

MIMIC[®]

Virtual Lab

Installation Guide

Version: 4.30



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MIMIC®
Installation Guide
Version 4.30

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Overview

MIMIC is distributed as a compressed file for each of the platforms referred to in this manual. MIMIC is available on a CD-ROM or by a download from the Web. In either case, it is necessary to uncompress the file and extract its contents onto your system.

You only need to download MIMIC when a new release is issued; the retail version of MIMIC is identical to the evaluation version except for the license keys. Permanent license keys are included with your purchase.

If MIMIC is already installed, determine the version you are running by looking at the **Help>About** menu or at the contents of the `config/version` file. Download MIMIC again only if a newer version is available. If you are upgrading from an older release, terminate from MIMIC before running the install program. Uninstalling the older release is not necessary, since this will provide a backup in case of problems with the newer release.

To terminate from MIMIC:

1. Click on **File**.
2. Click on **Terminate**.

Please review the [MIMIC Frequently Asked Questions](#) page after having installed MIMIC.

Preparing for Installation

Windows Platforms

MIMIC Virtual Lab supports the following Windows platforms:

- Windows XP
- Windows 2000
- Windows NT 4.0 Service Pack 4 or newer
- Windows Server 2003
Windows Vista Business Edition

With Java Runtime Environment (JRE) 1.6.

This section describes requirements for the Windows platforms. Later in this section, common problems encountered while running MIMIC on Windows are discussed, along with their related fixes.

Administrator Privileges

You must have Administrator privileges to install and to run MIMIC. The install script requires write access to restricted parts of the Registry. Therefore:

- Install MIMIC from a user account with Administrator privileges; and
- Run MIMIC from a user account with Administrator privileges.

By establishing a separate user account with Administrator privileges, you can control access to this functionality.

Firewalls

Due to pervasive security attacks against Windows systems connected to the Internet, it has become common to run a software firewall on recent versions of Windows.

MIMIC will coexist with a software firewall, provided that the firewall is configured to recognize MIMIC as a program allowed to access the network. MIMIC will, due to its very nature of simulating networked components, open network sockets and communicate with external applications (eg. network management applications, telnet clients, etc).

There are certain components of MIMIC that will access the Internet (eg. specific web sites to determine software updates, etc).

File Systems and Windows Disk Space

MIMIC creates many small files for its simulations. Other file systems, such as NTFS or Unix, efficiently handle these small files. However, the FAT (or FAT16) file system, which operates on some Windows NT operating systems, requires 10 to 100 times more disk space than other file systems. To display the file system installed on your system, select the Properties dialog on your partition from the Windows Explorer.

Assigning IP Addresses

MIMIC requires at least one operational network interface card (NIC). On Windows NT, 2000, XP or Server 2003, as on the Unix platforms, MIMIC dynamically assigns IP addresses when starting each agent instance.

Duplicate IP Addresses

You must not have duplicate IP addresses on a connected network. If Windows detects that an IP address on one of its NICs conflicts with another system (resulting in a duplicate IP address), it tries to resolve this problem by shutting down the NIC and displays a message such as the following:

The System has detected an IP address conflict with another system on the network. The local interface has been disabled. More details are available in the system event log. Consult your network administrator to resolve the conflict.

NOTE: on Windows 2000, XP or Server 2003, the agent will not start and will print an error message in the [Log](#).

Media Sense on Windows 2000 or newer

Newer versions of Windows (Windows 2000 onwards) have a TCP/IP feature whereby it can sense if a NIC is actually connected to the network. By default, a NIC is disabled if it is not found to be on the network, which prevents agents from starting in MIMIC. There is a way to disable this behavior so that you can work on standalone Windows 2000/XP machines. Attached is the [Microsoft KB](#) article on this topic. Please remember to make a copy of your registry before making any changes just to be on the safe side.

How to Disable Media Sense for TCP/IP in Windows 2000

The information in this article applies to:

- a.. Microsoft Windows 2000 Advanced Server
 - b.. Microsoft Windows 2000 Datacenter Server
 - c.. Microsoft Windows 2000 Professional
 - d.. Microsoft Windows 2000 Server
-

SUMMARY

Windows 2000 contains the "Media Sensing" feature. You may use this feature on a Windows 2000-based computer using Transmission Control Protocol/Internet Protocol (TCP/IP) to detect whether or not your network media is in a "link state". A "link state" is defined as the physical media connecting or inserting itself on the network. For example, assuming a 10bt or 100bt physical media, Ethernet network adapters and hubs typically have a "link" light to indicate the current connection status. This is the same condition in which Windows 2000 can detect a link. Whenever Windows 2000 detects a "down" state on the media, it removes the bound protocols from that adapter until it is detected as "up" again. There may be situations where you may not want your network adapter to detect this state, and you can configure this by editing the registry.

NOTE: 10b2 or coaxial (RG-58) Ethernet cable is not a connection-based media. Because of this, Windows 2000 does not attempt to detect a "connect" state if this type of cabling is used.

MORE INFORMATION

WARNING: Using Registry Editor incorrectly can cause serious problems that may require you to reinstall your operating system. Microsoft cannot guarantee that problems resulting from the incorrect use of Registry Editor can be solved. Use Registry Editor at your own risk. For information about how to edit the registry, view the "Changing Keys and Values" Help topic in Registry Editor (Regedit.exe) or the "Add and Delete Information in the Registry" and "Edit Registry Data" Help topics in Regedt32.exe. Note that you should back up

the registry before you edit it. If you are running Windows NT or Windows 2000, you should also update your Emergency Repair Disk (ERD).

To prevent your network adapter from detecting the link state:

NOTE: NetBEUI and IPX do not recognize Media Sense.

1. Use Registry Editor (Regedt32.exe) to view the following key in the registry:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Tcpip\Parameters

Add the following registry value:

Value Name: DisabledDHCPMediaSense

Data Type: REG_DWORD -Boolean

Value Data Range: 0, 1 (False, True) Default: 0 (False)

Description: This parameter controls DHCP Media Sense behavior. If you set this value data to 1, DHCP, and even non-DHCP, clients ignore Media Sense events from the interface. By default, Media Sense events trigger the DHCP client to take an action, such as attempting to obtain a lease (when a connect event occurs), or invalidating the interface and routes (when a disconnect event occurs).

2. Restart your computer.

NOTE: There are some side effects of disabling the "Media Sensing" feature. For example, if you have a machine with two network adapters, and you have the "Media Sensing" feature enabled, if one network adapter does not work, it is unbound, and associated routes are removed so that all traffic goes through the other network adapter (assuming a default gateway is there). Also, if you are a roaming (portable) user, the "Media Sensing" feature is what provides the ability to connect to any network and have everything work, without restarting, release and renewing, and so on. After disabling Media Sense and restarting, Windows 2000 still shows the "Network Disconnected" icon on the TaskBar and the 'ipconfig' command still shows a "Media State: Cable Disconnected" message when the cable is disconnected. However, the Network Interface is bound to TCP/IP and you can verify this by looking at the route table—you can use the "route print" command—which shows the interface IP address (you are also able to ping the IP address assigned to the NIC).

