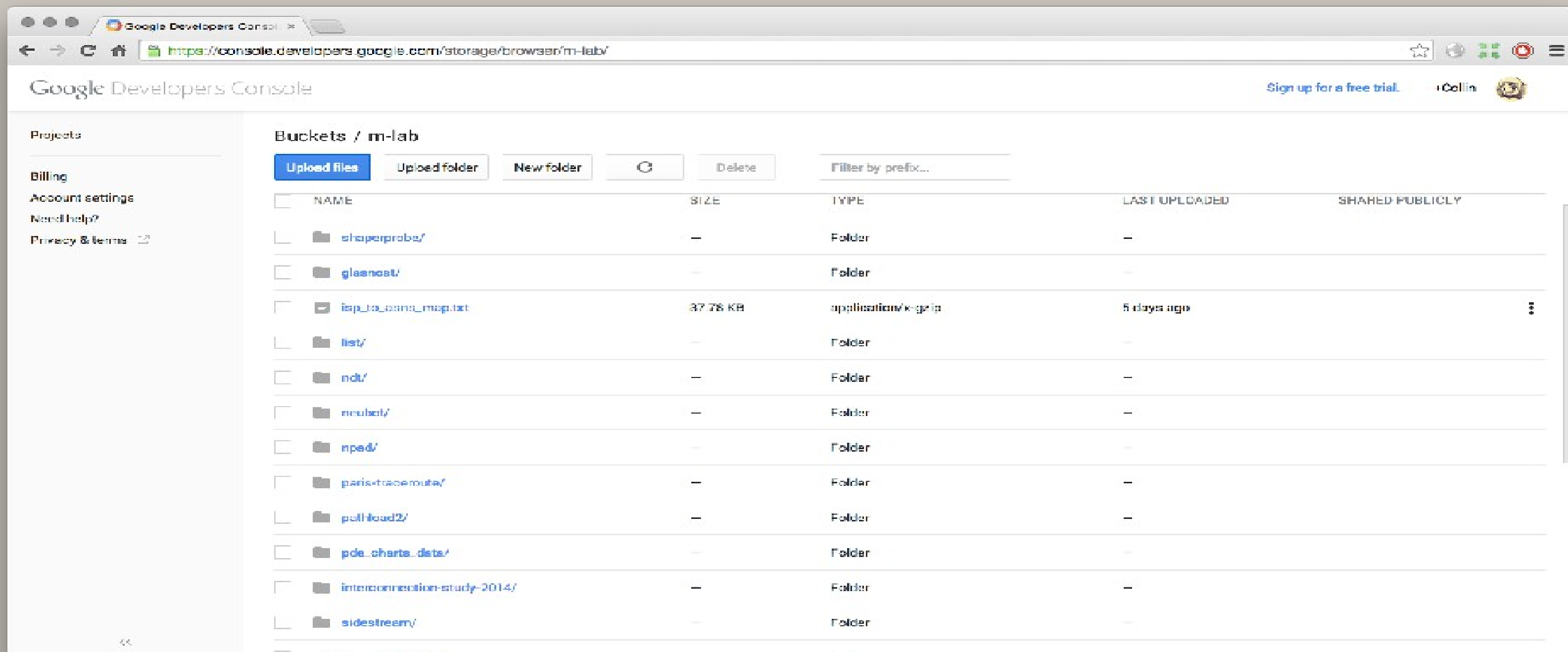
System Requirements: Google Cloud SDK runs on Windows, Mac OS X and Linux, and requires Python 2.7.x. Some of the individual tools bundled with Cloud SDK have more stringent requirements: using App Engine tools for Java development requires Java 1.7+.

Installation and Quick Start

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Raw Data: BigQuery
Google Cloud SDK

Structured Database Access ⓘ

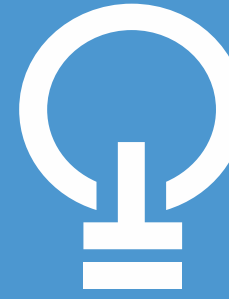


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