



## Configuration Options

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Cisco Prime Network Registrar DHCP, Authoritative DNS, and Caching DNS components are licensed and managed from the regional server. You need to have a regional server and all services in the local clusters are licensed through the regional cluster. Only a regional install asks for a license file and only the regional server accepts new license files. Then the regional server can authorize individual local clusters based on available licenses.

The sample configuration shown in this chapter is based on the typical use cases described in the following sections:

- [Mixed DHCP and DNS Scenarios, on page 1](#)
- [DHCP-Only Scenarios, on page 2](#)
- [DNS-Only Scenarios, on page 3](#)

## Mixed DHCP and DNS Scenarios

You can set up Cisco Prime Network Registrar for a mixed DHCP and DNS configuration with different numbers of machines.

### One-Machine Mixed Configuration

Configure both DHCP and Auth DNS servers on a single machine, initially enabling the servers as primaries, and enabling the TFTP server and SNMP traps. Then configure at least one forward zone and corresponding reverse zone, and at least one scope.

Configure both DHCP and Caching DNS servers on a single machine, initially enabling the servers as primaries, and enabling the TFTP server and SNMP traps. Then you can configure forwarders and exception lists.

### Two-Machine Mixed Configuration

A mixed DHCP configuration on two machines offers a few alternatives:

- Configure one machine as primary DHCP and Auth DNS server, and the second machine as a secondary Auth DNS server. Then configure a zone distribution and DNS access controls on the first machine and optionally access controls on the second machine.
- Configure one machine as DHCP and Auth DNS main servers, and the second machine as DHCP and Auth DNS backup servers. Perform minimal configuration on the backup machine (changing the password,

enabling DHCP and Auth DNS, and selecting partner backup roles). On the main machine, build the configuration, creating server pairs and scheduling synchronization tasks with the backup machine.

- Configure one machine as a DHCP server and the second machine as a Auth DNS primary, and then configure either machine with DNS Update and push the configuration to the other machine.
- Configure one machine with both DHCP server and Auth DNS server, and the second machine as a Caching DNS server with the Auth DNS server as the Forwarder.

## Three-Machine Mixed Configuration

A mixed configuration on three machines offers a few additional alternatives:

- Configure one machine as a DHCP server, the second machine as an Auth DNS primary, and the third machine as an Auth DNS secondary. Optionally revisit the machines to make the DHCP main the Auth DNS backup, and make the Auth DNS main the DHCP backup.
- Configure one machine as DHCP failover and Auth DNS High-Availability (HA) main servers, the second machine as DHCP failover and Auth DNS HA backup servers, and the third machine as an Auth DNS secondary server.
- Configure one machine as a DHCP server, the second machine as an Auth DNS server, and the third machine as a Caching DNS, with the Auth DNS as the Forwarder.
- Configure one machine as a DHCP primary server and Auth DNS primary, the second machine as a DHCP secondary and Auth DNS secondary server, and the third machine as a Caching DNS, with the primary Auth DNS of the first machine as the Forwarder.

## Four-Machine Mixed Configuration

A mixed configuration on four machines could include:

- DHCP and Auth DNS main and backup pairs, with the first machine as a DHCP main, the second machine as a DHCP backup, the third machine as an Auth DNS main configured with DNS Update, and the fourth machine as an Auth DNS backup.
- An add-on to the three-machine scenario, with the first machine as a DHCP main, the second machine as an Auth DNS main, the third machine as DHCP and Auth DNS backups, and the fourth machine as an Auth DNS secondary.
- Configure the first machine as DHCP main, second machine as DHCP backup, third machine as Auth DNS, and Caching in fourth, with Auth DNS as Forwarder.

## DHCP-Only Scenarios

A DHCP-only configuration could be on a single machine or two machines.

## One-Machine DHCP Configuration

Initially configure only DHCP, skip the class-of-service and failover options, and revisit the setup to enable class-of-service and policy options.

## Two-Machine DHCP Configuration

Configure the first machine as a DHCP main and the second machine as a backup, with minimal backup configuration (changing password, enabling DHCP, and selecting the backup role), and set up the first machine with failover load balancing, optionally scheduling failover synchronization tasks.

## DNS-Only Scenarios

A DNS-only configuration could be on one, two, or three machines.

### One-Machine DNS Configuration

Initially configure DNS as an Auth primary, Auth secondary, or caching server.

### Two-Machine DNS Configuration

Configure the first machine as an Auth DNS primary and the second machine as a secondary, or the first machine as a main primary and the second machine as a backup primary.

Configure the first machine as an Auth DNS and the second machine as Caching DNS.

### Three-Machine DNS Configuration

Configure the first machine as an Auth DNS main primary, the second machine as a backup primary, and the third machine as a secondary server.

Configure the first machine as Auth DNS primary, the second machine as secondary, and the third machine as Caching DNS.

