

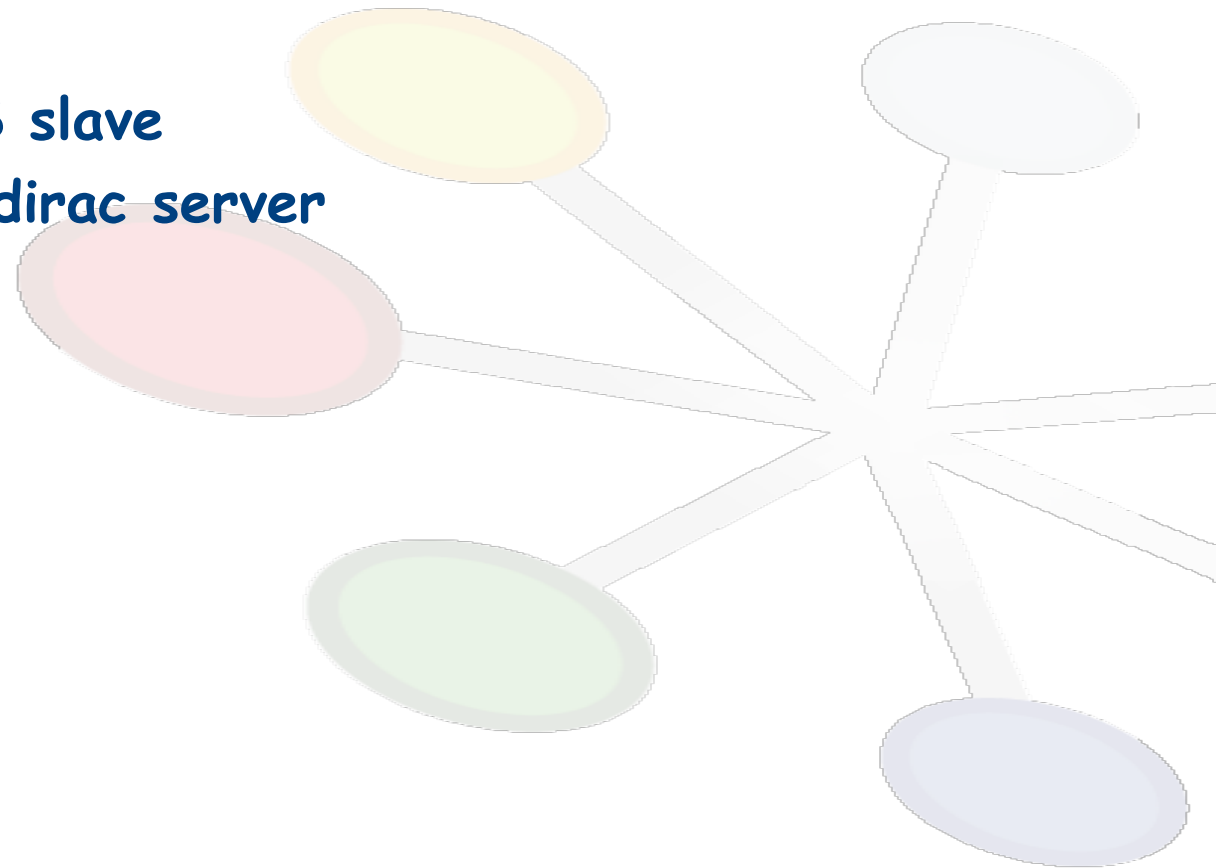


Packaging and deploying DIRAC

7th DIRAC User workshop
29-31 may 2017
Warszawa



- Runit
- Dirac-install
- Dirac and CVMFS
- Dirac and pip
- DNS alias for CS slave
- Configuration of dirac server
- lcgBundles
- Externals





- The way that runit is installed today depends on the Dirac version
 - Drawback : some libraries are loaded in memory
 - New version do NOT imply restart of runsv, so keep old libraries in memory : mismatch from time to time
- New : should be independant of the version of Dirac
 - Should be installed as RPM or independant package
 - Tests under way..
 - One modification is runsvdir-start to change the path of the binaries
- To follow this issue :
<https://its.cern.ch/jira/browse/LHCBDIRAC-697>
- Procedure to kill/restart runsv :
<https://twiki.cern.ch/twiki/bin/viewauth/LHCb/LHCbDIRACOperations>



