

Swift Store on ScaleIO Expansion

Cloud Execution Environment

OPERATING INSTRUCTIONS

Copyright

© Ericsson AB 2016–2018. All rights reserved. No part of this document may be reproduced in any form without the written permission of the copyright owner.

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Trademark List

All trademarks mentioned herein are the property of their respective owners. These are shown in the document Trademark Information.



Contents

1	Introduction	1
1.1	Description	1
1.2	Prerequisites	1
1.3	Procedure Overview	2
2	Preparation	4
3	Check Available Capacity on ScaleIO	5
4	Check the OpenStack Quotas	7
5	Expand the Storage on ScaleIO for Swift	9
6	Concluding Expansion	11
Appendix		
7	Additional Information	13
7.1	List vCIC, Compute and ScaleIO Nodes	13
7.2	Identify Master MDM	14
7.3	Swift Store on ScaleIO Feature Check	15
7.4	Configurable Storage Connector Parameters	16
Reference List		18





1 Introduction

This document describes how to expand the existing Swift store on ScaleIO in the Cloud Execution Environment (CEE). For information on how to activate the feature Swift store on ScaleIO, refer to [Swift Store on ScaleIO Activation](#).

1.1 Description

After the storage expansion, each virtual Cloud Infrastructure Controller (vCIC) gets an extra logical volume in the storage pool used for Cinder on ScaleIO, with the size of the expansion.

1.2 Prerequisites

This section describes the prerequisites for this instruction.

1.2.1 Documents

Ensure that the following documents have been read:

- IP and VLAN Plan updated with customer and site-specific values.

Note: All examples in this document use the default values from the document IP and VLAN plan, Reference [1]. The actual customer-defined addresses must be used when performing the steps in this document.

- CEE Connectivity User Guide

1.2.2 Tools and Equipment

A computer is required, that can be used to connect to CEE using the Secure Shell (SSH) protocol.

1.2.3 Conditions

Before starting this procedure, ensure that the following conditions are met:

- The Swift store on ScaleIO feature is activated. To check whether the feature is activated, see Section 7.3 on page 15.
- There are no errors reported for ScaleIO (for example, check the watchmen client).
- There are no alarms reported with `Critical` or `Major` severity in CEE.



- The user of this document must be familiar with how to log in to all three vCIC nodes and to the virtual Fuel (vFuel) node from a remote location. For more information about these procedures, refer to [CEE Connectivity User Guide](#) and Section 7.1 on page 13 in the Appendix.
- The IdAM credentials for remote vCIC login are available. For more information, refer to [CEE Connectivity User Guide](#).
- The credentials for logging in to the vCIC and vFuel nodes as ceeadm user with sudo privileges are available.

Note: All commands in this document (except logging in to the vCIC node from a remote location) must be executed as user ceeadm.

- Ensure that no other maintenance activities are taking place at the same time.

1.2.4 Installation Data

Before starting this procedure, make sure that the following data is available:

Variable	Value
<scaleio_user>	User name of admin user on ScaleIO system.
<scaleio_password>	Password of admin user on ScaleIO system.
<storage_pool_name>	This is the name of the storage pool used for Cinder as defined during ScaleIO SW installation. Use the same name that was noted down for the Configuration File Guide .
<protection_domain_name>	This is the name of the protection domain used for Cinder as defined during ScaleIO SW installations. Use the same name that was noted down for the Configuration File Guide .
<additional_size>	This is the planned additional size of the Swift Store on ScaleIO in GiB. ⁽¹⁾

(1) Volume sizes on ScaleIO are always multiples of 8 GiB. A volume size not matching that rule is automatically rounded up to the next multiple of 8GiB, but this is not reflected in cinder. Therefore make sure to use volume sizes which are multiples of 8 GiB.

1.3 Procedure Overview

Figure 1 gives an overview of the procedures covered by this document.

