Router eSIM™ Student Version 1.1 FAQ

Changes in Router eSIM™ Student Version 1.1

Router eSIM™ Changes:

1. The output of `show protocols` now also displays subnet mask information.

2. When using the telnet feature, the prompt did not change to the hostname of the router. Instead, the hostname was erroneously returned as "Lab_A." This IP host problem has been corrected.

3. The numeric keypad functionality has now been implemented to work on all Windows and Macintosh platforms.

4. The "show interface" command will now display the description that you configured on an interface.

5. A problem with login on telnet sessions has been fixed. By default, the login function should be off and will allow a telnet session without a password being set.

6. Previously, Router eSIM was checking the VTY password for console access which caused a login problem when you only configured the password and login function for "line con 0," and not for "vty 0 4." This has been corrected.

FAQ Changes:

1. The following frequently asked questions were added to the FAQ:

   - Why do I get this error message when I run Router eSIM™ Student Version? (Question 2)

   - Why does the Router eSIM™ Student Version only use the US keyboard layout? (Question 3)

   - Why do I get an invalid input message when I try to enter the command interface serial 1? (Question 22)

   - Are the times that are returned in the ping and trace route command accurate? (Question 30)

2. The following frequently asked question was removed from the FAQ:

   - How do the Router eSIM™ Student Version commands differ from those used on routers?

       While the correct command is "clock rate 56000", "clockrate 56000" is also accepted by Cisco IOS. Router eSIM™ now supports both commands.

Router eSIM™ Student Version FAQ

Router eSIM™ Student Version is a product designed for the Cisco Networking Academy Program to supplement lab work by giving you the opportunity to practice router commands without being connected to a router.

The following are answers to frequently asked questions about the Router eSIM™ Student Version.

1. **Are all IOS commands supported by Router eSIM™ Student Version?**

   Router eSIM™ Student Version supports most but not all IOS commands needed to complete semester 2 activities. If a command is issued that is not supported by the program, a "pop-up" dialog box will appear indicating that this simulation does not support the command.

2. **Why do I get this error message when I run Router eSIM™ Student Version?**

   Router eSIM™ Student Version is created with Macromedia Flash. When the Flash Player is executing a one-frame ActionScript and takes longer than 15 seconds to do so, it will ask you to decide whether to abort the script or not. This is just an alert and not an error message. If you click "No," the script will still be executed properly. Slower computers are likely to display this alert.

3. **Why does the Router eSIM™ Student Version only use the US keyboard layout?**

   Router eSIM™ Student Version is created with Macromedia Flash which may misinterpret keystrokes on non-English keyboards. If this happens, you may need to switch your keyboard settings to a US keyboard layout. To do so, follow these steps:

   Windows 2000

- From the "Start Menu," select "Settings" and then "Control Panel."

- Double click "Keyboard," which will open the "Keyboard Properties" window.

- Select the "Input Locales" tab and then "Add ..." This will open the "Add Input Locale" window.

- Under "Input Locale:," select "English (United States)."

- Under "Keyboard layout/IME:," select "United States-Dvorak."

- While running Router eSIM™, make sure that "English (United States)" is selected on the taskbar.

For more information, see:

http://www.microsoft.com/globaldev/keyboards/keyboards.asp

Macintosh

- From the "Apple Menu," select "Control Panels" and then "Keyboard."

- On the "Keyboard" control panel, under "Keyboard Layouts," check "U.S."

- While running Router eSIM™, make sure that "U.S." is selected on the "Keyboard Menu," in the main menu bar.

4. **What other features are not supported by Router eSIM™ Student Version?**

Among the features that Router eSIM™ Student Version does not support are Access Lists, the interface up/down status messages, and copying to and from a TFTP server.

5. **What common commands are not supported by Router eSIM™ Student Version?**

Among the commands that Router eSIM™ Student Version does not support are the extended ping command, the show sessions command, and the reload command. (See Appendix A for supported commands.)

