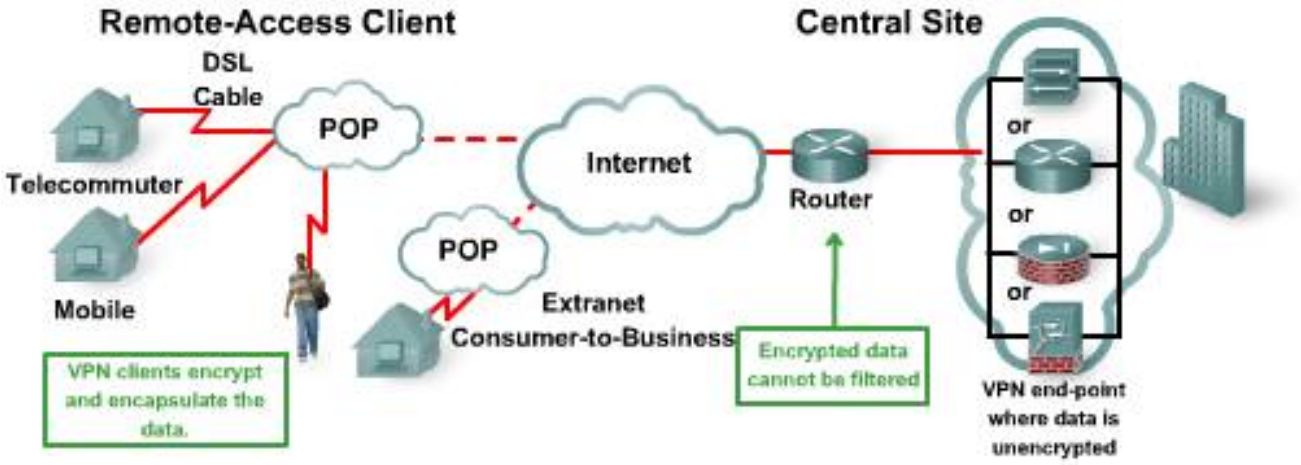
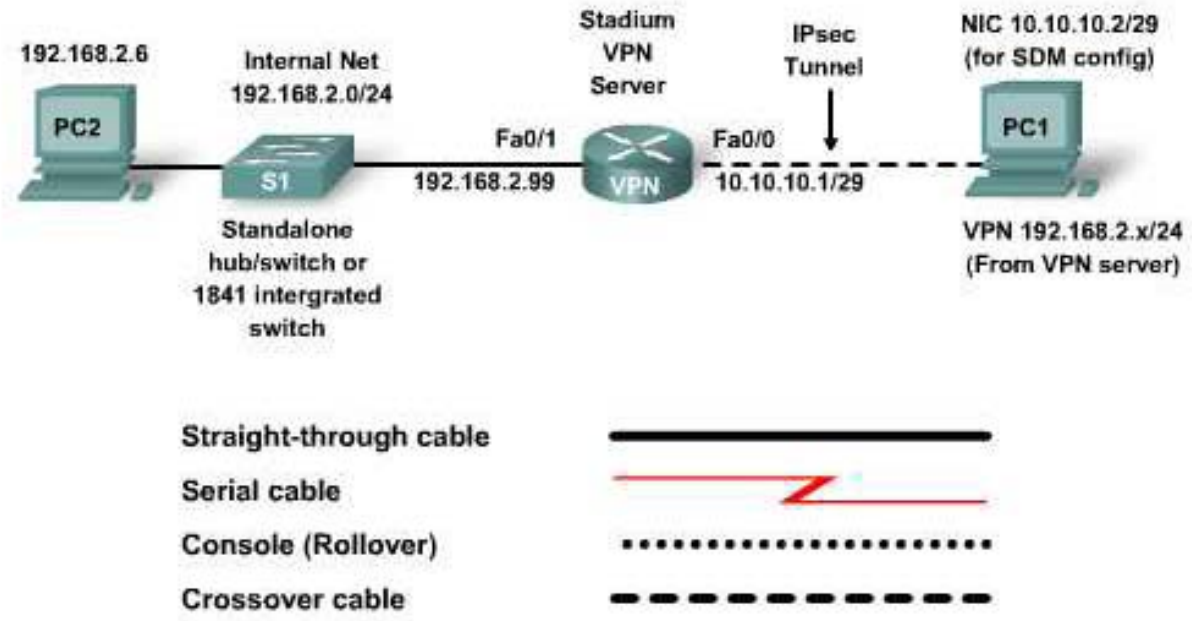
Lab 8.3.2 Creating a VPN Connectivity Test Plan

