



Overview

This chapter provides an overview of the software installation process. You can install the Cisco AR 3.5 software on a machine for the first time, or you can upgrade the existing Cisco AR software on a workstation to Cisco Access Registrar 3.5. Because Cisco AR 3.5.2 is the first release of Cisco AR for Linux, there is no upgrade path available.

You might receive the Cisco Access Registrar 3.5 software in a packaged CD-ROM or you can download the software from the Cisco.com web site. [“Downloading Cisco Access Registrar Software” section on page 1-4](#) provides detailed information about downloading the Cisco AR 3.5 software.



Note

Cisco AR 3.5.2 for Linux is only available by downloading the software.

Before you install the Cisco AR 3.5 software, you must copy a license file to the workstation where you will install the software. You will receive the license file as an EMail attachment. [“Cisco Access Registrar 3.5 Licensing” section on page 1-5](#) provides detailed information about the new licensing mechanism in Cisco Access Registrar 3.5.

Installation Dialog Overview

You use the **pkgadd** command to install Cisco AR 3.5 software on Solaris 8 or Solaris 9 workstations. The Linux version of Cisco AR 3.5.2 uses the RedHat Package Manager (RPM) and installs as a script. When you begin the software installation, the install process uses a dialog to determine how to install the software.

Installation Type

The first question for you to consider is the type of installation to perform. Your choices are full, server only, or configuration only. The default and most common installation type is a full install.

The Full installation installs all parts of the Cisco AR 3.5 software including the server components, the example configuration, and the configuration utility, **aregcmd**.

The Server only installation only installs the server components and does not install the example configuration or the configuration utility, **aregcmd**.

The Config only installation only installs the example configuration and the configuration utility, **aregcmd**. You can use one instance of **aregcmd** to maintain other servers running the server software.

Installation Location

The next question in the installation dialog asks, “Where do you want to install?” The default location to install the software is **/opt/CSCOar**. You can choose to specify another location by entering it at this point. That directory would then be the base install directory, sometimes referred to as \$INSTALL or \$BASEDIR.

License File Location

The installation dialog asks for the location of the license file. Cisco Access Registrar 3.5 uses a new licensing mechanism that requires a file to be copied from a directory on the Cisco AR workstation. Earlier versions of Cisco AR used a license key. You should copy the license file to the Cisco AR workstation before you begin the software installation. You can copy the license file to **/tmp** or another directory, such as **/opt/CSCOar/license**. The installation process will copy the license file from the location you provide to **/opt/CSCOar/license**.

Refer to “[Cisco Access Registrar 3.5 Licensing](#)” section on page 1-5 for more detailed information about the Cisco Access Registrar 3.5 license file requirements.

Java Runtime Environment

The installation dialog asks for the location of the Java Runtime Environment (JRE). Cisco AR provides extensions that can be written in Java. If you intend to write or use Java extensions, the Java Runtime Environment (JRE) is required.

If you already have JRE installed, enter the directory where it is installed. If you need the JRE, you can download it from:

<http://java.sun.com/products/archive>

If you are not using Java, press **Enter** to skip this step.

If you decide to use Java extensions after you have installed Cisco AR, you can specify the JRE location by entering the following at the Unix prompt:

```
ln -s <java-root> /cisco-ar/j2rel.4
```

After entering the **link** command, restart the Cisco AR server.

Open Database Connectivity

The installation dialog asks for the location of the Oracle installation directory, required for Open Database Connectivity (ODBC) configuration. The installation process uses this information to set the ORACLE_HOME variable in the **/opt/CSCOar/bin/arserver** script.

If you are not using ODBC, press **Enter** to skip this step.

Example Configuration

The installation dialog asks if you want to install the example configuration. You can use the example configuration to learn about Cisco AR and to refer to the examples that appear later in this document.

You can delete the example configuration at any time by running the command:

```
/opt/CSCOAr/bin/aregcmd -f /opt/CSCOAr/examples/cli/delete-example-configuration.rc
```

Base Directory

The installation process asks if you want to create the selected base directory if it does not yet exist. The base directory must be created before you can install the software. If you do not agree to create the base directory at this point, the installation process terminates and no changes are made to the system.

