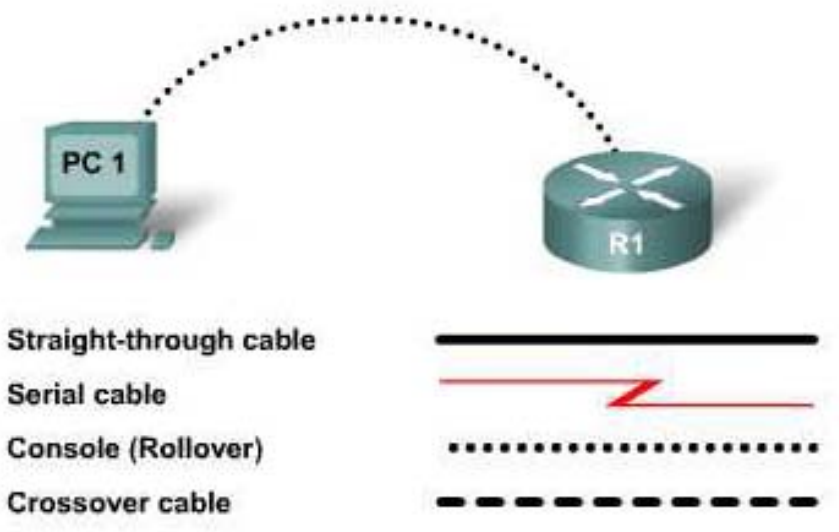
Lab 3.2.2 Using **`show version`** to Create an Inventory List

Topology 1



Objectives

- Use IOS **show** commands to determine the version and capabilities of an installed IOS.
- Use Cisco.com website tools to determine the features and capabilities of an IOS.

640-802 CCNA Exam Objectives

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

- Perform and verify initial switch configuration tasks, including remote access management.
- Verify router hardware and software operation using **show** and **debug** commands.

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?

_____

_____

How is an understanding of the networking device IOS useful in network administration?

_____

_____

Why would a network administrator change the networking device IOS to a different version or feature set?

_____

_____

_____

Background / Preparation

The features and capabilities of the Cisco IOS installed on a router and switch determine which network features it can provide. When considering a network upgrade, it is important to determine precisely what the current devices can do. If shortcomings are found in device IOS capabilities, the planned upgraded services cannot be provided and the device IOS will have to be upgraded.

In this lab, you will examine the installed IOS on a router and switch, and then use the Cisco.com website to more precisely list the features of the IOS.

This lab is based on the 1841 ISR and 2960 switch. The results of this lab will vary accordingly if other devices are used.

Task 1: Determine the Capabilities of the IOS of a Cisco 1841 ISR

Step 1: Inspect the installed IOS

NOTE: If the PC used in this lab is also connected to your Academy LAN or to the Internet, ensure that you record the cable connections and TCP/IP settings so that these can be restored at the conclusion of the lab.

a. Referring to Topology 1, connect the console (or rollover) cable to the console port on the router and the other cable end to the host computer with a DB-9 or DB-25 adapter to the COM 1 port. Ensure that power has been applied to both the host computer and router.

b. Establish a HyperTerminal or other terminal emulation program connection to the router.

c. From the privileged EXEC mode prompt of the terminal, issue the **`show version`** command. Record the following details:

IOS version _____

Name of the system image (IOS) file _____

IOS Feature Set _____

Date of code build _____

Where the router IOS image booted from _____

Type of processor board _____

Amount of DRAM _____

Number of Ethernet interfaces _____

Number of serial interfaces _____

Amount of NVRAM _____

Amount of flash memory _____

Configuration register _____

d. Issue the **`show flash`** command. Record the following details:

The amount of flash memory available and used _____

The size of the IOS file _____

e. Issue the **`show running-configuration`** command. Record features that indicate what the router is capable of.

_____

_____

_____

Step 2: Examine the IOS feature set on Cisco.com (1)

a. Go to the website http://www.cisco.com.

b. Remember that the Cisco main website changes frequently. The steps listed here representative of the procedure for accessing the resources. If the options do not appear as listed, please check with your instructor or use the cisco.com search functions to find the IOS Software Selector.

c. Roll over the **Support** tab and select **Support**.

d. On the Support page, under Frequently Used Resources, click **Tools & Resources**.

e. At the bottom of the Tools & Resources page, click the **Show All Tools** button to display tools by category.

f. Scroll to the **Software** section.

g. Click Cisco **IOS Software Selector**.

h. Click **Search by Release/Product Code/Platform**.

1) At **Platform** select: **1841**. Click **Continue**.

2) At **Release** select: **12.4(3c)**

3) At **Feature Set** select: **IP BASE**

Print or select and save the search results.