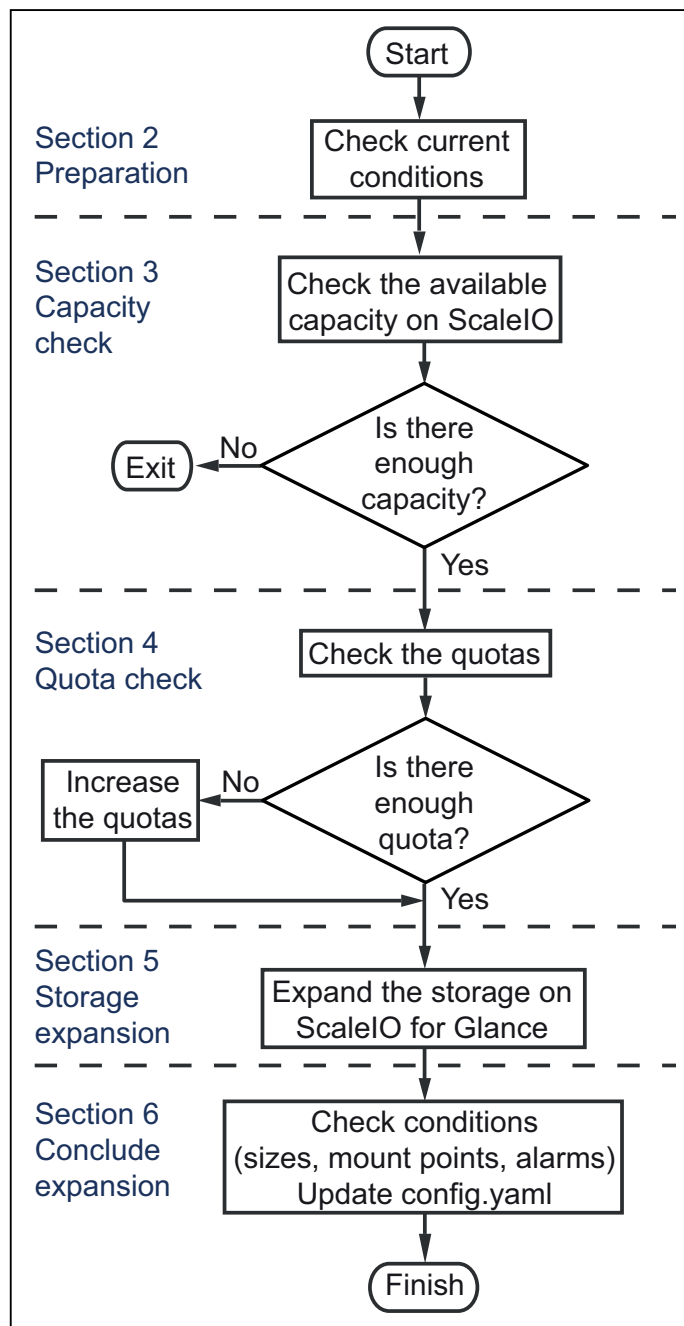


Figure 1 Procedure Overview



2 Preparation

This section describes how to prepare for the expansion of the Swift store on ScaleIO.

Perform the following steps:

1. If ScaleIO expansion is performed from a remote location, log in to one of the vCICs by using IdAM credentials, then change to user `ceeadm` using the command `su - ceeadm`, and log in to the vFuel node. Else, start the procedure with Step 2.
2. From the vFuel node, log in to one of the vCIC nodes as user `ceeadm`.
3. Print the properties of the logical volume for the swift store:

```
sudo lvsdisplay image
```

Note: The path is located in the line starting with “LV Path”, the size of the swift store is located in the line starting with “LV Size”. Note down these values for later use.

```
ceeadm@cic-1:~# sudo lvsdisplay image
--- Logical volume ---
LV Path                /dev/image/glance
LV Name                 glance
VG Name                 image
LV UUID                 crQyfr-r8y9-99qE-Iydo-7LPw-rhso-LDTeEC
LV Write Access         read/write
LV Creation host, time ,
LV Status                available
# open                   1
LV Size                  649.91 GiB
Current LE               20797
Segments                 3
Allocation                inherit
Read ahead sectors       auto
- currently set to       256
Block device             252:4
```

Example 1 Printout of the `sudo lvsdisplay image` Command

4. Check that the file `/etc/backend_storage_connector.conf` exists, and that it contains the default values as described in Section 7.4 on page 16.
5. Repeat Step 2, Step 3, and Step 4 in Section 2 on page 3 for the other two vCIC nodes.



