

Tutorial sulla configurazione di CEPH + CINDER per il block storage di OpenStack

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Roadmap

- Creazione di backend multipli (in particolare CEPH)
- Configurazione di QoS per rate-limiting
- Encryption
 - esempi: uso del driver LVM ed RBD
- Backup su Ceph [bonus: metadata import/export]
- Volume retype, migration

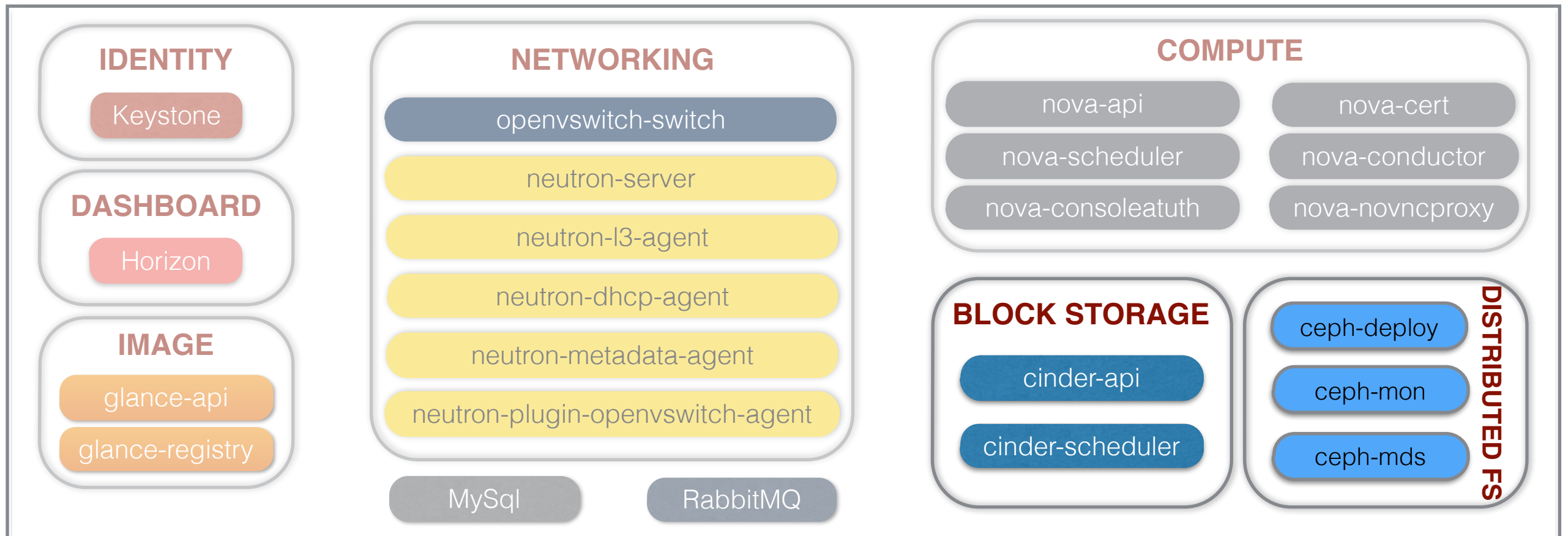
Wiki su bitbucket:

