

EE/CprE/SE 491 SDMAY-19

Weekly Report 2

9/2/2019 - 15/2/2019

Group number: 5

Project title: *Cyber Network Capture Generator*

Client : *Benjamin Blakely*

Advisor : *Dr. Thomas Daniels*

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

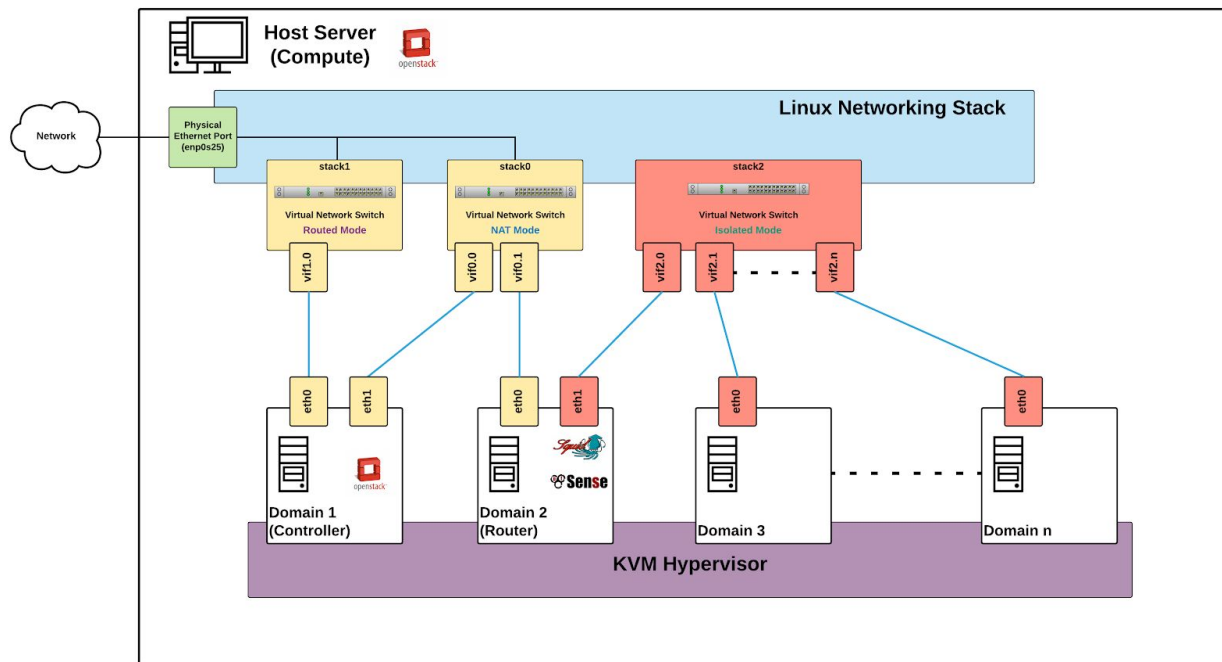
Team met in person with our Client from ANL on campus. We discussed recommendations from the advisory board last semester. This mainly is, “Narrow Project Scope” and “Define Specific Scenario to demo.” The client has promised to deliver a specific scenario (specific machine builds and specific scenario to automate) in the coming week. This information will be constructive moving forward as the team establishes and assigns future roles to develop minimal viable product.

Past week accomplishments

- ❖ • Bernard :
 - Tried to pair MySQL with the current frontend with failures due to some platform and package issues
 - Looked into other databases that can be used to make the database integration easier.

❖ • Jacob :

- Removed Xen and Replaced with KVM Hypervisor
 - Reasons:
 - KVM supports clients needs for guest operating systems
 - KVM has a performance increase on limited host server
 - KVM has better support for current technologies
 - Finished OpenStack Configuration, with some catches:
 - Network will need to be updated to support a custom router, and physical libvirt isolated network. WIP
 - Cinder, IaaS, will be useful for performance to allow virtual machines to avoid damping performance on host server by access through operating system. LVM will allow us to bypass. WIP
 - Note: Verified Setup by manually initializing guest operating systems via compute and controller node. This verifies correct communication between moving parts (separate IaaS in OpenStack.)
 - Backed up and cloned system into two different branches
 - Xen hypervisor and otherwise untouched progress is still available on lab machine
 - Branched lab machine contains KVM, fully configured OpenStack, and soon to be Ansible. WIP
 - Diagram w/ updated logic of back end WIP



❖ • Collin :

- Began discussion and detailed look into our GIT structure for the fronted.
- Met with frontend to discuss using GIT issues.
- ❖ • Lucas:
 - Switched from openWRT to pfsense for network solution and created virtual network with internet access. Through the pfsense box.
- ❖ • Abdelrahman:
 - Got Apache running as the main server for the project.
 - Started looking into how does Apache works with MySql
- ❖ • Hazem :
 - Tests for Front-end connection to database after successfully installing it in the first part of the semester.

Individual contributions

Team member	Contribution	Weekly Hours	Cumulative Hours
Bernard Ang	Pairing of mySQL with the Django project	4	9
Collin Mcelvain	GIT issues and structure	5	8
Jacob Perin	KVM Hypervisor Setup, Box Configuration, OpenStack Configuration/Verification	12	24
Lucas Tang	Virtual network progress	8	16
Abdelrahman Baz	Apache connection	6	12
Hazem Abdeltawab	Testing connection front-end and db	7	13

Plan to accomplish for the next week

- ❖ Bernard
 - Properly pair mySQL databases with the interface and make database tabs out of them

- ❖ Hazem Abdeltawab
 - Help **Bernard** with pairing mySQL databases with the interface.
- ❖ Jacob Perin
 - Minimal system of OpenStack is functional. This will allow me to move forward with setting up automated deployment tool, Ansible.
 - Ansible will be the future of deployment in our project, and needs to be functional as soon as possible.
- ❖ Collin McElvain
 - Beginning to put together the structure of how each scenario will be built.
 - Going to create some mock ups for these scenarios for the frontend dev with some mock data.
- ❖ Abdelrahman Baz
 - Look up and implement, if possible, Apache in conjunction with MySql and Django.
- ❖ Lucas Tang
 - Implement selenium scripts and begin capturing preliminary pcap data with tcpdump commands.