

National Institutes of Health

Avaya Wireless LAN Client Setup Procedures

February 24, 2004 Version 1.3 Center for Information Technology Division of Network Systems and Telecommunications Network & Engineering Branch

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Document Change History

This section identifies all changes that have been incorporated into the *Avaya Wireless* LAN Client Setup Procedures since the original version.

Date	Version Number	Change Description
September 25, 2003	1.0	Original Version
October 29, 2003	1.1	Update "Introduction". Add "Wireless Authentication Overview" and guest SSID and WEP key instructions.
January 20, 2004	1.2	Use Key #1 for WEP encryption key and transmit key for NIH users.
February 24, 2004	1.3	Update section 3.3 "Configuring Wireless Access Using Client Manager".

1 Introduction

The National Institutes of Health (NIH) provides wireless access to NIH local area networks (LANs) at the Bethesda campus and certain off-campus locations. A wireless LAN is a flexible data communications system implemented as an extension to, or as an alternative for, a wired LAN. Using radio frequency (RF) technology, wireless LANs transmit and receive data over the air, minimizing the need for wired connections.

The NIH wireless LAN allows a multi-vendor environment. It is configured to use client adapters and access points from multiple vendors, so that any user's client adapter card can communicate with any vendor's access point, providing a seamless wireless network. The wireless LAN uses NIH-wide standard encryption standards as recommended by the National Institute of Standards and Technology (NIST). This ensures privacy of data, as required by the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

1.1 Purpose

This document provides standard operating procedures for installing and configuring the Avaya wireless client adapter driver for Windows (2000, NT, and XP) and Macintosh, and the Client Manager for Windows 2000, NT, and XP.

1.2 Scope

This document explains how to do the following tasks:

- Install the wireless client adapter driver
- Upgrade the wireless client adapter driver (where necessary)
- Install the Client Manager (not necessary for Macintosh)
- Configure wireless access for NIH user and guest/patient areas

1.3 Audience

These procedures are intended for LAN Administrators.

1.4 Materials Needed

To set up wireless access for Avaya wireless adapters you will need the following:

- ORiNOCO wireless client adapter card
- ORiNOCO wireless client adapter driver: on CD-ROM or downloaded from the NIH Information Systems Dedicated Procurement (iSDP) <u>Wireless LAN software page</u>. On the software page go to "Avaya -- 802.11b Card" or "Avaya -- Platinum 802.11a-b Card" (as appropriate) and click the appropriate link for the operating system.

New Wireless Client Adapter Driver Version: Variant 2 Version: 7.62

• ORiNOCO Client Manager (on CD-ROM or downloaded from the iSDP <u>Wireless</u> <u>LAN software page</u>. **Note:** A separate Client Manager is not required for Macintosh.

New Client Manager Software Version: Variant 1 Version: 2.92

1.5 Wireless Authentication Overview

In the NIH wireless LAN environment the various vendors' client adapters, client utilities, and access points are configured to communicate using the NIH standard secure access method. Two means are employed to secure data: 128-bit Wired Equivalent Privacy (WEP) encryption is used when the link is established between the wireless client and the access point. Virtual Private Networking (VPN) with Advanced Encryption Standard (AES) 256 bit or Triple Data Encryption Standard (3DES) 168 bit (depending on the client adapter used) is employed to encrypt NIH user data.

When the user turns on the computer, the wireless adapter tries to associate with the AP via WEP key and Service Set Identifier (SSID), and sends a Dynamic Host Configuration Protocol (DHCP) request to obtain an IP address from the DHCP server. The VPN client then connects to the VPN concentrator and the user signs on using the NT domain (Active Directory) credentials.

Users who are NIH employees authenticate through a VPN concentrator. NIH guests or patients authenticate through Wireless Gateway servers using assigned user names and passwords. Wireless Gateway-authenticated users have very limited Internet access, while VPN users have the same network access as wired users. **Note:** At the "Demilitarized Zone" (DMZ), security checks are applied to all traffic. If users do not authenticate through VPN or Wireless Gateway, their packets will be dropped at the wireless DMZ.

Authentication for NIH users connecting through the wireless LAN is the same as for users connecting via the wired network. The wireless VPN servers and Wireless Gateway participate in the single sign-on process, so that the same password is used to log on to both the wireless and wired networks.

The NIH wireless LAN is illustrated in Figure 1.





2 Windows 2000

In order for the ORiNOCO wireless adapter card to connect to the wireless LAN, the wireless client adapter driver and the Client Manager must be installed on the laptop. In Windows 2000 a wireless client adapter driver provided by Microsoft is installed automatically when you insert the ORiNOCO Wireless Adapter card. After this is done you must upgrade to the newer version of the driver provided by Avaya. Finally, you install the Client Manager and configure it for wireless access.

2.1 Installing and Upgrading the Wireless Client Adapter Driver

Install and update the client adapter driver for Windows 2000 as follows.

2.1.1 Installing Microsoft driver

Follow these steps to install the native (Microsoft) client adapter driver for Windows 2000.

1. Insert the ORiNOCO Wireless Adapter into the PCMCIA slot. Windows 2000 will detect this adapter and automatically install the native wireless adapter driver. The **Found New Hardware** window is displayed (Figure 2).

Figure 2. Found New Hardware Window



2. After the native driver is installed, the **System Settings Change** window is displayed automatically to ask you to restart the computer (Figure 3).

Figure 3. System Settings Change Window



3. Click Yes to restart.

2.1.2 Upgrading to Avaya driver

Follow these steps to upgrade to the new driver version provided by Avaya.

 After Windows restarts, click Start → Settings → Network and Dial-up Connections. The Network and Dial-up Connections window is displayed (Figure 4).

📴 Network and Dial-up Connection	ns				
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ool	ls Adva <u>n</u> ced <u>H</u> elp				
🖛 Back 👻 🔿 👻 🔂 🔞 Search	🖫 Folders 🧭 🎬 🧏 🗙 ᡢ 🗐 🎟 🕇				
Address 違 Network and Dial-up Conn	nections 🖉	j ∂‰			
Network and Dial- up Connections	Make New Local Area Connection Connection 4				
This folder contains network connections for this computer, and a wizard to help you create a new connection. To create a new connection, click	-				
3 object(s)					

Figure 4. Network and Dial-up Connections Window

2. Double click one of the Local Area Connection icons. The Local Area Connection **Properties** window is displayed (Figure 5).



Local Area Connection 4 Properties	×				
General Sharing					
Connect using:					
WaveLAN/IEEE PC Card (5 volt)					
<u>Configure</u> Components checked are used by this connection:					
Elient for Microsoft Networks Elient for Microsoft Networks Elient for Microsoft Networks Elie and Printer Sharing for Microsoft Networks File and Printer Sharing for Microsoft Networks File and Printer Protocol (TCP/IP)					
Install Uninstall Properties					
Allows your computer to access resources on a Microsoft network.					
Sho <u>w</u> icon in taskbar when connected					
OK Cancel					

On the General tab make sure that the Connect using box contains:

```
WaveLAN/IEEE PC Card
```

If it does not, you must **Cancel** and go back to the **Network and Dial-up Connections** window (Figure 4) and double click a different **Local Area Connection** icon.

3. Click the **Configure** button. The **WaveLAN/IEEE PC Card Properties** window is displayed (Figure 6).

WaveLAN/	/IEEE PC Card (5 v	volt) Properties			
General	Advanced Driver	r Resources			
	WaveLAN/IEEE F	PC Card (5 volt)			
	Device type:	Network adapters			
	Manufacturer:	Lucent Technologies			
	Location:	CardBus Slot 0			
Device status This device is working properly. If you are having problems with this device, click Troubleshooter to start the troubleshooter.					
Device usage: Use this device (enable)					
		OK Cancel			

Figure 6. WaveLAN/IEEE PC Card Properties Window

- 4. Click the **Driver** tab.
- 5. Click the **Update Driver** button. The **Upgrade Device Driver Wizard** window is displayed (Figure 7).