<https://bitbucket.org/maricaantonacci/tutorial/wiki/browse/>

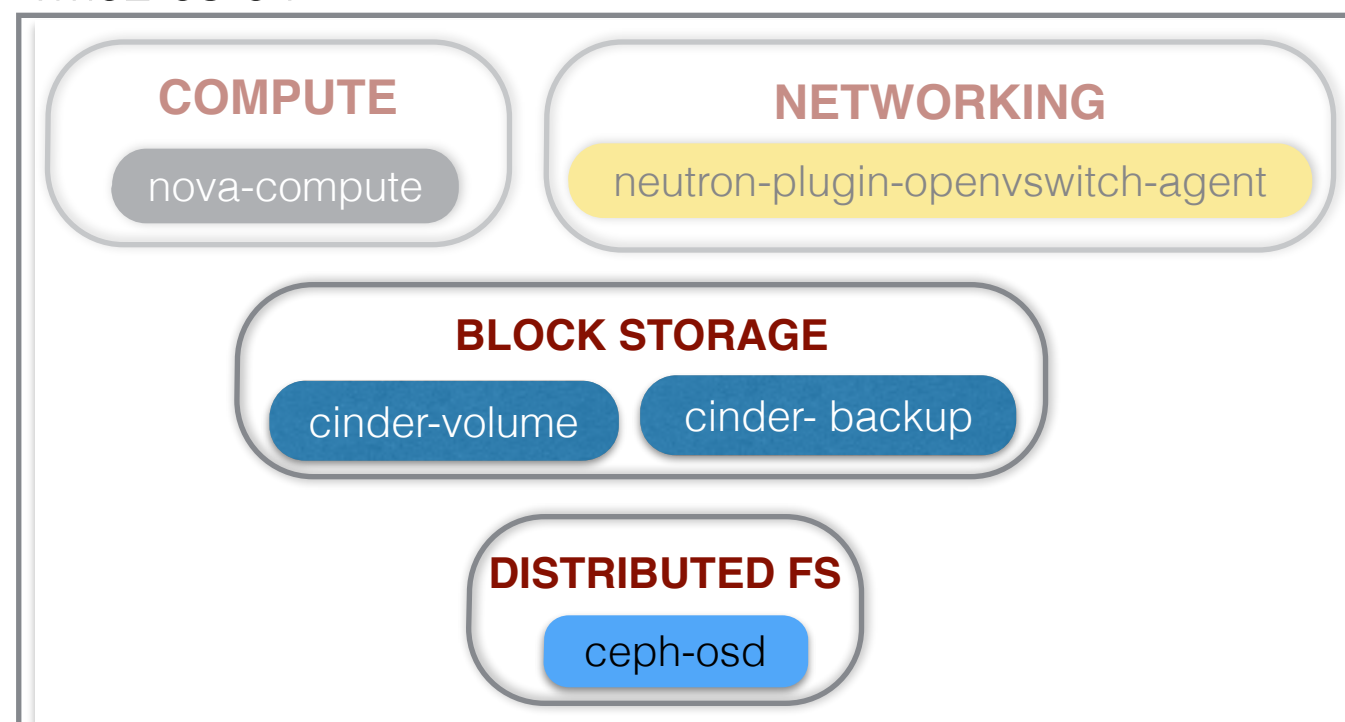
Tutorial Testbed Architecture

vm01

OPENSTACK CONTROLLER + NETWORK NODE

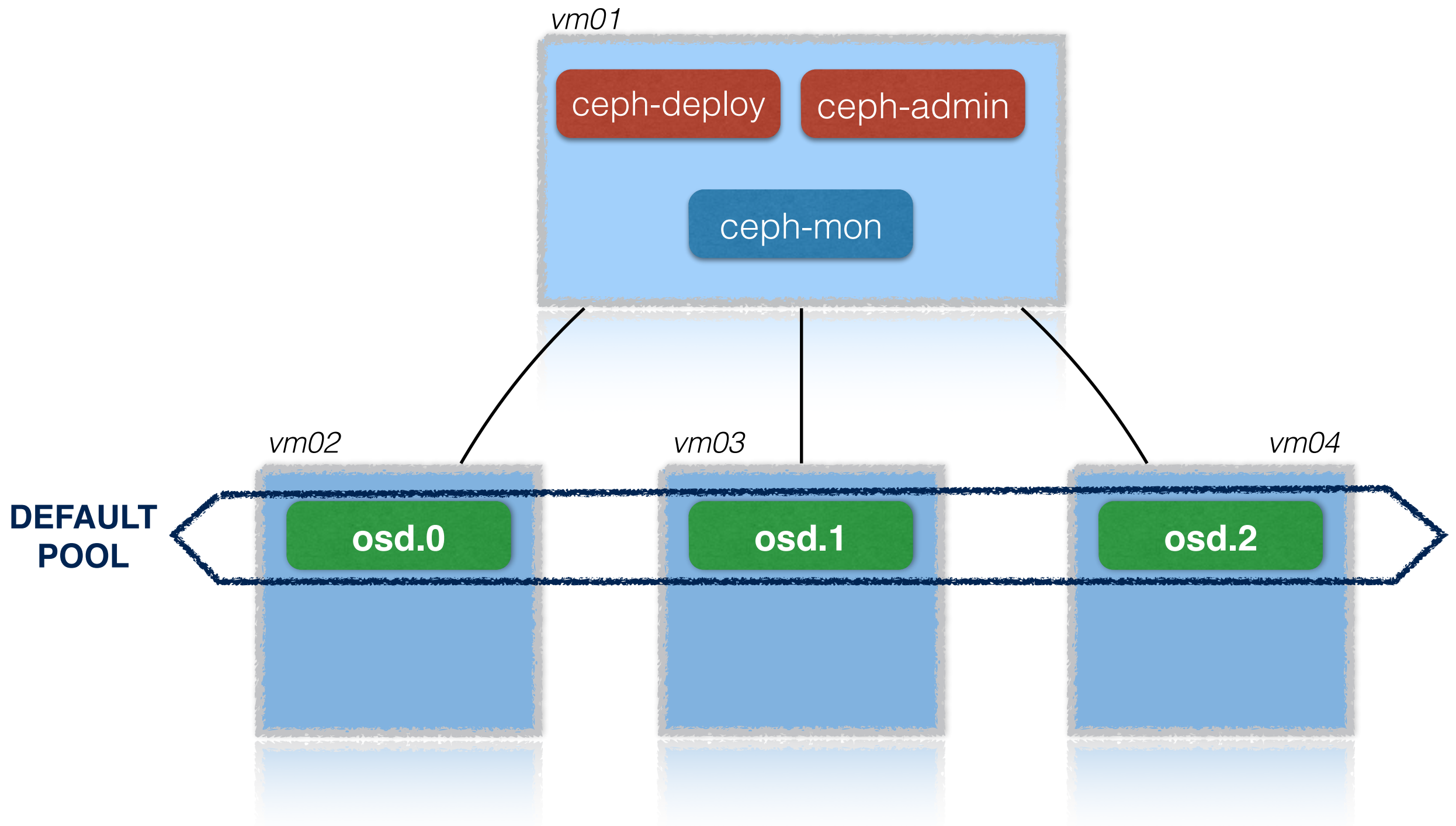


vm02-03-04



COMPUTE-NODE

Ceph: cluster set-up



Crush map

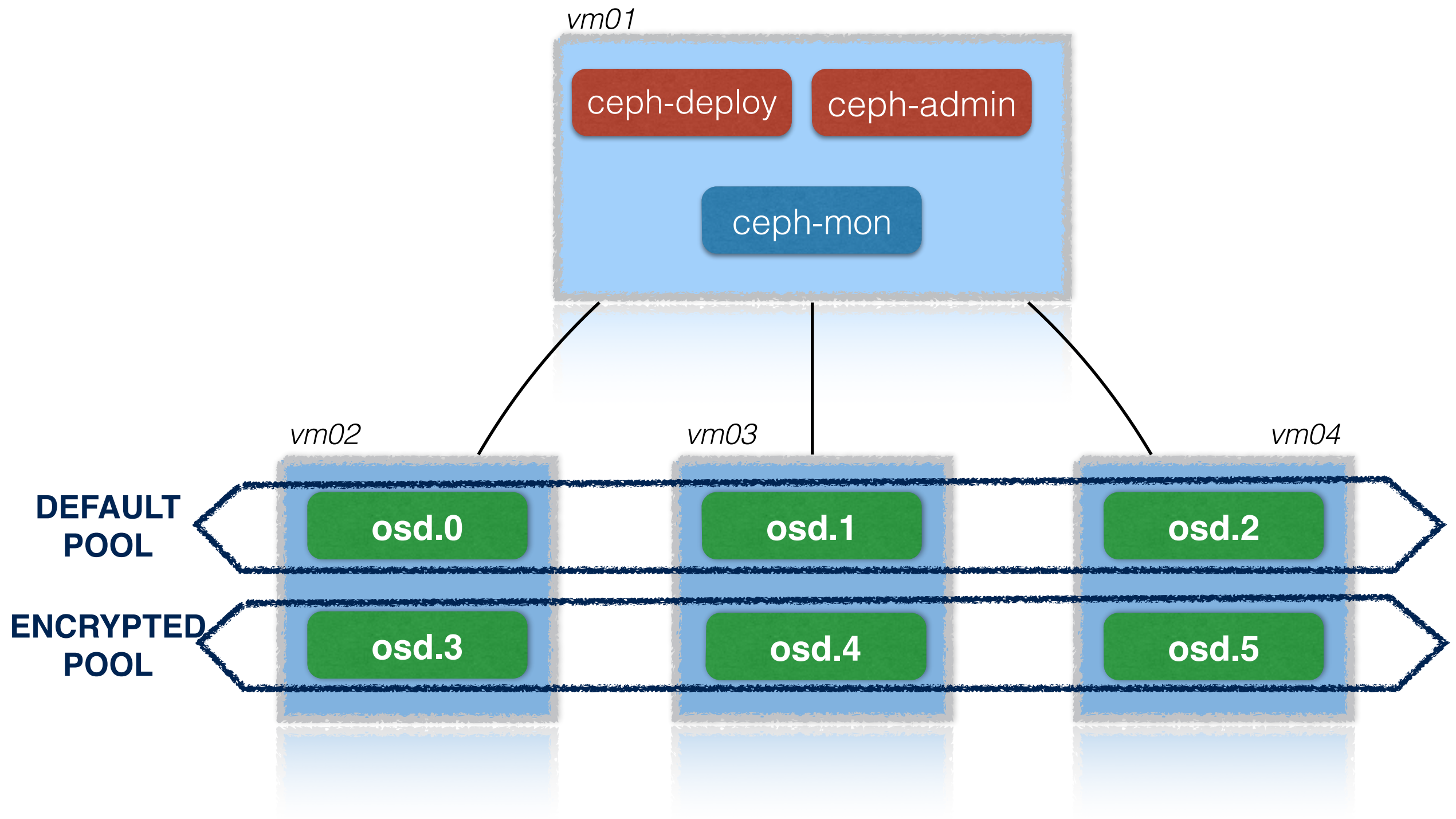
BUCKETS

```
host vm02 {
    id -2      # do not change unnecessarily
    alg straw
    hash 0# rjenkins1
    item osd.0 weight 0.090
}
host vm03 {
    id -3      # do not change unnecessarily
    alg straw
    hash 0# rjenkins1
    item osd.1 weight 0.090
}
host vm04 {
    id -4      # do not change unnecessarily
