DIRAC User Workshop summary

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Job management

- More and more intensive use of DIRAC, more jobs to process

    - Not only in LHCb

- Good progress in the WMS scalability with the introduction of the Executors framework

    - The bottle neck on the new level moves from the jobs pre-execution optimization to matching and status monitoring

    - The current scalability goal is set to

        - 1M jobs per day, 100K concurrent jobs

- Necessity to manage large collections of jobs

  - Parametric jobs help solving bulk submission problems

    - The current implementation is fully functional

    - But hits the limits already and should reimplemented in a more scalable way

  - Tools for monitoring and managing large groups of jobs are necessary

    - Web tools

    - UI tools

▸ The Transformation System is heavily used by LHCb, ILC

  ▸ Is showing scalability problems

    ▸ addressed recently by LHCb

  ▸ More reviewing is necessary

    ▸ further optimization

    ▸ more general purpose task generation plugins

- The system initially introduced to provide a failover mechanism for DIRAC is now heavily to support workflows, scheduled data transfers, etc
  - The functionality of the RMS is well demanded
  - The implementation is not fitting the scalability goals
- The RMS revision/reimplementation is ongoing as a high priority task
  - When ready, will boost the performance of the Production and Data Management systems

- Automation of Data Management tasks is well advanced with the new implementation of the DMS agents

  - Allows to use failover and data driven replication by any user, not only production managers

  - Good basis for a general purpose Replication Service

- We should be ready for the changes in the third party services that we are using

  - FTS3/GFAL2

  - LFC (?) support

- Starting to be used by multiple users

  - Parallel usage of LFC and DFC for testing, redundancy, complementarity.

- Infancy problems are getting solved, performance is improving

- Practical needs are being addressed

  - Storage usage, user quotas, etc

- Data set management support should be addressed after understanding by both users and developers of the actual functionality needed

- Metadata management has the first implementation which already proves to be useful and efficient

  - More metadata schemas are considered and prototyped

  - The users will have a choice which is always good.

7

Resources Management

- DIRAC as a service takes responsibility of managing resources for multiple user communities

  - Especially when taking over the WMS role

- The CS schema must be updated to support richer description of the resources

  - Including access rights

  - RFC5 implementation is a high priority task

- Monitoring of the status of all the resources is becoming a crucial task

  - The available implementation of the RSS should be released, tested and put in production as a high priority task

8

Interfaces

- Many real and potential users of the DIRAC software and services having already developed rich application level tools

  - Submission frameworks, portals, etc

- **Necessity for a language neutral interface is high**

  - The RESTful interface is highly awaited feature

  - Will be ready to try out soon

  - The interface itself must be defined

- The Web portal framework needs replacement of underlying third party software (Pylons, ExtJS4)

- The task force is formed to choose the new third party software and to defined the new Web Portal development framework

  - Keeping in mind flexibility, possibility for extensions, etc

- Tough deadlines

  - The choices are to be done before the end of the year

  - First prototype in the new framework in 2-3 months

  - The newly implemented Web Portal in 6-12 months

    - Keeping the full support of the current Web portal

10

- ▸ DIRAC as a service becomes an important way of using the DIRAC software

- ▸ This needs specific developments

  - ▸ Resources management

  - ▸ Friendly VO administrator tools

- ▸ Documentation

  - ▸ User, administrator

- Thanks to the France-Grille project for sponsoring the DIRAC User Workshop

- Thanks to Angelique Pepe for the help in the organization of the workshop logistics

- Thanks to participants for fruitful discussions

- Hope that you have enjoyed the workshop

- See you in the next DIRAC User Workshop

  - The date and venue is to be defined