EE/CprE/SE 491 SDMAY-19

Week 6 Report

9/23/2018 – 9/29/2018

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, we had two meetings as a group to discuss on the task for the week. We did not meet with our client because we have met with them last week. In the meeting, we distributed tasks that are supposed to be completed throughout the week as well as to monitor progress on the first iteration of the Project Plan that was due at the end of the week. We also discussed on ways that Xen and Chef would work together. Each members were assigned to draw 1 or 2 diagram each that will be used in the Project Plan. Other than deciding on the tools we will be using, there are no changes in the project.

Past week accomplishments

As a team, we had a two meeting amongst ourselves as we have met with the client and faculty advisor on the previous week in the TLA. In the meeting, we discussed about creating the diagrams for the project. We discussed the flow, the components and also came up with several use cases that are required in our project. We then distributed the diagrams among each other and had each person were tasked to create a diagram each. We were also tasked to research on the pairing of Xen and Chef and how they will be working together. The diagrams and outcomes are

shown below :

❖ • Bernard :
➢ Created Sequence Diagram (1st Iteration)
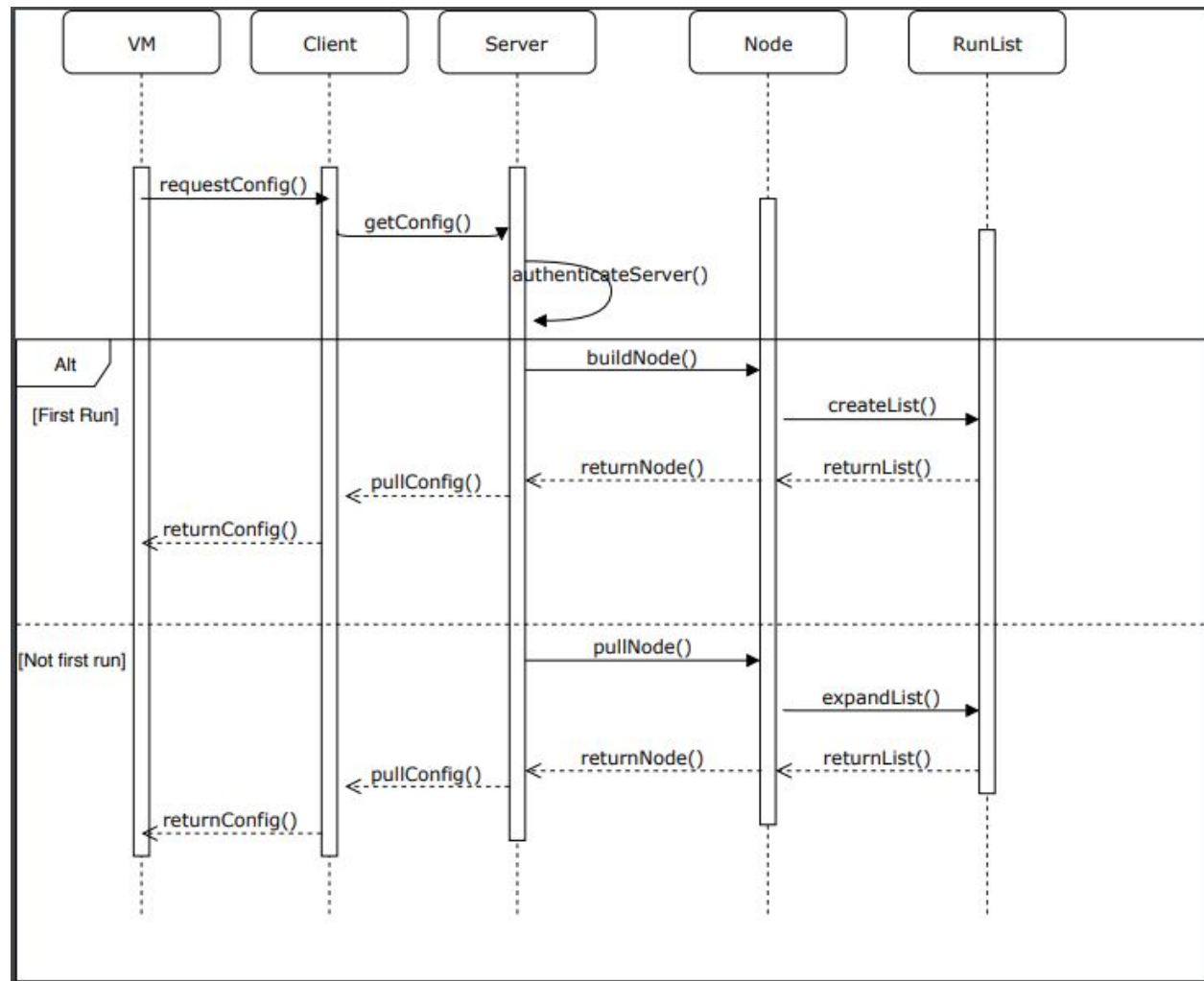
➢ Further researched on Chef and how Chef works with it's workstation and nodes.
Chef saves "cookbooks" and nodes that can we pulled back after creating it
manually the first time it is ran. However, the main problem would be that we will
be using specific "cookbooks" instead of creating our own ones as that will incur
almost about 130$ per node created. Even so, we believe that using specific
cookbooks will be just fine for our project scope.

