

L3 Functionality: Routing, DHCP

Agenda

- Pop Quiz
- Lab Exam (SBA): lab availability & conflicting exams are indicated below

Sun	Mon	Tue	Wed	Thu	Fri	Sat
9	10	11 9-5pm	12	13 all day	14	15
16	17 Net3010	18 9-5pm	19 Net3004	20 all day	21 Net3012	22
23	24 all day	25 Net3011				

(As of 7pm 28/Feb, **Tue Apr 11** has 4x more votes than any other option)

- New material: Ch 5: Inter-VLAN routing, DHCP

Assigned Readings and Lab work

- Read FLG Ch 5 p. 203-240; due by this class
- Cisco **Ch 4** online test due before Tue Mar 7 @ 11:59pm
- Cisco **Ch 5** online test due before Tue Mar 7 @ 11:59pm
- Post-lab 7: due date extended to Mon (Mar 4) @ 2pm
- Pre-lab 8 per the regular schedule
- Lab 8: IPv6 & DHCP – entire Cisco lab 5.2

References

- IPv6 reference document posted on course site
- IPv6 SLAAC: <http://www.ciscopress.com/articles/article.asp?p=2154680>

IPv4 DHCP

- Be very familiar with the DORA sequence for IPv4 DHCP
 - Is DORA all broadcast or part broadcast/part unicast? (Live demo!)
- Know & understand what information is *really* provided by a DHCP server
- Know & understand the purpose of Relay Agent
 - IPv4: `ip helper-address {addr}`
 - IPv6: `ipv6 dhcp relay destination {addr}`
- Know how to configure an IPv4 DHCP server
- Understand IPv6 SLAAC - **StateLess Address AutoConfiguration**
- Know how to configure an IPv6 DHCP server (stateless or stateful)

IPv6 DHCP

- Understand IPv6 SLAAC - **StateLess Address AutoConfiguration**
- IPv6 routers can provide:
 - **A**utomatic addr based on subnet, mask, and gateway ("A" flag in RA msg)
 - **M**anaged address, mask, and gateway ("M" flag in RA msg)
 - **O**ther info [e.g. dns, domain name, etc] ("O" flag in RA msg)
- These three flags can exist singly or in combination
(yes, apparently both auto & managed addresses can exist simultaneously)
- Stateless DHCP corresponds to the **A**utomatic address generated by clients
- Stateful DHCP corresponds to the **M**anaged addresses given to clients
- Know how to configure an IPv6 DHCP server (stateless or stateful)