



Cisco Prime Network Registrar 8.2.2 Release Notes

September 29, 2014

These release notes provide an overview of the new and changed features in Cisco Prime Network Registrar 8.2.2, and describe how to access information about the known problems in Cisco Prime Network Registrar 8.2.2.



Note

You can access the most current Cisco Prime Network Registrar documentation, including these release notes, online at:

http://www.cisco.com/en/US/products/ps11808/tsd_products_support_series_home.html

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Introduction

Cisco Prime Network Registrar is one of the Prime suite of network solution products. The Cisco Prime portfolio offerings empower IT organizations to more effectively manage their networks and the services they deliver. Built on a service-centric foundation, the Cisco Prime portfolio of products supports integrated lifecycle management through an intuitive workflow-oriented user experience and a set of common operational attributes.

Cisco Prime products deliver unified management by supporting integrated lifecycle operations across Cisco architectures, technologies, and networks. The portfolio of Cisco Prime for Service Providers solutions provides A-to-Z management for IP Next-Generation Networks, Mobility, Video, and Managed Services. Cisco Prime Network Registrar is a product of the Prime portfolio.

Cisco Prime Network Registrar is comprised of these components:

- A Domain Name System (DNS) protocol service
- A Caching DNS service
- A Dynamic Host Configuration Protocol (DHCP) service.

Cisco offers these components as individually licensed applications or in a mix of suites.

In addition, for IP address management application Cisco Prime Network Registrar IPAM can be deployed as a standalone application or can be integrated with the DHCP and DNS server components of Cisco Prime Network Registrar.

Before you Begin

Before you install Cisco Prime Network Registrar 8.2.2, review the system requirements and licensing information available in the *Cisco Prime Network Registrar 8.2 Installation Guide*.

**Note**

If you are migrating to Cisco Prime Network Registrar 8.2.2 from an earlier version of Cisco Prime Network Registrar, you must review the release notes for the releases that occurred in between, to fully understand all the changes.

Cisco Prime Network Registrar DHCP, Authoritative DNS, and Caching DNS components are licensed and managed from the regional server. All services in the local clusters are licensed through the regional cluster. Only a regional install requires 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.

**Note**

Licenses for Cisco Network Registrar 6.x and 7.x are not valid for Cisco Prime Network Registrar 8.x.

Cisco Prime Network Registrar IPAM is licensed separately from Cisco Prime Network Registrar DHCP, DNS, and Caching DNS. When installing IPAM, you will be asked to install as a separate process using a separate license key. To receive the IPAM license, you must purchase Cisco Prime Network Registrar IPAM either individually or as part of a Cisco Prime Network Registrar suite.

For more details about Licensing, see the License Files section in the Overview chapter of the *Cisco Prime Network Registrar 8.2 Installation Guide*.

The Cisco Prime Network Registrar 8.2.2 kit contains the following files and directories:

- Solaris—Solaris 10 installation kit
- Linux5—Red Hat Linux ES 5.x or 6.x installation kit
- Windows—Windows Server 2008 R2 installation kit

- Docs—Product documentation in the PDF format

Installation Requirements

The section contains the following sections:

- [System Requirements, page 3](#)
- [System Requirements for Red Hat Enterprise Linux ES 6.x \(64-bit\), page 4](#)

System Requirements

Review the system requirements before installing the Cisco Prime Network Registrar 8.2.2 software:

- Java—You must have the Java Runtime Environment (JRE) 1.6 or later, or the equivalent Java Development Kit (JDK) installed on your system. (The JRE is available from Oracle on its website.)
- Operating system—We recommend that your Cisco Prime Network Registrar machine run on the Windows, Solaris, or Linux operating systems as described in [Table 1 Cisco Prime Network Registrar Server Minimum Requirements, page 4](#). Cisco Prime Network Registrar is supported on 32-bit or 64-bit operating systems. Cisco Prime Network Registrar supports running in VMWARE ESXi 5.0 or later environment.



Note Cisco Prime Network Registrar applications are 32-bit executable programs and the system should support 32-bit applications (Java JRE/JDK, OpenLDAP library (for RedHat)).

