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# A Design Proposal for Interactive Data analysis on the Grid



# “Road map”

- Introduction
- Design of “PROOF on gLite”
- Live demo
- Development process and tools
- Summary
- Future plans



# Introduction

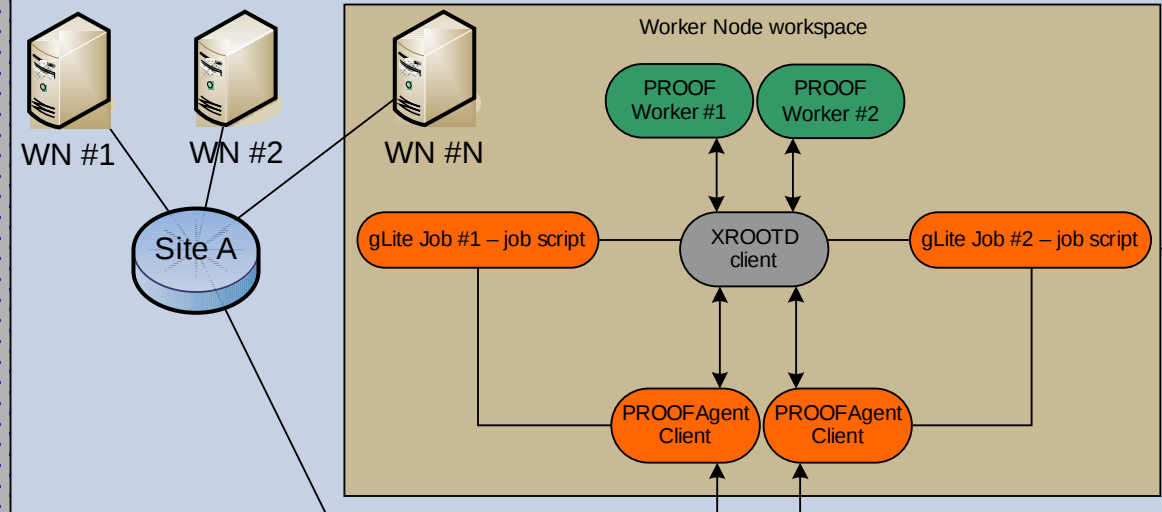
Tools for ROOT based data analysis

- Self-made solutions for local cluster
- Self-made solutions for Grid

## PROOF:

- Preinstalled PROOF clusters (local/remote)
- Self-made PROOF job submission
- Get an ALICE VO membership and use AliEn+PROOF

# Site workspace



## Workspace prerequisites:

gLite WN  
ROOT  
XROOTD  
Outgoing connection

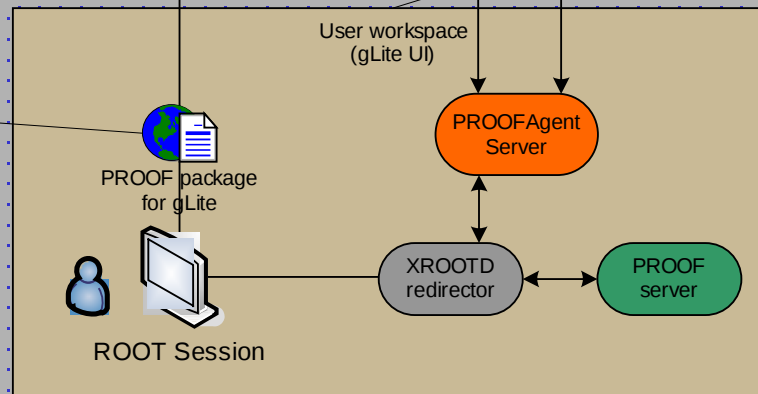


## Workspace content:

gLite UI  
ROOT  
XROOTD (with GSI authentication)  
xpd.cfg (generic XROOTD config)  
PROOFAgent (server mode)  
proofagent .cfg.xml  
Server\_gLitePROOF.sh  
PAConsole (optional)

## Content of gLite job:

gLitePROOF.jdl  
gLitePROOF.sh  
xpd.cfg (generic XROOTD config)  
PROOFAgent (client mode)  
proofagent .cfg.xml



- Newly developed components
- ROOT components
- XROOTD



# RGLite

```
// Initializing RGLite plug-in
TGrid::Connect("glite");
// Submitting a Job to gLite Grid
TGridJob *job = gGrid->Submit("JDLS/proofd.jdl");
// querying a Status of the Job
TGridJobStatus *status = job->GetJobStatus();
status->GetStatus();
// Getting a Job's output back to the user
TGLiteJob* job_glite(job);
job_glite->GetJobOutput("/home/anar/");
```

**Job submission, Status  
querying, Output retrieving**

```
// Initializing RGLite plug-in
TGrid::Connect("glite");
// Changing current File Catalog directory to "dteam"
gGrid->Cd("dteam");
// Querying a list of files of the current FC directory
TGridResult* result = gGrid->Ls();
// Printing the list out, including full file information
result->Print("all");
```

**List full file information of a  
catalog folder**



# LIVE DEMO





# Development process and tools

- Documentation: Wiki, doxygen, ROOT HTML.
- Version control: SVN
- Agile Software Development
  - Continues integration
    - Automatic Builds and tests (SLC3, FC6)
    - Nightly releases
  - Project metrics
  - Task tickets
- Project configured with GNU autotools



# Summary

- RGLite is ready.
  - ROOT team accepted our suggestions in order to improve TGridXXX.
- A PROOF job submission on gLite MW is ready.





# Future plans

- Implement an ability to keep PROOF connection alive after quitting ROOT session.
- Implement a schema with “sub-redirector”.
- Implement WMPProxy job submission in glite-api-wrapper.