



CHAPTER 2

Before Installing Broadband Access Center

This chapter explains how to prepare for a successful installation of Cisco Broadband Access Center (BAC) and describes:

- [BAC Components, page 2-1](#)
- [Installation and Startup Process, page 2-2](#)
- [Database Requirements, page 2-6](#)

BAC Components

The BAC component installation program prompts you to install:

- Regional Distribution Unit (RDU)

The RDU is the primary server in the BAC provisioning system. You should install the RDU on a server that fulfills the requirements that are described in [Chapter 1, “Overview.”](#)

The RDU:

- Manages the generation of device configurations.
- Processes application programming interface (API) requests for all BAC functions.
- Manages the BAC system.

When you install the RDU, the installation program also installs the administrator user interface. The program also preloads required data into the RDU database, and starts the RDU daemon through the BAC process watchdog. The SNMP agent is also installed for the RDU. For details on configuring the SNMP agent, refer to the *Cisco Broadband Access Center DPE CLI Reference 4.0*. For information on the BAC process watchdog, refer to the *Cisco Broadband Access Center Administrator Guide 4.0*.

- Device Provisioning Engine (DPE)

The DPE is the major component of the provisioning group, handling all device interactions with the RDU. You should install a DPE on a server that meets the requirements described in [Chapter 1, “Overview.”](#)

The DPE:

- Caches device configurations generated at the RDU.
- Manages various CPE protocol services. These services obtain their operating instructions from the instruction cache.

The installation program installs a CLI on your system to help configure the DPE. The BAC process watchdog and the SNMP agent are installed for the DPE also. For information on configuring the DPE and configuring the SNMP agent, refer to the *Cisco Broadband Access Center DPE CLI Reference 4.0*.



Note The DPE is separately licensed and must be installed from the administrator user interface. For details on licensing in this BAC release and how to install your license, see [Licensing BAC, page 4-1](#). Also refer to the *Release Notes for Cisco Broadband Access Center 4.0*.

- Cisco Network Registrar extensions

The Network Registrar extensions are the link between BAC and Network Registrar. You should install this component on all Network Registrar servers in your BAC environment. If you are deploying BAC in a failover environment, ensure that you install the extensions on the failover servers also.



Note You must install the BAC Network Registrar extensions on a server running Network Registrar 7.0. If you do not want to install these extensions, you are not required to install Network Registrar.

- Key Distribution Center (KDC)

The KDC, along with the DPE registration service, handles the authentication of all PacketCable voice technology MTAs. For performance reasons, install the KDC on a separate server that meets the requirements described in [Chapter 1, “Overview.”](#)

The KDC requires service keys, which allow it to communicate with the DPE. For details, refer to the *Cisco Broadband Access Center DPE CLI Reference 4.0* and the *Cisco Broadband Access Center Administrator Guide 4.0*.



Note The KDC requires a license, which continues to be proprietary, as in previous BAC releases, and is licensed during BAC installation. For information on installing a KDC license, see [Installing Your KDC License, page 4-2](#).

Installation and Startup Process



Note During installation, it may be necessary to install several Solaris patches on your computer. Should patch installation become necessary, refer to the Sun Microsystems support site to download these patches. For a list of recommended patches, see [Operating System Requirements, page 1-1](#).

To ensure a smooth installation and startup process:

- Step 1** Determine the computers and servers on which you are installing the BAC components.
- Step 2** Verify the file-system block size of the directory in which you intend to install the BAC database and the database transaction log files. See [Database Requirements, page 2-6](#).
- Step 3** Review the installation checklist described in [Table 3-1](#).

Step 4 Install the RDU. Ensure that you know the location for the:

- Home directory
- Data directory
- Database logs directory

Step 5 Install a DPE. Ensure that you know the location for the:

- Home directory
- Data directory
- Database logs directory

Step 6 After installing the RDU, ensure that you:

- a. Obtain a valid BAC license file to provision all technologies. For details on obtaining and installing your license file, refer to the *Release Notes for the Cisco Broadband Access Center 4.0*.

You still require separate licenses—permanent or evaluation—for the following BAC components:

- The DPE
- The KDC, if you configure your network to support voice technology

- b. Verify that the RDU is running by starting the administrator user interface.

