



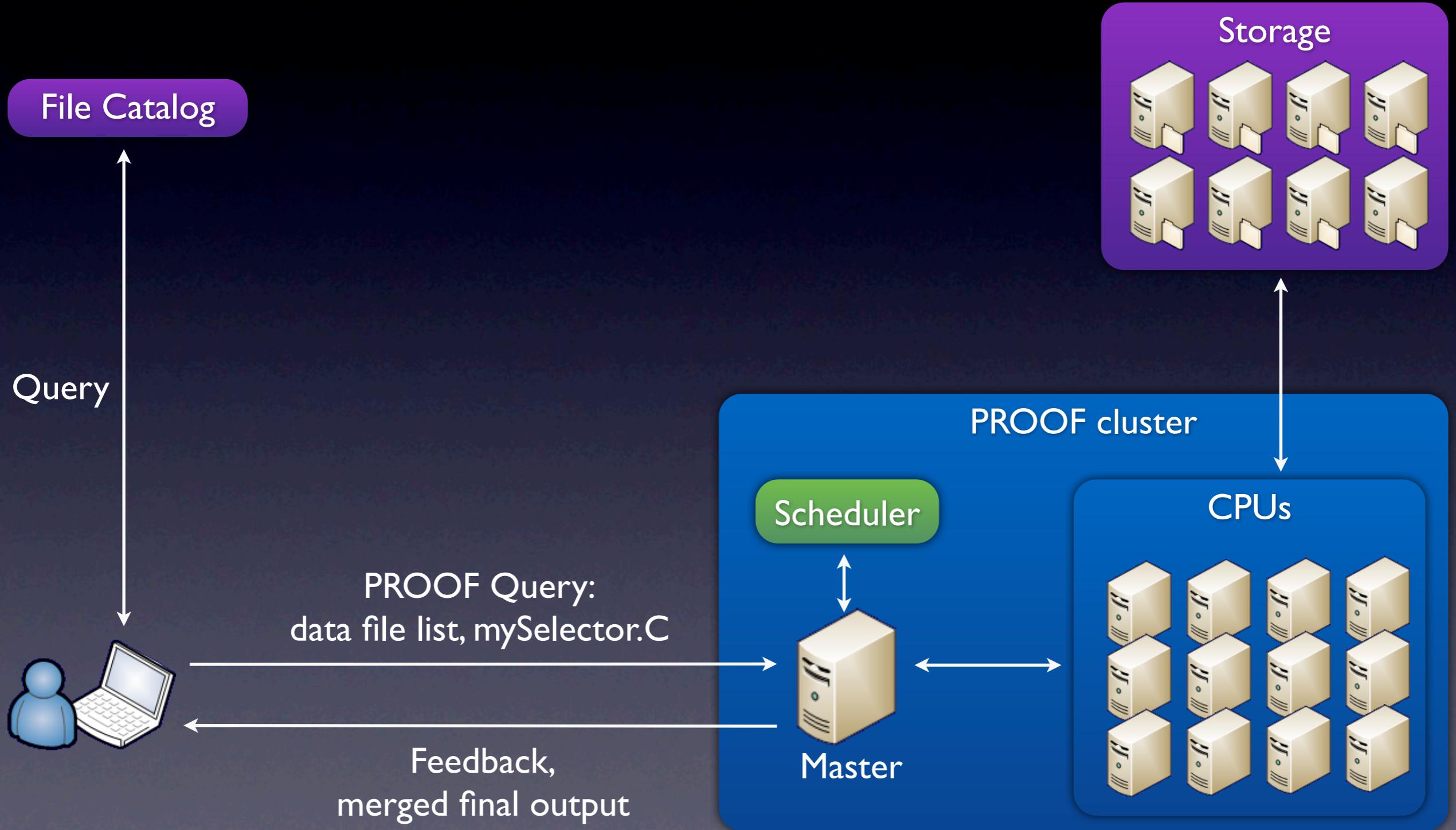
Anar Manafov, GSI Darmstadt

HEP Data Analysis



Typical HEP analysis needs a continuous algorithm refinement cycle

PROOF



Dynamic cluster

User

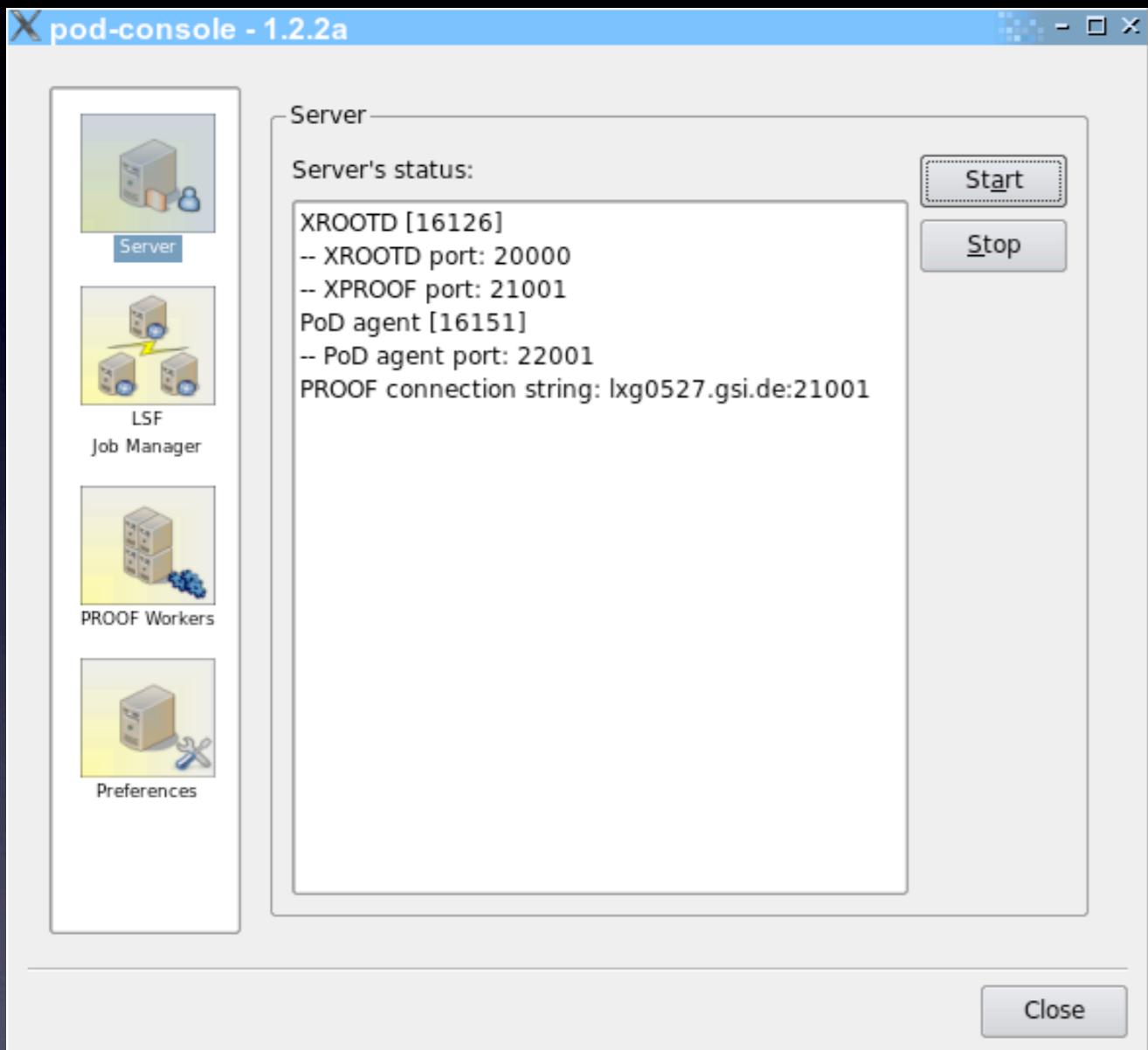
- can entirely control it,
- can setup and use it on demand,
- can reserve a desired amount of workers,
- can select a preferable master host,
- doesn't need admins to take an action,
- doesn't disturb other users.



developed at GSI by the Scientific Computing group

3 steps to set your private PROOF cluster up

PoD server

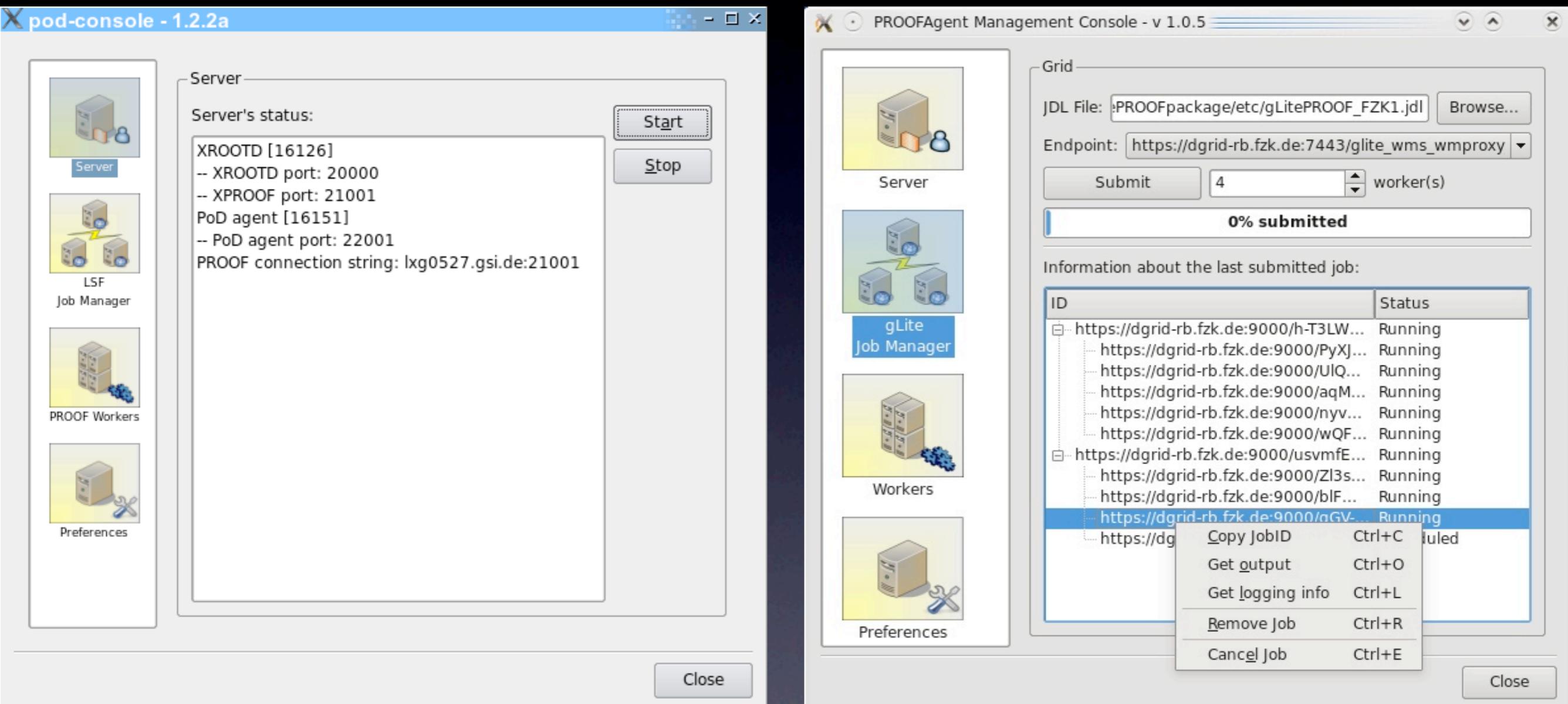


3 steps to set your private PROOF cluster up

PoD server

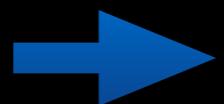


Job Manager (gLITE, PBS, LSF)