    alg straw
    hash 0# rjenkins1
    item osd.2 weight 0.090
}
root default {
    id -1      # do not change unnecessarily
    alg straw
    hash 0# rjenkins1
    item vm02 weight 0.090
    item vm03 weight 0.090
    item vm04 weight 0.090
}
```

RULES

```
rule replicated_ruleset {
    ruleset 0
    type replicated
    min_size 1
    max_size 10
    step take default
    step chooseleaf firstn 0 type host
    step emit
}
```

Ceph: cluster set-up



Modified Crush Map

NEW BUCKETS

```
host vm02-encr {
    id -5          # do not change unnecessarily
    alg straw
    hash 0 # rjenkins1
    item osd.3 weight 0.090
}
host vm03-encr {
    id -6          # do not change unnecessarily
    alg straw
    hash 0 # rjenkins1
    item osd.4 weight 0.090
}
host vm04-encr {
    id -7          # do not change unnecessarily
    alg straw
    hash 0 # rjenkins1
    item osd.5 weight 0.090
}

root encrypted {
    id -8          # do not change unnecessarily
    alg straw
    hash 0 # rjenkins1
    item vm02-encr weight 0.090
    item vm03-encr weight 0.090
    item vm04-encr weight 0.090
}
```

NEW RULE

```
rule encrypted_ruleset {
    ruleset 1
    type replicated
    min_size 1
    max_size 10
    step take encrypted
    step chooseleaf firstn 0 type host
    step emit
}
```