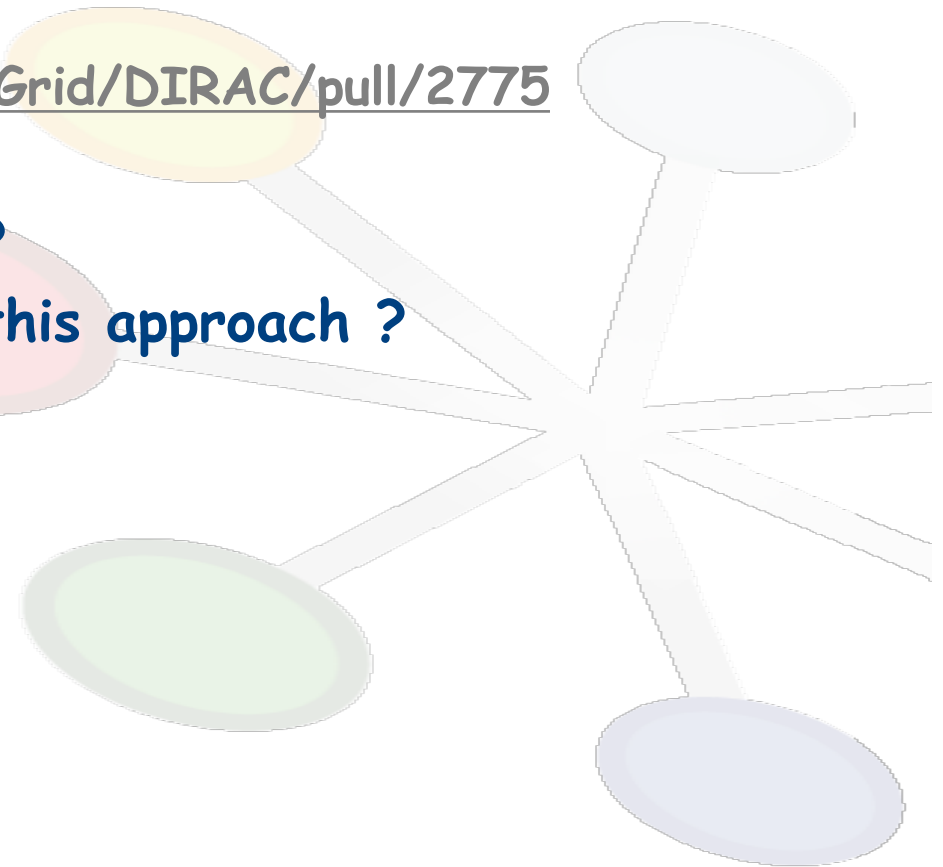
- The `dirac-install.py` script invocation is problematic for few reasons:
 - Integration of `dirac-install` in `install_site.sh` for server installation
 - Risky procedure
 - ☆ Fixed with adding version switch to `install_site.sh`
 - Update a version of `dirac` with `dirac-install` will use the local one and not the latest one
 - Always keep an uptodate version of `dirac-install`
 - ☆ what was advised to do was that `dirac-install` would self-download itself, then re-invokes itself. This is in practice the same as having a first script that, upon invocation, parses all the arguments passed in, but don't use any of them but one (the release). Then invokes a second script in a subprocess (the fact that it would have the same name adds to the confusion) with the same arguments to which the first has been called, parses all them, before using them for real this time. This is not impossible but requires some careful coding.



- Dirac has his own CVMFS server : `/cvmfs/dirac.egi.eu/`
- One installation of DIRAC in production but not uptodate :
 - Pro is v6r17p9 (latest is v6r17p21)
 - For LHCb the configuration is not optimal (machine name hardcoded instead of alias)
- Externals is present and several version available
- Source files of the various extension are also present but not uptodate
 - Could it become the official repository as AFS is phasing out at CERN and we need an other solution ?
- LHCb uses CVMFS to install its own version of LHCbDirac and Dirac
 - Pilot check first that the version of dirac is on CVMFS otherwise install dirac with `dirac-install`

