

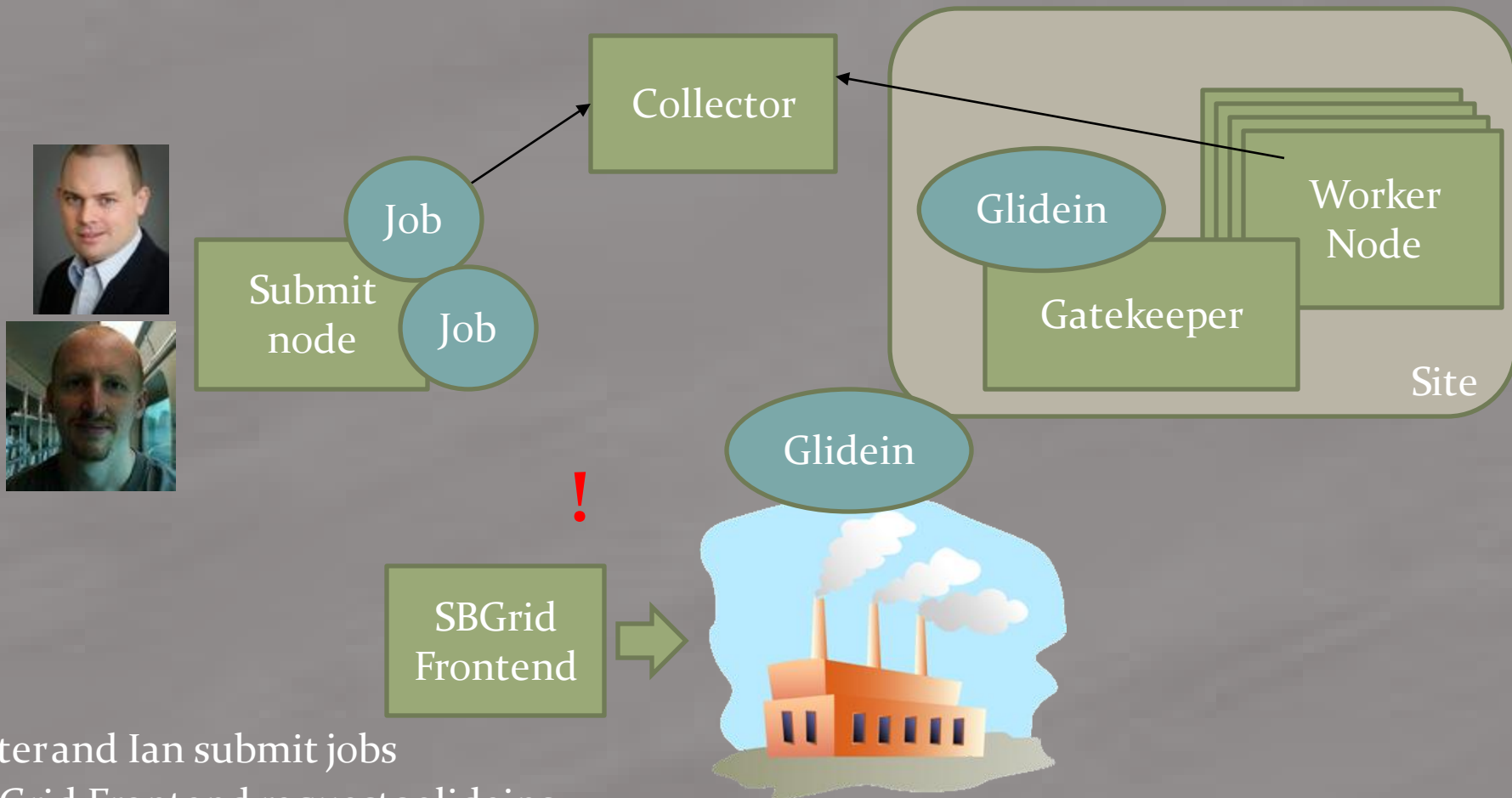
# glideinWMS Plans and Roadmap

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# Simplified glideinWMS overview

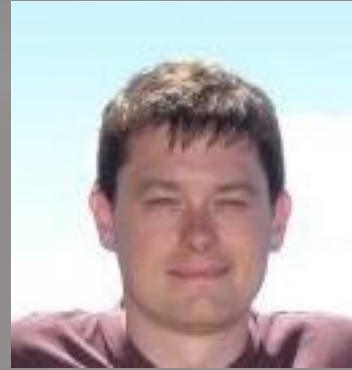


Peter and Ian submit jobs  
SBGrid Frontend requests glideins  
Factory sends glideins via condor-G  
Glidein starts on worker  
Glidein starts first job

First job completes  
Second job starts

# The team

UCSD  
Students



# glideinWMS is also subprojects

- gLexec (inherited from FNAL/CD Auth. Services)
  - suexecanalog for grid proxies
  - Developers @ NIKHEF; packaging/testing for OSG
  - WLCG requirement for multi-user pilot jobs
- CEDPS (close-out: September 2011)
  - Increase reliability for stage-out data in glidein context
  - Collaborative effort with Globus / [globus.org](http://globus.org) / Condor
- CorralWMS
  - Integration project between ISI Corral (provisioned TeraGrid resources) and glideinWMS (opportunistic OSG resources)

