

BATCH - Support #5397

Remove /minos/data/reco_near and reco_far from Bluearc

02/09/2014 07:24 AM - Arthur Kreymer

Status:	New	Start date:	02/09/2014
Priority:	High	Due date:	
Assignee:	Arthur Kreymer	% Done:	50%
Category:		Estimated time:	20.00 hours
Target version:		Spent time:	5.10 hours
Description			
/pnfs/minos filled Sat 2014-02-08			
We will remove all reco ntuples from Bluearc, as these 53 TB of files are available in DCache. This was discussed and approved at the January 2014 collaboration meeting			
At SLF6 (minos-slf6) files can be opened directly from /pnfs/minos/reco_* On other systems they can re copied with ifdh cp or dccc or			
Overall plan :			
1) remove dogwood1			
2) Demonstrate and document ifdh cp access to /pnfs/minos			
3) Announce a detailed schedule as noted in the Jan 2014 collaboration meeting.			
3) Stage each release to DCache for immediate user access, before removal			

History

#1 - 02/09/2014 08:29 AM - Arthur Kreymer

- Estimated time set to 20.00 h

Removed dogwood1 files, which have not been accessed recently.

Space :

Sun Feb 9 07:28:21 CST 2014

```
Filesystem      Size  Used Avail Use% Mounted on
blue3.fnal.gov:/minos/data
231T 229T 2.6T 99% /minos/data
```

```
5.1T /minos/data/reco_near/dogwood1
1.7T /minos/data/reco_far/dogwood1
```

File count :

```
find /minos/data/reco_near/dogwood1 -type f | wc -l
5609
find /minos/data/reco_far/dogwood1 -type f | wc -l
11755
```

Most recent access :

NEAR

```
find /minos/data/reco_near/dogwood1 -type f -atime -160
/minos/data/reco_near/dogwood1/sntp_data/2007-12/N00013060_0000.spill.sntp.dogwood1.0.root
```

days files

```
160 1
194 19
195 2242
```

FAR

```
find /minos/data/reco_far/dogwood1 -type f -mtime -507
/minos/data/reco_far/dogwood1/sntp_data/2012-09/F00049990_0000.cosmic.sntp.dogwood1.0.root
/minos/data/reco_far/dogwood1/sntp_data/2012-09/F00050009_0000.cosmic.sntp.dogwood1.0.root
```

```
days files
506 0
507 2
987 11
988 185
989 281
1170 644
1600 2962
1663 11755
```

VERIFY FILE SIZES IN PNFS

```
RP=reco_near/dogwood1
```

```
cd /minos/data/${RP}
FILES=`find . -type f | cut -f 2 -d /`
```

```
printf "${FILES}\n" | wc -l
5609
```

```
time {
for FILE in ${FILES} ; do
SB=`ls -l /minos/data/${RP}/${FILE} | cut -f 5 -d '`
SP=`ls -l /pnfs/minos/${RP}/${FILE} | cut -f 5 -d '`
if [ ${SB} -ne ${SP} ] ; then
echo OOPS
ls -l /minos/data/reco_near/dogwood1/${FILE}
ls -l /pnfs/minos/reco_near/dogwood1/${FILE}
fi
done
}
```

No problems reported

```
RP=reco_far/dogwood1
cd /minos/data/${RP}
FILES=`find . -type f | cut -f 2 -d /`
printf "${FILES}\n" | wc -l
11755
```

```
time
real 5m36.007s
user 0m17.922s
sys 1m39.820s
```

```
date
df -h /minos/data
time rm -r /minos/data/reco_near/dogwood1
df -h /minos/data
Sun Feb 9 08:19:15 CST 2014
231T 229T 2.6T 99% /minos/data
```

```
Rates were low, about 1.5 files per second.
Proceeded to clear reco_far in the background
```

```
set nohup ; rm -r /minos/data/reco_far/dogwood1 &
```

#2 - 02/10/2014 12:43 PM - Arthur Kreymer

- % Done changed from 0 to 10

Per discussion with Robert Hatcher, Alex Sousa and Rashid Mehdi, will proceed to remove reco files for dogwood0 and dogwood3 and mrnt files for dogwood5

These have not been accessed recently, and should not be needed in Bluearc.