Upgrade Device Driver Wizard					
	Welcome to the Upgrade Device Driver Wizard This wizard helps you upgrade a device driver for a hardware device.				
	< Back Next> Cancel				

Figure 7. Upgrade Device Driver Wizard Window

6. Click Next. The Install Hardware Device Drivers window is displayed (Figure 8).

Figure 8. Install Hardware Device Drivers Window

Upgrade Device Driver Wizard						
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.						
This wizard upgrades drivers for the following hardware device:						
WaveLAN/IEEE PC Card (5 volt)						
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.						
What do you want the wizard to do?						
Search for a suitable driver for my device (recommended)						
Display a list of the known drivers for this device so that I can choose a specific driver						
< <u>B</u> ack <u>N</u> ext > Cancel						

- 7. Select Search for a suitable driver for my device (recommended).
- 8. Click Next. The Locate Driver Files window is displayed (Figure 9). Under Optional search locations several choices are listed for the new driver.

Upgrade Device Driver Wizard							
Locate Driver Files Where do you want Windows to search for driver files?							
Search for driver files for the following hardware device:							
WaveLAN/IEEE PC Card (5 volt)							
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify. To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.							
Optional search locations: Floppy disk, drives CD-ROM drives							
Specify a location							
J <u>M</u> icrosoft Windows Update							
< <u>B</u> ack <u>N</u> ext> Cancel							

Figure 9. Locate Driver Files Window

9. Uncheck the Microsoft Windows Update checkbox.

10. Select the appropriate option as follows:

- a. Check the **CD-ROM drives** checkbox if you plan to install the new driver from a CD-ROM. Otherwise, uncheck this box.
- b. Check the **Specify a location** checkbox if the new driver is downloaded and stored on the hard disk of your computer.
- 11. Click Next. The Upgrade Device Driver Wizard window is displayed (Figure 10).

Figure 10. Upgrade Device Driver Wizard Window



12. Click Browse and locate the new driver in the Locate File window (Figure 11).

0					
Locate File					? ×
Look jn:	🔁 PC Card	•	- 🔶 🖸	È 💣 🎟 -	
History Desktop My Documents My Computer	History Compact My Comput Local Dis Virele AVA Scale My Compact My Networ	ents ter sk (C:) ss YA Oftware Client-Adapter-Drivers Win2K Win2K PC Card t Disc (D:) k Places			
	, File <u>n</u> ame:	WLAGS48B.INF		•	<u>O</u> pen
My Network P	Files of type:	Setup Information (*.inf)		7	Cancel

Figure 11. Locate File Window

13. Click **Open**. The **Upgrade Device Driver Wizard** window is displayed (Figure 12). Figure 12. Upgrade Device Driver Wizard Window

Upgrade I	Device Driver Wizard	×
	Insert the manufacturer's installation disk into the drive selected, and then click OK.	OK Cancel
	Copy manufacturer's files from:	Browse

14. Click OK. The Driver Files Search Results window is displayed (Figure 13).

Upgrade Device Driver Wizard						
Driver Files Search Results The wizard has finished searching for driver files for your hardware device.						
The wizard found a driver for the following device:						
WaveLAN/IEEE PC Card (5 volt)						
Windows found a driver that is a closer match for this device than your current driver. To install the driver Windows found, click Next.						
c:\wireless\avaya\software\client-adapter-drivers\win2k\pc card\wlags48b.inf						
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.						
Install one of the other drivers						
< <u>B</u> ack <u>Next></u> Cancel						

Figure 13. Driver Files Search Results Window

15. Click Next. Windows installs the new driver. After the installation, the Completing the Upgrade Device Driver Wizard window is displayed (Figure 14).

Figure 14. Completing the Upgrade Device Driver Wizard Window

Upgrade Device Driver Wizar	d
	Completing the Upgrade Device Driver Wizard ORINOCO PC Card (5 volt) Windows has finished installing the software for this device.
	To close this wizard, click Finish.
	< Back Finish Cancel

16. Click **Finish**. The **ORiNOCO PC Card Properties** window is displayed again with the new driver version information (Figure 15).

ORINOCO P	PC Card (5 volt) P	roperties 🔋 🗙
General	Advanced Driver	Resources
HH	ORiNOCO PC Car	d (5 volt)
	Driver Provider:	Agere Systems
	Driver Date:	6/28/2002
	Driver Version:	7.62.0.390
	Digital Signer:	Microsoft Windows Hardware Compatibility Publ
To view Details. the drive	details about the dr To uninstall the driv er files for this device	ver files loaded for this device, click Driver ar files for this device, click Uninstall. To update a, click Update Driver.
	Driver Details	Uninstall Update Driver
		Close Cancel

Figure 15. ORiNOCO PC Card Properties Window

17. Click **Close** and then click **OK** to exit the **ORiNOCO PC Card (5 volt) Properties** window. You have successfully installed the new driver for the wireless client adapter. Go to section 2.2 to install the Client Manager and configure wireless access.

2.2 Installing Client Manager and Configuring Wireless Access

Follow these steps to install the Client Manager and configure wireless access.

2.2.1 Installing Client Manager

Follow these steps to install the Client Manager.

1. Open the **Client Manager** folder, then click the **Setup** icon ^{Setup.exe}. The **Wireless Client Manager Setup** window is displayed (Figure 16).

Glent Manager Setup Wireless Client Manage	er V2.92	×I	
	Welcome to the Initial Client Monager The InitialShield® Wizard Menager on your computer	Shield Wizard for Wireless will install Wireless Client . To continue, olick Neet.	
	< Back	Next > Canvel	

Figure 16. Wireless Client Manager Setup Window

2. Click Next. The Client Manager Setup/License Agreement window is displayed (Figure 17).



Client Manager Setup		×
License Agreement Please read the following lia	cense agreement carefully.	A CAL
Press the PAGE DOWN ke	ey to see the rest of the agreement.	
Avaya Inc. Wireless Drivers, Firm Convident (c) 200	2002 ware & Tools Software	<u>-</u>
All Rights Re		
Do you accept all the terms setup will close. To install	s of the preceding License Agreement? Wireless Client Manager, you must acce	If you choose No, the apt this agreement.
Installishteid	< <u>B</u> ack	Yes <u>N</u> o

3. Click **Yes**. The **Client Manager Setup/Choose Destination Location** window is displayed (Figure 18).

Client Manager Setup		×
Choose Destination Location Select folder where Setup will install files.		
Setup will install Wireless Client Manager in the	following folder.	
To install to this folder, click Next. To install to a another folder.	a different folder, click Brows	e and select
Destination Folder C:\Program Files\Wireless\Client Manager		Browse
nstallShield	< <u>B</u> ack <u>Next</u> >	Cancel

Figure 18. Client Manager Setup/Choose Destination Location Window

4. Click Next. The Client Manager Setup/Select Program Folder window is displayed (Figure 19).

Figure 19. Client Manager Setup/Select Program Folder Window

	24
older listed below. You ma st. Click Next to continue.	y type a new folder
	×
< Back Nevt	
	older listed below. You ma st. Click Next to continue.

5. Click Next. The Client Manager Setup/Select the language of your Client Manager window is displayed (Figure 20).

Client Manager Setup Select the language of your Client Manager			×
English Français Español Italiano Japanese Deutsch Chinese (Simplified) Korean Chinese (Traditional)			
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Figure 20. Client Manager Setup/Select the language of your Client Manager Window

- 6. Check the **English** checkbox.
- 7. Click Next. The InstallShield Wizard Complete window is displayed (Figure 21).

Figure 21. InstallShield Wizard Complete Window

Client Manager Setup	
	InstallShield Wizard Complete
	Setup has finished installing Wireless Client Manager on your computer.
	□ I'd like to start the Client Manager
	< Back Finish Cancel

8. Make sure that I'd like to start the Client Manager is not checked.

9. Click **Finish**.

10. Restart the computer. You have successfully installed the Client Manager. Go to section 2.2.2 to configure wireless access.

2.2.2 Configuring wireless access using Client Manager

Follow these steps to configure wireless access in both NIH user and guest/patient areas.