# Latest releases

## □ V2.5.1

- New (nearly) non-interactive installer
- Dynamic glidein removal
- Java support for glideins
- Improved logging & monitoring

## □ V2.5.0

- CREAM CE support
- Corral frontend support
- Efficiency improvements in Condor communication
- Improved signal handling
- Auto-removal of held glideins

## □ V2.4

- Multi-VO support (see Jeff Dost's talk)

# New features

## □ Short-term / next release

- Native multicore/HTPC support
- gLexec validation by pilot
- Publication of known sites to end users
- VOMS-only site selection
- Better malformed match handling
- Improved monitoring

# New features (II)

## □ Mid-term features

- Multiple glideins per submission
- Tool-assisted (and possibly automated) configuration changes based on dynamic information from information systems
- Continued integration with Corral Frontend
- Cloud support for Amazon EC2, Magellan

## □ Overarching goals

- Ease-of-use
- User-friendliness

# Corral Frontend

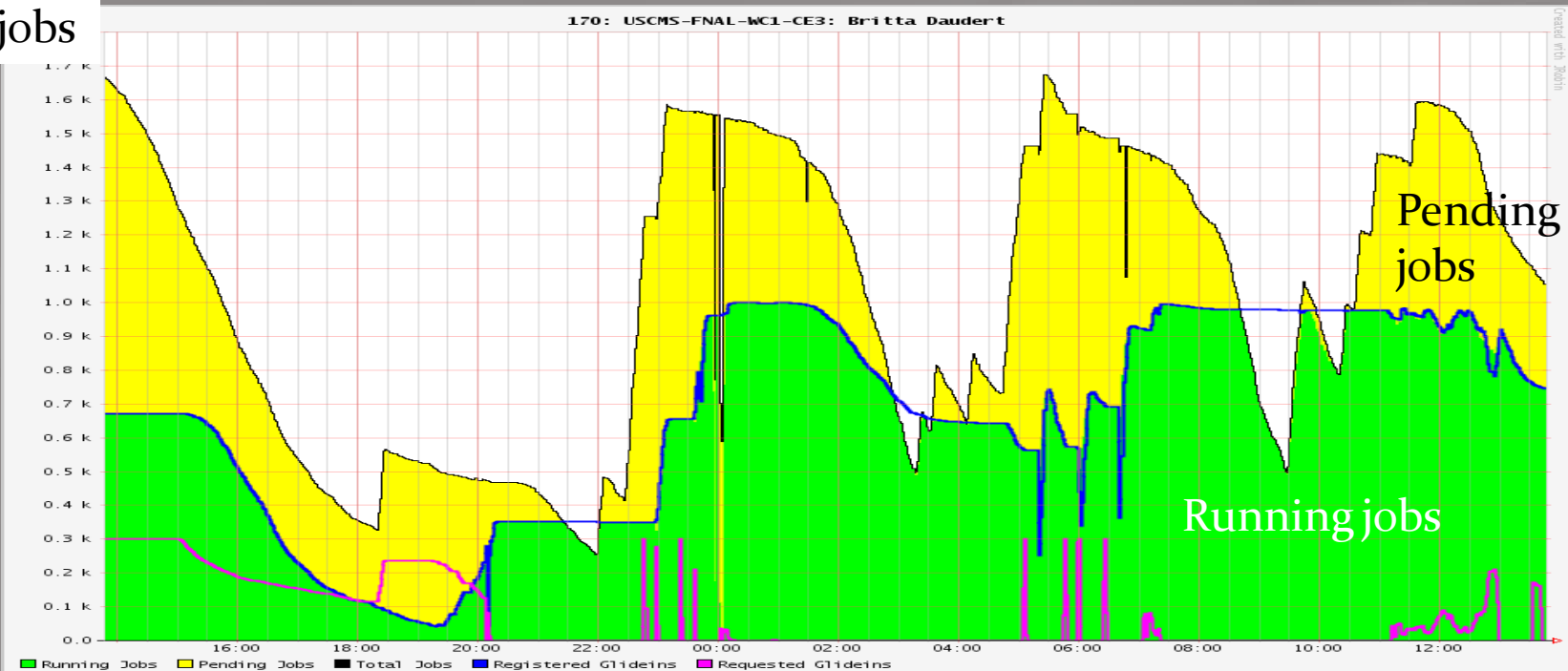
- Simple frontend standalone users
  - Not tied to a VO
  - Glideins are submitted with the user's credentials and the glideins can only serve that one user
  - Works well on TeraGrid and campus clusters
- Multislot requests
  - 1 glidein request – N slots
- Users on OSG include LIGO, SCEC, and NASA IPAC Galactic Plane



