

Assignment 1

DHCP

IN715 Networks Three

August 4, 2015

Introduction

For this assignment you will build a DHCP system for a small network that will include a DHCP server on OpenBSD, a failover server on OpenBSD, and a DHCP relay server on OpenBSD.

This assignment is due on Friday, 14 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 use `foo.org.nz` as the domain name;
- It will give two addresses for DNS servers: The address of your `bsd-server` and the address of your `bsd-relay-server`;
- Your server will be authoritative;
- It will use an address pool of 172.16.5.100 - 172.16.5.150
 - The gateway for this pool will be 172.16.5.2;
 - The default lease time shall be 1 day;
 - The maximum lease time shall be 2 days;
- On the same network as the pool above, reserve an address of 172.16.5.30 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.

2 Failover setup

Set up the DHCP server on your `router1` system as well (same requirements as above), and configure `bsd-server` and `router1` as failover peers. Your primary server will be `bsd-server` and `router1` will be the secondary.

3 DHCP relay server

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

4 Assignment submission

Create a repository on your GitHub account named “netadmin” (We will use it for this and for one following assignment). Commit your `dhcpd.conf` files (You will have two) to this repository on or before the due date and time. Tag your commit “assignment1” so that it will be clear which one I will assess.

After reviewing your files, the lecturer will test your DHCP implementation on your virtual machines.