LCG-1 Regional Centres View

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Introduction

- The Grid Deployment Board (GDB) has approved the strategy of rapid deployment of what is available and reasonably working.

- This led to a VDT + EDG middleware combination which imposes some constraints to the packaging and installation procedures.

- A central control of the integration and configuration was felt an indisputable necessity to have a quick start-up of the infrastructure.

General Considerations

- LCG-1 is the first release of LCG software based on VDT+EDG MW but a preliminary version 0 was already used by few centres to test the procedures and give a fast feedback.

- A real previous experience on these packages was available only by a limited set of centres, mostly those who were involved in the European (EDG and EDT) or US Projects (PPDG, VDT, Grid3, etc.)

- Deployment and test of Packaging were the main activities with this first release.

- No real users yet.

Good News

- Every center reported successful installation of the LCG-1 package

- The amount of time needed oscillated between a couple of days and a couple of weeks.
  - Most, even inexperienced sites took only a few days

- Communication via the LCG rollout list was usually very effective, getting thorough answers quickly.

- Once installed, the reliability of the middleware seemed much improved from EDG.

Installation & Documentation

- Documentation has to be improved, as usual, it's one of the most difficult activities.

- The instructions were detailed and normally those who followed them exactly had very few problems.

- Attempt of usage of LCFGng-lite made by BNL failed
  - It is understood why

- It's generally felt that there is a need for a clear separation between system software and middleware installation.
  - Has not been possible so far with middleware currently available

Diagnostics

- Configuration of current middleware is very complex

- Existing diagnostic tools do not cover the full range of potential problems

- Especially in those sites where there was not previous EDG experience many comments report difficult to understand what went wrong and why.

- An ideal diagnostic tool should be able to report the failure, the probable reasons and the configuration files or the procedures where the problem it's supposed to be (a misconfiguration or a typo).

Security & Firewalls

- The existing firewall configuration document was found to have errors
  - Earlier testbeds had largely avoided the firewall issue

- A new comprehensive manual for site Security Officers should describe the expected behavior of the middleware and the possible/recommended security configurations.

- New releases of software, including security patches in response to software security alerts, have to be included and distributed centrally after a careful check of compatibility. There is a trade-off to be made between the risk in not verifying a new release through the certification testbed etc, and the risk in leaving LCG sites exposed to known security problems.

- Need an overall security officer to assess the trade-off and take these operational decisions

Configurations

- In theory, the central generation of site config files seemed a good idea as it allowed central verification of the input data.

- The long term solution should be scalable and unload the deployment team of this responsibility.

Suggestions (1)

- Ideally would have a clean separation of basic system and middleware installation
- …and …
- the EDG package dependencies should be reduced as much as possible,
- ..and… the O/S version dependencies should be reduced

- A first important step would be to have, at least, the Worker Node package with a system-independent installation. Specific Service Machines (CE, SE, etc.) can survive for a while with a "dedicated" installation.
  - This is the case for LCG-2

- This work will require significant effort to modify and adapt the existing EDG middleware and the associated integrated packaging and deployment tools

Suggestions (2)

- Configuration task for site managers has to be simplified

- Could be achieved by writing a simple GUI-based tool and defined with a common language (XML ?) by the site managers

- However, CERN should continue to collect configurations in order to track changes and create template configurations for new sites.

Suggestions (3)

- Newcomers should profit from an easily accessible knowledge database which can help them to solve their problems.
  - Propose the GOC take this responsibility

- A complete and easy to use diagnostic tool should be available to help solving the most common problems.

Suggestions (4)

- Tier2's not supported by a Regional Tier1 Centre should be taken into account: they will exist and can't all be served by CERN: EGEE infrastructure will help.

- Some centres are not only LHC or even HEP and they have to share the resources with other sciences or customers. The LCG distribution should ideally be able to have minimal impact in these realities.

Conclusions

- LCG-1, despite the many difficulties, is working and the stability is improved respect to EDG. We need a real production to test it fully.

- Previous experience of EDG mw helped a lot to start with the right choices and a quick problem solving, but….this should not be an implicit prerequisite.

- Independence of the installation system and operating system should be a must.
  - Huge range of requirements – some sites need a fully automated install, some need only the "recipe"

- We need to pull the regional centres together as a collaboration to tackle these issues as joint projects

- Many of the issues above would be a good field for collaborative work between sites. Some specific tasks could be even completely delegated to one or more centres willing to contribute.