1. On your desktop, click Start → Programs → Wireless → Client Manager (Figure 22).

		Netscape SmartUpdate New Office Document Open Office Document Set Program Access and Defaults Windows Update					
		SolarWinds 2003 Standard Edition	•	100	9		
2	.	Programs	Þ		Accessories	۲	
C S		Documents	Þ		Microsoft word Outlook Express		
je je		Settings	×		Cisco Systems VPN Client SolarWinds 2003 Standard Edition	+	
l à		Search	•	Ē	Avaya Wireless	F	
١Ę	2	Help		Ē	Wireless	Þ	Client Manager
	_	Run					ocation: C: (Program Files(Wirele
Ā	D	Shut Down					
1	Start	🛾 💋 🏉 🎉 💽 🗍 💆 a1.doc -	Mic	roso	oft Word		

Figure 22. Client Manager Menu

- 2. The Wireless Client Manager window is displayed (Figure 23).
- 3. Select Actions on the menu bar, then select Add/Edit Configuration Profile.

Figure 23. Wireless Client Manager/Actions Menu

💐 Wireless (lient Mana	ager			_ 🗆 🗙
File Actions	Advanced	Help			
Add/E Select	dit Configur t Configurati	ation Profile on Profile I	ation profile	Empty	•
Signal	h	Status Searching for Channel Encryption	network : : :	10 Dff	
				<u></u> К] H <u>e</u> lp

4. The Add/Edit Configuration Profile window is displayed (Figure 24).

Select Profile	<u>? ×</u>
Default	Add
	<u>E</u> dit
	Delete
Use this screen to: - Activate a wireless profile from the pull-dow - Add Edit or Delete a user-defined wireless	vn menu. profile.
<u> </u>	<u>H</u> elp

Figure 24. Add/Edit Configuration Profile Window

5. Click Edit. The Edit Configuration/Select Profile window is displayed with Default in the Profile Name box (Figure 25).

Figure 25. Edit Configuration/Select Profile Window (Default)

Sedit Configuration	<u>? ×</u>
Select Profile	
Profile Name:	Network <u>Type</u> :
Default	Access Point
 Use this screen to assign a n Select the Network Type to i wireless connection for this p 	ame to your wireless profile. dentify the type of rofile.
< <u>B</u> ack	Next > Help

- a. In the **Profile Name** box replace the default profile name with a name that has meaning to you (Figure 26).
- b. Example: NIH Wireless LAN. In the Network Type box, select Access Point from the drop-down menu.

Select Profile	<u>?</u> ×
Profile Name:	Network <u>T</u> ype: Access Point
 Use this screen to assign a na Select the Network Type to id wireless connection for this privile 	ame to your wireless profile. Ientify the type of ofile.
< <u>B</u> ack	<u>N</u> ext > Help

Figure 26. Edit Configuration/Select Profile Window (NIH Wireless LAN)

6. Click Next. The Edit Configuration/Identify Your Network window is displayed (Figure 27).

Figure 27. Edit Configuration/Identify Your Network Window (blank)

SEdit Configural	tion		? ×
Identify Your Net	work		
Network N <u>a</u> me	:		
			<u>S</u> can
- Use this scre network to w	en to identify th hich you wish to	e Network Name () connect your co	of the wireless mputer.
	< <u>B</u> ack	<u>N</u> ext >	Help

In the Network Name box enter the *<NIH standard SSID for NIH users>* (Figure 28).

Sedit Configuration	<u>?</u> ×
Identify Your Network	
Network Name:	
Enter <ssid for="" nih="" users=""> Here Scan</ssid>	
. Use this screen to identify the Network Name of the wirele	~
network to which you wish to connect your computer.	**
,	
< <u>B</u> ack <u>N</u> ext > Help	

Figure 28. Edit Configuration/Identify Your Network Window (NIH Standard SSID for NIH users)

8. Click Next. The Edit Configuration/Set Security window is displayed (Figure 29).

Figure 29. Edit Configuration/Set Security Window (blank)

Sedit Configuration	? ×
_ Set Security	
Enable Data Security	
O Use Alphanumeric Characters (0-8, a-z, A-Z)	
Use <u>H</u> exadecimal (0-8, a-f, A-F)	
Key 1	
Key 2	
Key <u>3</u>	
Key <u>4</u>	
Encrypt data with:	
< <u>B</u> ack <u>N</u> ext >	Help

- a. Check the Enable Data Security checkbox (Figure 30).
- b. Select Use Hexadecimal (0-9, a-f, A-F).
- c. In the **Key 1** box enter the *<NIH standard WEP encryption key>*.

d. In the Encrypt data with box select Key 1 from the drop-down menu.

	<u>?</u> ×
- Set Security	
Enable Data Security	
O Use <u>Alphanumeric Characters</u> (0-9, a-z, A-Z)	
Use <u>H</u> exadecimal (0-9, a-f, A-F)	
Key <u>1</u>	
Key <u>2</u>	
Key <u>3</u>	
Key <u>4</u>	
Engrypt data with: Key 1 💌	
< <u>B</u> ack <u>N</u> ext > Help	

Figure 30. Edit Configuration/Set Security Window

9. Click Next. The Edit Configuration/Power Management window is displayed (Figure 31).

Figure 31. Edit Configuration/Power Management Window

ခ်ာEdit Co	nfigurati	on			? ×	C
Power	Manageme	nt				
• 0	<u>f</u> f (defaul	power consun	nption and high p	erformance)		
00	n (lower)	oower consump	otion and performa	ance)		
- Ena wire - Disa and	ble Power less perfor able Power high wirel	Management f mance. Management f ess performanc	or low power con or default power e (default).	sumption and consumption	-1	
		< <u>B</u> ack	<u>N</u> ext >	Help		

- 10. Select Off (default power consumption and high performance).
- 11. Click Next. The Edit Configuration/TCP/IP Behavior window is displayed (Figure 32).

Sedit Configuration	? ×
TCP/IP Behavior	
Renew IP Address when selecting this profile	
. Use this screen to control the TCP/IP protocol behavior	_
when switching from one wireless profile to another.	
,	
< <u>B</u> ack Finish Help	

Figure 32. Edit Configuration/TCP/IP Behavior Window

12. Check Renew IP Address when selecting this profile.

13. Click Finish. You have finished configuring wireless access for NIH user areas.

The following steps explain how to configure a profile for accessing the wireless LAN in guest and patient areas.

14. In the Wireless Client Manager window (Figure 23) click Actions on the menu bar. Select Add/Edit Configuration Profile. The Add/Edit Configuration Profile window is displayed (Figure 33).

Add/Edit Configuration Profile	?×
Select Profile	
NIH Wireless LAN	Add
	Edit
	<u>D</u> elete
Use this screen to: - Activate a wireless profile from the pull-dow - Add Edit or Delete a user-defined wireless	vn menu. profile.
<u>D</u> K <u>C</u> ancel	<u>H</u> elp

Figure 33. Add/Edit Configuration Profile Window

15. Click Add. The Edit Configuration/Select Profile window is displayed with Default in the Profile Name box (Figure 34).

SEdit Configuration	<u>? ×</u>
Select Profile	
Profile Name:	Network <u>T</u> ype:
Default	Access Point
 Use this screen to assign Select the Network Type wireless connection for the second sec	n a name to your wireless profile. to identify the type of his profile.
< <u>B</u> ac	k <u>N</u> ext > Help

Figure 34. Edit Configuration Window (Default)

- a. In the **Profile Name** box enter a meaningful name for the profile (Figure 35). Example: NIH Wireless for Guest
- b. In the Network Type box make sure that you select Access Point.

Figure 35. Edit Configuration Window (NIH Wireless for Guest)

ာEdit Configurat	ion			? ×
Select Profile				
Profile Name:		Network <u>T</u> ype	:	
NIH Wireless fo	or Guest	Access Point	•	
Lies this error		to usual uitala	Gla	
Ose this scree Select the Ne wireless conn	en to assign a ne twork Type to id action for this p	ame to your wirele: Jentify the type of ofile	ss pronie.	
WICICSS COTIN		onic.		
	< <u>B</u> ack	<u>N</u> ext >	Help	

- 16. Click Next. The Edit Configuration/Identify Your Network window is displayed (Figure 36).
- 17. In the Network Name box enter the *<NIH standard SSID for guest>*.

