# Installation Guide for Cisco Broadband Access Center

Release 3.5

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*Installation Guide for Cisco Broadband Access Center 3.5*

# CONTENTS

# Preface

The *Installation Guide for Cisco Broadband Access Center 3.5* describes general requirements and installation procedures for Cisco Broadband Access Center, which is referred to as BAC throughout this installation guide.

This chapter provides an outline of the other chapters in this guide, details information about related documents that support this BAC release, and demonstrates the styles and conventions used in the guide.

This chapter contains the following sections:



## Audience

System integrators, network administrators, and network technicians use this installation guide to install BAC on a Solaris operating system.

## Organization

This guide includes the following sections:

| Section | Title | Description |
|---|---|---|
| Chapter 1 | Introduction | Describes general requirements for a successful installation of BAC. |
| Chapter 2 | Before Installing Broadband Access Center | Describes factors to consider as you prepare to install BAC; for example, the individual components of BAC, the database requirements, and the order of operations for installing the software. |
| Chapter 3 | Installing Broadband Access Center | Describes how to install the individual components of BAC from the GUI or the command line interface (CLI). |

| Section | Title | Description |
|---|---|---|
| Chapter 4 | Adding a DPE | Describes how to add a BAC component, the DPE, from the GUI or the CLI. |
| Chapter 5 | Uninstalling Broadband Access Center | Describes how to uninstall BAC from the GUI or the CLI. |
| Chapter 6 | Configuring the Syslog Utility to Receive BAC Alerts | Describes how to configure the syslog file to receive alerts after BAC is installed. |
| Appendix A | Reinstalling Broadband Access Center | Describes how to reinstall BAC from the GUI or the CLI in case of a corrupted installation. |
| Appendix A | Installation Worksheet | Describes the various BAC Installation Parameters that you need to consider before installing BAC. |

# Conventions

This document uses the following conventions:

| Convention | Indication |
|---|---|
| **bold** font | Commands and keywords and user-entered text appear in **bold** font. |
| *italic* font | Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font. |
| [ ] | Elements in square brackets are optional. |
| {x \| y \| z } | Required alternative keywords are grouped in braces and separated by vertical bars. |
| [ x \| y \| z ] | Optional alternative keywords are grouped in brackets and separated by vertical bars. |
| string | A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks. |
| `courier` font | Terminal sessions and information the system displays appear in `courier` font. |
| < > | Nonprinting characters such as passwords are in angle brackets. |
| [ ] | Default responses to system prompts are in square brackets. |
| !, # | An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line. |

**Note** Means *reader take note*.

**Tip** Means *the following information will help you solve a problem.*

**Caution** Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

# Product Documentation

**Note** We sometimes update the printed and electronic documentation after original publication. Therefore, you should also review the documentation on Cisco.com for any updates.

Table 1 describes the documentation that is available for this BAC release.

***Table 1 Product Documentation***

| Document Title | Available Formats |
|---|---|
| *Release Notes for Cisco Broadband Access Center, Release 3.5* | • PDF on the product CD-ROM.<br>• On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_release_notes_list.html<br>• On Software download page. |
| *Installation Guide for Cisco Broadband Access Center, Release 3.5* | • PDF on the product CD-ROM.<br>• On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_installation_guides_list.html<br>• On Software download page. |
| *Cisco Broadband Access Center Administrator's Guide, Release 3.5* | • PDF on the product CD-ROM<br>• On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_maintenance_guides_list.html<br>• On Software download page. |
| *Integration Developer's Guide for Cisco Broadband Access Center, Release 3.5* | • PDF on the product CD-ROM<br>• On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_command_reference_list.html<br>• On Software download page. |
| *Cisco Broadband Access Center DPE CLI Reference, Release 3.5* | • PDF on the product CD-ROM<br>• On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_command_reference_list.html<br>• On Software download page. |
| *Cisco Broadband Access Center 3.5 Third Party and Open Source Copyrights* | On Cisco.com at this URL: http://cisco.com/en/US/products/sw/netmgtsw/ps529/prod_release_notes_list.html |

# Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as an RSS feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service. Cisco currently supports RSS Version 2.0.

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

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<br>Solaris 10 | 4 GB | 1 with 4 cores | 2,15K rpm |
| RDU | Sun T5210<br>Solaris 10 | 16 GB | 1 with 8 cores | 2,15K rpm |
| RAID Array | Storage Tek 3320 | 512 MB | — | 8,15K rpm<br>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

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 atleast 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.

CHAPTER 2

# Before Installing Broadband Access Center

This chapter describes the requirements and dependencies for installing Cisco BAC successfully.

This chapter describes:



## BAC Components

The BAC component installation program prompts you to install either or both of the following components:

- Regional Distribution Unit (RDU).

  The RDU is the primary server in the BAC provisioning system. You should install the RDU on a Solaris 10 server that meets the requirements described in the Minimum Hardware Requirements, page 1-2.

  The RDU:

  - Generates instructions that direct responses from the provisioning group to various customer premises equipment (CPE).
  - Processes application programming interface (API) requests for all BAC functions.
  - Manages the BAC system.

**Note** The installation program preloads the required data into the RDU database, and starts the RDU daemon through the BAC watchdog process. The SNMP agent and the administrator GUI are installed for the RDU.
For details on configuring the SNMP agent, see the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5*. For information on the BAC watchdog process and the administrator GUI, see the *Cisco Broadband Access Center Administrator's Guide, Release 3.5*.