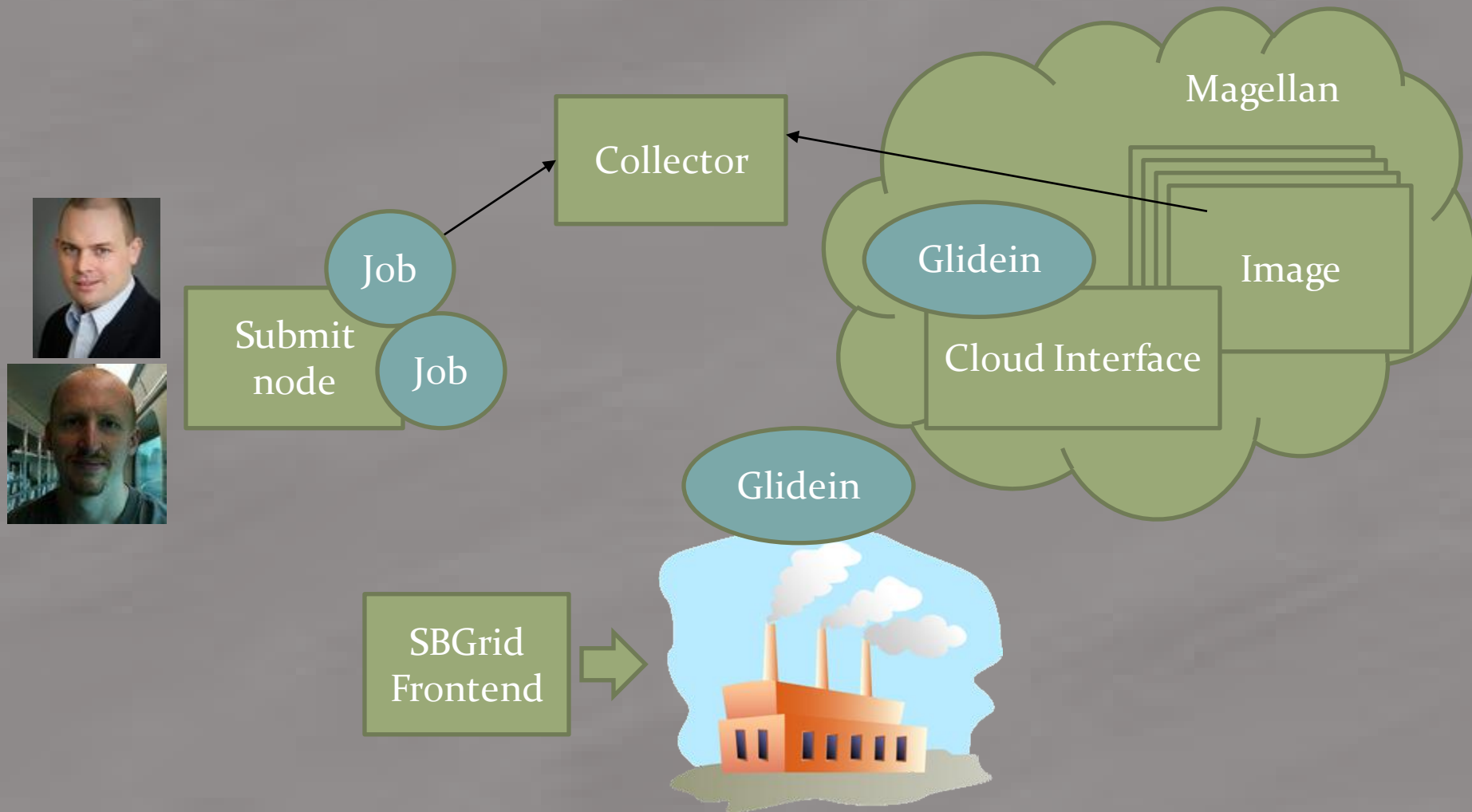
# Corral Frontend – LIGO taskforce

- The Corral frontend has been used to help LIGO Inspiral workflows perform better on OSG
- Solves the problem of competing with LIGO Boinc jobs

1.8 kjobs



# Life in the Cloud – in principle



# Life in the Cloud – reality

## Authentication

- OSG is based on X.509 certificates
  - Clouds are not
- Need to allow additional authentication mechanisms
  - E.g. passing the Amazon account keys to the factory
- Need to specify trust domains
  - Amazon account keys don't work on Magellan!
- Requires protocol changes – in progress

# Life in the Cloud – reality

## The “Worker Node”

- Responsibility for the worker environment no longer belongs to the site – there is no “site”!
- Some users want full control over the image
- Some users want minimal control over the image
  
- We will try to support both options
  - Provide a bare-bones image by default, but also
  - Allow VO-specific customizations
- State-of-the-art tools (BoxGrinder, appliance-creator, others) under investigation

# Outlook

- Working on v2.5.2 features
- Planning work for v3.0 (comprehensive cloud support)
- We'd like more input from you, the stakeholders, on your cloud use cases
  - Does your VO need to (and want to) control the image?
  - What cloud providers are you considering?
  - How big a priority is this for your VO?