Use case

Build gcc-4.9.2

Number of files:84895

Total storage space: 528MB

Number of build tasks: 7851

After compile storage space: 3.2GB

Top 10 files:

6.6M gcc-4.9.2/MD5SUMS

6.1M gcc-4.9.2/libgcc/config/libbid/bid\_binarydecimal.c

3.0M gcc-4.9.2/libstdc++-v3/doc/html/ext/lwg-defects.html

2.9M gcc-4.9.2/gcc/testsuite/go.test/test/fixedbugs/bug257.go

2.4M gcc-4.9.2/gcc/doc/gcc.info

2.3M gcc-4.9.2/gcc/doc/gccint.info

2.3M gcc-4.9.2/gcc/po/es.po

2.2M gcc-4.9.2/gcc/po/sr.po

2.1M gcc-4.9.2/libstdc++-v3/configure

2.1M gcc-4.9.2/gcc/po/fr.po

Compare with Cadence Innovus build:

Total storage space: 358MB

Number of build tasks: 5339

After compile storage space: 1.4GB

Other information is missing

Retry once when there is failure.

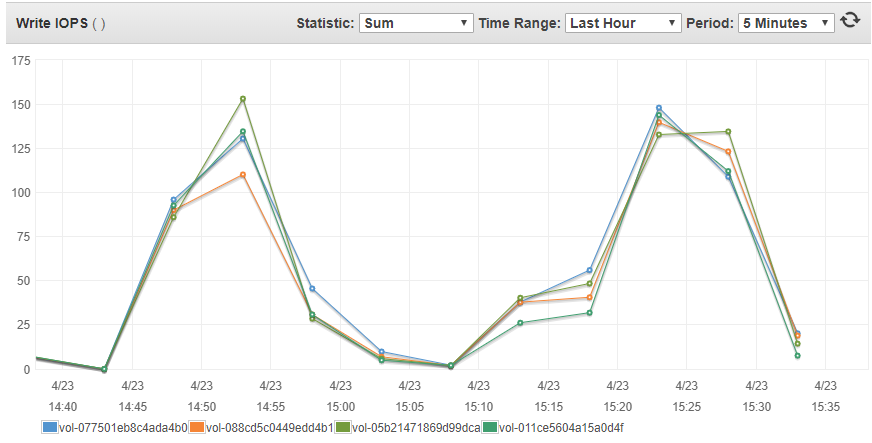
m5.large x 4, with gp2 storage

clients connect to NFS server through a single load balancer

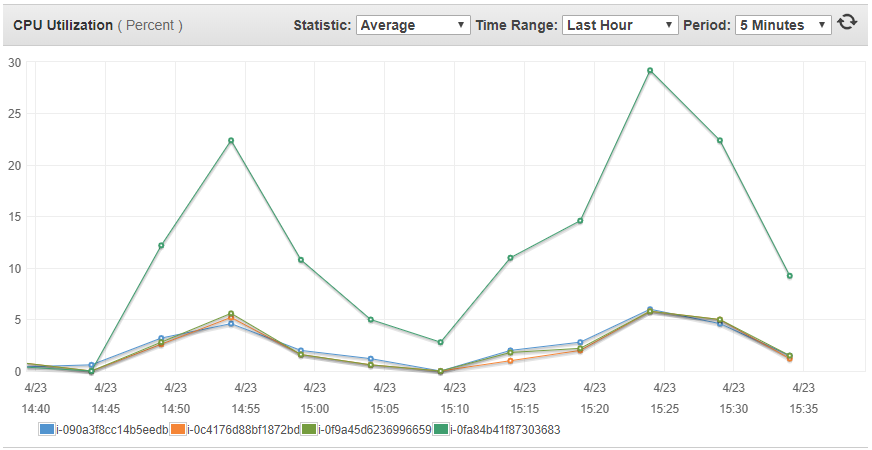
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of Clients | Max Average CPU (5 minutes period with 5 samples) on all NFS Servers | Combined Max IOPS on all disks | Average copy time | Average compile time | Average delete time |
| 1 (no load balancer) | 23% | 659 | 3m30s | 25m25.043s | 1m50.360s |
| 1 | 29% | 698 | 6m1s  6m30s  5m50s | 27m8.283s  26m3s  26m2s | 2m3.735s  1m59s  2m1s |
| 5 | 61% | 2113 | 8m10s  6m23s  7m32.095s  7m29.979s  7m39.286s | 27m25.524s  27m39.753s  27m38.227s  27m42.410s  28m0.267s | 2m3.735s  2m47.589s  2m48.101s  2m26.183s  2m43.556s |
| 10  (Note: two failures, had to do make clean, and rebuild) | 78% | 4000 | 9m10s  10m12.961s  10m10.643s  9m36.959s  10m26.442s  10m11.439s  10m53.213s  10m43.591s  9m52.422s | 28m49.475s  28m34.340s  28m47.339s  28m16.571s | 3m32.510s |
|  |  |  |  |  |  |
| 20 (4 failures) | 99% | 6240 | 16m55.472s  17m13.176s  16m30.668s  15m35.422s  17m2.556s  16m40.682s  15m39.523s  16m10.524s  16m7.266s  16m31.743s | 32m58.020s  34m0.307s  33m33.275s  33m48.061s  33m48.304s  33m3.367s  32m31.298s |  |