- Device Provisioning Engine (DPE).

  The DPE is the major component of the provisioning group, handling all device interactions with the RDU.

  The DPE:

  - Caches instructions generated at the RDU.
  - Manages the CPE WAN Management Protocol (CWMP) and communicates with the TR-069 enabled devices.

**Note** The installation program installs a CLI on your system to help configure the DPE. The BAC watchdog process and the SNMP agent are installed for the DPE also. For information on configuring the DPE and SNMP agent, see the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5*.

# Installation and Startup Process

To ensure a smooth installation and startup process, complete the following steps:

**Step 1** Determine the computers and the servers on which you need to install the individual components of BAC.

**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 the Database Requirements, page 2-4).

**Step 3** Review the installation checklist (see the Installation Checklist, page 2-6).

**Step 4** Install the RDU. Ensure that you:

- Know the target location for the following directories:
  - Home Directory
  - Data Directory
  - Database Transaction Logs Directory
- Verify the existence of a text file called *log.txt*, which indicates that errors occurred during the installation process. This file is located under the *BPR_HOME* directory.

**Step 5** Install a DPE. Ensure that you know the target location for the following directories:

- Home Directory
- Data Directory

**Note** If you exit the BAC installation after the database is installed, you must uninstall the *BPR_HOME* and the *BPR_DATA* directories before you install BAC again. (For information on uninstallation, see the Uninstalling Broadband Access Center, page 5-1.) Also, stopping the installation mid-way does not generate the log file.

If you rerun the installation without uninstalling the specified directories, you cannot change the location of the *BPR_DATA* or the *BPR_DBLOG* directories.

**Step 6** After you install the RDU, ensure that you:

- Obtain a valid BAC license key for each technology that you provision, specifically for the CWMP and DPE component.

**Note** If you have not received your licenses, contact your Cisco representative before you proceed further.

- Launch the BAC administrator user interface to verify if the RDU is running.
  - To launch the administrator user interface, enter the administrator's location by using this syntax:

    `http://machine_name:port_number/`

    where *machine_name* identifies the computer on which the RDU is running.

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

    The server-side of the administrator application runs on a computer port. By default, this port number is set at 80 for HTTP and 443 for HTTP over SSL/TLS.

    The main login page appears.

  - Change the BAC administrator password.

    To change the password, enter the default username (**bacadmin**) and password (**changeme**). Click **Login**.

    The **Change Password** screen appears and prompts you to change the default password. Enter a new password, and click **Login**.

**Step 7** Optionally, configure the syslog file for alerts (see the Configuring the Syslog Utility to Receive BAC Alerts, page 6-1).

**Note** You can set up the syslog file on any BAC component server.

**Step 8** After you install the DPE, ensure that you:

- Change the DPE login password and the enable password from the CLI.
  - To change the login password, access the CLI in the enabled mode, and enter:

    `dpe# password password`

    where *password* identifies the new DPE password.
  - To change the DPE enable password, enter the following command:

    `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, see the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5*.

- Configure the DPE from the CLI. For more information, refer to the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5*.

**Step 9** Optionally, configure the syslog file for alerts (see the Configuring the Syslog Utility to Receive BAC Alerts, page 6-1).

**Note** You can set up the syslog file on any BAC component server.

# Database Requirements

Before you install BAC, check the following:

- File System Block Size, page 2-4.
- Support for Large Files, page 2-5.

## 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 transaction log files with an 8-KB block size or greater. 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 you prefer to install database files and database transaction log files; these directories are identified in BAC with 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/onerror=panic/dev=2200004 on
Mon Nov 26 08:07:53
```

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

**Step 2** To determine the block size of the file system, 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.

## Support for Large Files

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:

```
# mount
/var on /dev/dsk/c0t0d0s4 read/write/setuid/intr/largefiles/onerror=panic/dev=2200004 on
Mon Nov 26 08:07:53
```

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

# Required Port Information

Before you install BAC, determine the ports on which the BAC components, the RDU and the DPE, listen during communication with each other or with the CPE.

The installation program checks for the availability of all ports: both configurable and nonconfigurable.

If the port that you have specified is unavailable, the installation program displays a message; otherwise, the message similar to the following one appears:

```
Not a valid port number
```

In the case of a nonconfigurable port, the installation program notifies you and exits the program without making any changes to the system.

Table 2-1 lists the required external inbound ports and their default values.

***Table 2-1 Default External Inbound Ports Used by BAC Components***

| Component | Default Port Number | Protocol | Configurable | Used by |
|---|---|---|---|---|
| RDU | 161 | UDP | No | SNMP Get |
| RDU | 49187 | TCP | Yes | DPE and API access |
| RDU | 80 | TCP | No | Admin Web UI HTTP |
| DPE | 49186 | UDP | Yes | CPE Prov Group locator |
| DPE | 2323 | TCP | Yes | DPE CLI |

*Table 2-1 Default External Inbound Ports Used by BAC Components (continued)*

| Component | Default Port Number | Protocol | Configurable | Used by |
|---|---|---|---|---|
| DPE | 7547 | TCP | Yes | TR-069 CWMP 1 |
| DPE | 7548 | TCP | Yes | TR-069 CWMP 2 |
| DPE | 7549 | TCP | Yes | HTTP File Service 1 |
| DPE | 7550 | TCP | Yes | HTTP File Service 2 |

Table 2-2 lists the external outbound ports and their default values.

*Table 2-2 Default External Outbound Ports Used by BAC Components*

| Component | Number | Protocol | Configurable | Used by |
|---|---|---|---|---|
| RDU | 162 | UDP | No | SNMP Traps |
| DPE | 49186 | UDP | Yes | CPE Prov Group locator |
| DPE | 162 | UDP | Yes | SNMP Traps |

Table 2-3 lists the internal ports and their default values.

*Table 2-3 Default Internal Ports Used by BAC Components*

| Component | Number | Protocol | Configurable | Used by |
|---|---|---|---|---|
| RDU | 49887 | TCP | Yes | Internal watchdog and SNMP agent communication |
| DPE | 49887 | TCP | Yes | Internal watchdog and SNMP agent communication |
| RDU | 8001 | SNMP (UDP) | Yes | SNMP Internal |
| DPE | 8001 | SNMP (UDP) | No | SNMP Internal |

# Installation Checklist

Before you run the installation program, use the following checklist to ensure your readiness. In addition, see the Installation Notes, page 3-1.

1. Verify the prerequisite system hardware and software requirements described in the Introduction, page 1-1.
2. Ensure that you have *root* access to the computers on which you intend to install BAC components.
3. Have your BAC license key or keys at hand. You need a valid license key for each technology that you want to provision with BAC, namely CWMP and the DPE.

4. Determine the home directory (*BPR_HOME*) on which you want to install the BAC component or components. The default directory is */opt/CSCObac*.

**Note** We recommend that you have at least 350 MB of disk space available for the home directory. For detailed information, see the Installation Notes, page 3-1.

5. For the RDU, determine where you want to install the data directory (*BPR_DATA*) and the database transaction logs (*BPR_DBLOG*). The default directory is */var/CSCObac*.

**Note** We recommend that you install the database transaction logs on a different physical disk than the home directory or the data directory. For detailed information, see the Installation Notes, page 3-1.

6. BAC servers use the same password for all the components in your network. This password is used as a token to authenticate communication between the different components of the BAC server. Enter the shared secret password used by the BAC components for the RDU in the network. The shared secret password is the same for all BAC servers in your network.

**Note** To find a list of BAC installation parameters, see the Installation Worksheet, page B-1.

CHAPTER 3

# Installing Broadband Access Center

This chapter describes how to work with the Cisco Broadband Access Center (BAC) program to install the BAC components: the RDU and the DPE.

You can install the BAC components from the GUI or CLI. Both interfaces are supplied with the product.

**Caution** If you interrupt the installation program after it begins copying files, you must manually clean up the locations of copied files, specifically *BPR_HOME*. For detailed information, see the Uninstalling Broadband Access Center, page 5-1.

This chapter includes:



## Installation Notes

This section describes some notes and recommendations to consider before and during the installation process. Use this information along with the installation startup processes and checklists described in Before Installing Broadband Access Center, page 2-1.

- Be sure to install the RDU before installing the DPE. If you choose to install the DPE without installing the RDU, or without an RDU already installed on your system, the DPE fails to function normally.
- When the program prompts you to enter a value during installation, note that the values in square brackets are default values. If you press **Enter** without entering fresh values, the program takes the default value.
- The installation program, by default, installs the data directory (*BPR_DATA*) in a location other than that of the home directory (*BPR_HOME*). The default location for the data directory is */var/CSCObac*.

  We recommend that the data directory be on a different physical disk than the home directory; for example, */var/disk0/CSCObac*. Your disk should have a free space of minimum 1 GB and maximum of 30 GB. The disk should have at least 1 GB and up to 30 GB of free space.

  The directory specified becomes the top-level directory under which the installation program creates a number of subdirectories; for example, */var/disk0/CSCObac/rdu/db*.

- The installation program, by default, installs the database transaction logs directory (*BPR_DBLOG*) in the same directory as the data directory (*BPR_DATA*). The default location for the database transaction logs is */var/CSCObac*.

  We recommend that you locate the database transaction logs directory on the fastest disk on the system. Also, ensure that 1 GB disk space is available.
- You must enter a listening port number for the RDU. This port is the interface that the RDU uses to communicate with the DPE. The default port is 49187.
- During installation, the program generates a definitions file (*bpr_definitions.sh*), which is copied to the target home directory (*BPR_HOME*). The definition file stores the values for the:
  - Installation location (*BPR_HOME*)
  - Data location (*BPR_DATA*)
  - Database transactions log location (*BPR_DBLOG*)
  - BAC class path (*BPR_CP*)
  - All installed components (*COMPONENTS*)

  The *bpr_definitions.sh* file is updated whenever new components are installed or added.

# Installing BAC

This section describes the procedures that you follow to install the individual components of BAC: the RDU and the DPE.

**Note** To ensure a smooth installation, we recommend that you install the RDU before you install the DPE.

You can install the BAC components from the GUI or CLI, as described in:

- Installing the RDU, page 3-2
- Installing the DPE, page 3-6

# Installing the RDU

This section describes how to install the RDU. You must install the RDU on a Solaris 10 server that meets the requirements described in the Minimum Hardware Requirements, page 1-2.

See the following sections for instructions on installing the RDU from the CLI or from the GUI:

- Installing the RDU from the CLI, page 3-2.
- Installing the RDU from the GUI, page 3-5.

## Installing the RDU from the CLI

Complete the following procedure to install the RDU from the CLI:

**Step 1** Log in to the intended BAC host as *root*.

**Step 2** At the Solaris system prompt, change directory to your CD-ROM drive or other installation media. The installation program, *setup.bin*, is at the root of this drive.

**Step 3** Enter this command to start the installation program:

```
> ./setup.bin -console
```

The installation program verifies that you have installed the correct patches to the Solaris operating system. When the verification is complete, the program displays the welcome screen.

**Step 4** Press **Enter** to continue.

**Step 5** When the installation program prompts you to select one or more components, at the RDU prompt, enter **y** and press **Enter**.

For example:

```
Installation Components

Select one or more components to install BAC.
    Regional Distribution Unit (RDU) (y/n/?) [no] y
    Device Provisioning Engine (DPE) (y/n/?) [no] n
```

**Step 6** The program prompts you to confirm the components that you want to install. Enter **y** and press **Enter** to continue.

**Step 7** The program displays a message that it is starting validation of the individual component installation parameters. Press **Enter** to continue.

For example:

```
Starting the individual component installation parameters validation.
    Press Enter to Continue or 'q' to Quit:

Validating the individual component installation parameters - Please wait.
```

**Step 8** The Home Directory Destination prompt appears. To accept the default directory, */opt/CSCObac*, press **Enter**; or enter a different directory.

For example:

```
Home Directory Destination

    Home Directory Destination [/opt/CSCObac]
```

When the program asks if you want to create the default installation directory, press **y** and **Enter**.

For example:

```
Choosing yes will create the directory during the installation. Choosing no will allow a
different directory to be chosen.

    The directory /opt/CSCObac does not exist. Create it? (y/n/?) [yes]
```

**Step 9** Confirm the directory; press **y** and **Enter**.

**Step 10** The data directory destination prompt appears. To accept the default directory, */var/CSCObac*, press **Enter**; or enter another directory.

For example:

```
Data Directory Destination

    Data Directory Destination [/var/CSCObac] /var/disk0/CSCObac
```

**Step 11** To confirm the directory, press **y** and **Enter**.

**Step 12** You are then prompted to enter the database transaction logs destination. To accept the default directory, */var/CSCObac*, press **Enter**; or enter another directory.

For example:

```
Logs Directory Destination

Logs Directory Destination [/var/CSCObac] var/disk1/CSCObac
```

To confirm the directory, enter **y** and press **Enter**.

**Step 13** The program then prompts for the Regional Distribution Unit Host/Port. Enter the listening port for the RDU. To accept the default value, 49187, press **Enter**; or enter another port number.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. Refer to the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5,* for details on configuring the DPE.

The installation program obtains the IP address of the RDU automatically. You need not enter this value manually.

For example:

```
Regional Distribution Unit Host/Port

Enter the IP address and the listening port of the Regional Distribution Unit (RDU)
associated with this installation.

Enter the Host/IP address and address of the listening port
for the RDU.
    RDU Listening Port [49187]
```

**Step 14** Confirm the listening port number. Enter **y** and press **Enter**.

**Step 15** Enter the shared secret password that you want to use for authentication between the BAC servers; the default password is **secret**. Press **Enter** to continue.

**Note** You must use the same shared secret password for all RDUs and DPEs in your network.

For example:

```
Shared Secret Password

Enter the password to be used for authentication
between the BAC servers.

If you are performing a lab installation, then the password will be used for all the
servers. If this is a component installation, then the password you enter must be the same
as the components previously installed.

   Enter the Shared Secret Password [secret]
```

Press **Enter** to continue the installation.

**Step 16** The program displays the installation parameters that you selected. Enter **y** and press **Enter** to confirm the parameters, and install the RDU component.

For example:

```
The Component Installation will use the following parameters
to install the RDU component:

Home directory:/opt/CSCObac
```

```
Data directory:/var/disk0/CSCObac
Logs directory:/var/disk1/CSCObac
RDU Port:49187
```

**Step 17** The program displays the Installation Summary when installation is complete.

For example:

```
Installation Summary

The installation program has successfully installed Cisco Broadband Access Center (BAC) on
your system.
```

Press **Enter** to exit the installation program.

## Installing the RDU from the GUI

Complete the following procedure to install the RDU from the GUI:

**Step 1** Log in to the computer on which you intend to install the BAC components, with root access. Use an X-Windows client to log in.

**Step 2** At the Solaris system prompt, navigate to the directory that contains the *setup.bin* file.
If you are using the BAC CD-ROM, you will find *setup.bin* at the root of your CD-ROM drive.

**Step 3** Enter the following command to start the installation program:

