



CHAPTER 1

Overview

This chapter gives an overview of Cisco Broadband Access Center (Cisco BAC), and describes the factors that you must consider before installing Cisco BAC.

Product Overview

Cisco BAC is a distributed and scalable application that automates the tasks of provisioning and managing cable devices in a broadband service provider network. It provides a simple and easy way to deploy high-speed data, voice technology, and home networking devices. The application interfaces with Cisco Network Registrar, which includes a high-speed Dynamic Host Configuration Protocol (DHCP) server for IP address management, and a Domain Name System (DNS) server.

Cisco BAC can be scaled to suit networks of virtually any size. It also offers high availability, made possible by the product's distributed architecture with centralized management.

Cisco BAC enables you to provision and manage cable modems compliant with the DOCSIS 3.0 specification. With IP version 6 (IPv6) being a significant feature of DOCSIS 3.0, Cisco BAC supports DHCPv6 and DNSv6.

Cisco BAC can be run on a Solaris operating system as a non-root user. The non-root user should have the appropriate privileges to run Cisco BAC. For more information on assigning privileges, see [Users and Groups, page 3-1](#).

Cisco BAC supports the use of ZFS file system, which ensures optimum performance and reliability of the Cisco BAC database. For details on ZFS, see [File-System Block Size, page 2-3](#).

Operating System Requirements

For Solaris, you must install Cisco BAC on a Sun SPARC platform that runs Solaris 10 operating system with at least 4 GB of memory. We recommend that you use a Sun SPARC multiprocessor platform. Also, you must configure coreadm to avoid overriding of core files. For more information, see Solaris documentation.


Note

Before installing Cisco BAC, download and install the recommended Solaris patches from the Sun Microsystems support site.

Cisco BAC ships with the required JRE version 1.6.0_24, which resides in the `<BPR_HOME>/jre` directory.

You must also download and install the Java Platform Standard Edition (Java SE) cluster patches recommended by Sun Microsystems to install Cisco BAC on a system that runs Solaris 10, see [Table 1-1](#).

Table 1-1 Java Standard Edition Cluster Patches for Solaris 10

Patch	Description
120900-04	Libzonecfg patch
121133-02	Zones library and zones utility patch
119254-44	Install and patch utilities patch, for more information, see Chapter 3, “Installing Cisco Broadband Access Center on Solaris”
118918-24	Solaris crypto framework patch
119042-10	Svccfg and svcprop patch
119578-30	FMA patch
144488-09	Kernel patch

Before you install Cisco BAC, you must install the `—SUNWxcu4—` package available as part of the Solaris OS installation. This is an optional package which you might have not installed while installing Solaris.

On Linux

In case of Linux, you must install Cisco BAC on Red Hat Enterprise Linux 5 or Cent OS 5 using x86 and 64 bit hardware system with at least 4 GB of memory. The SELinux should be disabled. Also, ensure that prior to installing Cisco BAC, you install the `—sysstat—` package for the proper execution of the diagnostic scripts. This is an optional package which you might have not installed while installing Linux.

Cisco Network Registrar Requirements

**Note**

To be able to install Cisco Network Registrar Extension Point, you must have installed Cisco Network Registrar 7.2.

Following are the pre-requisites for installing Cisco Network Registrar:

- You must install the version Cisco Network Registrar 7.2.
- You must install a Cisco Network Registrar DHCP server on a computer running Solaris 10 or Linux 5 or Cent OS 5.
- In a failover deployment of Cisco BAC, you must configure two DHCP servers for failover. For information on configuring failover on Cisco Network Registrar servers, see the *User Guide for Cisco Network Registrar, 7.2*.
- After you install Cisco BAC, ensure that Cisco Network Registrar scopes as well as policies are created.

**Note**

Cisco Network Registrar Extension Points must be installed in the Cisco Network Registrar setup and it must be able to communicate with the other Cisco BAC components.

Cisco BAC Components at a Glance

A Cisco BAC installation requires:

- A Regional Distribution Unit (RDU)

The RDU is the primary server in a Cisco BAC deployment. It contains the central Cisco BAC database and is the sole entry point for processing requests from the API.

- One or more Device Provisioning Engines (DPEs)

A DPE caches provisioning information and configuration requests, including the transfer of configuration files to devices. It is the major component of the provisioning group, handling all device interactions with the RDU. Multiple DPEs can communicate with a single DHCP server.

**Note**

This release of Cisco BAC does not support installing the DPE on a hardware appliance.

- A Key Distribution Center (KDC)

The KDC, along with the DPE registration service, handles the authentication of voice technology media terminal adapters (MTAs).



Note The KDC is required only when configuring a system to support voice technology operations using Secure PacketCable. The BASIC.1 and BASIC.2 packetcable voice technologies do not require KDC.

For performance reasons, install the KDC on a separate server.

- One or more Cisco Network Registrar servers

Cisco Network Registrar provides the DHCP and DNS features. Implementing DNS Update within Cisco Network Registrar increases the number of servers you need to deploy.

Type of Installation

This guide describes the individual component installation, which installs one or more components of Cisco BAC: the RDU, one or more DPEs, Cisco Network Registrar extensions, and the KDC. For detailed procedures on installing components in the interactive mode, see [Chapter 3, “Installing Cisco Broadband Access Center on Solaris.”](#) or [Chapter 4, “Installing Cisco Broadband Access Center on Linux.”](#)



Caution

This release does not feature a lab installation, but you can perform its equivalent by installing all Cisco BAC components on a single machine. To perform such an installation, we recommend that you have at least 500 MB of disk space available.