Single Client

Server metrics



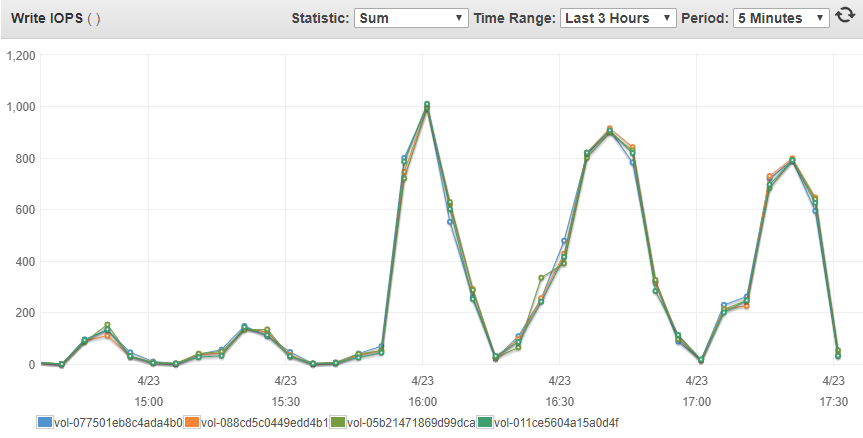
Two consecutive runs: Gluster volumes bursts to 698 IOPS in total



