Hot Copy and CDP 2.0 Linux Agent

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Using Hot Copy on the same Linux server where a 2.0 CDP Linux Agent is installed.

Compatibility

The Hot Copy program (hcp) Can be installed on the same server where a CDP 2.0 Linux Agent is installed.

You can NOT have the Hot Copy device driver And the 2.0 CDP Linux device driver loaded into the kernel AT THE SAME TIME. Doing so will cause your CDP 2.0 Linux backups to fail.

Hot Copy is an early release of the snapshot driver included in the new Continuous Data Protection 3.0 version. In Linux CDP there are two main functions of the CDP device driver. Point-in-time snap shots and near-Continuous delta computation using a block device filter. Hot Copy includes only the point-in-time snapshot functionality. The 2.0 CDP driver and 3.0 Hot Copy snapshot driver both attempt to filter disk I/O on disks where CDP is enabled or where Hot Copies have been created. The Linux kernel does not have built-in support for Volume filter drivers which is commonly found in the Windows kernel since Windows 95 and Windows NT 3.0 To overcome this limitation in Linux R1Soft uses a technique of redirecting disk I/O through the CDP or Hot Copy device driver. This method does not support "stacked" or multiple filter drivers at once. This is the technical reason why it is not possible to use Hot Copy and 2.0 CDP at the same time.

Background

Hot Copy is a complete re-design of the snapshot functionality in Linux CDP. A small number of 2.0 CDP Linux users reported that on a small number of specific environments the 2.0 snapshot driver did not perform well. To overcome this we completely re-designed how we do Linux point-in-time snapshots and we have successfully overcome. At the same time we have made MASSIVE performance improvements not only in maintaining the point-in-time snapshot but also in the read performance of reading raw blocks from the disk. We have also added the ability to have writable snapshots which is the basis for including/excluding files and folders in the 3.0 CDP product. See TP:The Story of 3.0 File and Folder Excludes. This is something that is not possible in our CDP 2.0 product.

How To Use Hot Copy and CDP 2.0 On The Same Server

If You Are Running 2.0 CDP Linux Agent and Would Like to Install Hot Copy

If you are using CDP 2.0 on a Linux Server and would like to create a Hot Copy

1. Download and Install the hcp command line utility. See steps 1) and 2) in Installing Hot Copy
2. Make sure there are no running backups.
3. Unload the 2.0 CDP device driver

```
# rmmod backupdriver
```

   If this command fails than there is a running backup task on this Agent.

4. Complete step 3) in Installing Hot Copy
5. You are ready to take Hot Copies

```
# hcp /dev/DEVICE
```

If You Are Running 2.0 CDP Linux Agent And Already Have Hot Copy Installed

Follow these steps if you are running the 2.0 Linux CDP Agent and already have the Hot Copy command line utility installed.

1. Make sure there are no running backups.
2. Unload the 2.0 CDP device driver

```
# rmmod backupdriver
```

   If this command fails than there is a running backup task on this Agent.

3. You are ready to take Hot Copies

```
# hcp /dev/DEVICE
```

Resuming 2.0 CDP After Hot Copy

If you are done using Hot Copy and Would like to Resume 2.0 CDP

1. See if there are any active Hot Copies still running.

```
# hcp -l
```

2. If you have Hot Copies active remove each one of them. Where DEVICE is there device you made a Hot Copy of listed in the output of hcp -l or the actually Hot Copy device itself (e.g. /dev/hcp1)

```
# hcp -r /dev/DEVICE
```

3. Unload the Hot Copy Device Driver

```
# rmmod hcpdriver
```

   If this command fails than there are still active Hot Copies

4. Restart or Start the R1Soft Linux Agent

```
#/etc/init.d/buagent restart
```

5. You are ready to resume 2.0 CDP Backups

CDP 3.0 and Newer Versions

Versions of CDP starting with 3.0 and greater use the same device driver for snapshots as Hot Copy. You can use Hot Copy at the same time as CDP on Linux with versions 3.0 and newer. Meaning you can take a CDP backup of a disk that also has an active Hot Copy. In this case two Hot Copies will exist. The first Hot Copy manually created via hcp on the command line before the CDP synchronization took place. And a temporary Hot Copy created during the CDP synchronization process that is removed after the synchronization is complete.

To run CDP and Hot Copy on the same server it is required that Hot Copy allow multiple Hot Copies active at the same time for the same disk. The Hot Copy Beta does not currently support multiple Hot Copies concurrently on the same disk. We decided to release Hot Copy without the concurrent snapshot support. The ability to run multiple Hot Copies per disk will be released at a later date in conjunction with CDP.

REPORTING BUGS

Report bugs to http://forum.r1soft.com