Advanced Solutions
Site Analysis Portal

April 2023

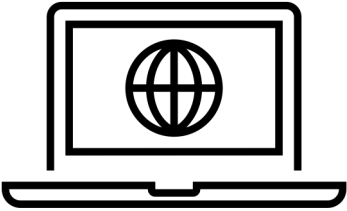sitespeed.io

Sitespeed.io

- Created in 2012 as an open-source project

- Easy to configure and run

- Capabilities continue to evolve/improve with 700+ developers

- Full integration with tools such as WPT, CrUX, PSI, Lighthouse, S3, GCS, Graphite, InfluxDB

- Well documented and great support (Github, Slack, Facebook, Twitter)

- All test results saved in a time-series database

- Extensive scripting support for multi-page journeys

- SPA support

- *The list goes on …*

Use Cases

- Single source of data for TBAs, web site analysis, general research, etc.

- Collect data for competitive benchmark studies

- Single pane of glass for all vital metrics

  - Domain and Page Metrics
  - Site Construction
  - 1st & 3rd Party Information
  - Largest JS, CSS, and Images
  - Slowest First and Third-Party Resources
  - Prescriptive Guidance
  - Core Web Vitals
  - Waterfall
  - Filmstrip
  - Video
  - Google Lighthouse
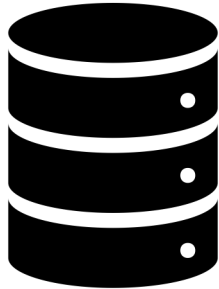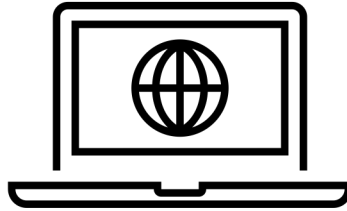 - Chrome User Experience (CrUX)

