Closing Report
AwaseConfigurations

Manage a large network from a single control machine using simple commands to execute complex tasks. Tasks can be ran simultaneously on all machines in the network. In this project, Cobbler is used to install fresh ubuntu operating system to each computer and Fabric is used to control the machines.

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1 Project background

Project was started as a part of HAAGA-HELIA's network administration course and was done to provide the team members with required know-how of building a system for controlling small networks. There was a need for a centralized management system that is simple enough for small networks and this system was build to answer that need. This project is not part of any larger set but a complete system of its own. The closest interest groups include Linux system administrators and network administrators.

2 Project goals and achieved results

The main goal was to build an automated and centralized management system for Linux hosts. Tools for the project were tested and set up to acomodate a set of actual tasks a system administrator could have in a development company environment. The tools were chosen for stability and efficiency and then made to work as idempotent as possible.
The result of our work was a rapid setup network environment where a single computer could control the entire network with very simple command line interface. Several glitches in the system are still observed but overall these should not be a major issue in a more stable environment as our lab computers were rewritten constantly for various other projects as well.

2.1 Additional achievements

Blog published on Wordpress
All project material published on Github
33 posts in the blog (2011-12-14)
1243 page views (2011-12-14)
A project member got a linux sysadmin internship [to a big extent thanks to this project]
Ubuntu/cobbler bug found and reported on Launchpad.
The system tested on 25 machines.

3 Activities of the project

3.1 Duration of the project

The project started 12.9.2011 and lasted for four months. Project was closed 15.12.2011

3.2 Project phases in chronological order

Project startup
Tools research and analysis
Defining construction environment
Project plan
Project implementation
System testing
Finishing the project and reports

3.3 The most successful parts of the project

The cobbler rapid deployment system and configuration was a notch above what we had originally imagined to achieve and it worked out very smoothly in our lab testing.
Overall we managed a little bit more than what was planned for, with less resources than estimated, so the project was highly efficient in it's execution.

3.4 Problems encountered during implementation

One of the biggest problems was encountered at the ending phase of the project, when we were told that instead of three labs we should only use one, and it was only available on mondays and fridays. It has significantly reduced amounts of time that we could spend testing our advancements in labs. However, we managed to work 'offline' and apply the changes while in lab.

4 The project economy

Our budget included all the equipment required for implementation and all of that was covered by our school. The team members provided the workhours. There was no actual profit expectations and there hasn't been any profit so far.

5 Implementation of the results after the project

There is still a considerable amount of work to be done to get this system running anywhere else than our test lab, that said though our step by step guide should get you over most of the rough spots and hopefully will speed things along nicely compared to setting up everything from scratch and finding out which tool you need for which task. As a further development of this system we would suggest using it as a cluster or try some advanced scripting with it using python or bash. It could also be used with cron to schedule fabric tasks. Also centralized user management would be an important feature and it would be nice to see used with this.

The results of the project can be found here: http://awaseconfigurations.wordpress.com/
The project material can be found here: https://github.com/AwaseConfigurations/main