sddec18-07: Software-Defined Moving Target Defense
Week 4 Report
February 19 - February 23

Clients: Dr. Benjamin Blakely and Joshua Lyle (Argonne National Laboratory)
Faculty Advisor: Dr. Hongwei Zhang

Team Members
Andrew Thai — *Project Manager*
Connor Ruggles — *Quality Assurance*
Emily Anderson — *Delivery Manager*
Ryan Lawrence — *Communication Manager*

Weekly Summary and Accomplishments

Started implementation with OpenDayLight controller. We were able to successfully install OpenDayLight on the VMware hypervisor as well as being able to connect XenServer vSwitch to the controller. We also started building more virtual machines to see the effects of how different machine operating systems deal with packets. Generated a potential project name and logo.

Summary of Weekly Client/Advisor Meeting

We did not meet with our client this week as we continued our research and experimenting with our network design.

Pending Issues

Current issues that we are running into are when connecting our XenServer vSwitch to our controller, the switch is able to successfully connect to the controller but once it is connected, the switch isn't able to route traffic outside of the network so we can't run any scans from outside the network.

Plans for Upcoming Week

We will continue to work on more research on how to develop a good software defined network as well as try to fix our connection issue to the outside world when connecting the virtual switch to the controller. We will also work on our design plan to get it laid out to how we want to design our network and traffic flow control. We will also start researching on creating OpenDayLight flow control rules.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Andrew Thai	Experimented with OpenDayLight controllers. Was able to successfully connect controller to virtual switches. Need to fix a few issues with connectivity.	5	27
Connor Ruggles	Did more in-depth research on implementations of software defined networks.	4	24
Emily Anderson	Research on how controllers can be used to regulate traffic.	4	25
Ryan Lawrence	Experimented with packet flow to understand attacks on the network. Came up with potential project name and logo.	3	26