Figure 36. Edit Configuration/Identify Your Network Window

Identify Your Network
Network N <u>a</u> me:
Enter <ssid for="" guest=""> Here Scan</ssid>
. Use this screen to identify the Network Name of the wireless
network to which you wish to connect your computer.
< <u>B</u> ack <u>N</u> ext > Help

18. Click Next. The Edit Configuration/Set Security window is displayed (Figure 37).

Figure 37. Edit Configuration/Set Security Window (blank)

Sedit Configuration	<u>? ×</u>
_ Set Security	
Enable Data Security	
🖲 Use <u>A</u> lphanumeric Characters (0-8, a-z, A-Z)	
C Use <u>H</u> exadecimal (0-9, a-f, A-F)	
Key <u>1</u>	
Key <u>2</u>	
Key <u>3</u>	
Key <u>4</u>	
Encrypt data with:	
C Dank Marks Ha	un

a. Check the Enable Data Security checkbox (Figure 38).

- b. Select the Use Hexadecimal (0-9, a-f, A-F) option.
- c. In the **Key <u>1</u>** box enter the *<NIH standard WEP encryption key>*.
- d. In the Encrypt data with box select Key 1 from the drop-down menu.
 Figure 38. Edit Configuration/Set Security Window

<u>a</u> Edit	Configural	ion		? ×
_ Set	Security			
K	Z <u>E</u> nable Da OUse <u>A</u> ⊙Use <u>H</u>	ata Security Iphanumeric Cha exadecimal (0-9,	racters (0-9, a-z, A-Z) a-f, A-F)	
	Key <u>1</u> Key <u>2</u>			
	Key <u>3</u> Key4			
	En <u>c</u> rypt da	ata with:	Key 1 💌	
		< <u>B</u> ack	<u>N</u> ext >	Help

- 19. Click Next. The Edit Configuration/Power Management window is displayed (Figure 39).
- 20. Select Off.

Sedit Configuration	<u>? ×</u>
Power Management	_
Off (default power consumption and high performance)	
O Un (lower power consumption and performance)	
 Enable Power Management for low power consumption and wireless performance. 	
 Disable Power Management for default power consumption and high wireless performance (default). 	
< <u>B</u> ack <u>N</u> ext> Help	

Figure 39. Edit Configuration/Power Management Window

- 21. Click Next. The Edit Configuration/TCP/IP Behavior window is displayed (Figure 40).
- 22. Check Renew IP Address when selecting this profile.

Figure 40. Edit Configuration/TCP/IP Behavior Window

Image: TCP/IP Behavior Image: Renew IP Address when selecting this profile. Image: Renew IP Address when selecting this profile. Image: Image: Note that the text of tex	SEdit Configuration	? ×
Renew IP Address when selecting this profile Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another.	TCP/IP Behavior	
 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 	Renew IP Address when selecting this profile.	
 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 		
 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 		
 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 		
Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another.		_
	 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 	
< <u>B</u> ack Finish Help	< <u>B</u> ack Finish Hel	

23. Click Finish. The Add/Edit Configuration Profile window is displayed (Figure 41).

Add/Edit Configuration Profile	? ×
Select Profile	
NIH Wireless for Guest	
<u>E</u> dit	
 Delete	
Use this screen to:	
 Activate a wireless profile from the pull-down menu. Add Edit or Delete a user-defined wireless profile. 	
<u>O</u> K <u>C</u> ancel <u>H</u> elp	

Figure 41. Add/Edit Configuration Profile/Select Profile Window

24. Click **OK** to finish. The **TCP/IP** window is displayed (Figure 42).

Figure 42. TCP/IP Window – Waiting for Wireless Connection

TCP/IP		×
	Waiting for a wireless connection to be established	
	Close	

25. Click Close. The Wireless Client Manager window is displayed (Figure 43).

Figure 43. Wireless Client Manager Window

	/ireless (lient Mana	ager		
Eile	<u>A</u> ctions	A <u>d</u> vanced	Help		
Ĺ			Current configuration prol	file NIH Wireless for Guest	•
	Signal	h	Status Searching for network Channel Encryption	: guest : 10 : On	
					H <u>e</u> lp

If you do not click Close, the following window is displayed (Figure 44).

	Figure 44. TCP/IP Window – No Wireless Connection	
P/IP		

TCP/IP	<u>^</u>
⚠	No wireless connection was established. A new IP address was not requested!
	OK

Click OK to continue. The Wireless Client Manager window is displayed.

26. On the menu bar click Actions → Select Configuration Profile. Select the NIH Wireless profile (Figure 45) to connect to the wireless LAN for NIH users.

Figure 45. Wireless Client Manager – Actions Menu

🧟 W	/ireless Clien	t Manager		
File	Actions Adv	vanced Help		
_	Add/Edit C	onfiguration Profile	·	
Ľ	Select Con	figuration Profile 💫 🕨	Default	Guest 🗾
<u></u>		Status	NIH Wireless LAN	
	П	Searching for r	 NIH Wireless for Guest 	
	Signal strength	Channel Encryption	: 10 : On	-
			<u> </u>) H <u>e</u> lp

You have successfully configured wireless access for the NIH user and guest/patient wireless LANs. When you enter a guest/patient wireless LAN area, follow step 26 and select the **NIH Wireless for Guest** profile.

3 Windows XP

In Windows XP you must perform three steps to install the correct client adapter driver and configure wireless access:

- Install Microsoft-provided driver and upgrade driver to Avaya version
- Install Client Manager
- Configure wireless access

3.1 Installing and Upgrading the Wireless Client Adapter Driver

Follow these steps to install the native (Microsoft) wireless adapter driver and upgrade to the Avaya driver.

- 1. Insert the ORiNOCO Wireless Adapter into the PCMCIA slot. Windows XP will detect this adapter and automatically install the native wireless adapter driver.
- 2. After the native driver is installed, the **Wireless Network Connection** window is displayed automatically (Figure 46).

Wireless Network Co	nnection 3 🛛 🛛 🛛 💽	
The following wireless network(s) are available. To access a wireless network, select it from the list, and then click Connect.		
Available wireless <u>n</u> etwo	rks:	
I		
This wireless network requires the use of a network key (WEP). To access this network, type the key, then click Connect.		
Network <u>k</u> ey:		
Confirm network key:		
<mark>.</mark> ■ <u>E</u> nable IEEE 80	2.1x authentication for this network	
If you are having difficult	y connecting to a network, click Advanced.	
Advanced	<u>Connect</u> Cancel	

Figure 46. Wireless Network Connection Window

- 3. Click Cancel.
- 4. On the Desktop click Start \rightarrow Control Panel \rightarrow



Network Connections



Wireless Network icon

The Wireless Network Connection window is displayed (see Figure 46).

5. Click the **Advanced** button. The **Wireless Network Connection Properties** window is displayed (Figure 47).

Figure 47. Wireless Network Connection Properties Window

🕂 Wireless Network Connection 3 Properties 💦 🛛 🕐 🗙
General Wireless Networks Advanced
Connect using:
ORiNOCO Wireless LAN PC Card (5 volt)
Configure
 Client for Microsoft Networks File and Printer Sharing for Microsoft Networks QoS Packet Scheduler Tinternet Protocol (TCP/IP)
Install Uninstall Properties Description Allows your computer to access resources on a Microsoft network. Allows for the second sec
Show icon in notification area when connected
OK Cancel

- 6. Click the **Configure** button. The **ORiNOCO Wireless LAN PC Card Properties** window is displayed.
- 7. Click the **Driver** tab to upgrade the Windows native driver to the new/current wireless adapter driver (Figure 48).