<http://www.numi.fnal.gov/computing/dh/mdsum/2014/02/02.txt>

```
1940 reco_far/dogwood0/
1731 reco_far/dogwood1/
```

```
2011 reco_far/dogwood3/
```

```
3976 reco_near/dogwood0/  
5245 reco_near/dogwood1/  
4075 reco_near/dogwood3/
```

```
du -sh /minos/data/reco_near/dogwood5/mrnt_data  
732G /minos/data/reco_near/dogwood5/mrnt_data  
du -sh /minos/data/reco_far/dogwood5/mrnt_data  
128G /minos/data/reco_far/dogwood5/mrnt_data
```

#3 - 02/10/2014 05:39 PM - Arthur Kreymer

- % Done changed from 10 to 20

The dogwood0 and dogwood3 removals are running.

See /minos/data/users/minospro/maint/dog03-2014-rm.log

A few files were not present in PNFS, these are not being removed.

FILE COUNTS

```
for REL in dogwood0 dogwood3 ; do  
for DET in near far ; do  
printf "${DET}/${REL} "  
find /minos/data/reco_${DET}/${REL} -type f | wc -l  
done ; done
```

```
near/dogwood0 8857  
far/dogwood0 13492  
near/dogwood3 4592  
far/dogwood3 12310
```

ACCESS 200 days

```
for REL in dogwood0 dogwood3 ; do  
for DET in near far ; do  
printf "${DET}/${REL} "  
find /minos/data/reco_${DET}/${REL} -type f -atime -200 | wc -l  
done ; done
```

```
near/dogwood0 13  
far/dogwood0 0  
near/dogwood3 14  
far/dogwood3 33
```

CHECKING PNFS

```
for REL in dogwood0 dogwood3 ; do  
for DET in near far ; do  
DR=reco_${DET}/${REL}  
date  
printf "${DR} "  
cd /minos/data/${DR}  
FILES=`find . -type f | cut -f2 -d /`  
printf "${FILES}\n" | wc -l  
for FILE in ${FILES} ; do  
SB=`ls -l /minos/data/${DR}/${FILE} | cut -f 5 -d '`  
SP=`ls -l /pnfs/minos/${DR}/${FILE} | cut -f 5 -d '`  
if [ ${SB} -ne ${SP} ] ; then  
echo OOPS  
ls -l /minos/data/reco_near/dogwood1/${FILE}  
ls -l /pnfs/minos/reco_near/dogwood1/${FILE}  
exit  
fi  
done  
done ; done 2>&1 | tee /var/tmp/d03nfscan
```

Mon Feb 10 16:00:05 CST 2014

reco_near/dogwood0 8857

```
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-05/N00017947_0004.spill.mrnt.dogwood0.0.root: No such file or directory  
-bash: [: 505017831: unary operator expected  
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-11/N00018985_0005.spill.mrnt.dogwood0.0.root: No such file or directory  
-bash: [: 59217336: unary operator expected
```

```
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-11/N00018988_0004.spill.mrnt.dogwood0.0.root: No such file or directory
-bash: [: 697371055: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-05/N00017947_0004.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 330803293: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-05/N00017947_0004.spill.sntp.dogwood0.0.root: No such file or directory
-bash: [: 1279343752: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018985_0005.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 27425892: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018985_0005.spill.sntp.dogwood0.0.root: No such file or directory
-bash: [: 136015021: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018988_0004.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 333908957: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018988_0004.spill.sntp.dogwood0.0.root: No such file or directory
-bash: [: 1719916077: unary operator expected
Mon Feb 10 16:15:05 CST 2014
reco_far/dogwood0 13492
Mon Feb 10 16:25:18 CST 2014
reco_near/dogwood3 4592
Mon Feb 10 16:28:40 CST 2014
reco_far/dogwood3 12310
ls: /pnfs/minos/reco_far/dogwood3/sntp_data/2004-06/l.txt: No such file or directory
-bash: [: 9282: unary operator expected
```

```
ls /pnfs/minos/data/reco_far/dogwood3/sntp_data/2004-06/l.txt
rm -rf 1 nav e875 9282 Mar 1 2013 /pnfs/minos/data/reco_far/dogwood3/sntp_data/2004-06/l.txt
```