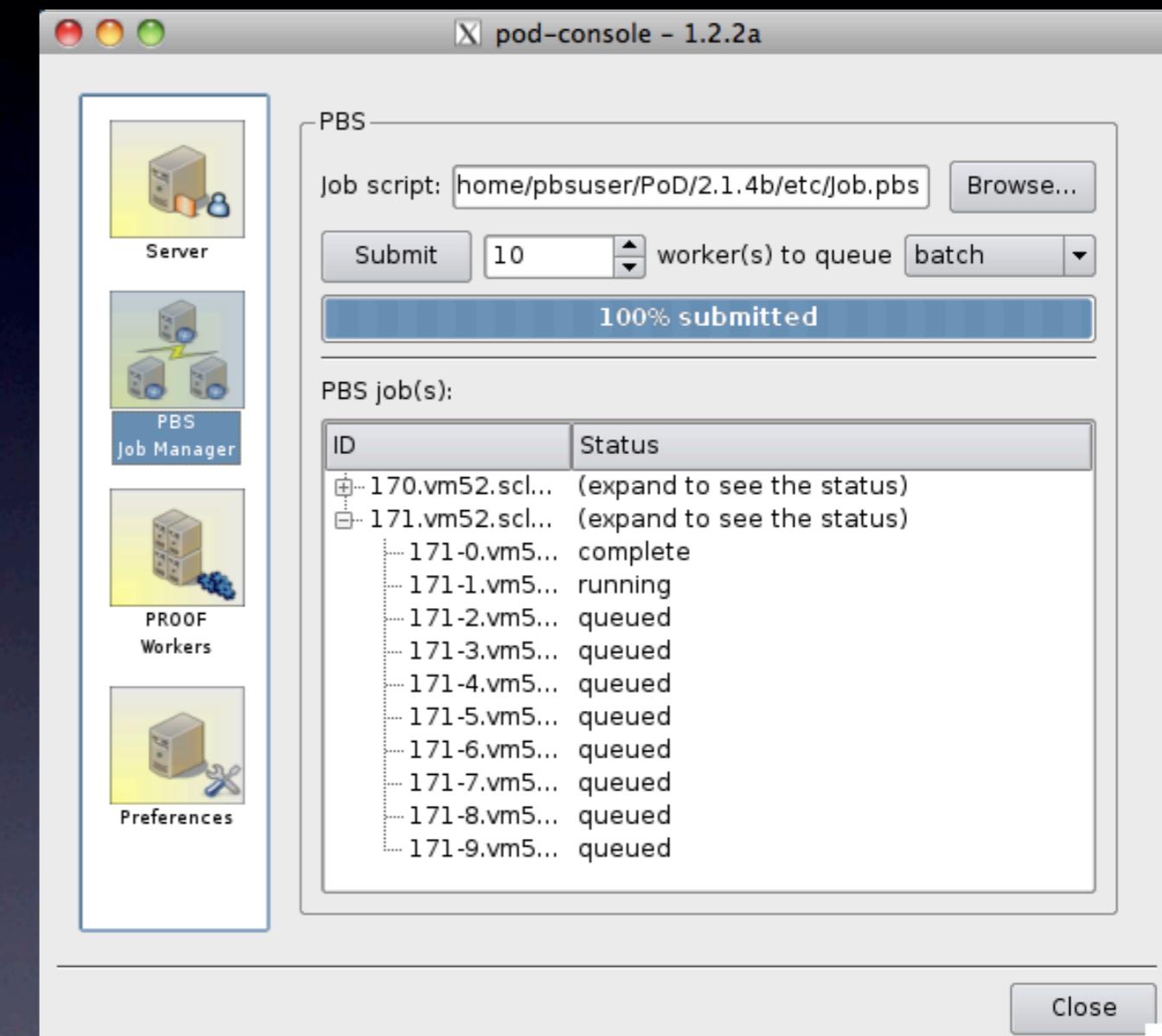
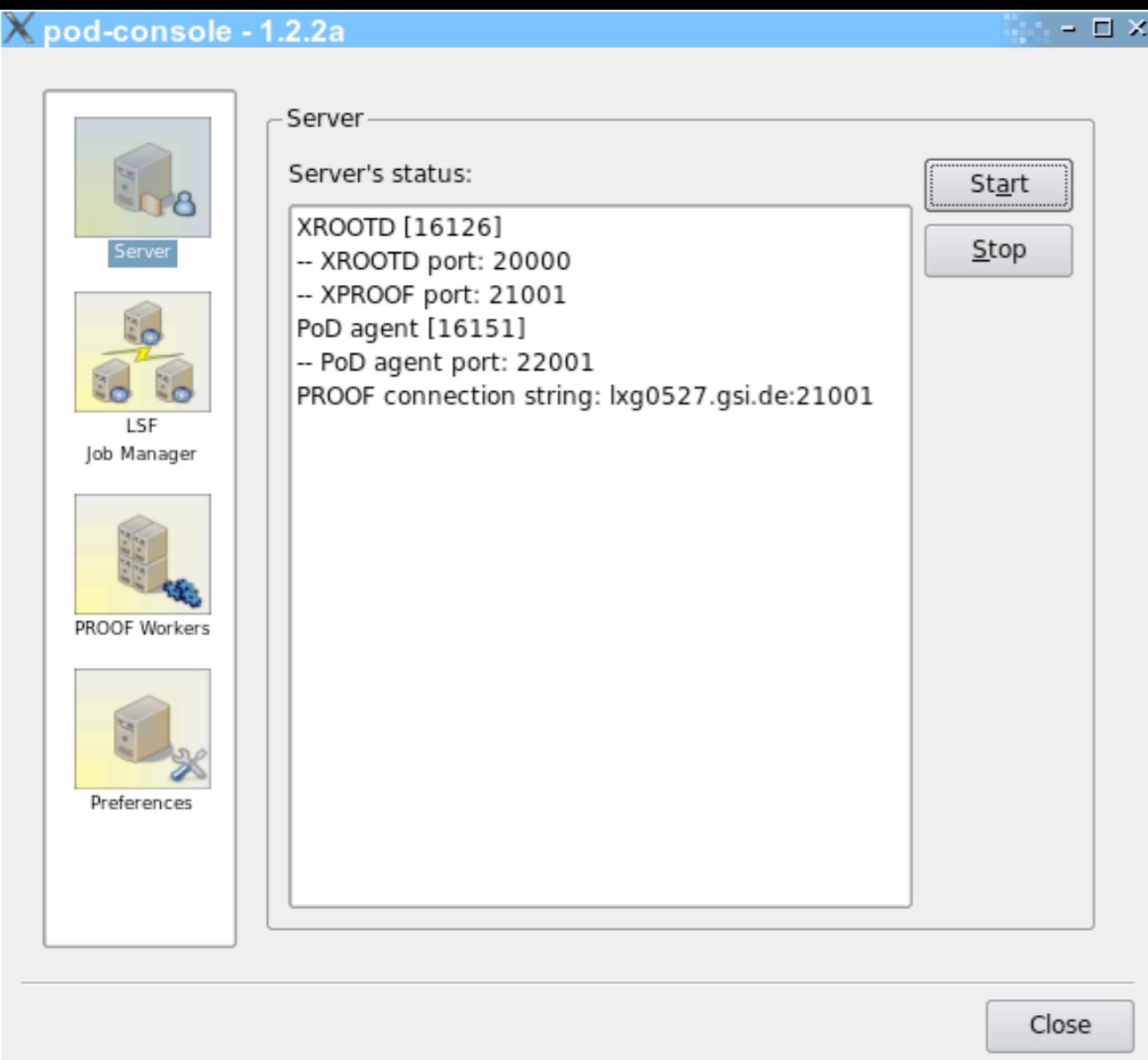


3 steps to set your private PROOF cluster up

PoD server



Job Manager (gLITE, PBS, LSF)