END

Windows Vista

1. User Account Control

Windows Vista has the new User Account Control feature, which impacts the running of MIMIC. For details, consult this [Analysis of the Windows Vista Security Model](#) from Symantec. In order to enable to run MIMIC on Vista, you have 2 options:

- Disable User Account Control

This turns UAC off globally. NOTE: do this only if you are aware of the implications of this action.

- Open User Accounts via Start->Control Panel->User Accounts->User Accounts.
- Click on Turn User Account Control on or off
- Clear the checkbox for Use User Account Control (UAC) to help protect your computer.
- Click Ok
- A dialog will popup prompting you to Restart Now or Restart Later. Choose appropriately. User Account Control will be disabled once the system reboots.

- Run MIMIC with User Account Control enabled

This involves changing the access control level of the MIMIC programs.

- Change the privilege level of MIMIC Virtual Lab application in the MIMIC Start Program group using the following steps:
 - Click Start->All Programs->MIMIC Virtual Lab ... x.xx
 - Move the cursor to the MIMIC Virtual Lab ... entry
 - Right click and select Properties.
 - In the Compatibility tab, check Run this program as an administrator
 - Once this is done, MIMIC Virtual Lab can be started as above or by running the VLABx.bat script in the bin folder of the MIMIC installation.
- If MimicD.exe will be run directly, set the privilege level of it using the following steps:
 - In Windows Explorer, select it.
 - Right click and select Properties.
 - In the Compatibility tab, check Run this program as an administrator

2. Duplicate Address Detection

On Windows Vista, the new TCP/IP stack tries to do "duplicate address detection" by default. This prevents MIMIC from starting agents, because IP aliasing is delayed, and even with a workaround in our software would unacceptably slow down the starting of agents. To correctly workaround the problem, you need to disable "duplicate address detection" for the network interface using the Windows `netsh` utility:

```
netsh interface ipv4 set interface "name or index" dadtransmits=0
```

The interface name and index info can be obtained by

```
netsh interface ipv4 show interfaces
```

For example:

```
H:\>netsh interface ipv4 show interfaces
```

Idx	Met	MTU	State	Name
1	50	4294967295	connected	Loopback Pseudo-Interface 1
7	20	1500	connected	Local Area Connection

```
H:\>netsh interface ipv4 set interface "7" dadtransmits=0
```

3. Vista Power Management

The default power options will put the Windows Vista system to sleep after 1 hour of I activity. To disable this, perform the following:

Open Power Options using Control Panel->System and Maintenance->Power Options.

Change Preferred Plan from Balanced to High Performance.

Verify by clicking on Change Plan Settings for High Performance. Ensure that Put the computer to sleep setting is Never.

4. Program Compatibility Assistant

After the install is completed or aborted, the Program Compatibility Assistant may prompt with the message

This program might not have installed correctly.

Please select `This program installed correctly` if the install completed. Else, select `Cancel`.

Debugging

Crashes can be analyzed post-mortem using the Dr. Watson's crash dumps. This requires that Dr. Watson be enabled to handle any application exceptions on the system.

To install Dr. Watson as the default exception handler:

Click `Start->Run`.

Type `drwtsn32 -i`

Click `Ok`.

A subsequent crash should popup the Dr. Watson dialog. Search for the following files in the Windows directory (this location can be changed using the Dr. Watson GUI) : `drwtsn32.log` and `user.dmp` . Send these to Gambit Technical Support (support@gambitcomm.com).

Known Problems

Gambit is constantly improving MIMIC's performance. The following problems while running MIMIC on a Windows platform have been identified:

- *Windows NT/2000/XP/Server 2003* — If the host is using DHCP to obtain its address, no agent instance can use that same address to export a MIB. The problem is that stopping the agent results in the deletion of this address and shuts off TCP/IP services (ftp/telnet/internet).

To restore operation:

- REBOOT, *or*
 - Start the agent on the DHCP assigned address again (i.e., keep it running).
- On Windows, certain network interface cards have limitations supporting multiple IP addresses. In particular, some adapters and/or drivers from 3com have been giving us trouble (e.g. 3C905-TX or 3Com 3C90x Ethernet Adapter). The symptom is that a small number of agent instances can be started and polled correctly, but connectivity is lost to the box when starting more.

Installation

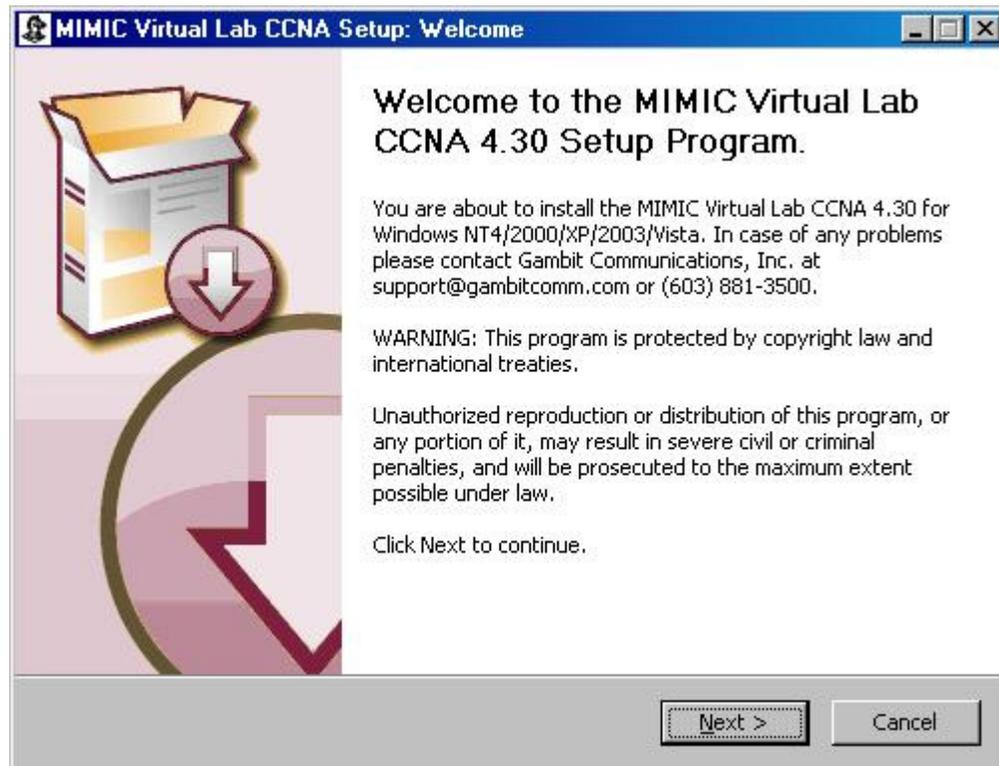
Step 1: Get the MIMIC distribution

If you have a CD-ROM, copy the distribution file for your platform from the CD-ROM to a temporary directory. Go to Step 2.

