FASTLY MQP:
HTTP LOAD-TESTING

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The Team

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WHO IS fastly ?

American **cloud computing** services provider
They provide a **CDN** - Content Delivery Network and
edge cloud platform

What is Fastly looking for?

❏ Did not have effective way to **test server performance**

  ❏ Previous tools do not meet current needs

  ❏ Expand their **HTTP(S) load-testing capabilities**

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What was our goal?

❏ **Improve range of tests** Fastly can run on software stack

  ❏ Allow them to **detect and reproduce** issues
  before product release

What is load testing?

Method of assessing **service performance**

Involves sending simulated **network traffic** to a server, measuring how well server manages under **different loads**.
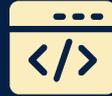
Can collect **different metrics**

HTTP Requests

TLS Handshakes

Idle Connections
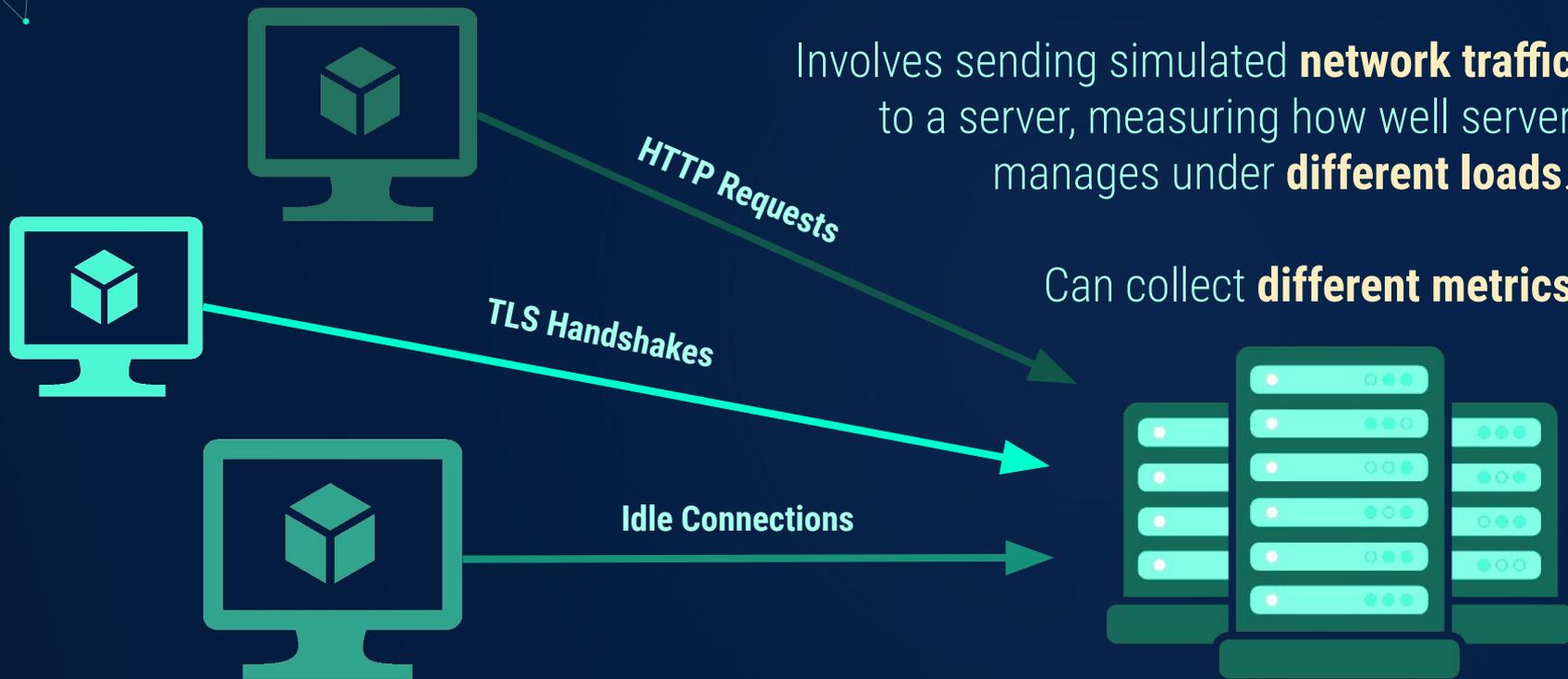
Methodology

1.) Comparative analysis

2.) Extend K6

3.) Extend wrapper program

4.) Tests against Fastly

Comparative analysis

HTTP 1 & HTTP 2

TLS Requests

Command Line Interface

Outputs Detailed Metrics
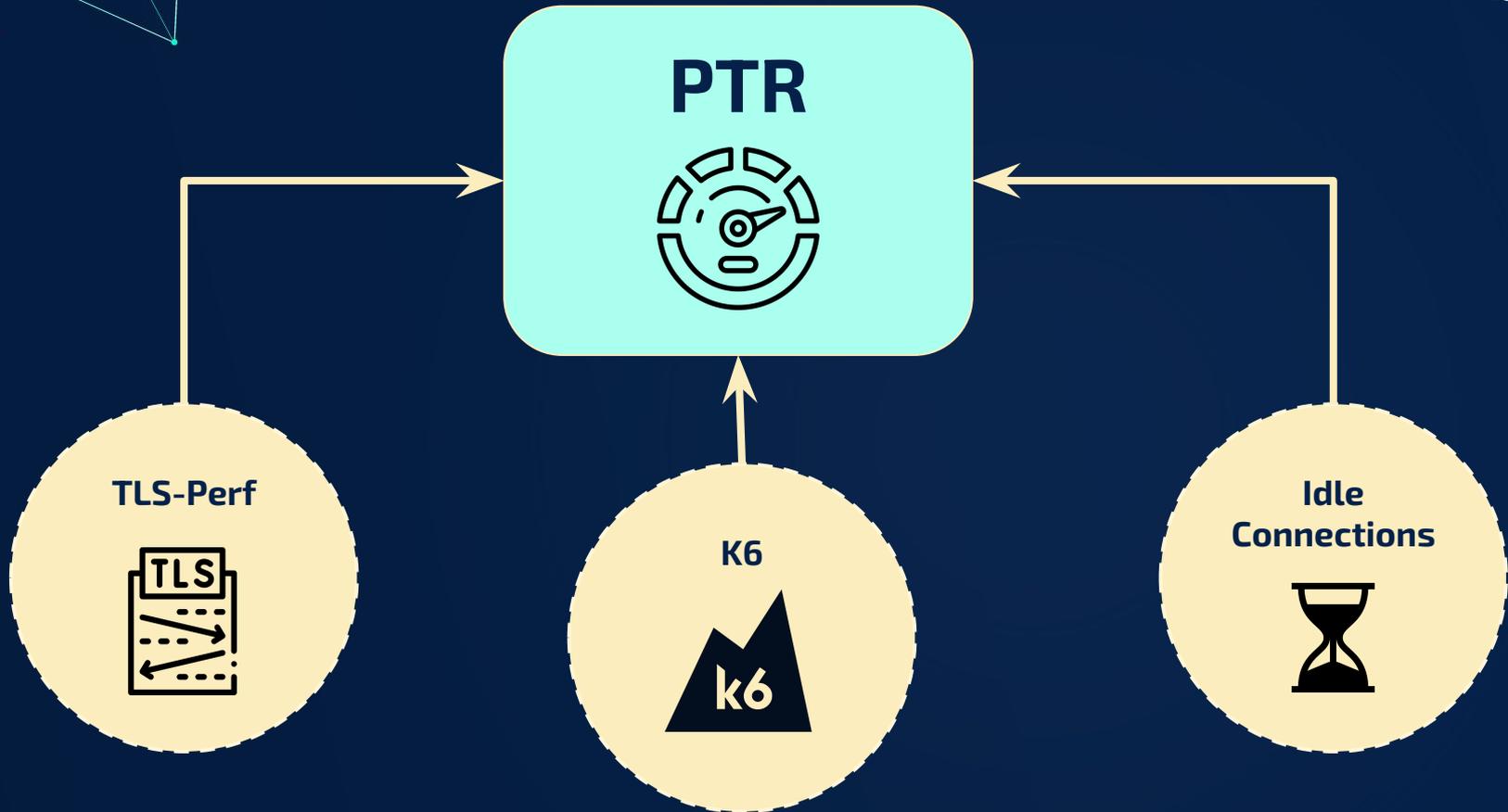
JSON Output

k6

Limitations of K6

- ❏ Unable to force requests to be sent over **HTTP/1 protocol**

- ❏ Cannot generate **idle connections**

- ❏ Cannot generate a large number of **TLS handshakes**

Extending Performance Test Runner (PTR)

```json
      "file_permission": "0644"
    }