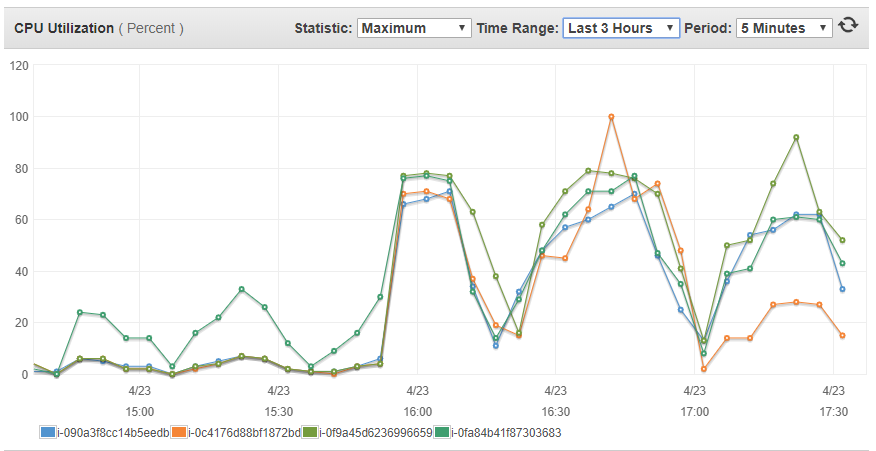
Gluster/NFS servers CPU reaches 29% max

10 Clients

Server

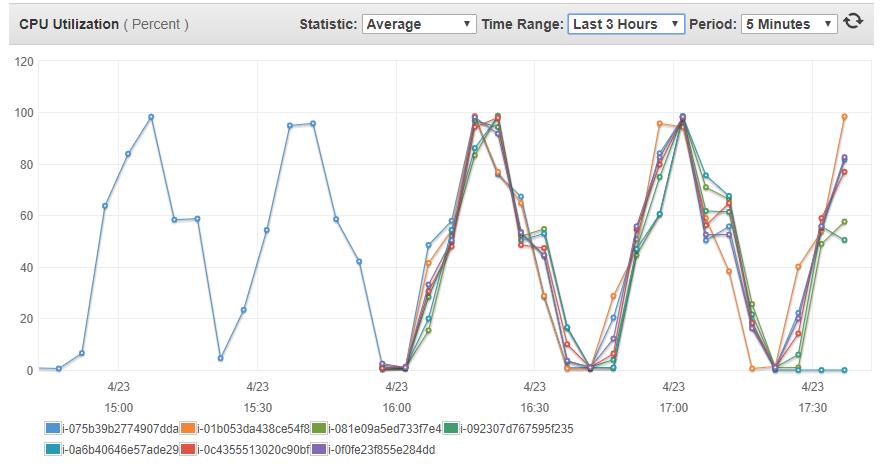


Gluster volumes bursts to 4000 IOPS in total



Gluster/NFS servers CPU reaches 80% max

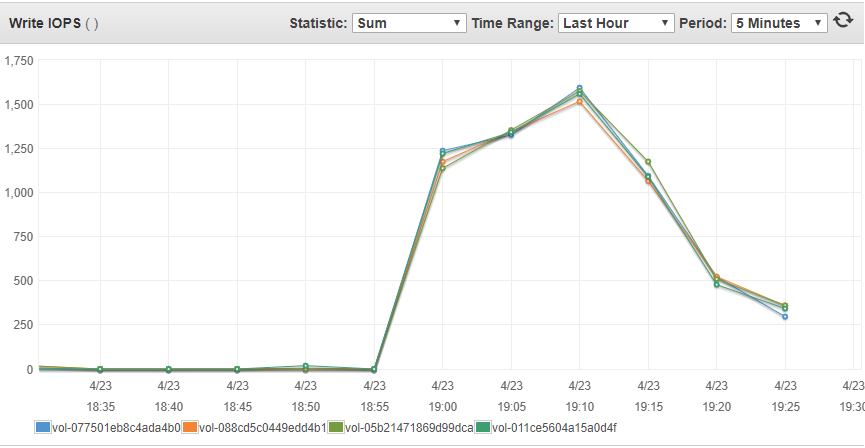
Client



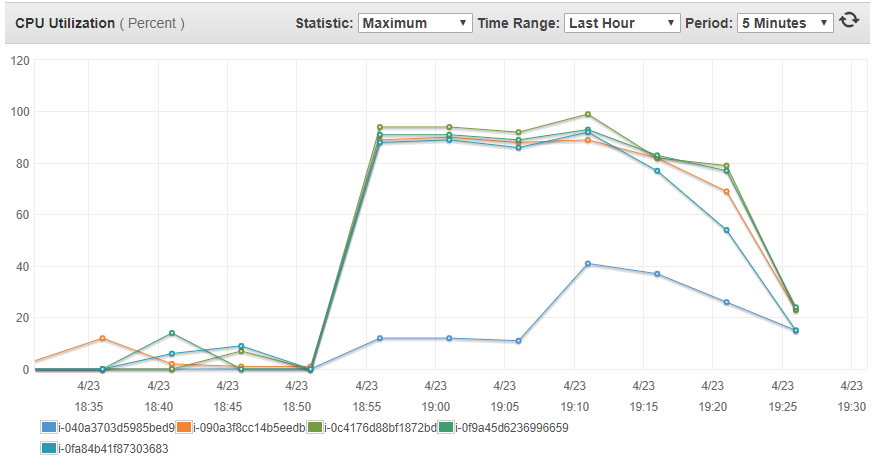
Client hosts CPU can reach 100%

20 clients

Server