If you are installing upgrade software over a previous version of Cisco AR, the base directory is detected by the installation process, and this question is not asked.

setuid and setgid Permissions

The installation process asks before installing the following files with setuid and setgid permissions:

- `/opt/CSCOAr/.system/screen` <setuid root>
- `/opt/CSCOAr/bin/aregcmd` <setgid staff>
- `/opt/CSCOAr/bin/radclient` <setgid staff>

If you do not agree to install these files, the installation will continue, but you will only be able to run **aregcmd** as user **root**. Cisco recommends that you answer **Yes** to this question.

Continue with Installation

The final question asked by the installation process dialog is, “Do you want to continue with the installation of <CSCOAr>?” Enter **Y** or **yes** to continue with the installation. No further user input is required.

Downloading Cisco Access Registrar Software

Cisco Access Registrar 3.5 software is available for download from <http://www.cisco.com> at the following URL:

<http://www.cisco.com/cgi-bin/tablebuild.pl/access-registrar-encrypted?sort=release>

The page at this URL lists all available versions of Cisco AR software available for download. The current version is named **CSCOAr-3.5.3-sunos58-k9.tar.gz**. The RedHat Linux version of Cisco AR 3.5.2 is named **CSCOAr-3.5.2-linux2420-install-k9.sh**.

Complete the following steps to download the software.

Step 1 Create a temporary directory, such as **/tmp**, to hold the downloaded software package.

Step 2 Enter the URL to the Cisco.com web site for Cisco AR software:

<http://www.cisco.com/cgi-bin/tablebuild.pl/access-registrar-encrypted?sort=release>

Step 3 Click on the link for Cisco Access Registrar 3.5 software:

CSCOAr-3.5.3-sunos58-k9.tar.gz for the Solaris version or
CSCOAr-3.5.2-linux2420-install-k9.sh for the RedHat Linux version.

The Software Center Download Rules page displays. You should read these rules carefully.



Warning

Before downloading this software please ensure that each of the following licenses and agreements are in place with Cisco Systems or a Cisco Systems authorized reseller.

These rules require you to acknowledge the following:

- A software license
- A valid service agreement
- A feature set upgrade license

By clicking **Agree**, you confirm that the download of this file by you is in accordance with the requirements listed and that you understand and agree that Cisco Systems reserves the right to charge you for, and you agree to pay for, any software downloads to which you are not entitled. All Cisco Systems' Operating System and application software licenses and downloads are governed by Cisco Systems' applicable End User License Agreement/Software License Agreement. By clicking **Agree** you further agree to abide by the terms and conditions set forth in Cisco Systems' End User License agreement/Software License Agreement and your service agreement.

If you click **Agree**, the End User License Agreement / Software License Agreement displays.

Step 4 Read the End User License Agreement / Software License Agreement carefully, and if you accept the terms, click **Accept**.

The software Download page displays with a link to the Cisco Access Registrar 3.5 software, **CSCOAr-3.5.3-sunos58-k9.tar.gz**, and additional information about the software download package.

Step 5 Click the **Download: CSCOAr-3.5.3-sunos58-k9.tar.gz** link to proceed with the software download. A File Download dialog box displays indicating the file you are about to download.

Step 6 Click **Save** and indicate where to save the file on your computer, such as **/tmp**, then click **Save** again.

Cisco Access Registrar 3.5 Licensing

Cisco Access Registrar 3.5 uses a licensing mechanism that enables you to activate different features in Cisco AR using a combination of different license keys. During system initialization, the Cisco AR server sets up the licensing data model and activates any features that are properly licensed.

Licensed Features

Table 1 lists the Cisco Access Registrar 3.5 names of the features that require licenses. As new licensed features are added to Cisco AR, new license files will also be required.

Table 1 Cisco Access Registrar 3.5 Licensed Features

Feature Name	Description
AR-STANDARD	Standard Cisco AR feature set
AR-HLR	HLR Proxy feature for EAP-SIM service
AR-PREPAID	Prepaid Billing feature for Prepaid service
AR-ADD-CACHE	Identity Caching feature
AR-CPU	Standard Cisco AR feature set for Cisco AR servers with multiprocessors

Getting Cisco Access Registrar 3.5 Feature Licenses

When you order the Cisco Access Registrar 3.5 product, a text license file will be sent to you in EMail. If you are evaluating the software, Cisco will provide you with an evaluation license.

If you decide to upgrade your Cisco Access Registrar 3.5 software and add a feature, a new text license file will be sent to you in EMail when you order the upgrade.

If you receive a Software License Claim Certificate, you can get your Cisco AR license file at one of the two following URLs:

- www.cisco.com/go/license

Use this site if you are a registered user of Cisco Connection Online.