```
> ./setup.bin
```

The installation program verifies that you have installed the correct patches on the Solaris operating system. When the verification is complete, the program displays the welcome screen.

**Step 4** Click **Next**. The Installation Components screen appears.

**Step 5** On the Installation Components screen, check the **Regional Distribution Unit** check box. Click **Next.**

The Home Directory Destination screen appears. To choose the location of the home directory (*BPR_HOME*), accept the default directory (*/opt/CSCObac*). Or, enter a new target directory. You can use the **Browse** button to select a new directory. Click **Next**.

**Step 6** The installation program displays the Create Directory dialog box. Click **Yes** to continue.

**Step 7** The Data Directory Destination screen appears. To install the data directory (*BPR_DATA*), accept the default directory (*/var/CSCObac*). Or, enter a new directory. You can use the **Browse** button to select a new directory. Click **Next**.

The Database Transaction Logs Destination screen appears. Enter the target directory to install the transaction logs (*BPR_DBLOG*). The default directory is */var/CSCObac*. Or, use the **Browse** button to select a new directory. Click **Next**.

**Step 8** The Regional Distribution Unit Host Port screen appears. Accept the default listening port number (49187). Or, enter a new port number. Click **Next**.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. Refer to the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5,* for details on configuring the DPE.

The installation program obtains the IP address of the RDU automatically. You do not need to enter this value.

**Step 9** The Shared Secret Password screen appears. Enter and confirm the shared secret password. Remember to use the same shared secret for all the RDUs and the DPEs in your network. Click **Next**.

**Step 10** The Installation Parameter screen appears. This screen displays the values that you have entered in the previous screens. To change any of the values entered previously:

a. Click **Back** until the correct screen appears.

b. Make the necessary changes.

c. Click **Next** until you return to the installation parameters screen.

**Step 11** When the installation is complete, the Installation Summary screen appears. Click **Finish** to exit the installation program.

# Installing the DPE

This section explains the procedures that you follow to install the DPE from the CLI or from the GUI.


- Installing the DPE from the CLI, page 3-6
- Installing the DPE from the GUI, page 3-9


## Installing the DPE from the CLI

**Note** Before proceeding to install the DPE, ensure that the RDU resides on your system. For details on installing the RDU, see the Installing the RDU from the CLI, page 3-2.

To install the DPE from the CLI:

**Step 1** Log in to the intended BAC host as *root*.

**Step 2** At the Solaris system prompt, change directory to your CD-ROM drive or other installation media. The installation program, *setup.bin*, is at the root of this drive.

**Step 3** Enter this command to start the installation program:

```
> ./setup.bin -console
```

The installation program verifies that you have installed the correct patches to the Solaris operating system. When the verification is complete, the program displays the welcome screen.

**Step 4** Press **Enter** to continue.

**Step 5** When the installation program prompts you to select one or more components, press **y** and **Enter** at the DPE prompt.

For example:

```
Installation Components

Select one or more components to install BAC.
```

```
    Regional Distribution Unit (RDU) (y/n/?) [no] n
    Device Provisioning Engine (DPE) (y/n/?) [no] y
```

**Step 6** The program prompts you to confirm the components that you want to install. Enter **y** and press **Enter** to continue.

**Step 7** The program displays a message that it is starting individual component validation. Press **Enter** to continue.

Validation involves checking to verify that the correct patches have been installed. If they are not, error messages appear.

**Step 8** When validation is complete, the program prompts you to enter the home directory destination. To accept the default home directory destination (*/opt/CSCObac*), press **Enter**, or enter another directory.

When the program asks if you want to create the default installation directory, press **y** and **Enter**.

For example:

```
Home Directory Destination

    Home Directory Destination [/opt/CSCObac]

Choosing yes will create the directory during the installation. Choosing no will allow a
different directory to be chosen.

    The directory /opt/CSCObac does not exist. Create it? (y/n/?) [yes]
```

**Step 9** Confirm the directory; enter **y** and press **Enter**.

**Step 10** The program prompts you to enter the data directory destination. To accept the default data directory destination (*/var/CSCObac*), press **Enter**, or enter another directory.

For example:

```
Data Directory Destination

    Data Directory Destination [/var/CSCObac]
```

**Step 11** To confirm the target directory, enter **y** and press **Enter**.

**Step 12** You must then enter the listening port and the IP address for the RDU. To enter the IP address of the RDU, enter the hostname of the system on which the RDU is installed. Press **Enter**.

**Step 13** To accept the default listening port number for the RDU, 49187, press **Enter**; or enter another port number.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. See the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5,* for more information about configuring the DPE.

For example:

```
Regional Distribution Unit Host/Port

Enter the IP address and the listening port of the Regional Distribution
Unit(RDU)associated with this installation.

Enter the Host/IP address and address of the listening port
for the RDU.
    RDU IP Address [abc.xyz.com]
    RDU Listening Port [49187]
```

**Step 14** The program then prompts you to confirm the IP address and the listening port number. Press **y** and **Enter**.

**Step 15** Enter the shared secret password that you want to use for authentication between the BAC servers; the default password is **secret**. Press **Enter** to continue.

**Note** You must use the same shared secret password for all RDUs and DPEs in your network.

For example:

```
Shared Secret Password

Enter the password to be used for authentication
between the BAC servers.

If you are performing a lab installation, then the password will be used for all the
servers. If this is a component installation, then the password you enter must be the same
as the components previously installed.

   Enter the Shared Secret Password [secret]
```

**Step 16** The program displays the installation parameters that you selected. Enter **y** and press **Enter** to confirm the parameters, and install the DPE.

For example:

```
Installation Parameters

This screen shows the installation parameters that you have chosen:

========== Confirmation ==========
The Component Installation will use the following parameters
to install the DPE component:

    Home directory: /opt/CSCObac
    Data directory: /var/CSCObac
```

**Step 17** The program displays the Installation Summary when installation is complete.

For example:

```
Installation Summary

The installation program has successfully installed
Cisco Broadband Access Center (BAC) on your system.
```

Press **Enter** to exit the installation program.

## Installing the DPE from the GUI

**Note** You must install the RDU before installing the DPE. For details on installing the RDU, see the Installing the RDU from the GUI, page 3-5.

Complete the following procedure to install the DPE from the GUI:

**Step 1** Log in to the computer on which you intend to install the BAC components, with *root* access. Use an X- Windows client to log in.

**Step 2** At the Solaris system prompt, navigate to the directory containing the *setup.bin* file.
If you are using the BAC CD-ROM, you will find *setup.bin* at the root of your CD-ROM drive.

**Step 3** Enter this command to start the installation program:

```
> ./setup.bin
```

The installation program verifies that you have installed the correct patches on the Solaris operating system. When the verification is complete, the program displays the welcome screen.

**Step 4** Click **Next**. The Installation Components screen appears.

**Step 5** On the Installation Components screen, check the **Device Provisioning Engine** check box, then click **Next** to continue.

**Step 6** The Home Directory Destination screen appears. Enter the path for the home directory (*BPR_HOME*). The default directory location is */opt/CSCObac*. Or, click the **Browse** button to locate the correct directory. Click **Next**.

**Step 7** The installation program performs some validation and, if necessary, prompts you to create the directory. Click **Yes**.

**Step 8** The Data Directory Destination screen appears. To install the data directory (*BPR_DATA*), accept the default directory (*/var/CSCObac*), or enter a new directory. You can use the **Browse** button to select a new directory. Click **Next**.

**Step 9** The Regional Distribution Unit Host/Port screen appears. Enter the hostname of the machine on which the RDU is installed. For the listening port number, you can use the default port, 49187, or enter a new port number. Click **Next**.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. Refer to the *Cisco Broadband Access Center DPE CLI Reference, Release 3.5,* for details on configuring the DPE.

**Step 10** The Shared Secret Password screen appears. Enter the shared secret password and confirm it. Click **Next**.

**Step 11** The Installation Parameters screen appears. After verifying that the parameters are correct, click **Next** to install the DPE, or **Back** to change the parameters.

**Step 12** When installation is complete, the Installation Summary screen appears. Click **Finish** to end the installation process and exit the installation program.

CHAPTER 4

# Adding a DPE

This chapter describes how to add a Cisco Broadband Access Center (BAC) Device Provisioning Engine (DPE) from the CLI and the GUI.

This situation arises largely in a lab deployment, where, for the purposes of testing, both BAC components are installed on a single machine.

**Note** Before you proceed to add the DPE, ensure that the RDU and the DPE belong to the BAC 3.5 version.

When the installation program detects the presence of an RDU on your system, it does not provide you the option to add the RDU. It prompts you to add or install only the DPE.

**Note** To ensure a smooth installation, we recommend that you install the RDU before you install the DPE. (see the Installing BAC, page 3-2).

Unlike the procedure in a fresh installation, while adding a DPE, you cannot install the home (*BPR_HOME*) and data (*BPR_DATA*) directories in a location of your choice. The directories are installed only in the location where you chose to install the RDU directories.

You can add the DPE using the GUI or the CLI.

This section explains the procedures that you follow to add a DPE from the CLI or GUI:



# Adding a DPE from the CLI

To add the DPE from the CLI:

**Step 1** Log in to the computer on which you intend to install BAC components, with *root access*. Use an X-Window client to log in.

**Step 2** At the Solaris system prompt, change directory to your CD-ROM drive or other installation media. The installation program, *setup.bin*, is at the root of this drive.

**Step 3** Enter the following command to start the installation program:

```
> ./setup.bin -console
```

**Step 4** The installation program verifies that you have installed the correct patches to the Solaris operating system. When the verification is complete, the program displays welcome screen. Press **Enter** to continue.

**Step 5** When the installation program prompts you to select one or more components, enter **y** and press **Enter** at the DPE prompt. The installation program prompts you to add only the DPE.

For example:

```
Installation Components

Select one or more components to install BAC.

    Device Provisioning Engine (DPE) (y/n/?) [no] y
```

**Step 6** Confirm the components that you want to install; enter **y** and press **Enter** to continue.

**Step 7** The program displays a message that it is starting individual component validation. Press **Enter** to continue.

**Step 8** When validation is complete, the program prompts you to enter the IP address and the listening port of the RDU. Press **Enter** to accept the hostname of the RDU.

**Note** The installation program obtains the IP address of the RDU automatically. You do not need to enter this value.

**Step 9** To accept the default port number, 49187, press **Enter**; or enter another port number.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. Refer to the *Cisco Broadband Access Center Administrator's Guide, Release 3.5,* for information on configuring the DPE.

For example:

```
Regional Distribution Unit Host/Port

Enter the IP address and the listening port of the Regional Distribution Unit (RDU)
associated with this installation.

Enter the Host/IP address and address of the listening port
for the RDU.
    RDU IP Address [abc.xyz.com]
    RDU Listening Port [49187]
```

**Step 10** Then, confirm the IP address and the listening port number; enter **y** and press **Enter**.

**Step 11** The program prompts you to enter the shared secret password. Enter the password that you want to use for authentication between the BAC servers, and press **Enter**.

**Note** You must use the same shared secret password for all RDUs and DPEs in your network. The default password is **secret**.

For example:

```
Shared Secret Password

Enter the password to be used for authentication
```

```
between the BAC servers.

If you are performing a lab installation, then the password will be used for all the
servers. If this is a component installation, then the password you enter must be the same
as the components previously installed.

