QWG Templates

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Outline

- QWG goals
- QWG design principles
- How templates are produced
- How to use QWG templates
- Documentation and support

Background and Goals

- YAIM is the standard method provided to install MW
  - Set of scripts with a common configuration file format
  - ncm-yaim component to use YAIM from Quattor
- YAIM problems (inherited by ncm-yaim) :
  - Lots of assumptions on site layout.
  - Not very flexible (machine based, not service based)
  - No effort for “reproducible down/upgrades”.
  - Fixes difficult to deploy (overwrite, remake rpm).
  - Poor documentation.
- QWG templates started as an effort to take advantage of Quattor ability to update a system on per service basis
  - Offer greater flexibility in service mixing on a machine
  - Have reproducible down/upgrades

Design Principles

- As service-oriented as possible.
  - Pan configuration templates for every service
  - Separation of service configuration and service RPMs
  - 1 Quattor component for each service
- As flexible as reasonably possible.
  - Don’t impose constraints on site configurations.
    - Accommodate as many different choices as possible (NFS configura file systems…)
  - Allow site customization without editing templates
    - Use variable to customize template behaviour every time a customization is needed
  - Provide generic templates for different “machine-types”.
- Avoid breaking backward compatibility of site parameters
  - No gratuitous changes, only if required for more flexibilit

Templates Production

- Done as much as possible using script to process standard information provided by MW developers
  - LCG2 : only RPM lists per service automaticaly generated other templates maintained by YAIM reverse engineering (only “reliable” source of information)
  - gLite : unique configuration format for each component allows more script generated templates (XSL)
- Main maintainers are Cal Loomis and Michel Jouvin
  - Other welcomed, just need a Subversion client…
- Current status :
  - LCG 2.7 : last release of templates is LCG-2.7.0-9
  - gLite 3.0 : work in progress
    - Took time to get the official RPM list per service
    - LCG services should be ready soon (no significant changes since 2.
  - Until now, have been ready in the weeks following the release… but gLite3 is late.

Using QWG Templates

- Get a copy of last version of templates available for your MW version
  - Preferred method is through SVN but tarball available
  - Place QWG templates in a separate directory
  - Update repository information to suite your site
- 5 main directories
  - rpmlist : templates adding required RPMs for a service
  - source : templates configuring a service
  - vo : templates related to VOs configuration
  - machine-types : 1 template per machine type
  - repository : 1 template listing repository to be used for this version of the MW

In config & VO templates

- Update your site parameters in pro_lcg2_config_site
  - Look at source/pro_lcg2_config_site_default.tpl for a list of available options
  - Be sure to include this template in your site template
- For each machine type, a variable can be used to add to base configuration
  - Xxx_CONFIG_SITE
  - Value is a template declaring the site specificities
- VO configuration : only define VOS variable
  - List of supported VOs
  - Take care of everything including account creation, according to the machine type
  - Add non standard VO still tricky (will improve shortly…)
- MAUI configuration : an example provided using fairshare and standing reservations

gLite / LCG2 Differences

- Basically the same procedure
- All recent improvements to LCG2 templates not yet ported to gLite templates
  - E.g. Xxx_CONFIG_SITE variables, NFS configuration…
- gLite templates are using namespaces
  - Directory where the template resides is part of its name
  - This directory is specified explicitly in include
  - Should add better support of CDB and lower complexity find where a template is from its name

VO Difficulties

- Complex Structure
  - Cost of flexibility.
  - Grid services not “service-oriented”.
  - VO-specific configuration.
- Backward Compatibility
  - Services themselves often not compatible.
  - VO-specific configuration hardly stabilize
    - Reengineering for easier addition of VOs
    - Should improved starting with LCG 2.7.0 templates
- Poorly documented
  - Difficult to start with these templates.
  - Examples not always working/appropriate.
  - Try to improve this, was a priority during LCG 2.7.0 development

Documentation, Support

- QWG main site (wiki)
  - Templates layout and customization
  - https://trac.lal.in2p3.fr/LCGQWG
  - If you want to contribute, need an account (request me)
- QWG Templates source : SVN repository
  - https://trac.lal.in2p3.fr/LCGQWG/wiki/Download
- Support :
  - Bugs : Savanah http://quattor.web.cern.ch/quattor/bug_reports.htm
  - Help : mailing list project-quattor@cern.ch