# Lab Three: Configuration Management II

Write up due 3/2 in the dropbox.

## Introduction/ Use Case:

In our last lab we set up a CM environment and tried out its basic functionality. In this lab we are going to expand on what we did last time and come up with a more interesting CM environment by adding controlling a heterogeneous server environment using our CM tool. Last time we had all our agent/clients running the same configuration, this time I want you to divide the work of the machines controlled by your CM tool into three different classes. One class will provide the basic services needed to make the network useful, the next group should provide file services and the third group should provide web services. This does not have to be complex environment. For example you do not have to control all the background services, pick one that you can work with that can “prove the concept (if I can control this one, I can control anyone, in theory)”. Your goal is to prove the concept.

While we could have extended the functionality we deployed in the last lab in many different ways I think that controlling several groups of servers is the most relevant as it best reflects the needs of modern organizations. It is not enough to just control your database servers or your web servers, or your infrastructure server, you need to control them all from a central CM server environment.

## Goals for This Lab

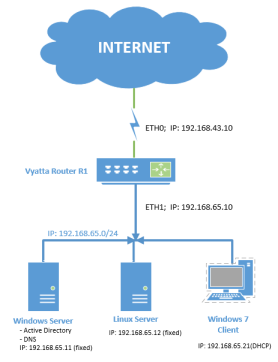
Our goals for this lab are to configure an environment to support the use of a CM tool of your choice to control the services deployed on three separate classes of machines. The first class of machines will exemplify the basic services used on a network, think DHCP. The second group will provide a service that is very important in most environments, basic file services (shared directories, etc), and the third will be your web services from the last lab. By doing this we have effectively modeled controlling many different types of services through the use of one central tool set.

## Lab Outcomes:

The main outcome for this lab is for you to expand on our last lab by controlling the configuration of three different services with one CM tool. Where last time it was important for you to control two separate VMs and make sure they had the same configuration, in this lab you do not have to have two different VMs with the same configuration, you can have three separate VMs with different configurations.

Outcome One:

Develop a Visio drawing that displays the architecture of the lab after you have completed your work. This should be done **before** lab so you have a sheet to work off of. Include in your drawings things like machine names, IP addresses for those machines that will receive their addresses statically and services provided by the machines. I have included an example below, but it is not a correct version of what you will have after this lab. It is just to look at.



Prior to lab you are to develop a Visio drawing of what you are building complete with the servers and clients that you plan to deploy and the relevant information needed to accurately deploy them (computer name, IP Address, services to be deployed, relationship to other machines, etc.). The drawing above is illustrative of what I want, but it obviously does not have the correct information on it. It is resizable, just drag on a corner.

### Deliverables:

Visio drawing is complete with devices displayed and network illustrated. IP addresses are shown and services deployed shown.

|  |  |  |  |
| --- | --- | --- | --- |
| How difficult do you feel this part of the lab will be for your group? | Way hard | Not so hard | Easy |
| What resources do you plan to use to help you complete this part of the lab? | |  | |
| **Outcome one completed:** Visio drawing completed of acceptable quality. | | **Your signature:** | |

## Outcome Two:

The main outcome for this part of the lab is for you to configure your CM environment to support three separate classes of servers. One server should provide a basic network service, the next a basic shared directory structure of file services and the third a web service. It is up to you to think through the other components that may need to exist to support this (do you need a bunch of users, or other background services?).

**Deliverables:**

The CM server and clients are functioning correctly and the CM server is able to control the configuration of the three separate sets of services.

|  |  |  |  |
| --- | --- | --- | --- |
| How difficult do you feel this part of the lab will be for your group? | Way hard | Not so hard | Easy |
| What resources do you plan to use to help you complete this part of the lab? | |  | |
| **Outcome Two completed:** | | **Your signature:** | |

**Outcome Three:**

As you know we always test what we build. In this case we want to test the ability of our CM server to control the configuration of our agents without having to access the console of the clients/agents. Develop a test that allows you to make sure the CM tool is working the way that you expect it to. Also, are you sure you know how your CM tool does what it does. How does it know which servers should deploy which services? Develop a test to make sure that you can distinguish the traffic that is related to the CM server doing its job. Besides a console on the CM server develop a tool that allows you to make sure that the CM tool is doing its job and that the configurations are actually happening.

**Deliverables:**

A test has been developed that shows both how the CM tool communicates with its hosts and that it can successfully control their configuration.

|  |  |  |  |
| --- | --- | --- | --- |
| How difficult do you feel this part of the lab will be for your group? | Way hard | Not so hard | Easy |
| What resources do you plan to use to help you complete this part of the lab? | |  | |
| **Outcome Three completed:** | | **Your signature:** | |

## Results:

Please answer the following questions in a short (one or two paragraph) answer:

1. Putting all your configuration services into the hands of one server obviously creates a security challenge. What is that challenge and how would you address it?
2. Because you were successful in controlling the configuration of three separate classes of services how can you be certain that you could control a much more complex network? How would you scale this solution out to an enterprise network?
3. After having completed this lab are you more or less confident of the security around your CM tool?

**How Would You Do This Differently Next Time?**

Please take a few minutes and tell me how this went for you. How could we do this better next time?