# Installing and managing GUMS

http://fermigrid.fnal.gov
Steven C. Timm
FermiGrid Services Group, Fermilab
with significant contributions from
Dan Yocum and Keith Chadwick
OSG Site Admins—Install Fest 1, first session
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# GUMS Install Introduction

- The bare steps to install GUMS are in the Twiki at https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/GUMSHandsOn
- In the next hour our goal is to get you to have a single working GUMS server.
- We will go through the steps in the Twiki one by one and explain why.
- Then we will go over a few of the finer points of managing a GUMS server.
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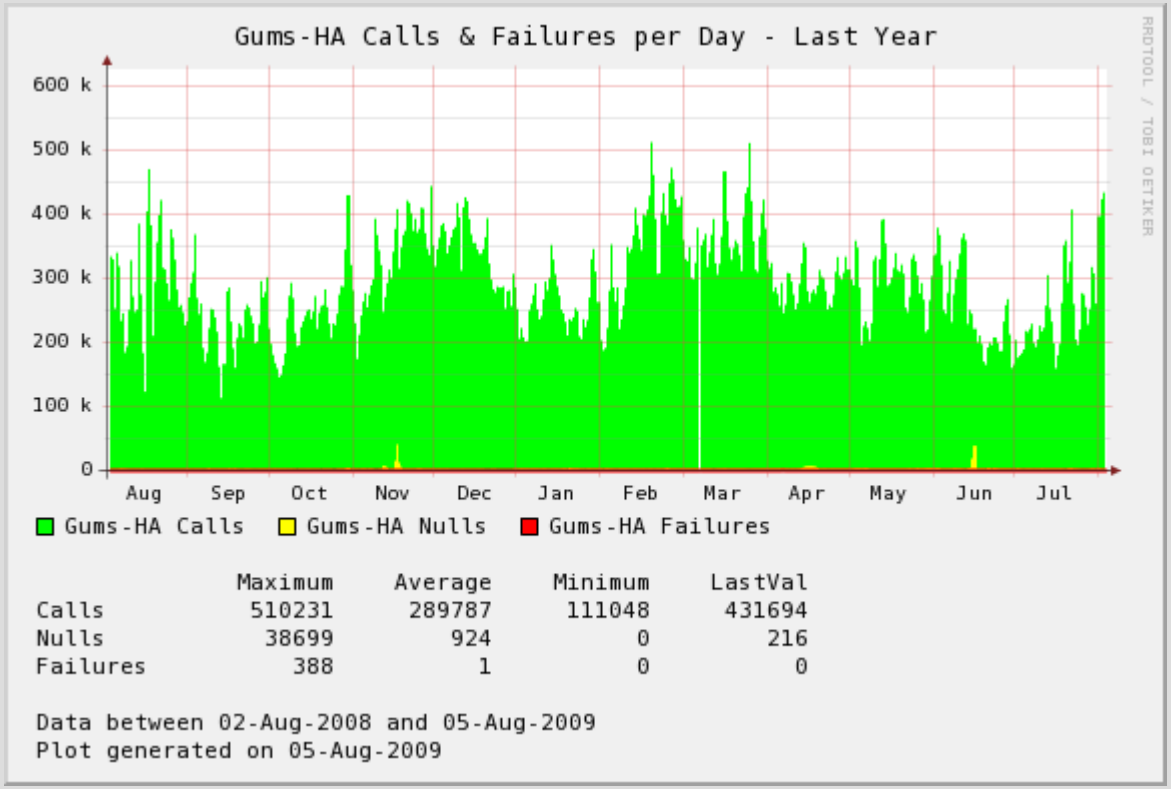
# What is GUMS

- Grid User Management System
- Given a Distinguished Name (DN) from a certificate and an optional FQAN (Fully Qualified Attribute Name) it returns a username—usually a unix username.
- Also produces the osg-user-vo-map.txt which maps username to VO.
- Can be used to produce grid-mapfiles.
- GUMS is a web service, runs under Tomcat.
- Developed mostly at Brookhaven National Laboratory
- Current maintainer, Jay Packard, jpackard@bnl.gov
- GUMS developer documentation: https://www.racf.bnl.gov/Facility/GUMS/1.3/index.html
- Required by most big VO's that use roles
- Faster than a grid-mapfile
- If you are not running GUMS you should be.