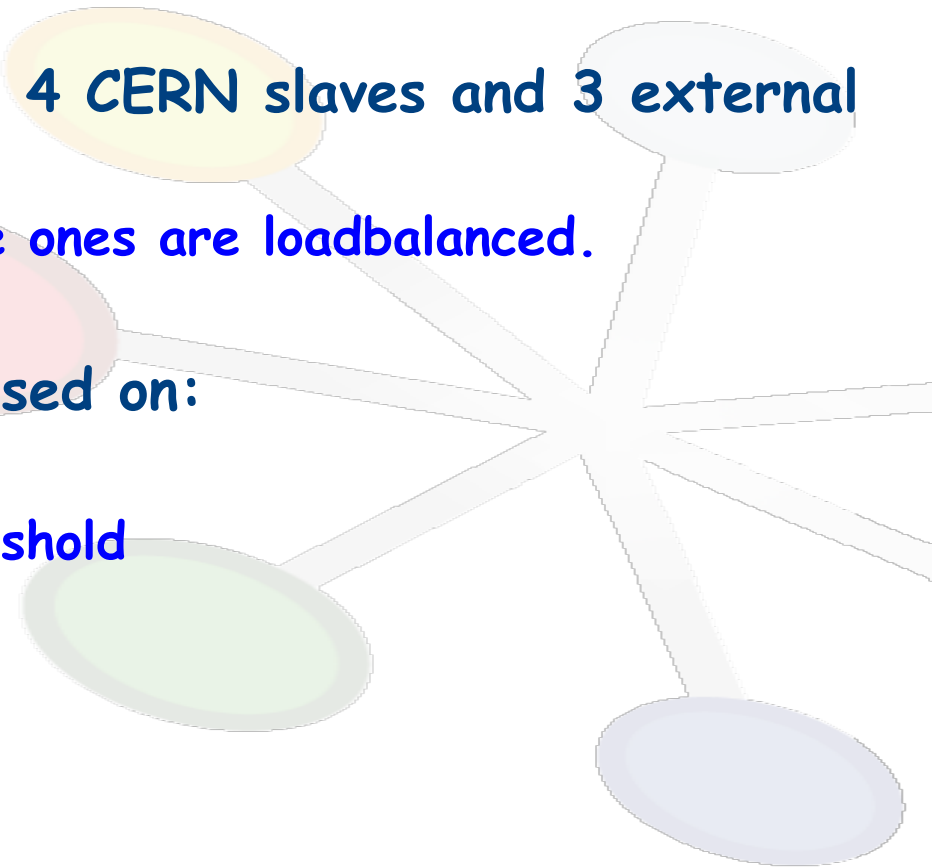


- An alternative for the installation of Dirac would be the use of SETUPTOOLS (aka pip).
- Some work has been done but as far as we know never tested
 - <https://github.com/DIRACGrid/DIRAC/pull/2775>
- Is someone willing to test ?
- Is someone interesting by this approach ?





- To run A DIRAC extension you need at least ONE Configuration server as master.
- Good practise is to have at least one slave which is a readonly instance.
- For the LHCb case we have 4 CERN slaves and 3 external slaves
 - In addition the CERN slave ones are loadbalanced.
- Load balancing instances based on:
 - load of the machines
 - Disk partition below a threshold
 - Intercative login autorised
 - Always one defined (new)
 - Avoid disruption of service





Configuration for Dirac server

- **Bashrc**
 - Manage by dirac-install : not a good idea
 - First installation ok to have skeleton
 - Not ideal for update...
 - At CERN, we study the possibility to manage it with puppet with the configuration of the VOBOX
- **dirac.cfg and local cfg files**
 - we want to try to manage as well the local configuration for dirac via puppet
 - In particular the permission for configuration files which contains password
 - Ideally remove username and password especially for Mysql access
- **To follow the issue :**
<https://its.cern.ch/jira/browse/LHCBDIRAC-696>

lcgBundles : list of package



- arc : 15.03u7**12**
- canl : 2.2.6
- castor : 2.1.13-6
- cream : 1.16.2
- davix : ~~0.6.3~~ **0.6.5**
- dcap : 2.47.10-3
- dm-util : 1.16.0-2
- DPM : 1.8.11
- epel : 20160623
- FTS : 2.2.9
- FTS3 : ~~3.5.7~~ **3.6.8**
- gfal : 1.16.0-1
- gfal2 : ~~2.11.1~~ **2.13.3**
- gridftp-ifce : 2.3.1-1
- gridsite : 2.2.6
- htcondor : ~~8.5.5~~ **8.6.0**
- is-ifce : 1.15.0-0
- lb : 4.1.2
- lcg-dm-common : 1.8.11
- LFC : 1.8.11
- libtool : 2.4.2
- mjf : 0.0.2-2
- qt : 4.8.7
- Qt5 : 5.6.0 : **NEW**
- srm-ifce : ~~1.23.3~~ **1.24.2**
- voms : ~~2.0.13~~ **2.0.14**
- WMS : 3.6.2
- xrootd : ~~4.3.0~~ **4.6.0**