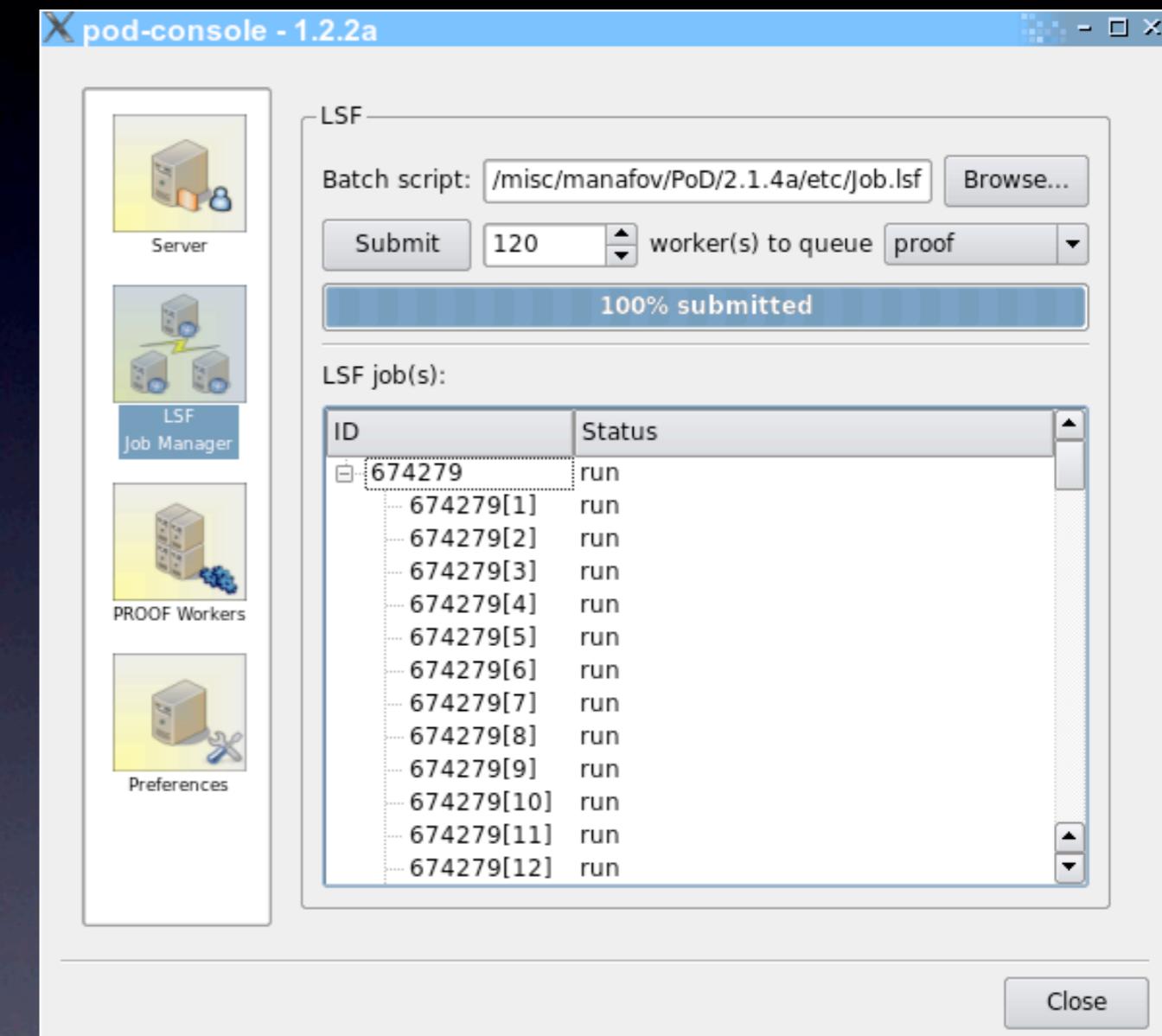
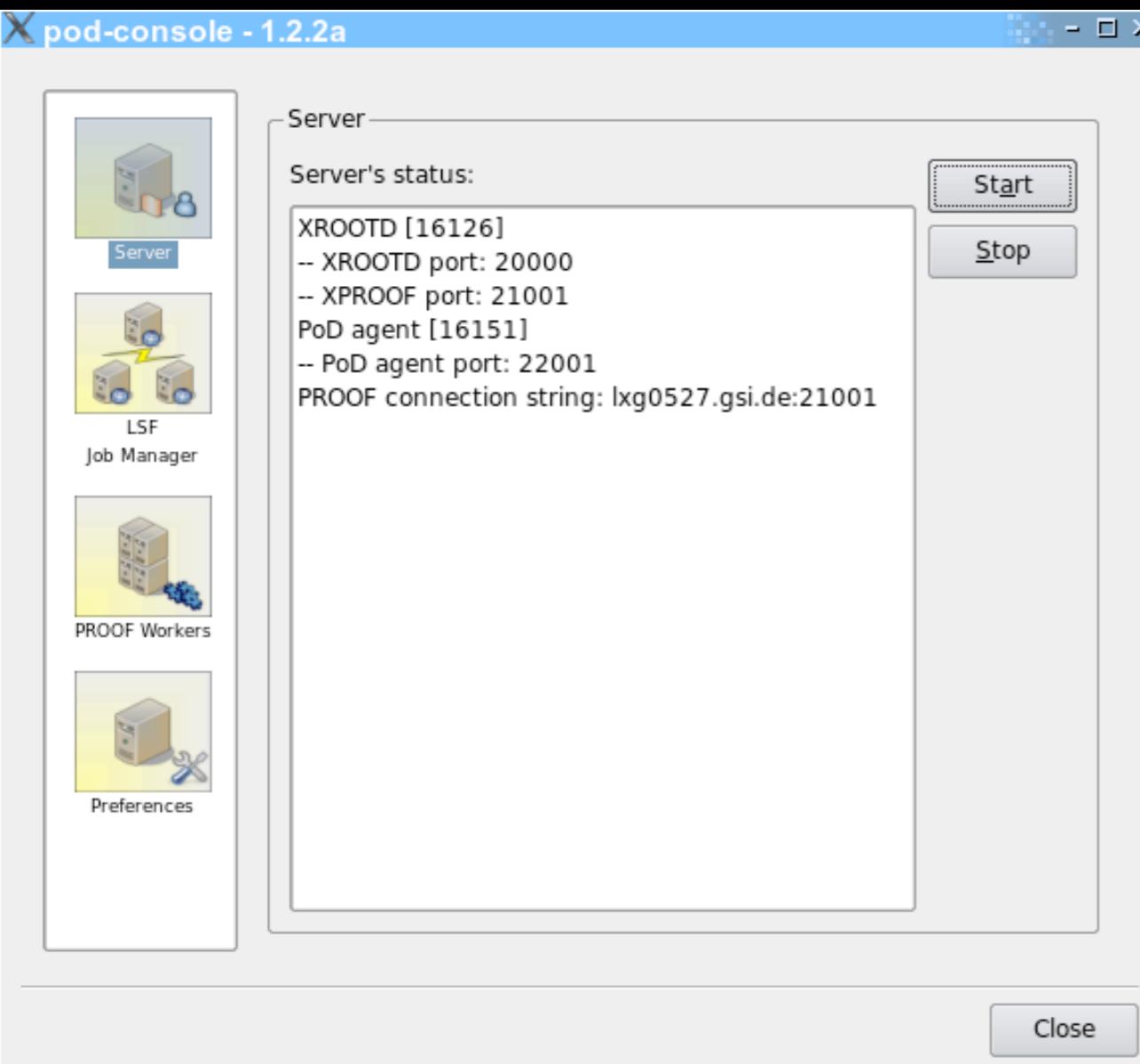


3 steps to set your private PROOF cluster up

PoD server



Job Manager (gLITE, PBS, LSF)

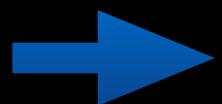


3 steps to set your private PROOF cluster up

PoD server



Job Manager (gLITE, PBS, LSF)

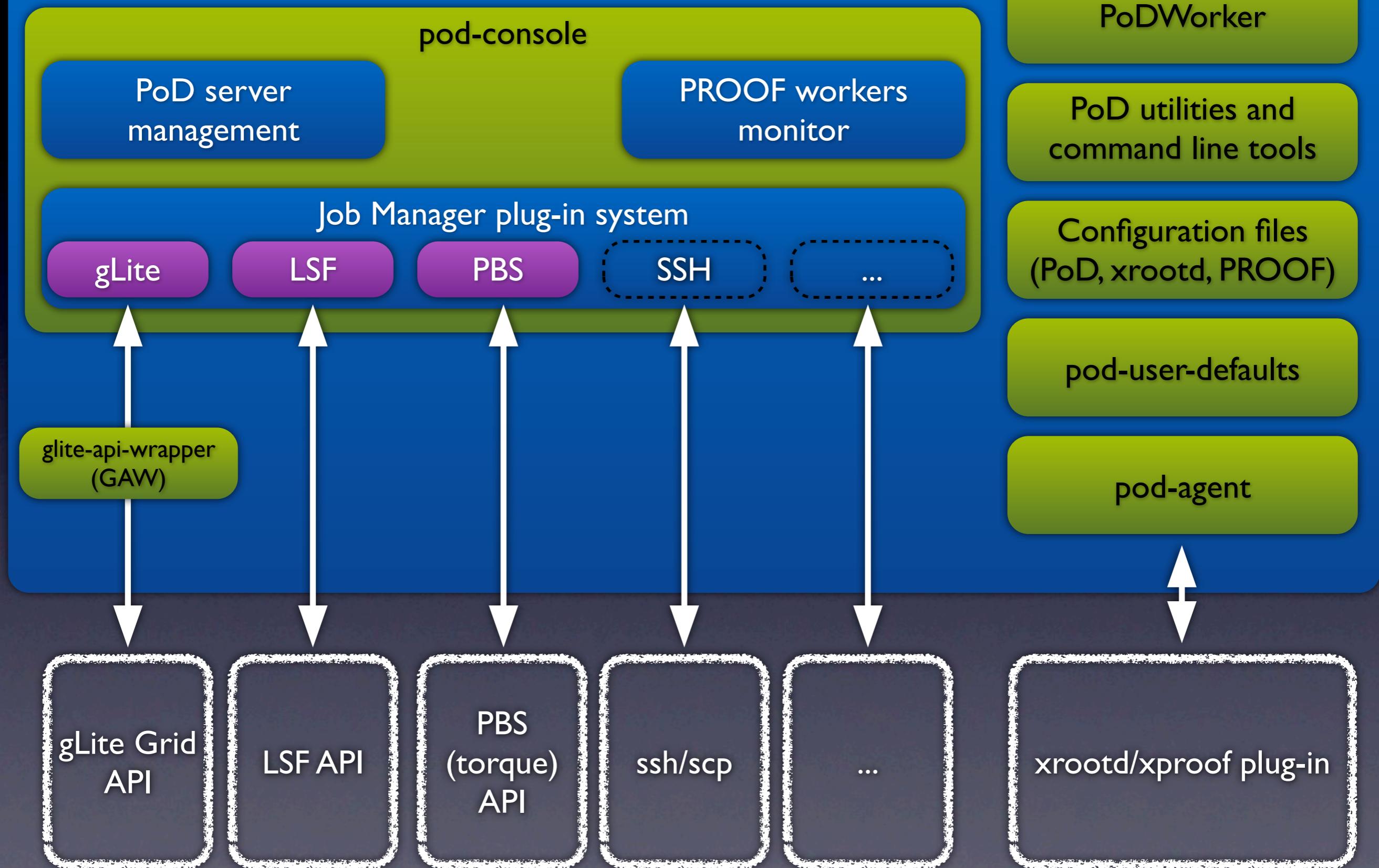


your
PROOF
cluster

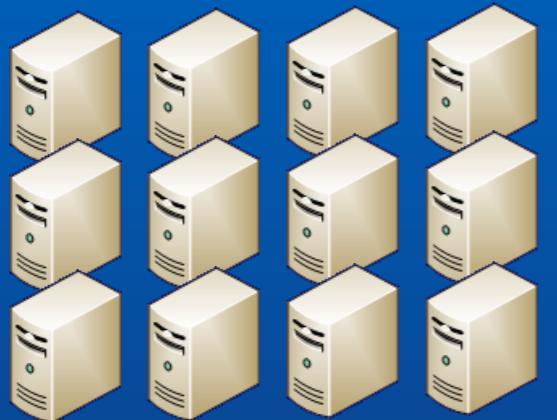
The image displays three windows of the pod-console application, version 1.2.2a, illustrating the three steps to set up a private PROOF cluster:

- Step 1: PoD server** (Left Window)
 - Shows the main interface with icons for Server, LSF Job Manager, PROOF Workers, and Preferences.
 - Under "Server", it shows "Server's status": XROOTD [16126] and PoD agent [16151].
 - Contains "Start" and "Stop" buttons.
- Step 2: Job Manager (gLITE, PBS, LSF) (Middle Window)**
 - Shows the "LSF" section with a "Batch script" field containing "/misc/manafav/PoD/2.1.4a/etc/job.lsf" and a "Submit" button.
 - Indicates "120 worker(s) to queue proof".
 - A progress bar shows "100% submitted".
 - Contains a "Status" list with multiple entries all labeled "run".
- Step 3: your PROOF cluster (Right Window)**
 - Shows the "Worker(s)" section with a list titled "Available PROOF workers: 120 out of 120".
 - Lists 120 workers, each with a direct connection status (e.g., "worker manafav@lx534.gsi.de:21002 (direct connection)").
 - Contains a "Status" list with multiple entries all labeled "run".

