

Re: future organization and operation of HPC in Denmark

It is our belief that High Performance Computing (HPC) is a strategic national investment leading to long-term benefits for many sectors of Danish society including industry, education and research. It is therefore necessary to plan long-term investments for national HPC resources as done already in Finland, Sweden, and Norway. Financing these HPC resources requires that special funds are allocated in recognition of its strategic importance. Such funds are required for either scenario 1 or 2 to become successful.

The University of Southern Denmark strongly supports the second scenario proposed by DeIC, i.e. establishing one national Tier1 HPC center, in addition to the existing local installations.

We have already pointed out the advantages of a centralized system in a separate document: high efficiency and less waste leading to a higher value for the money, sharing of national resources, increased Danish competitiveness both in the public and private sector and the development of new national skills.

Two more important points are that: a national machine can be used efficiently by both small and large users alike; local HPC centres will continue to support local needs, including the education in e-Science at universities and user support to run on the national infrastructure or international resources.

We further propose to place the national Tier1 at the University of Southern Denmark. In the past years, SDU has proven able to make efficient use of the local HPC installation by sharing resources and knowledge across all five faculties and six campuses. One can thus expect the same cost-efficient utilization for a national Tier1 machine in Odense, drawing on the vast expertise of the local HPC team. To facilitate a broader use of HPC, SDU has already started to implement a new e-Science knowledge center, where scientists from areas new to HPC can receive advice for the use of computing in their research. For example, the upcoming super hospital, OUH, will be placed at the main SDU campus and it will be a great opportunity to advance the adoption of HPC in health science research.

In case DeIC favors the less attractive scenario 1, we suggest to reduce the number of Tier2 installations from the proposed number of 8 to just 3, located at KU/DTU, AU and SDU. This would allow DeIC to cover a more significant fraction of the initial investment and allow the universities and research councils to concentrate on the running and depreciation costs, for the benefit of the researchers. The allocation of additional basic research money at the universities will be needed to support the Tier2 installations, replacing the old DCSC funding scheme.

Finally, we strongly suggest that the governance of the national Tier1 ought to be delegated to a board of directors, formed by two HPC users from each university. This board will be responsible for guaranteeing that operations of the national centre will be cost-effective and professional. The board should oversee the actions of an administrative manager from DeIC and it should be in charge of hardware choices, operational setup and the budget of the national centre, including its business model.

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