❖ • Jacob :
➢ Created Context Diagram (1st Iteration)
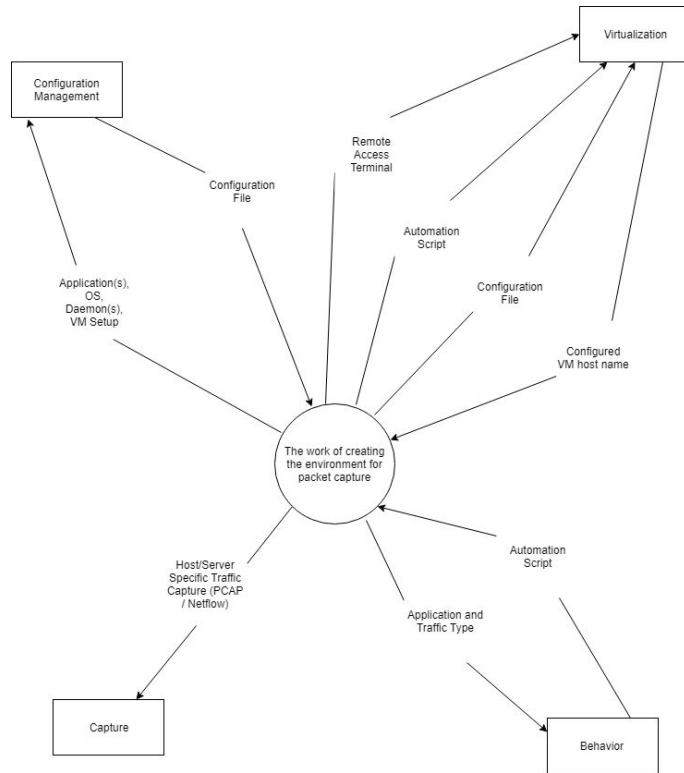
➢ Created Data Flow Diagram (1 Iteration)
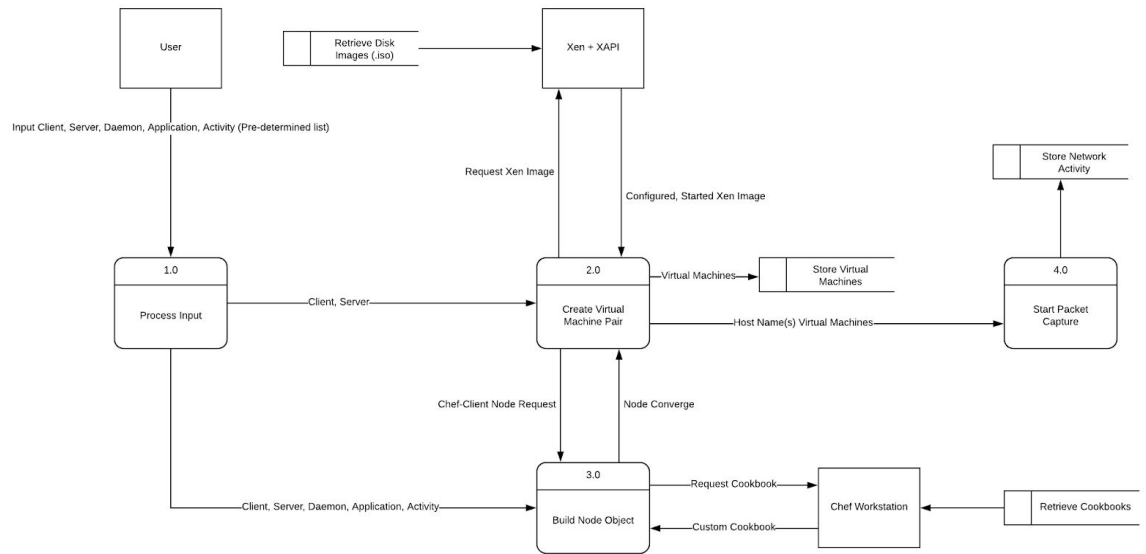
➢ Did research into possible conflicts in using Xen with Chef. Should be possible, but will require a mix on Xen initialization with Chef Automation. Other applications such as Vmware and AWS have better integration, but at a cost. Since we wish to continue using open source and free projects we will continue to attempt to use Xen. However, at a later date this may become problematic and

have to back track.
- ❖ • Collin :
  - ➢ Created Use Case Diagram

Web Application

Manage Behavior
<<include>> Choose Traffic Types
<<include>> Traffic Flow Configuration

