Hall-D Online Status

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Raw Data Flow

1

gluonraid3/4

2

/data1
/data2
/data3
/data4

264TB/310TB

/gluex/data/rawdata/prev ->
/gluex/data/rawdata/curr ->
/gluex/data/rawdata/next ->

(links updated by CODA every run)

Cron jobs

3

Cron jobs are run from hdsys account (not hdops).
These are used so that we don't rely on CODA
ending cleanly.

Tape Library

gluonraid2

first 3 files of each run copied
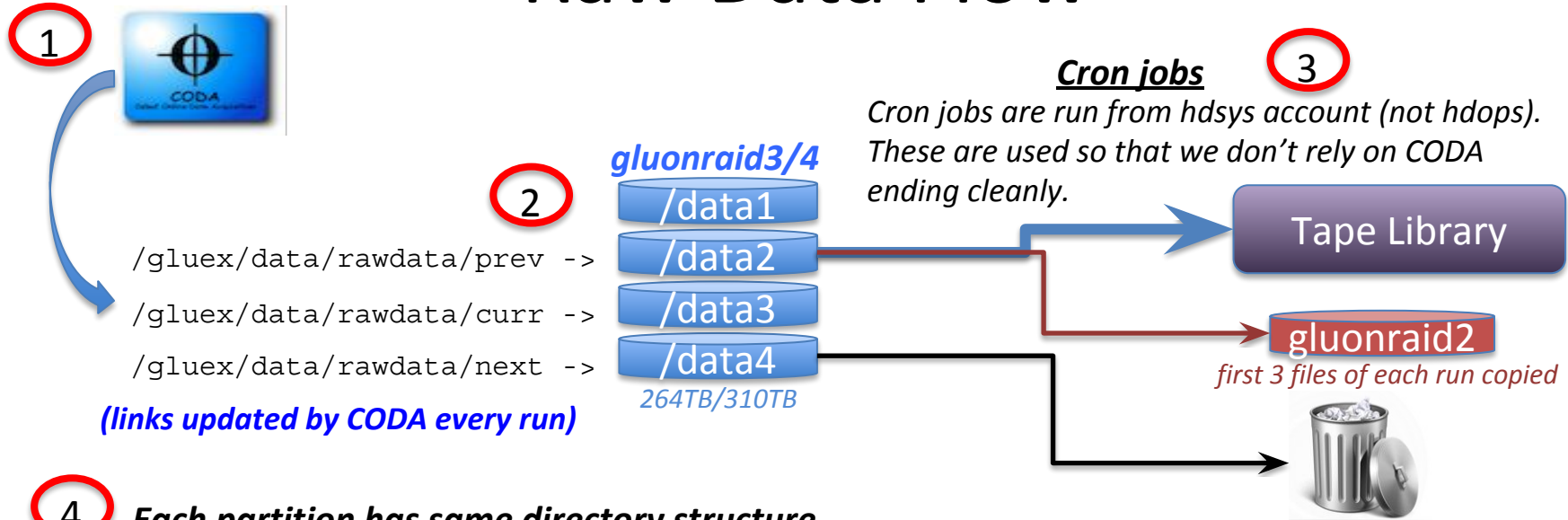
4 <u>***Each partition has same directory structure***</u>
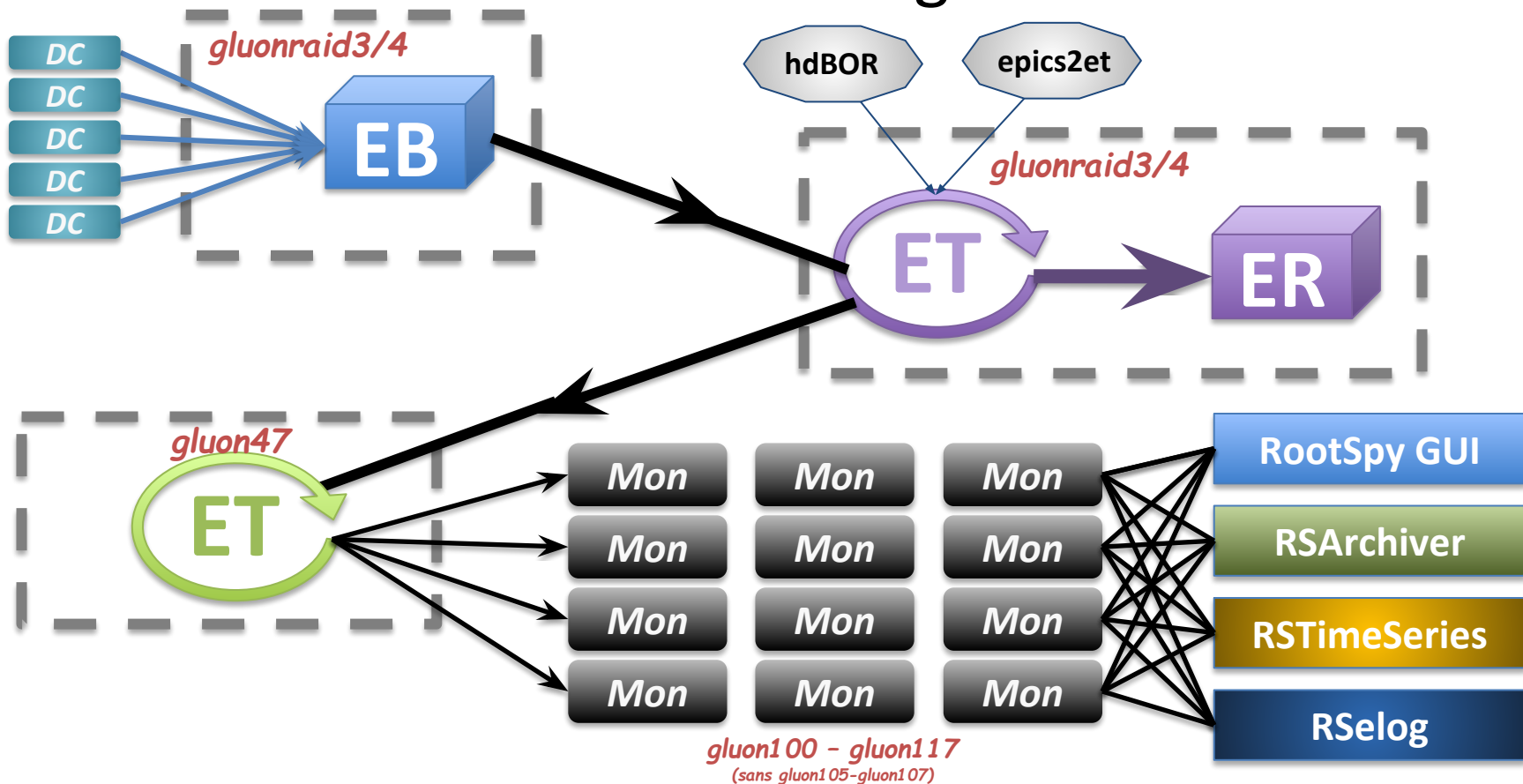
/…/active   Data written to "active"
/…/volatile   Data moved to "volatile" once partition is inactive
/…/staging   Data hard linked in "staging" for copy to tape

Disk mapping + auto-deletion

5

- *Map only volatile directory*
- *Map only when data moved to volatile (via cron)*
- *Auto-delete files from volatile to ensure 20% is free*

Storage:

gluonraid1	77TB
gluonraid2	77TB
gluonraid3	264TB
gluonraid4	310TB
gluonwork	41TB
gluondaqfs	1.7TB
gluonfs1	4TB*

gluonraid4 @ high intensity:

310TB*0.80/(1.2GByte/s * 0.50 * 3600) = 114 hr = **4.8 days**

Upgrades:

- gluonfs1
  - Main file server for /home and software builds
  - snapshot backups
  - original warranty expired (3rd party in place)
  - 1Gbps network link
- Cisco router
  - 1Gbps blades
  - not energy efficient (drain on UPS)
  - replace with Arista similar to high speed ones
- farm nodes
  - Several tasked to online calibration (adding more this Fall)
  - 2 faster nodes re-assigned to DAQ

Activities To Complete Before Fall 2019 Run

- Test in-stream compression
- Implement plot checking robot
- RootSpy improvements
- Improve eLog interface
- Beam configuration sensitive Reference plots?
- Upgrade to RHEL7?