



# CHAPTER 3

## Configuration Workflows and Checklists

This chapter is divided into two major sections that define the processes to follow when configuring BAC components to support various technologies. These sections are:

- [Component Workflows, page 3-1](#)
- [Technology Workflows, page 3-5](#)

### Component Workflows

This section describes the workflows you must follow to configure each BAC component for the technologies that BAC supports. You must perform these configuration tasks before configuring BAC to support specific technologies.

In some instances, certain procedures may only be applicable to a lab or component installation. In these cases that appropriate indication is made.

The component workflows described in this section are arranged in a checklist format and include:

- [RDU Checklist, page 3-1](#)
- DPE Checklists, including:
  - [Hardware DPE Checklist, page 3-2](#)
  - [Solaris DPE Checklist, page 3-3](#)
- [Network Registrar Checklist, page 3-5](#)



**Note**

Tasks marked with an asterisk (\*) are mandatory.

### RDU Checklist

[Table 3-1](#) identifies the workflow to follow when configuring the RDU.

**Table 3-1** RDU Workflow Checklist

Task	Refer to...	Installation Type
1. Configure the system syslog service for use with BAC.	<i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i>	Both

**Table 3-1 RDU Workflow Checklist (continued)**

Task	Refer to...	Installation Type
2. Access the BAC administrator user interface.	<a href="#">Accessing the Administrator User Interface, page 9-2</a>	Both
3. Change the admin password.	<a href="#">Accessing the Administrator User Interface, page 9-2</a>	Both
4. Add the appropriate license keys.	<a href="#">Managing License Keys, page 11-30</a>	Both
5. Configure the RDU database backup procedure.	<a href="#">Backup and Recovery, page 14-4</a>	Component Only
6. Configure the RDU SNMP agent.	<a href="#">Using the snmpAgentCfgUtil.sh Tool, page 13-15</a>	Component Only

## Hardware DPE Checklist

You must perform the activities described in [Table 3-2](#) after those described in [Table 3-1](#).



**Note** Tasks marked with an asterisk (\*) are mandatory.

[Table 3-2](#) identifies the workflow to follow when configuring the hardware DPE.

**Table 3-2 Hardware DPE Configuration Checklist**

Task	Refer to ...	Installation Type
1. Change the passwords.	The <b>password</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i> .	Component Only
2. Configure the system syslog service for use with BAC.	<i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i> .	Both
3. Configure your IP address.*	The <b>interface ethernet ip address</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i> .	Component Only
4. Configure the provisioning interface.*	The <b>interface ethernet provisioning enabled</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i> .	Component Only
5. Configure the default hardware gateway.*	The <b>ip default-gateway</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i> .	Component Only
6. Configure the provisioning FQDN.	The <b>interface ethernet provisioning fqdn</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i> .	Component Only

**Table 3-2 Hardware DPE Configuration Checklist (continued)**

Task	Refer to ...	Installation Type
7. Configure the BAC shared secret.*	The <b>dpe shared-secret</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
8. Configure the DPE to connect to the desired RDU.*	The <b>dpe rdu-server</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
9. Configure the Network Time Protocol (NTP).	The <b>ntp server</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
10. Configure the primary provisioning group.*	The <b>dpe provisioning-group primary</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
11. Configure a hostname.*	The <b>hostname</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
12. Configure a domain name.*	The <b>ip domain-name</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
13. Configure a minimum of one name server.*	The <b>ip name-server</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
14. Configure the required routes to the other BAC components as well as to the devices in the network.	The <b>ip route</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
15. Configure the DPE SNMP agent.	The SNMP agent commands in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
16. Verify that you are connected to RDU.	<a href="#">Viewing Servers, page 10-19</a>	Component Only

## Solaris DPE Checklist

You must perform the activities described in [Table 3-3](#) after those described in [Table 3-1](#).



### Note

This checklist applies to component installation of the Solaris DPE. A lab installation prompts for the required parameters, and automatically configures the selected technologies. Lab installations also use a single SNMP agent to monitor the DPE and the RDU. You can configure this agent from the DPE CLI or the `snmpAgentCfgUtil.sh` tool. See [Using the snmpAgentCfgUtil.sh Tool, page 13-15](#).



**Note** Tasks marked with an asterisk (\*) are mandatory.

Table 3-3 identifies the workflow to follow when configuring the Solaris DPE.