<<include>>

Manage Scenarios
<<include>> Create Scenarios
<<include>> Edit Scenarios
<<include>> Save Scenarios
<<include>> Load Scenario
<<include>> Delete Scenarios

Manage Cookbooks
<<include>> Create Cookbooks
<<include>> Save Cookbooks
<<include>> Edit Cookbooks
<<include>> Delete Cookbooks

Direct access to VM

Data collection
<<include>> Filter Data
<<include>> Save Data

User

- ➢ Xen and Chef seem to be possible. May not be ideal; however, with the people on our team, I am not worried. The part they may get tricky is the website creation. This project is starting to look like two separate projects, a multipage website and a lot of scripts for our backend server.

❖ • Lucas:
  ➢ Created Communication Diagram for Xen:
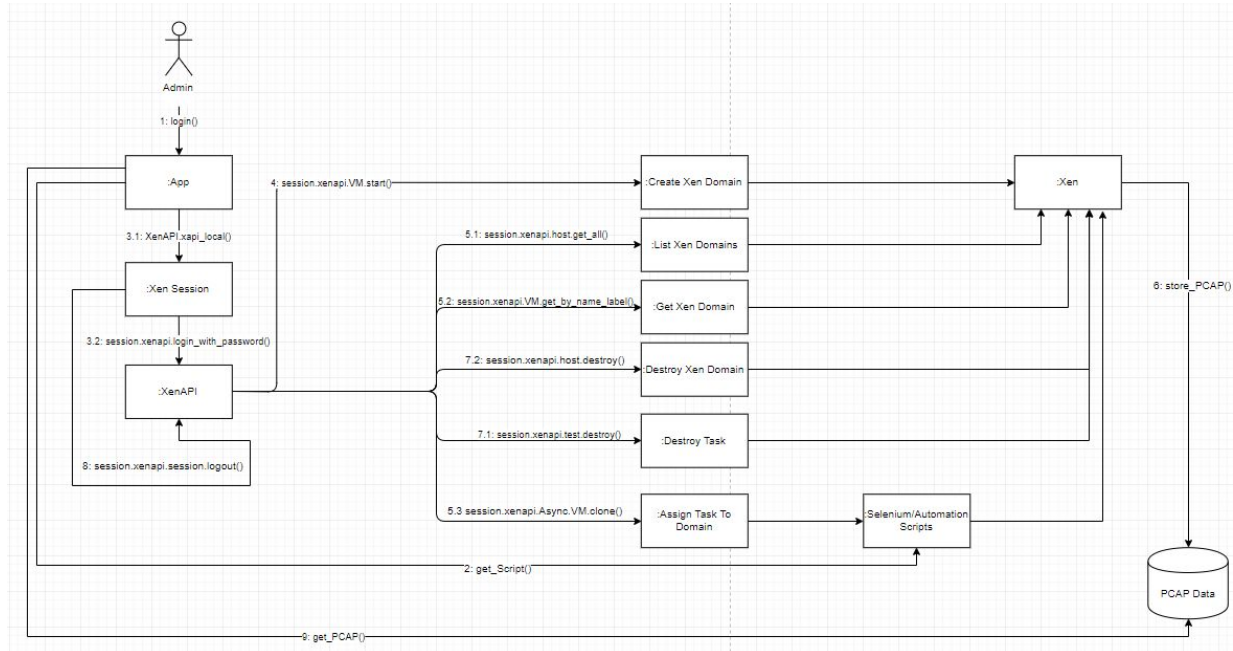
  ➢ Did research on XAPI calls and lower level calls required to accomplish the virtualization requirements.
❖ •Abdelrahman:
  ➢ Created Component Diagram (1st Iteration):

