OpenStack FusionStorage Driver Configuration Guide

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Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: http://www.huawei.com

Email: support@huawei.com

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1 Overview

This chapter describes the definition of Cinder Driver.

Cinder Driver is a plug-in that is deployed on the OpenStack Cinder module. The plug-in can be used to provide functions such as the logical volume and snapshot for virtual machines (VMs) in OpenStack.

2 Version Mappings

This chapter describes the version mappings among Cinder Driver, FusionStorage, and OpenStack.

Version mapping between OpenStack and storage products

OpenStack Version	Storage Product Version
Rocky	FusionStorage 6.3

You can query the version mapping table of eSDK plug-ins to obtain the storage system versions. To obtain the version mapping table, log in to **http://support.huawei.com/enterprise/en/index.html**. In the search box, enter **eSDK Cloud Storage Plugins** to search for and download the *eSDK Cloud Storage Plugins x.x.xxx Version Mapping*. *x.x.xxx* indicates the version number.

Mappings among Cinder Driver, features, and the OpenStack version (√ : supported, x: not supported)

Feature	Rocky
Create Volume	√
Delete Volume	√
Attach Volume	√
Detach Volume	√
Extend Volume	√
Create Snapshot	√
Delete Snapshot	√
Create Volume from Snapshot	√
Create Volume from Image	√
Create Volume from Volume	√

Feature	Rocky
Create Image from Volume	√
SmartThin	√
Manage/Unmanage Volume	√
Manage/Unmanage Snapshot	√
Volume Migration	x
QoS	x
Auto zoning	x
SmartTier	x
SmartCache	x
SmartThick	x
SmartPartition	x
HyperMetro	x
Retype	x
Replication V2.1	x
HyperMetro Consistency Group	x
Backup Snapshot	x
Snapshot Consistency Group	x
Multipath	x
Consistency Group	x

3 Deployment

To obtain the operating systems supported by FusionStorage Block 6.3, access **http://support-open.huawei.com/en/**, choose **Interoperability Center** > **Storage Interoperability**, set **Storage System** to **FusionStorage** and **Storage Service Type** to **Block**, and select the desired operating system. The following uses Red Hat as an example to describe how to deploy Cinder Driver.

3.1 Obtaining Cinder Driver

Two ways to obtain FusionStorage OpenStack Driver:

One is through the OpenStack community warehouse. Since Rocky, Huawei has contributed Huawei Storage Driver to OpenStack, so that users can download FusionStorage OpenStack Driver from the OpenStack community for free. After installing the specified OpenStack version, FusionStorage OpenStack Driver will be placed under directory *../cinder/cinder/volume/drivers/fusionstorage*. If you cannot find the corresponding installation files, you can download FusionStorage OpenStack Driver from the OpenStack community warehouse at **https://github.com/openstack/cinder**.

The other is through the Huawei OpenStack Driver warehouse. By visiting **https://github.com/huaweistorage/FusionStorage_OpenStack_Driver**, you can download FusionStorage OpenStack Driver that corresponds to OpenStack community version.

3.2 Red Hat Environment Deployment

Red Hat OpenStack deployment steps are as follows:

Step 1 Before installation, delete all the installation files of Huawei OpenStack Driver. The default installation path is **/usr/lib/python2.7/site-packages/cinder/volume/drivers/fusionstorage**.

NOTE

On the host, the version of Python is 2.7. If another version is used, use the correct version number. You can obtain the Cinder Driver installation directory by running the following commands:

```
root@redhatL004:~# find / -name dsware.py
/usr/lib/python2.7/dist-packages/cinder/volume/drivers/fusionstorage/dsware.py
```


Step 2 Copy OpenStack Cinder Driver to the Cinder Driver installation directory.

Step 3 Make configuration by referring to **4 Configuring Basic Properties**.

Step 4 After configuration, restart the Cinder-Volume service by running the following command:

```
systemctl restart openstack-cinder-volume.service
```

Step 5 Check the status of service restart by running the **cinder service-list** command. If **State** is **up**, the Cinder-Volume service has been restarted.

```
root@redhat:/# cinder service-list
  +------------------+----------------------------+------+---------+-------
+----------------------------+-----------------+
  |      Binary      |        Host                | Zone |  Status | State
|         Updated_at         | Disabled Reason |
  +------------------+----------------------------+------+---------+-------
+----------------------------+-----------------+
  |  cinder-volume |  redhat@fusionstorage     | nova | enabled |  up |
2018-09-03T07:56:02.000000 |        -        |
  +------------------+----------------------------+------+---------+-------
+----------------------------+-----------------+
```

----End

4 Configuring Basic Properties

This chapter describes how to configure the FusionStorage Cinder Driver.

4.1 Configuring a conf File

At the end of **/etc/cinder/cinder.conf**, configure the FusionStorage back end with DSWAREDriver. **volume_driver** indicates the loaded driver file, **volume_backend_name** indicates the name of the back end, each row of **manager_ips** indicates the name and IP address of an FSA host, **rest_url** indicates the IP address of an FSM, **user_name** and **password** are the login information of the FSM, and **storage_pools** indicates the storage pools name on the FSM. For details, see **Table 4-1**.

NOTE

Ensure that both the owner and user group of **/etc/cinder/cinder.conf** are **cinder**.

```
-rw-r--r--  1 cinder cinder 2839 Aug 29 15:29 cinder.conf
```

Step 1 Add the FusionStorage back end. Configure parameters for the back end according to **Table 4-1**.

```
[fusionstorage]
volume_backend_name = fusionstorage
volume_driver = cinder.volume.drivers.fusionstorage.dsware.DSWAREDriver
manager_ips =
    xx: x.x.x.x,
    xx: x.x.x.x
rest_url = https://x.x.x.x:28443
user_name = xxx
password = xxx
storage_pools = xxx1;xxx2;xxx3
```

Step 2 In the **[DEFAULT]** section, configure the FusionStorage back end.

```
[DEFAULT]
 ...
enabled_backends = fusionstorage
```

----End

4.2 conf Configuration File Parameters

Table 4-1 Parameter description

Parameter	Description	Mandatory
volume_backend_name	Back end name of the default driver.	Yes
volume_driver	Default driver.	Yes
manager_ips	Management host name and its corresponding IP address. ':' is preceded by a host name, and followed by the corresponding host IP address. Each IP host is separated using commas (,). Add spaces at the start of each row.	Yes
rest_url	URL and port number used by the Cinder node to access FusionStorage.	Yes
user_name	User name used by the Cinder node to access FusionStorage.	Yes
password	Password used by the Cinder node to access FusionStorage.	Yes
storage_pools	Names of existing storage pools on FusionStorage.	Yes

