

Updating the kernel and rocks-boot to support newer machines in the sand boa (6.1.1) rockcluster.

Step 1.

Bring the kernel from 2.6.32-431 to kernel 2.6.32-696 (current update) in the head node with:

```
# yum --enablerepo base upgrade kernel    (upgrades kernel on head node)
# cp /var/cache/yum/base/packages/kernel*.rpm /export/rocks/install/contrib/6.1.1/x86_64/RPMS/
# cp /var/cache/yum/base/packages/dracut*.rpm /export/rocks/install/contrib/6.1.1/x86_64/RPMS/
# cd /export/rocks/install
# rocks create distro
# reboot
```

OBS: list of packages in the export RPM folder

```
dracut-004*.rpm
dracut-kernel-004*.rpm
kernel-2.6.32-*.el6.x86_64.rpm
kernel-firmware-2.6.32-*.el6.noarch.rpm
```

OBS: See F.A.Q if the copies of the rpm files fail.

Optional: reinstall at least one compute node *to verify if it loads correctly* with the new kernel.

```
# rocks list host
# rocks run host compute "/boot/kickstart/cluster-kickstart"
```

Step 2.

Build the kernel to create a new booting Rocks utility on the Head Node. To accomplish this task, get the new kernel from Rocks Git Repo:

https://github.com/rocksclusters-attic/kernel/tree/ROCKS_6_1_1

- seek for clone or download → download zip (zip name: kernel-ROCKS_6_1_1.zip size: 55,3MB)

or download using wget (as described below).

```
wget https://github.com/rocksclusters-attic/kernel/archive/ROCKS_6_1_1.zip
```

After the download, follow the steps below:

```
# cd /export/
# mkdir src
# cd src
```

put the downloaded kernel-ROCKS_6_1_1.zip file in /export/src/ folder and unzip the file with:

```
unzip ROCKS_6_1_1.zip
```

the folder kernel-ROCKS_6_1_1 will be created. Now enter in the following folder

```
# cd /export/src/kernel-ROCKS_6_1_1/src/rocks-boot
# make rpm    (takes a long time: around 20~40 minutes depending the cpu)
```

Step 3.

Now copy binary RPMs into the directory where the distribution building utility (rocks-dist) will find and include them. Then rebuild the Rock Cluster.

```
# cp /export/src/kernel-ROCKS_6_1_1/RPMS/x86_64/rocks-boot*
/export/rocks/install/contrib/6.1.1/x86_64/RPMS/
# cd /export/rocks/install
# rocks create distro
```

Install the newly created initrd.img-6.1.1-x86_64 and its matching kernel vmlinuz-6.1.1-x86_64 so the PXE boot node utility will get the new kernel.

```
# cd /export/rocks/install
# rpm -Uvh --force rocks-dist/x86_64/RedHat/RPMS/rocks-boot-6*.rpm
# cp /boot/kickstart/default/initrd.img-6.1.1-x86_64 /tftpboot/pxelinux/
# cp /boot/kickstart/default/vmlinuz-6.1.1-x86_64 /tftpboot/pxelinux/
```

Optional: Reinstall nodes

```
# rocks run host compute "/boot/kickstart/cluster-kickstart"
```

F.A.Q:

1) Q: Missing anaconda*tar.gz in step 2.

A: Wrong kernel-ROCKS*zip file. The correct one already has all necessary files and binaries. Correct size file around 55MB. See https://github.com/rocksclusters-attic/kernel/tree/ROCKS_6_1_1 for correct file.

**2) Q:Error:Package: kernel-2.6.32-*.el6.x86_64 (updates) Requires: dracut-kernel >= 004-*.el6
Installed: dracut-kernel-004-*.el6.noarch**

A: Missing dracut-kernel update in the /export/rocks/install/contrib/6.1/x86_64/RPMS/ folder

reinstall or download (see faq 3) dracut and dracut-kernel rpms, and copy the files to /export/rocks/install/contrib/6.1/x86_64/RPMS/ folder

3) If the system erases the packages after the update:

Sometimes, yum erases the packages after the install. As a result, it is not possible copy the necessary rpm files to the appropriate folder. To fix this problem, follow *one of* the steps below:

A: 1) Downloadonly plugin for yum Install the package including "downloadonly" plugin:

```
# yum install yum-plugin-downloadonly
Run yum command with "--downloadonly" option as follows:
```

```
# yum install --downloadonly --downloadaddir=<directory> <package>
Confirm the RPM files are available in the specified download directory.
```

Or:

2) Yumdownloader

If downloading a installed package, "yumdownloader" is useful.

Install the yum-utils package:

```
# yum install yum-utils
Run the command followed by the desired package:
```

```
# yumdownloader <package>
```