SUSE® Enterprise Storage 6 on 华为 泰山 Implementation Guide

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目录

1 Tips

1.1 Use a different NTP server

The default time server is the admin node. To change it, add

```
time_server: <server address>
```

in /srv/pillar/ceph/stack/ceph/cluster.yml

1.2 Copy files to all cluster nodes

`salt-cp` command can be used to copy files from the salt master node to minion nodes. This can be very convenient, for example, to keep /etc/hosts file in sync on all nodes.

```
salt-cp '*' /etc/hosts /etc/hosts
```

1.3 Important files

/etc/salt/minion
: Salt minion configuration file

/etc/salt/minion_id
: Salt minion name. Useful if changed host name and need to change minion name accordingly.

/srv/pillar/ceph/deepsea_minions.sls
: Deepsea minion targets

/srv/pillar/ceph/stack/ceph/cluster.yml
: Deepsea cluster configuration for the cluster "ceph" (the default cluster name). After modification Deepsee stage 2 need to be run to make it in effect.

CLUSTER CONFIGURATION FILES:

/srv/pillar/ceph/stack/global.yml
: Affects all minions in the Salt cluster.

/srv/pillar/ceph/stack/ceph/cluster.yml
: Affects all minions in the cluster named "ceph".

/srv/pillar/ceph/stack/ceph/roles/role.yml
: Affects all minions that are assigned the specific role in the ceph cluster.

/srv/pillar/ceph/stack/cephminions/<minion ID>/yml
: Affects the individual minion.

1.4 How to completely uninstall the cluster for reinstall

In case you did something wrong and would like to start over without re-installing the whole OS.

```
# salt-run disengage.safety
# salt-run state.orch ceph.purge
```

1.5 How to get salt pillar information

```
# salt '*' saltutil.pillar_refresh
# salt '*' pillar.items
```

This will only give information after running stage 1 AKA the discovery stage.

1.6 SES built-in network benchmark

See the Administration Guide (https://www.suse.com/documentation/suse-enterprise-storage-5/singlehtml/book_storage_admin/book_storage_admin.html#storage.bp.performance.net_issues)

```
# salt-run net.iperf cluster=ceph output=full
```

1.7 Ceph built-in OSD benchmark

See Administration Guide (https://www.suse.com/documentation/suse-enterprise-storage-5/singlehtml/book_storage_admin/book_storage_admin.html#storage.bp.performance.slowosd)

```
# ceph tell osd.<id> bench
```

1.8 Ceph built-in pool scope benchmark

```
# rados -p <pool name> bench 60 write
```

1.9 Interface bonding

Use following parameters for the bonding module in 802.3ad mode (need switch support).

```
mode=802.3ad miimon=100 lacp_rate=fast xmit_hash_policy=layer3+4
```

1.10 Recommended Size for the BlueStore's WAL and DB Device

See the Deployment Guide (https://documentation.suse.com/en-us/ses/6/single-html/ses-deployment/#rec-waldb-size)

1.11 Offline setup

Setup a SMT or RMT server, and mirror below repositories from SCC.

- SLE-Product-SLES15-SP1-Pool
- SLE-Product-SLES15-SP1-Updates
- SLE-Module-Server-Applications15-SP1-Pool
- SLE-Module-Server-Applications15-SP1-Updates
- SLE-Module-Basesystem15-SP1-Pool
- SLE-Module-Basesystem15-SP1-Updates
- SUSE-Enterprise-Storage-6-Pool
- SUSE-Enterprise-Storage-6-Updates

Then point all nodes to the SMT/RMT server.

1.12 Change node roles

After change of node roles by editing policy.cfg, need to run Stage 2 Configure to refresh configuration files.

```
# deepsea stage run ceph.stage.2
```

1.13 More tips

Check the SES 6 Administration Guide (https://documentation.suse.com/ses/6/single-html/ses-admin/#part-troubleshooting) for more hints & tips, FAQ, and troubleshooting techniques.

2 参考信息

SUSE Enterprise Storage Technical Overview
https://www.suse.com/media/white-paper/suse_enterprise_storage_technical_overview_wp.pdf

SUSE Enterprise Storage Tech Specs
https://www.suse.com/products/suse-enterprise-storage/#tech-specs

SUSE Enterprise Storage 6 - Release Notes
https://www.suse.com/releasenotes/x86_64/SUSE-Enterprise-Storage/6/

SUSE Enterprise Storage 6 - Deployment Guide
https://documentation.suse.com/ses/6/single-html/ses-deployment/#book-storage-deployment

SUSE Enterprise Storage 6 - Administration Guide
https://documentation.suse.com/ses/6/single-html/ses-admin/#book-storage-admin

SUSE Linux Enterprise Server 15 SP1 - Deployment Guide
https://documentation.suse.com/sles/15-SP1/single-html/SLES-deployment/#book-sle-deployment

SUSE Linux Enterprise Server 15 SP1 - Administration Guide
https://documentation.suse.com/sles/15-SP1/single-html/SLES-admin/#book-sle-admin

SUSE Linux Enterprise Server 15 SP1 - Storage Administration Guide
https://documentation.suse.com/sles/15-SP1/single-html/SLES-storage/#book-storage

SUSE Linux Enterprise Server 15 SP1 - Repository Mirroring Tool Guide
https://documentation.suse.com/sles/15-SP1/single-html/SLES-rmt/#book-rmt

A policy.cfg example

```
## Cluster Assignment
cluster-ceph/cluster/*.sls

## Roles
# ADMIN
role-master/cluster/admin*.sls
role-admin/cluster/admin*.sls

# Monitoring
role-prometheus/cluster/admin*.sls
role-grafana/cluster/admin*.sls

# MON
role-mon/cluster/ceph[123]*.sls

# MGR (mgrs are usually colocated with mons)
role-mgr/cluster/ceph[123]*.sls

# MDS
role-mds/cluster/ceph2*.sls

# IGW
role-igw/cluster/ceph3*.sls

# RGW
role-rgw/cluster/ceph4*.sls

# NFS
# role-ganesha/cluster/ganesha*.sls

# COMMON
config/stack/default/global.yml
config/stack/default/ceph/cluster.yml

# Storage
```

```
role-storage/cluster/ceph[1234]*.sls
```

B drive_groups.yml example

```
default:
  target: 'I@roles:storage'
  data_devices:
    # Use all hard disks as data device
    rotational: 1
  db_devices:
    # Use solid state drives as db device
    rotational: 0
```