Contribution ID: **184** Type: **Sectional**

Approaches to building of Cloud base scientific computing infrastructure

Thursday, September 28, 2017 4:20 PM (20 minutes)

In the paper presented results of works focused on building of heterogeneous Cloud base scientific computing infrastructure. Main purpose of infrastructure is to provide for researchers a possibility to access "on demand"a wide range of different types of resources, that can be physically located in local, federated and GEANT offering clouds. These resources include pure and customized Virtual Machines with preinstalled and configured software, GRID and HPC facilities on the base of virtualization paradigm within integrated Cloud infrastructure.
Considered creation of "Centre of Excellence"where researcher can start with parallel clusters'systems study, development and debugging of initial versions of parallel applications for further scaling them to resources that are more powerful. The aim of proposed infrastructure is to provide to researchers access to multi-cloud platform with horizontal and vertical scaling, self-healing (the ability of a system to recover from failures) and with different SLA levels, depending on time of researcher experiments.
To ensure operation of federated mechanism to access distributed computing resources were investigated approaches and finalized works to realize solutions that allow providing unified access to cloud infrastructures and be integrated in the Research & Educational identity management federations operated within eduGAIN inter-federation authorization & authentication mechanism (AAI)
Perspectives of utilization of virtualization technologies for integration of Grid and HPC clusters in heterogeneous computer infrastructures that are offering effective computing resources and end-user interfaces are considered.

Keywords: distributed computing technology, Cloud computing, High Performance Computing, computational clusters, Federated Cloud on-demand Services

Summary

Keywords: distributed computing technology, Cloud computing, High Performance Computing, computational clusters, Federated Cloud on-demand Services

Primary author: Dr BOGATENCOV, Peter (RENAM, Moldova)

Co-authors: SECRIERU, Grigore (Vasile); Mr HOROS, Grigorii (IMI ASM); Mr DEGTEARIOV, Nichita (RENAM); Mr ILIUHA, Nicolai (RENAM)

Presenter: Mr ILIUHA, Nicolai (RENAM)

Session Classification: Distributed Computing. GRID & Cloud computing

Track Classification: Distributed Computing. GRID & Cloud Computing