



Enabling Grids for E-science

Batch System Integration Update

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- **What do we mean with ‘Batch System Integration’ ?**
- **Current situation**
- **The near future**
- **How?**
- **Gap analysis**
- **Roadmap**
- **Your help is needed!**
- **Summary**

- **What do we mean with ‘Batch System Integration (BSI)’ ?**

The high-level goal of batch system integration in EGEE III is threefold:

- to increase the number of batch systems that can be used with gLite;
- to improve the portability of gLite to other batch systems to the point of attaining ‘batch system independence’, so that any batch system may be used in combination with the gLite middleware stack without the need to patch either system;
- to do so in a sustainable fashion to keep pace with new OS releases and the general gLite porting effort to different operating systems.

(from ‘Strategy and roadmap of the EGEE batch system integration support (Milestone MSA3.2b)’)

- **OK, so what does this ****really**** mean?**
- **The current situation with batch system support:**
 - Scientific Linux 4 32bit
 - lcg-CE
 - Torque/PBS or LSF
- **Hacks exist for other batch systems and other operating systems but none are officially supported**

- **Soon we will have (or need to have):**
 - Scientific Linux 4 32bit (and 64bit?)
 - Scientific Linux 5 64bit and 32bit
 - lcg-CE
 - CREAM-CE
 - Torque/PBS support
 - LSF support
 - Condor support
 - Sun Grid Engine (SGE) support
 - A well-understood and well-documented framework to add Your Favourite Batch System to gLite

- **Short term: SA3 BSI will**
 - certify SGE as an officially supported batch system for the lcg-CE
 - !! | sed 's/SGE/Condor/'
 - write an “Integration Cookbook” and a “BSI Checklist” for both
 - set up a Twiki on batch system integration
- **Medium term: SA3 BSI will**
 - develop test suites to complement the “BSI Checklist”
 - certify SGE as an officially supported batch system for CREAM
 - !! | sed 's/SGE/Condor/'
 - write an “CREAM-CE Integration Cookbook” and a “CREAM-CE BSI Checklist” for both

- **What's in place?**
 - SGE has been officially validated with the lcg-CE
 - Condor is in validation for both lcg-CE and Condor
 - There is a lot of documentation (HOWTOs, Cookbooks) out there
- **What is missing?**
 - Test suites for (automatically) validating a batch system
 - Test scripts/docs for testing GIP and APEL interaction
 - Good, up-to-date and coherent BSI documentation
 - Up-to-date specifications and documentation on some middleware components

- **Phase 1: SL4+lcg-CE**
 - set up test beds: complete (but always in flux)
 - certify SGE + Condor : nearly complete
 - set up a Twiki on batch system integration: started
 - write “Integration Cookbook” and “Checklist” : Next!
- **Phase 2: SL4+lcg-CE+CREAM**
 - CREAM has arrived: first Condor patch is being tested!
 - Write Blahp and Information Provider scripts
 - certify SGE + Condor
 - update “Integration Cookbook” and “Checklist”
- **Phase 3: SL4+SL5+lcg-CE+CREAM; support phase**

- **From our SA3 partners**
 - More batch system expertise (LSF, Condor) is always welcome
 - Support for new platforms (SL5, Debian) will require a lot of effort
 - Help with testing is needed, esp. stress-testing, perf-testing
- **From our JRA1 partners**
 - Stable interfaces
 - Specifications and documentation
 - Help with developing (regression) test suites
 - Help with merging Batch System specific changes back into the main ETICS code base
- **From everyone: Let's C-O-M-M-U-N-I-C-A-T-E**

- **There is a clear need for better BSI**
 - increase in the number of operating systems
 - increase in the number of available batch systems
- **BSI needs to transform from an Ad-Hoc operation into a well-controlled, streamlined process that becomes part of the regular development and release cycle**
- **A lot of work has already been done**
 - SGE, Condor validation against lcg-CE
 - Various HOWTOs, cookbooks and Twikis as found on the web
- **But the list is still quite long:**
 - BSI with CREAM-CE, with SL5 32/64bit and other platforms
 - Test suites, coherent and up-to-date documentation

**Remember:
to Assume
means
to make an Ass out of U and Me**