Note: The displayed volume sizes must be the same on the three vCIC nodes. If they are not equal, note down the highest value and keep it for later use.

6. List the available Cinder volumes:

```
cinder list
```

```
ceeadm@cic-1:~# cinder list
```

```
+-----+-----+-----+-----+
| ID      | Status | Display Name          | Size | [...]--+
+-----+-----+-----+-----+
| 19[...]9 | in-use | CEE+cic-1+/dev/image/glance | 100 | [...]--+
| 66[...]2 | in-use | CEE+cic-3+/dev/image/glance | 100 | [...]--+
| 7c[...]2 | in-use | CEE+cic-2+/dev/image/glance | 100 | [...]--+
+-----+-----+-----+-----+
```

Example 2 cinder-list Example Printout

Note: Note down the listed Cinder volumes for later use. This makes it easier to verify the creation of the new images in Section 6 on page 11.

7. Continue with the procedures in Section 3 on page 5.

3 Check Available Capacity on ScaleIO

This section describes how to check if there is enough capacity on ScaleIO for the expansion.

1. Ensure that you are logged in to the vFuel node as ceeadm user.
2. Log in to the ScaleIO node on which the Master MDM is running: `ssh <scaleio_node>`. For details on the identification of the Master MDM node and possible prompts during the process, see Section 7.2 on page 13
3. Now log on to the Master MDM using the command
`scli --login --username admin =>`
`--password <scaleio_password>`
4. Check the space available for volume allocation of the storage pool used by the cinder service on ScaleIO:

```
scli --query_storage_pool --storage_pool_name =>
<storage_pool_name> --protection_domain_name =>
<protection_domain_name>
```



Example 3 shows a partial printout. In Example 3, the storage pool is pool1 and the space available for allocation is 872 GB.

```

ceeadm@scaleio-0-4:~$ scli --query_storage_pool --storage_pool_name pool1\
--protection_domain_name protection_domain1
Storage Pool pool1 (Id: 3e1c10f900000000) has \
1 volumes and 872.0 GB (892928 MB) available for volume allocation
    The number of parallel rebuild/rebalance jobs: 2
[...]
    1.9 TB (1972 GB) total capacity
    1.7 TB (1759 GB) unused capacity
    0 Bytes snapshots capacity
    16.0 GB (16384 MB) in-use capacity
    0 Bytes thin capacity
    16.0 GB (16384 MB) protected capacity
    0 Bytes failed capacity
[...]
    197.3 GB (202026 MB) spare capacity
    16.0 GB (16384 MB) at-rest capacity
[...]
Volumes summary:
    1 thick-provisioned volume. Total size: 8.0 GB (8192 MB)
[...]

```

Example 3 Available Capacity on ScaleIO

Note: Although in the printout the available capacity is displayed in “GBs”, the correct unit of measure for the displayed capacity is “GiBs”.

5. Check if the space available for volume allocation is sufficient and proceed according to the result as follows:
 - If the available for volume allocation is at least three times as big as the planned new size of the Swift storage for one vCIC on ScaleIO, continue with the procedures in Section 4 on page 6. This triple additional size is required since each vCIC must be extended by the same amount of storage capacity.
 - If the space available for volume allocation is less than three times the planned new size of the Swift storage for one vCIC on ScaleIO, then the available capacity on ScaleIO must be increased first. This is out of the scope of this document. Refer to manufacturer documentation or contact the next level of maintenance support.
6. Continue with the procedures in Section 4 on page 6.



