

EE/CprE/SE 491 SDMAY-19

Weekly Report 7

11/8/2018 – 11/14/2018

Group number: 5

Project title: *Cyber Network Capture Generator*

Client : *Argonne National Laboratory*

Advisor : *Benjamin Blakely*

Team Members:

Jacob Perin - *Scribe*

Luke Tang - *Meeting Facilitator*

Collin McElvain - *Chief Architect*

Abdelrahman Baz - *Chief Architect*

Hazem Abdeltawab - *Test Manager*

Bernard Ang - *Report Manager*

Weekly Summary

This week, the team had a meeting with the client. In the client meeting at Room 3138 Coover Hall at 11AM on the 14/11, we discussed about further implementations and combinations of technologies that will be used in our project as well as to show and verify the templates of the website that were made. Jacob presented his thoughts on multiple combinations of technologies and his research he had done on them, including the advantages and disadvantages of each. For the front end, we discussed with the client about the look of the interface as well as the data that will be running through the web interface. We were tasked to draw wireframe diagrams according to the request of the client and implement them in the future. For the back end, Collin and Jacob continued work on Vagrant and Xen. Collin looked into Chef and Vagrant Setup and Jacob looked into connecting Xen and Vagrant.

Past week accomplishments

As a team, we had a meeting with the client. For the front end team, we verified our made interface with the client and made changes were needed to. We were tasked to create a new wireframe diagram according to the client's request. Back end team has concluded work with

Vagrant with un-success. Although disappointing, the team recognizes that the continued work would be unfruitful. Work has increasingly become undocumented and somewhat ad-hoc. This will recognizably be problematic in the future as libraries change. Most likely this is unnecessary. Work is being done to research alternatives that have been found by continued research. The following shows our individual contributions

❖ • Bernard :

- Drew new wire frame diagram according to the final changes wanted by the client
- Researched more on the use of dynamic addition of elements into the web interface

❖ • Jacob :

- Concluded work with Vagrant. Disappointing week. Work had been done to use Qemu to branch to Xen and initialize virtual machines. This did not work. Vagrant got confused for an important reason that was missed and uncovered with research. Xen uses a multi-boot configuration. Qemu understood this, however, Vagrant does not. It gets stuck when attempting to use “HVMLoader” (bootstraps Xen VM for Hypervisor) and then attempting to setup and configure base box (defined by vagrant.) Only capable of running one at a time.

Sources (of concluded failed research):

<https://github.com/vagrant-libvirt/vagrant-libvirt>

(use qemu-args parameters)

<https://wiki.xenproject.org/wiki/Hvmloder>

(dual boot)

https://wiki.xenproject.org/wiki/QEMU_Upstream

(not actually necessary anymore -- connects directly)

*Qemu uses parameters with hypercalls. The call would have been “xen-create”

(breaks vagrant to use)

❖ • Collin :

- Started to look into Chef client and Chef Server. These will be used to make each VM a node on the chef server allowing for configuration.
- Began to look into the Chef configuration files.

❖ • Lucas:

- Finalized attempts on iseRINK conversion - had to abandon due to lack of compatibility and use not matching our intended use case
- Attempted implementation and testing of squid - abandoned due to lack of

documentation using proxy as router/switch/gateway. Its intent is as a proxy to speed up website traffic

- Attempted implementation of Streisand, absolutely no documentation for implementation in Xen
- Preliminary research on OpenWRT
- ❖ •Abdelrahman:
 - Helped with figuring out what the new user interfaces should look like to give the user more options and features
 - Started looking for the available server options for the application
- ❖ •Hazem :
 - On second thought, we decided to keep the Django as a framework and use the Apache server on top of it to create more stability for our interface. Some templates have been created to test the ability of Django in accordance with Apache server.

Individual contributions

Team member	Contribution	Weekly Hours	Cumulative Hours
Bernard Ang	Drew new wireframe diagrams after discussions	6	41 + 6 = 47
Collin Mcelvain	Chef client and server research.	6	36 + 6 = 42
Jacob Perin	Concluded research with Vagrant. Unable to connect to Xen fully. This will require more research.	8	44 + 8 = 52
Lucas Tang	Conclusion with Squid, Streisand Begin work with OpenWRT	6	41 + 6 = 47
Abdelrahman Baz	Server options and new wireframes	8	39 + 8 = 47
Hazem Abdeltawab	More tests	8	50 + 8 = 58

Plan to accomplish for the next week

- ❖ Bernard
 - Work on building the new interfaces according to the wireframe diagrams drew
- ❖ • Jacob :
 - Research alternatives to replace vagrant and initialize virtual machines. Looking closer into support for Xen.

*This was a hold up in Vagrant. Although the open source “plugin” said it supported Xen it had been dropped in recent years. It will most likely be supported in the future, but not as of right now.
- ❖ • Collin :
 - Begin to look into Chef configuration files and what can be scripted.
 - Communicate with Hazem over wireframes.
- ❖ • Lucas:
 - Implement OpenWRT as a router device
- ❖ • Abdelrahman:
 - Run more tests on the existing code
 - Try out more Django features

- Research server options
- ❖ Hazem.
 - More templates are to be created, proving the functionality of the front-end development with the back-end development.
 - Tests that will ensure the connection ability of the front-end development to the back-end development will also be administered