GOCDB4 Rollout

Background information

About GOCDB4

Most of the work carried on GOCDB during EGEE-III has been to provide the system with a new architecture in order to allow for easy distribution and regionalisation of the tool. The main requirements were:

- Provide a GOCDB module (Thereafter called "**GOCDB4 Regional Module**") that can be installed by an NGI to store their topology information;
- Keep a central system (thereafter called "**GOCDB4 Central Instance**") to present all EGEE/EGI data, collected from the various regional instances;
- Centrally provide an input module (thereafter called "**GOCDB4 Input System**"), giving access to their data to those NGIs that don't have a GOCDB module locally deployed.

GOCDB4 central instance was released in November 2009. It is a read-only system that presents and EGEE/EGI view of all data.

Release status

The current situation, summarised on fig.1, is as follows:

- Data stored in Central GOCDB4 are transferred from GOCDB3 and synchronised every 10mn.
- They are presented to users through the GOCDB4 web portal [1]
- They are made available to third party tools through the GOCDB4 version of the GOCDB programmatic interface or GOCDBPI [2]
- Data are updated by users through the GOCDB3 web portal [3]
- The GOCDB3 version of the GOCDB-PI is still available [4]

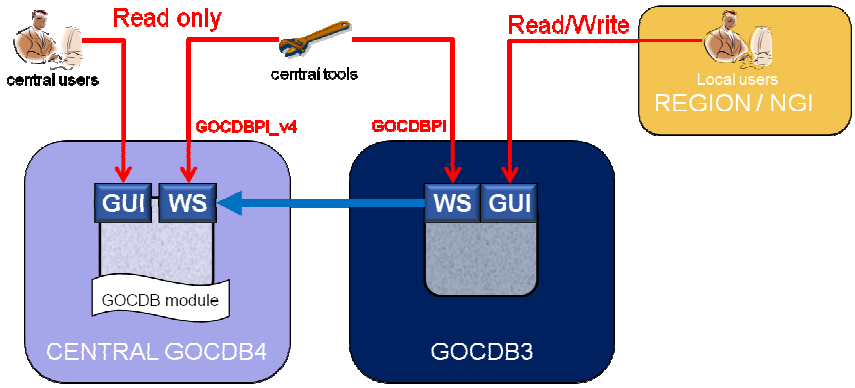

Fig.1 – *Components currently deployed in production*

The last step of GOCDB4 full release consists in replacing the GOCDB3 web portal by the GOCDB4 input system, as described on fig.2.

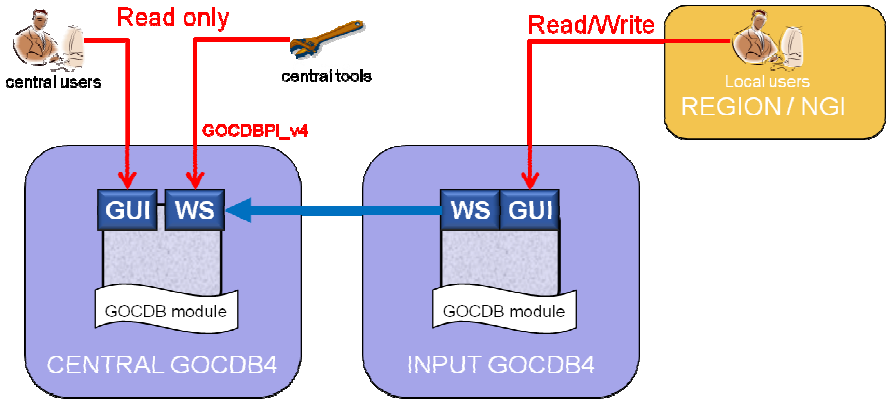

Fig.2 – *Deployed components after the release of GOCDB4 input system*

Differences between GOCDBPI and GOCDBPI_v4: why compatibility checks are needed

The differences are detailed in GOCDB technical documentation [5]. They mainly are:

- The replacement of numeric IDs by Alphanumeric PRIMARY_KEYS (needed to guarantee uniqueness of primary keys across a distributed system)
- The removal of some GOCDB3 internal data that were exposed through the PI (e.g. "PATHS" to identify ROCs, sites and services)
- A few minor changes in format of the XML, due to changes in the backend system that generates it

Although in most cases both versions are compatible, the changes are big enough to require testing and validation.

Planning the release

Prerequisites for the release

- GOCDB4 input system has be thoroughly tested
- All third party tools either already use GOCDBPI_v4, or have a tested compatibility with it
- All dependencies are tested and validated
- There is a common agreement about the date and time of the release
- The release is announced long enough in advance

Release scenario

The final rollout of GOCDB4 to production can be split in 2 different actions:

1. Decommissioning the GOCDB3 version of GOCDB-PI
2. Replacing GOCDB3 by GOCDB4 input system

Action #1 can be done as soon as compatibility is confirmed and tested for all third party tools. In case of problems, the GOCDB3 version of the PI can be brought back online, postponing the release until all problems are solved. An initial large scale testing (i.e. temporarily shutting off GOCDB3 PI to verify all workflows), if not mandatory, would be really helpful to avoid suprises.

Action #2 is a non reversible operation. Once the GOCDB4 input system is in production, it becomes de facto the authoritative repository where the latest information is. There is no mean to feed back GOCDB3 with information updated in GOCDB4, which makes any return to GOCDB3 impossible.

Proposed plan and dates

- **T1**: Last round of verification through GOCDB dependencies – list possible showstoppers
- **T1**: Announce the large scale testing operation to all GOCDB client tools developers
- **T2** = *T1 + 1week (at least)*: Large scale testing – switch off GOCDB3 PI for 24h and redirect all queries to GOCDBPI_v4
- **T3** = *when the test is finished:* verify the test has not broken any workflow. Establish final list of showstoppers. Decide either to:
    - Go ahead for the release, defining T4
    - Go back to T1 in agreement with developers of the tools having compatibility problems
- **T4** *(as defined above)*: announce the final decommissioning of GOCDB3 PI to GOCDB client tools developers
- **T5** = *T4+1week*: decommission GOCDB3 PI.
- **T6** = *T5+x (maximum 1week)*: assess the success of the 1st part of the release, or decide to roll back. If rolling back, we go through another round starting T3.
- **T7** = *shortly after T6*: announce the replacement of GOCDB3 portal by GOCDB4 input system to GOCDB Users, Operators, and Management bodies. Provide link to the test systems for users to check and familiarise themselves with the new tool. Provide opportunity to give feedback, detect last minute issues
- **T8** = *T7+1week*: Second announce for the release
- **T9** = *T8+1week*: effective replacement – bring GOCDB3 system down – Point GOCDB4 input system to the production GOCDB4 database – Point https://goc.gridops.org to central GOCDB4, with links to the input system. Bring the system back online

Links and References

[1] https://next.gocdb.eu/portal
[2] https://goc.gridops.org/gocdbpi_v4
[3] https://goc.gridops.org
[4] https://goc.gridops.org/gocdbpi
[5] http://goc.grid.sinica.edu.tw/gocwiki/GOCDB_Technical_Documentation