CHAPTER 1

Overview

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

This chapter describes:

Product Overview

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 DHCP for IP address management and a Domain Name System (DNS) server.

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.

This release provides features 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, this release supports DHCPv6 and DNSv6.

Operating System Requirements

You must install BAC on a Sun SPARC platform running the Solaris 9 or 10 operating system with at least 4 GB of memory. We recommend that you use a Sun SPARC multiprocessor platform.

Note Before installing BAC, download and install the recommended Solaris patches from the Sun Microsystems support site.
BAC ships with the required Java Runtime Environment under JDK 1.6.0_02, which resides in the *BPR_HOME/jre* directory.

For a list of Java Platform Standard Edition (Java SE) cluster patches recommended to successfully install BAC on a system that runs:

- Solaris 9, see Table 1-1.
- Solaris 10, see Table 1-2.

Table 1-1 Java Standard Edition Cluster Patches for Solaris 9

Patch	Description
113096-03	X11 6.6.1 OWconfig patch
111711-16	Shared library patch for C++ (32-bit)
111712-16	Shared library patch for C++ (64-bit)
112963-32	Linker patch
113886-47	OpenGL 1.3 OpenGL patch for Solaris (32-bit)
113887-47	OpenGL 1.3 OpenGL patch for Solaris (64-bit)
112785-62	X11 6.6.1 Xsun patch

Table 1-2 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
118918-24	Solaris crypto framework patch
119042-10	Svccfg and svcprop patch
119578-30	FMA patch
118833-36	Kernel patch

Network Registrar Requirements

Note If you are not installing BAC extensions on Cisco Network Registrar, you do not need to install Network Registrar.

Before installing BAC extensions, be aware of these Network Registrar requirements:

- You must install version 7.0 of Network Registrar with BAC 4.0.
- You must install a Network Registrar DHCP server on a computer running Solaris 9 or 10.
- In a failover deployment of BAC, you must configure two redundant DHCP servers for failover.
- After you install BAC, ensure that Network Registrar scopes are configured to reflect failover capability and the topology of the network on which BAC is installed. For information on configuring failover on Network Registrar servers, see the *User Guide for Cisco Network Registrar 7.0*.

BAC Components at a Glance

A BAC installation requires:

- A Regional Distribution Unit (RDU)

  The RDU is the primary server in a BAC deployment. It contains the central 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.

  The DPE is integrated with the Network Registrar DHCP server to control the assignment of IP addresses. Multiple DPEs can communicate with a single DHCP server.

  Note This release of 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 all voice technology media terminal adapters (MTAs).

  Note The KDC is required only when configuring a system to support voice technology operations using PacketCable.

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

- One or more Network Registrar servers

  Network Registrar provides the DHCP and DNS functionality. Implementing DNS Update within 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 BAC: the RDU, one or more DPEs, Network Registrar extensions, and the KDC. For detailed procedures on installing components in the interactive or noninteractive modes, see Chapter 3, “Installing Broadband Access Center.”

Note This release does not feature a lab installation, but you can perform its equivalent by installing all BAC components on a single machine. To perform such an installation, we recommend that you have at least 350 MB of disk space available.