

# VO Services Project Overview

PRIMA, GUMS and gLExec

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# Overview

- What are GUMS and PRIMA
- What is the status of GUMS and PRIMA
- The advent of Pilot Jobs
- How gLExec helps tracking pilot jobs
- Status of gLExec

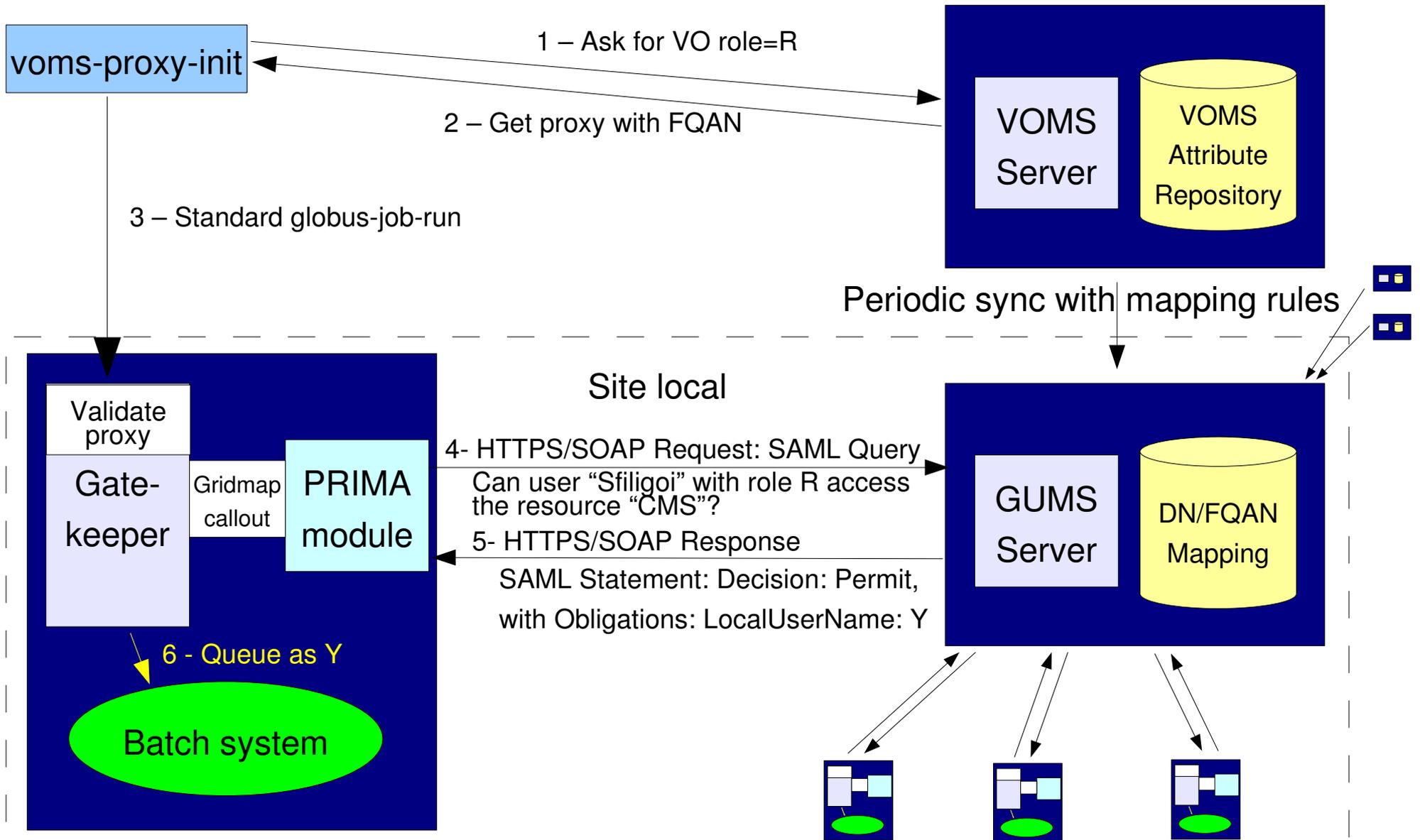
# What is GUMS

- GUMS is a Policy Decision Point (PDP) for OSG sites
- GUMS maps users' grid credentials to site-specific identities in accordance with the site's grid resource usage policy
  - X509 DN/FQAN -> UNIX UID/GID