4 Check the OpenStack Quotas

This section describes how to check the OpenStack quotas for the admin project and how to expand them if needed.

1. Ensure that you are logged in to one of the vCIC nodes as ceeadm user.
2. Print the project list:

```
openstack project list
```

```
# ceeadm@cic-2:/root$ openstack project list
+-----+-----+
| ID                               | Name     |
+-----+-----+
| 3052cafca2e14f85b8f02263025d2a8f | admin    |
| c16e42d79bfb406fb4730fa8bdbb6d8f | services |
+-----+-----+
```

Example 4 OpenStack Project List

Note: Identify the project with the name “admin” and note down its ID (<project_id>) for later use.

3. Print the quota usage:

```
cinder quota-usage <project_id>
```

Example 5 is a printout of the following `cinder quota-usage` command:

```
cinder quota-usage 3052cafca2e14f85b8f02263025d2a8f
```

```
ceeadm@cic-1:~# cinder quota-usage =>
3052cafca2e14f85b8f02263025d2a8f
+-----+-----+-----+-----+
|      Type      | In_use | Reserved | Limit |
+-----+-----+-----+-----+
| [...]          | [...] | [...]    | [...] |
| gigabytes      | 3100  | 0        | 10000 |
| [...]          | [...] | [...]    | [...] |
| volumes        | 4     | 0        | 100   |
| [...]          | [...] | [...]    | [...] |
+-----+-----+-----+-----+
```

Example 5 quota-usage Command Printout

Note: In the `cinder` command printouts the capacity values are given in “GBs”, but in fact the correct unit of measure for the same values are “GiBs”.

4. Check the types gigabytes and volumes as follows:



- For the type `volumes`, the difference between `Limit` and `In_use` must be at least three.
- For the type `gigabytes`, the difference between `Limit` and `In_use` must be at least three times as big as the intended Swift store size for a single vCIC. For example, if the intended Swift store size for one vCIC is 1000 GiB, the difference between `Limit` and `In_use` must be at least 3000 GiB.

The example printout in Step 3 in Section 4 on page 6 shows a disposition of 96 volumes and 6900 GiB of capacity.

After calculating the quotas perform the relevant one of the following actions:

- If enough quotas are available for the expansion, then continue with the procedures in Section 5 on page 9.
- If the `gigabytes` quota must be increased continue with Step 5 in Section 4 on page 6.
- If the `volumes` quota must be increased continue with Step 6 in Section 4 on page 6.

5. If the quota `gigabytes` needs to be increased, issue the following command:

```
cinder quota-update <project_id> --gigabytes =>  
<new_g_limit>
```

where

- `<new_g_limit>` must be equal to or greater than:

`[(3*<additional_size>)+<current_use>].`

Here `<additional_size>` is the planned new size of the Swift storage and `current_use` is the `in_use` value of `gigabytes` from Step 3 in Section 4 on page 6.

- `<project_id>` is the project ID of the project admin.

Example 6 shows how to increase the `gigabytes` quota by 99, from 10000 GiB to 10099 GiB for the project admin and an example printout:



```
ceeadm@cic-1:~# cinder quota-update =>
3052cafca2e14f85b8f02263025d2a8f --gigabytes 10099
```

Property	Value
backup_gigabytes	1000
backups	10
gigabytes	10099
per_volume_gigabytes	-1
snapshots	10
volumes	100

Example 6 Cinder quota-update — 'gigabytes'

6. If the volumes quota needs to be increased issue the following command:

```
cinder quota-update =>
<project_id> --volumes <new_vol_limit>
```

where

- <new_vol_limit> is at least three volumes more than the current value,
- <project_id> is the project ID of the project admin.

