

BOF: Petascale Systems with Intel Xeon Phi Co-Processors

The first 30 minutes of thi BOF consisted a short introduction by Ilene Carpenter from NREL followed by short presentations by four sites with experience deploying clusters with Xeon Phi cards; Paul Peltz from NICS, Gary Skouson from PNNL, Rory Kelly from NCAR and Karl Schultz from TACC. Michael Hebenstreit from Intel also spoke for a few minutes about work on internal cluster deployments done at Intel. He welcomed feedback from users to provide more justification for him to advocate for the needed features in the Intel-provided software.

There were some common concerns about managing users, user authentication and file access on the MIC cards. Xeon Phi cleanup at the end of jobs was also a concern. Nobody was very enthusiastic about the way the micctrl software worked, especially the way it modified configuration files for unknown reasons. Many people would have liked to write tools to either replace or complement micctrl, but there is a lack of proper documentation to write robust tools. Many things about the Phi setup could use better documentation.

Job launch for jobs where MPI ranks are created on both the Phi and on the host is still a work in progress, with most sites rolling helper scripts to make it work well. Similarly, compiling codes for the Phi or cross-compiling codes is not as trivial as it should be. There were several people who also spoke about network configuration to allow communication between MICs running on different hosts. Again, problems with the MIC tools from Intel and the lack of documentation make this more frustrating than it should be.

After the presentations, there was some discussion and questions and answers from people who attended the BOF and those who had presented. There was further discussion about several of the topics already discussed and a few other questions about experiences with deploying clusters with MICs.

There were about 65 people from around the world in attendance at this BOF. There appears to be a strong interest in sessions oriented towards system managers and administrators. We could have easily filled another 30 minutes with interesting discussions.

Ilene Carpenter
Gary Skouson