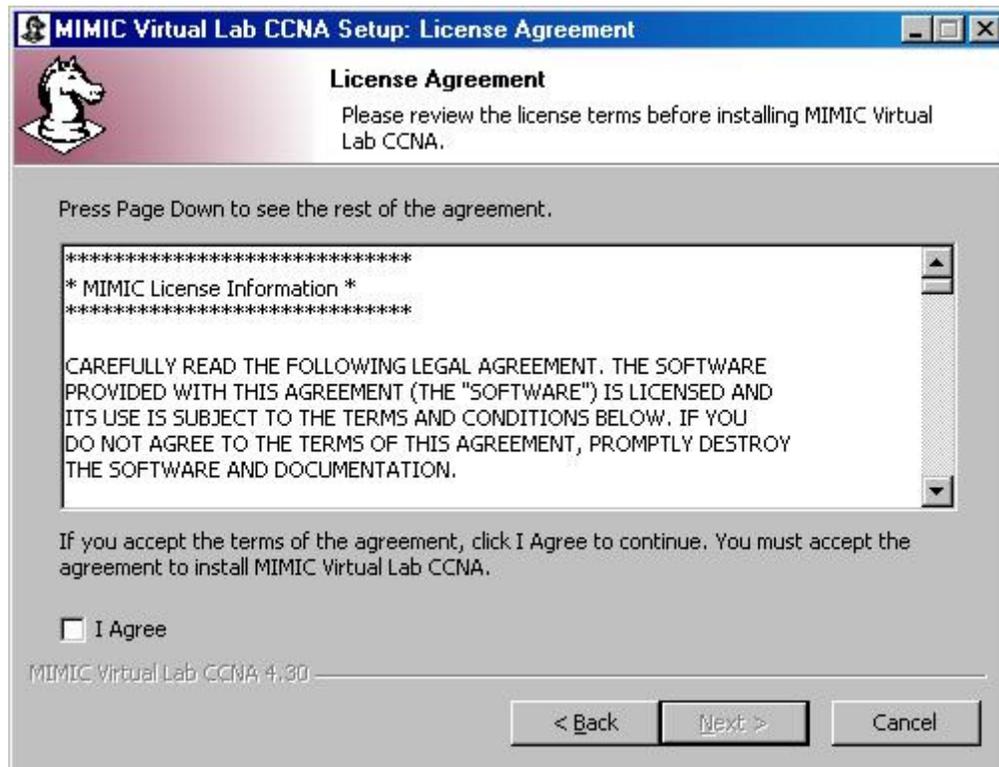
If you do not have a CD-ROM, you can request a download of MIMIC from Gambit Communications' website at www.gambitcomm.com/support. The download URL will then be e-mailed to you.

Step 2: Uncompress, extract and install the distribution

1. Run the self-extracting **mimic_vlab.exe** from a system with an Administrator account. The Welcome screen appears:

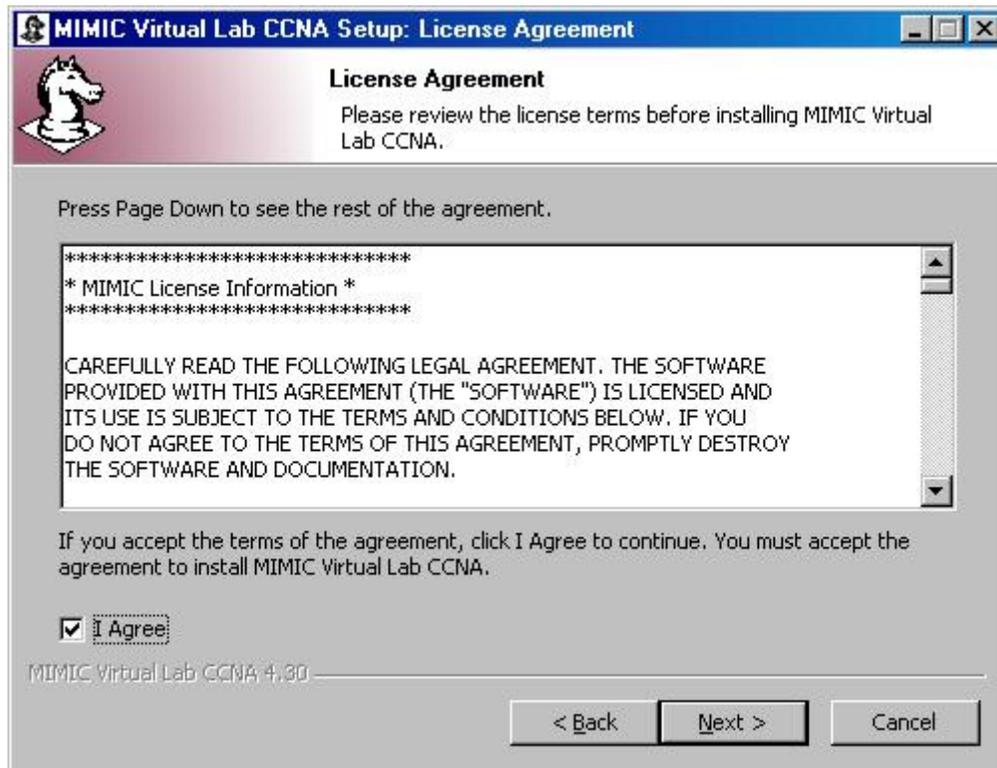


2. Click on **Next**. The following screen appears:



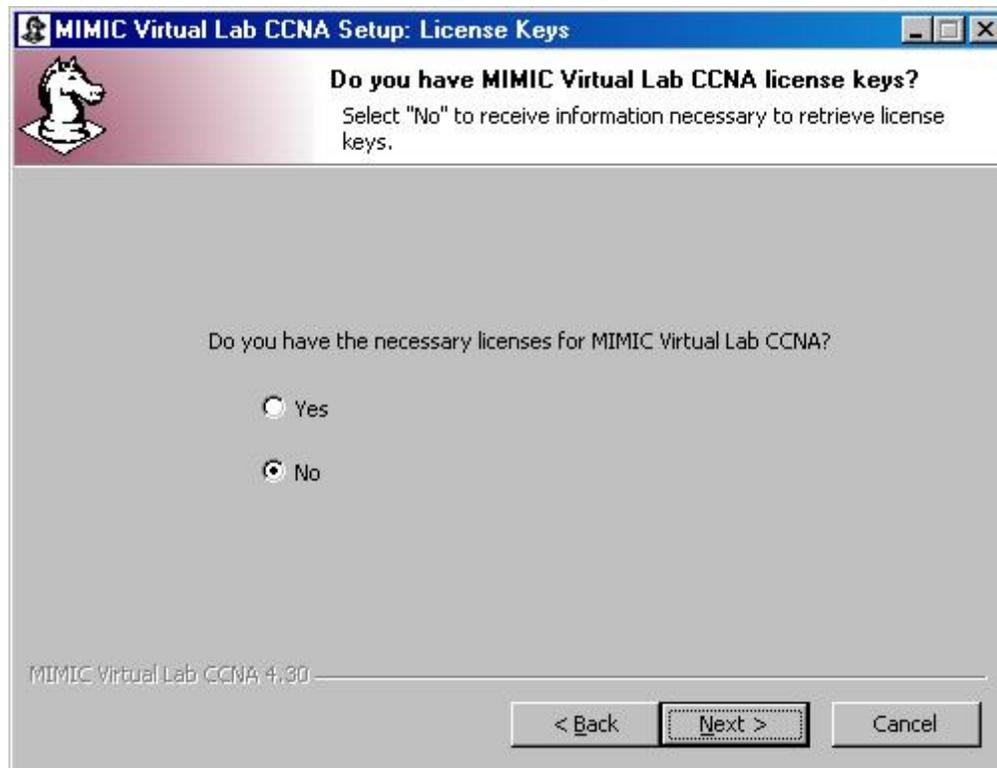
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3. Read the License Agreement, and click I Agree. The next screen will not appear unless you accept the License Agreement. Click Next to continue.



