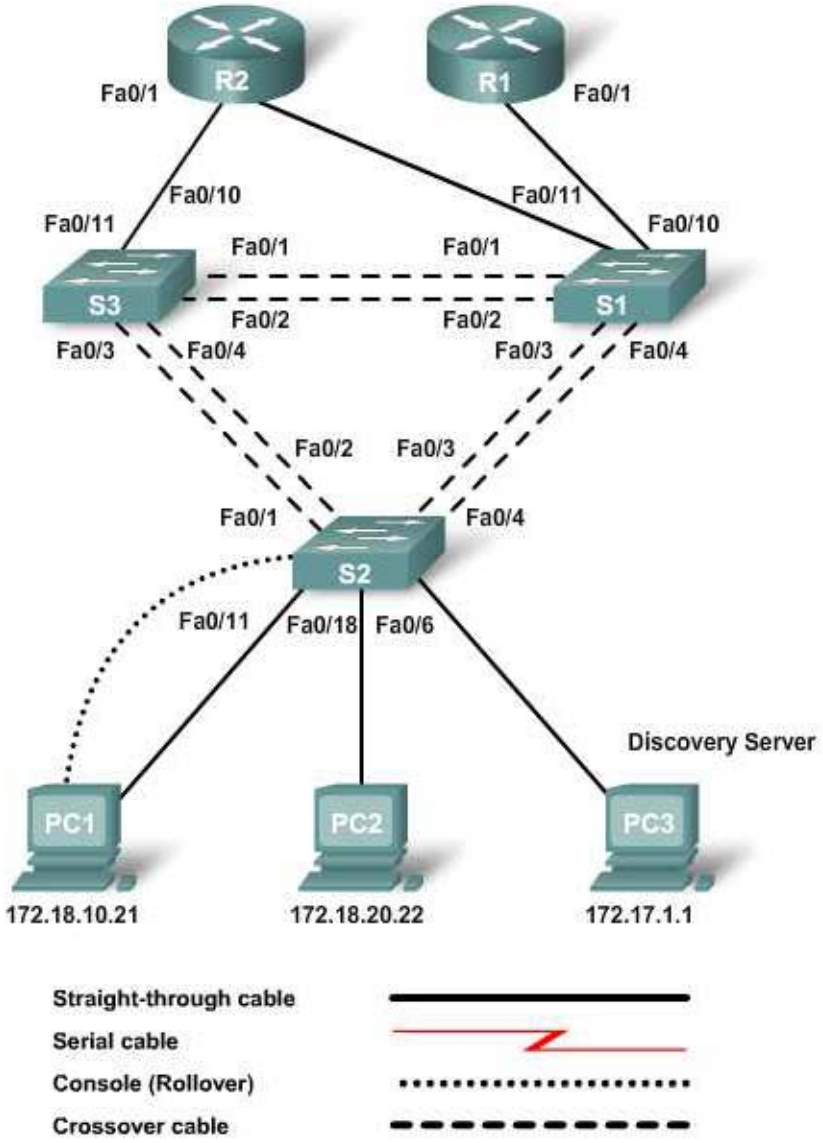
Lab 7.3.2 Creating a Server Farm Test Plan



IP Address Plan

Device Designation	Interface	IP Address	Default Gateway
S1	VLAN1	172.18.1.11/24	172.18.1.1
S2	VLAN1	172.18.1.12/24	172.18.1.1
S3	VLAN1	172.18.1.13/24	172.18.1.1
R1 – Simulated Internet Router	Fa0/0 Fa0/1	209.165.200.15/30 172.18.4.1/28	To the Internet

Device Designation	Interface	IP Address	Default Gateway
R2 – Simulated Branch Router	Fa0/0 Fa0/1.1 Fa0/1.10 Fa0/1.20 Fa0/1.30	172.18.4.2/28 172.18.1.1/24 172.18.10.1/27 172.18.20.1/27 172.17.0.1/16	Default Route: 172.18.4.1 to the Internet connection
PC1 – Simulated Database Server	Fast Ethernet	172.18.10.21/27	172.18.10.1
PC2 – Simulated File Server	Fast Ethernet	172.18.20.22/27	172.18.20.1
PC3 – Discovery Server	Fast Ethernet	172.17.1.1/16	

