

# How do you join the OSG? A software perspective

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Open Science Grid

# Joining OSG

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- Assumption: You have a campus grid
- Question: What changes do you need to make to join OSG?



# Your Campus Grid

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- I'm assuming that you have a cluster with a batch system.
  - Condor
  - Sun Grid Engine
  - PBS/Torque
  - LSF



# Administrative Work

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- You need a security contact
  - Who will respond to security concerns?
  - You need to take this seriously
- You need to register your site
- You should have a web page about your site.
  - This will be published
  - People can learn about your site.

# Big Picture

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- Compute Element (CE)
  - OSG jobs submitted to CE, which gives them to batch system
  - Also has information services and lots of support software
- Shared file system
  - OSG requires a couple of directories to be mounted on all worker nodes
- Storage Element (SE)
  - How do you manage your storage at your site
  - Can be big topic by itself, just touched on here.

# Installing Software

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- The OSG Software Stack
  - Based on the VDT
    - The majority of the software you'll install
    - Doesn't care which grid you're part of
  - OSG Software Stack:
    - VDT + OSG-specific configuration
- Installed via Pacman
  - No RPMs right now



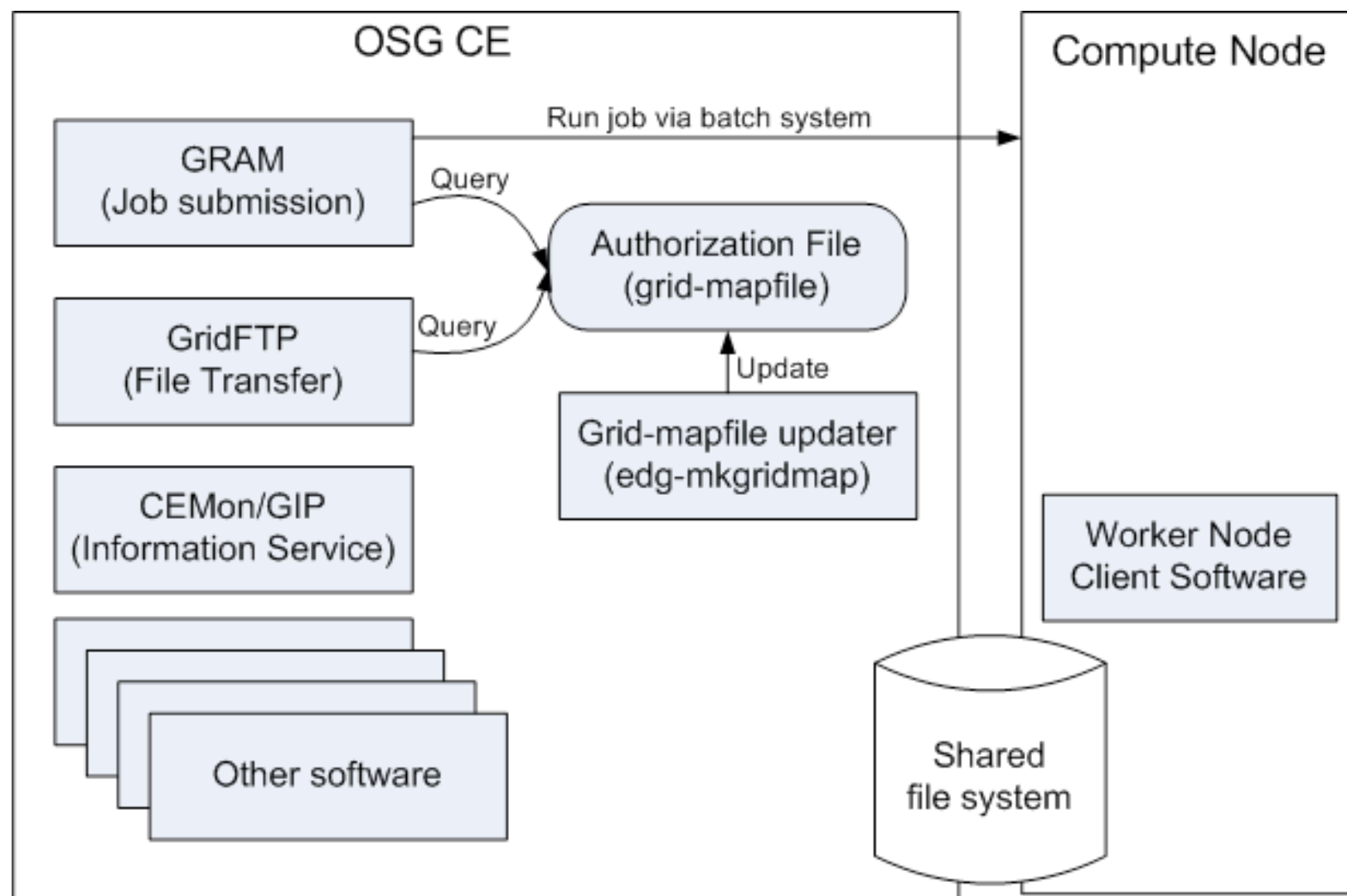
# What is installed?

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- GRAM: Allow job submissions
- GridFTP: Allow file transfers
- CEMon/GIP: Publish site information
- Some authorization mechanism
  - grid-mapfile: file that lists authorized users
  - GUMS: service that maps users
- And a few other things...



# Picture of a basic site







# Shared file system

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- OSG\_APP
  - For users to store applications
- OSG\_DATA
  - A place to store data
  - Highly recommended, not required
- OSG\_GRID
  - Software needed on worker nodes
  - Not required
  - May not exist on non-Linux clusters
- Home directories for users
  - Not required, but often very convenient



# Storage Element

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- Some folks require more sophisticated storage management
  - How do worker nodes access data?
  - How do you handle terabytes (petabytes?) of data
- Storage Elements are more complicated
  - More planning needed
  - Some are complex to install and configure
- Two OSG supported options:
  - dCache
  - Bestman



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## More information

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- Site planning
  - <https://twiki.grid.iu.edu/twiki/bin/view/ReleaseDocumentation/SitePlanning>
- Installing OSG Software Stack
  - <https://twiki.grid.iu.edu/twiki/bin/view/ReleaseDocumentation/>



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# Questions?