**Table 3-3 Solaris DPE Configuration Checklist**

Task	Refer to ...	Installation Type
1. Configure the system syslog service for use with BAC.	<i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1.</i>	Both
2. Change the passwords.	The <b>password</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Both
3. Configure the provisioning interface.*	The <b>interface ethernet provisioning enabled</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
4. Configure the provisioning FQDN.	The <b>interface ethernet provisioning fqdn</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
5. Configure the BAC shared secret.*	The <b>dpe shared-secret</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
6. Configure the DPE to connect to the desired RDU.*	The <b>dpe rdu-server</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
7. Configure the Network Time Protocol (NTP).	Solaris documentation for configuration information.	Component Only
8. Configure the primary provisioning group.*	The <b>dpe provisioning-group primary</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
9. Configure the required routes to the other BAC components as well as to the devices in the network.	The <b>ip route</b> command described in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
10. Configure the DPE SNMP agent.	The SNMP agent commands in the <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1.</i>	Component Only
11. Verify that you are connected to RDU.	<a href="#">Viewing Servers, page 10-19</a>	Both

## Network Registrar Checklist

You must perform the activities described in [Table 3-4](#) after those described in [Table 3-2](#) or [Table 3-3](#).



**Caution**

The BAC DHCP option settings always replace any DHCP option values set within Network Registrar.



**Note**

Tasks marked with an asterisk (\*) are mandatory.

[Table 3-4](#) identifies the workflow to follow when configuring Network Registrar.

**Table 3-4 Network Registrar Workflow Checklist**

Task	Refer to...	Installation Type
1. Validate the Network Registrar extensions.	<i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i> , for information on configuring valid extensions.	Both
2. Configure the system syslog service for use with BAC.	<i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i> , for information on configuring the system BAC syslog service.	Both
3. Configure client classes/scope-selection tags that match those defined in the RDU.*	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring client classes and scope-selection tags.	Both
4. Configure scopes.*	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring scopes.	Both
5. Configure policies.*	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring policies.	Both
6. Configure the backup procedure for the Network Registrar database.	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on backing up the Network Registrar database.	Component Only
7. Verify that you are connected to the correct RDU.	<a href="#">Viewing Servers, page 10-19</a>	Both

## Technology Workflows

This section describes the activities that you must perform when configuring BAC to support specific technologies.

The technology workflows described in this section are arranged in a checklist format and include:

- [DOCSIS Checklist, page 3-6](#)

- PacketCable Checklists including:
  - [PacketCable Secure, page 3-6](#)
  - [PacketCable Basic, page 3-10](#)
- [Non-Secure CableHome Provisioning Checklist, page 3-11](#)

**Note**

Tasks marked with an asterisk (\*) are mandatory.

## DOCSIS Checklist

You must perform the activities described in [Component Workflows, page 3-1](#), in addition to those described in [Table 3-5](#) to successfully configure BAC for DOCSIS operations.

**Table 3-5**      **DOCSIS Checklist**

Task	Refer to...
1. Configure the RDU	
a. Configure all provisioned DHCP criteria.	<a href="#">Configuring DHCP Criteria, page 11-24</a>
b. Configure provisioned Class of Service. Add the Class of Service that may be used by any provisioned DOCSIS modem.	<a href="#">Configuring Class of Service, page 11-1</a>
c. Configure the promiscuous mode of operation.	<a href="#">System Defaults, page 11-21</a>
2. Configure Network Registrar	
Configure client classes/scope-selection tags to match those added for the provisioned DOCSIS modem DHCP criteria.	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring client classes and scope-selection tags.

## PacketCable Checklists

BAC supports two variations of PacketCable. This section identifies the tasks that must be performed for each, including:

- [PacketCable Secure, page 3-6](#)
- [PacketCable Basic, page 3-10](#)

**Note**

The checklists in this section assume that an appropriate PacketCable configuration file and the correct MIBs are loaded.

## PacketCable Secure

BAC supports two variants of PacketCable Secure:

- North American PacketCable
- Euro PacketCable

You must perform the PacketCable-related tasks described in [Table 3-6](#) after those described in [Component Workflows, page 3-1](#).

The Secure PacketCable checklists involve working with every BAC component.



