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

Subtopic: Multi-Cloud

Nara Institute of Science and Technology (NAIST)
Nara, Japan

Anthony Nguyen
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Week 5 Progress

• FutureGrid
  – Virtual Image has been altered to have DHCP network configuration and was uploaded on to FutureGrid.
• Ran into problems regarding available space on FutureGrid but problem was resolved.
  – Virtual Image was launched and runs but networking is still not functioning properly despite the change to DHCP.
Week 5 Progress

• ViNe
  – Worked with Dr. Mauricio Tsugawa to properly set up ViNe.
  – Encountered a new type of error but resolved the problem.
  – ViNe is connected.
    • Verified by ping and ssh test.

• Hadoop
  – Looked into Hadoop
  – Attempted to set it up.
    • Only able to successfully complete Single node Standalone Operation
Road Blocks -> Approach -> Outcomes

• FutureGrid
  – Ran into issues regarding Space and Networking
  • To resolve issues I have contacted FutureGrid as well as Dr. Mauricio Tsugawa who helped design FutureGrid
  • With regards to space I was given directions as to where I would have more space on the FutureGrid cloud computing resources.
  • With regards to networking, I have been given helpful information and I am testing different images with different network configurations.
• **ViNe**
  
  – ViNe is a very new software with very little documentation. Because of this it was very difficult to learn much about the software and how to use it.

  • To deal with this, I have contacted Dr. Mauricio Tsugawa and worked with him to set up ViNe overlays on the AIST private cloud and NAIST local server.

  • I am continuing to work more with Dr. Mauricio Tsugawa to learn more about ViNe and how to implement it.
Week 6 Plans

• FutureGrid
  – Figure out why current networking configurations will not work on FutureGrid.
  – Make networking on VM launched via FutureGrid work and try to set up ViNe on this VM.
• Setting up ViNe on FutureGrid may be different than before because of DHCP network setting.
Week 6 Plans

- ViNe
  - Set up ViNe on FutureGrid
  - Attempt another test using ViNe.
  - Try to send a file between the VMs via ViNe.
  - Try sending a DOCK job via ViNe.
- Google Cloud
  - Begin researching the cloud offered by Google.
  - May use this cloud as a part of my Multi-Cloud work.
Cultural Exploration
Cultural Exploration
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