➢ Started experimenting on chef workstation and how to make chef node communicate with chef server.
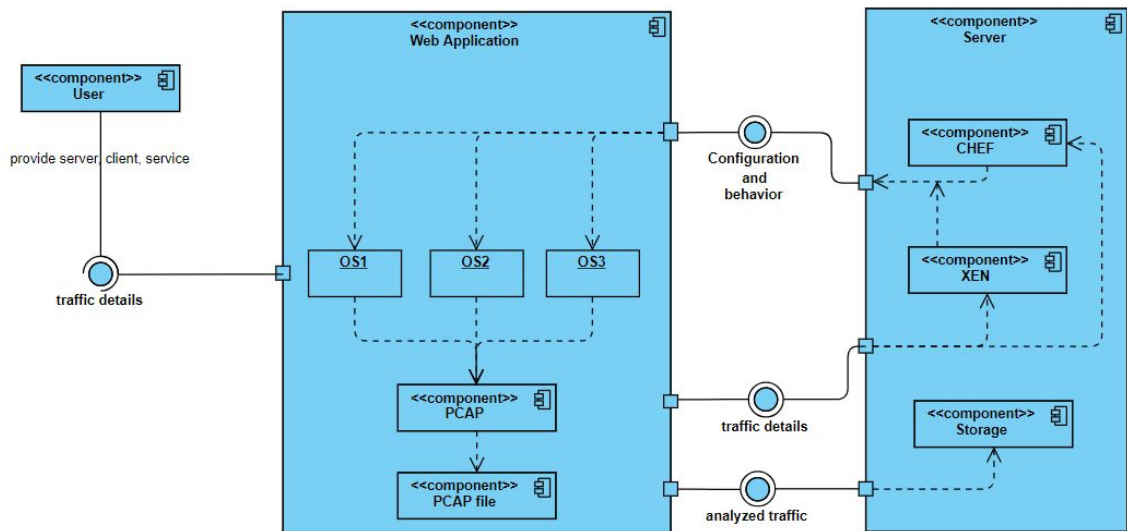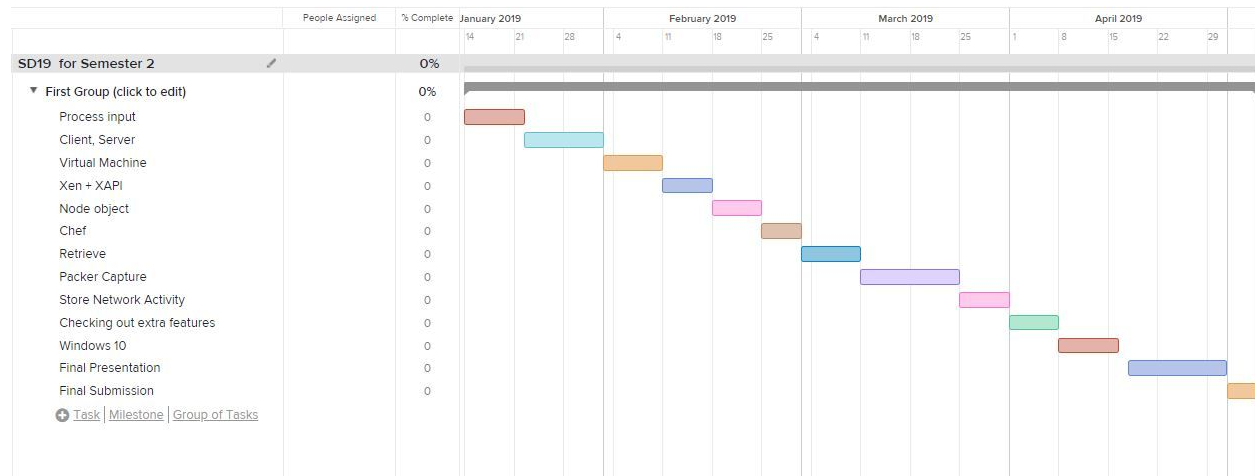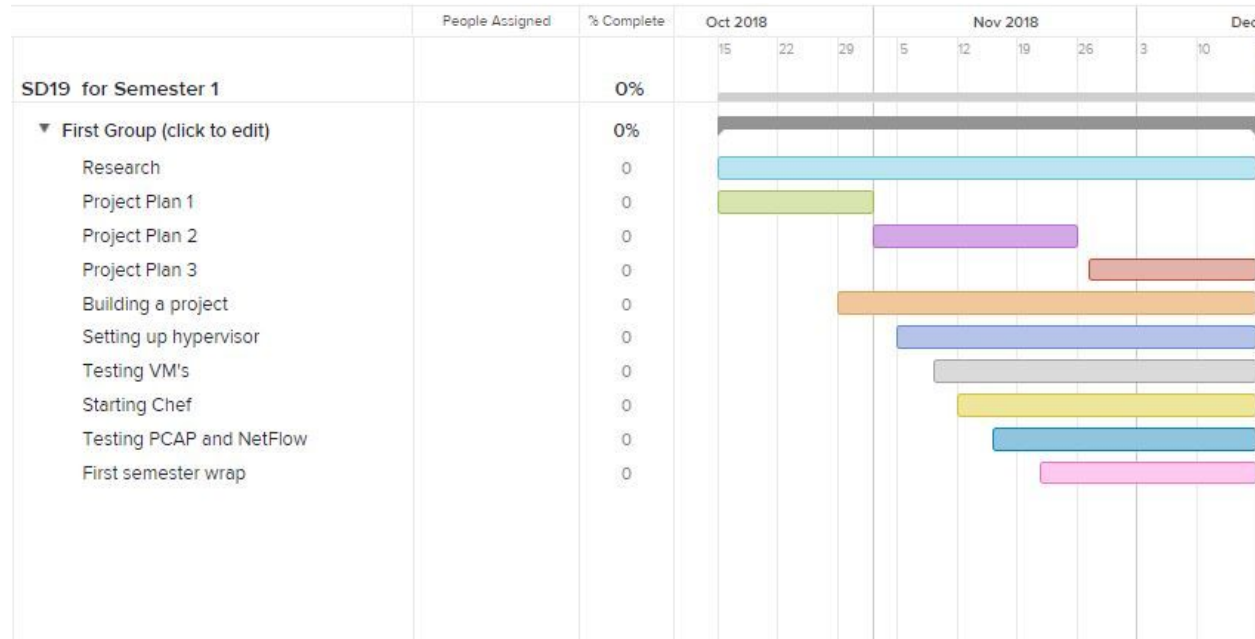
❖ • Hazem :
➢ Researched how to create a Gantt Chart for the team's project.

