



ROI - Perth branch office network

Within the past few months ROI wanted to open a new branch office in Perth and have been in the process of building the branch office network.

Job brief

You have just started a new job as a junior network engineer and your first project is to finish the small enterprise branch network implementation. You have got to know that this project was previously designed and implemented by an inexperienced network engineer.

Therefore, several errors in the configuration have resulted in connectivity issues. You were also told that the only remaining part of the network is the WAN configuration between routers R1 and R2. Your company Red Opal Innovations (ROI) has asked you to finish the configuration, troubleshoot the network and to correct any errors.

Documentation

- Network Topography diagram (Figure 1)
- Addressing Table (Table 1)
- Switch Port Assignment Specifications (Table 2)
- Device Configuration File Table (Table 3)

Configuration files

Your assessor will provide access to a folder **CI_InterNW_AE_Sk_3of3_SD** which would contain the following configuration files required for setting up the network:

- Part2_ConfigFiles
 - CI_InterNW_Sk_3of3_R1.txt
 - CI_InterNW_Sk_3of3_R2.txt
 - CI_InterNW_Sk_3of3_ISP.txt
 - CI_InterNW_Sk_3of3_S1.txt

- CI_InterNW_Sk_3of3_S2.txt
- Part3_ConfigFiles
 - CI_InterNW_Sk_3of3_R1.txt
 - CI_InterNW_Sk_3of3_R2.txt

1.2 Equipment

You must complete this project on physical equipment rather than a virtual environment.

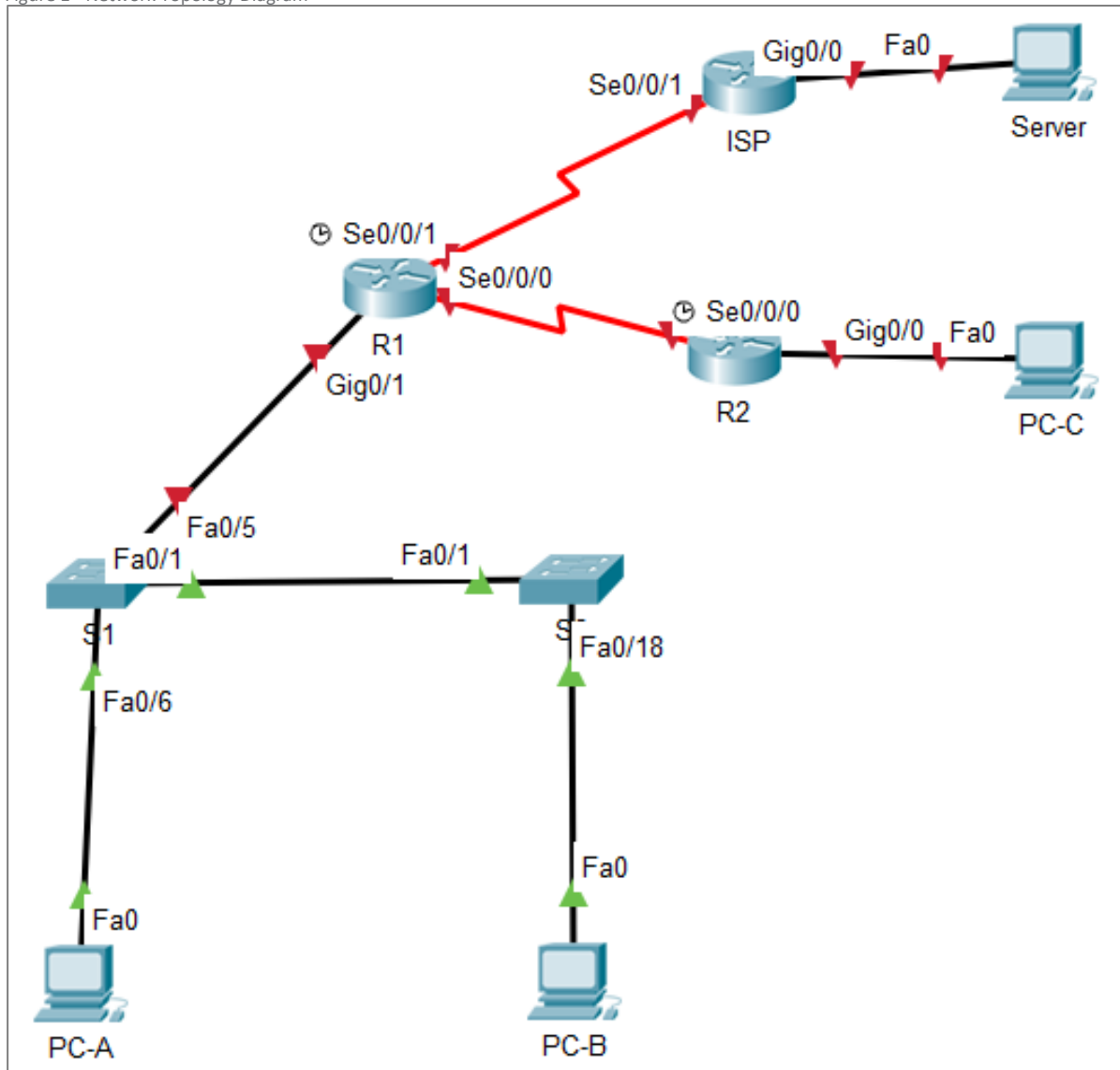
The following physical resources are required to complete this assessment:

- 3 Routers (Cisco 1941 with Cisco IOS Release 15.2(4)M3 universal image or comparable)
- 2 Switches (Cisco 2960 with Cisco IOS Release 15.0(2) lanbasek9 image or comparable)
- 4 PCs (Windows, or other, with terminal emulation program, such as HyperTerminal, PuTTY or Tera Term)
- Console cables to configure the Cisco IOS devices via the console ports
- Ethernet and serial cables as shown in the topology

1.3 Network Topology Diagram

The physical network is currently wired and configured as per Figure 1 Network Topology diagram.

Figure 1 - Network Topology Diagram



IP Addressing Table

Table 1 - IP addressing table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/1.1	10.0.1.1	255.255.255.0	N/A
	G0/1.10	10.0.10.1	255.255.255.0	N/A
	G0/1.20	10.0.20.1	255.255.255.0	N/A
	S0/0/0	10.0.50.1	255.255.255.252	N/A
	S0/0/1	210.155.210.225	255.255.255.252	N/A
R2	S0/0/0	10.0.50.2	255.255.255.252	N/A
	G0/0	10.0.30.1	255.255.255.0	N/A
ISP	S0/0/1	210.155.210.226	255.255.255.252	N/A
	G0/0	20.123.10.1	255.255.255.0	N/A
S1	VLAN1	10.0.1.11	255.255.255.0	10.0.1.1
S2	VLAN1	10.0.1.12	255.255.255.0	10.0.1.1
PC-A	NIC	10.0.10.5	255.255.255.0	10.0.10.1
PC-B	NIC	10.0.20.5	255.255.255.0	10.0.20.1
PC-C	NIC	10.0.30.5	255.255.255.0	10.0.30.1
Server	NIC	20.123.10.5	255.255.255.0	20.123.10.1

Switch Port assignment specifications

Table 2 - Switch port assignment

Ports	Assignment	Network
S1 F0/1	802.1Q Trunk	N/A
S2 F0/1	802.1Q Trunk	N/A
S1 F0/5	802.1Q Trunk	N/A

S1 F0/6	VLAN 10 – Students	10.0.10.0/24
S2 F0/18	VLAN 20 - Faculty	10.0.20.0/24

Device configuration file reference

Table 13- Device configuration file reference

Device Name	File to Load	Notes
R1	ICTNWK404_Sk_3of3_R1.txt	
R2	ICTNWK404_Sk_3of3_R2.txt	
ISP	ICTNWK404_Sk_3of3_ISP.txt	
S1	ICTNWK404_Sk_3of3_S1.txt	
S2	ICTNWK404_Sk_3of3_S2.txt	
PC-A	N/A	IP Address: 10.0.10.5/24 Default Gateway: 10.0.10.1
PC-B	N/A	IP Address: 10.0.20.5/24 Default Gateway: 10.0.20.1
PC-C	N/A	IP Address: 10.0.30.5/24 Default Gateway: 10.0.30.1
Server	N/A	IP Address: 20.123.10.5/24 Default Gateway: 20.123.10.1