6. **Can the labs be done using the Router eSIM™ Student Version?**

Many of the labs can be done using Router eSIM™ Student Version. However, since some commands are not supported, you will still need

to have access to the router lab in your school to complete all the labs. (See Appendix B for labs that are supported.)

7. Does the Router eSIM™ Student Version support RIP updates?

Router eSIM™ Student Version only supports RIP updates within the context of the standard five-router environment of the Cisco Networking Academy Program. Other addressing schemes will be accepted but the routing tables will not be updated and the interactive commands such as Ping, Traceroute, and Telnet will not function correctly.

8. Does the help command display all possible commands?

The help command does not display all commands of the help system.

9. How does the simulation differ from a Windows HyperTerminal application?

Unlike a real Windows HyperTerminal application, the simulation uses "CiscoTerminal" that does not let you click on the space above or below the button in the scroll bar. Instead, click the scroll bar arrows (up and down) or drag the sliders or scrolls. To close the simulation, click on the exit button in the lower left hand corner of the screen.

10. Are there limitations of the Telnet command?

The Telnet command will only function from the active router. If you try to change to another router's console connection, by clicking on the "Router Buttons" located on the left-hand side of the screen, all existing Telnet sessions for the first router will be closed.

11. Why are some prompts different from those generated by routers?

While the current version of Router eSIM™ Student Version is a stand-alone executable program, there may also be browser-based uses of the tool in .swf format. To accommodate those situations, the prompt displayed in the configuration mode has been adjusted to compensate for browsers that do not support the sequence Ctrl + Z to exit the mode. Instead of displaying "**end with CTRL/Z**", the prompt displays "**end with END**." While CTRL/Z is supported, under certain configurations it does not work properly. We have added the "end with END" in order to allow for those situations.

12. Sometimes when I type in a command, it does not display immediately. Why does this happen?

Router eSIM™ Student Version is built with Macromedia Flash and ActionScript, an interpreted language within an application. Each single instruction in Flash translates into thousands of instructions at execution. Performance difficulties are to be expected, especially on slower computers.

13. What is the function of the Escape key?

The first time the escape key is pressed will cause the Router eSIM™ Student Version window to toggle from full screen to a smaller window size. To restore Router eSIM™ to full screen mode, press CTRL + F or click on the maximize button of the window.

14. Why does Ctrl + B, Ctrl + Z, etc. seemingly only work sometimes?

When you press, for example Ctrl + B, you need to press Ctrl first, then press B, and then release both keys. To go back another character, do the same again. You will encounter difficulties in this simulation if you hold down Ctrl and press B repeatedly. It will allow you to move back a space, but then it will start inserting the letter B.

15. What do I press when I see the "More" prompt?

To advance one screen of information, press the "Spacebar." To advance one line of information, press the "Enter" key. To "escape" from the "`-- more --`" prompt press any key other than the spacebar, enter, or escape key.

16. Do the routers need to be turned on?

All routers are "powered on" when you start Router eSIM™ Student Version. You cannot restart the routers with the "`Reload`" command.

17. How can I clear the configuration on all five routers?

To restore all five routers to "factory defaults" exit and restart the Router eSIM™ Student Version.

18. Are passwords required to access the simulated routers of the Router eSIM™ Student Version?

When Router eSIM™ Student Version is started, there are no passwords on any of the routers, since the routers have no "startup configuration" files. If you select the "Set Configuration" feature, the passwords are set to Academy defaults: "`cisco`" to enter user mode and "`class`" to enter privileged exec mode.

19. How does Router eSIM™ Student Version respond to a command that is entered incorrectly?

Router eSIM™ Student Version responds to commands that are entered incorrectly in the same manner as routers would, by showing the incorrect syntax message.

20. How can I view the topology of the network?

By clicking on the "Show Topology" button, students can view the topology of the standard five-router environment of the Cisco Networking Academy Program curriculum and the supported addressing scheme. Clicking the button a second time hides the topology.

