

DIRAC Project status

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DIRAC@IN2P3 meeting,
14 April 2022*



- ▶ Project composition
- ▶ Releases
- ▶ Activities

- ▶ Participating laboratories
 - ▶ CC/IN2P3, CPPM, LUPM, LPSC, IPHC, CREATIS
 - ▶ Explicitely listed in the last DIRAC Consortium documents
 - ▶ 14 engineers, but ~3 FTEs in total
- ▶ Main axis
 - ▶ DIRAC developments
 - ▶ DIRAC services
 - ▶ DIRAC dissemination, support, etc

- ▶ OAuth2/OIDC AAI
 - ▶ Computing and Storage Resources
 - ▶ Production System
 - ▶ REST
 - ▶ Jupyter
 - ▶ COMDIRAC
 - ▶ WebAppDIRAC
 - ▶ Developments to support services and applications
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- ▶ Let's review which developments we can be more involved in

- ▶ The development is delayed due to a long absence of Andrii
- ▶ Base features included into v8r0 prerelease
- ▶ Documentation of the new APIs
- ▶ Certification is ongoing
- ▶ Tests at IN2P3
 - ▶ Installed on `ccdiraccli06.in2p3.fr`
 - ▶ Whole chain of CloudVM submission:
token generation -> TokenManager->CloudDirector

- ▶ Computing resources
 - ▶ SSHComputingElement
 - ▶ updated to work with Python 3
 - ▶ HPC centers
 - ▶ Large interest in the community
 - ▶ We have to see how we can access HPC centers
 - IDRIS ? Others ?
 - ▶ We have to see how we can contribute
 - Using SSH access
 - Explore DIRAC proxy services
 - PushJobAgent
 - LHCb developement
 - Submit only applications to the remote CE (similar to the ARC Control Tower)

- ▶ Computing resources
 - ▶ Accessing Computing Elements with tokens
 - ▶ This is a new development to be done
 - ▶ OSG.OSG.us site offers HTCondorCE endpoint with token access
 - ▶ Cloud access with tokens
 - ▶ Cloud Endpoint updated to use tokens
 - Openstack and libcloud based drivers
 - ▶ Still has to be integrated with the CloudDirector and VirtualMachineManager
 - ▶ CloudComputingElement
 - ▶ New development by the GridPP colleagues
 - ▶ Simplified access to the clouds with the same interface as to grid sites
 - SiteDirector
 - Pilot Identity == VM identity
 - ▶ Will be available in the next patch
 - We can participate to testing it with our communities/applications

- ▶ Luisa, Johan + ??
- ▶ We should better promote that
 - ▶ Based on the CTA experience
 - ▶ Publication
- ▶ But this should perform well !

- ▶ The new DIRAC HTTP(S) based client/server protocol implies a new implementation of the REST interface
 - ▶ Contains the new REST framework, token ready
- ▶ The old REST handlers should be reviewed and reimplemented in the new framework
- ▶ The old REST package was updated to work in the current DIRAC environment
 - ▶ Several « dirty » tweaks were necessary, e.g. using an obsoleted Tornado framework version
 - ▶ Can run with DIRAC v7r3 and CentOS7
 - ▶ ccdirc06 can be finally retired ! Ouf !

- ▶ This is one more popular demand
- ▶ We have all the main ingredients to make DIRAC client available in the Jupyter environment
- ▶ There are different ways to do
 - ▶ Conda environments
 - ▶ Docker containers
 - ▶ CVMFS in the Jupyter notebook
- ▶ We have to find a proper way and make it available for pilot communities
 - ▶ Eiscat 3D
- ▶ The experience of CC/IN2P3 with Jupyter is very welcome

- ▶ COMDIRAC package is a very much appreciated alternative command line interface
 - ▶ Developed by Pierre
 - ▶ Maintained by Andrii
- ▶ COMDIRAC is updated recently
 - ▶ Upgraded to Python 3
 - ▶ Deployed in the PyPi service
- ▶ There are several ideas for further developments
 - ▶ See <https://github.com/DIRACGrid/COMDIRAC/issues>
 - ▶ E.g. ddiag, dinfo, drsync
 - ▶ Contributors wanted

- ▶ The package is maintained by Andrii
 - ▶ The best expert is in the Project !
 - ▶ Updated to support tokens
 - ▶ Made uniform with the HTTP/Tornado framework
- ▶ More web applications are desirable
 - ▶ Monitoring the DIRAC services, logs, stats
 - ▶ Community specific web pages
- ▶ Contributors are welcome

- ▶ These are the developments related to running our DIRAC services
 - ▶ We encounter problems or user demands and we develop solutions
 - ▶ Elasticsearch with certificates
 - ▶ Containers (singularity, udocker)
- ▶ This can be hardly planned
 - ▶ But contributions are always welcome
 - ▶ Do not hesitate to make suggestions !