**Note**

For PacketCable-compliant operations, the maximum allowable clock skew between the MTA and KDC is 300 seconds (5 minutes). This value is the default setting.

[Table 3-6](#) identifies the workflow to follow when configuring PacketCable Secure on BAC.



**Note**

Tasks marked with an asterisk (\*) are mandatory.

**Table 3-6 PacketCable Secure Checklist**

Task	PacketCable Variant		Refer to...
	North American	Euro	
<b>1. Configure the RDU</b>			
<b>a.</b> Enable the autogeneration of Media Terminal Adapter (MTA) FQDNs.	✓	✓	<a href="#">Automatic FQDN Generation, page 11-38</a> , for information on enabling and configuring autogeneration of FQDNs.
<b>b.</b> Configure all provisioned DHCP criteria.	✓	✓	<a href="#">Configuring DHCP Criteria, page 11-24</a>
<b>c.</b> Configure all provisioned Class of Service.	✓	✓	<a href="#">Configuring Class of Service, page 11-1</a>
<b>d.</b> Configure an SNMPv3 cloning key.*	✓	✓	<a href="#">Configuring SNMPv3 Cloning on the RDU and DPE for Secure Communication with PacketCable MTAs, page 11-37</a>
<b>e.</b> Configure the RDU to use Euro PacketCable MIBs.		✓	<a href="#">Configuring Euro PacketCable MIBs, page 5-30</a>
<b>2. Configure the DPE</b>			
<b>a.</b> Configure a KDC service key.*	✓	✓	The <b>packetcable registration kdc-service-key</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i></li> </ul>

Table 3-6 PacketCable Secure Checklist (continued)

Task	PacketCable Variant		Refer to...
	North American	Euro	
b. Configure a privacy policy.*	✓	✓	The <b>packetcable registration policy-privacy</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i></li> </ul>
c. Configure an SNMPv3 cloning key.*	✓	✓	The <b>packetcable snmp key-material</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i></li> </ul> <p><b>Note</b> On a hardware DPE, you must run this command from the console mode.</p>
d. Enable PacketCable.*	✓	✓	The <b>packetcable enable</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i></li> </ul>
e. Configure the optional MTA file encryption.	✓	✓	The <b>packetcable registration encryption</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1</i></li> </ul>
<b>3. Configure the KDC</b>			
a. Obtain a KDC license from your Cisco representative and copy that file to the <i>BPR_HOME/kdc</i> directory.	✓	✓	<a href="#">KDC Licenses, page 5-9</a>
b. Configure a certificate chain using the PKCert.sh tool. For Euro PacketCable, use the <b>-e</b> option.	✓	✓	<a href="#">Using the PKCert.sh Tool, page 13-5</a>



Table 3-6 PacketCable Secure Checklist (continued)

Task	PacketCable Variant		Refer to...
	North American	Euro	
c. Configure a service key pair for each DPE's provisioning FQDN.	✓	✓	<a href="#">Using the KeyGen Tool, page 13-11</a>
d. Configure service keys for the ticket-granting-ticket (TGT).	✓	✓	<a href="#">Using the KeyGen Tool, page 13-11</a>
e. Configure service keys for the Call Management Server.	✓	✓	<a href="#">Using the KeyGen Tool, page 13-11</a>
f. Configure Network Time Protocol (NTP).	✓	✓	Solaris documentation for information on configuring NTP for Solaris.
<b>4. Configure DHCP</b>			
a. Configure all necessary PacketCable voice technology properties.	✓	✓	<a href="#">Using the KeyGen Tool, page 13-11</a>
b. Configure dynamic DNS for the MTA scopes.	✓	✓	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring dynamic DNS.
c. Configure client classes/scope-selection tags that match those defined in the RDU.*	✓	✓	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring client classes and scope-selection tags.
<b>5. Configure DNS</b>			
a. Configure dynamic DNS for each DHCP server.	✓	✓	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring dynamic DNS.
b. Configure a zone for the KDC realm.	✓	✓	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring zones.
c. Configure an SRV record for the KDC.	✓	✓	<a href="#">Configuring SRV Records in the Network Registrar DNS Server, page 11-36</a> , and the <i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring SRV records.
d. Configure records for the KDC and DPE provisioning interface names.	✓	✓	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring records.
<b>Note</b>	We recommend that you use the DNS procedure to configure a reverse zone for the DNS server IP address. Some DNS clients, including nslookup, attempt to resolve the DNS server IP address to an FQDN. This attempt may fail to retrieve any records from the DNS unless the reverse zone is present and properly configured.		