The upper part of the diagram shows an example of a real VPN network. The lower part shows the simulated network to be used for testing.

Actual VPN remote access network topology



Simulated VPN remote access network topology



Objectives

- Create VPN connectivity test plan with multiple tests to determine:
  - Setup of VPN server on edge router
  - Simulate VPN client connectively
- Describe the necessary information for the overall Test Plan to include:
  - Introduction
  - Equipment
  - Design and Topology Diagram
- Describe the necessary information for each test to include:
  - Description of the test
  - Procedures
  - Anticipated Results and Success Criteria
  - Conclusions

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.
- 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.
- Describe VPN technology (including: importance, benefits, role, impact, components)

Expected Results and Success Criteria

Before starting this lab, read through the tasks that you are expected to perform. What do you expect the result of performing these tasks will be?

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What functions of a VPN do you think can be tested in a prototype environment?

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Why is using a VPN critical to supporting remote workers?

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Background / Preparation

An important business goal for the both the stadium and the FilmCompany is the ability to support remote workers. An important technical requirement includes providing secure VPN connectivity via the Internet with ease of manageability. This can be accomplished using Cisco EasyVPN Server to configure and manage a VPN server and installing Cisco VPN on clients.

This lab demonstrates the ability to develop a test plan to support the network VPN prototype. The prototype includes the configuration and testing of a VPN client, to simulate a remote worker, and a VPN server, to simulate the server, to be installed on the network. The Cisco SDM GUI on the 1841 is used to configure the EasyVPN Server for the remote clients. In this lab, 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 8.3.4.3 and 8.3.4.4.

Step 1: Review the VPN Design Test Plan

Review the VPN Design Test Plan. Note the tests that the designer indicates are necessary to perform using the prototype network.

Test 1: Description and purpose: _____

Test 2: Description and purpose: _____

Step 2: Review the Equipment section

Which device will be used as the VPN server in the prototype network? _____

What IOS version is necessary to configure the EasyVPN server? _____

Is equipment available in your lab with the correct IOS to build the prototype network configuration?

_____

Step 3: Review the Design and Topology section

At the top of this lab, the actual VPN topology is shown, as well as the topology being used in the prototype test. Compare both topologies. Remote workers usually connect to the Internet and then use client software to create the VPN tunnel to the server. In the prototype environment, the connection between the VPN client and the VPN server is a much more direct connection.

What is the risk of testing the VPN operation in a prototype environment?

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The VPN server will assign a logical address to the remote host H1 that is valid on the internal network. This address will be assigned dynamically, when the VPN tunnel is created.

Step 4: Review the Test 1 Description, Procedures, and Expected Results sections

The designer needs to verify that the EasyVPN server can be configured and managed by the existing personnel. It is important to document how the Cisco SDM software can be used to configure and manage the VPN server.

Step 5: Review the Test 2 Description, Procedures, and Expected Results sections

Read through the Test 2 information in the test plan. Determine an appropriate goal for Test 2 and fill in the table in the VPN Design Test Plan.

After reading the Procedures section, what do you think would be a successful outcome of completing the Test 2 procedures?

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Record your answers in the Expected Results and Success Criteria section for Test 2.

Reflection / Challenge

Why do you think it is important to test the VPN operation in a pilot installation, as well as a prototype test?

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What are the benefits of managing the VPN server with internal personnel, rather than using the ISP to manage it?

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