Site Analysis Portal
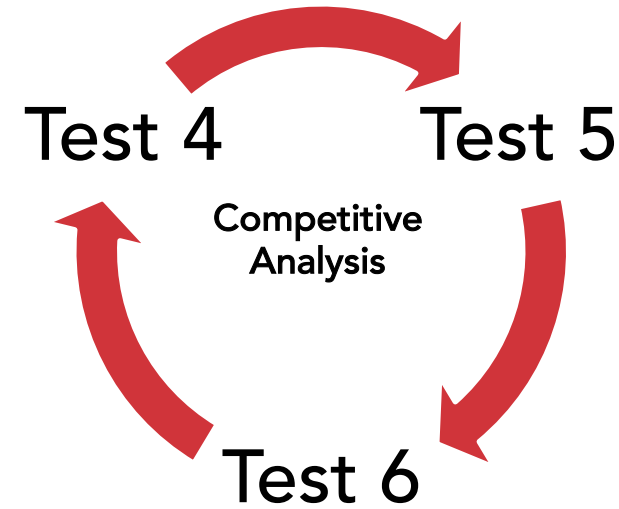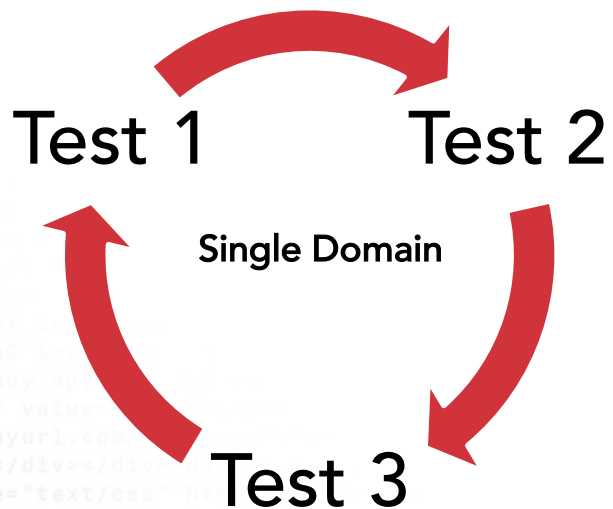
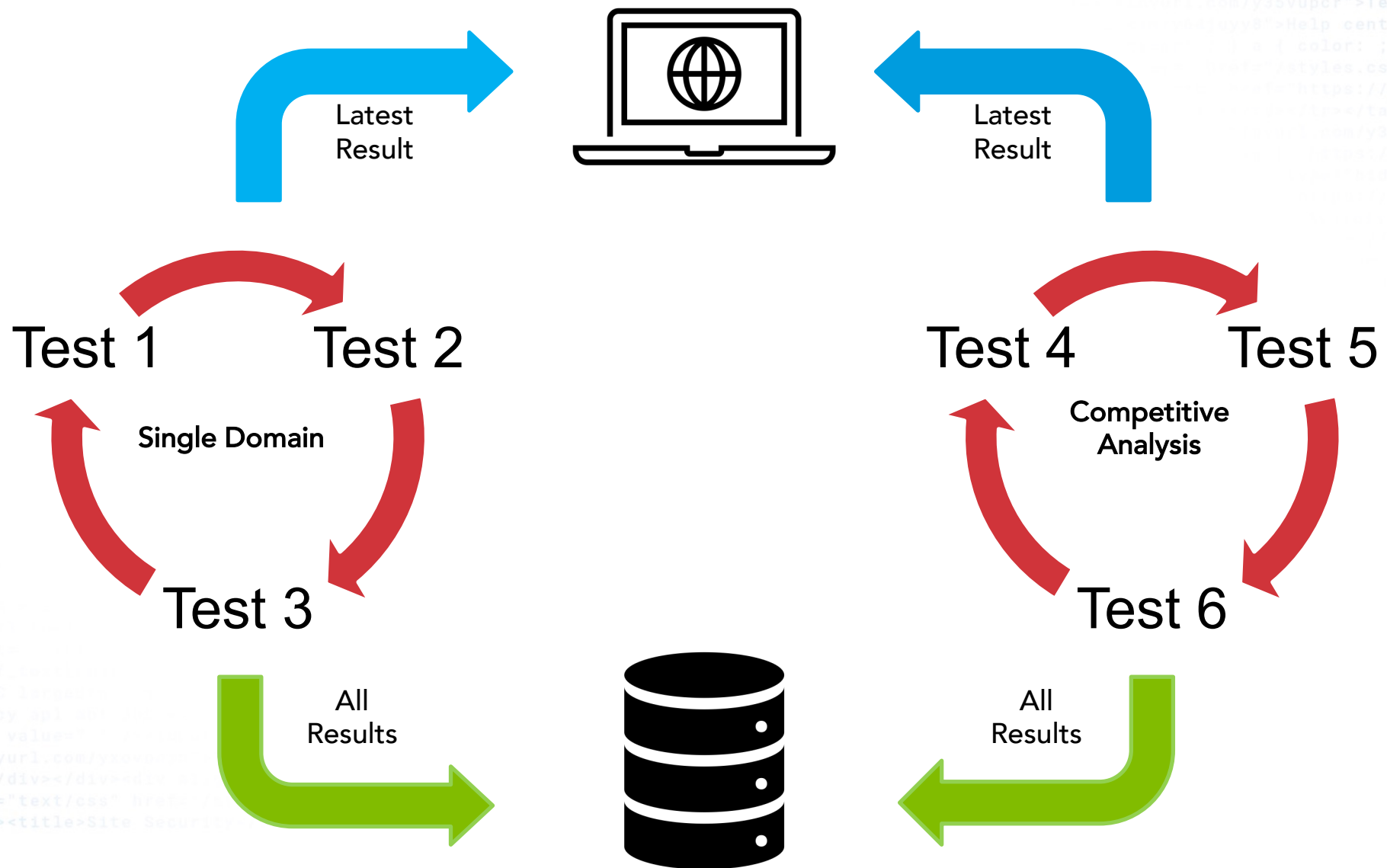