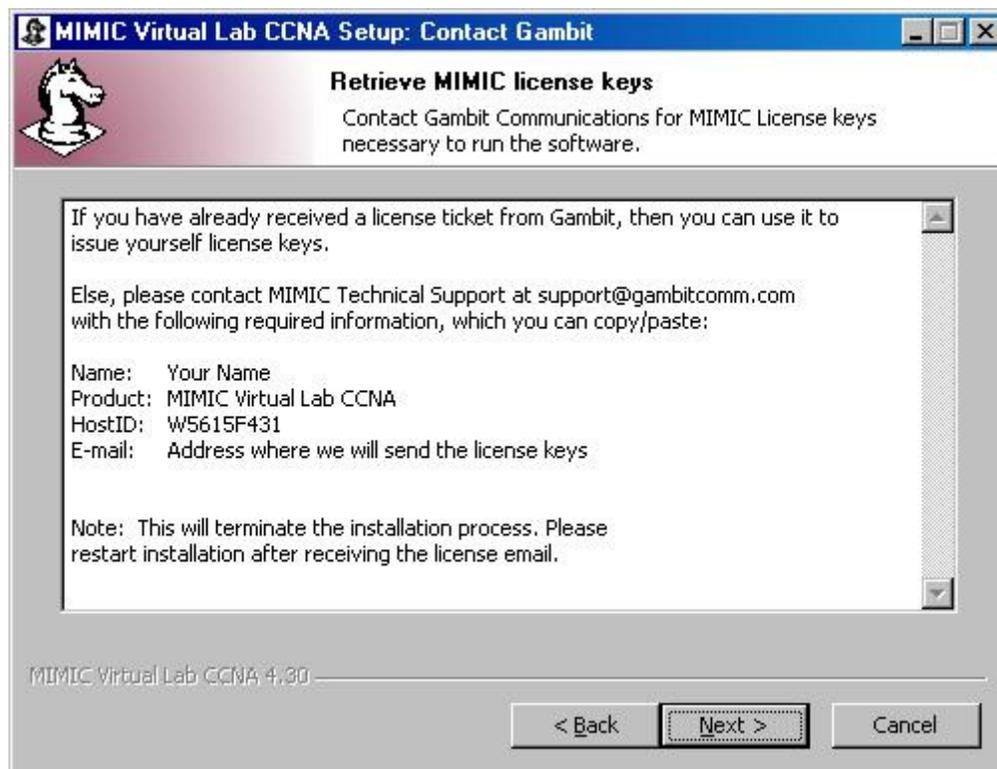
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4. Then following screen appears:



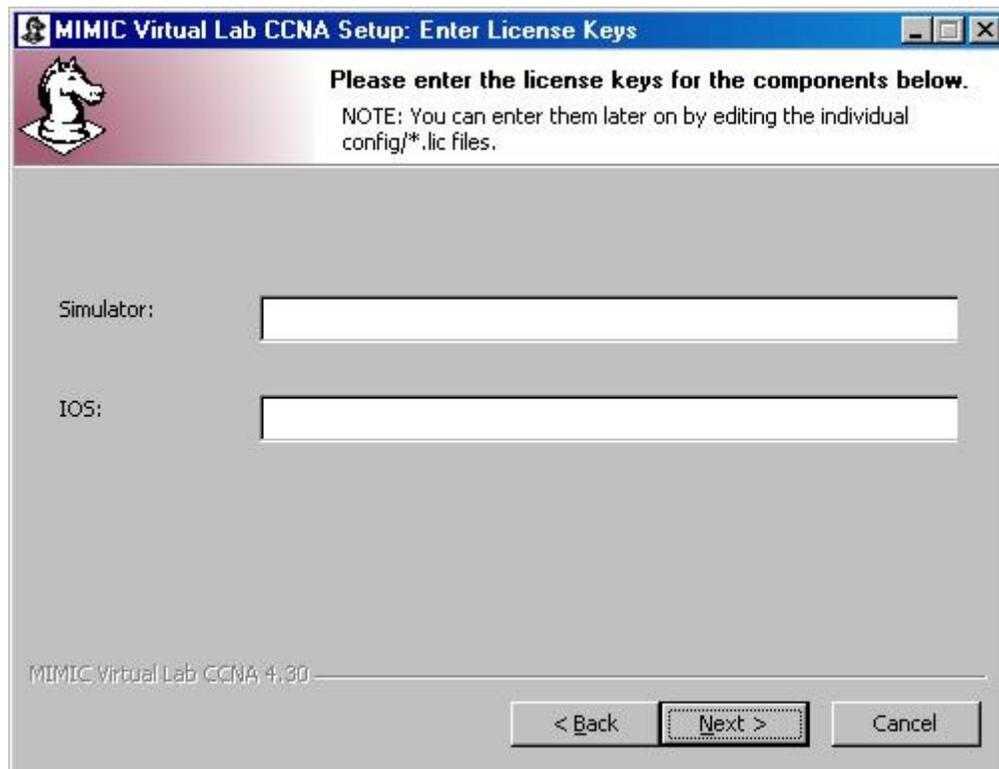
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5. Click on **No** if you do not have the necessary license keys, then click Next to continue. The following dialog pop-up will provide you with the instructions and information required to obtain one. **If you have received a licensing ticket, you can redeem it for a license key yourself by providing the HOSTID displayed in this dialog.** Otherwise, copy/paste the information into an e-mail request to us.



Continued next page...

Click on **Yes** if you have the necessary licenses for MIMIC Virtual Lab. The MIMIC Virtual Lab License keys screen appears:

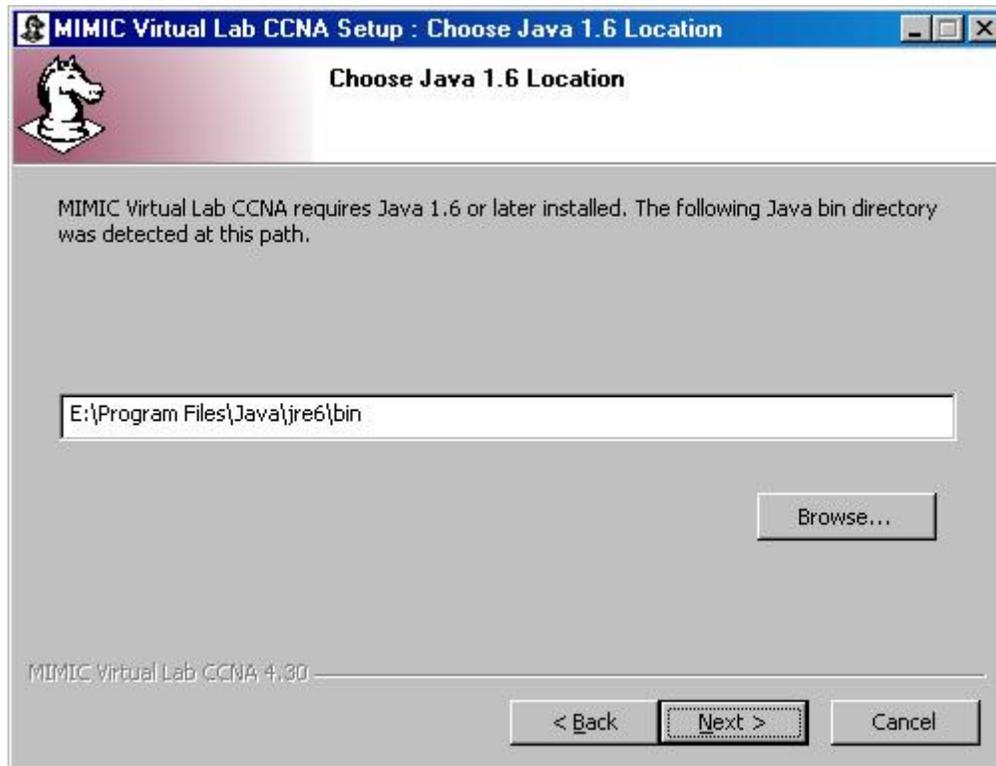


The screenshot shows a Windows-style dialog box titled "MIMIC Virtual Lab CCNA Setup: Enter License Keys". The dialog has a blue title bar with standard window controls. Below the title bar is a header area with a horse head icon on the left and the text "Please enter the license keys for the components below." followed by a note: "NOTE: You can enter them later on by editing the individual config/* .lic files." The main area of the dialog contains two input fields: "Simulator:" and "IOS:", each followed by a white text box. At the bottom left, it says "MIMIC Virtual Lab CCNA 4.30". At the bottom right, there are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

6. Enter the License Keys. This is best done by using the Windows copy/paste feature. Then click **Next**.

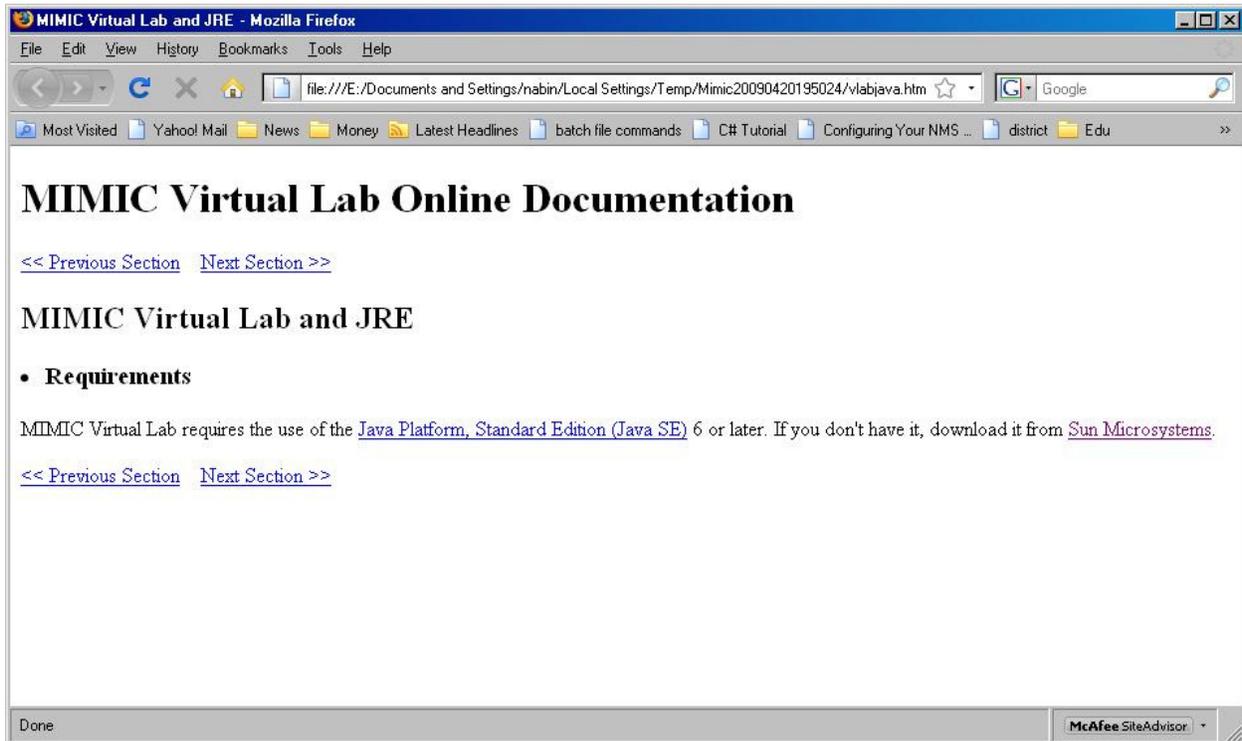
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7. The Choose Java Location screen is then displayed.

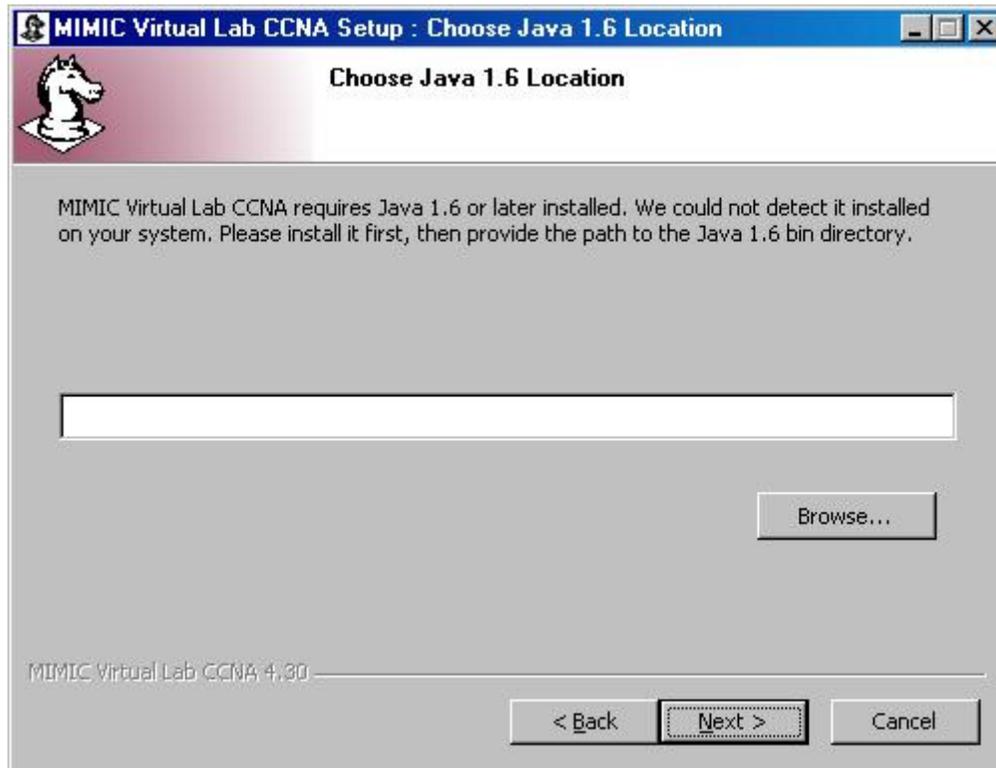


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8. MIMIC Virtual Lab requires the use of the [Java\(TM\) 2 Runtime Environment](#) 1.6.0 or later. The setup program automatically detects the Java 1.6. If it is not detected then following screens appear with instructions to install Java 1.6 otherwise go to Step 8.