Gluster volumes bursts to 6240 IOPS in total

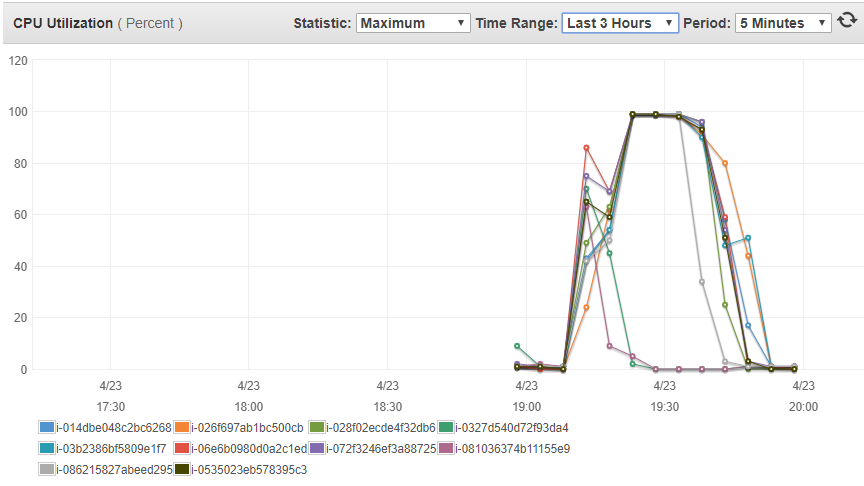


CPUs on Gluster/NFS servers close to 100% during file copies from 20 clients

CPU on load balancer reaches 40%

Load balancer

Clients

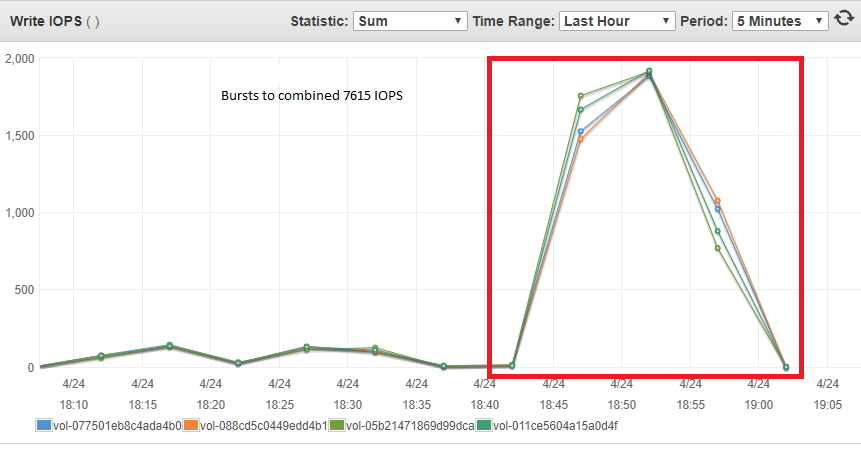


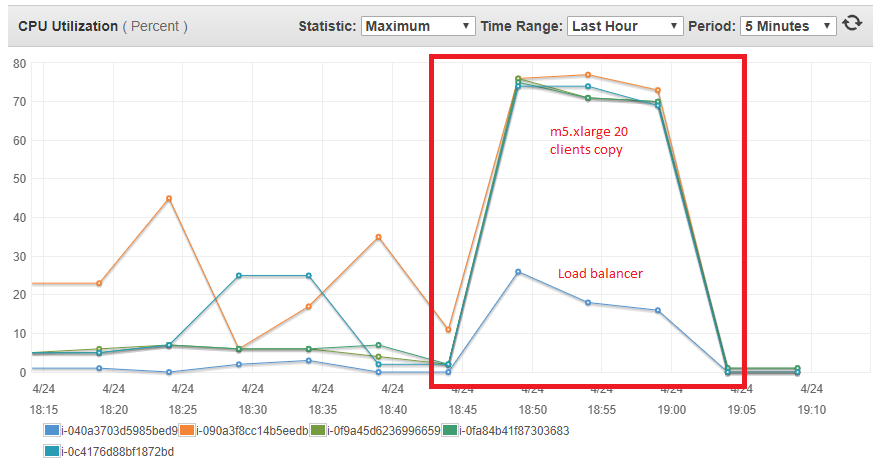
Client hosts CPU can reach 100% with some client builds failsprematurely

