OpenStack Capstone Post Mortem Report

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1. Postmortem Results

1.1 Things That Went Well

- We got Quantum fully working with OpenStack.
- We got a manual installation of OpenStack on multiple physical machines.
- We got Savanna working with OpenStack with a working Horizon dashboard.
- We completed a good amount of documentation done for future deployment.
- We have a fully functional environment to deliver to the department.

1.2 Things That Did Not Go Well

- We exhausted a couple of weeks debugging Savanna on our development environment that was running on Folsom to find that it basically worked out of the box on Grizzly.

1.3 Lessons Learned While Doing the Project

- We got some understanding of Horizon from a source code perspective.
- We gained some knowledge with networking by working with Quantum.
- We gained a good overall knowledge on how OpenStack works.

1.4 What Could We Have Done Differently

- It’s hard to say, really. The initial learning curve for OpenStack is pretty steep, but after you get moving you can steadily continue progressing further. We really did start working with everything fairly early on, but it still took us a long time before we were really comfortable deploying OpenStack.
- Used DevStack early on just to start playing with OpenStack. DevStack is an awesome tool to give you a working environment in literally about 10 minutes, but it can only be treated as a temporary testing environment.
- Started manual multi-node installations instead of using DevStack. The unfortunate thing about this is that DevStack is built from source and it’s much easier to build OpenStack from packages within the OS. This means it’s best to use the latest stable release which is behind what DevStack is using. As a result, it’s hard to reference DevStacks’ configuration files as they can be different.
- Assigned tasks a little more clearly to team members as we all tried to contribute equally. Perhaps if certain people would have worked more specifically with components we could have progressed more quickly. It’s hard to say that would really help though as basically every component complements another.

1.5 Recommendations for Future Projects

- Be active with development communities. Report bugs and use public chats/forums for help.
- Be motivated to learn new technologies. Don’t let failures hold you back.
- Sometimes it’s better to go ahead and implement something rather than trying to become an expert from reading documentation.
- If you’re working on an emerging solution, expect to alway be catching up.

2. Project Size and Effort Estimates

2.1 Effort Estimates

Task	Estimate	Actual Size
Savanna Installation and Testing	20 hours	~ 100 hours
Deployment and Testing	45 hours	~ 130 hours
Debugging	25 hours	~ 50 hours
Documentation	10 hours	~ 50 hours

Research was learning how Horizon worked from a source code perspective. We were working on getting Savanna working. Documentation was documenting our process as before. OpenStack on physical hardware was installing and configuring Openstack on the physical machines. Debugging was working on fixing any components that broke.

2.2 Project Effort Breakdown

Project Area	Effort (%)
Documentation	25%
Debugging	15%
Implementation	60%

Our documentation includes installation and configuration guides, user guides, and demo videos. Implementation was setting up OpenStack (including physical hardware setup), and the various components (i.e. Quantum, Savanna). Debugging was getting the components to work and fixing any problems that occurred.