



# Release Notes for Cisco Aironet Client Utilities, Version 2.1 for Linux

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# Introduction

This document describes system requirements, upgrade procedures, and caveats for the following release of Cisco Aironet client adapter software:

- Version 2.1 of the Cisco Aironet client utilities for Linux

Release 2.1 supports Cisco Aironet 350 Series mini PCI 100 mW radios and message integrity check (MIC) capabilities. A new installation shell script for PCI and PCMCIA with kernel PCMCIA enabled is included, including options for installing only the driver or utilities. Uninstall routines for both PCMCIA and PCI client adapters have also been added.

## System Requirements

Version 2.1 must be installed on a computer running a Linux operating system and supports the following clients:

- PCM352
- PCI352
- MPI352
- LMC352

Version 2.1 supports radio firmware version up to and including 5.30.17 and Linux kernel up to and including 2.4.20-28.

The release consists of one tarfile, which includes:

- A script to compile the drivers
- Driver source for the PCMCIA client
- Driver source for the mini PCI client
- Binary file for LEAP login utilities
- Binary file for the Aironet Client Utility (ACU)
- Help files

## New and Changed Information

ACU release 2.1 contains the following new and changed information.

- Retry button added to LEAP login screen

**Note**

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Detailed information about new and changed information may found in the *readme.txt* file, which is included in the *Linux-ACU-Driver-v2.1.tar.gz* file

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## Retry Button Added to LEAP Login Screen

After entering a LEAP username and password, a second screen appears informing you that user authentication is being attempted. While the authentication is being attempted, you can click on the Retry button to stop the authentication and reenter your username and/or password.

### Enabling LEAP

Follow these steps to enable LEAP for your client adapter.

- Step 1** From the ACU's Command drop-down menu, click **Edit Properties**.
- Step 2** Open the **Network Security** screen.
- Step 3** Click the **LEAP** button.
- Step 4** Click **OK** to save the setting to return to the ACU main screen.
- Step 5** Click the **Commands** tab. The Commands drop-down menu appears. Note that the Set Leap Information option is now accessible.
- Step 6** Click the **Set Leap Information** option. The Set Leap Username and Password screen appears (Figure 1).

**Figure 1** Set Leap Password Screen



**Note** Usernames and passwords are case sensitive and can contain up to 32 characters.

- Step 7** Enter your username in the **Username** field.
- Step 8** Enter your LEAP password in the **Password** field.
- Step 9** Click **OK**. A message appears informing you that the system is attempting authentication. The Retry button is activated. (Figure 2).

Figure 2 Set LEAP Username and Password Message Screen



- Step 10** If the authentication attempt is successful, no action is required. During the authentication attempt, you can click **Retry** and reenter your username and/or password. If you do this, the OK button is activated. Click **OK** to retry the authentication.



**Note** The Retry button is only enabled while the authentication attempt is in progress.

Your client adapter authenticates to the RADIUS server by using your username and password and receives a session-based WEP key.

## Installing ACU Release 2.1

You can install the driver and client utilities from the Cisco Aironet Wireless LAN Client Adapters Drivers and Utilities CD or at Cisco.com.



**Note** This procedure can be performed only by root users (those with administrative rights).



**Note** Cisco's Linux driver supports up to and including version 2.4.20-28 of the Linux kernel. To determine your kernel version, type **uname -a** and press **Enter**. The name of your computer and the Linux kernel version are displayed. For example, in *Linux montecito 2.2.16-22#1 Wed Aug 8 164906 EDDT 2001 i686 unknown*, *montecito* represents your computer's name, and *2.2.16-22* is the kernel version.



**Caution** If you are using a PCMCIA client adapter, **do not insert it into the computer's PCMCIA slot until the driver has been loaded**; otherwise, the computer could hang. The procedure indicates when the client adapter should be inserted.



**Note** If you are using a PCI client adapter, you can install it before you load the drivers.

**Note**

These instructions are the same regardless of whether you are doing an initial install or upgrading from a previous version. If you are upgrading, your previous driver and client utilities are overwritten by the new ones.

## Installation Shell Script Overview

The installation shell script is available for PCI and kernel PCMCIA configurations (such as Red Hat 9.0, which ships with kernel PCMCIA enabled). For these systems, execute **sh install** as root. This program builds and installs the drivers and utilities for these configurations. If you have a PCI card only, the driver is properly installed and configured, eliminating the need to download card and socket services. Executing **sh install -C** forces the script to compile the driver sources.

To remove the drivers and utilities installed by **install**, execute **sh install -R**. After you have answered yes to the question asked, the drivers and the utilities are removed from your system. Other options are provided for installing the utilities or drivers only. Executing **sh install -id** installs and builds the drivers, and **sh install -iu** installs the utilities.

