

The SARA/BigGrid HPC Cloud, From Beta to Production

Tuesday, 18 September 2012 12:00 (25 minutes)

Description of the work

We have been involved in High Performance Computing and later on Grid computing for a long time. Nevertheless, there are a number of users or user communities that for whom Grid or HPC infrastructures are not helping them to do their work. Those infrastructures may have the computational and I/O performance that they need but they lack flexibility. Clouds have that flexibility and a HPC Cloud can cater for the users performance needs. This has motivated us some two years ago to investigate the possibilities of a HPC Cloud infrastructure. We have setup a proof-of-concept type of environment and allowed a number of users to try it out. Their enthusiasm has encouraged us to replace the test environment with a full-fledged production HPC Cloud environment. In this presentation we will give an overview of our HPC Cloud infrastructure and discuss the experiences that we have gained from running our new production infrastructure. Extra features created by SARA for sharing of data and security of the Virtual machines within the user environment are also explained.

Link for further information

<https://www.sara.nl/systems/hpc-cloud>

Wider impact of this work

With this presentation we hope to get users and sites interested in HPC Clouds and we hope to share and exchange experiences with them.

Printable Summary

For over two years we have experience in running a HPC cloud at SARA. Starting out with a Proof-of-Concept type of environment we now have a production HPC Cloud infrastructure that we offer to our users. In this new infrastructure using Open Source solutions, users can startup their own HPC compute clusters having their own private high-band width interconnect between their VMs and a high-bandwidth connectivity to the outside as well as fast access to storage. In this presentation we will discuss the setup of our infrastructure, our experiences that we have gained so far and explain what was modified to the used open source tools.

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Track Classification: Virtualised Resources: challenges and opportunities (Michel Drescher: track leader)