ORiNOCO Wireless LAN PO	Card (5 volt) Properties 🛛 🕐 🔀
General Advanced Driver	Resources
ORiNOCO Wireless	LAN PC Card (5 volt)
Driver Provider:	Microsoft
Driver Date:	7/1/2001
Driver Version:	7.43.0.9
Digital Signer:	Microsoft Windows XP Publisher
Driver Details To	view details about the driver files.
Ugdate Driver To	update the driver for this device.
<u>R</u> oll Back Driver If t	he device fails after updating the driver, roll ck to the previously installed driver.
<u>U</u> ninstall To	uninstall the driver (Advanced).
	OK Cancel

Figure 48. ORiNOCO Wireless LAN PC Card Properties Window

8. Click the **Update Driver** button. The **Hardware Update Wizard** window is displayed (Figure 49).

Hardware Update Wizard	
	Welcome to the Hardware Update Wizard
	This wizard helps you install software for:
	ORiNOCO Wireless LAN PC Card (5 volt)
	If your hardware came with an installation CD or floppy disk, insert it now.
	What do you want the wizard to do?
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced)
	Click Next to continue.
	< Back Next > Cancel

Figure 49. Hardware Update Wizard Window

- 9. Select Install from a list or specific location (Advanced).
- 10. Click Next. The Search and Installation Options window is displayed (Figure 50).
- 11. Under Search for the best driver in these locations, select Search removable media (floppy, CD-ROM) if you plan to install the new driver from the CD-ROM drive. If you downloaded the new driver from the Avaya Web site and saved it on your computer, then select Include this location in the search and click Browse to browse to the directory containing the new driver file.

ardware Update Wizard	
Please choose your search and installation options.	Þ
● Search for the best driver in these locations.	
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.	
Search removable media (floppy, CD-ROM)	
✓ Include this location in the search:	
D:\Avaya\Software\WirXP\PC Card	
O Don't search. I will choose the driver to install.	
Choose this option to select the device driver from a list. Windows does not guarantee t the driver you choose will be the best match for your hardware.	that
<u> </u>	

Figure 50. Hardware Update Wizard/Search and Installation Options Window

12. Click Next. After Windows updates the new driver, the Completing the Hardware Update Wizard window is displayed (Figure 51).

Figure 51. Completing the Hardware Update Wizard Window

Hardware Update Wizard	
	Completing the Hardware Update Wizard
	The wizard has finished installing the software for:
	ORiNOCO PC Card (5 volt)
	Click Finish to close the wizard.
	< <u>B</u> ack Finish Cancel

13. Click **Finish**. The **ORiNOCO PC Card Properties** window is displayed again, showing the new driver version information (Figure 52).

ORiNOCO PC Card (5 volt) Properties
General Advanced Driver Resources
ORiNOCO PC Card (5 volt)
Driver Provider: Agere Systems
Driver Date: 6/28/2002
Driver Version: 7.62.0.390
Digital Signer: Microsoft Windows Hardware Compatibility Publ
Driver Details To view details about the driver files.
Update Driver To update the driver for this device.
<u>Roll Back Driver</u> If the device fails after updating the driver, roll back to the previously installed driver.
Uninstall To uninstall the driver (Advanced).
Close Cancel

Figure 52. ORiNOCO PC Card Properties Window

14. Click **Close**. You have completely upgraded the new driver for the wireless client adapter. Continue with section 3.2 to install the Client Manager.

3.2 Installing the Client Manager for Windows XP

Follow these steps to install the Client Manager.

1. Open the Client Utility folder.



- 2. Double click the **Setup.exe** icon Setup.exe .
- 3. The Wireless Client Manager/Client Manager Setup window is displayed (Figure 53).



Figure 53. Wireless Client Manager/Client Manager Setup Window

4. Click Next. The Client Manager Setup/License Agreement window is displayed (Figure 54).

Client Manager Setup
License Agreement Please read the following license agreement carefully.
Press the PAGE DOWN key to see the rest of the agreement.
Avaya Inc. 2002
Wireless Drivers, Firmware & Tools Software Copyright (c) 2002 Avaya Inc. All Rights Reserved
AVAYA INC. END USER LICENSE AGREEMENT FOR SOFTWARE AND DOCUMENTATION
Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install Wireless Client Manager, you must accept this agreement.
nstallShield
< <u>B</u> ack <u>Y</u> es <u>N</u> o

Figure 54. Client Manager Setup/License Agreement Window

5. Click **Yes**. The **Client Manager Setup/Choose Destination Location** window is displayed (Figure 55).

Client Manager Setup	×
Choose Destination Location Select folder where Setup will install files.	1
Setup will install Wireless Client Manager in the following folder.	
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.	
Destination Folder	
D:\Program Files\Wireless\Client Manager Browse	
InstallShield	
< <u>B</u> ack <u>Next</u> > Canc	el

Figure 55. Client Manager Setup/Choose Destination Location Window

6. Click Next. The Client Manager Setup/Select Program Folder window is displayed (Figure 56).

Figure 56. Client Manager Setup/Select Program Folder Window

Client Manager Setup		X
Select Program Folder Please select a program folder.		X
Setup will add program icons to the Program Fo name, or select one from the existing folders list Program Folders:	older listed below. You may type a . Click Next to continue.	a new folder
Wireless Existing Folders:		
Accessories Administrative Tools Cisco Systems Gases		
Hummingbird Connectivity V7.1 Java 2 Runtime Environment Java 2 SDK Standard Edition v1.3.1_02 Microsoft Office Tools Network Associates		
InstallShield		
	< <u>B</u> ack <u>N</u> ext >	Cancel

- 7. Click Next. The Client Manager Setup/Select the language of your Client Manager window is displayed (Figure 57).
- 8. Check the **English** checkbox.

Client Manager Setup Select the language of your Client Manager.	×
 ✓ English Français Español Italiano Japanese Deutsch Chinese (Simplified) Korean Chinese (Traditional) 	
InstallShield	Next > Cancel

Figure 57. Client Manager Setup/Select the language of your Client Manager Window

- 9. Click Next. The Client Manager Setup/InstallShield Wizard Complete window is displayed (Figure 58).
- 10. Make sure that I'd like to start the Client Manager is *not* checked.
- 11. Click Finish.



Figure 58. Client Manager Setup/InstallShield Wizard Complete Window

12. **Restart** the computer. You have successfully installed the Client Manager. Continue with section 3.3 to configure wireless access.

3.3 Configuring Wireless Access Using Client Manager

Follow these steps to configure wireless access. You will set up two profiles: one for NIH users and one for access in guest/patient areas.

1. On your desktop, click Start \rightarrow Programs \rightarrow Wireless \rightarrow Client Manager.

The Wireless Client Manager window is displayed (Figure 59).

E v	Vireless	Client Ma	nager			
<u>F</u> ile	<u>A</u> ctions	A <u>d</u> vanced	<u>H</u> elp			
Ţ	Signal strengt		Status Searching for network Channel Encryption	: : 10 : Off		
					<u> </u>	H <u>e</u> lp

Figure 59. Wireless Client Manager window

2. Select Actions on the menu bar and select Add/Edit Configuration Profile. The Wireless Network Connection Properties window is displayed (Figure 60).

🕹 Wireless Network Connection 8 Properties 👘 💽 🔀
General Wireless Networks Advanced
Use Windows to configure my wireless network settings
Available networks:
To connect to an available network, click Configure.
Å Configure
Refresh
Preferred networks: Automatically connect to available networks in the order listed below:
Move <u>up</u>
Move <u>d</u> own
Add <u>R</u> emove Properties
Learn about <u>setting up wireless network</u> <u>configuration</u> .
OK Cancel

Figure 60. Wireless Network Connection Properties Window

- 3. On the **Wireless Networks** tab, click **Advanced** at the bottom right corner. The **Advanced** window is displayed.
- 4. On the Advanced window, select Access point (infrastructure) networks only (Figure 61).



Figure 61. Advanced Window With Change

- 5. Click **Close** to return to the previous window (Figure 60).
- 6. On the Wireless Network Connection Properties window, click the Add button. The Wireless network properties window/Association tab is displayed (Figure 62).

