CHAPTER 1

Broadband Access Center Overview

Cisco Broadband Access Center (BAC) automates the tasks of provisioning and managing customer premises equipment (CPE) in a broadband service-provider network.

With the high-performance capabilities of BAC, you can scale the product to suit networks of virtually any size, even those with millions of CPE. It also offers high availability, made possible by the product's distributed architecture and centralized management.

BAC is designed to handle the rapid growth of service providers. It targets broadband service providers (including multiple service operators), internet, and voice service providers who want to deploy IP data, voice, and video on hybrid fiber and coaxial cable networks.

BAC provides such critical features as redundancy and failover. It can be integrated into new or existing environments through a provisioning application programming interface (API) that lets you control how BAC operates. You can use the provisioning API to register devices in BAC, assign device configurations, and configure the entire BAC provisioning system.

Features and Benefits

BAC lets multiple service operators (MSOs) meet the rapidly changing demands for data over cable services. Using BAC, you can realize these benefits of its architecture:

- Increased scalability
- Distributed architecture
- Redundancy
- Extensibility

Supported Technologies

This BAC release supports these technologies:

- DOCSIS high-speed data
- PacketCable voice services, Secure and Basic
- Non-secure CableHome provisioning

DOCSIS High-Speed Data

The Data Over Cable Service Interface Specification (DOCSIS) defines functionality in cable modems that are involved in high-speed data distribution over cable television system networks. This functionality allows MSOs to provide a variety of services through an "always-on" Internet connection. These services include broadband Internet connectivity, telephony, real-time interactive gaming, and video conferencing.

Note This BAC release supports DOCSIS 1.0, 1.1, and 2.0 devices.

PacketCable Secure Voice Service

PacketCable voice technology enables the delivery of advanced, real-time multimedia services over a two-way cable network. PacketCable is built on top of the infrastructure supported by cable modems to enable a wide range of multimedia services such as IP telephony, multimedia conferencing, interactive gaming, and general multimedia applications.

Using PacketCable voice technology, you can provide additional services, such as basic and extended telephony services, in a broadband network. For this purpose, PacketCable is an efficient and cost-effective option.

Note BAC currently supports versions 1.0, 1.1, and 1.5 of the PacketCable specifications.

Euro-PacketCable services are the European equivalent of the North American PacketCable standard. The only significant difference between the two is that Euro PacketCable uses different MIBs.

PacketCable Basic Voice Service

Non-secure PacketCable voice services are the same as the standard PacketCable voice services except for the lack of security found in the non-secure variant.

CableHome

Non-secure CableHome 1.0 provisioning (hereafter referred to as home networking technology) is built on top of the existing DOCSIS standard and supports a 'plug and play' environment for residential broadband connectivity. This form of home networking technology encompasses a DOCSIS home access device with support for CableHome functionality. This device is known as Portal Services and is considered to be the home's entry point.