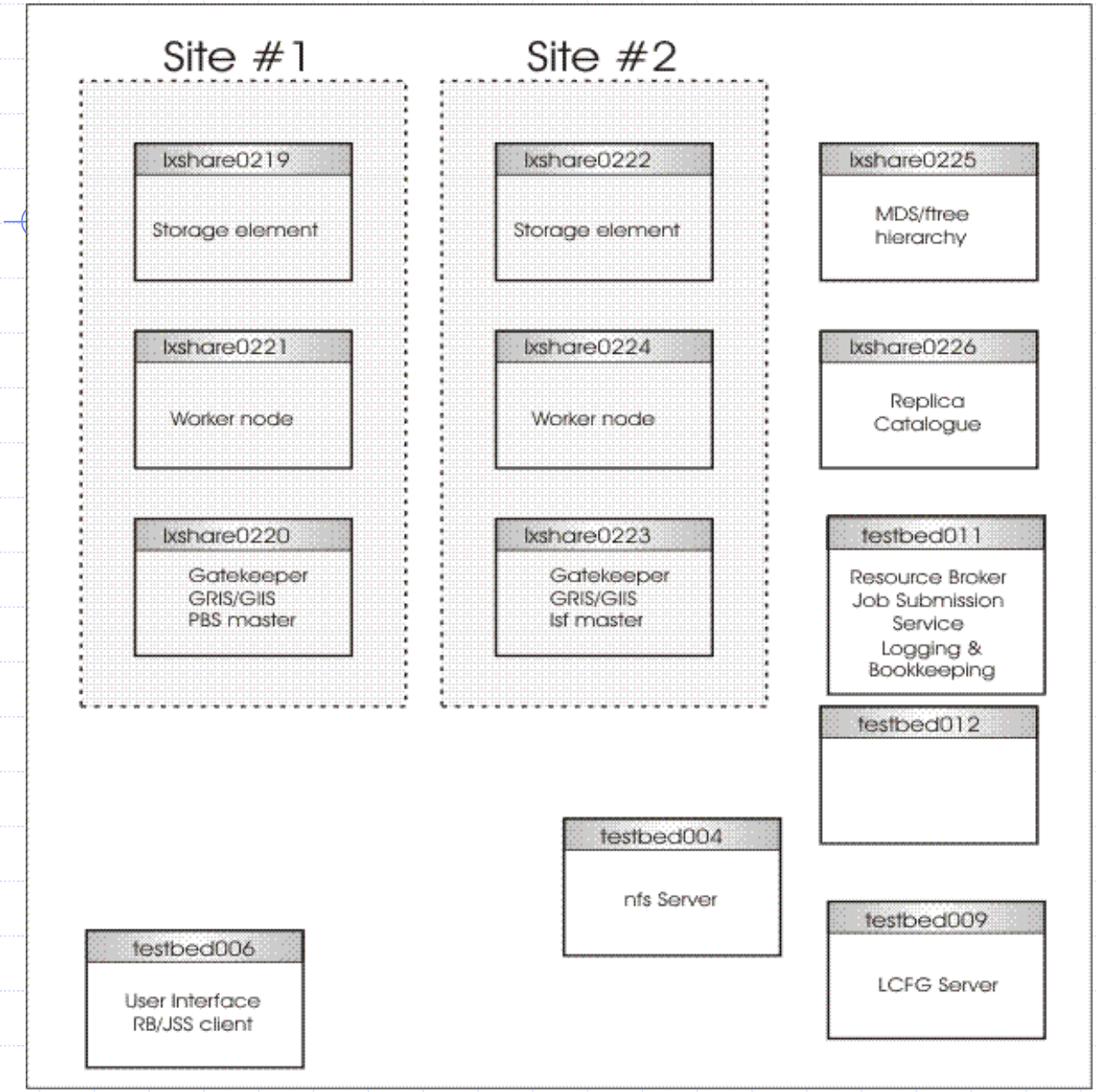
Testbed1 Status



+ CNAF

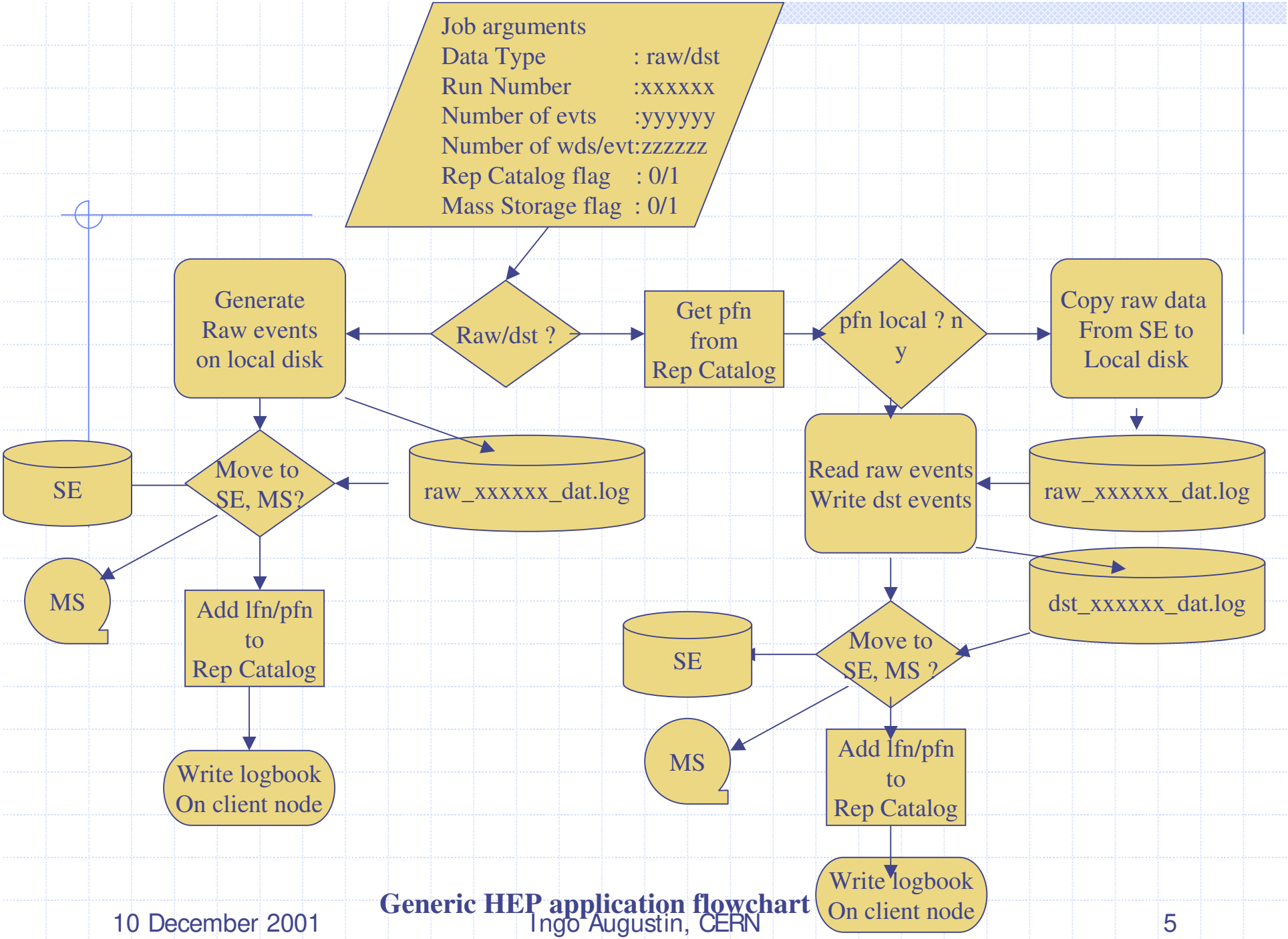
(since 9.12.01)

with 4 worker nodes

CNAF Site

- a user interface node (UI)
  grid008f.cnaf.infn.it
- a Resource broker node (RB)
  grid010g.cnaf.infn.it
- a CE gatekeeper node (CE)
  testbed002.cnaf.infn.it jobmanager-pbs

- worker nodes (WN) testbed003.cnaf.infn.it, 004, 005
- a storage element node (SE) testbed001.cnaf.infn.it
- a R.Catalog server node (RS) lxshare0226



Generic HEP application flowchart

The installation script running on the UI
uses globus-job-run and gsincftp to:

- create the directory structure on any gatekeeper
  /home/iteam002/VO1/SRC, /EXE, /DAT, /LOG ... at CERN1
  /home/iteam/VO1/SRC, /EXE, /DAT, /LOG ... at CNAF
- copy the source code and Makefile on any gatekeeper
  in /home/iteam002/VO1/SRC at CERN1
  in /home/iteam/VO1/SRC at CNAF
- copy the submit scripts on any gatekeeper
  in /home/iteam002/VO1/SRC at CERN1
  in /home/iteam/VO1/SRC at CNAF
- build the executable on any gatekeeper
  in /home/iteam002/VO1/EXE at CERN1
  in /home/iteam/VO1/EXE at CNAF

- The generic application test script running on the UIN uses either globus-job-submit to submit the job on the gatekeeper Computing Element (CE) which submits it on the worker node (WN) using the job-manager.
or dg-job-submit.
- The execution script submit_vo1.csh is passed via the InputSandbox