Wireless network properties				
Association Authentication				
Network name (SSID): Enter <ssid for="" nih="" users=""> here</ssid>				
Wireless network key (WEP)				
This network requires a key for the following:				
Data encryption (WEP enabled)				
Network Authentication (Shared mode)				
Network key:				
Confirm network key:				
Key inde <u>x</u> (advanced):				
This is a computer-to-computer (ad hoc) network; wireless access points are not used				
OK Cancel				

Figure 62. Wireless Network Properties Window/Association Tab

- a. In the Network name (SSID) box enter the *<NIH* standard SSID for NIH users>.
- b. Check the Data encryption (WEP enabled) checkbox.
- c. Uncheck The key is provided for me automatically.
- d. In the **Network key** and **Confirm network key** boxes enter the *<NIH standard WEP encryption key>*.
- e. In the Key index (advanced) box select 1.
- 7. Click **OK** to save and return to the previous window.

Now you need to add a second profile for access to the wireless LAN in guest and patient areas.

- 8. On the Wireless Network Connection Properties window click Add. The Wireless Network Properties Window/Association tab is displayed (Figure 63).
 - a. Enter the *<NIH* standard SSID for guest> in the Network name (SSID) box.
 - b. Uncheck **The key is provided for me automatically**. The **Network key** and **Confirm network key** options will become active.
 - c. Enter the *<NIH standard WEP encryption key>* in the **Network key** and **Confirm network key** boxes.
 - d. In the Key index (advanced) box select 1 from the drop-down menu.

Wireless network properties					
Association Authentication					
Network <u>n</u> ame (SSID):	Enter <ssid for="" guest="" here<="" td=""></ssid>				
Wireless network key (W	EP)				
This network requires a k	key for the following:				
☑ Data encryption (W	(EP enabled)				
Network <u>A</u> uthentic	ation (Shared mode)				
Network key:					
Confirm network key:	••••••				
Key inde <u>x</u> (advanced):	1				
The key is provided for	or me automatically				
This is a <u>c</u> omputer-to-co access points are not u	omputer (ad hoc) network; wireless sed				
	OK Cancel				

Figure 63. Wireless Network Properties Window/Association Tab

9. Click **OK** to finish configuring the profile for wireless access in guest and patient areas. The **Wireless Network Connection Properties/Wireless Networks** window is redisplayed, showing the SSIDs that were added earlier (Figure 64).

Figure 64. Wireless Network Connection Properties/Wireless Networks With Changes

L Wireless Network Connection 8 Properties	? 🗙
General Wireless Networks Advanced	
✓ Use <u>W</u> indows to configure my wireless network settings	
Available networks:	
To connect to an available network, click Configure.	
L Configure	
R <u>e</u> fresh	
Automatically connect to available networks in the order listed below:	4
🛪 ap3 Move up	
A ap2000	ה ה
Add <u>R</u> emove Properties	
Learn about <u>setting up wireless network</u> <u>configuration</u> .	ed
OK Can	ncel

Note: This figure is just an example. The information shown on your system will be different.

10. On the Wireless Network Connection Properties/Wireless Networks window, click OK to save all changes.

Congratulations! Now, the wireless client should be able to associate automatically with one of the access points, depending on your location: NIH users area or guest/patient area.

4 Windows NT

In Windows NT, perform two steps to install the correct client adapter driver and configure wireless access:

- Install the Avaya wireless client adapter driver
- Configure wireless access

4.1 Installing the Wireless Client Adapter Driver

This section will guide you through how to install the Avaya Client Adapter driver on Windows NT.

- 1. Download the client driver and utility from http://sdp.cit.nih.gov/downloads/wireless_lan.asp.
- 2. Unzip the AV_WINNT_PC_SFTX_SR0201.zip file to a desired folder.
- 3. Insert the client adapter into the PCMCIA slot.
- 4. Click **Start** \rightarrow **Control Panel**.

Figure 65. Control Panel/Network Icon



5. Double click the **Network** icon (Figure 65). The **Network** window is displayed (Figure 66).

Network			? ×
Identification	Services Protocols Ada	apters Binding	38
Win Com this app	dows uses the following infi iputer on the network. You computer and the workgrou ear in.	ormation to ider may change th up or domain th	ntify your ne name for at it will
Computer Na	me: CITDCSDSSTLA	.P4	
Domain:	NIH		
			hange
		ОК	Cancel

Figure 66. Network Window

6. Click the Adapters tab (Figure 67).

Figure 67. Network Window/Adapters Tab

Network ?X
Identification Services Protocols Adapters Bindings
Network Adapters:
1) FE574B-3Com 10/100 LAN PCCard-Fast Ethernet
Add <u>R</u> emove <u>P</u> roperties <u>U</u> pdate
FE5748-3Com 10/100 LAN PCCard-Fast Ethernet
OK Cancel

7. Click Add. The Select Network Adapter window is displayed (Figure 68).

	Figure 68. Select Network Adapter Window
Select Ne	etwork Adapter
⊞ ⊒	Click the Network Adapter that matches your hardware, and then click OK. If you have an installation disk for this component, click Have Disk.
<u>N</u> etwork	Adapter:
■ 3Co ■ 3Co ■ 3Co ■ 3Co ■ 3Co ■ 3Co ■ 3Co	m 3C508 ISA 16-bit Ethernet Adapter m Etherlink II Adapter (also II/16 and II/16 TP) m Etherlink III ISA/PCMCIA Adapter m EtherLink III PCI Bus-Master Adapter (3C590) m Etherlink16/EtherLink16 TP Adapter m East Etherl int/ PCI 10/100PASE T Adapter (3C595)
	Have Disk
	OK Cancel

8. Click Have Disk. The Insert Disk window is displayed (Figure 69).

Figure 69. Insert Disk Window

Insert Dis	sk	×
F	Insert disk with software provided by the software or hardware manufacturer. If the files can be found at a different location, for example on another drive type a new path to the files below.	OK Cancel

9. On the **Insert Disk** window, enter the full path to where the driver file is stored (Figure 70). For example:

C:\wireless\avaya\client_sw\win_nt\PC_Card

Figure 70.	Insert Disk	Window:	Driver Path	

Insert Di	sk	×
f	Insert disk with software provided by the software or hardware manufacturer. If the files can be found at a different location, for example on another drive type a new path to the files below.	OK Cancel
	C:\wireless\avaya\client_sw\win_nt\PC_Card	

10. Click OK. The Select OEM Option window is displayed (Figure 71).

Figure 71. Select OEM Option Window

Select OEM Option	×
Choose a software supported by this hardware manufacturer's disk.	
Wireless PC Card Wireless PCI Card	
OK Cancel <u>H</u> elp	

11. Select **Wireless PC Card** and click **OK**. The system starts to copy files. You will be returned to the **Network** window after the installation process is completed (Figure 72).

Network				? ×
Identification Servi	ices Protocols	Adapters E	Bindings	
Network Adapters:				
■2 [1] FE5748-30	Com 10/100 LAN C Card	PCCard-Fast	Ethernet	
Add	<u>R</u> emove	<u>P</u> roperties	<u>U</u> pdate	
		Close	Cano	el

Figure 72. Network Window

12. Click **Close**. The system starts to install and configure additional files for the wireless adapter. During this process, the **Microsoft TCP/IP Properties** window is displayed (Figure 73).

Microsoft TCP/IP Properties
IP Address DNS WINS Address Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adapter: [1] FE574B-3Com 10/100 LAN PCCard-Fast Ethernet ©
O Specify an IP address
IP Address:
Subnet Mask:
Default <u>G</u> ateway:
A <u>d</u> vanced
OK Cancel Apply

- 13. On the **IP** Address tab, in the Adapter box, follow the instructions in either step a or step b:
 - a. If another network interface card was installed previously, select the wireless PC card from the drop-down menu. Select **Obtain an IP address from a DHCP server**.

The following warning window will be displayed (Figure 74).

