



## Overview

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Broadband Provisioning Registrar (BPR) automates the process of configuring and provisioning cable network devices. BPR interfaces with Cisco Network Registrar, which includes a high-speed DHCP server for IP address management and a DNS server.

This chapter describes:

- Operating system requirements
- Cisco Network Registrar requirements
- Hardware requirements
- Types of installations
- Methods of installation

## Operating System Requirement

You must install BPR on a computer running the Solaris 8 operating system with the correct level of software patches installed.

## Network Registrar Requirements

Before you install BPR, be aware of the following Cisco Network Registrar requirements:

- BPR requires Network Registrar 5.0.9 or greater.
- You must first install a Solaris 8 Network Registrar DHCP server.
- In a failover deployment of BPR, you must configure two redundant DHCP servers for failover.
- After you install BPR, ensure that Network Registrar scopes are configured to reflect failover capability and the topology of the network on which BPR is installed.

For more information about configuring failover on Network Registrar servers, see the *Network Registrar User's Guide*.

# Hardware Requirements

A BPR installation requires the following servers:

- A regional distribution unit (RDU). This is the primary server in a BPR deployment. It contains the central BPR database and manages the generation of configurations.
- One or more device provisioning engines (DPE). A Cisco Device Provisioning Engine caches provisioning information and handles all configuration requests including downloading configuration files to devices. It is integrated with the Cisco Network Registrar DHCP server to control the assignment of IP addresses. Multiple DPEs can communicate with a single DHCP server. DPEs come with factory installed software that enables provisioning, but you must perform some initial set up.



**Note** The hardware installation procedure for the Device Provisioning Engine is the same as the procedure for installing the Cisco Content Engine. These procedures are described in the *Cisco Content Engine 500 Series Hardware Installation Guide*. For more information, see that guide. For more information about the front and rear panel, the ports, receptacles, and rack mounting, see the *Cisco Content Engine 500 Series Site Preparation and Safety Guide*.

- One or more Cisco Network Registrar servers. Network Registrar provides Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS) functionality. Implementing dynamic DNS (DDNS) within Network Registrar increases the number of servers you need to deploy.

[Table 1-1](#) describes the hardware requirements for each server.



**Note** At a minimum, you need one DPE for every 250,000 devices or for a provisioning group. Be aware that the minimum number does not provide redundancy. For redundancy, use the recommended number of DPEs, as described in [Table 1-1](#). Likewise, be aware that the minimum number of Network Registrar servers listed in [Table 1-1](#) does not provide failover capability. For failover, use the recommended number of servers. If you intend to implement dynamic DNS (DDNS) within Network Registrar, you need additional servers.

**Table 1-1** Broadband Provisioning Registrar Hardware Considerations

Number of Devices	Server Type	Minimum Number of Servers	Recommended Number of Servers	Recommended Number of Servers (with DNS)	Server Class	Number of Processors	Memory
100 (Lab use)		1	1	1	Netra T1	1	1GB

**Note** A single server device is required to support the RDU, DPE, and Network Registrar in a lab installation.

Table 1-1 Broadband Provisioning Registrar Hardware Considerations (continued)

Number of Devices	Server Type	Minimum Number of Servers	Recommended Number of Servers	Recommended Number of Servers (with DNS)	Server Class	Number of Processors	Memory
250,000	RDU	1	1	1	E220	1	1 GB
	DPE	1	2	2	N/A	N/A	N/A
	NR	1	2	3	Netra T1	1	512 MB
500,000	RDU	1	1	1	T4	2	2 GB
	DPE	2	4	4	N/A	N/A	N/A
	NR	2	4	6	Netra T1	1	512 MB
750,000	RDU	1	1	1	T4	2	2 GB
	DPE	3	6	6	N/A	N/A	N/A
	NR	3	6	9	Netra T1	1	512 MB
1,000,000	RDU	1	1	1	U80	4	2 GB
	DPE	4	8	8	N/A	N/A	N/A
	NR	4	8	12	Netra T1	1	512 MB

## Types of Installations

This guide discusses two types of installations:

- Individual component installation—The installation program enables you to install one or more individual components of BPR. The individual components are the RDU, Cisco Network Registrar extensions, and the application programming interface (API). Refer to [Chapter 3, “Installing Components”](#) for specifics about installing the individual components.
- Lab installation—The installation program enables you to install BPR for use in a laboratory environment for demonstration or evaluation prior to deploying BPR into a full network implementation. Refer to [Chapter 4, “Installing In a Lab Environment”](#) for more information.

You can install BPR from the installation program’s graphical user interface (GUI) or from the Solaris command line.