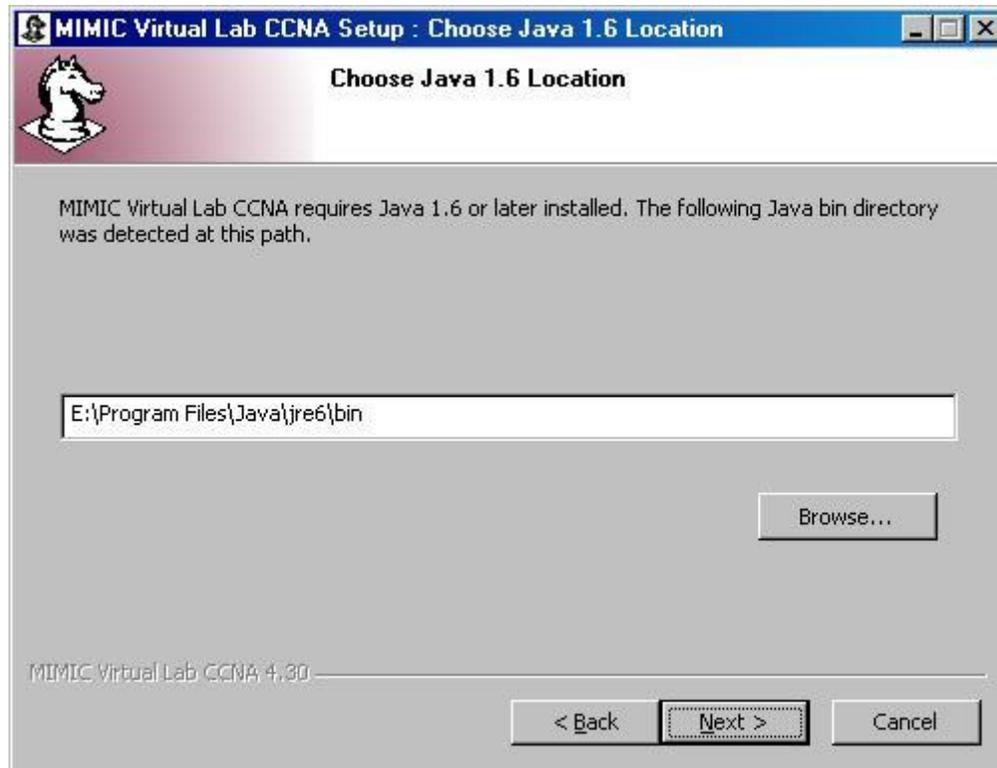


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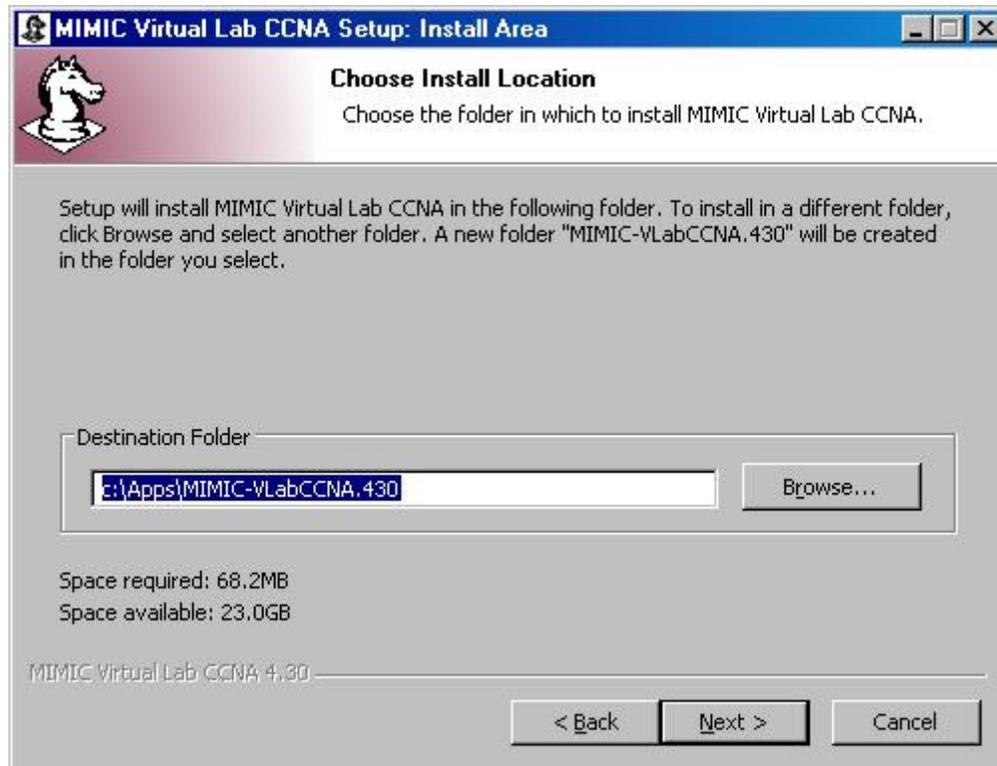
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9. Then following screen appears if Java 1.6 is installed properly otherwise Step 8 above is repeated.



Continued next page...

10. Click *Next* to continue



Select a destination folder for your MIMIC Virtual Lab installation:

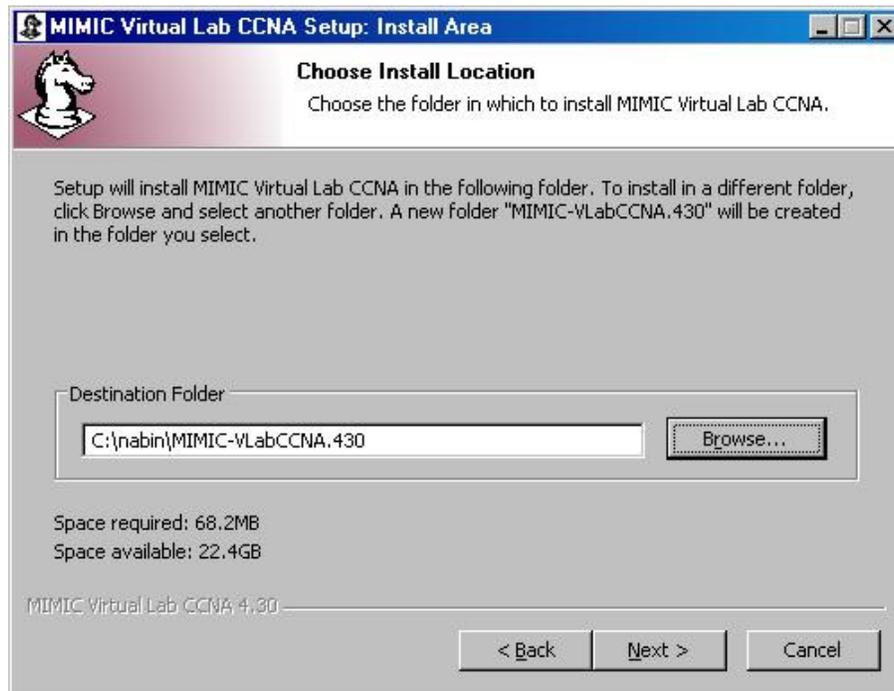
- Click on *Next* to install MIMIC Virtual Lab in the default folder shown next to the Browse button; or,
- Click on Browse and follow the instructions on screen to select a different folder for MIMIC Virtual Lab. The following screen appears:

Continued next page...