NOTE: The list of features may be more than 10 printed pages.

i. Examine the listed features. From your understanding of IOS features, group three or four features under headings such as:

Routing: _____

Security: _____

IP Services: _____

Converged Services: _____

Network Management:

_____

Other: _____

_____

Step 3: Examine the IOS feature set on Cisco.com (2)

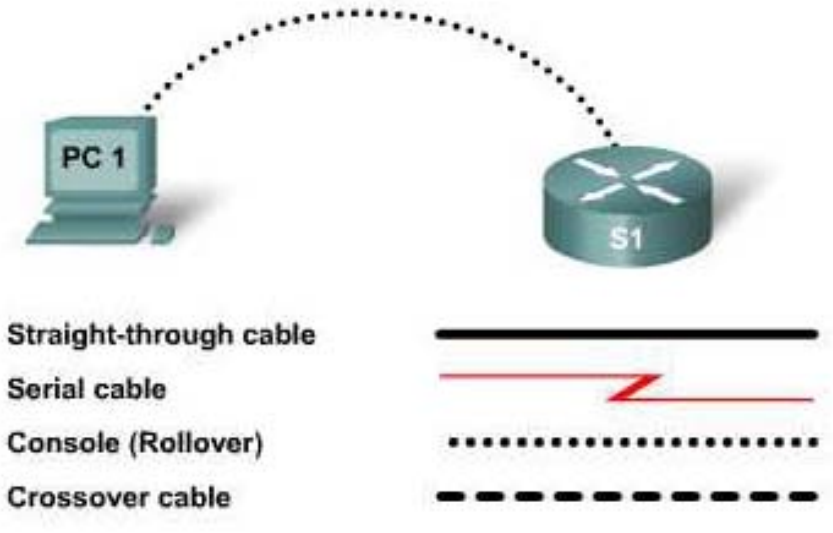
a. If your IOS version is different than the IOS version in Step 2, repeat this search using your IOS version. Record your results.

b. Compare this list of features with the list from Step 2.

Step 4: Clean up

Erase any configurations and reload the router. Disconnect and store the cabling. For PC hosts that are normally connected to other networks (such as the school LAN or to the Internet), reconnect the appropriate cabling and restore the TCP/IP settings.

Topology 2



Task 2: Determine the Capabilities of the IOS of a Cisco 2960 Switch

Step 1: Inspect the installed IOS

NOTE: If the PC used in this lab is also connected to your Academy LAN or to the Internet, ensure that you record the cable connections and TCP/IP settings so these can be restored at the conclusion of the lab.

a. Referring to Topology 2, connect the console cable to the console port on the switch and the other cable end to the host computer with a DB-9 or DB-25 adapter to the COM 1 port. Ensure that power has been applied to both the host computer and switch.

b. Establish a HyperTerminal or other terminal emulation program to the switch.

c. From the privileged EXEC mode prompt of the terminal, issue the **`show version`** command. Record the following details:

IOS version _____

Name of the system image (IOS) file _____

IOS Feature Set _____

Date of code build _____

Type of processor board and processor _____

Amount of DRAM _____

Number of Fast Ethernet interfaces _____

Number of Gigabit Ethernet interfaces _____

Amount of NVRAM _____

Amount of flash memory _____

Configuration register _____

d. Issue the **`show flash`** command. Record the following details:

The amount of flash memory available and used _____

The size of the IOS file _____

Step 2: Examine the IOS feature set on Cisco.com (1)

a. Go to the website http://www.cisco.com.

b. Roll over the tab and select **Support**.

c. On the Support page, under Frequently Used Resources, click **Tools & Resources**.

d. At the bottom of the Tools & Resources page, click the **Show All Tools** button to display tools by category.

e. Scroll to the **Software** section.

f. Click **Cisco IOS Software Selector - Cisco Feature Navigator**.

g. Click **Search by Platform**.

1) At **Platform** select: CAT2960. Click Continue.

2) At **Major Release** select: **12.2SEE** (The screen will refresh after each selection)

3) At **Release** select: **12.2(25)SEE3**

4) At **Feature Set** select: **LAN BASE**

Print or select and save the search results.

NOTE: The list of features may be more than 10 printed pages.

h. Examine the listed features. From your understanding of IOS features group 1 or 2 features under headings such as:

Routing: _____

Security: _____

IP Services: _____

Converged Services: _____

Network Management: _____

Other: _____

Step 3: Examine the IOS feature set on Cisco.com (2)

a. If your IOS version is different than the IOS version in Step 2, repeat this search using your IOS version. Record your results.

b. Compare this list of features with the list from Step 2.

Step 4: Clean up

Erase any configurations and reload the switch. Disconnect and store the cabling. For PC hosts that are normally connected to other networks (such as the school LAN or to the Internet), reconnect the appropriate cabling and restore the TCP/IP setting.

