

CSIS 3230 Computer Networking Principles

Group Lab Report 6 – LANs and Routing

Names:

1. Connecting to your router

- ☐ All hosts on the LAN can successfully ping the router's LAN IP address

2. Router interface configuration

- a) ☐ Router can ping computers on your LAN
- b) What IP address and MAC address are shown by the command?

show interface fastethernet0/0

IP:

MAC:

- c) Summarize the information displayed by the command:

show ip interface brief

- d) ☐ Router can ping another router's backbone address

3. Update the DHCP server

- a) ☐ Clients can ping both interfaces on the router
- b) ☐ Server can ping both interfaces on the router

- c) Write down the new routing table destination and gateway that are added by the configuration changes.

Destination

Gateway

4. Configure routing

Routing Checklist:

- ☐ All computer on your LAN can ping the router's LAN IP address
- ☐ All computer on your LAN can ping the router's WAN IP address
- ☐ All computers on your LAN can ping routers on other LANs
- ☐ All computers on your LAN can ping computers on another LAN
- ☐ All computers on your LAN can ping 10.20.18.10

5. Router information gathering

- a) Summarize/describe the information provided by the show ip route commands.

Describe the entries that are marked with C and why they have this mark

Describe the entries that are marked with R and why they have this mark

- b) Summarize the contents of the arp table on your router (don't list the entries, generalize where the hosts listed in the arp table are located – your LAN, other LANs, router's WAN...).

c) How much processor memory is available in the router?

How much buffer space is allocated?

6. LAN path analysis

a) Describe the hops from your PC to the destination shown in the traceroute output.

b) Describe the contents of the payload of RIP packets.

What is the destination IP address of the RIP packets?

c) Note the MAC address of ping reply packets coming from a computer on another LAN – which actual device has that MAC address?