

Condor_Future@Cardiff

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Thought Provoker

- Can you really afford not to cycle steal ?
- What role could identity federations play ?
- How do you increase participation ?
- Do we need CLIs, GUIs, or Portals ?
- Client Server vs Distributed File systems ?
- Virtualization vs Translation vs Multi Boot ?
- National Grid Service vs Campus Grid ?
 - Should we build top-down or bottom-up ?

Condor_History@Cardiff

- Led by Information Services directorate
 - Not by the School of Computer Science
 - A Solution looking for problems
- Began as a pilot project in April 2004
- First user from the School of Business
- Supported on a best efforts basis for 21 months
- Funding for 1yr post from January 2006 **JO**
- Novell Zenworks to deliver to workstations

Condor_Today@Cardiff

- Windows only
- Student workstations initially
- Now adding staff workstations
- Now up to 1400 workstations
- Demand growing near supply
- Plans to add more staff workstations
- Plans to experiment with flocking
- Lots of applications

Condor_Economics@Cardiff

- Are you charging for use ?
- Full economic costing
 - Cardiff's Estates pay all our electricity bills
 - Not the same for all Universities
 - Good for us, how about you ?
 - Still under consideration

Condor_Identity@Cardiff

- Federated identity could provide...
 - Who they are
 - What they can do
 - Whether they can pay
 - One mechanism for internal and external users



Condor_Value@Cardiff

- ...is the equivalent of a £500,000 supercomputer
 - ...costs £50,000 in equipment, power, and staff
 - ...improves return on investment
- ...is one of the largest pools in the UK
 - ...and we plan to expand the pool
- ...is probably the most utilised pool in the UK
 - ...by a factor of 10
- ...has more users than other pools in the UK ?
 - ...and we are working hard to keep it that way

Central Manager



master, collector, negotiator

Execute Nodes 1400 Workstations



master, startd, starter



Submit Nodes 25 Workstations



master, schedd, shadow

N

Condor_Takes_Flight@Cardiff

- All publicity is good publicity
 - Presentations
 - Tag on to research committees and seminars
 - Given on request
 - Newsletters and mailing lists
 - Cardiff News x3 with focus on COMSC, OPTOM, BIOSI
 - Research Fortnight (like www.researchresearch.com)
 - Word of mouth
 - School IT reps, user support staff
 - Alice is a happy user, tells Bob, Bob is a happy user
 - Web sites

Condor_Applications@Cardiff

- Energyplus, Blast
- Lea, Leadmix
- Paup, Structure
- Oxcal, Matlab
- R, Oxcalwin
- Perl, Grinder
- Dammin, Damfilt
- Gasbor, Siesta
- Econometric Modelling
- Fluid Dynamics
- Fourier Analysis
- Geological Modelling
- Image Processing
- Radiation Transport
- Travelling Salesman
- WIFI Roaming

Condor_Users@Cardiff

- | | | | |
|----------------|---|----------------|---|
| • Architecture | 1 | • History Arch | 2 |
| • Biosciences | 5 | • Mathematics | 2 |
| • Business | 2 | • Optometry | 2 |
| • Computer Sci | 2 | • Physics | 1 |
| • Engineering | 2 | • Social Sci | 1 |
| • Epidemiology | 2 | | |

Condor_Interfaces@Cardiff

- The right tool for the right job
 - Flexibility vs Usability
 - One-offs vs Repetitive
 - CLI >> GUI >> Portal
- The right method for the right person
 - Computer Scientist = CLI
 - Biologist = GUI
 - Poet = Portal

Condor_File_Systems@Cardiff

- What is the value of your data ?
 - Backup, Archive, Retrieve
 - Records Management and Digital Curation
 - Resilience
- Client Server File systems (NCP, NFS, SMB)
 - Limited metadata (filename, size etc)
- Distributed File systems (GPFS, SRB, etc)
 - Cluster and distributed file systems
 - More metadata
 - Keyword searches

Condor_OS@Cardiff

- Virtualization (PC for all seasons)
 - VMware, Xen, Virtual server etc
- Translation (PC for when the sun shines)
 - coLinux, cygwin etc
- Multi Boot (PC for when the moon shines)



Condor_Connections@Cardiff

- National Grid Service
 - Top-down approach
- Campus Grid
 - Bottom-up approach
 - Management domains and ownership
 - Cross charging
 - Target job at the right service
 - Uncoupled, coupled, SMP
- Where do you get the benefit ?

Condor_Questions ?