m5.xlarge x 4, with gp2 storage with enough IOP balance

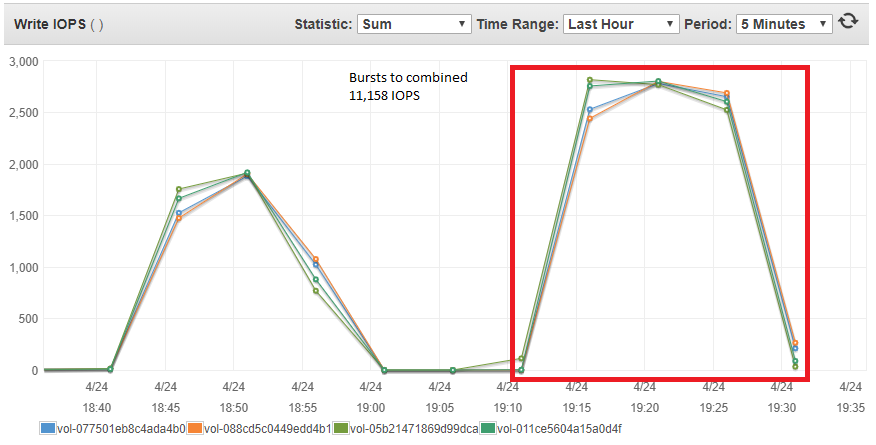
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of Clients | Max Average CPU (5 minutes period with 5 samples) on all NFS Servers | Combined Max IOPS on all disks | Average copy time | Average compile time | Average delete time |
| 20 | 77%  Glusterfsd 162%  Ganesha 127% | 7,615 | 11m57.451s  11m53.814s  11m35.771s  11m39.983s  11m40.378s  11m37.720s  11m22.869s  12m1.546s  11m49.090s  11m48.383s  11m46.497s  11m44.307s  12m1.204s  11m45.771s  11m52.732s  11m22.753s  11m42.584s  11m57.197s  11m46.675s  11m40.908s |  |  |
| 30 | 86%  Glusterfsd 193%  Ganesha 148% | 11,158 | 15m15.815s  14m43.461s  14m57.731s  15m6.105s  14m56.538s  14m26.196s  15m37.722s  14m59.951s  15m56.660s  15m27.477s  15m11.105s  15m10.896s  15m14.065s  15m8.592s  15m11.347s  15m8.775s  14m10.435s  15m39.211s  15m35.761s  14m46.563s  15m2.491s  14m20.439s  14m50.252s  14m0.493s  14m15.893s  14m9.685s  14m56.579s  15m33.331s  15m11.281s  15m17.868s |  |  |

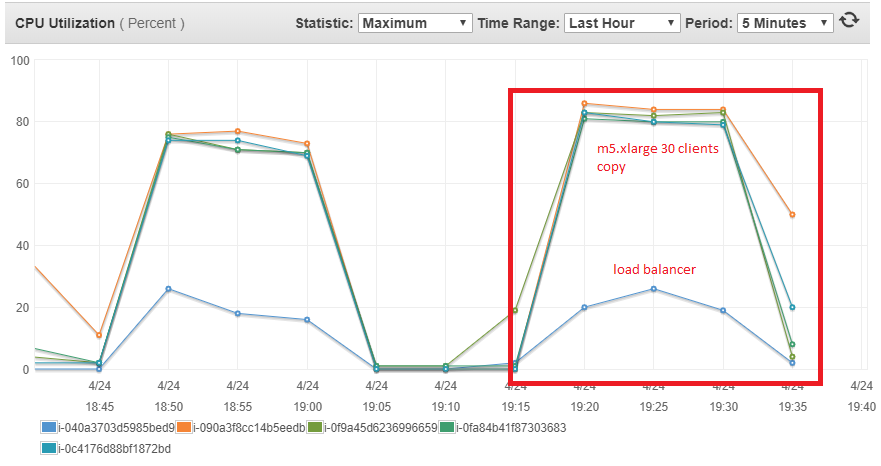
20 clients connect to NFS server via load balancer





