

# GENERIC CROSS PLATFORM SOLUTION FOR GRID TOOLS

classads  
condor  
davix  
fuse  
gfal2  
glite  
globus  
gridsite  
gsoap  
lcgdm  
lfc  
myproxy  
mysql  
nordugrid  
nss  
opendap  
openssh  
openssl  
python  
sqlite  
srm  
voms  
xrootd  
...

## Why?

- DIRAC requires external libraries to work  
Python libraries, middleware, server side tools...  
historically separated into two packages
- Externals: Python and standard binary libraries  
pre-compiled for several platforms  
different versions for client and server
- LCGBundel: libraries form the grid world (gfal, arc, etc)  
two versions – glibc 2.12 and 2.17  
same version for client and server  
frequent updates
- Difficult to test and slow release process
- Replace all with one unified coherent solution

## Status

- First full release 1.0
- Tests OK with SLC6, CC7, fedora and ubuntu
- Official support SLC6 and CC7
- Bundle size 250 MB
- More testing to be performed
- Next certification of DIRAC with DIRACOS
- Will be default for DIRAC v7r0
- Integrated in DIRAC CI

## How...

- Single package list
- Recompiled all from SRPM
- All the dependencies are pulled down to glibc
- Same packages for our clients, servers and multiple platforms
- Solves the binary incompatibility of using a python version newer than the native system
- Based on Fedora Mock and yum repo
- Extensible setup design
- Ideal for agile development cycle

# DIRACOS

## Easy!

- Generating of bundles made easy
- “pip install diracos” + a few yum commands
- Compile everything  
dos-build-all-rpms config/diracos.json
- Generate requirements.txt with versions  
dos-fix-pip-versions config/diracos.json
- Compile the python modules  
dos-build-python-modules config/diracos.json
- Pull dependencies and tar  
dos-bundle config/diracos.json

## Grammar

```
{
  "rpmBuild": {
    "opt1": 1,
    "package Groups": [
      {
        "name": "pkgGroup1",
        "opt1": 2,
        "packages": [
          {
            "name": "pkg1",
            "opt2": "x"
          },
          {
            "name": "pkg2",
            "opt1": 3
          }
        ]
      }
    ]
  }
}
```

- Allows to handle specific cases
- Patching:  
some RPM spec requires tweaking  
simply add diff to patch folder
- Routines for pre, post and instead actions
- List of Python packages handled via list in json configuration