



Creating a Hot Spare Server for the Cobalt Raq550

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WARNING: Be sure to apply all updates prior to beginning this procedure. In particular, both machines must have all patches so that they match. UNMATCHED SYSTEMS MAY NOT HAVE STABLE RESULTS!

Automated Setup

This process allows you to check out a set of scripts from our CVS repository and then run the setup program. This is the easiest way to accomplish a Hot Spare Server; however, there are a few reasons why you would NOT want to do this.

- You are not running the default configuration of the Raq550 OS
- You would rather create a derivative of this procedure
- You would like to know exactly what is being done to your server
- You would like the practice of setting this up manually
- If litigation is a hobby of yours and you would consider legal action against us if it doesn't work exactly the way you expect. (Consider this a disclaimer)

Primary System

1. Telnet or SSH into the Raq550 server.
2. Super User to the root user
`su - root`
3. Verify you are in the `/root` directory
`pwd`
4. Login to the CVS repository
`cvs -d :pserver:anonymous@cvs.internetworkflow.com:/usr/cvsroot login`
password: anoncvs
5. Checkout the setup scripts from the repository
`cvs -d :pserver:anonymous@cvs.internetworkflow.com:/usr/cvsroot checkout`
`Raq550/HotSpare`
6. Execute the setup script for the primary server
`./Raq550/HotSpare/setup primary`

Failover System

1. Repeat the Steps 1-5 of the Automated Setup for the Failover Server above
2. Execute the setup script for the failover server
`./Raq550/HotSpare/setup failover`

Manual Setup

This process walks you through the manual creation of a Raq550 Hot Spare system. This procedure assumes some knowledge of how to get around in linux as copying, moving and editing files is required. If you don't know how to do this stuff, you had better just stick with the automated version above.

Primary System

Basically, this installs the rsync service so that the failover machine can synchronize with it. Other than that, the primary machine is left untouched so as to be as unintrusive as possible.

1. Add the following line to `/etc/inetd.conf`
`rsync stream tcp nowait root /usr/bin/rsync rsync -daemon`
2. Create the file `/etc/rsyncd.conf`
The IP Address in this example should be replaced with the IP for your **Failover Server**

Example:

```
#!/etc/rsyncd.conf
max connections = 5
log file = /var/log/rsync.log
timeout = 300
strict modes = false

[home]
    comment = Home Directory
    path = /home
    read only = yes
    list = yes
    uid = root
    gid = root
    hosts allow = {IPADDR}
    hosts deny = *

[etc]
    comment = Configuration Directory
    path = /etc
    read only = yes
    list = yes
    uid = root
    gid = root
    hosts allow = {IPADDR}
    hosts deny = *

[var]
    comment = Var Directory
    path = /var
    read only = yes
    list = yes
    uid = root
    gid = root
    hosts allow = {IPADDR}
    hosts deny = *

[usr]
    comment = User Directory
    path = /usr
    read only = yes
    list = yes
    uid = root
    gid = root
    hosts allow = {IPADDR}
    hosts deny = *
```

3. Restart the inet service

```
/etc/rc.d/init.d/inet restart
```
4. Set the max number of filehandles to larger than the default by adding the following lines to `/etc/rc.d/rc.sysctl` just before the `exit 0` command:

```
# we want to set the max number of file handles to 32K
if [ -e /proc/sys/fs/file-max ]; then
    echo 32768 > /proc/sys/fs/file-max
fi
exit 0
```

Failover System

1. Create the file `/bin/synchronize.sh`
The IP Address in this example should be replaced with the IP for your **Primary Server**

Example:

```
#!/bin/bash
echo "Starting Synchronization `date`"
echo "Synchronizing Home Directory"
rsync -aHlpogDtvz --delete rsync://root@{IPADDR}/home /home
echo "Synchronizing usr Directory"
rsync -aHlpogDtvz --delete rsync://root@{IPADDR}/usr /usr
echo "Synchronizing etc Directory"
rsync -aHlpogDtvz --delete rsync://root@{IPADDR}/etc /etc.backup
echo "Synchronizing var Directory"
rsync -aHlpogDtvz --delete --exclude=log rsync://root@{IPADDR}/var /var
echo "Synchronization Complete `date`"
```

2. Move the `/etc` directory to be `/etc.orig`

```
mv -f /etc /etc.orig
```
3. Create a Symbolic Link for the `/etc` directory

```
ln -s /etc.orig /etc
```
4. Create the `/etc.backup` directory

```
mkdir /etc.backup
```
5. Create the file `/bin/failover`

Example:

```
#!/bin/bash
rm /etc
ln -s /etc.backup /etc
reboot
```

6. Create the file `/etc/logrotate.d/rsync`

Example:

```
/var/log/rsync.log {
    notifempty
    weekly
    rotate 3
    missingok
    compress
}
```

7. Create the file `/etc/cron.hourly/synchronize`

Example:

```
nohup synchronize.sh >>/var/log/rsync.log 2>&1 &
```

8. Set Permissions for Executables

```
chmod 755 /bin/failover  
chmod 755 /bin/synchronize.sh  
chmod 755 /etc/cron.hourly/synchronize
```

Initiating and Recovering from a Failover Condition

see [Cobalt Raq550 Failover & Recovery](#)