Figure 74. Microsoft TCP/IP Warning Window

Microsoft	тсрлр 🛛
⚠	DHCP protocol will attempt to automatically configure your workstation during system initialization. Any parameters specified in these property pages will override any values obtained by DHCP. Do you want to enable DHCP?
	<u>Yes</u> <u>N</u> o

Click **Yes** to continue. The **Microsoft TCP/IP Properties** window is displayed (Figure 75).

Microsoft TCP/IP Properties
IP Address DNS WINS Address Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adagter:
[2] Wireless PC Card
Obtain an IP address from a DHCP server
O Specify an IP address
IP Address:
Subnet Mask:
Default <u>G</u> ateway:
Advanced
OK Cancel Apply

Figure 75. Microsoft TCP/IP Properties Window

Click **OK**. The system starts installing and configuring the wireless client adapter. After this process is completed, you will be prompted to restart the computer (Figure 76).

Figure 76. Network Settings Change Window

Network Settings Change 🛛 🛛 🔀	
	You must shut down and restart your computer before the new settings will take effect.
•	Do you want to restart your computer now?
	<u>Yes</u> <u>N</u> o

Click Yes to restart.

b. If no other network interface card was installed previously, select Obtain an IP address from a DHCP server on the Microsoft TCP/IP Properties window (Figure 73). You may receive the following Microsoft TCP/IP warning window (Figure 77). If so, click Yes to continue and you will be returned to the Microsoft TCP/IP Properties window (Figure 78).

Figure 77. Microsoft TCP/IP Warning Message

Microsoft	тсрлр 🔀
⚠	DHCP protocol will attempt to automatically configure your workstation during system initialization. Any parameters specified in these property pages will override any values obtained by DHCP. Do you want to enable DHCP?

Microsoft TCP/IP Properties
IP Address DNS WINS Address Routing
An IP address can be automatically assigned to this network card by a DHCP server. If your network does not have a DHCP server, ask your network administrator for an address, and then type it in the space below.
Adapter:
[2] Wireless PC Card
O Detain an IP address from a DHCP server O Specify an IP address
IP Address:
Subnet Mask:
Default Gateway:
Advanced
OK Cancel Apply

Figure 78. Microsoft TCP/IP Properties Window

Click **OK** to continue. The system starts to configure the wireless client adapter. After this process is completed, you will be prompted to restart the computer (Figure 79).

Figure 79. Network Settings Change Window

Network	Settings Change
	You must shut down and restart your computer before the new settings will take effect. Do you want to restart your computer now?
	<u>Yes</u> <u>N</u> o

Click **Yes** to restart.

14. After the computer restarts, log in to the system. You should see a green light on the client adapter. This means that the driver has been installed and configured correctly.

Congratulations! You have successfully installed the driver for the wireless client adapter. Continue with section 4.2 to configure wireless access.

4.2 Configuring Wireless Access for Windows NT

Follow these steps to configure wireless access.

1. On the desktop right click the Network Neighborhood icon (Figure 80).



Figure 80. Network Neighborhood Icon

2. Scroll down to select Properties. The Network window is displayed (Figure 81).

Network	? ×
Identification Servi	ces Protocols Adapters Bindings
Windows computer this comp appear in.	uses the following information to identify your on the network. You may change the name for uter and the workgroup or domain that it will
Computer Name:	CITDCSDSSTLAP4
Domain:	NIH
	Change

Figure 81. Network Window

3. Select the **Adapters** tab and highlight the appropriate the wireless client adapter card in the **Network Adapters** box (Figure 82).

Example: Wireless PC Card (Avaya)

Network ?X
Identification Services Protocols Adapters Bindings
Network Adapters:
[1] Cisco Systems 350 Series PCMCIA Wireless LAN Ada [2] Wireless PC Card
Add <u>R</u> emove <u>P</u> roperties <u>U</u> pdate
Wireless Network Adapter
OK Cancel

Figure 82. Network Window/Adapters Tab

4. Click **Properties**. The **Add/Edit Configuration Profile** window is displayed (Figure 83).

Add/Edit Configuration Profile	? ×
Select Profile	
Default	Add
	<u>E</u> dit
	<u>D</u> elete
Use this screen to: - Activate a wireless profile from the pull-dow - Add Edit or Delete a user-defined wireless	n menu. profile.
<u> </u>	<u>H</u> elp

Figure 83. Add/Edit Configuration Profile Window

5. Click Edit. The Edit Configuration window is displayed (Figure 84).

Figure 84. Edit Configuration Window

🔊 Edit Configuratio	on		? >	<
Select Profile				
Profile Name:		Network <u>T</u> ype:		
Default		Access Point	<u> </u>	
- Use this screen	to assign a par	oe to uour wireless r	rofile	
- Select the Network wireless conner	vork Type to ide ction for this pro	ntify the type of file.	Jonic.	
	< <u>B</u> ack	<u>N</u> ext >	Help	
-				

a. In the **Profile Name** box replace the default profile name with a meaningful name.

```
Example: NIH Wireless LAN
```

b. In the Network Type box select Access Point from the drop-down menu.

6. Click Next. The Edit Configuration/Identify Your Network window is displayed (Figure 85).

Edit Configuration
Identify Your Network
Network N <u>a</u> me:
<u>S</u> can
 Use this screen to identify the Network Name of the wireless network to which you wish to connect your computer.
< <u>B</u> ack <u>N</u> ext > Help

Figure 85. Edit Configuration/Identify Your Network Window

7. In the Network Name box enter the *<NIH* standard SSID for NIH users>.

Figure 86. Edit Configuration/Identify Your Network Window with SSID

-

8. Click Next. The Edit Configuration/Set Security window is displayed (Figure 87).

Sedit Configuration	<u>? x</u>
Set Security	
Enable Data Security C Use Alphapurperia Characters (0.9, p. a. 4.7)	
 Use <u>H</u>exadecimal (0-9, a-f, A-F) 	
Key <u>1</u>	
Key <u>2</u>	
Key <u>3</u>	
Key <u>4</u>	
Encrypt data with: Key 1	
< <u>B</u> ack <u>N</u> ext > Hel	p

Figure 87. Edit Configuration/Set Security Window

- a. Check the Enable Data Security checkbox.
- b. Select Use Hexadecimal (0-9, a-f, A-F).
- c. In the **Key <u>1</u>** box enter the *<NIH standard WEP encryption key>*.
- d. In the Encrypt data with box select Key 1 from the drop-down menu.
- 9. Click Next. The Edit Configuration/Power Management window is displayed (Figure 88).

Sedit Configuration
Power Management
 Off (default power consumption and high performance)
○ <u>□</u> n (lower power consumption and performance)
Enable Power Management for low power consumption and
wireless performance. Disable Power Management for default power consumption
and high wireless performance (default).
< <u>B</u> ack <u>N</u> ext > Help

Figure 88. Edit Configuration/Power Management Window

- 10. Select Off (default power consumption and high performance).
- 11. Click Next. The TCP/IP Behavior window is displayed (Figure 89).

Figure 89. Edit Configuration/TCP/IP Behavior Window

2	Edit Configuration	?	×
	TCP/IP Behavior		
	Renew IP Address when selecting this profile.		
	 Use this screen to control the TCP/IP protocol behavior when switching from one wireless profile to another. 		
	< <u>B</u> ack <u>N</u> ext > Help		

- 12. Select Renew IP Address when selecting this profile.
- 13. Click Next. The Edit Configuration/NT Adapter Settings window is displayed (Figure 90).

Sedit Configuration	×
NT Adapter Settings	
I/O Base Address 400	
Interrupt 10	
 Use this tab to view or modify the hardware settings of your wireless PC Card, in case of hardware conflicts. 	
< <u>B</u> ack Finish Help	

Figure 90. Edit Configuration/NT Adapter Settings Window

Note: In the **I/O Base Address** and **Interrupt** boxes accept the default values (400 and 10). Make sure the hardware doesn't conflict before you click **Finish**.

14. Click Finish. The Network Window/Adapters tab is displayed (Figure 82).

Now, you need to add a new profile for access to the wireless LAN in guest and patient areas.