PoD v2.1.X



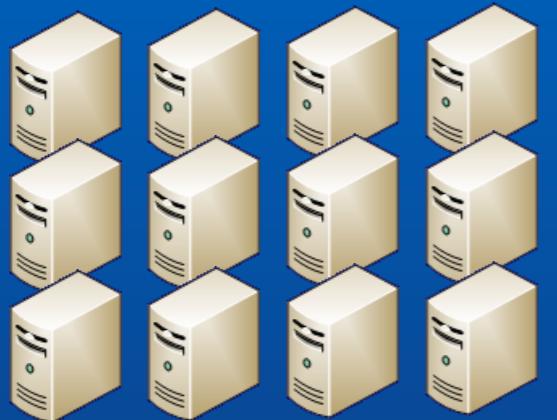
Resource management system



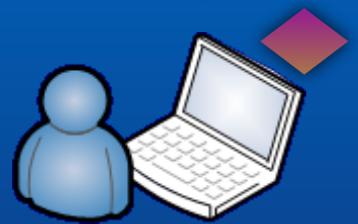
User workspace



Resource management system



User workspace

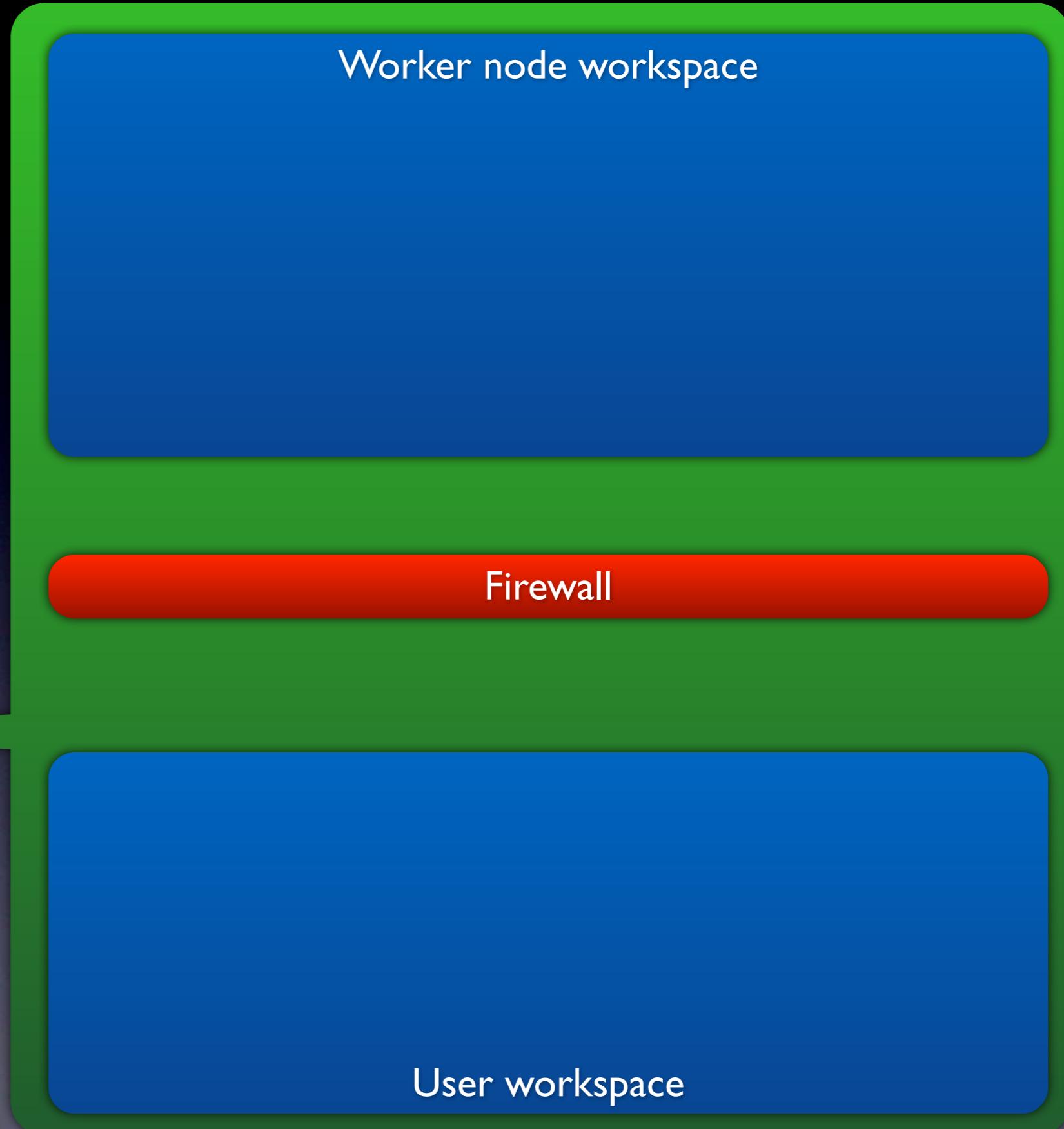
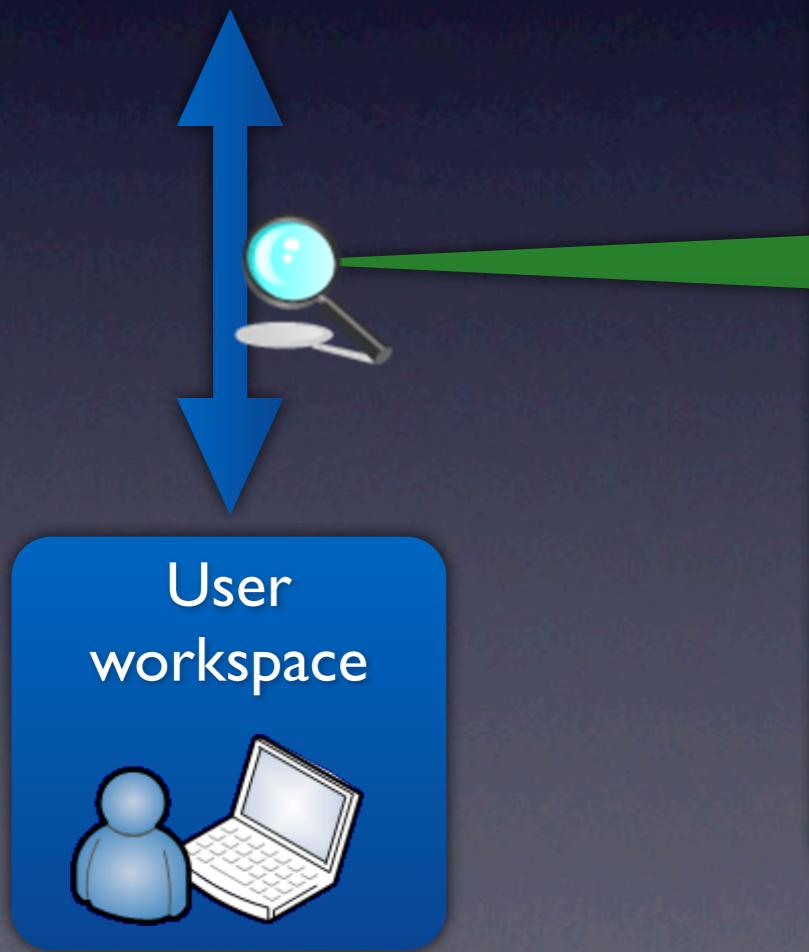
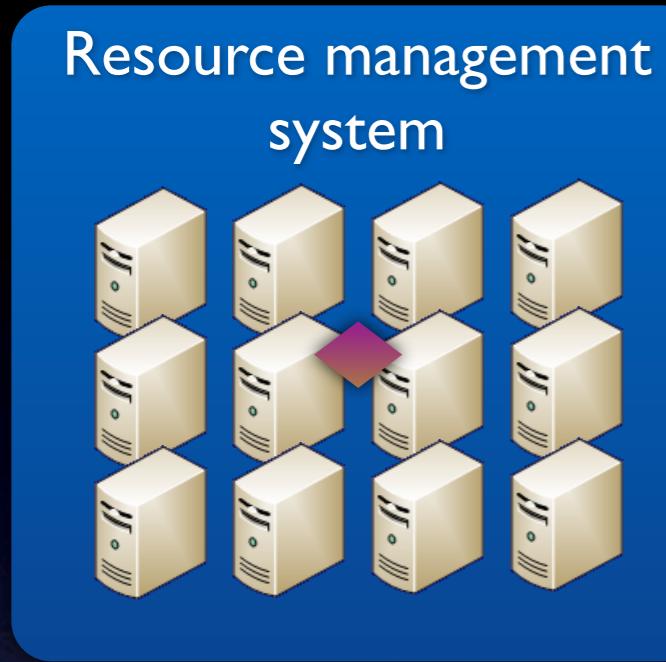