Example 7 shows how to increase the volumes quota by 3, from 100 to 103, for the project admin:

```
ceeadm@cic-1:~# cinder quota-update 3052cafca2e14f8
5b8f02263025d2a8f --volumes 103
```

Example 7 Cinder quota-update — volumes

7. Continue with the procedures in Section 5 on page 9.

5 Expand the Storage on ScaleIO for Swift

This section describes how to expand the storage on ScaleIO for Swift.

1. Ensure that you are logged in to one of the vCIC nodes as ceeadm user.
2. Start a screen session:

```
sudo -E screen
```

3. Press **Space** or **Return** after you have read the instruction on the screen.



Note: The `screen` command starts a session, which is independent from the current terminal window. Even if the terminal window crashes or is ended by other means, it is possible to reconnect to the session by using the command `sudo -E screen -x` from another terminal on the same host.

4. Populate the environment variables:

```
source /root/openrc
```

5. Expand the Swift storage on ScaleIO:

```
backend-storage-connector expand <path> <additional_size>
```

The description of the variables are as follows:

Variable	Description
<path>	This is the path of the logical volume (LV Path) noted down in Step 3 in Section 2 on page 3.
<additional_size>	This is the planned additional size of the Swift Store on ScaleIO in GiB. ⁽¹⁾⁽²⁾

(1) Consider that volume sizes on ScaleIO are always multiples of 8 GiB. A volume size not matching that rule will be automatically rounded up to the next multiple of 8 GiB, but this will not (yet) be reflected in cinder. Therefore make sure to use volume sizes which are multiples of 8 GiB.

(2) All vCIC nodes must have the same storage capacity for Swift. Use the same value of <additional_size> for each vCIC.

The successful job is indicated by the final status information message “Success.”, as shown in Example 8:

```
root@cic-1:~# backend-storage-connector expand /dev/image/glance 50
[...]
<ts> INFO: Updated fstab with option "_netdev,...
<ts> INFO: Extending volume group: image with...
<ts> INFO: Move device /dev/sda7. This may take a while.
<ts> INFO: Move device /dev/sdb2. This may take a while.
<ts> INFO: Successfully disconnected all local...
<ts> INFO: Extending logical volume /dev/imag...
<ts> INFO: Growing xfs filesystem of logical...
<ts> INFO: Success.
root@cic-2:~#
```

Example 8 Expand the Swift Store on ScaleIO

6. If the execution fails, the file `/var/backend-storage-connector.fail` is created. Before another attempt at expansion, remove the `.fail` file using the following command:

```
rm /var/backend-storage-connector.fail
```
7. End the screen session by pressing **CTRL+D**.



- Repeat all the steps in Section 5 on page 9 for the other two vCIC nodes and then continue with the procedures in Section 6 on page 11.

Note: A log file is generated under the following path on each vCIC:

`/var/log/backend-storage-connector.log`

6 Concluding Expansion

This section describes how to confirm that the expansion was successful.

- Ensure that you are logged in to one of the vCIC nodes as `ceeadm` user.
- Check that Swift Store on ScaleIO expansion was successful, by listing the Cinder volumes:

cinder list

Example printout:

```
ceeadm@cic-1:~# cinder list
+-----+-----+-----+-----+-----+
| ID      | Status | Display Name          | Size | [...] |
+-----+-----+-----+-----+-----+
| 19[...] | in-use | CEE+cic-1+/dev/image/glance | 650 | [...] |
| 66[...] | in-use | CEE+cic-3+/dev/image/glance | 650 | [...] |
| 7c[...] | in-use | CEE+cic-2+/dev/image/glance | 650 | [...] |
| 95[...] | in-use | CEE+cic-1+/dev/image/glance+1 | 50  | [...] |
| 85[...] | in-use | CEE+cic-3+/dev/image/glance+1 | 50  | [...] |
| 45[...] | in-use | CEE+cic-2+/dev/image/glance+1 | 50  | [...] |
+-----+-----+-----+-----+-----+
```

Example 9 Cinder Volumes Listed

For each vCIC, one volume must exist with a Display Name starting with “CEE+”, followed by the vCIC name, the logical volume path and an integer number. The size must match the value of `<additional_size>`, which has been provided in Section 5 on page 9.