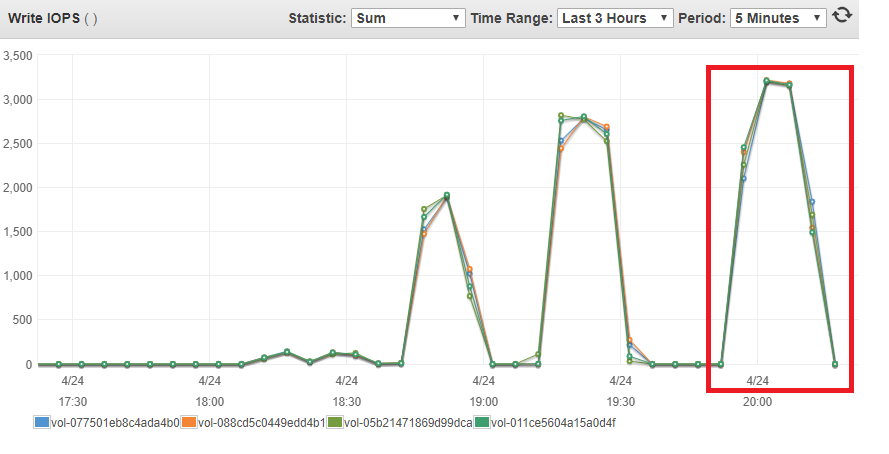
30 clients connect to NFS server via load balancer