- www.cisco.com/go/license/public

Use this site if you are not a registered user of Cisco Connection Online.

Within one hour of registration at either of the above web sites, you will receive your license key file and installation instructions in email.

Installing Cisco Access Registrar 3.5 Licenses

You must have a license in a directory on the Cisco AR machine before you attempt to install Cisco Access Registrar 3.5 software. If you have not installed the Cisco AR license file before beginning the software installation, the installation process will fail.

You can store the Cisco AR license file in any directory on the Cisco AR machine. During the installation process, you will be asked the location of the license file, and the installation process will copy the license file to the **/opt/CSCOAr/license** directory, or **\$INSTALL/license** if you are not using the default installation location.

The license file might have the name **ciscoar.lic**, but it can be any filename with the suffix **.lic**. To install the Cisco AR license file, you can copy and paste the text into a file, or you can simply save the file you receive in EMAIL to an accessible directory.

Upgrading Your Cisco Access Registrar 3.5 License File

If you add additional features that require licenses, you can open the file in **/opt/CSCOAr/license** and add additional lines to the license file, or you can create an additional license file to hold the new lines. If you add a new file, remember to give it a **.lic** suffix.

If you upgrade your Cisco AR license for additional features, you must restart the Cisco AR server for the new license to take effect. To restart the Cisco AR server, enter the following on the server command line:

```
/opt/CSCOAr/bin/arserver restart
```

Sample License File

The following is an example of a Cisco Access Registrar 3.5 license file.

```
INCREMENT AR-CPU cisco 3.5 permanent uncoun ted \
    VENDOR_STRING=<count>7</count> HOSTID=ANY \
    NOTICE="<LicFileID></LicFileID><LicLineID>1</LicLineID> \
    <PAK>dummyPak</PAK>" SIGN=ABCDEF123456

INCREMENT AR-STANDARD cisco 3.5 permanent uncoun ted \
    VENDOR_STRING=<count>5</count> HOSTID=ANY \
    NOTICE="<LicFileID></LicFileID><LicLineID>2</LicLineID> \
    <PAK>dummyPak</PAK>" SIGN=654321FEDCBA

INCREMENT AR-HLR cisco 3.5 permanent uncoun ted \
    VENDOR_STRING=<count>5</count> HOSTID=ANY \
    NOTICE="<LicFileID></LicFileID><LicLineID>3</LicLineID> \
    <PAK>dummyPak</PAK>" SIGN=GHIJKL123456

INCREMENT AR-PREPAID cisco 3.5 permanent uncoun ted \
    VENDOR_STRING=<count>5</count> HOSTID=ANY \
    NOTICE="<LicFileID></LicFileID><LicLineID>4</LicLineID> \
    <PAK>dummyPak</PAK>" SIGN=654321LMNOPQ
```

Displaying License Information

Cisco Access Registrar 3.5 provides two ways of getting license information using **aregcmd**:

- **aregcmd** command-line option
- Launching **aregcmd**

aregcmd Command-Line Option

Cisco Access Registrar 3.5 provides a new **-l** command-line option to **aregcmd**. The syntax is:

aregcmd -l directory_name

where *directory_name* is the directory where the Cisco AR license file is stored. The following is an example of the **aregcmd -l** command:

aregcmd -l /opt/CSCOar/license

Licensed Application: Cisco Access Registrar (Standard Version)

Following are the licensed components:

Licensed Application: Cisco Access Registrar (Standard Version)

Following are the licensed components:

NAME	VERSION	EXPIRY_INFO
====	=====	=====
AR-Standard	3.5	permanent
AR-CPU	3.5	permanent
AR-HLR	3.5	permanent
AR-Prepaid	3.5	permanent

Following components are present but unlicensed (disabled):

NAME	VERSION	EXPIRY_INFO
====	=====	=====
AR-Cache	3.5	N/A

Launching aregcmd

The Cisco Access Registrar 3.5 server displays license information when you launch **aregcmd**, as shown in the following:

aregcmd

```
Cisco Access Registrar 3.5.1 Configuration Utility
Copyright (C) 1995-2004 by Cisco Systems, Inc. All rights reserved.
Cluster:
User: admin
Password:
Logging in to localhost

[ //localhost ]
    LicenseInfo = AR-Standard + AR-CPU + AR-HLR + AR-Prepaid + AR-Cache
    Radius/
    Administrators/

Server 'Radius' is Running, its health is 10 out of 10
```