	People Assigned	% Complete	Oct 2018			Nov 2018				Dec
			15	22	29	5	12	19	26	3	10
SD19 for Semester 1		0%								
▼ First Group (click to edit)		0%								
Research		0								
Project Plan 1		0								
Project Plan 2		0								
Project Plan 3		0								
Building a project		0								
Setting up hypervisor		0								
Testing VM's		0								
Starting Chef		0								
Testing PCAP and NetFlow		0								
First semester wrap		0								

	People Assigned	% Complete	January 2019			February 2019			March 2019			April 2019			
			14	21	28	4	11	18	25	4	11	18	25	1	8	15	22	29
SD19 for Semester 2	✎	0%													
▼ First Group (click to edit)		0%													
Process input		0													
Client, Server		0													
Virtual Machine		0													
Xen + XAPI		0													
Node object		0													
Chef		0													
Retrieve		0													
Packer Capture		0													
Store Network Activity		0													
Checking out extra features		0													
Windows 10		0													
Final Presentation		0													
Final Submission		0													

⊕ Task | Milestone | Group of Tasks

Individual contributions

Team member	Contribution	Weekly Hours	Cumulative Hours
Bernard Ang	Research Chef . Created Sequence diagram.	7	20
Collin Mcelvain	Researched Xen and Chef. Created Use Case diagram.	6	19
Jacob Perin	Researched Xen and Chef Initialization techniques. Diagram creation (Context + Data Flow) for requirement identification	6	19
Lucas Tang	Researched Xen, created Communication Diagram, went into XAPI	6	19
Abdelrahman Baz	Researched Chef. Created Component Diagram..	6	21
Hazem Abdeltawab	Researched Chef with Xen. Created Gantt Chart	8	29

Plan to accomplish for the next week

- ❖ Bernard
  - ➢ Making a quick test and getting used to running Xen and Chef together on a desktop.
- ❖ Collin
  - ➢ Next week I plan to go deeper into the connection with Xen and Chef by doing a quick test on our desktops. I then plan to help in creation of our wire-frame diagram for the front-end.
- ❖ Jacob
  - ➢ Run Xen on virtual machine and spin up VMs using terminal. Look into image creation using XAPI. Look into preseed automation and/or other methods for installing chef-client on initial Xen image for future automation (necessary step to connect with chef-server and further chef workstation.)
- ❖ Hazem
  - ➢ Run Chef and Xen, and make sure they don't give any errors, before project

construction.
- ❖ Abdelrahman
  - ➢ Do more experiments using Chef workstation, and try out linking chef with Xen
- ❖ Luke
  - ➢ Initialize Xen with at least one virtual machine to start integrations with chef and scripted components.