The options **-rd** and **-ru** remove the drivers or utilities respectively. For Red Hat 9.0 this is the kernel source **rpm** named **kernel-source-2.4.20-8.i386.rpm**. You can find this on CD 2 of the Red Hat 9.0 distribution in the directory Redhat/RPMS. Copy the file to a local directory or install it from the CD by entering **rpm -iv kernel-source-2.4.20-9.i386.rpm**. You must have the kernel source installed, and you can verify the installation by executing **ls /usr/src**. If the source is installed, you should see the message “linux-2.4 linux-2.4.20-9.” If you do not see this message, the sources are not installed. If the **install** script cannot locate the kernel source it prompts you to enter it. The prompt can appear if you compile the kernel sources. The installation of sources using Red Hat 9.0 places a link to the source in the **/usr/src/Linux-2.4** directory. If the sources are installed, entering this directory in answer to the prompt causes the operation to proceed.

## Installation Procedures

**Note**

Because system-level changes are made, **install** runs properly only if executed as root.

Installing or upgrading to version 2.1 is relatively simple. Shell script **install** is included in the download file to help install the driver and ACU. The script can accommodate a new installation or an upgrade. In the case of an upgrade, it is no longer necessary to remove any files from the previous version, **install** accomplishes that as part of the installation process.

Before you can use the ACU and some of the LEAP login utilities, you must download two libraries:

- libgtkmm version 1.2.10
- libsigc++ version 1.0.4

The source can be downloaded from <http://sourceforge.net/>, compiled, and installed or you can download and install the binaries from your favorite web site.

## Downloading and Installing From Cisco.com

Follow these steps to download and install the driver and ACU from Cisco.com.

- 
- Step 1** Use your browser to go to <http://www.cisco.com>.
  - Step 2** In the Direct Access section, click the **Software Downloads** drop-down arrow. A list of software download options appears.
  - Step 3** Click **Wireless Software**. The Software Center (Downloads) for Wireless LAN Software page appears.
  - Step 4** Select Option #2, Aironet Wireless Software tables. The Wireless LAN Client Adapter Firmware, Drivers, and Utilities page appears.
  - Step 5** In the Cisco Aironet Wireless LAN Client Adapter Firmware, Drivers and Utilities section, click **Cisco Aironet Wireless LAN Client Adapters**. The Cisco Aironet Wireless LAN Client Adapter Firmware, Drivers and Utilities page appears.
  - Step 6** Scroll down to the Individual Files for Windows CE, Mac OS, Linux, and MS-DOS section.
  - Step 7** In the Drivers and Utilities for Windows CE, Mac OS, Linux, and MS-DOS, click **Linux**. The Cisco Aironet Utilities for Linux page appears.
  - Step 8** From the table, select the filename of the driver you want to download. The Software License Agreement page appears.
  - Step 9** Scroll to the bottom of the license agreement and click **Accept** to download the file. A page describing the driver appears.
  - Step 10** Click on the driver filename to start the download process.
  - Step 11** Save the file to a location on your hard drive.
  - Step 12** Use the **tar xvi** command to unpack the driver file to a writable location on your hard drive, such as /tmp.




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**Note** Do not unpack the driver files to the root directory.

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- Step 13** Install the driver and utilities.
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## Installing the Drivers and Utilities

Before installing the drivers and utilities, make sure you have completed the following:

- Downloaded the library files libgtkmm version 1.2.0 and libsigc++ version 1.0.4 if you intend to use the ACU and LEAP login utilities.
- Verified that the kernel sources are installed.

Follow these steps to install the drivers and utilities:

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- Step 1** Log in as root.
  - Step 2** Go to the location where you unpacked the installation files.
  - Step 3** Enter **sh install** and press **Enter**. The script performs the following operations:
    - Checks to see if libsigc++ and libgtkmm are installed.
    - Compiles the driver sources.

- Installs the utilities and help files.

**Step 4** Follow the directions on your screen to complete the installation process.

## Installing the Driver or Utilities Only

Version 2.1 contains an installation script for PCI and kernel PCMCIA systems (such as Red Hat 9.0). The **install** command followed by the **-id** option installs and builds only the drivers. The **-iu** option installs and builds only the utilities.



**Note** Make sure you have downloaded the library files libgtkmm version 1.2.0 and libsigc++ version 1.0.4 if you intend to use the ACU and LEAP login utilities.

## Verifying Installation

To verify that you have properly installed the appropriate driver and client utilities, type `/opt/cisco/bin/acu &` to open the ACU.



**Note** `/opt/cisco/bin/` is the path where the ACU was installed.

If the installation was successful, the ACU main screen appears. Depending on how your wireless network is configured, your client adapter might or might not associate to an access point. The fact that you were able to launch the ACU verifies proper installation because it has found your client adapter's radio. You must configure the client adapter to communicate on your wireless network. See the *Cisco Aironet Wireless LAN Client Adapter Installation and Configuration Guide for Linux* for instructions on how to initially configure your client adapter.

