



HECToR User Group, 12th October 2010

Notes from Group Discussion

Participants from the HECToR Service:

JN - Jane Nicholson, EPSRC
DJ - Dai Jenkins, EPSRC
LS - Liz Sim, EPCC
JBB - Jason Beech-Brandt, Cray
MD - Mike Dewar, NAG
ES - Ed Smyth, NAG
IR - Ian Reid, NAG

Comment: Specialist information, such as how certain environment variables should be set is often not present on the HECToR website and people have to go to the NERSC and CSC Finland websites to find this.

Question: Will esFS perform as well as directly-attached Lustre?

Answer: JBB replied that there will be more OSTs (Object Storage Targets) so the potential performance will be greater.

Question: How far will each research council involved with HECToR have "voting rights" in future decisions?

Answer: JN replied that this is not how the group operates. Any decisions should, as far as possible, satisfy the requirements of all parties.

Question: IR asked why users have not moved to the XT6?

Answers: 1. Not enough disk space;
2. Not enough performance benefit.

Comment: It is important for users to very quickly be able to use phase 3.

Question: Can phase 3 be pushed back?

Answer: JN replied that this is not possible - the money needs to be spent within the next financial year.

Question: Should users with leading-edge codes be considering PRACE rather than the phase 3 machine?

Answer: JN replied that PRACE is not suitable for high-volume usage by UK academics. We already have a lot of projects using it relative to our investment.

Question: IR asked whether, given the upgrade to 24-core nodes, esFS, Gemini, etc, there are not too many changes to the HECToR system to encourage users to move?

Answer: It would be good to know what was coming along in order to plan for it.

Question: What is the timescale for phase 3?

Answer: JN replied that the decision will be made around February 2011, with installation around October 2011.

Question: Is there information available comparing how major codes perform on a range of HPC architectures?

Answer: JN replied that a pilot project (ACE) has recently been completed into this with a view to carrying out a more detailed study. ACE will go on the EPSRC website sometime in December 2010.

Question: What are the plans for the X2?

Answer: LS replied that the users of this machine have been contacted to ask what they are doing on it and why they are using this machine. It will then be decided whether it should be kept as we move into phase 3. Having said that, it is relatively cheap to run but would require that part of the XT4 also be kept.

Question: Could we not have a standard acknowledgement that HECToR users should include in any publications?

Answer: JN replied that we do.

Response: You need to publicise this a lot more. A standard phrase could be used to automatically capture HECToR usage statistics from academic papers. The research councils should also put something on their websites saying that use of HECToR should be acknowledged.

Question: Can users be informed more quickly when a machine returns into service after going down? If it comes back up on a Saturday afternoon say, then users don't get an e-mail until Monday morning.

Answer: LS replied that they will look into what can be done.

Question: Is there too much emphasis on peak performance as the measure of a service? More emphasis should be on memory per core in choosing the phase 3 machine.

Answer: Although memory per core is decreasing, memory per node is increasing. Under-populating nodes will therefore give users greater memory per process. Maybe we should be charging per node rather than per core.

Comment: MD suggested that maybe we should use a different metric than linpack for node performance.

Comment: ES asked whether the concept of the "AU" is getting in the way?

Comment: LS suggested that the requirement for millions of AUs might be putting people off. Maybe we should devalue the AU.

Answer: JN decided that the charging mechanism needs to be investigated.

ACTION on DJ to do this.

Question: Can we expect a period of stability once esFS is operational?

Are there any major changes to Lustre in the lifetime of HECToR?

Answer: Cray replied that there are no major changes to Lustre planned, although a lot of the time esFS has highlighted problems elsewhere rather than itself being their cause.

Question: For a pure MPI code, how much retuning of environment variables will be needed when moving from the XT6 to the XE6?

Answer: JBB stated that advice on that will be provided when the time comes.