

Notes from the FSP-CMS Computing Team Phone Meeting February 25th, 2011

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Participants:

RWTH: Thomas Kress, Andreas Nowack

KA: Daniel Martschei

UHH: Hartmut Stadie send in some comments concerning projects (see 2.)

DESY: Matthias Kasemann, Birgit Lewendel, Christoph Wissing [Protocol]

Slides, reports and additional information can be found on the following indico page: <http://indico.desy.de/conferenceDisplay.py?confId=4071>

[Summary follows the agenda, discussion was not that strictly along the agenda.]

1.) Resource planning for 2011-2015

Some resource planning has been asked for the Terascale Alliance Workshop on Monday February 28th in Göttingen (<http://indico.desy.de/conferenceDisplay.py?confId=4046>).

General situation:

LHC running schedule foresees data taking not only 2011 but also 2012. Originally 2012 was planned as shutdown year. Consequently the pledges for 2012 have been agreed with WLCG in December 2010 as preliminary have to be reconsidered. Detailed request from the CMS Experiment are being worked out presently. We _expect_ a growth of ~35% in storage capacity and ~25% in CPU resources compared to 2011. Originally only a small increase by a few percent was planned. Tier2 storage will become tight and analysis will become rather resource constrained.

2013 will be a shutdown year according to recent schedules, where the shutdown might extend into 2014. For 2015 substantial investments are to be expected in order to meet the new LHC machine performance.

Situation at the German CMS T2 sites:

German T2 at DESY and in Aachen fulfill the 2011 WLCG pledges already now. (It is quite likely that some many(?) CMS T2 sites won't meet their pledges by April.) The requested increase for 2012 won't be a problem for the German CMS T2s.

RWTH will have to spend ~300kEUR (Alliance money) this year. There is good chance that additional funding can be acquired in the same order of magnitude. Assuming success for the later the RWTH site could grow by ~1.800 CPU cores (means doubling capacity) and ~1PB disk storage in addition. New resources are expected round summer. For 2012 ~50kEUR (Alliance money) is likely to be spent for an exchange of disks (750GB->2TB).

DESY will have possibilities to invest this year. Since not only CMS is going to be funded no detailed plan exists. It is more or less decided that CPUs are being bought by the end of 2011 to exchange old machines.

For 2011-2013 German CMS Tier2 sites are on the safe side concerning hardware resources. Since analysis will get rather constrained by CPU and disk capacity the German CMS community will profit very much from additional national resources (at the Tier2 sites, but also elsewhere). In particular the universities need funding for their site operation from 2013 and beyond.

The situation of the German ATLAS and CMS Tier2s will be presented by Thomas Kress and Günter Duckeck (München) at Göttingen workshop.

2.) Possible projects in an Alliance successor

As within the existing Alliance project there will proposals for dedicated computing topics.

- Data management/D-Cache

D-Cache has been an important topic in the present Alliance project and it should be continued in one or the other way. There are already activities ongoing in CMS with WAN access to files from Grid jobs. In that context NFS4.1, provided by recent D-Cache releases, might be an interesting technology.

- Optimization of analysis

Present analysis still suffering from too many failures and bad I/O efficiency.

- Analysis adaption to new technologies

Main key words for possible projects are Multi-core/multi-threaded applications, GPU computing and Cloud technologies.

Hartmut, present chair of the NUC, send in some comments concerning the NAF. In order get some person power for the NAF, the following contents will proposed in Göttingen:

- Fast storage (replacement for Lustre)
- Improvement of interactive capabilities (webtools, fast "X11"-access, flexible data movement)
- Further improve interface between experiments and NAF-provides

Various projects will be presented in Göttingen.

3.) User space monitoring

User space monitoring is well advanced from the technical point of view. Using the Happyface infrastructure we get a quick overview how much is used. It needs quite some human effort to make people cleaning up their (old) stuff. Users from Aachen store their data primarily at RWTH, DESY and UHH users primarily at DESY while users from Karlsruhe are a bit more scattered among the two CMS Tier2-locations. A quota by system could be implemented, but it is not clear what metric we should use. One could simply assign a "unit" (perhaps 50TB) per one of six German CMS institutes. Since there are big and small institutes one might need to weight by the number of authors(?), students(?) or what ever.

4.) A.O.B.

- Usage of NGR at GridKa

There is not much noise about the NGR@GridKa right now. Daniel reports that those resources are accessed by the Karlsruhe group routinely and he not aware of operational trouble. We might need to promote the possibility once more, since it happened at least at DESY that people requested a dataset fro DESY, which would have been available at KIT (on disk).

- FSP Computing Support Team

Some FSP funding goes into CMS FSP computing support. The team created and maintains a rather complete twiki documentation for FSP specific computing items. Nevertheless it has turned out that the actual support load is rather low, user either contact their (experienced) colleagues locally or use CMS wide support channels. Therefore the FSP supporters might contribute some other task. Possible topics might be:

- . Optimization of analysis (tools and strategies)
- . Using HammerCloud for site optimization (might be credited with MoA in CMS)

We want to discuss this in more detail in the week before the DPG
(Christoph tries to schedule).

- Time slot for computing announcements in FSP video meeting

Even it is not 100% clear that we will use the slot, we want to "pre-reserve"
a slot in the FSP video meeting after the DPG. Thomas "pre-warns" Kerstin in
Aachen and Christoph does the same with Jan at DESY.

- Next meeting in the week before the DPG (Let's try!)