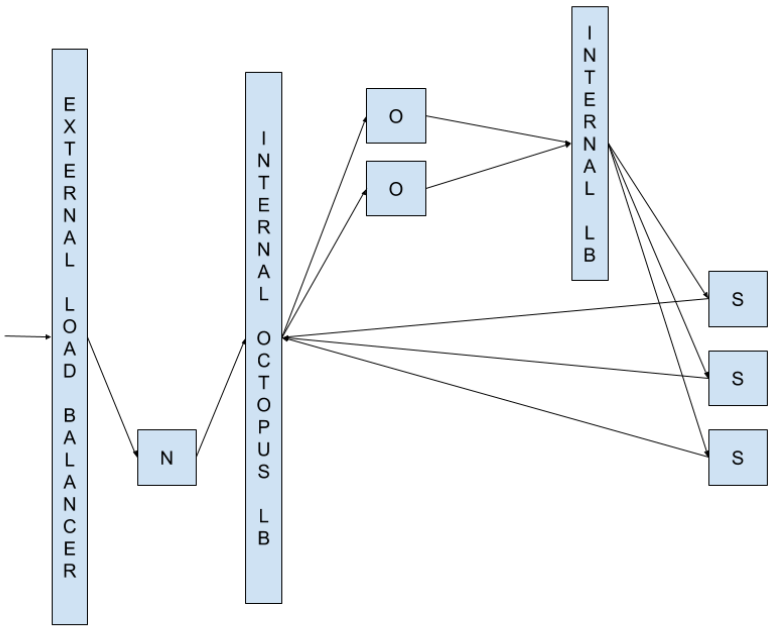
ENGINEERING BLOG

LOAD TEST INFERENCE

admin July 24, 2019 Leave a comment Edit

To simulate the load test we used jmeter in a distributed mode. Setup and instructions to run this jmx file can be found **here**.

> CURRENT SETUP OF MICROSERVICES



N - NEXTLEARNINGPLATFORM | O - OCTOPUS | S - MICRO SERVICE

After initial few runs, we found api-gateway(octopus) to be the bottleneck. So, for identifying the other bottlenecks we disabled routing to internal octopus and diverted the requests to load balancer itself.

Following are the changes performed :

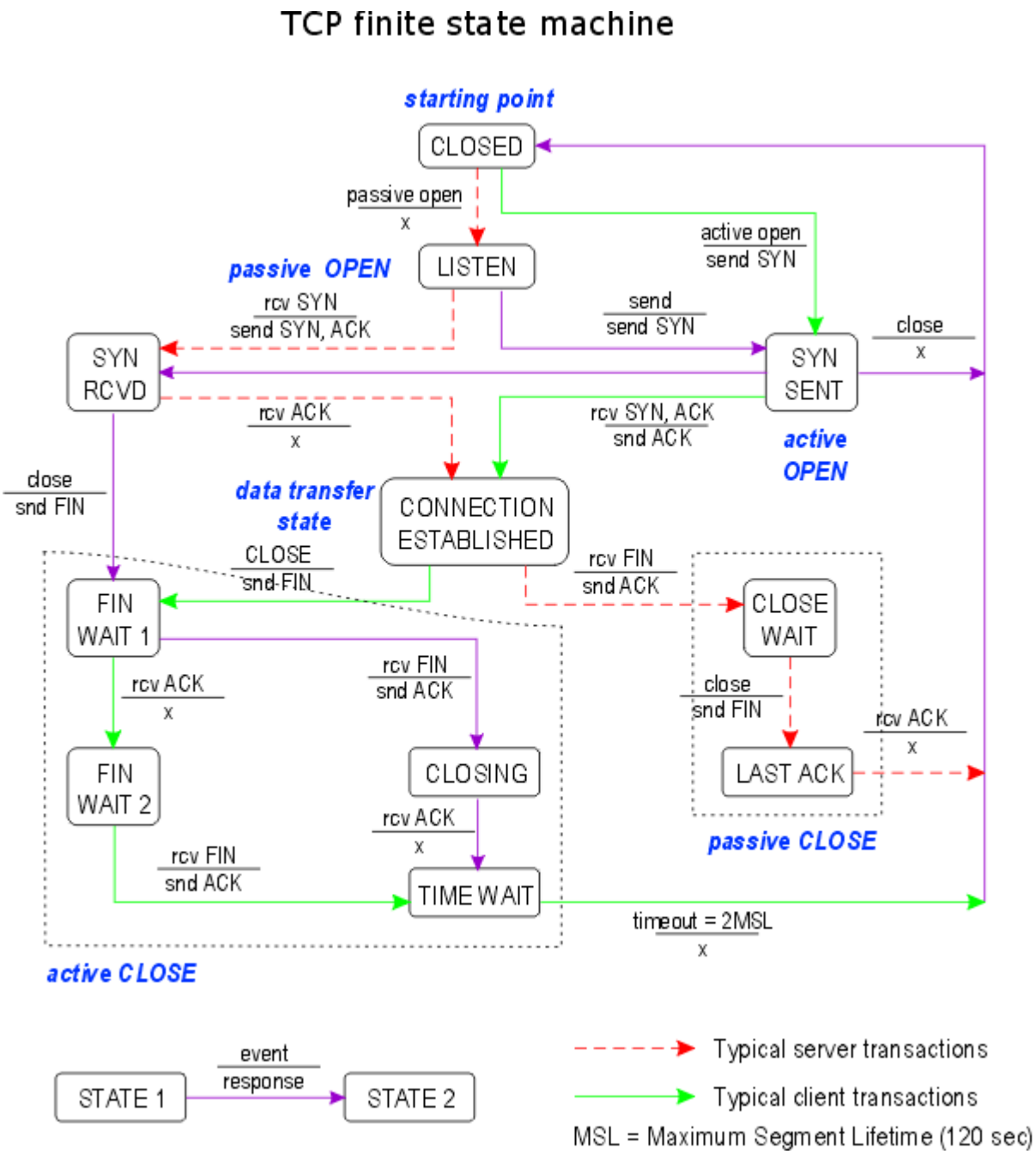
```
1. Changed the RestTemplate configuration to establish connection pool for rou

2. Changed the network configuration of host machines and base docker image fo

3. Made all the containers privileged dockers so that containers can take the
```

```
sysctl -w net.ipv4.tcp_fin_timeout=15
sysctl -w net.ipv4.tcp_tw_reuse=1
sysctl -w net.ipv4.ip_local_port_range='10000 65535'
sysctl -w net.ipv4.tcp_max_syn_backlog=100000
sysctl -w net.core.somaxconn=100000
sysctl -w net.core.netdev_max_backlog=100000
ulimit -n 394949
```

After the following changes, request time reduced to 15 sec from 2min for 100 concurrent requests.



Upon investigation further, now the time is distributed between all the requests. So we identified the CPU load and number of context switches each host is performing.

There are two types of context switches. Voluntary and non voluntary. Upon ide

Next based on the thread stats i,e performing "jstack" we identified that ther

Unsolved lock contention :

1. Slf4j logger
2. JwtToken creation (make static initialization)

FUTURE INVESTIGATION :

1. Tune the number of threads to be spawned in services
2. Also check garbage collector logs for configuring the ideal heap space, you
3. Move Octopus from zuul 1.0 to 2.0
4. Move tomcat from HTTP protocol to NIO (Non blocking I/O)
5. Move SLF4j implementation to async logger based one

(Moving to zuul 2.0, NIO requires the removal of MDC the thread context system

---

Leave a comment

Comment

Post Comment