# GUMS implementation details

- Implemented as a Web Service
  - Java code in Tomcat
- Uses SAML over HTTPS + XACML Obligations to talk to the clients
  - Client asks  
“Can subject X with role Z perform action Z?”
  - GUMS replies  
“Yes, permit action Z, but only if the obligation localUsername=user01 can be enforced”

# GUMS at a glance



# GUMS Status

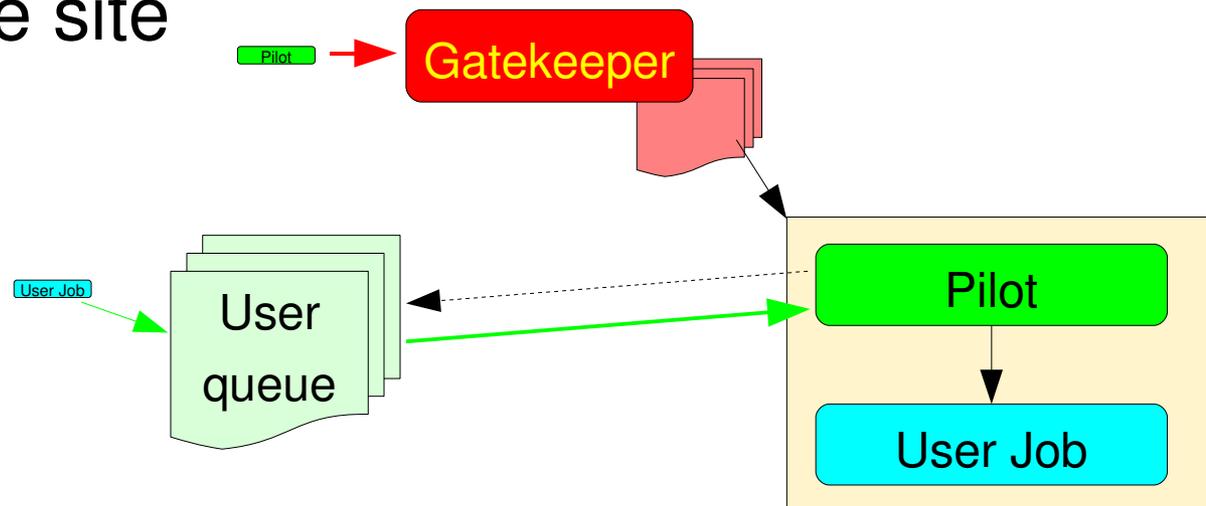
- Joint BNL + FNAL effort
- GUMS deployed on tens of OSG sites
- Very stable
  - Since we solved a nasty memory leak problem
- Several pending requests
  - FNAL immediate interest in improving pool account management
- Looking at collaborations with Globus and gLite

# PRIMA – The client library

- We provide a client library for the Globus gatekeeper
  - A C library for GT2 and a Java class for GT4
- GT2 PRIMA library in production since a long time and stable
  - In maintenance mode, only recompiles for new platforms
- GT4 PRIMA library available but not widely used
  - Needs stress-testing
  - Still some problems with credential caching