# Planning a GUMS server

- CPU load depends on rate of jobs through the gatekeeper, 1 call per job.
- Small cluster--60 core cluster * 2 hrs/job means 720 calls/day
- Big cluster (FermiGrid) average 289K calls/day, all-time record is 3M calls/day.

# FermiGrid GUMS-HA




2 Virtual servers

1 core each of Xeon E5430 (Dell Poweredge 2950)

2GB RAM

Mean load >0.1
Since GUMS 1.3 upgrade.
RSS ~350MB

# Get pacman

- Note, we are following the steps in
- https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/GUMSHandsOn
- Cd /usr/local
- wget http://atlas.bu.edu/~youssef/pacman/sample_cache/tar
- tar xvfz pacman-latest.tar.gz
- cd pacman-3.29
- . setup.sh
- cd ..
- mkdir vdt-2.0.0
- cd vdt-2.0.0
- Notes—keep your pacman outside of your vdt dir
- Check for a clean PATH, watch out for old perl, java
- Use a versioned vdt directory, make a symlink.

# Get a host and http certificate

- See https://twiki.grid.iu.edu/bin/view/ReleaseDocumentation/GetGridCertificates
- That will give you instructions on how to request host and http certs from the command line using the cert-request tool.
- If you've got several of these it is worth becoming a GridAdmin for your site.
- See https://twiki.grid.iu.edu/bin/view/Security/OsgRaOperations, the GridAdmins section, for info on how to become a grid-admin
- There are a couple of OSG Registration Agents in the building who should be able to approve your request on the spot.
- You should make a host cert and an http cert.
- Only the http cert is actually used by the GUMS server.
- Make sure http cert is in /etc/grid-security/http, and directory and files are owned by daemon.
- It is OK to go ahead and do the rest of the GUMS install while waiting for the cert.

# Pacman -get

- pacman -get http://software.grid.iu.edu/osg-1.2:gums
- Answer yes to the trusted caches questions
- Wait about 10 minutes.
- source setup.sh
- Vdt-post-install
- vdt-ca-manage setupCA --location local --url osg
- vdt-control --enable fetch-crl vdt-rotate-logs mysql5 apache tomcat-55 vdt-update-certs
- vdt-control –on
- Congratulations, GUMS is up!
- Check with browser https://yourgums.yourdomain:8443/gums
- Now we have to make it work.

# GUMS post-configuration

- Define a GUMS admin or admins:
  - cd tomcat/v55/webapps/gums/WEB-INF/scripts
  - ./gums-add-mysql-admin "YOUR DN"
  - Once this is done, you should be able to look at persistence factories on the web ui menu.
- Import the OSG template
  - ./gums-create-config –osg-template
  - Once this is done you should be able to generate a grid-mapfile
- Or bring your old gums config along from previous version of GUMS.
- GUMS will automatically upgrade it to the later version the first time you make a change from the Web UI

# Using the Web UI

- Nifty new features
  - Merge button—merge the latest OSG GUMS template with your current configuration.
  - “Shortcut” for adding a VO
    - In one form gives you all you need to add a new VO
  - Long way for adding a VO:
    - VOMS server
    - Account mapper
      - Manual, pool, group, ldap
      - Most common in OSG is group, CMS uses pool.
    - User Group
      - Sets of users from a VOMS server with group and role
    - Group to account mappings
      - Binds User Group above, with account mapper above
    - Host to group mappings
      - Order is important here
      - Can define different mappings for different hosts.