- ▶ 2 patch releases in the last month
 - ▶ v7r2p43
 - ▶ v7r3p20
 - ▶ Multiple minor fixes
 - ▶ PoolCE fixes
 - ▶ Faster agent loops
 - ▶ FTS3Agent fixes
 - ▶ WebAppDIRAC
 - ▶ NTR
 - ▶ COMDIRAC
 - ▶ NTR

- ▶ 8.0.0a19
 - ▶ WebAppDIRAC 5.0.0a10
 - ▶ Python3 only
 - ▶ OAuth2/OIDC AAI, user management
 - ▶ Status
 - ▶ II certification hackathons
 - ▶ Including hackathon on lbcertifoauth.cern.ch – special instance for the certification of the OAuth tokens development
 - ▶ Next hackathon on the 21st April
 - ▶ Close to release, but ...
 - ▶ Still pending
 - TokenManager necessary for the minimal token support

▶ Running more or less smoothly

▶ Since Jan 2022

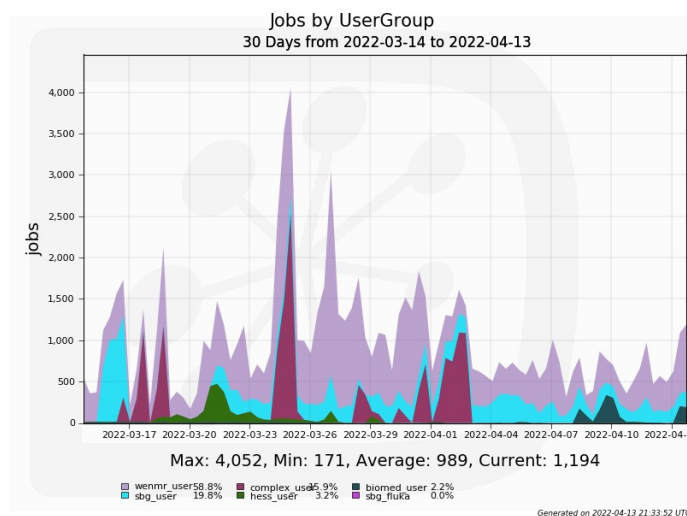
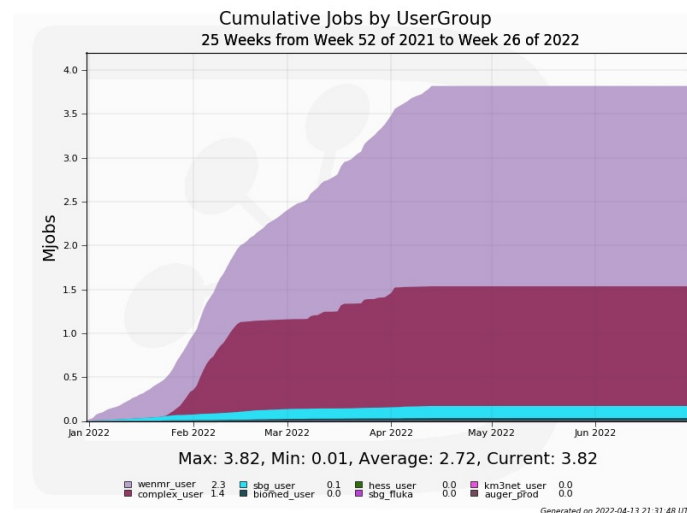
- ~ 4M jobs
- Up to 4k concurrent jobs
 - 1k on average

▶ Servers installation

▶ All servers are at v7r3p15

- Have to pass to v7r3p21

▶ See Gino's report



- ▶ Not much news
- ▶ Concordia project
 - ▶ NTR
 - ▶ Previous status
 - ▶ Scripts based API for submission of grid jobs with Corsika containers
 - Adapted for Km3NET and CTAO
 - ▶ Porting the scripts to the Concordia WebGUI started
- ▶ ESAP
 - ▶ Integration with DIRAC
 - ▶ Asking for integration with RCAuth (In progress, Andrii)

- ▶ Conseil Scientifique de l'IN2P3
 - ▶ 23-24 June
 - ▶ Calcul et Données
- ▶ Including presentation from Master Projects
 - ▶ Including DIRAC@IN2P3
 - ▶ The exact format and contents is being discussed

- ▶ Management of the Consortium documents passed from CNRS/DR12 to IN2P3
 - ▶ Slight change in the CNRS participant definition – all the DIRAC@IN2P3 laboratories are explicitly mentioned now
- ▶ The Montpellier University became an official member of the Consortium
- ▶ The Amendment 2 extending the Consortium for another 5 years is being prepared now

- ▶ ISGC Conference

- ▶ 21-25 March, online, <https://indico4.twgrid.org/event/20/>
- ▶ Presentation on « Exploiting cloud resources with DIRAC »
 - ▶ 23d March
 - ▶ Together with GridPP colleagues
 - ▶ Paper to be written

- ▶ Others to be viewed (EGI, etc)

- ▶ Seminar at CPPM in June
 - ▶ On Distributed Computing in general and on DIRAC in particular
 - ▶ Vanessa Hamar
 - ▶ 20 June
 - ▶ For CPPM and the Aix-Marseille University
 - ▶ Followed by a tutorial

- ▶ Urgency for complex workflows paper
 - ▶ Volker's journal
- ▶ Draft paper URL
 - ▶ <https://gitlab.in2p3.fr/DiracIN2P3/TSPaper2017>
- ▶ Effort needed to accomplish it