On the worker node the program performs the following steps: (for the data type raw, the application should generate raw data)

given an LFN raw_xxxxxx_dat.log

- check if a PFN is already registered in the Rep.Catalog
  - if a PFN exists => exit
  - if it does't exist => continue
- open a data file raw_xxxxxx_dat.log on the local disk /tmp of the WN
- generate and write events in the data file
- close data file
- open, write, close a logbook file /home/iteam002/VO1/LOG/book_raw_xxxxx.log

- copy the data file from the WN /tmp/ to the SE with globus-url-copy
  - in /home/flatfiles/ at CERN1
  - in /home/iteam002/VO1/DAT/ at CERN1
  - in /shared/TEST/ (not tested) at CNAF
  - with gsincftpput (no more core, no transfer)
- check if the file is copied on the SEN with gsincftpls gsiftp://$SE_NODE/
  - in /home/flatfiles/ at CERN1
  - in /home/iteam002/VO1/DAT/ at CERN
  - in /shared/TEST/ (not tested) at CNAF
- dg-job-status Job-id

Sample Job (JDL)

```
JDL FILE gridpawCNAF.jdl - Goal : Test basic PAW on the Grid @
    BOLOGNA-CNAF

Executable    = "/opt/cern/cms/cern/2000/bin/paw";
Arguments     = "-b testgrid";
StdOutput     = "stdoutput.log";
StdError      = "stderr.log";
OutputSandbox = {"stderr.log","stdoutput.log","testgrid.ps"};
InputSandbox =  {"pawlogon.kumac","testgrid.kumac"};
Requirements = member(other.RunTimeEnvironment,"CMS4.3");
```

Sample Job (Submission

```
[reale@testbed006 JDL]$ dg-job-submit gridpawCNAF.jdl
Connecting to host testbed011.cern.ch, port 7771
Transferring InputSandbox files...done
Logging to host testbed011.cern.ch, port 1
5830

========== dg-job-submit Success ============
 The job has been successfully submitted to the Resource Broker.
 Use dg-job-status command to check job current status. Your job
    identifier (dg_jobId) is:

https://testbed011.cern.ch:7846/137.138.181.253/1853371699
    21026?testbed011.cern.ch:7771
==========================================
Killed
```

Sample Job (Status LB)

```
[reale@testbed006 JDL]$ dg-job-status
    https://testbed011.cern.ch:7846/137.138.181.253/185
    337169921026?testbed011.cern.ch:7771
```

Sample Job (Status Output)

```
dg_JobId                    =
    https://testbed011.cern.ch:7846/137.138.181.253/1853371699210
    26?testbed011.cern.ch:7771
Status                      =    Scheduled
Last Update Time (UTC)      =    Sun Dec  9 18:53:34 2001
Job Destination             =
    testbed002.cnaf.infn.it:2119/jobmanager-pbs/workq
Status Reason               =    job accepted
Job Owner                   =
    /C=IT/O=INFN/OU=PersonalCertificate/L=CNAF/CN=MarioReale/
    Email=Mario.Reale@cnaf.infn.it
Status Enter Time (UTC)     =    Sun Dec  9 18:53:34 2001
Location                    =
    testbed002.cnaf.infn.it:2119/jobmanager-pbs
```

Sample Job (Retrieve Output)

[reale@testbed006 JDL]$ dg-job-get-output https://testbed011.cern.ch:7846/137.138.181.253/185337169921026?testbed011.cern.ch:7771

Retrieving OutputSandbox files...done

========== dg-get-job-output Success ==========

Output sandbox files for the job:

-
https://testbed011.cern.ch:7846/137.138.181.253/185337169921026?testbed011.cern.ch:7771

have been successfully retrieved and stored in the directory:

/sandbox/185337169921026

Sample Job (sandbox)

```
[reale@testbed006 JDL]$ cd /sandbox/185337169921026
[reale@testbed006 185337169921026]$ ls -la
total 16
drwxrwxr-x    2 reale  reale   4096 Dec  9 19:57 .
drwxrwxrwx  154 root   root    8192 Dec  9 19:57 ..
-rw-rw-r--    1 reale  reale    155 Dec  9 19:53
   stderr.log
-rw-rw-r--    1 reale  reale      0 Dec  9 19:57
   stdoutput.log
```

Sample Job (what went wrong?)

```
[reale@testbed006 185337169921026]$ more stderr.log
/opt/cern/cms/cern/2000/bin/paw: /cern/pro/bin/pawX11: File o directory inesistente
rm: impossibile rimuovere `paw.metafile': File o directory inesistente

[reale@testbed006 JDL]$ more testgrid.kumac

ve/create a(10) r 1 2 3 8 3 4 5 2 10 2
ve/print a
for/file 1 testgrid.ps
metafile -1 -111
 ve/draw a
 title ' first PAW plot done on the grid - Loose Cannons Team'
close 1
```

Final

- No protection of data yet!
- Manchester & RAL up (untested)
- Thanks to the integration team and the other Loose Cannons
- Not yet there (storing at SE)
- Next week: D8.2 and experiments move in….