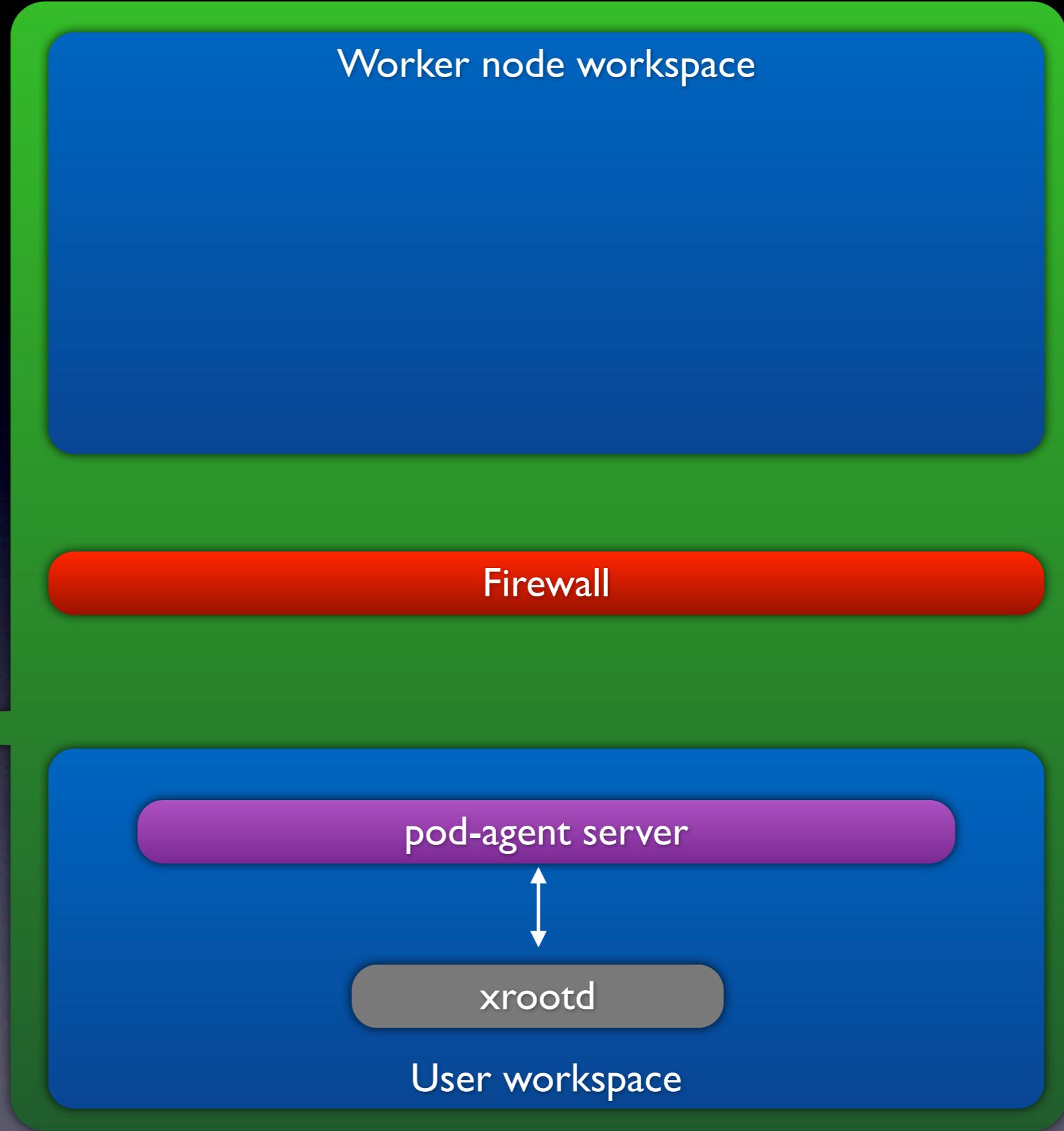
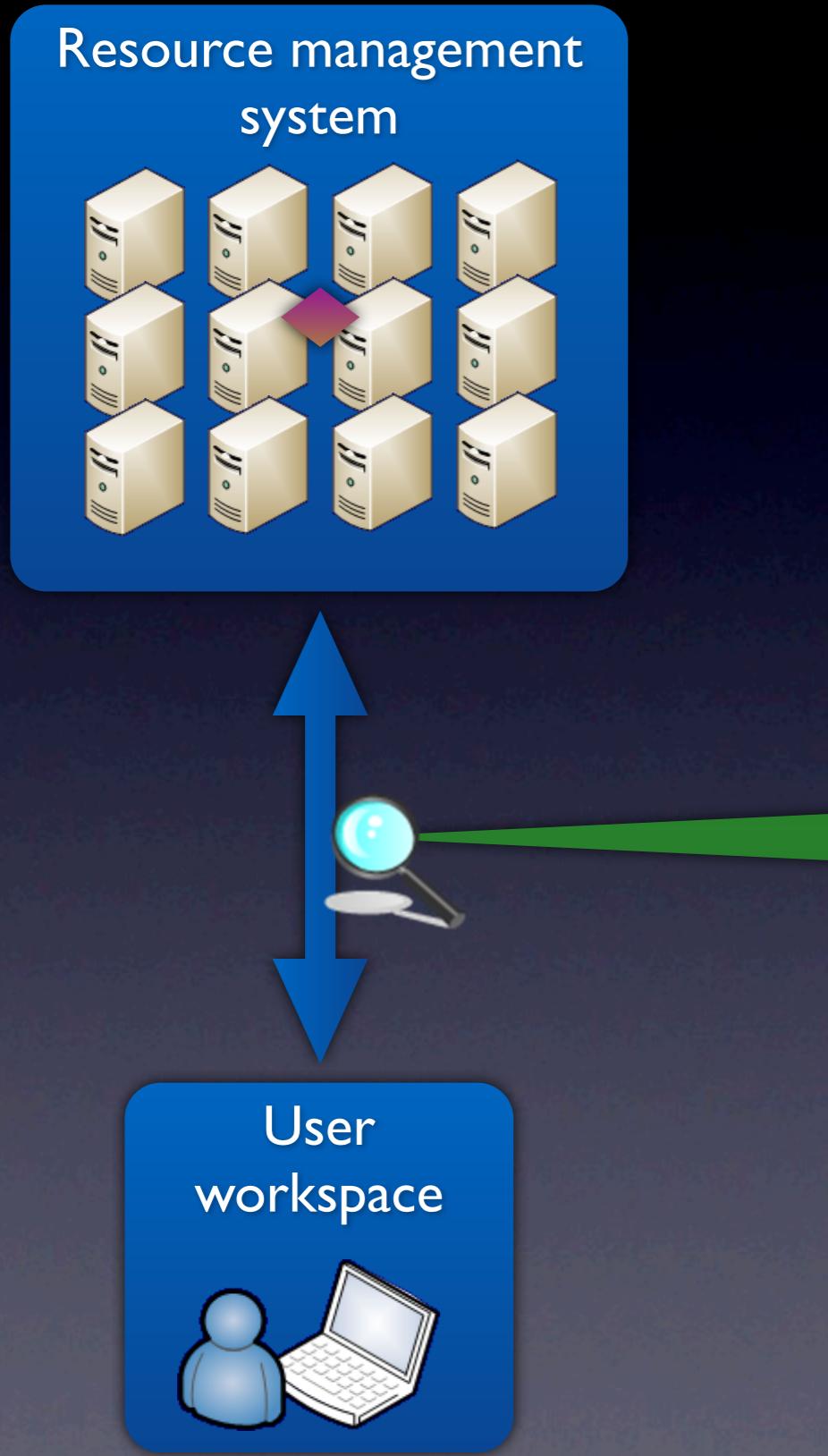
Resource management system

