

Application Server Load Testing

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1 Tsung Load Testing

In this section, we describe the results from load testing with both vertically and horizontally scaled application servers.

1.1 Vertical Scaling

Vertical scaling was tested in 6 phases with 2, 4, 8, 16, 32, and 64 users arriving at the page every second.

1.1.1 Observations

- Our first request takes a long time to load as many users come to visit the site.
- Increasing server size does not seem to do much for average transaction times.
- The number of 500 and 503 status codes reduced as the servers increased in performance, allowing to serve more users
- The number of 200 status codes increased proportionally as 500 and 503 decreased.
- The number of connected users increases as we increase server performance.

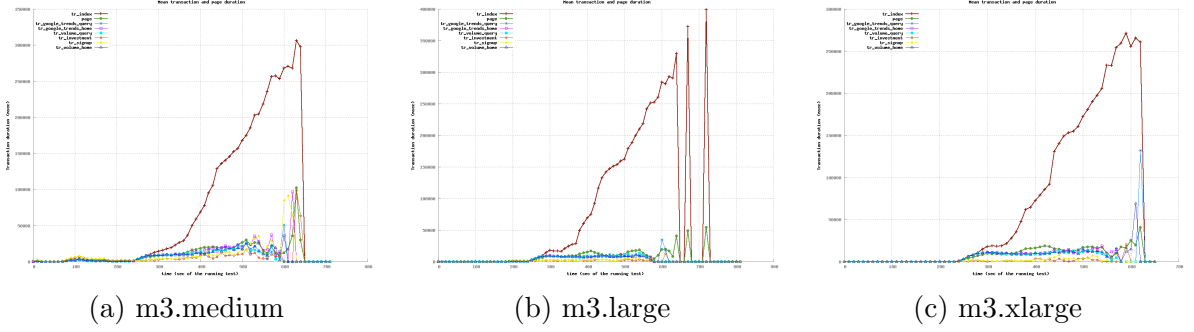


Figure 1: Mean transaction and page duration for three m3 instances.

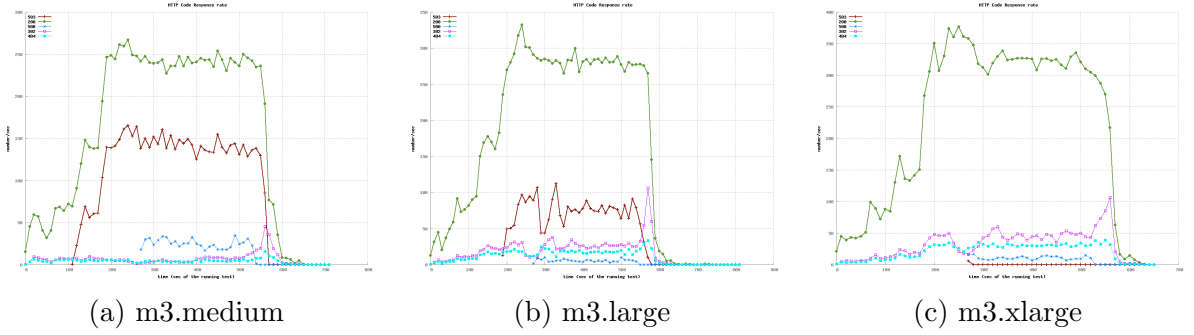


Figure 2: HTTP code rate for three m3 instances.

