



CHAPTER 1

Introduction

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

This chapter details:

- [Product Overview, page 1-1](#)
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Product Overview

BAC is a distributed and scalable application that automates the tasks of provisioning and managing the Customer Premises Equipment (CPE) in a broadband service provider network. It enables secure provisioning and management of CPE by using the Broadband Forum's CPE WAN Management Protocol (CWMP), a standard defined in the TR-069 specification.

Based on open standards, BAC provides a simple and easy way to deploy high-speed data and voice technology.

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.

Operating System Requirements

You must install BAC on Sun SPARC computers that run the Solaris 10 operating system.

Ensure you have the latest Solaris patch bundle for the operating system installed in your system before you install BAC. We recommend *Solaris 10 05/08* for Solaris 10 operating system.



Note

Before you install BAC, download and install the recommended patch bundle from the Sun Microsystems support website and then restart your computer.

BAC Components

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 application programming interface (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.

- SSL Accelerator and Load Balancer.

SSL Accelerator and Load Balancer manage the traffic from the CPE to DPEs. The SSL accelerator and the Load Balancer enable you to effectively deploy the various hardware devices in the provisioning group.



Note

We recommend that you use the Cisco ACE 4710 as SSL accelerator and load balancer.

Minimum Hardware Requirements

Table 1-1 lists the minimum hardware requirements for the various BAC components.

Table 1-1 Minimum Hardware Requirements

Component	Model	RAM	CPU	Minimum Disk
DPE	Sun T5210 Solaris 10	4 GB	1 with 4 cores	2,15K rpm
RDU	Sun T5210 Solaris 10	16 GB	1 with 8 cores	2,15K rpm
RAID Array	Storage Tek 3320	512 MB	—	8,15K rpm Two RAID 1+0 volumes
SSL Accelerator and Load Balancer	Cisco ACE 4710 or module for Cisco 7600	—	—	—

Deployment Requirements

This section details the minimum hardware requirements that you need to successfully deploy BAC in your environment. This section contains:

- [Smallest Fully Redundant Deployment, page 1-3](#)
- [Incremental Scaling, page 1-3](#)

Smallest Fully Redundant Deployment

A smallest fully redundant deployment of about 500,000 devices can be configured with one provisioning group that has two DPEs. This setup requires:

- Two RDU servers
- One RAID unit
- Two DPE servers
- Two Cisco ACE units

Incremental Scaling

For every additional 500,000 devices that you add, you need two DPEs configured in a new provisioning group. A single deployment can handle up to eight million devices.

**Note**

A single pair of load balancers can handle DPEs in multiple provisioning groups. We recommend that you determine the number of load balancers based on the network configuration of your service provider.

Types of Installation

This section describes how to install individual BAC components. The installation program enables you to install one or both components of BAC: the RDU and the DPE.

**Note**

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

You can install the RDU and the DPE through the GUI or CLI. For details on component installation, see the [Installing BAC, page 3-2](#).

Before you install BAC, familiarize yourself with the installation startup processes and checklists described in [Before Installing Broadband Access Center, page 2-1](#).

See the [Installation Worksheet](#), for information on BAC installation parameters.