To protect the active Swift store on ScaleIO volumes from unintentional deletion, each volume appears attached to a non-existing instance sharing the same ID. For each volume the ID and the Attached to fields match in the output of the `cinder list` command.

- Check the logical volume size for the Swift store:
sudo lvdisplay image



LV Size displays the size of the Swift store in GiB. The size must have increased by the value chosen for `additional_size`.

Example printout:

```
ceeadm@cic-1:~# lvsdisplay image
--- Logical volume ---
LV Path                /dev/image/glance
LV Name                 glance
VG Name                 image
LV UUID                 crQyfr-r8y9-99qE-Iydo-7LPw-rhso-LDTeEC
LV Write Access         read/write
LV Creation host, time ,
LV Status                available
# open                  1
LV Size                 699.88 GiB
Current LE              22396
Segments                4
Allocation              inherit
Read ahead sectors      auto
- currently set to     256
Block device            252:4
```

Example 10 Logical Volume Information

4. Perform Step 3 in Section 6 on page 11 for the other two vCIC nodes.
5. From the vCIC node log in to the vFuel node by using SSH as user `ceeadm`.
6. On the vFuel node, edit the `config.yaml` file under `/mnt/cee_config` with root privileges (for example with the `sudo vi /mnt/cee_config/config.yaml` command) as follows:
 - a. Under `swift > swift_on_backend_storage: > lun_size` set the value to the new total `<size>` of the Swift store on each vCIC (expanded with the `<additional_size>`).

Note: These modifications are necessary, so that in case of a rollback and vCIC repair, the Swift store is set up again with the correct size.

Example 11 shows the relevant `config.yaml` hierarchy.

```
ericsson:
  swift:
    swift_on_backend_storage:
      type: centralized
      activation_mode: automatic
      lun_size: 700GiB
```

Example 11 Editing config.yaml



Appendix

7 Additional Information

This section describes the following:

- How to list the hostnames and addresses of the vCIC nodes
- How to identify the Master MDM
- How to check the features of Swift Store on ScaleIO
- Configurable storage connector parameters

7.1 List vCIC, Compute and ScaleIO Nodes

To display the hostnames and IP addresses of the vCIC nodes issue the following command, while being logged in to the vFuel node:

```
sudo fuel node
```

Note: From a remote location only the vCIC servers can be reached. For more information see the [CEE Connectivity User Guide](#).

Example 12 is a partial printout that shows only the relevant information like names and IP addresses:

```
[ceeadm@fuel ~]# sudo fuel node
id | status | name          |...| ip            |...
---+-----+-----+---+-----+---
 1 | ready  | scaleio-0-5   |...| 192.168.0.28  |...
 2 | ready  | scaleio-0-4   |...| 192.168.0.23  |...
11 | ready  | cic-3         |...| 192.168.0.32  |...
 4 | ready  | scaleio-0-6   |...| 192.168.0.25  |...
10 | ready  | cic-2         |...| 192.168.0.31  |...
 3 | ready  | compute-0-1   |...| 192.168.0.20  |...
 8 | ready  | compute-0-3   |...| 192.168.0.29  |...
 9 | ready  | cic-1         |...| 192.168.0.30  |...
 5 | ready  | scaleio-0-8   |...| 192.168.0.27  |...
 7 | ready  | compute-0-2   |...| 192.168.0.21  |...
 6 | ready  | scaleio-0-7   |...| 192.168.0.26  |...
```

Example 12 vCIC, Compute and ScaleIO Node Printout



7.2 Identify Master MDM

Note: The identification procedure must be performed at each CEE logon as the Master MDM role may move to another ScaleIO node.

It is possible that the Master role moves to another MDM while being logged on. If `scli` commands fail suddenly, repeat the identification procedure.