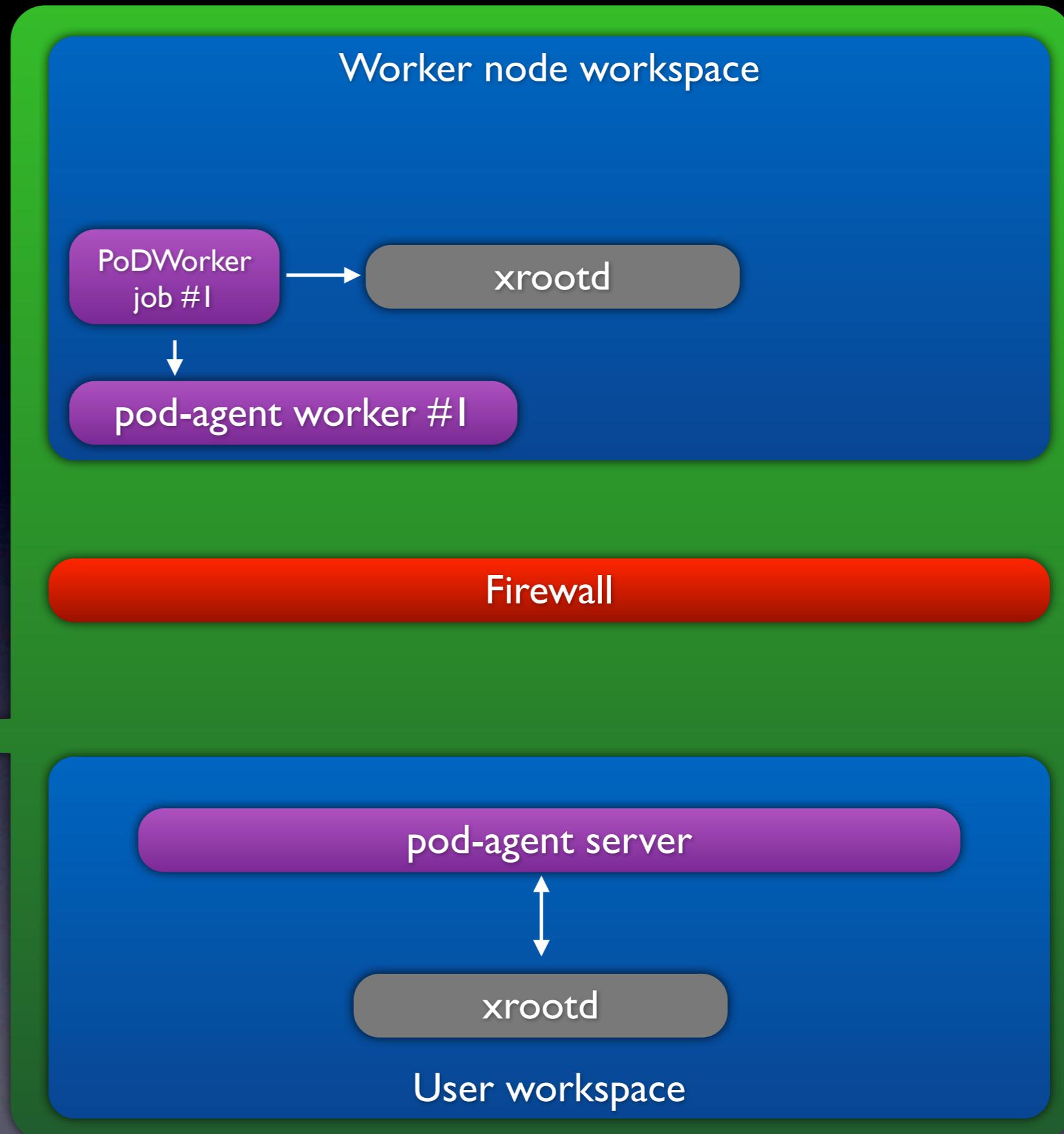
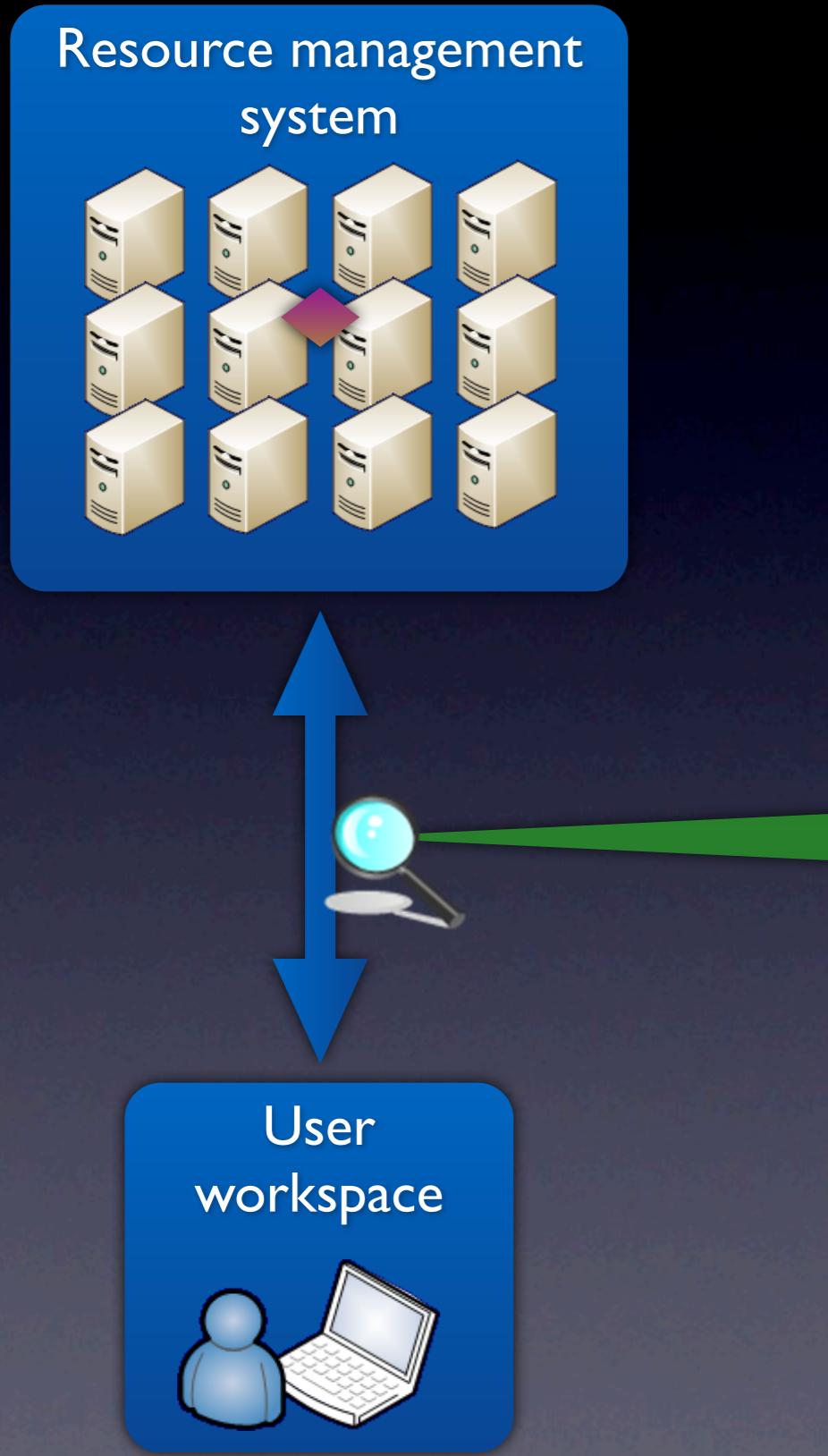


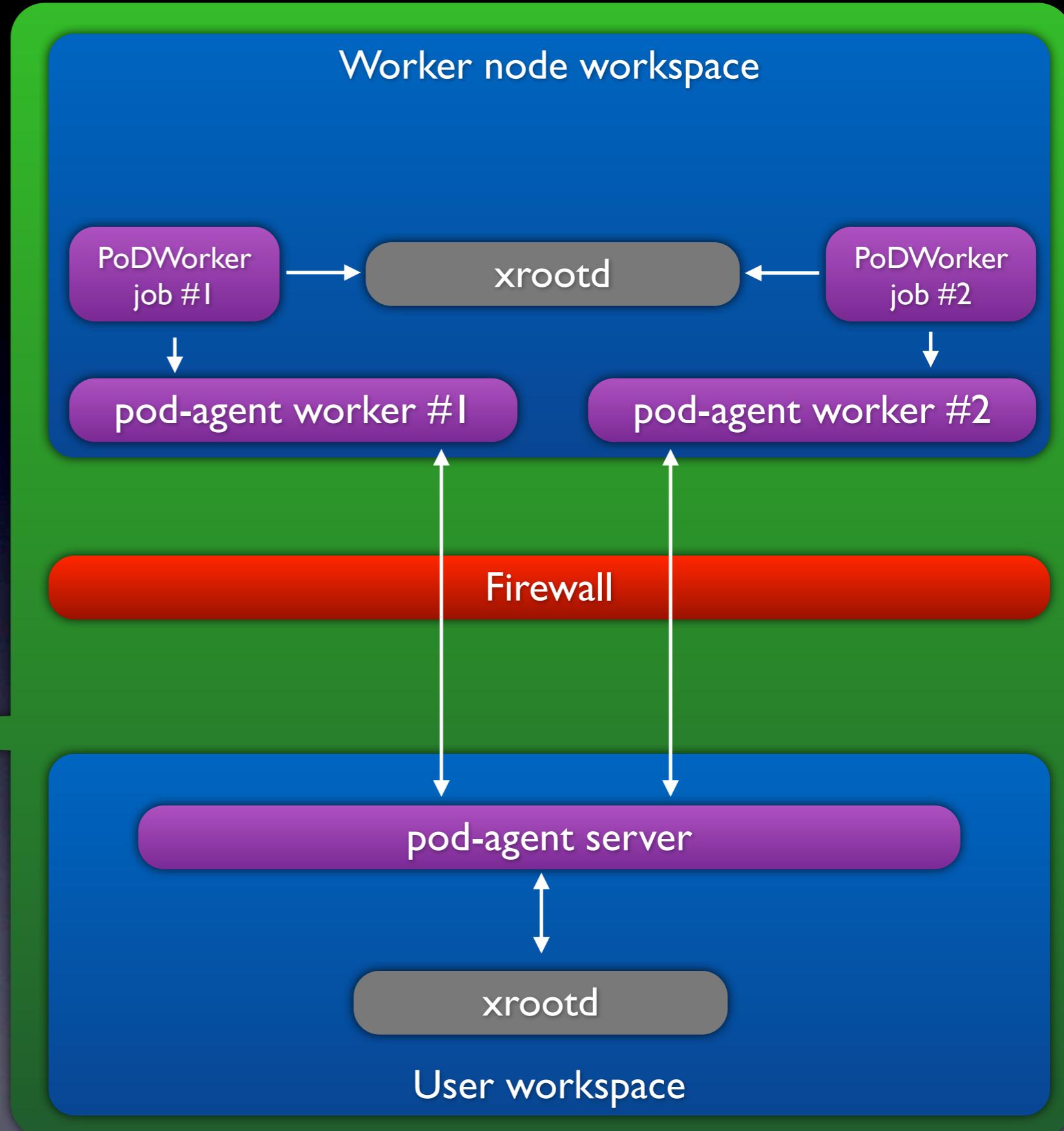
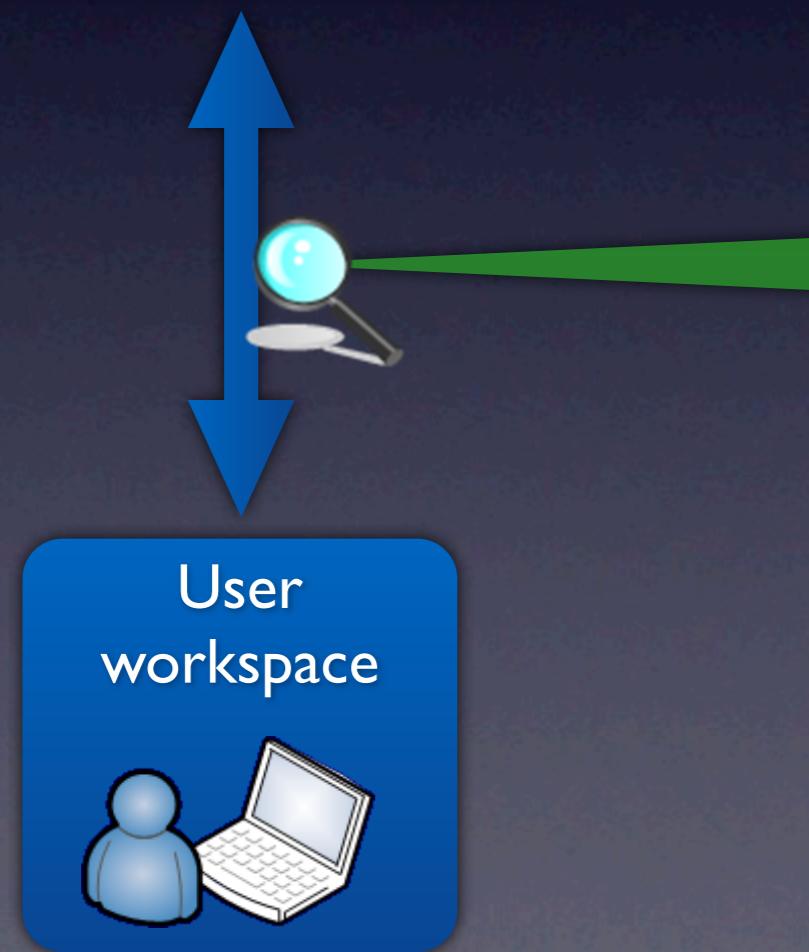
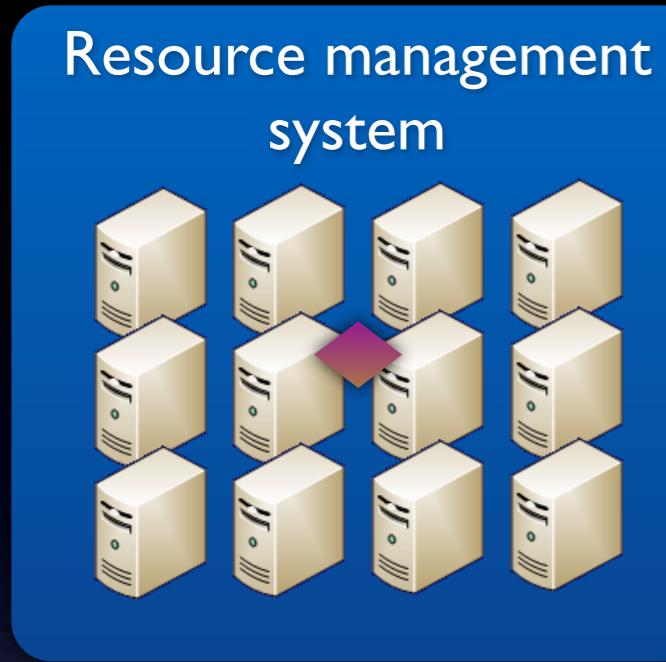
User workspace

