Hadoop Rocks
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Assumptions

Rocks is already configured and running

You manage the fuse kernel modules yourself

You attach hadoop.xml to your desired node type

- **/export/rocks/install/site-profiles/5.1/graphs/default/hadoop.xml**

Only one data directory per node

Namenode does not act as a data node

Components I

hadoop-0.9.0-4.el5.x86_64.rpm

- /opt/hadoop/*
- /etc/profile.d/hadoop.sh
- /etc/init.d/hadoop
- /etc/sysconfig/hadoop
- /usr/bin/hadoop-to-hostname.sh
- /usr/bin/hdfs
- /usr/bin/getPoolSize.sh

hadoop-firstboot-0.1-3.el5.noarch.rpm

- /etc/init.d/hadoop-firstboot
- Requires: hadoop
- Modifies /opt/hadoop/conf/*

Components II

fuse-2.7.4-8_10.el5.x86_64.rpm
fuse-libs-2.7.4-8_10el5.x86_64.rpm
(fuse-kmdl-2.6.18-91.1.22.el5-2.7.4-8_10.el5.x86_64.rpm)

/export/rocks/install/site-profiles/5.1/nodes/hadoop.xml

gridftp-hdfs-1.0.0-1.10.1u.el5.1.x86_64.rpm
/export/rocks/install/site-profiles/5.1/nodes/gridftp.xml

hadoop.xml

```
<package>hadoop-firstboot</package>
<package>hadoop</package>
<package>fuse</package>
<package>fuse-libs</package>

<post>
chkconfig hadoop-firstboot on
chkconfig hadoop on

# Update a few site-specific configurations
sed -i -e 's/^HADOOP_NAMENODE=.*/HADOOP_NAMENODE=compute-13-1/' \
      /etc/sysconfig/hadoop

# Create the fuse mount point and mount the hdfs automatically
mkdir /mnt/hadoop
echo "hdfs# /mnt/hadoop fuse server=compute-13-
    1,port=9000,rdbuffer=131072,allow_other 0 0" >> /etc/fstab
</post>
```

How to make it work

- Download files from http://ultralight.caltech.edu/~wart/hadoop/
- Copy rpms to /export/rocks/install/contrib/5.1/RPMS/x86_64
- Copy hadoop.xml to /export/rocks/install/site-profiles/5.1/nodes/hadoop.xml
- Modify namenode hostname, datanode data directory in hadoop.xml
- Copy gridftp.xml to /export/rocks/install/site-profiles/5.1/nodes/hadoop.xml
- Modify namenode hostname, datanode data directory in gridftp.xml
- Create /export/rocks/install/site-profiles/5.1/graphs/default/{gridftp,hadoop}.xml
- rocks create distro
- Kickstart the namenode
- Kickstart data/gridftp nodes

TODO

Use generic values as defaults in rpm to fish out caltech site-specific settings

- Find single place in rocks to define site-specific settings

Package BestMan and gridftp as rpms

Build hadoop rpm from source

Finish hadoop ganglia+MonALISA integration

Make a hadoop roll