- 15. Repeat steps 4 to 6.
- 16. In the Network Name box enter the *<NIH standard SSID for guest>*.
- 17. Click Next. The Edit Configuration/Set Security window is displayed.
 - a. Check the Enable Data Security checkbox.
 - b. Select Use Hexadecimal (0-9, a-f, A-F).
 - c. In the **Key 1** box enter the *<NIH standard WEP encryption key>*.
 - d. In the Encrypt data with box select Key 1 from the drop-down menu
- 18. Repeat steps 9 to 14 to complete adding the profile for guest access.

5 Macintosh 9.x

In Macintosh 9.x you must perform two steps to install the wireless client adapter driver and configure wireless access:

- Install wireless client adapter driver
- Configure wireless access

5.1 Installing the Wireless Client Adapter Driver

Follow these steps to download and install the wireless client adapter driver.

5.1.1 Downloading the driver

- 1. Download the wireless client adapter driver from the CD-ROM or from the <u>http://sdp.cit.nih.gov/downloads/wireless_lan.asp</u> website.
- 2. Select **MAC OS** to download. The **Avaya Wireless.smi** icon automatically appears on the desktop after you download (Figure 91).

Figure 91. Avaya Wireless.smi Icon



5.1.2 Installing the driver

1. Double click the Avaya Wireless.smi icon. The Avaya Wireless Installer window is displayed (Figure 92).

Figure 92. Avaya Wireless Installer Window



2. Double click the **Installer** icon. The **Avaya Wireless Installer Welcome** window is displayed (Figure 93).

	Avaya wireless installer
Options	
Install	To: Alfalfa ♠
O Remove	Run Setup Assistant after restart
Welcome to the Avaya This selection will rep	Wireless installation tool. Iace any previous version of Avaya Wireless on the chosen
disk. The disk must no have Mac OS 8.6 - 9.>	t be locked, must have at least 2MB of free space and must already installed.

Figure 93. Avaya Wireless Installer Welcome Window

Note: In this example the name of the computer's hard disk is "Alfalfa".

3. Click Install. The Software License window is displayed (Figure 94).

Figure 94. Software License Window

	Software License	
]_]
Avaya Inc.	2001	=
Avaya Wireless S Copyright ©2 All Rights	oftware and Documentation 001 Avaya Inc. Reserved	
Avaya Inc. END FOR SOFTW	USER LICENSE AGREEMENT ARE AND DOCUMENTATION	
BY INSTALLING, LO TO BE BOUND BY T TERMS OF THIS AG SOFTWARE.	ADING OR USING THE SOFTWARE, YOU ARE CONSENTING 'HIS AGREEMENT. IF YOU DO NOT AGREE TO ALL OF THE REEMENT, DO NOT DOWNLOAD, COPY OR INSTALL THIS	•
This Act		
This text will be m	staneu as Afaya Fireless License on Desktop of uisk Alfana	
A vaya Wirel	ess Cancel I Agree To These Term	s
		/

4. Click I Agree To These Terms. The driver will be installed. The Installation Completed notification window is displayed after the driver is successfully installed (Figure 95).

Figure 95. Installation Completed Notification Window

The installation completed successfully. Since you installed onto the current system disk you should restart the computer at your earliest convenience.
Done

5. Click **Done**. Continue with section 5.2 to configure wireless access.

5.2 Configuring Wireless Access

Follow these steps to configure profiles to have wireless access in NIH user and guest areas.

1. Insert the ORiNOCO wireless client adapter into the PCMCIA slot. The desktop



automatically displays the Avaya Wireless icon Avaya Wireless

2. Double click the Avaya Wireless icon. The TCP/IP (PPP to NIH) window is displayed (Figure 96).

Figure 96. TCP/IP (PPP to NIH) Window

	TCP/IP (PPP to N	H) 🔤
Connect via	Ethernet built-in	9
Configure	Using DHCP Server	9
DHCP Client ID		
IP Address	: 169.254.197.85	
Subnet mask	255.255.0.0	
Router address	: 169.254.197.85	
Name server addr.	224.0.0.251	Search domains : cit.nih.gov net.nih.gov nih.gov
0		

- 3. In the **Connect via** box select **Avaya Wireless** from the drop-down menu (Figure 97).
- 4. In the Setup/Configure box select Using DHCP Server from the drop-down menu.

		TCP/IP (PPP to N	NIH) 🗄
Connec	t via:	Avaya Wireless	\$	
Confi	gure :	Using DHCP Server	\$	
DHCP Clier	nt ID :			
IP Add	ress:	< will be supplied by server 3	>	
Subnet r	nask :	< will be supplied by server 3	>	
Router add	ress:	< will be supplied by server 3	>	
				Search domains :
Name server a	iddr.:	< will be supplied by server :	>	cit.nih.gov net.nih.gov nih.gov
0				

Figure 97. TCP/IP (PPP to NIH) Window/Configuration

5. Click the square icon \Box at the top left of the **TCP/IP** window to close the window. The **Save Changes** notification window is displayed (Figure 98).

Figure 98. Save Changes Notification Window

Save changes to t Saving the change services currently	he current configuration? es may interrupt any TCP/IP y established.
Don't Save	Cancel Save

- 6. Click Save.
- 7. On the desktop click the Apple icon
- 8. Scroll down to select **Control Panels** \rightarrow **Avaya Wireless** (Figure 99).



The Avaya Wireless window is displayed (Figure 100).

Figure 100. Avaya Wireless Window

Avaya W	/ireless
Status	
Current Network : - Searchi	ng -
Base Station Address: - None -	
Signal Strength :	
Configurations	
Active Configuration: Default	
Default	Activate
	Add
	Edit
	Rename
	Delete
	⇒ ⊽ Duplicate
nformation	
Model: 3rd Party Gold Card	
Serial #: 01UT12418106	Primary Firmware : 4.0.4
Address: 00 02 2D 1E 5B BE	Station Firmware : 8.0.10

- 9. In the **Configurations** box click to highlight the **Default** profile.
- 10. Click Edit. The Avaya Wireless (Default) window is displayed (Figure 101).

Avaya Wireless (Default)						
Access Point / Base Station O Computer To Computer O Access Server						
Conserve power when on battery Doin a Closed Network						
Use Key 1 : [Key 2 : [Encryption Transmit Using	** Any Open Network **				
Key 4: [``	Refresh				
	Avaya Wireless Cancel Save					

Figure 101. Avaya Wireless (Default) Window

- 11. Select Access Point/Base Station.
- 12. Check the Join a Closed Network checkbox. The Network Name box appears (Figure 102).

Avaya Wireless (Default)					
Access Point / Base Station O Computer To Computer O Access Server					
Conserve power when on battery 🗹 Join a Closed Network					
Use Encryption	Transmit Using	Network Name :			
Key 1:					
Key 2:					
Key 3:					
Key 4:					
·					
Avaya Wireless Cancel Save					

Figure 102. Avaya Wireless (Default) Window/Network Name Box

- 13. Enter the *<NIH standard SSID for NIH users>* in the **Network Name** box.
- 14. Check the Use Encryption checkbox.
- 15. Enter **0x** <*NIH* standard WEP encryption key> in the **Key 1** box.

Note: Be sure to enter 0x (no space) before the WEP key. This is a special format used for the Avaya Client adapter only.

16. Click Save. The Save Changes notification window is displayed (Figure 103).

Figure 103. Save Changes Notification Window



17. Click OK.

You have successfully configured wireless access on Macintosh 9.x for NIH user areas. Continue with the following steps to configure a profile for wireless access in NIH guest/patient areas.

- 18. On the Avaya Wireless window (Figure 100) click Add. The Please enter a new name for this configuration window is displayed.
- 19. Enter a meaningful name for this profile, then click **OK**.

Example: NIH Wireless for Guest

- 20. Repeat steps 11 and 12.
- 21. Enter the *<NIH standard SSID for guest>* in the **Network Name** box.
- 22. Repeat steps 14 to 17 to complete the configuration process.

Congratulations! You have finished configuring the wireless access profiles for NIH users and NIH guest/patient areas. Select the appropriate profile on the **Avaya Wireless** window for access in NIH user or guest/patient areas, depending on your location.