Linux Agent - Error - Replication Driver Missing

An exception occurred during the request. Replication driver missing; Unable to open driver at '/dev/hcp'; No such device or address.

This error indicates that the CDP Agent kernel driver is not installed for the running kernel on the agent's Operating System. This can happen when the agent OS is rebooted into a new kernel after running an upgrade (usually `apt` or `yum`). Or this can occur if you have not installed a CDP Agent kernel driver after the initial install of the CDP Agent.

Resolution

Each time a new kernel is installed on a Linux CDP Agent or upon the first time installing the CDP Agent, you must ensure that you have a CDP Agent kernel driver for your current running kernel. You can install a kernel module for the agent by using the r1soft-setup utility, after verifying that you have the kernel-devel or kernel-headers in the Linux OS that match your current running kernel.

> **Note**
> Please refer to your Linux distribution documentation for more information about kernel devel and kernel headers http://wiki.r1soft.com/display/CDP3/r1soft-setup

You can install a kernel module for your running agent by using the 'r1soft-setup' utility, after ensuring that you have the kernel-devel (Redhat/CentOS) or kernel-headers (Debian/Ubuntu) package installed for your current running kernel. There are 3 common types of Redhat based kernel-devel packages that contain the kernel header and source files needed. (kernel-devel, kernel-xen-devel, kernel-PAE-devel) You must match the proper package to your running kernel type.

To find the current running kernel run:

```
uname -r

Example:
[root@CloudLinux6 ~]# uname -r

2.6.32-379.1.1.lve1.1.7.6.el6.x86_64
```

To find what kernel and kernel-devel packages you have installed on a Redhat based system you can use an RPM query like this: (note: the kernel and kernel-devel package versions must

match exactly in order to build the correct CDP Linux Agent kernel driver module)

```
rpm -qa | grep kernel

Example: (note the 2nd and last line in this output, the kernel and kernel-devel are the exact same version)
[root@CloudLinux6 ~]# rpm -qa | grep kernel

kernel-2.6.32-320.4.1.lve1.1.4.el6.x86_64
kernel-2.6.32-379.1.1.lve1.1.7.6.el6.x86_64
dracut-kernel-004-284.el6_3.noarch
kernel-firmware-2.6.32-379.1.1.lve1.1.7.6.el6.noarch
kernel-2.6.32-231.17.1.lve0.9.16.x86_64
kernel-devel-2.6.32-320.4.1.lve1.1.4.el6.x86_64
kernel-devel-2.6.32-379.1.1.lve1.1.7.6.el6.x86_64
```

To force a custom build using your kernel headers and source files (the '--no-binary' option tells the kernel build server to build a custom kernel driver and not search for a pre-built kernel driver):

```
r1soft-setup --get-module --no-binary
```

After you have successfully acquired a CDP Agent kernel driver you will need to restart the agent to load the module:

```
/etc/init.d/cdp-agent restart
```

Then you can check that the module is loaded properly with the lsmod command in Linux.
http://linux.die.net/man/8/lsmod

```
lsmod | grep hcpdriver

Example:
[root@CloudLinux6 ~]# lsmod | grep hcpdriver

hcpdriver           602516  4
```

Additional information about the kernel module is located at directory listed below.

```
/lib/modules/r1soft

Example:
[root@CloudLinux6 ~]# ll /lib/modules/r1soft/
total 3676
-rw-r--r-- 1 root root 1867622 May 14 11:23 hcpdriver-cki-2.6.32-320.4.1.lve1.1.4.el6.x86_64.ko
-rw-r--r-- 1 root root 1890526 Aug 12 10:01 hcpdriver-cki-2.6.32-379.1.1.lve1.1.7.6.el6.x86_64.ko
lrwxrwxrwx 1 root root      73 Aug 12 10:01 hcpdriver.o -> /lib/modules/r1soft/hcpdriver-cki-2.6.32-379.1.1.lve1.1.7.6.el6.x86_64.ko
```

Note
Note that the hcpdriver.o file has a symbolic link to the real kernel driver file. This symbolic link allows CDP to call the file without needing to know the name of the real kernel driver file as it will change each time the kernel is upgraded and a new CDP Linux Agent kernel driver is built.
+Example:+ls -l /lib/modules/r1soft
total 112
1 root root 114618 2011-09-26 12:58 hcpdriver-cki-2.6.38-11-server.ko
1 root root 53 2011-10-10 10:32 hcpdriver.o ->
/lib/modules/r1soft/hcpdriver-cki-2.6.38-11-server.ko

You can obtain additional information about the kernel modules such as the version that the module is built for by using the modinfo command in Linux.
http://linux.die.net/man/8/modinfo

```
root@shell:/lib/modules/r1soft# modinfo hcpdriver-cki-2.6.38-11-server.ko
filename: hcpdriver-cki-2.6.38-11-server.ko
version: 4.1.1 build 13785
license: Proprietary
description: Linux Hot Copy Driver
author: Michael Brumlow
depends:
vermagic: 2.6.38-11-server SMP mod_unload modversions
```

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