SCDB Status

Michel Jouvin

LAL/Orsay

jouvin@lal.in2p3.fr

Quattor Workshop, Madrid 2007

- SCDB Components
- Ant Tools
- Deployment script
- Utilities
- Documentation

SCDB components

- Ant tools : implement SCDB-specific Ant targets
  - compile, deploy…
  - Written in pure Java (no shell command forked)
- Deployment script : deploy a tagged template relea on Quattor server and notify clients
  - 2 Perl scripts
- Utilities (scripts) : set of “companion” scripts, to ea every day tasks
  - Generation of update templates, check of profile change
  - Perl and Python scripts
- HTTPrep : alternative to SWrep using a plain http server
  - Management tool integrated into Ant tools
  - Optional part of SCDB
- All packages together as SCDB

Ant tools and configuration

- Ant tools written in pure Java
  - No shell command forked
  - Rely on external (pure Java) tools : Ant API, SVNKit, panc
- Targets (Ant configuration) defined in quattor.build.xml
  - Most of the targets are internal
  - Public targets : compile, deploy, update.rep.templates
- SCDB structure implemented into quattor.build.xml
  - Ant tools are structure-agnostic
  - SCDB structure mapped into PAN include path
    - cluster.build.properties is the “glue” on a per-cluster basis
- Default structure can be redefined easily
  - Including naming convention for “top-level” directories
    - E.g. : Stephen prefers ‘classes’ rather than ‘sites’
  - OWG templates don’t care about the exact structure

- Changes since Dublin (2.0/2.1)
  - Ability to compile only one cluster
    - Not allowed for deployment : is it desirable (risk of inconsistency) ?
  - PAN compiler v7
  - New tag format : YY/MM/nn
    - Easier cleanup
  - Improved (and documented) debugging messages
- Planned new features and changes (2.2)
  - ‘clusters’ directory organized by site
  - Trig a cluster rebuild if cluster.build.properties changes
- To be discussed
  - Ant target for tag cleanup

Deployment Scripts

- Made of 2 parts :
  - SVN hook script : post-commit in SVN repository
    - Check tag validity and launch build-tag.pl
  - Build-tag.pl : where the real work is done
    - Run on Quattor server
    - Launch through ssh by hook script
  - Require ssh keys from SVN server to Quattor server
- Changes since Dublin (2.0/2.1)
  - Configuration file for both scripts : can now be customiz without being edited
- Planned new features and changes
  - Parallel compilation of clusters on several servers (2.2)
    - List of servers defined in post-commit configuration file
    - On each server, list of cluster to compile defined in build-tag.pl configuration file by cluster name or groups (sites)
    - Clients get profiles from the server where compilation occurred
  - Use of CGI rather than ssh to launch build-tag.pl (later)

- Located into src/utils : rename into utils ?
  - profiles/compare_xml : compare 2 versions of XML profiles in working area (build/ and build.saved)
  - misc/* : mainly template generation
    - buildOSTemplates (new) : build RPM templates from distribution groups using distribution comps.xml (wrapper to other scripts)
    - createPackagesTemplate (new) : build a RPM template from directory contents or from an external list (RPM names or URLs)
    - rpmUpdates.pl : build a RPM update RPM from directory contents with ability to synchronize directory with an external source (wget)
- Changes since Dublin (2.0/2.1)
  - buildOSTemplates and createPackagesTemplate
  - compare_xml option –t (terse) : minimal output (RPM differences ignored)
- Planned new feature and changes (2.2)
  - Complete merge of createPackagesTemplate and rpmUpdates.pl

- Optional part of SCDB to replace SWrep
  - Management tool integrated with SCDB management too
    - ant update.rep.templates
- Design : match RPM repositories to document directories on the Web server
  - Updating RPMs require remote access to the file system where are the repositories
    - Filesystem ACLs can be used to control access
  - Update of RPM repository templates doesn't require access to the file system (done through http)
- 1 template associated with each repository
  - Special comment at head of the template associating it with the Web server directory
- No specific code to maintain, apart ant task
  - Probably the simplest SCDB ant task...

HTTPRep

- Changes since Dublin (2.0/2.1)
  - Rebuild RPM repository templates only if needed to avoid unnecessary full recompile
- Planned new features and changes (no date)
  - Use of squid to provide RPM repository caches
    - For increase perfs and load distribution in distributed sites
  - Initial loading of repositories and synchronization ?
    - Add to standard templates a well known source
    - Add a task to do the “rsync”
  - YUM-like features for automatic incremental updates
    - Not really HTTPrep...
    - Mainly requires a cron job to sync a RPM repository with an external source on a regular basis
    - Templates can then be generated with createPackagesTemplate
  - RPM dependencies management : probably require some kind of metadata. Not clear if this is reasonable

Documentation changes

- Everything on LCG QWG wiki
  - https://trac.lal.in2p3.fr/LCGQWG
- Full coverage of SCDB configuration and usage
  - Including SCDB management with Eclipse
- Rewrite and reorganization of SCDB installation and initial setup
  - Self-sufficient : no reference to Quattor Installation Guid
    - Vice versa : Quattor Installation Guide must be ignored when using SCDB
- SCDB release notes : describe main changes for each release

- Documentation and how to get it :
  - http://trac.lal.in2p3.fr/LCGQWG
  - Include a script to download a complete vanilla SCDB with OS, MW and other standard templates
    - Includes working examples that can be compiled with ant
- No documentation on client installation... because there is nothing to install !!!
  - All the SCDB specific components are inside SCDB itself..
    - Including a (pure Java) SVN client (jsvn)
    - Installing a native SVN client is recommended and required for the first checkout
  - Eclipse (optional) requires installation of a few plug-ins
    - Documented on the wiki in SCDB documentation