21. How can I check if I have finished configuring the router?

The "Show Done" button allows you to check how far you have configured each router.

22. Why do I get an invalid input message when I try to enter the command `interface serial 1`?

If you are trying to configure serial port 1 on router A or E, you will get an error because the interface is not physically connected to another device. The same will happen if you try to configure serial 0 on router D or E. Routers B, C, and D allow the `interface serial 1` command.

23. Is there a feature that automatically configures the routers?

The "Set Configuration" feature, accessible via the "Show Done" button, configures the routers. This feature is not intended for beginning students who generally need to practice configuring routers. Instead, this feature is useful for more advanced students who are familiar with configuring the routers and who require the routers to be configured already to complete other tasks. The "Set Configuration" option will save these advanced students the time required to configure each of the routers individually. Please note that if you use the "Set Configuration" option for a particular router, the button will be highlighted and cannot be reset until the program is restarted.

24. How can an instructor tell whether a student has configured a router manually or used the "Set Configuration" button?

Once the "Set Configuration" button has been clicked for a particular router, the button remains set (indicated by white text on a black background).

25. Does the "Set Configuration" feature incorporate the configuration commands previously entered?

Once the "Set Configuration" feature is selected, all your work is erased and replaced with the Cisco Networking Academy Program standard configuration. This includes all IP addresses entered.

26. Can a partial configuration be saved or loaded?

No, Router eSIM™ Student Version does not have the ability to save or load a partial configuration.

27. Can I configure any interface on any router?

Only the interfaces that are used in the standard five-router environment of the Cisco Networking Academy Program can be configured in Router eSIM™..

28. Is the switch connected to Lab_A supported?

You cannot configure this switch. Additionally, this switch does not show up in the CDP commands executed on Lab_A.

29. Are the statistics displayed by Router eSIM™ Student Version accurate?

The "`show interfaces`" command shows the status of the interface, the MAC address (if the interface is an Ethernet port), and the IP address of the interface, if assigned. The counters and other statistics displayed do not reflect the result of traffic across the interface.

30. Are the times that are returned in the ping and traceroute command accurate?

No, the times listed in the ping and traceroute are hard coded, that is, they are programmed to output a set time. The parts of the ping output that are dynamic, meaning that the output is dependent on your input/configuration, are the period (.), which shows that the ping was unsuccessful, or the exclamation point (!), which indicates the ping was successful. For the traceroute command, the dynamic output is the IP addresses.

31. Where can I send comments, questions, and concerns regarding Router eSIM™ Student Version?

You can send comments, questions, and concerns to eSIM™-quality@cisco.com, or you can read and post comments to the

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support forum at http://cisco.netacad.net/cnacs/prot-bin/forum_get?esim+current+FT+index.html.

Appendix A: Supported Commands

Mode	Command
User	disable
	enable
	exit
	help
	ping
	show
	traceroute
Privileged	clear
	configure
	copy
	disable
	enable
	erase
	erase start
	exit
	help
	ping
	show
	telnet
	traceroute
Show (User Mode)	clock
	flash
	history
	hosts
	users
	version
Show (Privileged Mode)	arp
	cdp
	clock
	configuration
	flash
	history
	hosts
	protocols
	running-config
	startup-config
	version
	interfaces
Global Config	banner
	enable
	exit
	hostname
	interface
	ip
	line
	no

	router
Interface Config	clock
	description
	exit
	ip
	no
	shutdown
Line Config	exit
	history
	login
	no
	password
Router	exit
	network
	no
	rip

Appendix B: Router eSIM™ Compatibility with Cisco Networking Academy Semester 2 Labs

Note: It is recommended that eSIM™ be closed before starting a new lab.

