ArcLight Internship Project

Part 1

A standalone setup must be built. This standalone setup requires:

1. One server that will be installed with ESXi
2. Virtual machines that will be installed on that server. There should be a VM for the following (these can be put all on the same LAN/Subnet):
   1. NMS
   2. EMS
   3. RTNMS
   4. IPE
   5. Windows 7 VM
      1. This will be the PC behind the terminal.
   6. Linux (Ubuntu) VM
      1. This will be a support VM that will be used to run scripts from (such as precedence testing).
3. A 1U EFLM box. This will be an EHC box that needs to be flashed with EFLM software.
4. A VMBR1520 modem. The Tx of the EFLM should be plugged into the Rx of the VMBR modem. Be sure to put in a lot of attenuators so that the power level isn’t so high.
5. An ASA. This ASA will be used to remotely connect into this setup to do map testing. Follow the ASA5505 (terminal ASA) as a template to make a standalone remote config for the ASA.
6. Talk with Software Development about the hardware VM requirements for the ArcLight VMs. Have the interns talk with software development (would be good for them to talk with development directly).

Assignment: Install all hardware in standalone setup and install all Arclight software. End result should be the terminal achieving sat lock.

Part 2

Fix up the MATLAB script to find unique coordinates in overlap regions.

This is the main script that is run currently:

//Arclight/ArcLight/AcceptanceTest/Automation/Scripts/Maps/find\_coords/find\_all\_coords.m

This calls a bunch of other .m files.

The main way the scripts work to find points within a contour is the function inpolygon.

Assignment: Clean up all of these scripts so that it flows better. Input of this script should be the name of satellites of interest to find unique coordinates of. Output should be a .txt file that has the unique coordinates. The goal is to have a single unique coordinate for overlapping regions. So lets say coordinate P1 has satellites S1 and S2 in it and coordinate P2 has satellites S1, S2 and S3 in it, then we only want coordinate P2.

Part 3

Precedence testing python script should be updated to account for any type of password (i.e. password for any terminal build).

Main python script to update is:

//Arclight/ArcLight/AcceptanceTest/Automation/Scripts/Maps/maps\_bundle.py

This calls a bunch of other python scripts.

Assignment: Make script generic so that any terminal password will be automatically chosen as appropriate to run the script.

Part 4

FL lock test. Automate the NMS GUI so that the FL parameters can be entered via selenium.

Assignment:

1. Parameters should be able to be read from a database file (i.e. a csv file) and FL parameters configured accordingly on the NMS GUI.
2. Should be able to poll terminal webpage with selenium to see if terminal has achieved Sat Lock. Once SAT Lock acheived, move onto performing FL lock test for next satellite.