Deployment of Virtual Clusters on a Commercial Cloud Platform for Molecular Docking

Subtopic: Multi-Cloud

Nara Institute of Science and Technology (NAIST)

Nara, Japan
Week 7 Progress

- Multi-Cloud Environment
  - The multi-cloud environment has been expanded to have two VMs on NAIST, three VMs on AIST, and three on FutureGrid
    - It is important to note that the number of VMs on FutureGrid can very easily be adjusted thus it most likely will be when doing tests regarding scalability.
  - With the current Multi-Cloud environment, the system seems fairly balanced.
    - May add one more VM to NAIST such that the distribution of VMs is three on each.
Week 7 Progress

• ViNe
  - ViNe was initially having issues when the number of VMs in the Multi-Cloud environment was increased from what it was prior
    • Thanks to Dr. Tsugawa, this issue has been resolved and all VMs in the environment are correctly set up with ViNe
• Bash Command
  - A bash command was written to enable one VM to send input files to all other machines in the environment.
    • Command does this by checking if the input file exists, and if not, adds it.
Week 8 Plans

• DOCK
  – DOCK is to be used to gauge effectiveness of multi-cloud environment.
  – Will run tests with DOCK and compare results with results from Grid Computing.
  – Will also try to scale up number of VMs, most likely on FutureGrid, to see how this change in one cloud on Multi-Cloud environment effects job distribution.
Cultural Exploration (Obon Week)
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