To identify the Master Meta Data Manager (MDM), the command `scli --query_cluster` must be performed on each ScaleIO node after logon. The Master MDM is identified based on its unique printout.

Do the following:

1. List all compute, vCIC, and ScaleIO nodes as described in Section 7.1 on page 13, and note down all ScaleIO nodes and their respective IP address.

ScaleIO nodes are identified in the following format:
scaleio-**<shelf_id>**-**<blade_id>**, for example scaleio-0-4

2. Log on to the first ScaleIO node using the following command:
sudo ssh <scaleio_node>.

An example of the command is the following:
sudo ssh scaleio-0-4

3. If prompted by SSH authentication confirmation request, continue by entering **yes** and pressing **Enter**. The following is an example of the authentication request:

```
The authenticity of host 'scaleio-0-4 (192.168.0.23)' can't be established.  
ECDSA key fingerprint is b1:09:a8:f3:de:b7:93:c8:37:d4:24:e7:19:b9:d0:45.  
Are you sure you want to continue connecting (yes/no)?
```

4. Execute the command **scli --query_cluster**.

If prompted, approve a certificate and add it to the truststore by pressing **y** and **Enter**. An example of the MDM certificate approval is the following:

```
ceedm@scaleio-0-4:~$ scli --query_cluster  
Certificate info:  
subject: /GN=MDM/CN=scaleio-0-4.domain.tld/L=Hopkinton/ST=Massachusetts/C=US/O=EMC/OU=ASD  
issuer: /GN=MDM/CN=scaleio-0-4.domain.tld/L=Hopkinton/ST=Massachusetts/C=US/O=EMC/OU=ASD  
Valid-From: Oct 20 11:30:47 2016 GMT  
Valid-To: Oct 19 12:30:47 2026 GMT  
Thumbprint: BA:2C:17:90:D9:10:47:21:0B:AD:D0:2B:BA:10:62:7C:FE:47:11:74
```

Press 'y' to approve this certificate and add it to the truststore

5. Compare the printout of the command `scli --query_cluster` to the following examples to identify the type of the node.

The following is an example printout of the Master MDM node in a three-node configuration:

```
ceedm@scaleio-0-4:~$ scli --query_cluster
```



```

Cluster:
  Mode: 3_node, State: Normal, Active: 3/3, Replicas: 2/2
Master MDM:
  Name: scaleio-0-4, ID: 0x009f453b08513d70
  IPs: 192.168.11.21, 192.168.12.21, Management IPs: 192.168.2.21, Port: 9011
  Version: 2.0.5014
Slave MDMs:
  Name: scaleio-0-5, ID: 0x5afccfcb0cc9b8d1
  IPs: 192.168.11.20, 192.168.12.20, Management IPs: 192.168.2.20, Port: 9011
  Status: Normal, Version: 2.0.5014
Tie-Breakers:
  Name: scaleio-0-7, ID: 0x20089db33308e7f2
  IPs: 192.168.11.25, 192.168.12.25, Port: 9011
  Status: Normal, Version: 2.0.5014
ceeadm@scaleio-0-4:~$

```

The following is an example printout of the Master MDM Node in a five-node configuration:

```

root@scaleio-0-5:~# scli --query_cluster
Cluster:
  Mode: 5_node, State: Normal, Active: 5/5, Replicas: 3/3
  Virtual IPs: N/A
Master MDM:
  Name: scaleio-0-5, ID: 0x0db1e6c34049c130
  IPs: 192.168.11.25, 192.168.12.25, Management IPs: 192.168.2.25, Port: 9011, Virtual IP interfaces: N/A
  Version: 2.0.10000
Slave MDMs:
  Name: scaleio-0-6, ID: 0x7810f20f245ef491
  IPs: 192.168.11.23, 192.168.12.23, Management IPs: 192.168.2.23, Port: 9011, Virtual IP interfaces: N/A
  Status: Normal, Version: 2.0.10000
  Name: scaleio-0-4, ID: 0x1425248c45a38562
  IPs: 192.168.11.24, 192.168.12.24, Management IPs: 192.168.2.24, Port: 9011, Virtual IP interfaces: N/A
  Status: Normal, Version: 2.0.10000
Tie-Breakers:
  Name: scaleio-0-7, ID: 0x789a0a834440baa3
  IPs: 192.168.11.28, 192.168.12.28, Port: 9011
  Status: Normal, Version: 2.0.10000
  Name: scaleio-0-8, ID: 0x2b08640c5f57d344
  IPs: 192.168.11.22, 192.168.12.22, Port: 9011
  Status: Normal, Version: 2.0.10000