To launch the administrator user interface, enter the administrator's location from your web browser using:

`http://machine_name:port_number/`

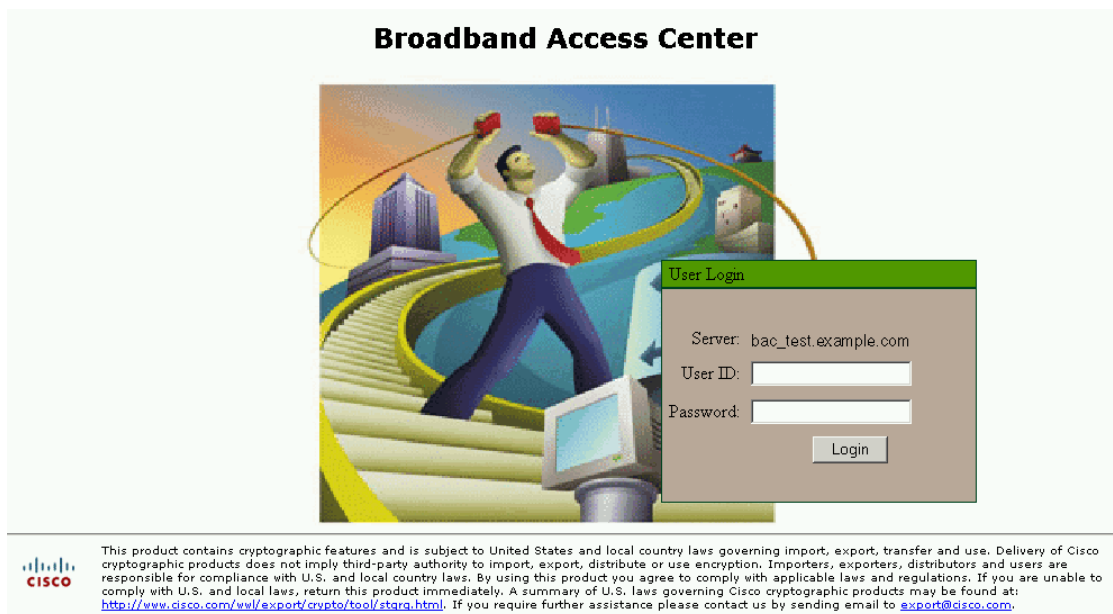


Note To access the administrator user interface using HTTP over SSL, enter:
`https://machine_name:port_number/`

- *machine_name*—Identifies the computer on which the RDU is running.
- *port_number*—Identifies the computer port on which the server side of the administrator application is running. By default, this port number is:
 - 8100 for HTTP over TCP
 - 8443 for HTTP over SSL

The main login screen, as shown in [Figure 2-1](#), appears.

Figure 2-1 Login Screen



- c. Change the BAC administrator's password.

To change the password, enter the default username (**admin**) and password (**changeme**).

Click **Login**.

The Change Password screen appears.

Enter a new password; ensure that this password has at least 8 characters.

Click **Login**.

- Step 7** Optionally, configure the syslog file for alerts. See [Configuring the Syslog Utility to Receive Alerts from BAC, page 4-3](#). You can set up the syslog file on any BAC component server.

- Step 8** After installing the DPE, ensure that you:

- a. Change the DPE login password and the privileged password from the command-line interface (CLI).

- To change the login password, access the CLI in the privileged mode, and enter:

```
bac_dpe# password password
```

where *password* identifies the new DPE password.


- To change the DPE privileged password, enter:

```
bac_dpe# enable password password
```

where *password* identifies the local configured password currently in effect or, optionally, provides a new password. If this parameter is omitted, you are prompted for the password.

For more information, refer to the *Cisco Broadband Access Center DPE CLI Reference 4.0*.

- b. Configure the DPE from the CLI as required. For configuration instructions, refer to the *Cisco Broadband Access Center DPE CLI Reference 4.0*.

