Towards a HEP(++) SSC

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Introduction

- From the CERN / WLCG perspective, a "grid support" team has been functioning for many years, focussing on the needs of the LHC experiments but also offering (in)valuable services to other HEP experiments, related disciplines and other projects

- From the EGEE perspective, a HEP cluster has existed for 5+ years

- ➢ **Clearly we are not starting from zero but building on what we have established over many years**

A HEP(++) SSC

- CERN expects to be a lead partner in establishing such an SSC and hopes that other players can be identified very soon (if not already)
  - By end May 2009 would be optimal
  - Prague(?), DESY and INFN are understood to be interested – others?
  - **Input from Bob, others, this workshop etc required!**
- We would expect to produce a draft – but already fairly complete – proposal no later than July 2009, with further iteration by the time of EGEE'09
  - Semi-public presentation in BCN; discussions with experiments from now
- Further iteration prior to final submission – as part of a complete proposal – for November 2009
- Our assumption is that any personnel would be in place from 1 May 2010 – continuity with the existing team(s) will be an important issue and will require "inventive solutions"

- From a technical perspective, this timeline looks readily achievable

++ includes both "related disciplines" as well as those using common solutions

Main Theme(s)

- Centres of expertise (excellence?) at CERN and at other sites to match the needs of the user communities supported
  - There is a minimal size below which it does not make sense to go
- These teams should work together – sharing knowledge, tools and experience
  - Sizing based on existing experience: something like 2 people per LHC (or other) VO would really allow us (Europe) to fully exploit the "facilities" (Grid, LHC) that we have build up over O(decade) (or two)
  - It is expected that the people at CERN would be integrated into the existing Grid Support group: in other words CERN would match or most likely exceed the staffing available through "SSC"
- Contacts: myself for "management level" issues; Patricia for technical ones

Summary

- As part of CERN's position wrt EGI, it is expected (at least by CERN + WLCG management) that CERN lead the formation of a HEP(++) SSC

- We are actively looking for partners – some already identified – with whom we can start to work immediately

- We believe that by working together – also with those involved in other proto-SSCs – we can achieve "the Greater Grid"

BACKUP SLIDES

Without a HEP SSC?

- We have already cut the number of staff supporting the LHC experiments – including in the critical area of analysis support – and further cuts are in the pipeline (budget imposed CERN-wide)
- The EIS team – generously supported in significant part by INFN – would most likely collapse into the most rudimentary support
- The reality is: we will drop from 8 (2008) to 2.5 (early 2010) to <1 (post EGEE III)
- There is nowhere else that we can make up these resources – other key areas are also subject to the same level of drastic reduction!
- Whilst as an enabling factor (using the grid, empowering the VO, …) this has to be one of the best ROI areas (IMHO…)
  - You can and should design for resilience; you can and should automate; you cannot replace or substitute this area with other than the most skilled and dedicated personnel – such as those we have today
  - (This was not the original timeline / planning…)

With a (HEP) SSC

- We can really deliver on the promises we have made to our funding agencies – and to our user communities
- We can – at extremely low (or no) cost – assist other important / visible projects
- We can deliver the "added value" – the real(?) reason that much of this research is funded ("science & society")

- There are many examples of the "added value" of a "SSC-like" team at CERN: and the costs are very modest compared to other types of "petascale computing"

Pre-GDB – May 12

- Short 10' presentation by each Tier 1 (and CERN): CERN, Italy, UK, Germany, France, Spain, Netherlands, Nordic

- Which services you currently provide for WLCG (via EGEE) that you will commit to continue to support (see attached slide) – what is the level of effort you currently provide for these (separated into operation, maintenance, and development)

- Which services you will not be able to continue to support, or where the level of effort may be significantly decreased that may slow developments, bug fixes, etc.

- What is the state of the planning for the NGI:
    - Will it be in place (and fully operational!) by the end of EGEE-III?
    - What is the management structure of the NGI?, and
    - How do the Tier 1 and Tier 2s fit into that structure?
    - How the effort that today is part of the ROCs (e.g. COD, TPM, etc) for supporting the WLCG operations evolve? How will daily operations support be provided?
    - Does the country intend to sign the Letter of Intent and MoU expressing the intention to be a full member of EGI?
    - Which additional services could the Tier 1 offer if other Tier 1s are unable to provide them?
    - Other issues particular to the country, or general problems to be addressed.
    - What are the plans to maintain the WLCG service if the NGI is not in place by May 2010, or if EGI.org is not in place.

- For ASGC and Triumf it would be useful to hear on their plans in the absence of EGEE ROC support – i.e. do they have plans to continue or build local support centres.

- For BNL and FNAL I assume that nothing will really change on the timescale of the next year.

- If there are other countries with Tier 2s that would like to mention the state of their planning that would also be welcome within the constraints of the time.

- Other issues that need to be discussed include how the support for non-EU, non-US sites will be managed. For example sites in Latin America and others which are currently supported by the CERN ROC.

EGEE Services needed by WLCG (Plan B)

- **GGUS**
  - Relies on connections to local support ticket systems – today in ROCs and sites
    - → Tier1 and Tier2 sites?
  - COD, TPM
- **Operations and Service coordination**
  - CERN + EGEE ROCs
- **ROCs:**
  - Support effort (TPM, COD) → moves to Tier 1s?
- **EIS team – CERN (largely LCG funded)**
- **ENOC**
  - Coordination of OPN operations- currently by IN2P3
- **Deployment support:**
  - m/w deployment/testing/rollout/support
  - Pre-production testing – effort and resources
- **Operational Security coordination**
- **Policy development**

- **Accounting:**
  - APEL – infrastructure/DB and service
    - NB Italy uses DGAS and publishes into APEL; OSG + ARC publish into APEL
  - Portal – CESGA
- **GOCDB: configuration DB**
  - Important for all configurations and definitions of sites and services
- **CIC Portal:**
  - Contact information, VO-ID cards, broadcast tool, Automated reporting,
- **Availability/Reliability:**
  - SAM framework (and migration to Nagios); SAM tests
  - Gridview/Algorithms etc:
  - GridMap:
  - MSG
- **Dashboards**
  - Service, framework and common services
  - Experiment-specifics
- **Middleware ...**