



Installation Requirements

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System Requirements

Review the system requirements before installing the Cisco Prime Network Registrar 10.0 software:

- Java—You must have the Java Runtime Environment (JRE) 1.7/1.8, or the equivalent Java Development Kit (JDK) installed on your system (The JRE is available from Oracle on its website).



Note A 64-bit JRE/JDK is required.

- Operating system—We recommend that your Cisco Prime Network Registrar machine run on the Windows or Linux operating systems as described in the server minimum requirements table below. Cisco Prime Network Registrar requires a 64-bit operating system.

Cisco Prime Network Registrar supports running in VMware ESXi 5.5 or later environment.

- User Interface—Cisco Prime Network Registrar currently includes two user interfaces: a web UI and a CLI:
 - The web UI has been tested on Microsoft Internet Explorer 9, Mozilla Firefox 21 later and Google Chrome. Internet Explorer 8 is not supported.
 - The CLI runs in a Windows or Linux command window.



Tip Include a network time service in your configuration to avoid time differences between the local and regional clusters. This method ensures that the aggregated data at the regional server appears consistently. The maximum allowable time drift between the regional and local clusters is five minutes. If the time skew exceeds five minutes, then the installation process will not be able to correctly register the server with the regional. In this case, unset and set the password on the regional cluster, and sync again.

Table 1: Cisco Prime Network Registrar Server Minimum Requirements

Component	Operating System	
	Linux	Windows
OS version ¹	Red Hat Enterprise Linux ES 6.5 64-bit and CentOS 6.5 64-bit.	Windows Server 2012 R2 ²
Disk space ³	With basic DHCP and optimal hardware configuration: <ul style="list-style-type: none"> • For expected peak load between 500 and 1000 DHCP leases per second, 7500 RPM SATA⁴ drives are recommended. • For expected peak load above 1000 DHCP leases per second, SSD or 15000 RPM drives are recommended. Recommended hard drive-146 GB. 	
Memory ⁵	Small networks-8 GB, Average networks-16 GB, or Large networks-32 GB.	

¹ Cisco Prime Network Registrar 10.0 is only supported on 64-bit operating systems.

² Cisco Prime Network Registrar 10.0 supports Windows Server 2012 R2, running standalone or on VMWare (ESXi Server 5.5 or later) on Cisco Unified Computing System (CUCS) and other hardware supported by VMWare.

³ Higher I/O bandwidth usually results in higher average leases per second.

⁴ Serial Advanced Technology Attachment (Serial ATA).

⁵ Faster CPU and more memory typically result in higher peak leases per second.

System Requirements for Linux OS (RH 6.5 and CentOS 7.5)

To run Cisco Prime Network Registrar on Red Hat Enterprise Linux ES 6.5, ensure that the Java Runtime Environment (JRE) is installed along with its dependencies. The Linux OS has the following packages. To support External Authentication using AD and GSS TSIG features ensure installation of the following:

- krb5-libs
- cyrus-sasl-gssapi



Note To know the kind of Linux system you are on, use the following command:

```
more /etc/redhat-release
```

Recommendations

When Cisco Prime Network Registrar is deployed on virtual machines, review the following recommendations:

- Do NOT deploy HA DNS or DHCP failover partners on the same physical server (in separate VMs). This will not provide high availability when the server goes down. Ideally, the high available/failover partners should be sufficiently "separate" that when one fails (because of a hardware, power, networking failure), the other does not.

- When deploying multiple CPNR VMs on the same physical server (or servers served by a common set of disk resources), you should stagger the automatic nightly shadow backups (by default, they occur at 23:45 in the server's local time). To know how to alter this time, see the *"Setting Automatic Backup Time"* section in *Cisco Prime Network Registrar 10.0 Administrator Guide*.



Note It may be acceptable to not follow the above recommendations for lab environments; but they must be followed for production.

Installation Modes

The modes of installation that exist for the local and regional clusters are new installations and upgrades from a previous version. These installations or upgrades are performed by using operating system-specific software installation mechanisms:

- Windows—**InstallShield** setup program
- Linux—**install_cnr** script that uses Red Hat Package Manager

License Files

Cisco Prime Network Registrar 10.0 license file contains two sets of licenses that cover the permanent and subscription parts of the license. The permanent licenses are similar to the licenses issued for 8.x and 9.x versions. For CPNR 10.0, the licensing is done according to the services that you require.

The perpetual portion of the license will continue to use the mappings established for CPNR 8.3 and later.

Following are the types of licenses available:

- base-system—Licenses the CCM services. This license is mandatory if you want to run Cisco Prime Network Registrar.
- base-dhcp—Licenses DHCP/TFTP services and, optionally, an initial count of leases.
- base-dns—Licenses the authoritative DNS services and, optionally, an initial count of RRs.
- base-cdns—Licenses caching DNS services and, optionally, an initial count of servers.
- count-dhcp—Licenses an incremental number of active leases.
- count-dns—Licenses an incremental number of RRs.
- count-cdns—Licenses an incremental number of caching server instances.

A corresponding subscription license is issued for each permanent CPNR 10.0 license. The expiration date for each subscription license is set to the subscription period. Following are the types of licenses available:

- sub-system —Licenses the CCM services.
- sub-dhcp—Licenses the DHCP services.
- sub-count-dhcp—Licenses the authoritative DNS services.

- sub-dns—Licenses the caching DNS services.
- sub-count-dns—Licenses an incremental number of active leases..
- sub-cdns—Licenses an incremental number of RRs.

The different services provided by Cisco Prime Network Registrar are associated with the different license types as follows:

- CCM services—base-system
- DHCP services—base-dhcp and count-dhcp
- Authoritative DNS services—base-dns and count-dns
- Caching DNS services—base-system and base-cdns



Note Licenses for Cisco Prime Network Registrar 9.x or earlier are not valid for Cisco Prime Network Registrar 10.x. You should have a new license for Cisco Prime Network Registrar 10.x. For the 10.x Regional, if one has 9.x CDNS clusters, the 9.x CDNS licenses must be added on the Regional server (9.x CDNS clusters will use 9.x licenses, 10.x CDNS clusters will use 10.x licenses).



Note You should not delete any of the individual licenses loaded from the file. If required, you may delete older versions of DNS and DHCP licenses after the upgrade. Older versions of CDNS licenses must be retained if the servers are not upgraded.



Note The subscription portion of the license is required and will allow installation of future versions such as 10.1.



Note You should have at least one base license for a server to enable that service.

License management is done from the regional cluster when Cisco Prime Network Registrar is installed. You must install the regional server first, and load all licenses in the regional server. When you install the local cluster, it registers with regional to obtain its license.

When you install the regional, you are prompted to provide the license file. You can store the license file in any location provided the location and file are accessible during the installation.

The utilization of licenses are calculated by obtaining statistics from all the local clusters in the Cisco Prime Network Registrar system for all counted services (DHCP, DNS, and CDNS). The regional CCM server maintains the license utilization history for a predetermined time period.

Utilization is calculated for different services as:

- DHCP services—total number of active DHCP leases (including v4 and v6)
- Auth DNS services—the total number of DNS resource records (all RR types)

- Caching DNS services—total number of Caching DNS servers being run in the Cisco Prime Network Registrar system

The services on each local cluster will be restricted based on the services for which licenses are present.

When you configure DHCP failover, only simple failover is operational and supported (see Failover scenarios section in the Configuring DHCP Failover chapter of the *Cisco Prime Network Registrar 10.0 DHCP User Guide*).

To learn about obtaining the license files for Cisco Prime Network Registrar, see [Obtaining Cisco Prime Network Registrar License Files](#).