- 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 and Mozilla Firefox 21 and later. Internet Explorer 8 is not supported.
 - The CLI runs in a Windows, Solaris, or Linux command window.



Note For the CLI, the number of concurrent active user sessions and processes on a cluster can be no more than 14.



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		
	Solaris ¹	Linux	Windows
OS version ²	Solaris 10	Red Hat Enterprise Linux ES 5.x ³ , Red Hat Enterprise Linux ES 6.x, Linux CentOS 6.0 ⁴	Windows Server 2008 ⁵
Disk space ⁶	2 x 73/146 SAS drives ⁷	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 SATA⁸ drives are recommended. • For expected peak load above 1000 DHCP leases per second, 15000 RPM SAS drives are recommended. Recommended hard drive—146 GB 	
Memory ⁹	16 GB	Small networks—4 GB, Average networks—8 GB, or Large networks—16 GB	

1. Cisco Prime Network Registrar 8.2 supports Solaris Sparc only, 128-KB block sizes in the Solaris 10 ZFS and running in Solaris LDOM environments.
2. Cisco Prime Network Registrar is supported on 32-bit and 64-bit operating systems. Only 32-bit Red Hat Enterprise Linux ES 6.0 is supported.
3. Reloading the DHCP server on Red Hat Enterprise Linux ES 5.x can result in memory leaks, which can result in the server aborting itself when it runs out of memory. We recommend that Red Hat Enterprise Linux ES 6.x be used instead.
4. Cisco Prime Network Registrar 8.2 supports Red Hat Enterprise Linux ES 5.0 and Red Hat Enterprise Linux ES 6.0, running standalone or on VMWare (ESX Server 5.0 or later) on Cisco Unified Computing System (CUCS) and other hardware supported by VMWare.
5. Cisco Prime Network Registrar 8.2 supports Windows Server 2008, running standalone or on VMWare (ESX Server 5.0 or later) on Cisco Unified Computing System (CUCS) and other hardware supported by VMWare.
6. Higher I/O bandwidth usually results in higher average leases per second.
7. Serial Attached SCSI.
8. Serial Advanced Technology Attachment (Serial ATA).
9. Faster CPU and more memory typically result in higher peak leases per second.

System Requirements for Red Hat Enterprise Linux ES 6.x (64-bit)

To run Cisco Prime Network Registrar on Red Hat Enterprise Linux ES 6.x (64-bit), ensure the following:

1. The Linux operating system has the following packages to support the Cisco Prime Network Registrar (32-bit) applications:
 - glibc.i686
 - libgcc.i686
 - glibc-common
 - libstdc++

- compat-libstdc++
 - cyrus-sasl-lib
2. Java Runtime Environment (JRE) (32-bit) is installed along with the dependencies.

Market Segment Specific Licensing

Cisco Prime Network Registrar introduced separate licenses for components (System, DHCP, DNS, and CDNS) in Release 8.0. For information on the Cisco Prime Network Registrar component based license set, see the License Files section of the *Cisco Prime Network Registrar 8.2 Installation Guide*.

From releases 8.1.2 and 8.1.3, Cisco Prime Network Registrar license types are offered specific to market segments. Market specific licensing generates license keys for use by market segments, that is, Service Provider, Smart Grid, and others. Cisco Prime Network Registrar features are enabled based on the market segment specific license you choose. For example, the PNR license offers features designed for the Service Provider market segment whereas the PNR-SG license offers features designed for the Smart Grid market segment.

Cisco Prime Network Registrar currently offers the following two sets of market segment based licenses:

- PNR
- PNR-SG



Note

If the licenses for both market segments are installed, then only the PNR license will be active.

The regional server which uses the PNR-SG license can be converted to PNR by installing the PNR license. Local cluster licenses will be converted automatically at the next compliance check, or can be manually updated by resynchronizing the local cluster.

For a given market segment license, only the counts from corresponding market segment license will apply. For example, if the PNR count license is applied when the PNR-SG base license is active, the Right to Use count will not be updated. If the PNR-SG count license is applied when the PNR base license is active, the Right to Use count will not be updated.

PNR Licenses

The PNR license provides all the features available for the Cisco Prime Network Registrar release you install. If your license set was issued for a release before 8.1.2, it is a PNR license.