```

If the printout is different from the above two examples, the node is not the Master MDM node.

If the node is the Master MDM node, note down the hostname and IP address of the node for further use, based on the printout of Step 1.

If the node is not the Master MDM node, continue with Step 6.

6. Exit the ScaleIO node by entering **exit** and pressing **Enter**, and repeat the procedure from Step 2 on another ScaleIO node.

7.3 Swift Store on ScaleIO Feature Check

To check whether the Swift store on ScaleIO feature activation has taken place, list the Cinder volumes for the admin project with the following command:

cinder list

Example printout:



```
ceedm@cic-1:~# cinder list
```

ID	Status	Display Name	Size	Volume Type	Bootable	Attached to
19a79-85f9	in-use	CEE+cic-1+/dev/image/glance	100	None	false	...
66a5ae-ba22	in-use	CEE+cic-3+/dev/image/glance	100	None	false	...
7c9fd2-b492	in-use	CEE+cic-2+/dev/image/glance	100	None	false	...

Example 13 Cinder list

If the Swift store on ScaleIO is already activated, then a Cinder volume must be found for each vCIC, with the following naming convention:

CEE+<cic_name>+<lv_path>

where

- cic_name is the name of the vCIC
- lv_path is the path of the logical volume

If the Cinder volumes do not exist, then the Swift Store on ScaleIO feature is not activated and the expansion cannot be performed. Activate first the feature by performing the actions in [Swift Store on ScaleIO Activation](#).

7.4 Configurable Storage Connector Parameters

Some storage connector parameters can be configured according to local requirements in the file `/etc/backend_storage_connector.conf`. The configurable parameters and the default values of the parameters are listed in Table 1.

Table 1 Storage Connector Parameters

Parameter	Default value	Description
<volume_wait_timeout>	1800	Maximum time to wait in seconds until a created cinder volume has status available
<volume_wait_time>	10	Scan interval in seconds checking for volume status
<volume_deletion_timeout>	600	Maximum time to wait in seconds until the deleted cinder volume or volumes are not found anymore using Openstack commands ⁽¹⁾⁽²⁾
<volume_deletion_time>	10	Scan interval in seconds checking for cinder volume deletion
<retry_vol_create_on_error>	True	If value True is set, volumes in error status are deleted and re-created ⁽¹⁾⁽²⁾
<log_path>	<code>/var/log/backend-storage-connector.log</code>	Path to log file
<astute>	<code>/etc/swift_backend_astute.yaml</code>	Path to astute file
<use_multipath>	False	This parameter is not applicable for Swift on ScaleIO



Table 1 Storage Connector Parameters

Parameter	Default value	Description
<supported_storage_type>	scaleio	
<external_path_list>	/dev/scini, /dev/disk /by-id/emc-vol	
<swift_logical_volume_path>	/dev/image/glance	
<supported_logical_volume_path>	/dev/image/glance	

(1) Used only in repair mode

(2) In repair mode volumes are deleted and re-created. Due to the latency of the backend storage system, when deleting volumes, volume creation can fail if the backend storage system has limited capacity. In this case, the created volumes end up in error status. The number of retries and the time interval are automatically calculated depending on the size of the volume.



Reference List

- [1] IP and VLAN plan, 2/102 62-CRA 119 1862/5 Uen