Building a Redundant Network

Objectives:

1. Learn how to power-up and connect the routers and switches in a redundant design. In Lab 8 you will learn how to use OSPF to take advantage of the redundancy.

2. Practice manual configuration procedures.

3. Test the network to make sure the configuration is correct.

Instructions:

1. **Form three teams. One team should design a consistent set of routing tables for all equipment used in this lab. A second team (no more than 2 people) should work on connecting the routers and switches appropriately. The third team should enter the configuration information. Team 3 cannot make all of the routing entries until team 2 provides routing tables.**
2. **Physically connect the network as shown in the attached figure. Note that the serial connections (big end/small end) must be made behind the equipment rack. All other connections are made on the front side of the rack.**
3. **Enter the correct router and host configurations. Your objective is to provide connectivity among all boxes shown in the figure using the addresses and interfaces shown. All subnet masks may be entered as 255.255.255.0.**
4. **Check the network for accuracy of connectivity. List the tests that you complete at the bottom of this page and on the back. Your grade will be determined from the accuracy of your network and the completeness of your testing.**

Router 1

Eth0/0
10.0.100.1

Eth0/1
10.1.100.1

Router 5   Eth0/0
10.0.100.5

Router 6   Eth0/0
10.1.100.6

Eth0/1
10.5.4.1

Sm Ser 0/0
10.6.2.1

Sm Ser 0/1
10.6.4.1

Sm Ser 0/0
10.5.2.1

Sm Ser 0/1
10.5.3.1

Sm Ser 0/2
10.6.3.1

Big Ser 0/0
10.5.2.2

Big Ser 0/1
10.6.2.2

Big Ser 0/0
10.5.3.2

Eth0/1
10.5.4.2

Big Ser 0/0
10.6.4.2

Router 2

Big Ser 0/1
10.6.3.2

Router 3

Router 4

Eth0/0
10.0.20.1

Eth0/0
10.0.20.2

Eth0/1
10.0.30.1

Eth0/0
10.0.30.2

10.0.20.10   10.0.20.20   10.0.30.10   10.0.30.20