VPN 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:

The purpose of this prototype is to demonstrate the use of a VPN server to provide secure connections for remote users via the Internet. A Cisco router is configured as a VPN server and a client is setup to access the server to establish a VPN tunnel to internal LAN resources.

Tests to run:

- Test 1: EasyVPN Server Setup Verification
    - Demonstrate that the setup of EasyVPN server can be done using Cisco SDM.
    - Verify that the IOS version to support EasyVPN is available for the 1841 router.
    - Document operation.
- Test 2: VPN Client Connectivity Test
    - Demonstrate the configuration of the VPN client software.
    - Verify that the client can connect to the EasyVPN server and successfully send data through the VPN connection.
    - Document operation.

Equipment

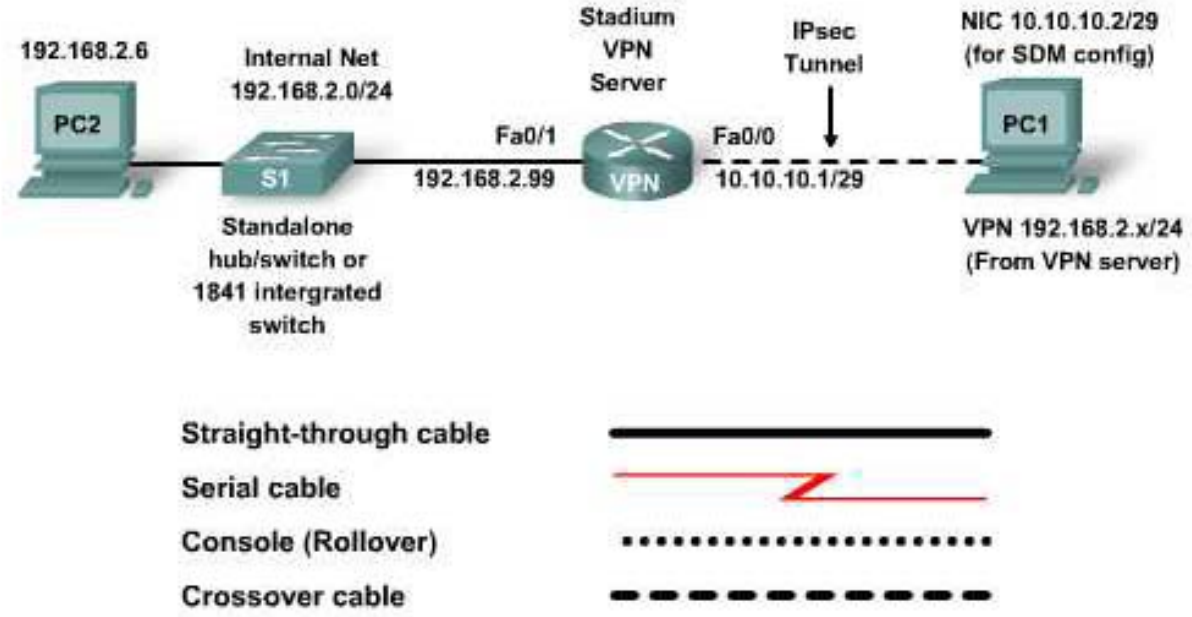
INSTRUCTIONS: List all of the equipment needed to perform the tests. Be sure to include cables, optional connectors or components, and software.

Qty. Rqd	Model	Additional options or software required	Substitute	IOS Software Rev.
1	1841 router (VPN server)	Advanced IP service IOS image and Cisco SDM	Router with two Ethernet interfaces	Advanced IP services IOS 12.4 or above and Cisco SDM
1	2960 Switch for Stadium internal network	none	Any standalone hub/switch or 1841 integrated switch	12.2 or above
1	Windows XP VPN Client computer	Cisco VPN client installed	Any PC with compatible VPN client software	N/A
1	PC running XP on internal network	none	Any PC or other device that can respond to a ping or Discovery CD server	N/A
1	Cat 5 or above crossover cable	none	none	N/A
2	Cat 5 or above straight-through 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 DLCI 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.

Simulated VPN remote access network topology



Topology - Prototype test topology

IP Address Plan

Device Name	Interface	IP Address	Subnet Mask
VPN	Fa0/0	10.10.10.1/29	
VPN	Fa0/1	192.168.2.99/24	
H1	NIC – Local Address	10.10.10.2/29	
H1	VPN – Dynamic Address	192.168.2.x/24	
H2	NIC – Local Address	192.168.2.6/24	

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: EasyVPN Server Setup Verification

Goals of Test:

Demonstrate the ease of configuring and managing a VPN server using Cisco SDM.

Data to Record:

Configurations

Interface status

Routing Tables

CPU & Memory

Traceroute Output

Ping Test Output

Output of SDM utilities

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 topology diagram. Assign IP addresses according to the IP address plan.
2. Configure the EasyVPN server using Cisco SDM.
3. Console into the router VPN and capture the **`show running-config`** to verify the basic configuration, IP addressing, and VPN configuration.
4. Verify router VPN configuration using the built-in SDM GUI testing capability.

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.

1. The EasyVPN configuration is successful.
2. Router VPN server is operational.

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: VPN Client Connectivity Test

Instructor note: Students must fill in the goal of the test. Sample goals: Demonstrates that the remote worker can access Stadium network LAN resources using a VPN client connection.

Goals of Test:

Data to Record:
VPN statistics
Ipconfig output
Traceroute Output
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.

1. Create a new VPN network connection using the VPN client software.
2. Connect to the VPN server using the external VPN client.
3. Observe the VPN tunnel establishment.
4. Use **`ipconfig`** on the VPN client to verify that it has received an IP address.
5. Use **`ping`** to test connectivity with the internal network through the VPN.

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.

Appendix

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