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# Monitoring

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PPARC

<http://www.pparc.ac.uk/>

eGEE

<http://www.eu-egee.org/>



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- Thank you!!



# Acknowledgements

The slides in this presentation are taken from presentations by:

- S. Pickering at the e-Science All Hands Meeting 2005.
  - <http://www.ngs.ac.uk/guide/NGS-Partners-AHM05-Pickering.ppt>
- J. Schopf
  - [http://www-unix.mcs.anl.gov/~schopf/Talks/mds4Inca\\_lcg\\_nov2004.ppt](http://www-unix.mcs.anl.gov/~schopf/Talks/mds4Inca_lcg_nov2004.ppt)
- S. Smallen and K. Ericson at Super Computing 05.
  - [http://inca.sdsc.edu/downloads/inca\\_sc05.pdf](http://inca.sdsc.edu/downloads/inca_sc05.pdf)



# NGS Grid Monitoring

- Service Reliability
- Performance Monitoring
- Benchmarking
- Site Interoperability Certification
- Software Stack Validation
  
- Customisations
- Archiving
- Integration – PBS, GITS, Ganglia, INCA



# Collecting Information

- System Administration
  - Operating System
  - Disk
  - Network
  - Problem detection
- User Information
  - Software/Modules
  - Queues
  - Resources



# What is monitoring?

- Discovery and expression of data
- Discovery:
  - Registry service
  - Contains descriptions of data that is available
  - Sometimes also where last value of data is kept (caching)
- Expression of data
  - Access to sensors, archives, etc.
  - Producer (in consumer producer model)



# What is Grid monitoring?

- Grid level monitoring concerns data that is:
  - Shared between administrative domains
  - For use by multiple people
  - Often summarized
  - (think scalability)
- Different levels of monitoring needed:
  - Application specific
  - Node level
  - Cluster/site Level
  - Grid level
- Grid monitoring may contain summaries of lower level monitoring



# Grid Monitoring Does Not Include...

- All the data about every node of every site
- Years of utilization logs to use for planning next hardware purchase
- Low-level application progress details for a single user
- Application debugging data
- Point-to-point sharing of all data over all sites





# INCA

- Inca is a framework for the automated testing, benchmarking and monitoring of Grid resources
- Inca provides:
  - Scheduled execution of information gathering
  - scripts (reporters)
  - Data management
    - Collection
    - Archiving
    - Publishing
- <http://inca.sdsc.edu/>



# Ganglia

- Each node broadcasts information (UDP Multicast)
- One node listens
- Good for current CPU/Memory usage



# Links

- <http://inca.grid-support.ac.uk/index.html>
- <http://ganglia.ngs.rl.ac.uk/>
  - Only the front page is available to users. You will get "Page not found" or equivalent errors if you try and drill down into ganglia.