## PacketCable Basic

You must perform the PacketCable-related tasks described in [Table 3-7](#) after those described in [Component Workflows, page 3-1](#). The PacketCable Basic checklist involves working with almost every BAC component.

[Table 3-6](#) identifies the workflow to follow when configuring PacketCable Basic on BAC.



**Note** Tasks marked with an asterisk (\*) are mandatory.

**Table 3-7 PacketCable Basic Checklist**

Task	Refer to...
1. Configure the DPE	
Enable PacketCable.*	The <b>packetcable enable</b> command described in the: <ul style="list-style-type: none"> <li>• <i>Cisco Broadband Access Center DPE CLI Reference, 2.7.1</i></li> <li>• <i>Installation and Setup Guide for Cisco Broadband Access Center, 2.7.1.</i></li> </ul>
2. Configure DHCP	
a. Configure dynamic DNS for the MTA scopes.	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring dynamic DNS.
b. Configure client classes/scope-selection tags that match those defined in the RDU.*	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring client classes and scope-selection tags.
3. Configure DNS	
Configure dynamic DNS for each DHCP server.	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring dynamic DNS.
<b>Note</b>	We recommend that you use the DNS procedure to configure a reverse zone for the DNS server IP address. Some DNS clients, including nslookup, attempt to resolve the DNS server IP address to an FQDN. This attempt may fail to retrieve any records from the DNS unless the reverse zone is present and properly configured.
4. Configure a Class of Service, which must contain the following properties:	
<b>Note</b>	You can configure these properties anywhere on the device property hierarchy.

**Table 3-7 PacketCable Basic Checklist (continued)**

Task	Refer to...
<p><b>a.</b> /pktcbl/prov/flow/mode</p> <p>This property commands the specific flow that an MTA uses. Set this property to either:</p> <ul style="list-style-type: none"> <li>– BASIC.1—Executes the BASIC.1 flow.</li> <li>– BASIC.2—Executes the BASIC.2 flow.</li> </ul>	<a href="#">Configuring Class of Service, page 11-1</a>
<p><b>b.</b> /cos/packetCableMTA/file:</p> <p>This property contains the name of the configuration file that is to be presented to the MTA. The configuration file is stored as an external file in BAC.</p> <p>The configuration file presented to a Basic MTA must contain the Basic integrity hash. If you are using a dynamic configuration template, the hash is inserted transparently during template processing. You can use the dynamic template for provisioning in both Secure and Basic modes.</p> <p>However, if the file is a Secure static configuration file, you must convert this file to a Basic static configuration file because Secure and Basic static configuration files are not interoperable. For details on how to perform this conversion, see <a href="#">Activating PacketCable Basic Flow, page 8-39</a>.</p>	<a href="#">Configuring Class of Service, page 11-1</a>

## Non-Secure CableHome Provisioning Checklist

You must perform the tasks described in [Component Workflows, page 3-1](#), in addition to those described in [Table 3-8](#) to successfully configure BAC for non-secure CableHome provisioning.

**Table 3-8 Non-Secure CableHome Provisioning Checklist**

Task	Refer to...
<b>1.</b> Configure the RDU	
<p><b>a.</b> Configure provisioned DHCP criteria.</p> <p>Add all the DHCP criteria that will be used by the non-secure CableHome devices that you will provision.</p>	<a href="#">Configuring DHCP Criteria, page 11-24</a>
<p><b>b.</b> Configure provisioned Class of Service.</p> <p>Add the Class of Service that may be used by any provisioned non-secure CableHome device.</p>	<a href="#">Configuring Class of Service, page 11-1</a>
<b>c.</b> Configure the promiscuous mode of operation.	<a href="#">System Defaults, page 11-21</a>

**Table 3-8 Non-Secure CableHome Provisioning Checklist (continued)**

Task	Refer to...
2. Configure Network Registrar  Configure the client classes/scope-selection tags to match those added for the provisioned non-secure CableHome DHCP criteria.	<i>Cisco Network Registrar User's Guide, 6.2.1</i> , for information on configuring client classes and scope-selection tags.