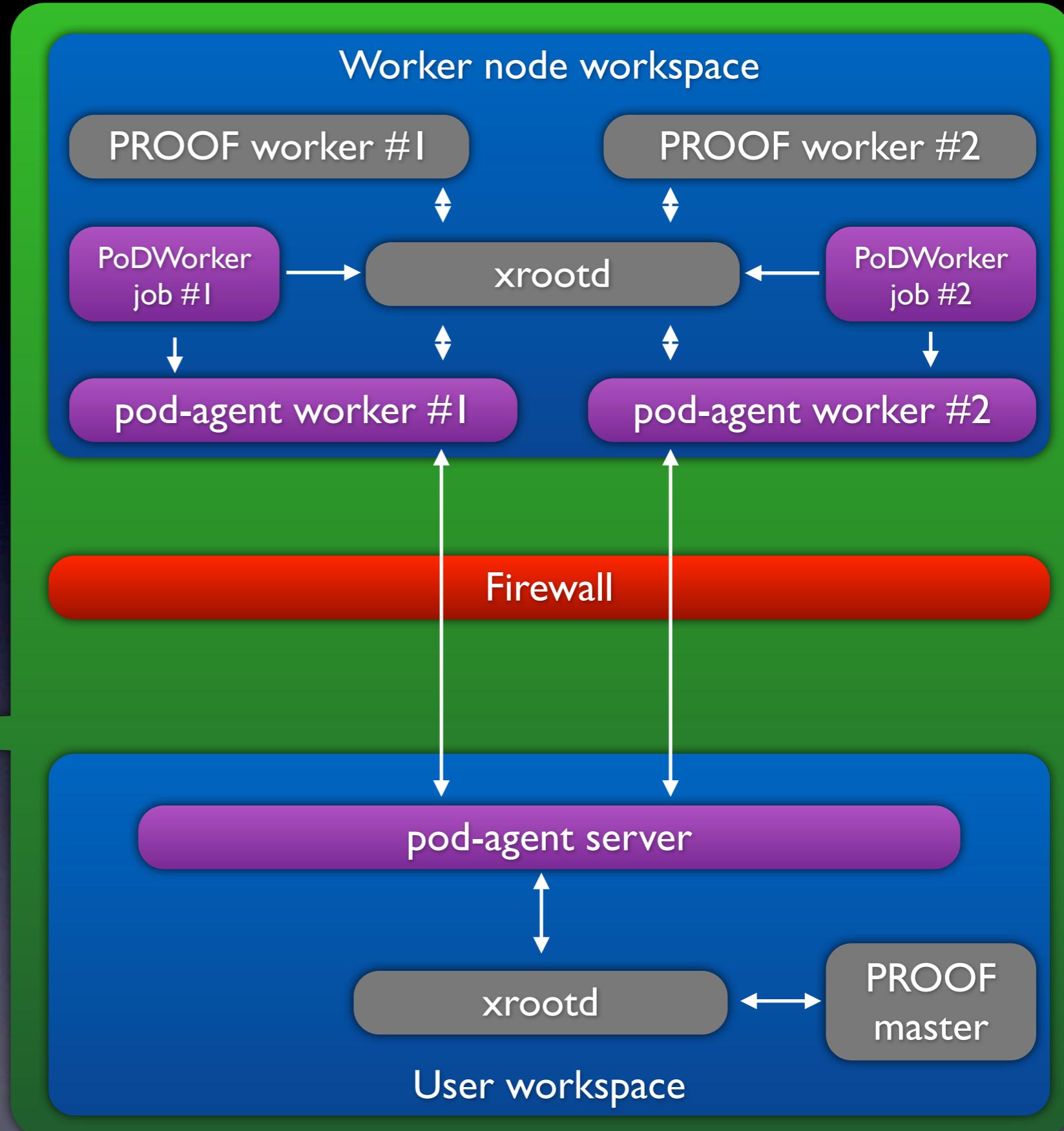
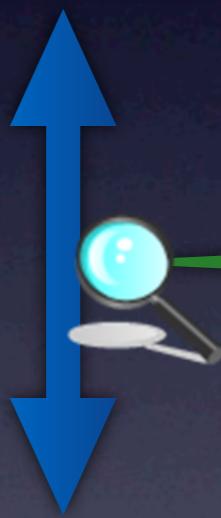


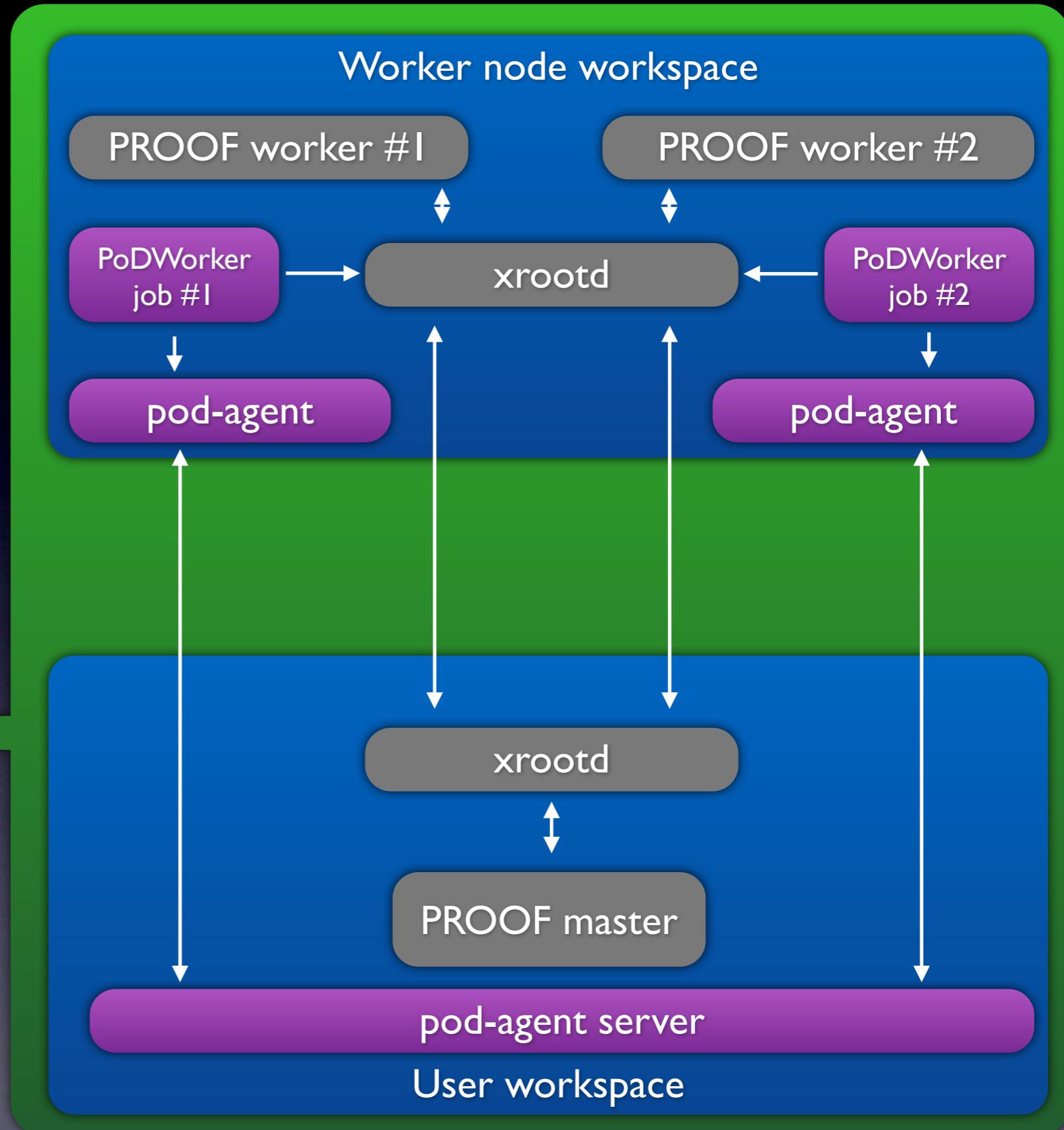
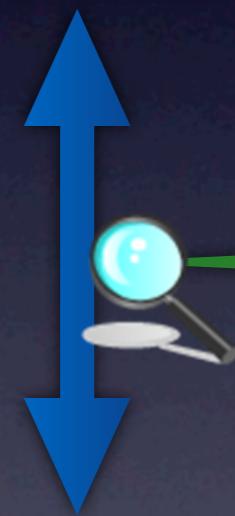












Key features

- Easy to use
- GUI & Command-line
- Different job managers
- Multiuser/-core environment
- Native PROOF connections
- Packet-forwarding
- User defaults - configuration