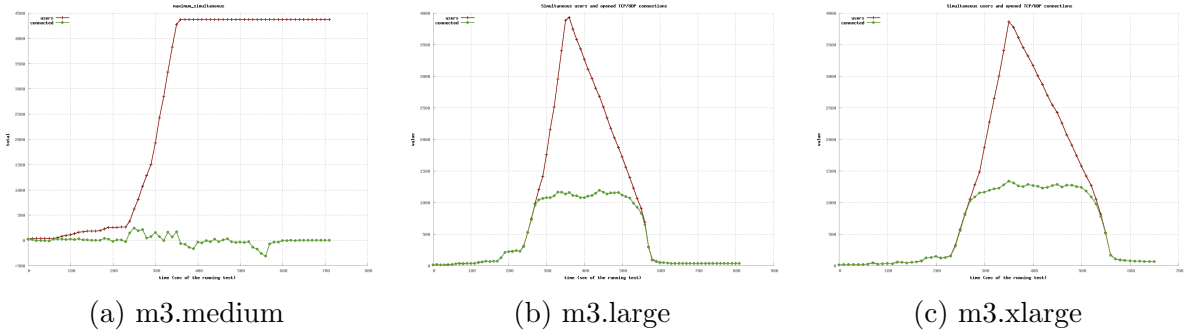
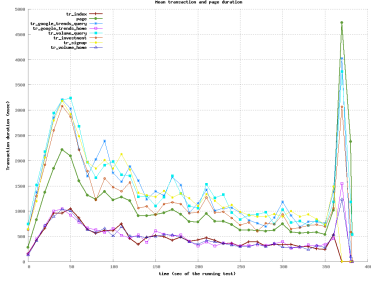


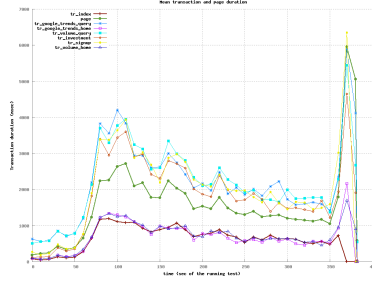
Figure 3: Number of simultaneous users for three m3 instances.

1.2 Horizontal Scaling

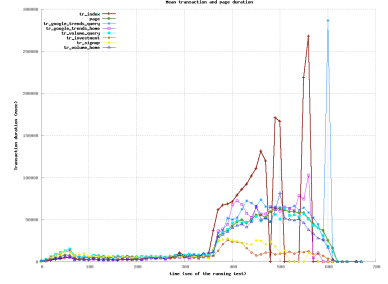
This section will discuss horizontal scaling



(a) One instance

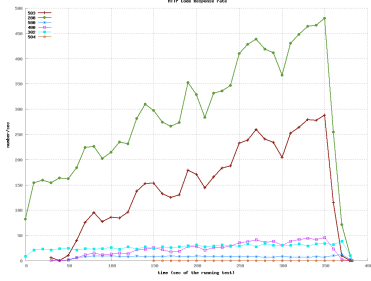


(b) Two instances

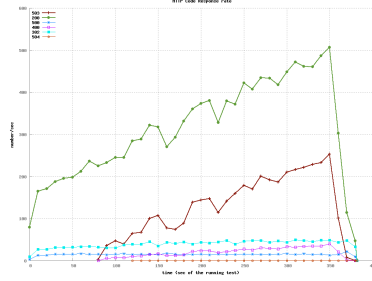


(c) Three instances

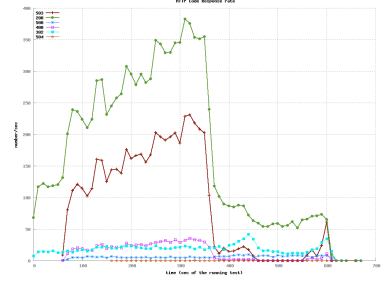
Figure 4: Mean transaction and page duration for m3.large instances.



(a) Once instance



(b) Two instances

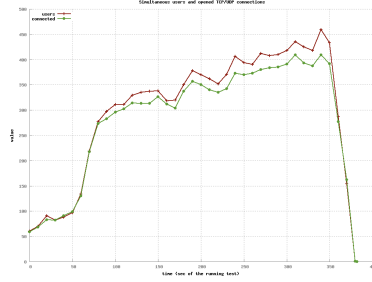


(c) Three instances

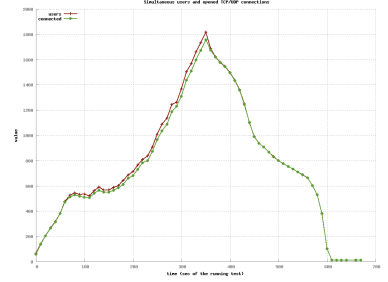
Figure 5: HTTP code rate for m3.large instances.



(a) One instance



(b) Two instances



(c) Three instances

Figure 6: Number of simultaneous users for m3.large instances.