Single Domain

Competitive Analysis

Continuous Testing

- Single Domain and Competitive Analysis testing is driven by Sitespeed.io

- Tests are performed on a LAN and an emulated mobile connection

- The number of unique tests and the number of URLs tested in parallel depends on the number of other tests running on the system
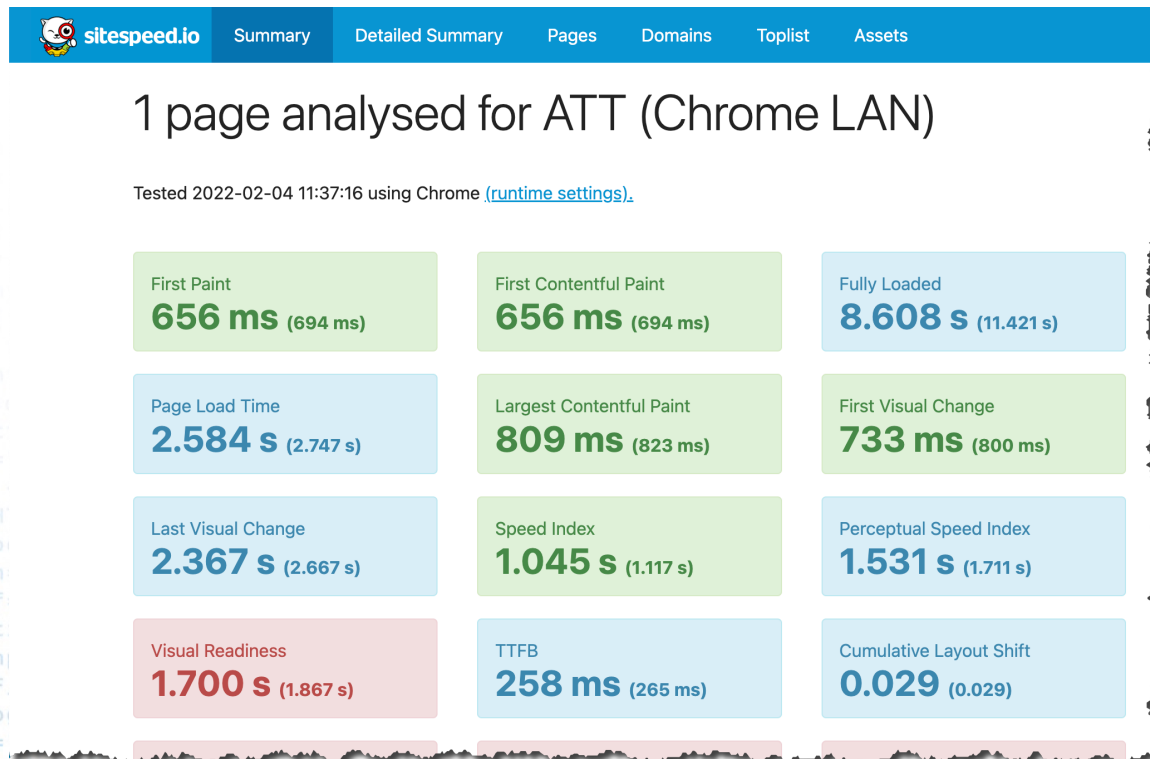
Test 1   Test 2

