

Joint EGO-Virgo Computing Committee (JECC) meeting

29th October 2009

Meeting Minutes

Presents :

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Topics:

1. Experience on VSR2 data transfer from Cascina to CC's
2. Virgo use of computing center resources and forecast (G. Guidi)
3. Sharing of the EGO contribution to the 2009 cost
4. Budget request for 2010
5. GRID computing and associated billing procedure

N.B. Slides and documents presented during this meeting are available at:
<https://workarea.ego-gw.it/ego2/ego/computing/jecc/jecc-meeting-29-10-2009/>

1- Experience on VSR2 data transfer from Cascina to CC's (A. Bozzi)

More than 100 TB of data have been transferred to both CCs (Bologna and Lyon) with a 2' average latency (see slides for details). The system has proved robust. Good support was given by CCs to solve the few problems encountered.

2- Virgo use of computing center resources and forecast (G. Guidi)

2.1 Presentation by G. Guidi:

Based upon LIGO and Virgo current plans for scientific runs and upon the physics analysis performed by the Virgo collaboration, G. Guidi explained the present use of resources in Bologna and Lyon and the Virgo needs for 2010.

For 2009, an additional 70TB of data is expected to be transferred to both CCs till the end of the year; this matches the forecast given in the previous JECC meeting. Until October 1st ~85 kSPCint2k.day were used up in each CC, a significant increase in the number of cycles is to be expected for the end of the year.

For 2010, Virgo foresees to store a maximum additional 275TB of data and is asking to keep a fast access to all this information. Compared to the Virgo Computing document, the request for increase

in the HPSS cache is reduced to 75% of the data volume. The request for computing energy is ~310000 kSPCint2k.day in each CC.

More detailed information and precise numbers are available in the Virgo computing note and the slides presented at the meeting.

2.2 Discussion

- CNAF informs that CASTOR will be phased out in 2010; a new system similar to HPSS in Lyon is already in place and used by CMS. Virgo will be moved to this new system.
- EGO challenges Virgo request to have all VSR2 raw data available on fast media. In a first phase of the data analysis, frequent access to raw data is necessary; after some time only some raw data segments will be inspected for checking purposes. Virgo should develop a more efficient computing model making use of the characteristics of HPSS or of the new system in CNAF. Indeed disk is much more costly than tape as a storage medium.
- A new unit for computing power has to be used: HEPspec06 instead of kSPCint2k. The conversion factor (HEPspec06/ kSPCint2k) is ~4 and this exact value is used in the following.

3- Sharing of the EGO contribution to the 2009 cost

3.1 Unit costs:

Lyon gives the following unit costs:

CPU : 0.176 €/ kSI2k.day

Disk: 0.5 €/ GB for disk

Tape: 0.074 €/ GB

CNAF gives a higher cost for CPU and has no new information for disk; costs from last year JECC meeting are taken:

CPU : 22.7 €/ HEPspec06 e.g. 91 €/ kSI2k or 0.25 €/ kSI2k.day

Disk: 0.96 €/ GB for disk

Tape: 0.1 €/ GB

Between the two centers, the unit costs average out as:

CPU : 0.22 €/ kSI2k.day

Disk: 0.75 €/ GB for disk

Tape: 0.087 €/ GB

3.2 Sharing of the EGO contribution:

The total EGO contribution to the off-line computing cost for 2009 is 200k€ After discussion, taking into account the foreseen consumption till the end of the year, the costing above and the difference in the billing procedure between the two sites, the following sharing of the EGO contribution to the cost for off-line computing is proposed:

CNAF : 120 k€ CC IN2P3 : 80 k€

4-Budget request for 2010

Cost of disks and tapes is not expected to decrease in 2010 while, as usual, cost for CPU cycles should go down.

Virgo insists to keep an important fraction of VSR2 raw data on disks even if this computing policy is challenged by EGO due to its high cost.

After discussion, it is agreed to present a 250k€ budget request for off-line computing in 2010. This value may be revised after the EGO council meeting foreseen early December. EGO will then inform the computing centers and Virgo about the available budget.

5- GRID computing and associated billing procedure

The CCs confirms that GRID computing resources used from the Virgo virtual organization (either Virgo or LSC members) are charged to EGO. Virgo does not expect a significant request for resources from LSC.