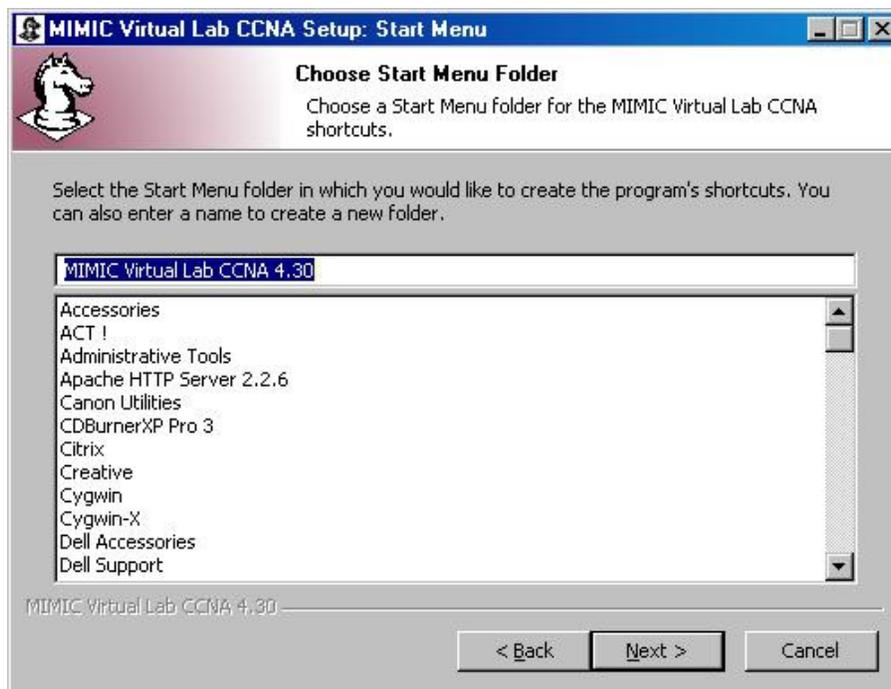


Click OK after selecting the desired folder to install. Then following screen appears:

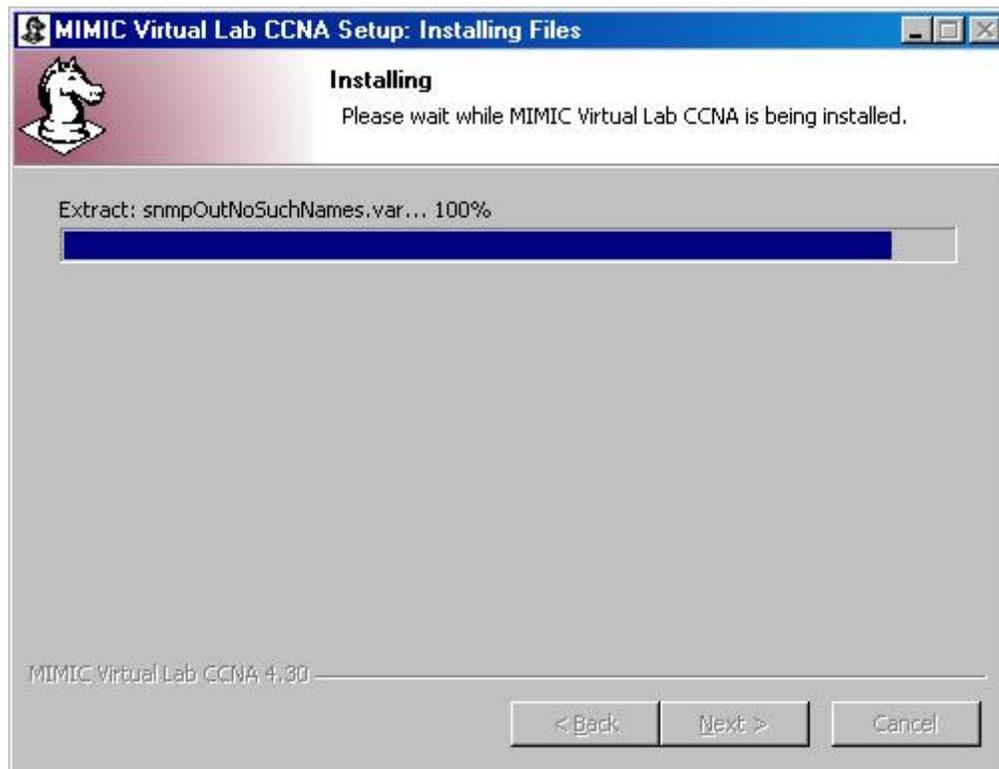
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Click on *Next* to install MIMIC Virtual Lab. Then following screen appears:

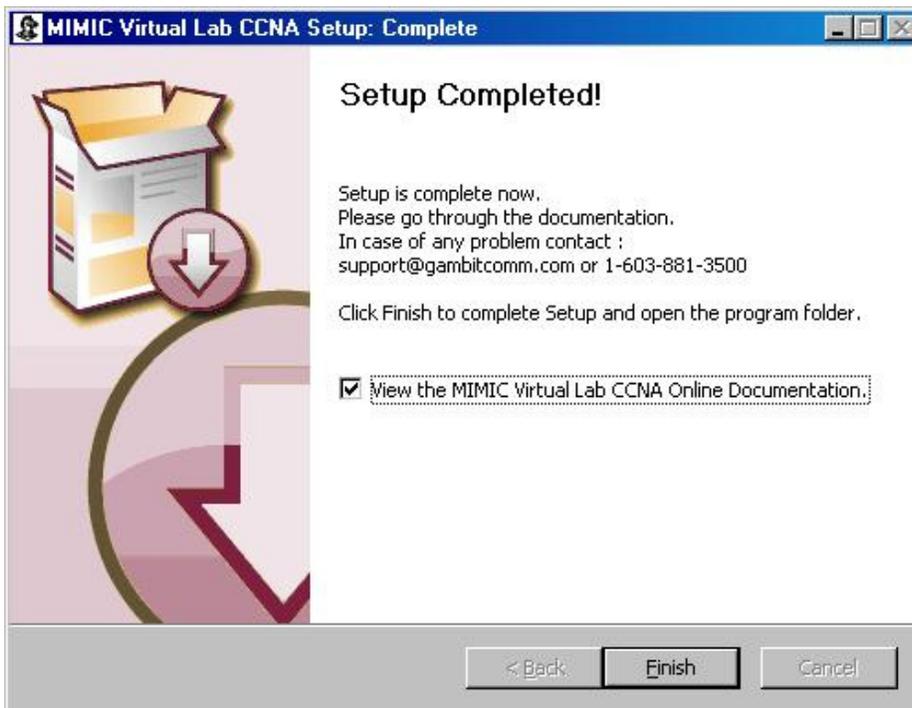
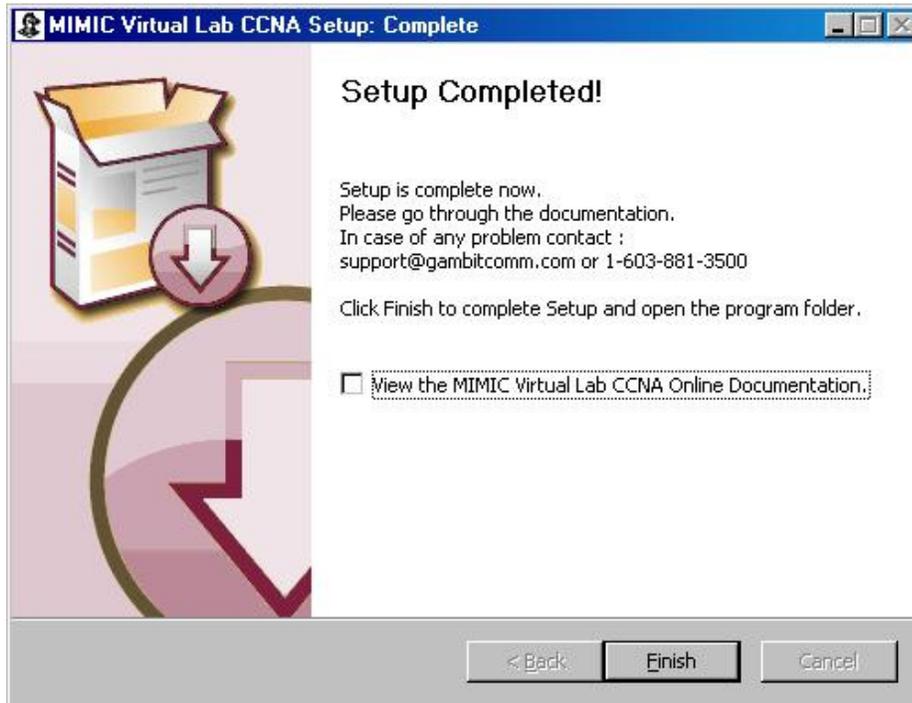


11. You may type a new folder name, or select one from the existing Folders list, or use default Folder e.g., MIMIC Vlab 4.30. Click on *Next* to continue.

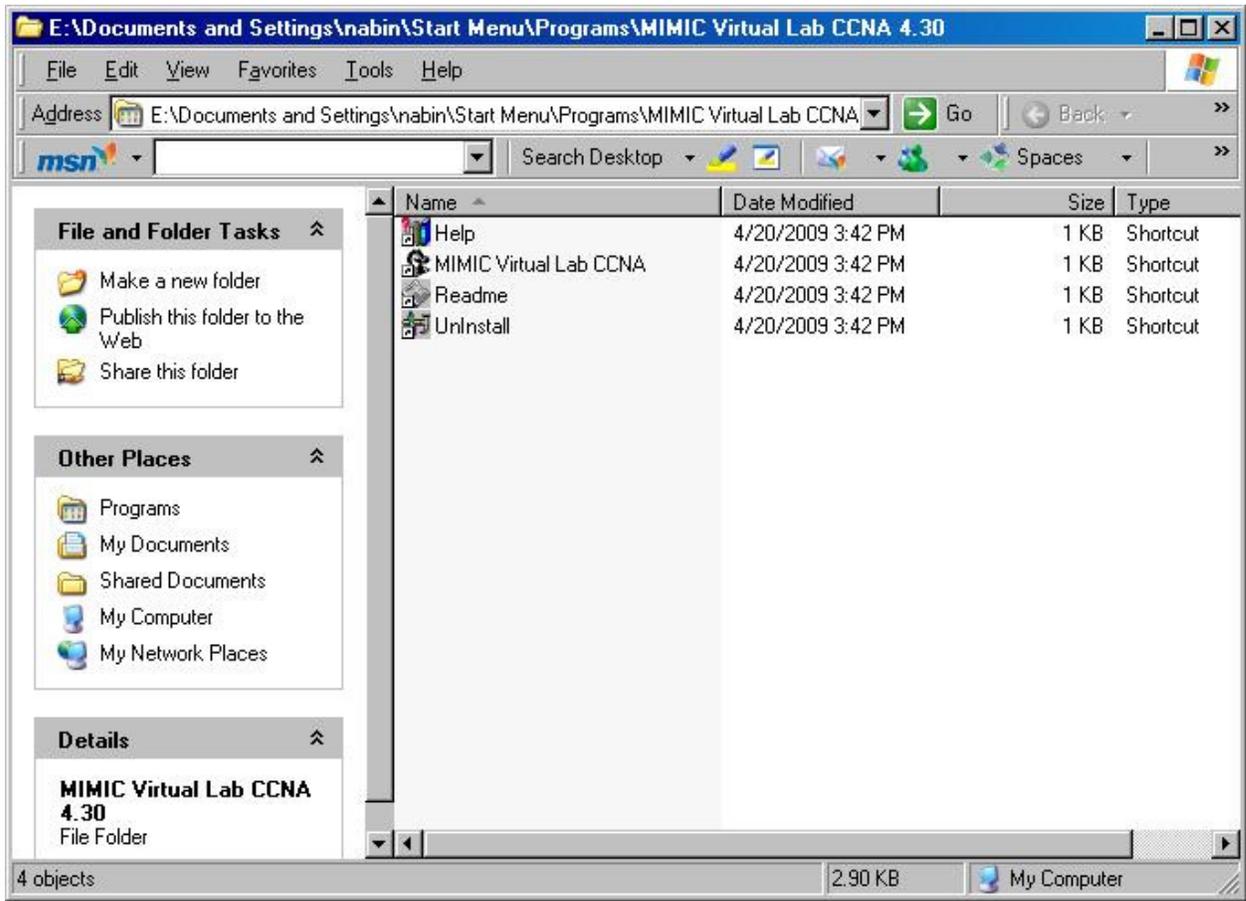


12. MIMIC will be installed in the directory selected in Step 10. After copying installation files, following screen pops up:

Continued next page...



Select “View the MIMIC Virtual Lab Online Documentation” to view MIMIC Virtual Lab online documentation after finishing the installation. Then MIMIC Virtual Lab Installation will complete with following windows:



Continued next page...

The screenshot shows a web browser window titled "MIMIC Virtual Lab Online Help". The window has a blue title bar and a toolbar with icons for Hide, Back, Forward, and Print. Below the toolbar are tabs for Contents, Index, and Search. The Contents tab is active, showing a list of topics with a tree view icon next to each. The main content area features a header with a horse logo and the text "MIMIC Virtual Lab Online Documentation". Below the header are navigation links for "Previous Section" and "Next Section". The main content is a numbered list of 10 items, with item 4, "Quick Start Guide", expanded to show a paragraph of text. Below the list is a note about the best web browser for viewing the documentation. At the bottom, there is another set of navigation links and a copyright notice.

MIMIC Virtual Lab Online Help

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This documentation is best viewed with a commercial web browser such as Opera, Arena, Mozilla or Internet Explorer.

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