Performance Tuning

System Configuration

- OS level tweaks

  - Adjust ulimit

  - Mount data disk with noatime

  - Swappiness can affect IO

  - Disk I/O Scheduler

Riak Tuning

```
## in /etc/riak/vm.args

+S 8:8 # half number of cores when using LevelDB
+zdbbl 32768 # if busy_dist_port_seen in logs
```

basho

Riak Tuning

```
## in /etc/riak/app.config

{eleveldb, [
                {cache_size, 8388608},
                {data_root, "/var/lib/riak/leveldb"},
                {max_open_files, 100},
                {write_buffer_size_max, 62914560},
                {write_buffer_size_min, 31457280}
        ]},
```

basho

OS Tuning

```
## in /etc/sysctl.d/riak.conf
vm.swappiness = 0
net.ipv4.tcp_max_syn_backlog = 40000
net.core.somaxconn=4000
net.ipv4.tcp_timestamps = 0
net.ipv4.tcp_sack = 1
net.ipv4.tcp_window_scaling = 1
net.ipv4.tcp_fin_timeout = 15
net.ipv4.tcp_keepalive_intvl = 30
net.ipv4.tcp_tw_reuse = 1
## for 10Gb Networks
net.core.rmem_default = 8388608
net.core.rmem_max = 8388608
net.core.wmem_default = 8388608
net.core.wmem_max = 8388608
net.core.netdev_max_backlog = 10000
```

basho

OS Tuning

- EXT4

    noatime,nodiratime,barrier=0,data=writeback

- XFS

    noatime,nodiratime,nobarrier,logbufs=8,logbsize=256k,allocsize=2M

OS Tuning

- /sys/block/X/queue/scheduler

  - noop

  - deadline

- /sys/block/x/queue/nr_requests

  - 1024

basho

Next steps

- docs.basho.com

- OS & filesystem settings

- app.config & vm.args

- Backend configuration and settings