   Enter the Shared Secret Password [secret]
```

**Step 12** Press **Enter** to continue. The installation parameters that you selected appear. Enter **y** and press **Enter** to confirm the parameters, and add the DPE.

For example:

```
Installation Parameters

This screen shows the installation parameters that you have chosen:

========== Confirmation ==========
The Component Installation will use the following parameters
to install the DPE component:

    Home directory: /opt/CSCObac
    Data directory: /var/CSCObac
```

**Step 13** The Installation Summary appears when the installation is complete. Press **Enter** to exit the installation program.

# Adding a DPE from the GUI

To add the DPE from the GUI:

**Step 1** Log in to the computer that you intend to install the BAC components, with *root* access. Use an X-Windows client to log in.

**Step 2** At the Solaris system prompt, navigate to the directory that contain the *setup.bin* file. If you are using the BAC CD-ROM, you will find *setup.bin* at the root of your CD-ROM drive.

**Step 3** Enter the following command to start the installation program:

```
> ./setup.bin
```

The installation program verifies that you have installed the correct patches on the Solaris operating system. When the verification is complete, the program displays welcome screen.

**Step 4** Click **Next**. The Installation Components screen appears.

**Step 5** On the Installation Components screen, select the Device Provisioning Engine option. Click **Next**. The installation program detects the installed components and allows you to add only the DPE.

**Step 6** The installation program performs some validation before displaying the Regional Distribution Unit Host/Port screen. Accept the hostname of the RDU.
You do not need to enter the IP address of the RDU; the installation program obtains that value automatically.

**Step 7** Accept the default port number, 49187, or enter a new port number. Click **Next**.

**Caution** If you change the default listening port value, ensure that the new value does not conflict with any existing port assignments. Also, ensure that you configure all DPEs with the correct RDU port number. See *Cisco Broadband Access Center Administrator's Guide, Release 3.5,* for information on configuring the DPE.

**Step 8** The Shared Secret Password screen appears. Enter the shared secret password, and confirm it. Click **Next**.

**Step 9** The Installation Parameters screen appears. After verifying that the parameters are correct, click **Next** to install the DPE. To change the parameters, click **Back**.

**Step 10** When installation is complete, the Installation Summary screen appears. Click **Finish** to end the installation process and to exit the installation program.

CHAPTER 5

# Uninstalling Broadband Access Center

This chapter describes how to uninstall Cisco Broadband Access Center (BAC) from the CLI and the GUI.

**Note** You cannot uninstall the RDU and the DPE that are installed in a same server separately. Both components are uninstalled together.

The uninstall program removes all the DPE and RDU component files under the installation directory (the default installation directory is */opt/CSCObac*) that are installed in the same server when the uninstall command is executed. It also shuts down and removes these processes if they are detected: RDU, SNMP Agent, Tomcat, Watchdog, and DPE.

The uninstallation program does not remove files that were placed outside the installation directory. For example, a component installation places the database and database transaction logs directories under */var/CSCObac*. These files must be manually removed. (Subsequent sections describe how to delete these files.) But, if you choose to install the home, data, and database transaction log directories in the same location, the uninstallation program warns you that continuing the uninstallation will remove the data and log files.

Should the program fail to uninstall BAC, error messages appear.

This chapter describes:



## Uninstalling BAC

This section describes the procedures to uninstall BAC.

After uninstalling BAC, manually remove the Data and Database Transaction Logs directories (see the Post-Uninstallation Task, page 5-3).

You can uninstall BAC from the CLI or GUI:

# Uninstalling from the CLI

To uninstall BAC from the CLI:

**Step 1** Log in as *root*.

**Step 2** Change directory to where the BAC program is installed (the default installation directory is */opt/CSCObac*).

**Step 3** At the CLI prompt, navigate to the *_uninst* directory, and run the *uninstall.bin* script with the following command:

```
./uninstall.bin -console
```

The system locates the BPR home directory and uninstalls BAC. The following message appears when the BAC is uninstalled:

```
BPR Located.
BPR Home directory is /opt/CSCObac.
Stopping the BPR Agent
|-----------|-----------|-----------|------------|
0%         25%         50%         75%        100%
|||||||||||||||
Removing Agent file
|-----------|-----------|-----------|------------|
0%         25%         50%         75%        100%
||||||||||||||||||||||||||||||||||||||||||||||||||

Removing Installed Files...
null
/var/sadm/pkg/CSCObac
Updating the registry.
System has been updated.
```

# Uninstalling from the GUI

To uninstall BAC from the GUI:

**Step 1** Log in as *root*.

**Step 2** Navigate to the home directory where the BAC program is installed. The default directory is */opt/CSCObac*.

**Step 3** At the CLI prompt, change to the *_uninst* directory, and run the *uninstall.bin* script.

**Step 4** The welcome screen of the uninstallation program appears. Click **Next**.

**Step 5** The uninstallation program begins removing BAC files. When the uninstallation is complete, you the interface displays a message:

```
Cisco Broadband Access Center was Uninstalled.
```

**Step 6** Click **Finish** to exit the uninstallation program.

# Post-Uninstallation Task

After uninstalling BAC, manually remove the Data and Database Transaction Logs directories. To remove these directories:

**Step 1** Log in as *root*.

**Step 2** Remove the Data and the Database Transaction Logs. (The default directory for both is */var/CSCObac*.)

For example, enter:

```
# rm -rf /var/CSCObac
```

The data and the database transaction logs directories are deleted.

CHAPTER 6

# Configuring the Syslog Utility to Receive BAC Alerts

This chapter describes how to configure the syslog utility after you install the Cisco Broadband Access Center (BAC). You can configure the syslog file on any BAC component server to receive alerts and debugging information from the system.

**Note** Configuring the syslog file is an optional task.

Syslog is a client-server protocol that manages the logging of information on UNIX. BAC generates alerts through the Solaris syslog service. BAC syslog alerts are not a logging service; they notify that a problem exists, but do not necessarily define the specific cause of the problem. The information related to the problem resides in the appropriate BAC log files (*rdu.log* and *dpe.log*). If you choose to configure the syslog file, syslog alerts are directed to a separate log file.

For more information on error messages and alerts, refer to the *Cisco Broadband Access Center Administrator's Guide, Release 3.5*.

To configure the syslog utility on the RDU:

**Step 1** Log in as *root* on the RDU server.

**Step 2** At the command line, create the log file.

For example:

```
# touch /var/log/bac.log
```

**Step 3** Open the */etc/syslog.conf* file with a text editor, such as *vi*.

**Step 4** Add the following lines to the */etc/syslog.conf* file:

```
local6.alert        /var/log/bac.log
local6.info         /var/log/bac.log
```

**Note** You must insert one or more tabs between the local6:info and */var/log/bac.log* information.

**Step 5** Save and close the */etc/syslog.conf* file.

**Step 6** To force the syslog utility to take the new configuration, at the command line, enter:

```
# ps -ef  | grep syslogd
    root      217   1    0     Nov   26      ?    0:00      /usr/sbin/syslogd
```

```
kill -HUP 217
```

**Note** The process ID (PID) in this example is 217, but may change when you run **ps -ef | grep syslogd**. Use the correct output from that command as the input to **kill -HUP**.

Syslog is now ready to receive alerts from BAC.

APPENDIX A

# Reinstalling Broadband Access Center

This chapter describes the procedures to reinstall Cisco Broadband Access Center (BAC). Reinstallation in BAC is enabled only for the purpose of restoring an installation that might have been corrupted.

This release does not support reinstalling the Regional Distribution Unit (RDU) and the Device Provisioning Engine (DPE) that are already installed on your system. If you must carry out a reinstallation, first uninstall both components, and then reinstall them.

**Caution** You cannot retrieve a corrupted database after a reinstallation. You must have a backup of the database before it was corrupted. Subsequent sections describe how you can back up your database.

This chapter describes:



## Reinstalling from the CLI

To reinstall BAC from the CLI:

**Step 1** Back up your database by running the *BPR_HOME*/**rdu/bin/backupDb.sh** command, where *BPR_HOME* is the home directory. The default directory is */opt/CSCObac*.

To use this command, you must provide the target directory in which to place the backup files. This directory should be on a disk or partition that has available disk space equivalent to 120% of the current database file size. For detailed information, refer to the *Cisco Broadband Access Center Administrator's Guide, Release 3.5*.

**Caution** You must back up your database before proceeding with the reinstallation procedure. If you do not save your database before uninstalling BAC (the next step in the procedure), you will lose the information in the database because the *BPR_HOME* directory is deleted during an uninstallation.

**Step 2** Uninstall BAC from your system (see the Uninstalling from the CLI, page 5-2).

**Step 3** Then, carry out the installation procedure as described in the Installing BAC, page 3-2.

**Step 4** After you have installed BAC 3.5 on your system, restore the database from the backup, and copy the recovered database to the database location that the RDU uses. For detailed information, refer to the *Cisco Broadband Access Center Administrator's Guide, Release 3.5*.

# Reinstalling from the GUI

To reinstall BAC from the GUI:

**Step 1** Back up your database from the command line, by running the *BPR_HOME*/**rdu/bin/backupDb.sh** command.

To use this command, you must provide the target directory in which to store the backup files. This directory should be on a disk or partition that has available disk space equivalent to 120% of the current database file size. For detailed information, refer to the *Cisco Broadband Access Center Administrator's Guide*, *Release 3.5*.

**Caution** You must back up your database before proceeding with the reinstallation procedure. If you do not save your database before uninstalling BAC (the next step in the procedure), you will lose the information in the database because the *BPR_HOME* directory is deleted during an uninstallation.

**Step 2** Uninstall BAC from your system by following the uninstallation procedure described in the Uninstalling from the GUI, page 5-2.

**Step 3** Install the RDU and the DPE by following the procedure described in the Installing BAC, page 3-2.

**Step 4** After you installed BAC 3.5 on your system, restore the database from the backup, and copy the recovered database to the database location that the RDU uses. For detailed information, see *Cisco Broadband Access Center Administrator's Guide, Release 3.5*.

APPENDIX B

# Installation Worksheet

This chapter describes the basic configuration information that you need to ensure a successful installation of Cisco Broadband Access Center (BAC). Table B-1 is a worksheet that you can use to record the information specific to the installation.

*Table B-1 BAC Installation Parameters*

| Prompt | Description | Default Value |
|---|---|---|
| Home directory | Root directory to install BAC. | */opt/CSCObac* |
| Data directory | Root directory that stores the Data directory for the BAC components. | */var/CSCObac* |
| Database logs directory | Root directory that BAC uses to install the database transaction logs for BAC components. | */var/CSCObac* |
| Logs directory | Root directory to install the general transaction logs for BAC Components. | */var/CSCObac* |
| RDU port number | Port number that the RDU uses to communicate with the other BAC Components. | 49187 |
| Port number of administrator user interface | Port number that you use to access the BAC administrator user interface via HTTP. | 80 |
| Default BAC administrator | User name that you use to access the BAC administrator user interface. | bacadmin |
| Default administrator password | Password to access the BAC administrator user interface. | `changeme` |
| Installation password | Password that you use to install BAC from the CLI and the GUI interface. | `secret` |
| Default DPE CLI password | Password that you use to access the DPE CLI. | `changeme` |

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