Number	Lab Name	Notes
2.2.2	Router Characteristics	Steps 1 & 2 require physically examining a router, which eSIM™ does not support. Step 3 asks about settings in HyperTerminal, which is not supported in this version. Step 4 can be completed in eSIM™.
2.2.3.1	Router Lab Setup	Steps 1 & 2 discuss the physical setup of the 5 routers, which is not supported. Step 3 requires examination and setup of the V.35 cables between the routers, which is not supported. Step 4 can be completed by examining the topology in eSIM™ or in the lab manual. Step 5 requires cabling the workstations, which eSIM™ does not support. Step 6 & 7 require connecting the console cable & power cables, which eSIM™ does not support. Step 8 requires you to draw a diagram of the network in your lab manual.
2.2.3.2	Router Lab Configuration	To complete this lab, the instructor should use the "Set Configuration" option for all five routers in eSIM™. The instructor may want to do this, or tell you how to use the "Set Configuration" option. Since an instructor can always tell when Set Configuration has been used, (i.e. the buttons for each router indicate whether configuration has been set), you will not be able to claim that you have completed the setup of the router manually. Step 1 requires you to verify the physical connections, which eSIM™ does not support. Step 2 can be completed in eSIM™. Step 3 cannot be completed, since eSIM™ does not support the configuration of the workstations.
3.2.1	Router User Interface	This lab assumes that the "Set Configuration"

		option has been selected for the router you will be using. Steps 1 – 9 can be completed in eSIM™. NOTE: For Step 8, eSIM™ supports CTRL-P to access the command history. When using CTRL-P, be sure to release the CTRL key after each time you scroll back through the history, otherwise an extra "P" character is displayed in the CiscoTerminal screen.
3.2.2	Router User Interface Modes	eSIM™ supports the commands used in this lab. You may reference eSIM™ to complete the lab, or may be able to complete the lab from studying the online curriculum and Companion Guide textbook.
4.2.4	Router Show Commands	This lab assumes that the "Set Configuration" option has been selected for the router you will be using. Additionally, to complete the "**Show Startup-Config**" command, you will have to copy the running config to NVRAM. The "**Show Clock**" command actually shows the PC's clock information, as though it were the router's clock. This does not directly relate to the "up time" of eSIM™, as shown in the GUI. "**Show Hosts**" command: the "Set Configuration" option does not add any IP Host entries. This is documented in the Set Configuration screen. Steps 1 – 16 can be completed in eSIM™, with the notes mentioned above.
4.3.5	CDP Neighbors	This lab can be completed with either the "Set Configuration" option set, or not. Note that if it has not been set, you will see the name "Router" for the device name. Step 3, the "**Show CDP**" command does not function in eSIM™, although the "**Show CDP Neighbors**" command does. Note that the Cisco switch connected to E0 of Lab_A does not show up at all.
4.4.2	Remote Telnet Access	This lab assumes that the "Set Configuration" option has been selected for the router you will be using. Note that eSIM™ does not set IP Host entries, so you will have to do that manually, if you choose to telnet to the "router-name", as the lab manual suggests. Also note that Telnet in eSIM™ functions differently than a real router. In eSIM™, when you

		click one of the buttons on the left-hand side of the GUI to select a different router, all Telnet sessions are automatically disconnected. Finally, eSIM™ does not support the "**Show Sessions**" command. Steps 1 – 9 can be completed on eSIM™.
4.4.3	ICMP Ping	This lab assumes that the "Set Configuration" option has been selected for the router you will be using. For the "**Show Hosts**" command to work, you will need to enter the "IP Hosts" command (in global configuration mode). Steps 5 – 7 cannot be completed on eSIM™, since workstations are not supported.
4.4.4	Traceroute Command	This lab assumes that the "Set Configuration" option has been selected for the router you will be using. Step 5: In order for hostnames to be displayed, the "**IP Host**" command must be entered by you for each host. Step 8 has to be completed by doing a Traceroute to a real Internet site. It cannot be completed in eSIM™, or in the actual 5-router lab, since the five-router lab is not connected to the Internet.
4.4.7	Show Interface and Clear Counters	This lab assumes that the "Set Configuration" option has been selected for the router you will be using. Steps 5 – 9 cannot be completed since eSIM™ does not increment the counters.
4.5.1	Troubleshooting Tools Challenge	This lab is a paper-based exercise and does not require either eSIM™ or the 5-router lab.
5.2.3	Router Setup Command	The "**Setup**" command is not supported in eSIM™, so this lab cannot be completed.
5.3.1	Router Setup Challenge	This lab requires using a different IP addressing scheme than the standard five-router topology, which is not supported. The instructor may choose to have the student complete the IP addressing portion of this lab as a paper-based exercise.
6.1.2	Router Configuration with HyperTerminal	This lab cannot be completed in eSIM™. The "CiscoTerminal" is a simulated environment and does not support capturing of files, etc.
6.1.4	Router Configuration with TFTP	Copying information to and from a TFTP server is not supported, so this lab cannot be completed.
6.2.1	Basic Router Configuration	This lab assumes that the "Set Configuration" has not been selected.

