

Fall Quarter Project Checkpoint

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Quarter Accomplishments

- Quarter Goal: Install and configure Nagios to monitor the health of our network at all times.
- Steps:
 - 1. Installed VMware Server onto our server
 - 2. Installed VMware Server Console onto my own computer
 - 3. Installed virtualized copy of Ubuntu 7.04 (Fiesty Fawn) onto server
 - 4. Installed Nagios in Ubuntu
 - 5. Familiarized oneself with the topology of the CENS network
 - 6. Configured Nagios to monitor our network with specific service checks such as PING, DNS, and NTP.

Difficulties Encountered

- All installations on the server had to be done in terminal. Coming into the quarter, I had close to zero experience with linux. It took a couple weeks to familiarize myself with the linux commands.
- VMware Server would not work after the installation. The solution was that a patch was required for Ubuntu installations to complete successfully.
- After the patch was installed, VMware Server would not start because a specific library was unable to be found. The solution was to find the package that included the library, add the link to the source list for apt-get, and install the package.
- VMware Server Console on my computer could not connect to VMware Server on the server. The solution was to connect through a specific port number (903).

Difficulties Encountered

- After installing a virtualized copy of Ubuntu, the IP address obtained on Ubuntu was unroutable. The solution was to configure Ubuntu to obtain a static IP that was routable.
- Certain applications had to be installed prior to installing Nagios. One of the applications, apache2, was unable to be installed through apt-get. The solution was that for some reason when Ubuntu was installed, it had commented out all the sources in the source list and therefore the required source was commented out.
- After installing Nagios, I had to learn how to configure the program to perform the services we needed for our network. This entailed writing my own configuration files for the program. I had to learn how to define my hosts and services correctly according to the object definition rules set by Nagios.

Summary

- Quarter goal was achieved. Nagios is currently monitoring 22 different IPs on the network. With Nagios to monitor the health of our network, we can proceed to the next steps of implementing Attestation.
- Next quarter's steps:
 - Find a way to extract the MAC address of the access points from packets traveling in the network. This will allow us to determine which access point our phone is connecting through to the internet. This is essentially how our network measures the location of the phone.
 - Test how well Attestation works in verifying a mobile device's GPS position with its position measured through the network.