- Step 9** Install and configure Network Registrar, if it is not already installed on your system. We recommend that you use Network Registrar 7.0. For more information on installing Network Registrar, refer to the *Installation Guide for Cisco Network Registrar 7.0*.
- When you install the Network Registrar Local Cluster (LCCM), ensure that you:
 - a. Obtain a valid Network Registrar license file for the local cluster.
 - b. On all Network Registrar local cluster servers, install BAC extensions. See [Installing BAC, page 3-3](#).
 - c. Configure Network Registrar, including its extensions. Specifically, you need to configure scopes, policies, client classes, and selection tags. See [Configuring Extensions, page 3-12](#). Also refer to the *User Guide for Cisco Network Registrar 7.0*.
 - d. Configure the Network Registrar syslog for alerts and debugging information. See [Configuring the Syslog Utility to Receive Alerts from BAC, page 4-3](#).
 - e. Validate the installation by connecting to the Network Registrar web UI and viewing it.
 - When you install Network Registrar Regional Cluster (RCCM), ensure that you:
 - a. Identify the master server for Network Registrar Regional Installation, which administers all the configured Network Registrar local clusters. This server can be Solaris, Windows, or Linux. However, we recommend that you have the Solaris operating system on the Network Registrar Regional Server.
 - b. Obtain a valid central-cluster license file for the Network Registrar Regional Server.
 - c. After you install the BAC extensions on all Network Registrar local servers, replicate the local data into regional and pull the replica address space. For more information, refer to the *User Guide for Cisco Network Registrar 7.0*.
 - d. Alternatively, you can also create subnets, client classes, policies, and so on at RCCM and push them to the required LCCM DHCP server. For more information, refer to the *User Guide for Cisco Network Registrar 7.0*.
- Step 10** Install and configure the KDC. When you install the KDC, ensure that you:
- Obtain a valid BAC license. The KDC license is proprietary and is licensed during BAC installation. For information on installing the KDC license, see [Licensing BAC, page 4-1](#).
 - Have the following information at hand:
 - KDC realm—Identified by a unique name, the KDC realm consists of a KDC and the clients and servers registered to that KDC.
-  **Note** The realm must match the certificate chain at the KDC.
- KDC FQDN—Identifies the fully qualified domain name on which the KDC server is located.
 - KDC interface address—Identifies the interface (generally the IP address of the KDC server) on which the KDC listens for requests.

Database Requirements

Before you install BAC, be aware of these database considerations:

- File-system block size
- Large file support

File-System Block Size

For optimum performance and reliability of the BAC database, configure the file system or systems that contain the database files and database log files with an 8-KB or greater block size. If your system configuration does not support an 8-KB block size, then configure the block size in multiples of 8 KB; for example, 16 KB or 32 KB.

The installation program prompts you to specify a directory in which to install database files, and database transaction log files. These directories are identified in BAC with the system variables *BPR_DATA*, and *BPR_DBLOG*, respectively.

To verify that a directory resides on a file system with a minimum 8-KB block size:

Step 1 Run the UNIX **mount** command without any parameters to determine on which file-system device the directory resides. The default directory is */var/CSCObac*.

For example:

```
# mount
/var on /dev/dsk/c0t0d0s4 read/write/setuid/intr/largefiles/logging/xattr/onerror=panic/
dev=2200004 on Thu Jun 15 16:58:21 2006
```

In this example, the file-system device is */dev/dsk/c0t0d0s4*.

Step 2 To determine the file-system block size, use the **df** command.

For example:

```
# df -g /dev/dsk/c0t0d0s4

/var      (/dev/dsk/c0t0d0s4):    8192 block size    1024 frag size
 961240 total blocks    851210 free blocks    755086 available    243712 total files
 239730 free files      35651588 filesys id
      ufs fstype      0x00000004 flag      255 filename length
```

In this example, the block size is 8192 bytes, which is 8 KB. The block size of the selected directory, therefore, is correct.

Large File Support

Ensure that the file system in which you place database files is configured to support files larger than 2 GB. To verify large file support:

Step 1 Run the UNIX **mount** command without parameters.

Step 2 Note whether the intended file system contains the keyword **largefiles**.

For example:

```
/var on /dev/dsk/c0t0d0s4 read/write/setuid/intr/largefiles/onerror=panic/dev=2200004 on  
Thu Jun 15 08:07:53
```

In this example, the output contains the keyword **largefiles**. This file system, therefore, can support files larger than 2 GB.