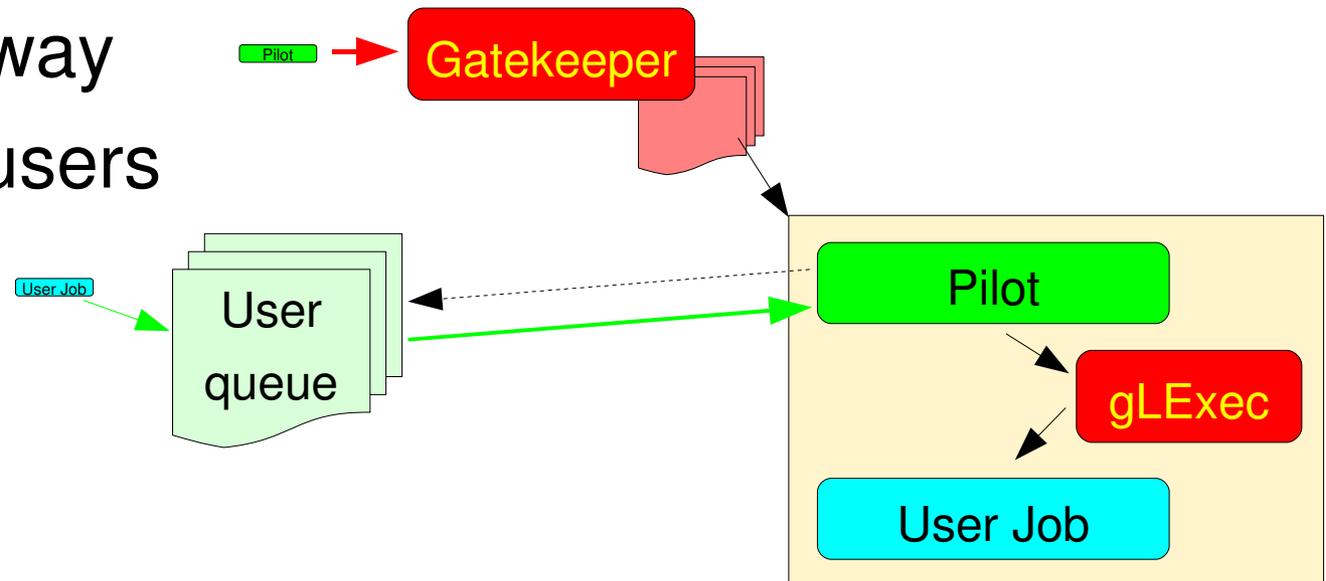
# Pilot jobs overview

- A new operation mode
- A pilot job is just a placeholder that calls home
  - Real user job pulled after pilot job starts
- Operated by a VO or a group of people
  - Not by the site



