

## Bi-weekly Update 3

Between the previous update and now, I have mostly been deciding on what network security concepts to test, and attempting to set up and familiarize myself with GNS3.

Date	Deliverable	Status
February 7 <sup>th</sup>	<b>Deliver Project Website &amp; Proposal</b>	<i>Completed</i>
February 21 <sup>st</sup>	Compile list of the current major issues and weaknesses of residential LAN networks, in addition to any notable emerging risks.	<i>Completed</i>
	Additionally present preliminary research into existing or emerging protocols and practices that may be applied.	
March 7 <sup>th</sup>	Finalize and report what plans for security system(s) and test cases.	<i>Completed</i>
March 21 <sup>st</sup>	Finalize construction of test system(s) (physical and/or simulated). Evaluate and potentially update requirements/testing based on any preliminary testing or restrictions found.	<i>In Progress</i>
April 4 <sup>th</sup>	<b>Present Project Presentation</b>	<i>Not Started</i>
April 11 <sup>th</sup>	<b>Submit Final Report</b>	<i>Not Started</i>

### Progress:

#### GNS3 Simulation(s):

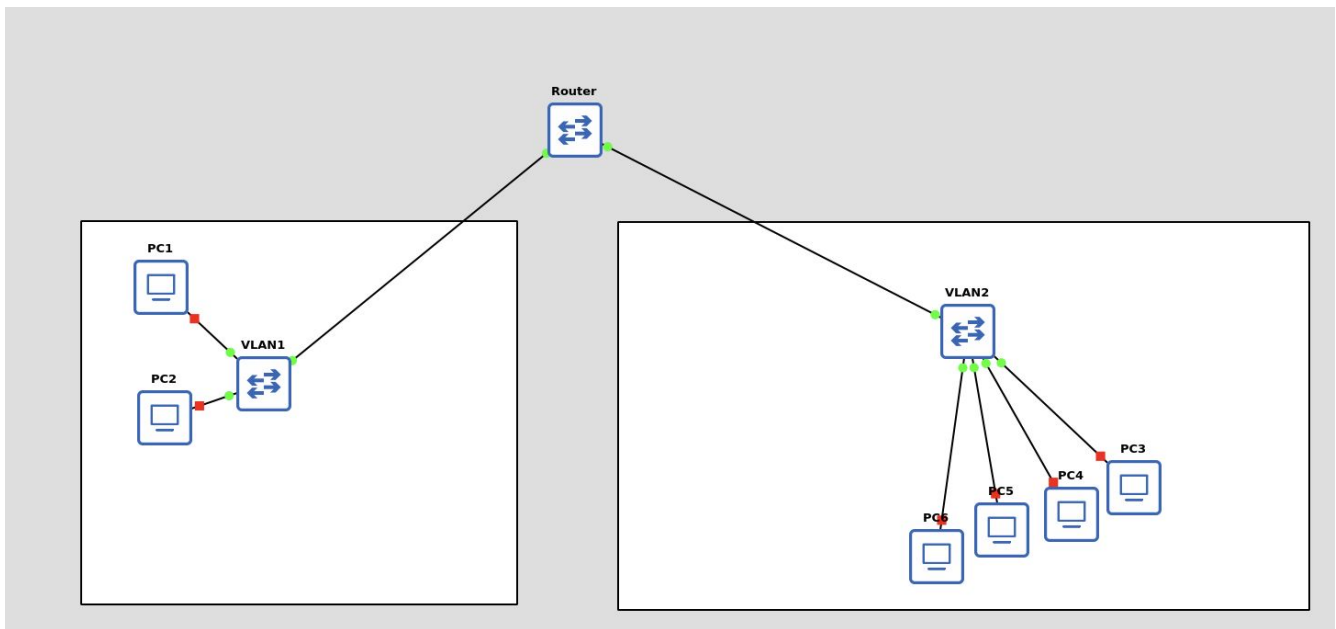
I was unfortunately unable to get GNS3 working on my MacBook, so I setup and began setup and work on my T550 Thinkpad. With learning how to used GNS3, package issues, and being quite busy in the previous week or so, I was unable to finalize setting up the simulations.

#### MACsec:

Have not started work on it, biggest issues will likely be figuring out how to set up MACsec inside the virtual network.

#### Network Segmentation/Guest Network:

Simulated network is majority physically configured. Need to now set up the 'snooping'.



*Figure 1: Figure 1: Screenshot of GNS3 simulation for Network Segmentation*

### MAC Whitelist:

From what I can figure out, wireless connections are not supported ‘out-of-box’, so I will likely stick to just testing ethernet connections. While I have not yet set up a simulation for MAC whitelisting, I can likely reuse the work and simulation from the network segmentation.

### **Next Steps:**

Next, between now and April 4<sup>th</sup>, I will finish setting up the simulations, and run the security tests on all 3 tests. I will then compile the results and background into a presentation by April 4<sup>th</sup>.

## References:

Firaketana, & Ilyes Merzouka. (2023, June 2). *Simulate wireless lans in GNS3*. Stack Overflow.  
<https://stackoverflow.com/questions/76387915/simulate-wireless-lans-in-gns3>