LAN Design Test Plan

	Start Date	End Date
Network Build (Setup)		
Testing Date		

Table of Contents

Attendees

Name	Company	Position
	FilmCompany	IT Manager
	FilmCompany	Business Manager
	NetworkingCompany	Account Manager
	NetworkingCompany	Network Designer
	NetworkingCompany	System Engineer

Introduction

INSTRUCTIONS: Explain briefly what the purpose of the test is and what should be observed. Include a brief description of testing goals. List all tests that you intend to run.

Purpose of this test:

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Tests to run:

- Test 1: Basic Connectivity Test
    - Verify physical and IP connectivity between devices on the prototype network.
    - Document operation.
- Test 2: VLAN Configuration Test
    - Demonstrate multiple VLANs and port security.
    - Verify that members of the same VLAN can communicate successfully and that members of different VLANs are not able to communicate successfully.
    - Demonstrate 802.1q trunk links between devices.
    - Verify STP to ensure that S1 becomes the root bridge.
    - Document operation.
- Test 3: VLAN Routing Test
    - Demonstrate routing of traffic between separate VLANs, unrestricted.
    - Demonstrate routing of traffic between separate VLANs, with restrictions.
    - Document operation.

Equipment

INSTRUCTIONS: List all of the equipment needed to perform the tests. Be sure to include cables, optional connectors or components, and software.

Qty. Rqd	Model	Additional options or software required	Substitute	IOS Software Rev.
3	2960 Layer 2 switch	none	Any 2950 or 2960 model switch	12.2 or above
1	1841 router	none	Any multilayer switch or router with minimum 2 FastEthernet ports	12.2 or above
2	Personal computer end devices	FastEthernet NIC	At least one PC and any other IP end device (camera, printer, etc.)	Windows, MAC, or Linux operating system
6	Cat 5 or above straight-through patch cables	none	none	n/a
6	Cat 5 or above crossover patch cables	none	none	n/a

Design and Topology Diagram

INSTRUCTIONS: Place a copy of the prototype network topology in this section. This is the network as it should be built to be able to perform the required tests, including IP Addressing and VLAN information. If this topology duplicates a section of the actual network, include a reference topology showing the location within the existing or planned network. Initial configurations for each device must be included in the Appendix.

