

Assignment 1

DHCP

IN715 Networks Three

August 5, 2014

Introduction

For this assignment you will build a DHCP system for a small network that will include a DHCP server on OpenBSD, a secondary server on Windows Server 2012R2, and a DHCP relay server on OpenBSD.

This assignment is due on Friday, 15 August at 6:00 PM. It is worth 10% of your overall mark in the paper.

1 DHCP server on OpenBSD

You will configure the ISC DHCP server on your OpenBSD server. Your configuration will satisfy the following requirements:

- It will configure nw3.sqrawler.com as the domain name;
- It will give two addresses for DNS servers: The address of your OpenBSD server and the address of your Windows server;
- Your server will be authoritative;
- It will use an address pool of 172.16.xxx.100 - 172.16.xxx.150¹
 - The gateway for this pool will be 172.16.xxx.1;
 - The default lease time shall be 1 day;
 - The maximum lease time shall be 3 days;
- On the same network as the pool above, reserve an address of 172.16.xxx.30 for your Linux client on that network;
- It will use a second address pool of 192.168.2.50 - 192.168.2.100
 - The gateway for this pool will be 192.168.2.2
 - The default lease time shall be 8 hours
 - The maximum lease time shall be 12 hours.

¹Substitute in the appropriate value for your subnet for “xxx”

2 DHCP server on Windows Server

You will configure DHCP on your Windows server to act as a backup to the OpenBSD server. Its configuration should be similar, except for the following:

- This server shall not be authoritative;
- The first address pool will be 172.16.xxx.151 - 172.16.xxx.200;
- The second address pool will be 192.168.2.101 - 172.16.xxx.150;
- The default and maximum lease time shall both be 2 hours.

3 DHCP relay server

A relay server is required to serve DHCP on your internal subnet. Configure your OpenBSD server on that subnet to relay DHCP between the subnet and your primary DHCP server.

4 Assignment submission

Perform the configurations above on your provided VMWare virtual systems by 6:00 PM on 15 August. Ensure that the clients on your virtual network are properly configured as DHCP clients. The lecturer shall evaluate the configuration of the servers and test their functionality on each of the clients to be sure it satisfies the requirements.