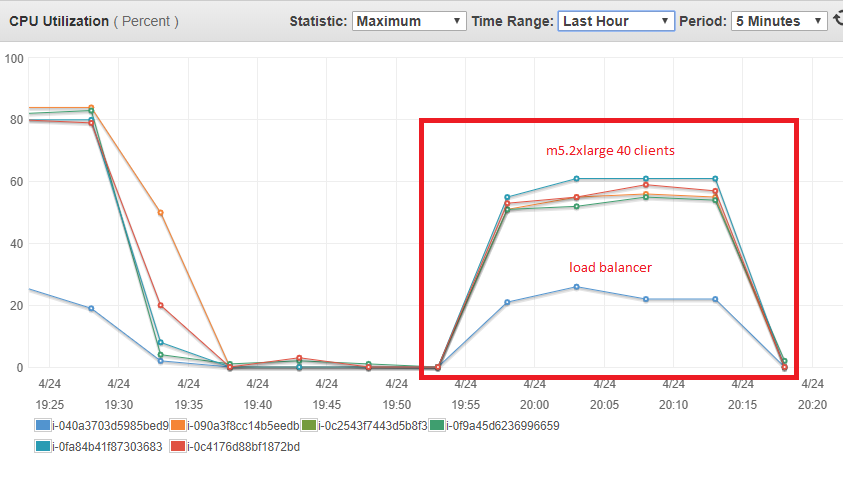




m5.2xlarge x4, with gp2 storage with enough IOP balance

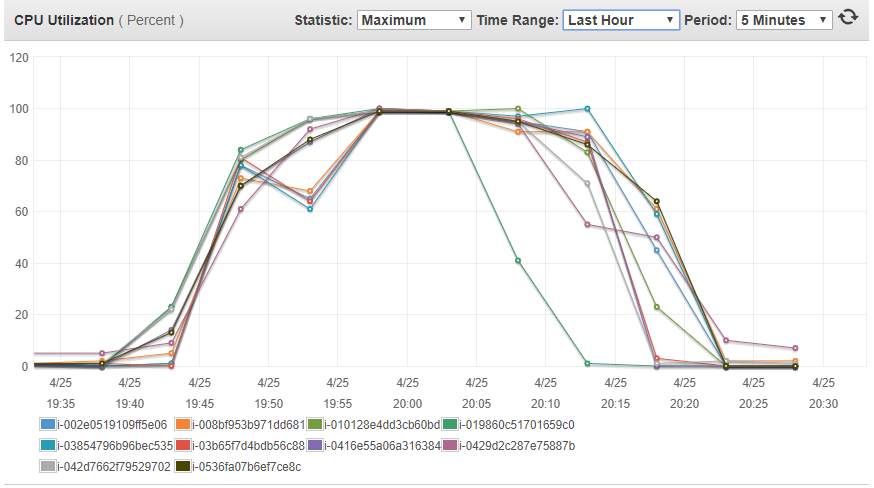
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of Clients | Max Average CPU (5 minutes period with 5 samples) on all NFS Servers | Combined Max IOPS on all disks | Average copy time | Average compile time | Average delete time |
| 40 | 74%  Glusterfsd 264%  Ganesha 208% | 13040 | 15m4.131s  15m14.346s  15m58.494s  15m20.454s  15m9.713s  15m26.628s  15m17.749s  14m44.501s  15m40.735s  14m56.431s  14m48.738s  15m8.005s  15m43.261s  15m52.389s  15m20.750s  15m15.864s  14m52.884s  15m47.971s  15m24.474s  14m45.374s  15m1.794s  15m50.220s  15m24.460s  15m48.815s  15m13.851s  15m21.032s  15m16.020s  15m46.141s | 32m9.442s  31m48.897s  31m23.924s  31m34.343s  31m45.939s  31m46.748s  31m34.939s  31m43.836s  31m36.331s  32m11.153s  32m5.809s  31m29.135s  31m32.077s  31m53.311s  31m52.773s  31m54.214s  31m45.904s  31m50.566s  31m6.033s  31m58.293s  31m35.186s  32m5.336s  31m50.457s  31m22.833s |  |





Test 40 clients compile at the same time:

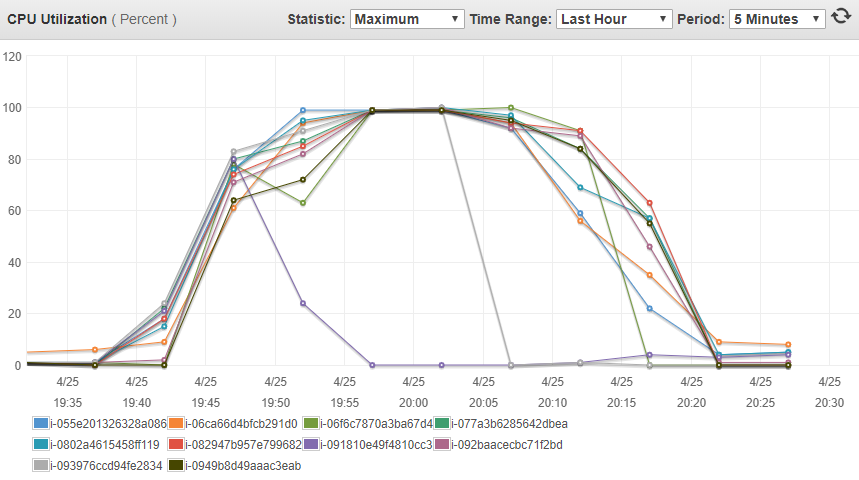
Client 1-10



Normal

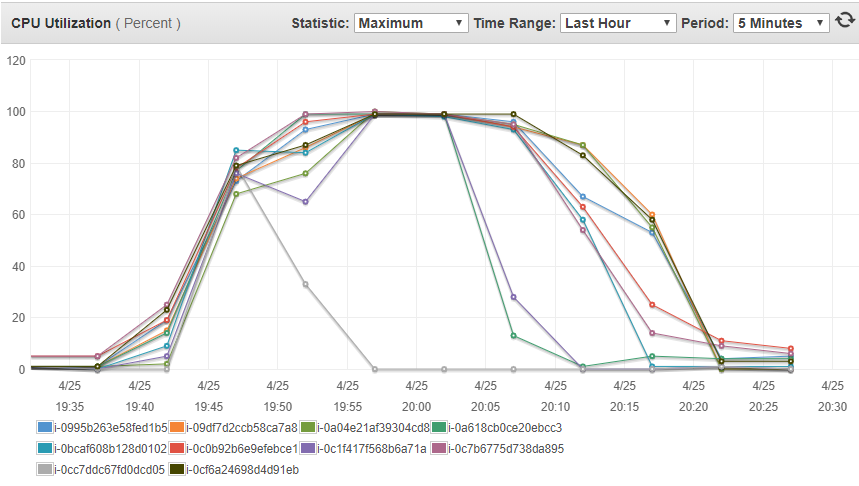
Become really slow

Client 11-20



Become really slow

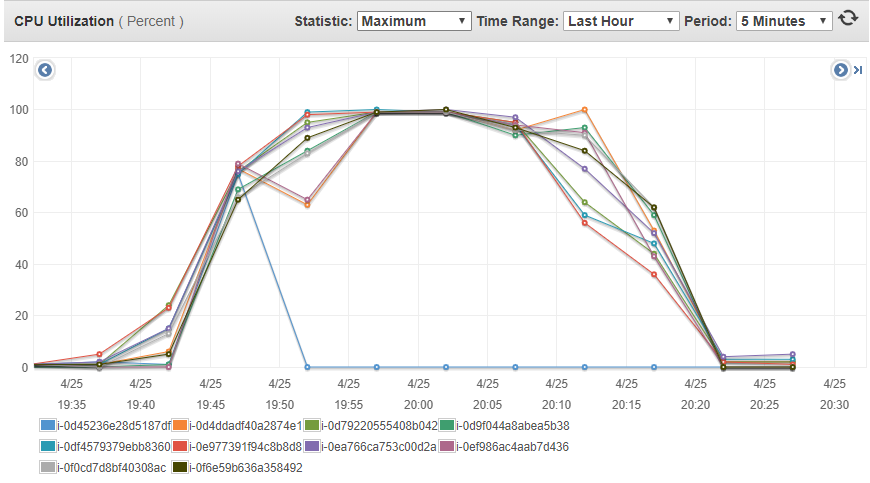
Client 21-30



One client build fails prematurely

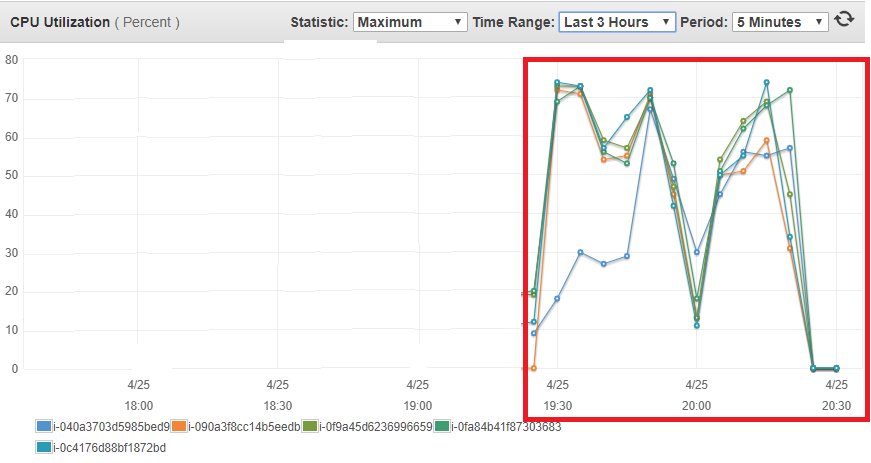
Become really slow

Client 31-40



One client build fails prematurely

Become really slow

CPU of servers

Write IOPS on servers