PoD at GSI

Dedicated LSF queue

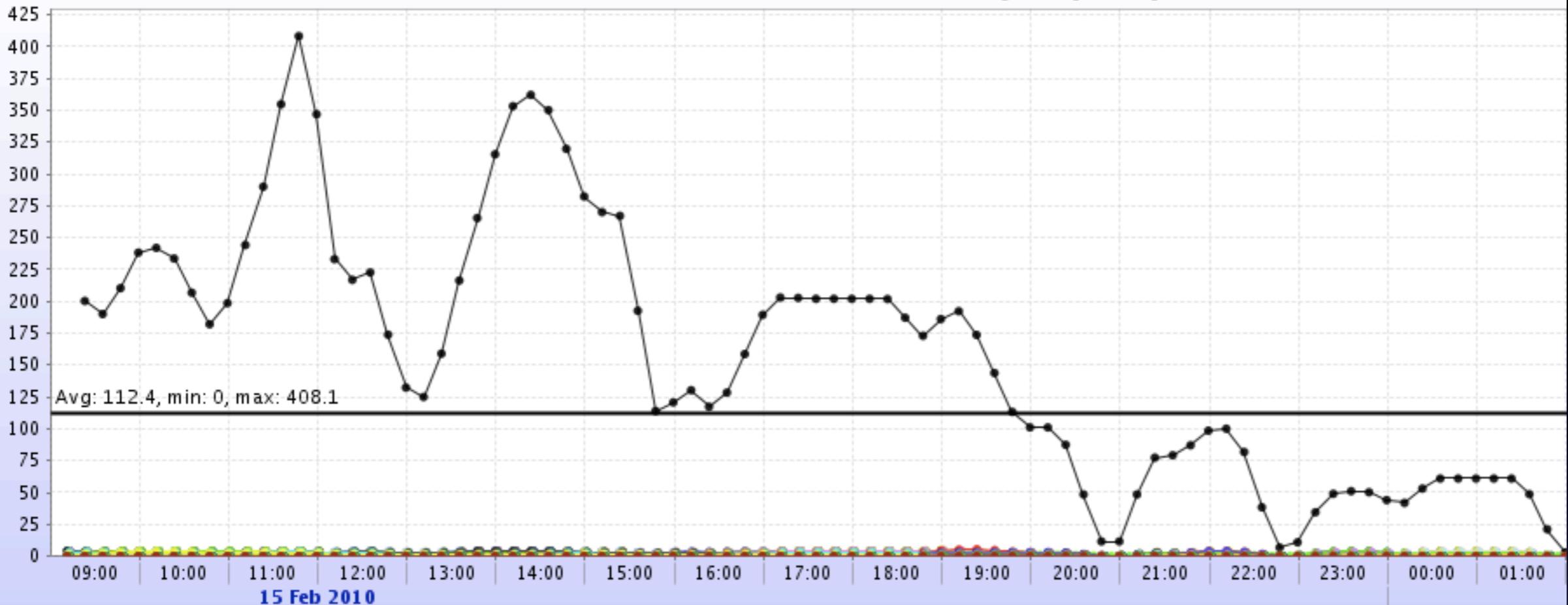
- preemptive, max. 120 jobs per user and max. 4 hours run-time per job.

Data located on the lustre FS.

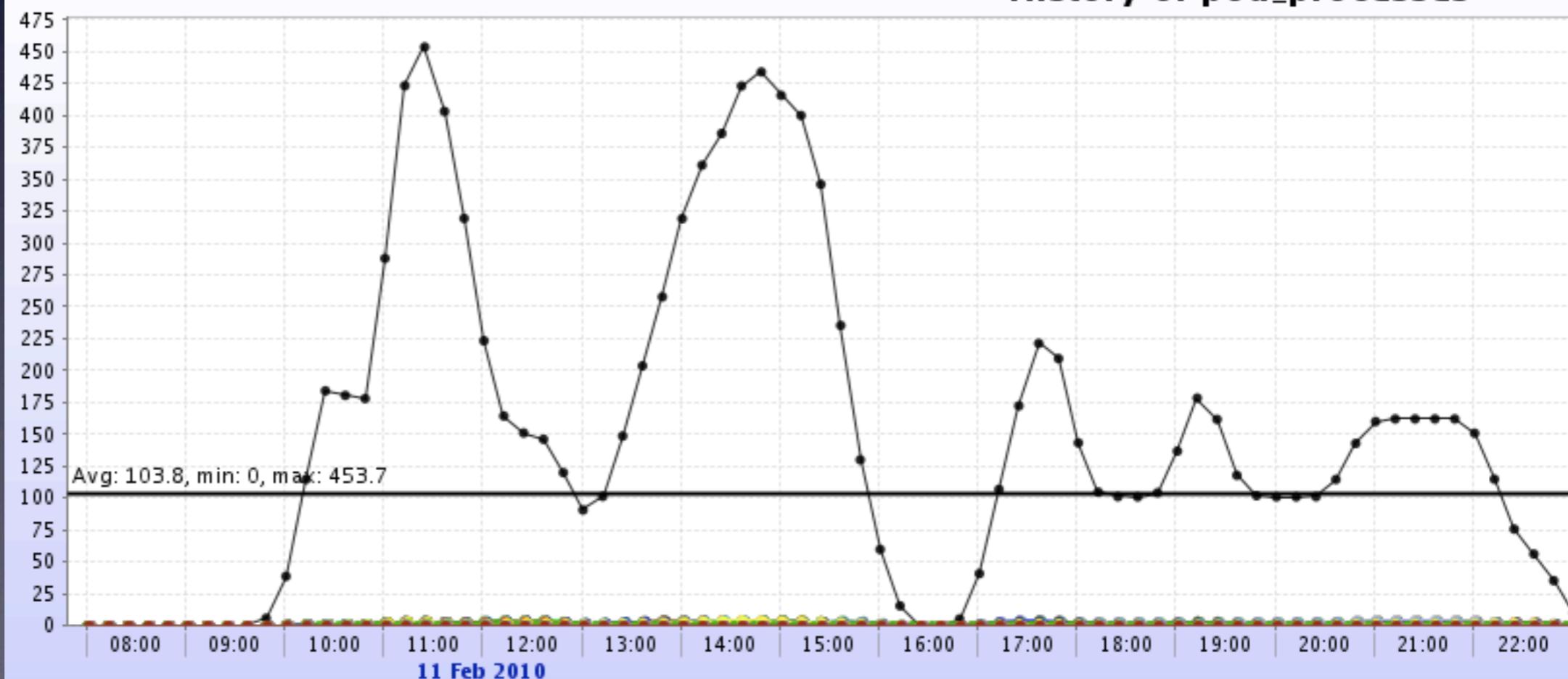
Mainly used by ALICE group (GSI, Heidelberg, Münster).

In average we have 2-5 concurrent users with 20-120 workers each.

History of pod_processes



History of pod_processes

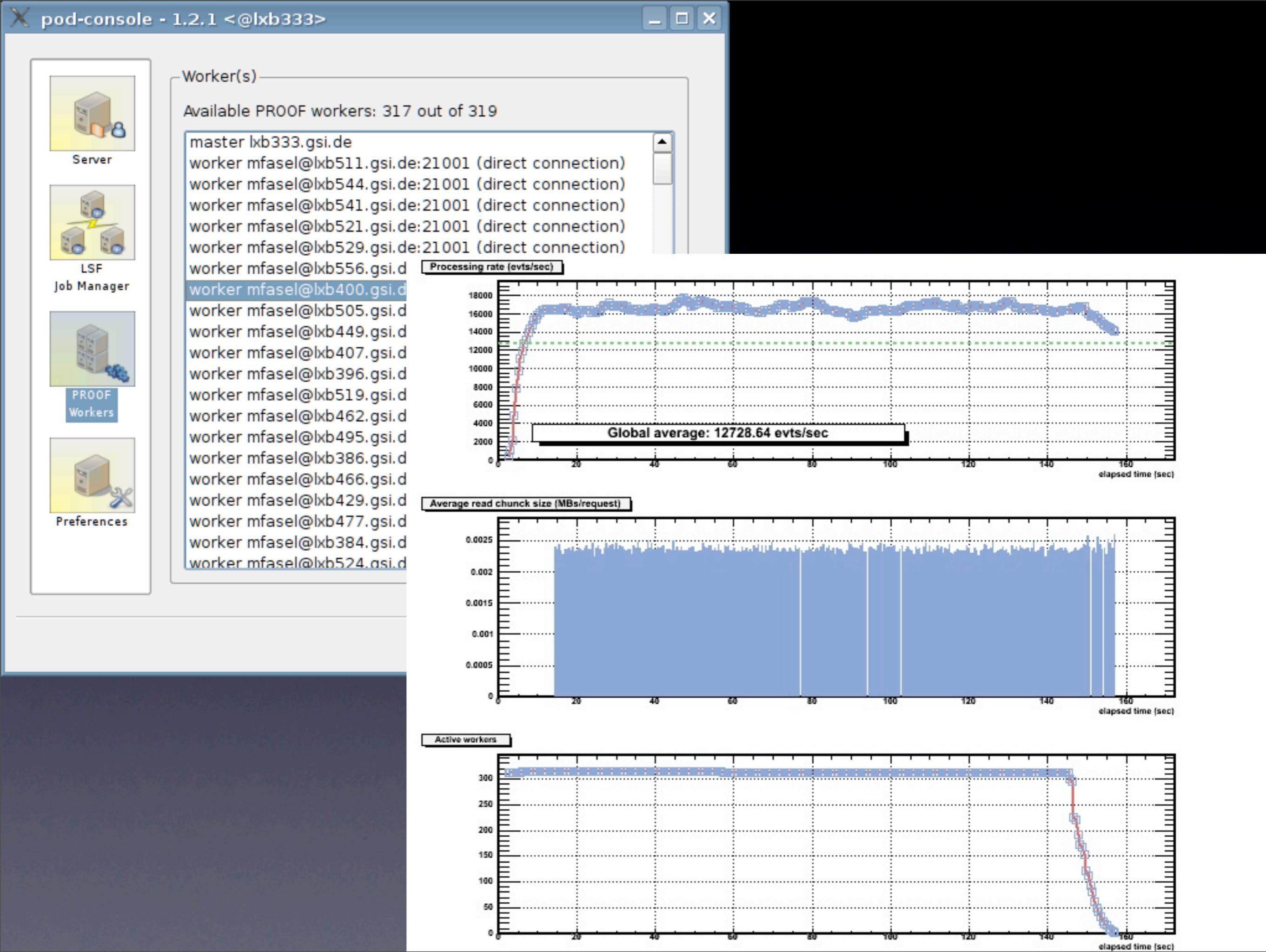


ToDo

- an SSH plug-in,
- “out of server” UI,
- a native Mac OS X implementation of UI,
- an AliEn plug-in.

<http://pod.gsi.de>

BackUp slides



User experience PoD & gLite

T-3 for ATLAS,
the gLite site is IN2P3-CPPM
DPM + xrootd