  ],
  "scenarios": [
    {
      "desc": "100 Kb Test",
      "target_file": "/home/ubuntu/test_simple_100kb_demo.js",
      "generator_config": {
        "protocol": "h2"
      }
    },
    {
      "desc": "1 Mb Test",
      "target_file": "/home/ubuntu/test_simple_1mb_demo.js",
      "generator_config": {
        "protocol": "h2"
      }
    }
  ]
}
```

Analyzing throughput from the test

GB/sec

Increasing
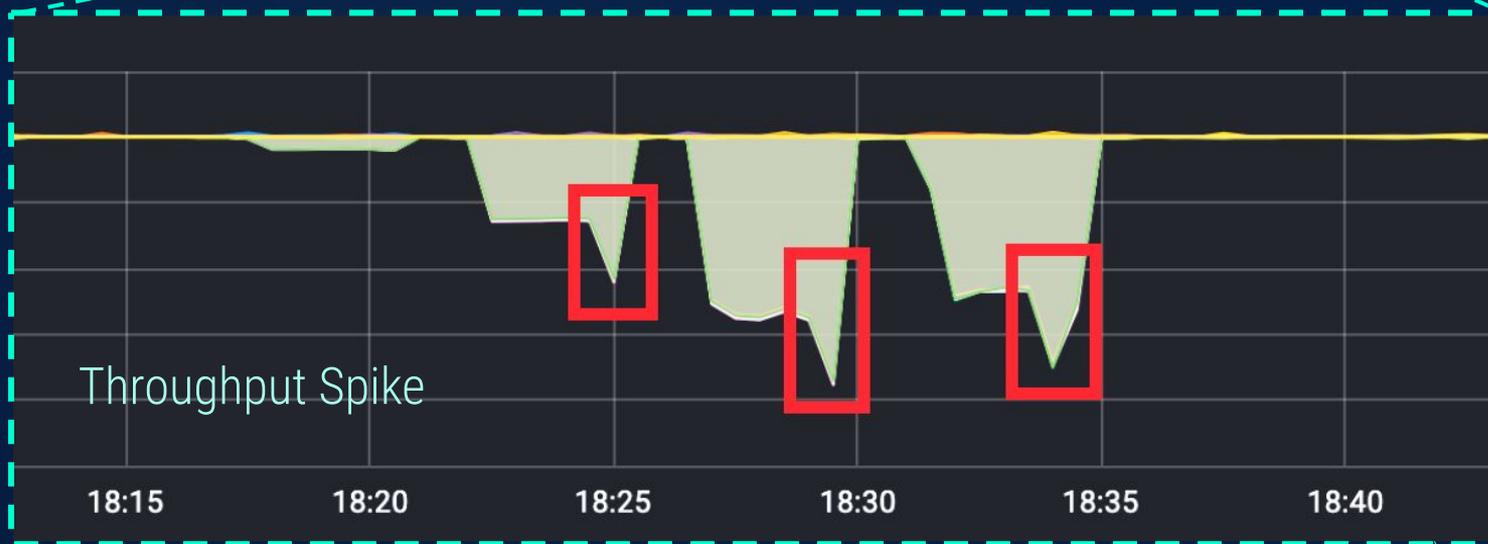
Improvements to Fastly's load testing

❏ We aimed to **improve the range of tests** that Fastly can run

❏ Fastly can now run more **advanced tests**

❏ Simulate **real-world scenarios**

❏ Discovering **K6** and extending **PTR** will prove advantageous

❏ **Long-term** benefits

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