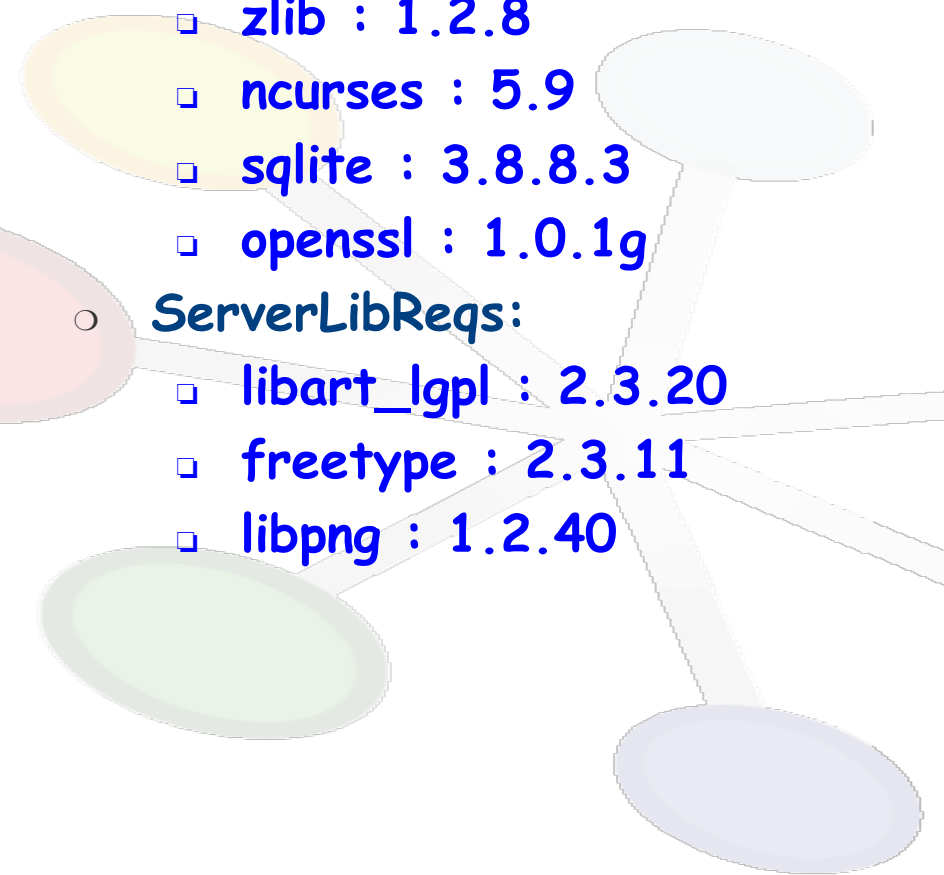


- Version prepared for :
 - python version 2.6 and 2.7
 - glibc 2.12 and 2.17 BUT there is no native version of the Grid middleware for centos7 aka glibc2.17.
- Based on projectConfig.json of LHCbDirac located in dist-tools
 - Build RPM for LHCbGrid
 - Build lcgBundles for DIRAC customers
- Lcgbundles is installed on /cvmfs/grid.cern.ch/lcg
- to help you to debug, please provide these info:
 - How do you have installed DIRAC ? CLI ? Keep version (-v) ?
 - which version of dirac ?
 - Which OS ?
 - which command do you run to reproduce the error



Externals : list of packages

- **Server package:**
 - 'pexpect': '4.0.1'
 - 'sqlalchemy': '1.1.4'
 - 'MySQL-python': '1.2.5',
 - 'tornado': '4.4.2'
 - 'apache-libcloud': '1.1.0'
 - 'elasticsearch-dsl': '5.0.0'
 - 'psutil': '5.0.0'
 - 'GitPython': '2.1.0'
- **Client package:**
 - 'pyparsing': '2.0.6'
 - 'Simplejson': '3.8.1'
 - 'requests': '2.9.1'
 - 'futures': '3.0.5'
 - 'certifi': '2016.9.26'
 - 'stomp.py': '4.1.15'
- **ClientLibReqs:**
 - readline : 6.3
 - bzip2' : 1.0.6
 - zlib : 1.2.8
 - ncurses : 5.9
 - sqlite : 3.8.8.3
 - openssl : 1.0.1g
- **ServerLibReqs:**
 - libart_lgpl : 2.3.20
 - freetype : 2.3.11
 - libpng : 1.2.40





- **client-full**
 - `clientLibReqs`, `Python-$PYTHONVERSION$`, `ClientPackages` , `pyGSI` }
- **client**
 - `client-full`, `reduceSize`
- **server**
 - `client-full`, `ldap`, `runit`, `serverLibReqs`, `rrdtool`, `MySQL`, `ServerPackages`, `pyPlotTools`, `SOAP`
- **Fullserver**
 - `Server`, `FullServerPackages`
- Idea is to remove `MySQL` and `runit`
- Should we keep `Python` ???

