SHAPE – Helping SMEs onto the HPC ladder

Chris Johnson, SHAPE Co-ordinator, EPCC, The University of Edinburgh

SHAPE (SME HPC Adoption Programme in Europe) [1] is a pan-European initiative supported by the PRACE (Partnership for Advanced Computing in Europe) project. Getting SMEs to adopt HPC can be challenging. There are a number of barriers to HPC adoption by SMEs such as a lack of in-house expertise or a lack of available manpower. SMEs may have little or no access to suitable hardware, and an SME may be unwilling to take on the risk of committing to HPC without prior experience. By utilising HPC, an SME has the potential to improve product quality via an enhanced performance and accuracy of their models, or by reducing time to delivery, or by providing innovative new services to their customers. Ultimately this can increase their competitiveness.

SHAPE is there to help overcome the barriers faced by SMEs and allow them to get a foot on the HPC ladder. Through a series of regular calls, SMEs can apply for assistance from SHAPE via a lightweight application process. Successful applicants to the programme are paired with an expert from a PRACE partner institution. In collaboration with the SME, the PRACE expert helps them try out their ideas for utilising HPC to enhance their business. A typical project could involve the porting or parallelisation of the SME's code to allow running on an HPC system, getting an SME up and running with a code already installed on an HPC system, or could involve optimising an already running code for the SME's specific use case [2].

In addition the SME will get access to PRACE supercomputers and, where appropriate, to more novel hardware such as GPU nodes or visualisation suites.

To date, 45 SMEs have been awarded effort from the SHAPE programme to assist with making use of HPC for their business. This effort has been awarded across 8 separate calls since the programme started with a pilot call back in 2013. Successful SHAPE projects have originated from 11 different countries across a diverse range of subject areas, including some less traditional HPC areas such as finance and medicine This talk will give a short introduction to the SHAPE programme in the context of other European HPC industry programmes, followed by some of the success stories from the SMEs across a variety of disciplines that have worked with PRACE. I will then present some plans for broadening access to more SMEs across more countries.

[1] http://www.prace-ri.eu/hpc-access/shape-programme/

[2] http://www.prace-ri.eu/shape-white-papers/