If the installation was not successful, the ACU main screen does not appear. Instead, the message, "radio not found," appears at the Linux command prompt. See the *Cisco Aironet Wireless LAN Client Adapter Installation and Configuration Guide* for troubleshooting tips.



**Note** Additional information about this release is contained in the `readme.txt` file, which is included in the `Linux-ACU-Driver-v2.1.tar.gz` file.

## Uninstalling the Driver and Client Utilities

If you experience difficulty while installing the driver, you might want to stop the installation procedure and start over. However, before you attempt to install the driver again, you must first remove any part of the driver that you might have already installed. You can remove the driver and client utilities manually, or by running an uninstall script.

## Uninstalling Manually

To uninstall the driver and client utilities manually, enter the following at the command line (excluding the comment (#) lines).

```
#remove the utilities:
rm /opt/cisco/bin/acu
rm /opt/cisco/bin/bcard
rm /opt/cisco/bin/leapset
rm /opt/cisco/bin/leapscript
rm /opt/cisco/bin/leaplogin
rm /opt/cisco/ACU.PRFS

# remove the utility subdirectory:
rmdir /opt/cisco/bin

# remove the help files:
rm /opt/cisco/helpml.tar.gz
rm /opt/cisco/helpml/*

# remove the help files subdirectory:
rmdir /opt/cisco/helpml

# remove the main cisco directory:
rmdir /opt/cisco

# remove the drivers (note: the card should not be in the system
# when removing the drivers, otherwise the files might be in use)
```

The location of the drivers can vary depending on the major kernel version in use (2.2 or 2.4) and whether or not the pcmcia-cs package was used. If your distribution supports the **locate** command (most do), the driver's locations can be determined by the output from **locate airo** and **locate airo\_cs.o**. Use the **rm** command to remove the drivers.

For example, if **locate airo.o** returns:

```
# /lib/modules/2.2.16-25.uid32/pcmcia/airo.o
```

you would use:

```
rm /lib/modules/2.2.16-25.uid32/pcmcia/airo.o
```

to remove the driver file. Use the same procedure to remove **airo\_cs.o**.

If your system does not support the **locate** command, then you can use the **find** command as follows:

```
# find/-name airo.o and find/-name airo_cs.o
```

Use the output from these commands as you would the output from the **locate** command discussed above. The driver and utilities are now removed from your system.

## Running Install and Uninstall Scripts

Table 1 lists the install script options.

**Table 1** *Install Script Options*

Command	Results
<b>sh install -C</b>	Forces a compile of the drivers
<b>sh install -R</b>	Removes entire installation (drivers and utilities)
<b>sh install -rd</b>	Removes drivers only
<b>sh install -ru</b>	Removes utilities only
<b>sh install</b>	Installs drivers and utilities
<b>sh install -id</b>	Installs drivers only
<b>sh install -iu</b>	Installs utilities only

## Caveats

This section describes caveats for ACU release 2.1.

## Getting Bug Information on Cisco.com

If you are a registered Cisco user, you can use the Cisco TAC Software Bug Toolkit, which consist of three tools (Bug Navigator, Bug Watcher, and Search by Bug ID Number) that help you identify existing bugs (or caveats) in Cisco software products. Access the TAC Software Bug Toolkit at <http://www.cisco.com/support/bugtools/>.

## Open Caveats

There are no open caveats for release 2.1

## Resolved Caveats

The following caveats have been resolved in release 2.1:

- **CSCin09572**—System hangs occasionally when loading firmware or changing authentication type  
This caveat was unreproducible and has been archived. The problem has occurred on an HP Omnibook XE3 running Red Hat version 7.0 with a mini-PCI card installed. When updating firmware, the system will sometimes hang regardless of security settings (None, Leap, or WEP). The problem has also occurred when changing authentication type from Leap to WEP. The problem appears to occur only with the mini-PCI card. A PCM card performs properly in the same system.  
Workaround—Reboot system if problem occurs.
- **CSCec06626**—Linux driver is now compatible with the latest firmware.
- **CSCdx27725**—ACU status window now shows driver version.
- **CSCea15596**—Laptop client no longer fails coming out of sleep, hibernate, or suspend modes.

## Related Documentation

For more information about Cisco Aironet client adapters, refer to the *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Linux*.

## Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

<http://www.cisco.com>

Translated documentation is available at the following URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

### Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

### Ordering Documentation

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- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
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<http://www.cisco.com/go/subscription>
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**Note**

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Although not supported by Cisco, the following Networking Professions Connections link may be a resource for answers to Linux questions. Under the Wireless Mobility header, check out the Getting Started with Wireless and General links here:

<http://forum.cisco.com/eforum/servlet/NetProf?page=main>

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