VLAN Plan

VLAN Name	Switches to Configure	IDs	IP Address Range	Group
Management	All	1	172.18.1.0/24	IT Managers
Backbone	S1	4	172.18.4.0/30	Routers
Database	All	10	172.18.10.0/27	Private Servers
FileServers	All	20	172.18.20.0/27	Internal-only Servers
WebServers	All	30	172.17.0.0/16	Web-accessible Servers
Default VLAN	All	99	none	Default VLAN for unassigned ports and trunk links

Objective

- Create a test plan designed to test the functionality of the server farm. The plan should include:
  - The subject and scope of the proposed test
  - The methods and tools for testing
  - Data to record
  - The potential results

640-802 CCNA Exam Objectives

This lab contains skills that relate to the following CCNA exam objectives:

- Interpret network diagrams.
- Determine the path between two hosts across a network.
- Select the components required to meet a network specification.
- Select the appropriate media, cables, ports, and connectors to connect switches to other network devices and hosts.
- Perform and verify initial switch configuration tasks, including remote access management.

- Verify network status and switch operation using basic utilities (including: ping, traceroute, Telnet, SSH, arp, ipconfig), and **show** and **debug** commands.
- Describe enhanced switching technologies (including: VTP, RSTP, VLAN, PVSTP, 802.1q).
- Describe how VLANs create logically separate networks and the need for routing between them.
- Configure, verify, and troubleshoot VLANs.
- Configure, verify, and troubleshoot trunking on Cisco switches.
- Configure, verify, and troubleshoot inter-VLAN routing.
- Implement static and dynamic addressing services for hosts in a LAN environment.
- Select the appropriate media, cables, ports, and connectors to connect routers to other network devices and hosts.
- Access and use the router to set basic parameters, including CLI/SDM.
- Connect, configure, and verify operation status of a device interface.
- Verify device configuration and network connectivity using ping, traceroute, Telnet, SSH, or other utilities.

Expected Results and Success Criteria

Before starting this lab, review the business goals for the FilmCompany network. Which goal would be supported by relocation of the servers to a server farm?

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What considerations will influence your decisions about equipment to use for the test?

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What are the uptime requirements for a server farm?

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Background / Preparation

In this lab, you will develop a test plan to support the business goal of improving server availability and security. You will determine the nature of the tests to be performed, the methods and tools to be used, and the expected results. This test plan will be used as a basis for subsequent labs 7.3.5 and 7.3.6, to test the simulated server farm prototype.Task 1: Review the Supporting Documentation

Step 1: Before completing the Server Farm Design Test Plan, review the following materials:

- The prototype topology diagram included at the top of this lab
- The IP Address Plan and VLAN Plan for the prototype topology in the Server Farm Design Test Plan provided with this lab

- The Prototype Network Installation Checklist created by the network designer and provided with this lab
- The partially completed Server Farm Design Test Plan provided with this lab

Step 2: Describe the functions of the network that the designer wants to test with this prototype

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Step 3: Using the topology diagram, create a list of the equipment necessary to complete the prototype tests

List any cables that are needed to connect the devices as shown in the topology diagram. Use the information from this list to fill out the chart in the Equipment section of the test plan document.

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Task 2: Determine the Testing Procedures

Using the information contained on the Prototype Network Installation Checklist and the partially completed Server Farm Design Test Plan document, determine what procedures should be followed to perform each test listed on the plan. Using Test 1 as an example, fill out the procedures sections for Tests 2, 3, and 4.

Think about which commands and tools (such as **`ping`**, **`traceroute`**, and **`show`** commands) you can use to verify that the prototype network is functioning as designed. Decide which outputs to save to prove the results of your tests.

Task 3: Document the Expected Results and Success Criteria

Carefully identify what you expect the results of each test to show. What results would indicate that the tests were a success?

Test 2: VLAN Configuration Test

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Test 3: VLAN Routing Test

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Test 4: ACL Filtering Test

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a. Fill in the Expected Results and Success Criteria section for each test, using the information collected above.

b. Save the completed Server Farm Test Plan. It will be used in subsequent labs.

Reflection

Why is it important to think about and document the expected results and success criteria for each of the individual tests?

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