TECHNICAL NOTE

CONFIGURING iSCSI

OCTOBER 2009

You can use your iSCSI storage network in your STRM or STRMLM deployment. This document provides information on configuring and using iSCSI devices with your deployment. Unless otherwise noted, all references to STRM refer to both STRM and STRMLM.

Note: *Your network configuration may differ, however, for the purposes of the document, we assume that your management interface is ETH0 and your iSCSI interface is ETH1*

Caution: *The procedures in this document assumes an advanced knowledge of a Linux operating system. For assistance, please contact Juniper Networks Customer Support.*

Note: *STRM supports the LeftHand storage solution. Before you prepare STRM, the LeftHand storage solution should be connected and configured. For more information about LeftHand, refer to your LeftHand documentation.*

To configure iSCSI, you must:

Step 1 Prepare STRM to connect to the iSCSI network. See Preparing STRM to Connect to iSCSI Network.

Step 2 Assign and configure the iSCSI volumes. See Assigning and Configuring iSCSI Volumes.

Step 3 Migrate the /store directory to the iSCSI storage solution. See Migrating /store to the iSCSI Storage Solution.

Step 4 Configure the system to auto-mount the iSCSI volume. See Configuring the System to Auto-mount the iSCSI Volume.

Step 5 Verify the iSCSI mount. See Verifying the iSCSI Mount.

Preparing STRM to Connect to iSCSI Network

To prepare STRM to connect to an iSCSI network:

Step 1 From the Admin interface, configure a secondary network interface with a private IP address to connect to the iSCSI SAN.

Note: *Network interface address information, from your SAN network manager, is required. For more information on configuring a network interface, see the STRM Administration Guide.*

Step 2 Log into STRM as root.

Step 3 Open the following file:

`/etc/iscsi/initiatorname.iscsi`

Step 4 Add the iSCSI qualified name for your host to the initiatorname.iscsi file in the following format:

`iqn.<yyyy-mm>.{reversed domain name}:<hostname>.<directoryname>`

For example:

`InitiatorName=iqn.2008-11.com.q1labs:pl13`

Step 5 Save and close the file.

Step 6 Enter the following command to start/restart the iSCSI service to open a session to the server:

`service iscsi restart`

You are now ready to assign and configure the iSCSI volumes. See Assigning and Configuring iSCSI Volumes.

Assigning and Configuring iSCSI Volumes

To assign and configure iSCSI volumes:

Step 1 Detect volumes on the iSCSI server:

`iscsiadm -m discovery --type sendtargets --portal <IP address>:<port>`

Where:

`<IP address>` is the IP address of the iSCSI server.

`<port>` is the port number of the iSCSI server. This is an optional parameter.

A list of iSCSI volumes available to your host appears. The output should resemble the following:

```
172.16.151.142:3260,1 iqn.2008-10.lab.q1labs:iscsiVol
```

Step 2 Make sure the login for your iSCSI server is functional:

`iscsiadm -l -m node -T <target iqn name>`

The output from this command should resemble:

```
sLogging in to [iface: default, target:
iqn.2008-10.lab.q1labs:iscsiVol, portal: 172.16.151.142,3260]
Login to [iface: default, target:
iqn.2008-10.lab.q1labs:iscsiVol, portal: 172.16.151.142,3260]:
successful
```

Step 3 Make sure your STRM system detects the new disks:

`dmesg | tail -20 | grep 'Attached'`

The output from this command should resemble:

sd 0:0:1:0: Attached scsi disk sdb

Step 4 To reformat the volume, if it has not previously been used, choose one of the following:

a Create a partition.

For information about creating a partition, see you Linux documentation.

b Reformat the volume using a volume label:

`mkfs.ext3 -l <volume label> /dev/sdc1`

c Reformat the volume without a volume label:

`mkfs.ext3 /dev/sdc1`

Caution: *If the volume has been used before, do not reformat the volume if you want to retain the data already on the volume.*

Note: *You can create one or more partitions on the volume and mount them separately. If the new volume is larger than 2 TB, you must create a GPT partition. If you are using Red Hat Enterprise Linux, the new volume must be smaller than 2 TB.*

You are now ready to migrate the /store directory to the iSCSI storage solution. See Migrating /store to the iSCSI Storage Solution.

Migrating /store to the iSCSI Storage Solution

To migrate /store to the iSCSI storage solution:

Step 1 Stop the services in the following order:

`service systemStabMon stop`

`service hostcontext stop`

`service tomcat stop`

`service imq stop`

`service postgresql stop`

Step 2 Unmount /store/tmp:

```
umount /store/tmp
```

Step 3 Unmount your existing /store directory:

```
umount /store
```

Step 4 Create the /store_old directory:

```
mkdir /store_old
```

Step 5 Open the following file:

```
/etc/fstab
```

Step 6 Duplicate the existing /store mount lines:

```
LABEL=/store /store ext3 defaults noatime 1 2
LABEL=/store /store ext3 noatime 1 2
```

Step 7 Modify one of the duplicate lines to match:

```
LABEL=/store /store_old ext3 noatime 1 2
```

Step 8 Modify the other duplicated line. Choose one of the following:

a If you reformatted the volume using a volume label:

```
LABEL=<volume label> /store ext3 noatime,noauto 0 0
```

b If you reformatted the volume without a volume a label:

```
/dev/sdc1 /store ext3 noatime,noauto  0 0
```

Step 9 Save and close the file.

Step 10 Mount the new iSCSI /store:

```
mount /store
```

Step 11 Mount the old /store:

```
mount /store_old
```

Step 12 Copy the data from the existing /store to the /san directory.

```
cp -af /store_old/* /store
```

Step 13 Re-mount /store/tmp:

```
mount /store/tmp
```

Step 14 Unmount /store_old:

```
umount /store_old
```

Step 15 Restart the services in the following order:

```
service postgresql restart
service imq restart
service tomcat restart
service hostcontext restart
service systemStabMon restart
```

Note: *For most situations, you only need to mount a single /store on you iSCSI storage solution. If, however, you need a different configuration for your iSCSI mount points, contact Customer Support.*

You are now ready to configure the system to automatically mount the iSCSI volume. See Configuring the System to Auto-mount the iSCSI Volume.

Configuring the System to Auto-mount the iSCSI Volume

To configure the system to auto-mount the iSCSI volume:

Step 1 Open the following directory:

```
cd /etc/rc3.d
```

Step 2 Add the iSCSI script to be part of the startup.

For example:

```
chkconfig --add iscsi
chkconfig --level 345 iscsi on
```

Step 3 Create a link to /opt/qradar/init/iscsi-mount script from the /etc/init.d directory:

```
ln -s /opt/qradar/init/iscsi-mount /etc/init.d
```

Step 4 Add iscsi-mount script to be part of the startup:

For example:

```
chkconfig --add iscsi-mount
chkconfig --level 345 iscsi-mount on
```

You are now ready to verify the iSCSI mount. See Verifying the iSCSI Mount.

Verifying the iSCSI Mount

To verify that the iSCSI mounts properly:

Step 1 Enter the following command:

```
df -h
```

Step 2 Review the screen output and look for the newly added volume.

For example:

```
# df -h
Filesystem Size Used Avail Use% Mounted on
/dev/sda2   12G 5.4G 6.5G 46% /
/dev/sda1   99M  50M  44M 54% /boot
/dev/sda3   11G 406M 9.7G  4% /var/log
/dev/sdc1  910G 558M 663G  1% /store
/dev/sda5   10G  33M  10G  1% /store/tmp
#
```

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