Single Domain

Test 3

sitespeed.io

Test 4   Test 5

Competitive Analysis

Test 6

Data Flow

Latest Result

Latest Result

Test 1 → Test 2

Single Domain

Test 3

All Results

Test 4 → Test 5
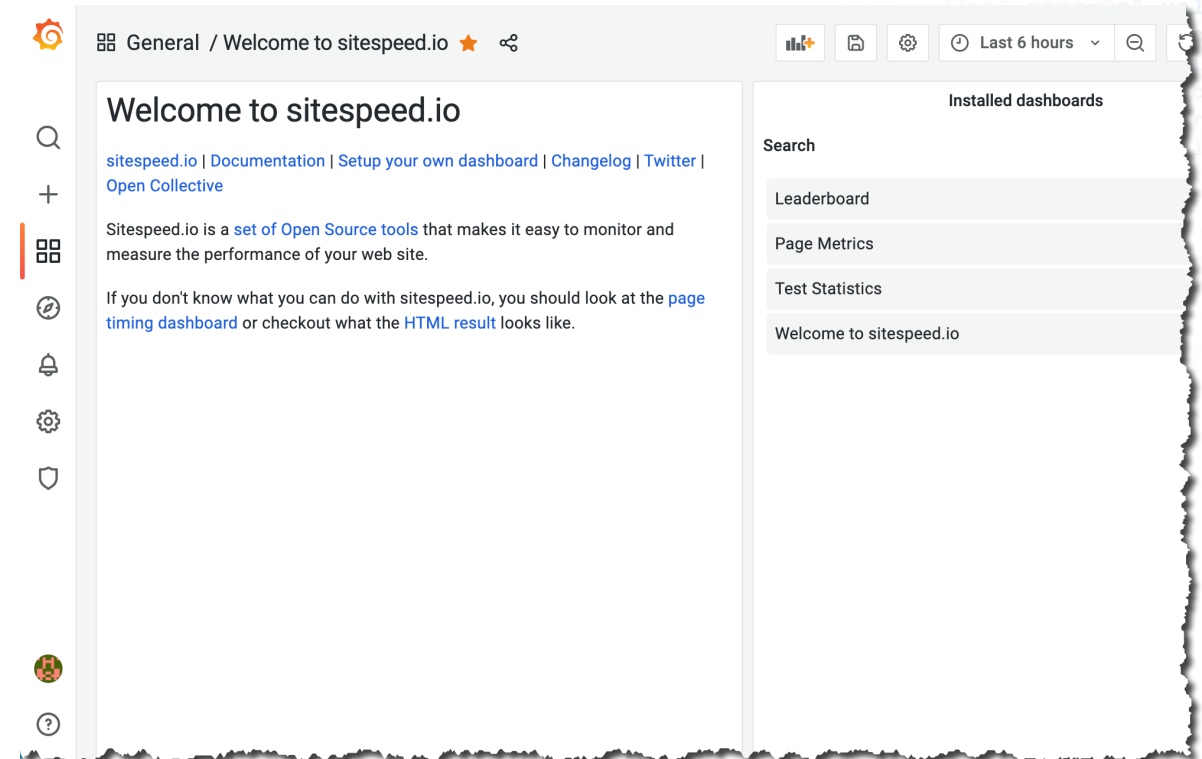
Competitive Analysis

Test 6

All Results

Interfaces

Sitespeed.io
- Open access
- Dynamically updated

Grafana
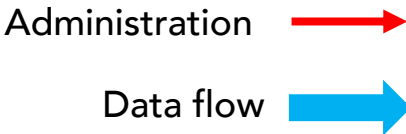- Restricted access
- Rich dashboard capabilities

Servers

Jump

Sitespeed *

Google

Graphite/Grafana

* One machine in each testing location
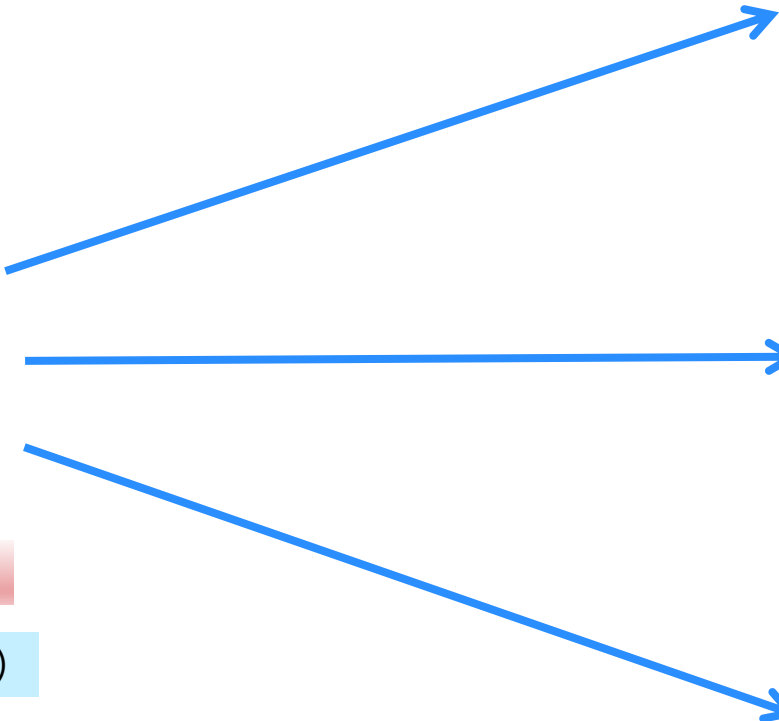
Administration →

Data flow →

SSH Security

Google

Jump

Graphite/Grafana

Sitespeed

Key Pair 2 (Public)

Key Pair 2 (Public)

Key Pair 2 (Public)

Key Pair 1 (Private)

Key Pair 1 (Public)

Key Pair 2 (Private)

Firewall Security

Jump

OPEN
TCP 22* (unrestricted)
TCP 80/443 (unrestricted)
ICMP (unrestricted)

Sitespeed

OPEN
TCP 22* (Admin Portal)
TCP 80/443 (unrestricted)
ICMP (unrestricted)

Google

OPEN
TCP 22* (Admin Portal)
ICMP (unrestricted)

Graphite/Grafana

OPEN
TCP 22* (Admin Portal)
TCP 80/443 (unrestricted)
TCP 8888*, 2003* (Sitespeed/Google)
ICMP (unrestricted)

* Refer to Sitespeed Admin Guide if you plan to use Akamai CDN

Default Rule – Drop all unmatched traffic

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Software Components

Jump, Sitespeed, Google

- Sitespeed.io running in Docker
- nginx web server
- HTTPS 443

Graphite/Grafana

- Graphite running in Docker
- HTTP 8888
- Carbon TCP 2003

- Grafana runs natively
- Embedded Apache server
- HTTPS 443