SCDB Update

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Outline

- Last SCDB releases

- SCDB 2.3 and its new features

- SCDB 3.0 and beyond

SCDB

- SCDB is a set of tools to administer a site with Quattor
  - Some tools common with other CDBs: panc, checkdeps
    - Imported from SF SVN repository
  - Ant interface to configuration database
  - Some general-purpose utilities (scripts) in utils/
  - Source of server-side scripts in src/
- Interdependencies mainly between ant config file and externals/
  - In particular panc, scdb-ant-utils, svnkit
  - svnkit version must be synchronised with SVN client version used on the same machines
  - quattor.build.xml and scdb-ant-utils must be synchronised when task options are modified

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SCDB Releases

- 2.3: originally planned end of March but released mid-July…

  - Followed by 2.3.1 (cluster groups) and 2.3.2 (fixed update.vo.config)

  - Last version to support svnkit 1.1 (SVN client 1.4)

- 3.0: currently in beta

  - Main focus: SVN 1.5/1.6 support, including new deployment scripts

SCDB 2.3 Main Changes

- Panc 8.2.8: add support for new debug(), fix dependencies with profile cloning

- scdb-ant-tools 7.4.5 :

  - Fixed update.vo.config to generate VO config parameters from CIC portal

  - Fixes for profiles-info.xml generation: new profiles not added during first deploy

  - Ability to ignore templates in dependencies evaluation

- checkdeps.py: fixes, imported from SF SVN

- Quatview updates

- Support for sudo rather than ssh between SVN and Quattor merged into post-commit

  - Used to be a separate script in 2.2

- Support for cluster groups

- Support for quattor.build.properties in the repository

- src/utils/ renamed utils/ : a symlink still exists

Cluster groups

- Allow to group clusters in several subsets
  - They used to be all under cfg/clusters/
  - A cluster group is a directory under cfg/clusters/ containing the clusters
  - Same cluster name can exist in several groups
- Disabled by default, enabled by *clusters.groups.enable=true*
  - Normally defined in quattor.build.properties
  - https://trac.lal.in2p3.fr/QWG/wiki/Doc/SCDB/Usage#ClusterGroups
- Handled transparently by ant compile/deploy
- Group-wide defaults: cluster.group.build.properties
  - In the group directory… but probably useless currently
- Possibility to select a group: *-Dgroup.name=group*
  - Not supported in 2.3

Ant-Tools new Features

- Features are activated with *–Doption=…*

- Compile debugging: pan.debug.include=ns/templ

  - Value must match template namespaces

  - Wildcard allow (regexp syntax)

  - Also pan.debug.exclude to exclude some templates from the previous selection

  - Multiple options allowed

  - Interface to a feature implemented by panc

- Dependency evaluation: ignore some templates

  - Option pan.dep.ignore=templ_name

  - Templ_name is the file name relative to cfg/, including .tpl

  - Regexp allowed

  - Interface to a feature implemented by panc

SCDB Update

checkdeps

- Allow to check RPM dependencies before deployment
  - Use /software/repositories to configure YUM repositories
  - Uses /software/packages from the XML profile
  - Use YUM API to assess the dependencies or propose RPMs for missing dependencies if any present
    - Require YUM 3.2.19+ (SL5, impossible on SL4) on both server and client sides
- Presented in Amsterdam last year
  - https://trac.lal.in2p3.fr/QWG/wiki/Meetings/20081027#checkdeps.py-S.Childs
  - Not SCDB specific: sources maintained in SF SVN
  - In SCDB: *utils/checkdeps/checkdeps*
- Typical usage:

  utils/checkdeps/checkdeps [-d 3] –l build/xml/ -x profile_ipnvobox.xml

quatview

- Web application to list machine characteristics from their templates
    - XML profiles loaded into a SQL db (SQLite?)
    - Probably not specific to SCDB but maintained in SCDB utils/
    - To be moved to SF if not SCDB dependent…
- Presented in Amsterdam last year
    - https://trac.lal.in2p3.fr/QWG/wiki/Meetings/20081027#QuatView-T.SuerinkNIKHEF
    - Originally from NIKHEF, contributions from TCD (S. Childs)
    - In Amsterdam, mentionned that backend could be merged with CDB2SQL…
        - Any update?

Deployment Scripts

- SCDB deployment handled by 2 scripts:
  - post-commit: must run on the SVN server (SVN hook)
  - build-tag: launched by post-commit to recompile and deploy
  - Both can run on the same machine

- New Python-based version (*.py)
  - Used to be bash (post-commit) + perl (perl-tag.pl)
  - Use pysvn API for accessing SVN: no direct use of SVN
  - Unified configuration file: /etc/quattor-deploy.conf
  - Return messages in case of error in a format compatible with SVN client (valid XML)
    - No longer 'BUILD SUCCESS' in case of an error
  - Almost ready for // compile on several deployment servers
    - Mainly implementation of binding between clusters and servers

- Require pysvn and Python 2.4
  - Cannot run on SL4, will be the default in SCDB 3.0

HTTPrep

- No change

SCDB 3.0

- SVN 1.5/1.6 support on client and server sides
  - Will be a requirement on client side due to major svnkit API changes
  - On server side, will require new deployment scripts
    - SL4 unsupported
    - Solaris should work (or any OS with pysvn available)
- Parallel deployment on several servers for better performances in large configurations
  - Clusters or group of clusters associated with a deployment server through build properties
    - Typically true on distributed sites but may work on a single site too
  - Hook script will launch build-tag on all deployment servers
  - A deployment server will compile and deploy only the clusters associated with it
- Status: SVN 1.5/6 support ready but client not yet in production at GRIF

Future

- See https://trac.lal.in2p3.fr/QWG/milestone/SCDB-ToDoList

- 3 main items:
  - Ability to precompile some parts of the configuration used in many nodes, like VO information
    - Based on profile cloning for WN ideas
  - Replacement of database-like templates by real DBs + an ant task to generate the templates from the DBs
    - May improve performance as a node may be impacted only by a change affecting itself if the template contains only its information
  - Ability to validate before deployment without compiling all profiles
    - Attempt to improve performance of validation phase done one a desktop in large configurations

- Just ideas, no date…
  - Anybody interested to contribute?

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