		This lab can be completed in eSIM™. Step 26: The "**Reload**" command is not supported.
Interface 6.2.5	Router Interface Configuration	This lab assumes that the "Set Configuration" has not been selected. This lab can be completed in eSIM™. Step 14: The "Reload" command is not supported.
6.4.1	Router Configuration Challenge	This lab cannot be completed in eSIM™, since you must use the IP addressing scheme provided for in the five-router lab environment. Additionally, workstations are not supported by eSIM™.
6.4.2	Cisco Configmaker	Cisco Configmaker is a separate program, and is not supported by eSIM™. You may run Configmaker separately.
6.4.3	Router Configuration with a Web Browser	This lab cannot be completed since eSIM™ cannot simulate accessing the router from a workstation via a web browser.
7.1.3	IOS Image Boot	This lab can be completed in eSIM™. You do not have to configure the router or use the "Set Configuration" option. Note that the results of the "**Show Flash**" command will be the same on each of the five routers in eSIM™. This is will not always be the case working with real routers.
8.1.2	Router Password Recovery	This lab cannot be completed in eSIM™, since you cannot simulate turning the power to the router off and on, or change the configuration register.
8.2.1	Individual Router Configuration	This lab is supported by eSIM™. Note that the "Show Done" button in the GUI indicates the status of each configuration task in each router.
9.2.4.1	Show ARP and Clear ARP	This lab is not supported by eSIM™, since the workstations (and their MAC addresses) are not supported.
9.2.4.2	ARP Challenge	This lab is not supported by eSIM™.
10.1.4	IP Addressing and Subnets Challenge	This lab is a paper-based exercise and is not supported by eSIM™.
10.4.1	Semester 2 Topology Challenge	This lab is a paper-based exercise and is not supported by eSIM™.
12.1.5	Static Routes	This lab is not supported by eSIM™, since the "**IP Route**" command is not supported.
12.3.5	RIP Routing	This lab assumes that the routers are all configured to the five-router lab settings, but that all RIP entries are removed. The easiest way to approach this is to use the "Set Configuration" option on each router and then issuing the "**No Router RIP**" command from global configuration mode of each router. This lab can be completed in eSIM™.
12.5.1	RIP Convergence	This lab assumes that the "Set Configuration" option has been selected for the router you will be

		using.
		Step 1: No static routes are set in eSIM™.
		Step 2: Debugging is not supported in eSIM™.
		Step 4: eSIM™ "instantly converges" the network. You do not have to wait to execute this step.
12.5.2	Routing Loops Challenge	This lab cannot be completed in eSIM™, since you can not add an additional V.35 cable to connect between Lab_A and Lab_E.
12.5.3	Routing Loops Prevention Challenge	This lab cannot be completed, since the "Split-horizon," "Default-metric," and "Timers" commands are not supported.
13.1.6	Troubleshooting 5-Router Network	This lab cannot be completed in eSIM™, since it requires inducing errors at various layers in the OSI model.

The instructor may choose to induce errors in the configuration of one or more routers, and have you identify and correct the errors. |