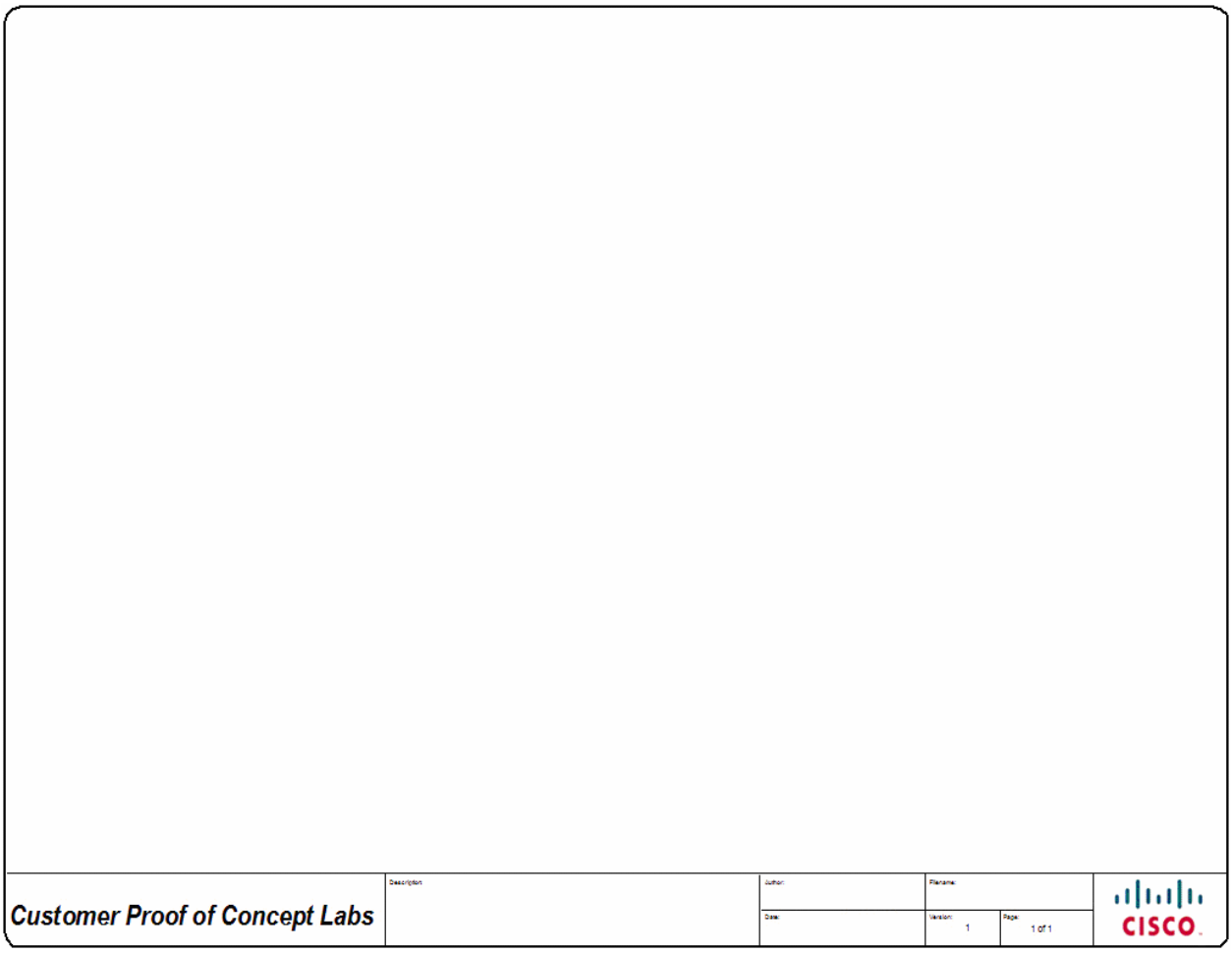

Figure 1: Topology - Prototype test topology.

IP Address Plan

Device Name	Interface	IP Address	Subnet Mask

VLAN Plan

Switch	VLAN Names and IDs	IP Address Range	Group

Additional Notes and Instructions:

INSTRUCTIONS: Add a description about this design here that is essential to provide a better understanding of the testing or to emphasize any aspect of the test network to the reader.

INSTRUCTIONS: For each test to be performed state the goals of the test, the data to record during the test, and the estimated time required to perform the test. Test 1 is given as an example.

Test 1. Description: Basic Connectivity Test

Goals of Test:

The goal of the baseline is to verify that the test topology is up and running with the proper protocols and features.

Data to Record:

Configurations

Interface status

Routing Tables

CPU & Memory

Ping Test Output

Estimated Time:

90 minutes total

60 minutes build

30 minutes test

Test 1. Procedures

INSTRUCTIONS: Itemize the procedures to follow to perform the test.

1. Build the topology according to the Design and Topology Diagram. Assign IP addresses according to the IP address plan.
2. Create a basic configuration on each device. Include applicable passwords, device names, default routes, default gateways, and activate interfaces.
3. Console into one of the devices in the topology and ping all of the other devices in the topology. Record any anomalies.
4. Telnet to each device in the configuration and verify that each is reachable.
5. Copy the output of the **`show running-config`**, **`show ip route`**, **`show processes cpu sorted`**, **`show interfaces`**, and the first few lines of **`show memory`** and paste into a document using a text editor such as Notepad. Repeat for all devices in the topology.

Test 1. Expected Results and Success Criteria

INSTRUCTIONS: List all of the expected results. Specific criteria that must be met for the test to be considered a success should be listed. An example of specific criteria is: "A requirement that ping response times cannot exceed 100 ms."

1. All networking devices are connected and accessible through Telnet.

2. Hosts can ping successfully to other hosts on the network.

Test 1. Results and Conclusions

INSTRUCTIONS: Record the results of the tests and the conclusions that can be drawn from the results.

Test 2. Description: VLAN Configuration Test

Goals of Test:

Data to Record:

VLAN Configurations

STP Configuration

CPU & Memory

Ping Test Output

Estimated Time:

60 minutes total

30 minutes configure

30 minutes test

Test 2. Procedures

INSTRUCTIONS: Itemize the procedures to follow to perform the test.

Test 2. Expected Results and Success Criteria

INSTRUCTIONS: List all of the expected results. Specific criteria that must be met for the test to be considered a success should be listed.

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Test 2. Results and Conclusions

INSTRUCTIONS: Record the results of the tests and the conclusions that can be drawn from the results.

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Test 3. Description: VLAN Routing Test

Goals of Test:

Data to Record:
Router Configuration
IP Routing Table Information
CPU & Memory
Ping Test Output

Estimated Time:
20 minutes total
10 minutes configure
10 minutes test

Test 3. Procedures

INSTRUCTIONS: Itemize the procedures to follow to perform the test.

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Test 3. Expected Results and Success Criteria

INSTRUCTIONS: List all of the expected results. Specific criteria that must be met for the test to be considered a success should be listed.

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Test 3. Results and Conclusions

INSTRUCTIONS: Record the results of the tests and the conclusions that can be drawn from the results.

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Appendix

INSTRUCTIONS: Record the starting configurations, any modifications, log file or command output, and any other relevant documentation.