Condor usage within the University of Bristol

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Currently the University of Bristol is making extensive use of the Condor™ software in the following areas:
   a) Condor-G is being used as the Resource Broker within the University of Bristol Grid.
   b) Migrating clusters from PBS to Condor.
   c) Windows Condor pools available through a Globus Interface from a flocked Linux pool.
   d) Conducting an evaluation of Condor against United Devices GridMP.

Setup of a Condor-G Resource Broker with Globus MDS Information Provider

The University of Bristol Grid is arranged with central resource broking, information provider and Virtual Organisation management. This arrangement means that the setup currently has a single submit machine running Condor-G, which operates in unison with a standard Globus GIIS server. This has necessitated the writing of custom scripts to format the information from the MDS system into that useful to construct machine ClassAds for the Condor system. Currently the system is only running test jobs across all resources but the largest job we have run so far has contained 2000 individual processes. Though we are now working towards high constant loadings for the system.

The problems we have had are all to do with the matching of jobs to Globus resources. with what appears to be the system cycling through many match cycles before a correct match and negotiation of actually running the job can occur.

Migration of clusters from OpenPBS to Condor

With the OpenPBS system currently only being maintained with little or no new development then it is becoming increasingly difficult to maintain security etc with clusters in the university departments. Bearing in mind the lack of funding for software licenses etc then a decision is expected soon that clusters within many departments will have their schedulers replaced with Condor to ensure continued system availability.

Windows Condor pools available through a Globus Interface from a flocked Linux pool

Within three departments currently there are three separate Condor pools running on Windows machines with approximately 200 CPUs. There is planning also to allow all student teaching resources in as many departments as possible to have the software installed. This will allow a significant increase in university processing power with
little cost increase. Also, in order to allow grid submission onto these machines a single machine has had the VDT and Condor software installed on it. This machine is configured as a Master only with no capability to run jobs itself instead flocking all jobs it receives to the Physics department windows condor pool. To make this work the system architecture has been hard coded into the job manager control file within VDT. As each department gives the OK then they will be added to this flocking list. The largest difficulty that has been encountered with this setup has been initially that the Windows release of the software is not produced as a Microsoft Installer file. This means that with systems running Server 2003 etc that the group policy method of software delivery and installation cannot be used easily.

**Conducting an evaluation of Condor again United Devices GridMP.**

One of the Chemistry departments premier partners makes extensive use of the UD solution and so pressed them into contacting us. Due to the high cost of their solution we have stated that we would only use their software if it could be conclusively proved by us to be significantly better than the Condor solution. This will result in a comparison document that will be published in a relevant journal and made available through the United Devices and hopefully Condor websites.