# Closing the loop

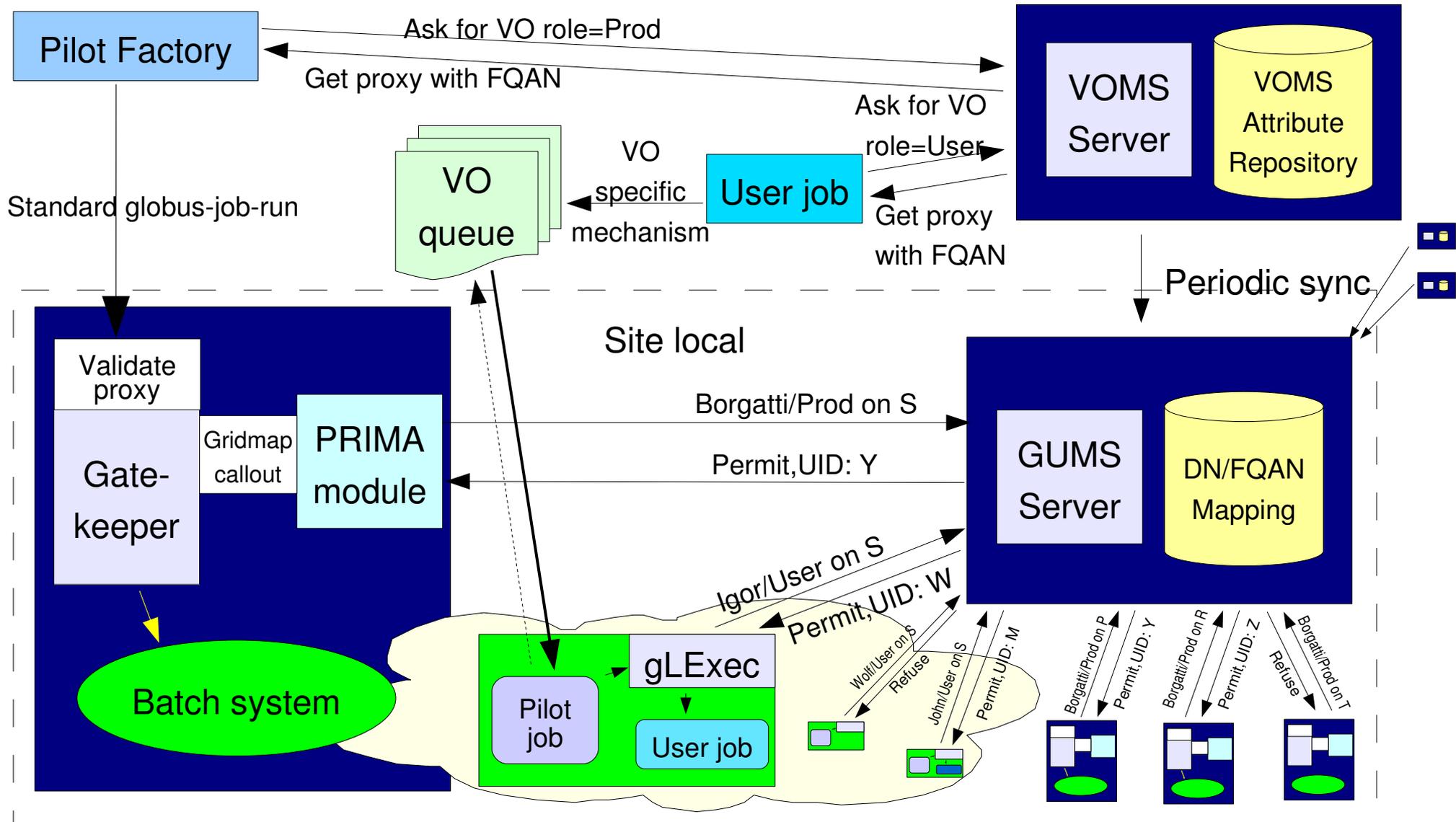
- Vanilla pilot jobs subvert site authentication
  - Sites know only about pilots, not real jobs
- Requiring pilot jobs to use gLExec closes the loop
  - Sites know who is running
  - Can turn away unwanted users



# gLExec in OSG

- gLExec a standard piece of gLite
  - In production use since some time in Europe
- We helped develop a OSG specific plugin
  - in collaboration with gLite developers
- The OSG plugin
  - Talks to SAZ
  - Gets the mapping from GUMS (using PRIMA)
  - Logs activity into Gratia

# Pilot jobs with gLExec



# gLExec at FNAL

- Deployed on CDF Grid worker nodes and on GP farms worker nodes
- CDF has demonstrated it can use it
  - Using the complete CAF software stack
- CDF will start using it in production Nov 16th
  - Needs to switch Condor v6.9.0
  - Requires a downtime
- CMS will deploy it after SCA06

# gLExec development status

- Works fine at FNAL
  - Needs some polishing to be used at other sites
- Packaging
  - Distributed as rpms
  - Not suitable for VDT
  - We never compiled the gLite contribution ourselves (we were provided with binaries)

# Conclusions

- GUMS and PRIMA in production on several OSG sites
  - GT2 PRIMA in maintenance mode
  - GUMS in good shape but needs improvements
  - GT4 PRIMA needs more work
- gLExec integrated with GUMS and SAZ
  - Deployed at FNAL
  - Will be used by at least one VO shortly
  - Needs some polishing to be deployed on OSG