REMOVAL

Found a few files not in PNFS.
So remove only those that match :

minospro@minos27

```
{
for REL in dogwood0 dogwood3 ; do
for DET in near far ; do
DR=reco_${DET}/${REL}
date
printf "${DR} "
cd /pnfs/minos/data/${DR}
FILES=`find . type f | cut -f2 -d /`
printf "${FILES}\n" | wc -l
for FILE in ${FILES} ; do
SB=`ls -l /pnfs/minos/data/${DR}/${FILE} | cut -f 5 -d '`
SP=`ls -l /pnfs/minos/${DR}/${FILE} | cut -f 5 -d '`
if [ ${SB} -eq ${SP} ] ; then
rm /pnfs/minos/data/${DR}/${FILE}
fi
done
done ; done ; date
} 2>&1 | tee /pnfs/minos/data/users/minospro/maint/dog03-2014-rm.log
```

```
Mon Feb 10 17:12:37 CST 2014
reco_near/dogwood0 8857
...
```

#4 - 02/11/2014 08:40 AM - Arthur Kreymer

- % Done changed from 20 to 50

Full log of dogwood0/3 removal.
Files not in PNFS were noted and skipped.
Space from this removal should become available in 4 days, Fri Feb 14.

```
Mon Feb 10 17:12:37 CST 2014
reco_near/dogwood0 8857
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-05/N00017947_0004.spill.mrnt.dogwood0.0.root: No such file or directory
-bash: [: 505017831: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-11/N00018985_0005.spill.mrnt.dogwood0.0.root: No such file or directory
-bash: [: 59217336: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/mrnt_data/2010-11/N00018988_0004.spill.mrnt.dogwood0.0.root: No such file or directory
-bash: [: 697371055: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-05/N00017947_0004.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 330803293: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-05/N00017947_0004.spill.sntp.dogwood0.0.root: No such file or directory
```

```
-bash: [: 1279343752: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018985_0005.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 27425892: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018985_0005.spill.sntp.dogwood0.0.root: No such file or directory
-bash: [: 136015021: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018988_0004.cosmic.sntp.dogwood0.0.root: No such file or directory
-bash: [: 333908957: unary operator expected
ls: /pnfs/minos/reco_near/dogwood0/sntp_data/2010-11/N00018988_0004.spill.sntp.dogwood0.0.root: No such file or directory
-bash: [: 1719916077: unary operator expected
Mon Feb 10 17:54:54 CST 2014
reco_far/dogwood0 13492
Mon Feb 10 18:29:23 CST 2014
reco_near/dogwood3 4592
Mon Feb 10 19:00:15 CST 2014
reco_far/dogwood3 12310
ls: /pnfs/minos/reco_far/dogwood3/sntp_data/2004-06/l.txt: No such file or directory
-bash: [: 9282: unary operator expected
Mon Feb 10 19:30:51 CST 2014
```

#5 - 02/13/2014 08:48 AM - Arthur Kreymer

Space became available in /minos/data as scheduled.
More tomorrow.

```
MINOS27 > df -h /minos/data
Filesystem      Size  Used Avail Use% Mounted on
blue3.fnal.gov:/minos/data
231T 222T 9.6T 96% /minos/data
```

```
MINOS27 > date
Thu Feb 13 08:46:06 CST 2014
```