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From Bare-Metal to Cloud

Tuesday, 18 September 2012 11:30 (30 minutes)

Description of the work

ZHAW and GWDG had a shared, common problem, namely how to deploy infrastructural service technology (e.g. OpenStack, CloudStack) with the least amount of user interaction (i.e. automated) during the deployment process, across a large number of servers. The solution allows for the easy deployment of operating systems on to bare-metal (physical servers) and the deployment and management of specified software packages upon those provisioned bare-metal systems. To accomplish the combination of Foreman and puppet was chosen. For the work, it was assumed that the network architecture, partitioning etc. is already determined.

Wider impact of this work

Many organisations face the challenges of deploying cloud technology. This presentation and demonstration focuses on the latter part with a particular concentration on infrastructural service offerings. The approach is not only applicable to physical but also virtual infrastructure and it can be also used to automate the provisioning of PaaS-style services (e.g. Hadoop or CloudFoundry). The challenge of deploying cloud infrastructure technologies is one that has many solutions but in totality are fragmented and require sourcing from different places. This work collates these different sources. The knowledge gained by participants from this presentation and demonstration will bring a full end-to-end picture and means to executing automated deployments to each. On parting from the session, participants will have a good understanding of an end-to-end automation stack and will have the knowledge to implement this either as simulated infrastructure or on actual physical infrastructure.

Printable Summary

This presentation will detail what measures have been taken to automate the provisioning of OpenStack clusters at two research labs, ICCLab and GWDG. The presentation will describe the technology stack, discuss the individual technologies used and share the information with others. It will conclude with a demonstration of provisioning a multi-cluster OpenStack deployment upon virgin bare metal servers.

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Session Classification: Providing cloud services

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