Report of Industrial Year at HP

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August 12, 2015

Abstract

Working for Hewlett Packard (will now be refereed to as HP) For 14 months. During time spent worked with two main service teams. Cinder and bock. Cinder, the openstack and opensourced client that provides API for block storage solutions to be consumed by NOVA, the openstack, opensource compute host for cloud solutions, and Bock, the block storage solution implemented within the HP public cloud. Also worked on Helion OpenStack (will now be referred ot as HOS) private cloud solutions within Cinder service team

Producing code for bug fixing, features, testing, automation for upstream (openstack(cinder)) downstream(bock)and upstream internal(Helion)while also doing peer code review for mentioned services. Working on 24/7 on call support for the public cloud to ensure that services do not experience outage and working closely with technical operations (will now be refereed to as tech ops), to ensure services experience no outage is something I worked towards and successfully integrated myself into.

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0.1 Organisational Environment

The HP Helion OpenStack Block Storage supports an API to instantiate and manage block storage volumes on HP StoreServ 3PAR devices and StoreVirtual Software Defined Storage. User can create volumes, attach them to VMs, and take snapshots and backups. Users can create a bootable volume and use that to boot a VM

0.2 Technical and Application Environments

The cinder service was consumed by multiple projects; Helion, HP public cloud and the openstack project, Cinder. Cinder was used as the API service in both Helion and HP public cloud, whereas openstack cinder is an open source project that provides the code base for cinder. Three areas will be discussed to collaborate the technical and the application of tools and services used. They will be;

- Hardware
- software
- work-flow

0.2.1 Hardware

The hardware that was used is very diverse. From local systems; laptop and desktop to SSH sessions to production systems in Vegas, there was a broad spectrum.

Base development computer was a HP Z640. This included duel Intel Xeon 3.50GHz processor, 128Gb (8 x 16gb) DDR4 2133MHz RAM, 256 Solid state drive (OS installed), 2TB hard drive, 1Gbit/s network interface. The operating system was ubuntu 14.4 LTS which was displayed on duel 32'ch IPS monitors. The machine was an upgrade from a z400 which saw a huge increase in RAM. The z400 also did not support virtuialaztion.
This workstation was used specifically for its large volume of RAM to help create virtual environments for the private cloud deployment system; Helion life-cycle manager (will now be referred to as HLM). Other than building test systems this machine was responsible for holding all version controlled repositories where code changes would be made and pushed. This included bock, cinder and any other relevant support repositorys such as automation and QA.

Communications is an essential part of business in HP. While we operate on linux operating systems the majority of the company operates through windows. Being issued with a HP Elitebook 8470p with windows 7 enterprise edition allowed communications with the greater company to be accessed with ease.

0.2.2 Software

0.2.3 Work-flow

0.3 What I did

0.4 Evaluation

0.5