PNR-SG Licenses

The PNR-SG license offers the following PNR features with the exception of (identified as not necessary for Smart Grid implementations):

- Tenants
- External Authentication
- Extensions
- Lightweight Directory Access Protocol (LDAP)
- TCP Listeners (client notification)

- Trivial File Transfer Protocol (TFTP)
- Router Interface Configuration (RIC)
- Regional lease history and subnet utilization

**Note**

Before you install Cisco Prime Network Registrar 8.2.2, review the system requirements and licensing in the *Cisco Prime Network Registrar 8.2 Installation Guide*.

Interoperability

Cisco Prime Network Registrar 8.2 uses individual component licenses. This allows users to purchase and install DHCP services, DNS services and IPAM services individually, or as a suite.

When you purchase the full set of Cisco Prime Network Registrar components, you receive a license package for IPAM and a separate license for Cisco Prime Network Registrar DHCP and DNS components.

To install and manage DHCP, DNS, and Caching DNS licenses, you must establish a regional server. The regional server is used to install, count, and manage licensing for these components. The Cisco Prime Network Registrar IPAM license is installed separately and does not use the regional server.

The synchronization between 8.2 and pre-8.2 local clusters must be done from an 8.2 regional cluster. Cisco Prime Network Registrar 8.2 protocol servers interoperate with versions 8.1.3 and 7.2.3.2.

- Cisco Prime Network Registrar 8.2 DHCPv4 failover servers **do not interoperate** with Cisco Network Registrar 8.0, 8.1, 7.2, 7.1, 7.0, and 6.3 failover servers.

**Caution**

The DHCP failover does not interoperate with Cisco Prime Network Registrar 8.1 or earlier DHCP failover. You must upgrade both the main and backup servers in the same maintenance window.

- By the nature of the EDNS0 protocol, Cisco Prime Network Registrar 8.2 DNS servers interoperate with earlier versions of Cisco Prime Network Registrar DNS (and third party DNS vendors). EDNS0 defines the interoperability with DNS servers that do not support EDNS0; Cisco Prime Network Registrar 8.2 DNS adheres to the RFC and consequently interoperate with earlier versions of Cisco Prime Network Registrar.
- Cisco Prime Network Registrar 8.2 DDNSv6 interoperates with Cisco Network Registrar 7.0 and later DNS servers because of the use of the DHCID RRs (in place of TXT RRs for DDNSv6).
- The HA protocol version has been updated in Cisco Prime Network Registrar 8.0 and communications with earlier versions is not supported.
- Cisco Prime Network Registrar 8.2 does not interoperate with Cisco Prime Network Registrar IPAM 8.1.1 or 8.1.2. An updated version of Cisco Prime Network Registrar IPAM is required to interoperate with Cisco Prime Network Registrar 8.2.

Limitations and Restrictions

This section describes limitations and restrictions you might encounter using Cisco Prime Network Registrar 8.2.

- The Regional Pull Replica Address Space fails when reservations are being pulled for new failover-pair objects. This problem occurs only if there is a new failover-pair and one or more reservations associated with that failover-pair.

To work around this issue, repeat the operation twice—first checking Omit Reservations and then without checking Omit Reservations. After the failover-pairs have been pulled, subsequent pull replica address space operations will work correctly.

- In situations where a DHCPv6 server supports clients with multiple leases, the demand on server memory increases. DHCPv4 supports only one lease per client, while DHCPv6 supports multiple leases. Therefore, a server running DHCPv6 cannot support as many leases (clients) as the same server running DHCPv4. For example, one DHCPv6 client might require 2,500 bytes of space compared to 1,000 bytes per DHCPv4 client. This means that a machine that would support one million DHCPv4 clients supports only 400,000 DHCPv6 clients. We recommend that you allow three times the memory for DHCPv6 clients as you would for DHCPv4.

You must:

- Be aware of how many prefixes per link are configured. If the configuration has two prefixes on a link, then with default configuration parameters, you have to cut in half the number of clients.
- Use care if you enable inhibit-all-renews. When enabled, each client would use at least two leases, and perhaps three, depending on the grace and affinity times per prefix.

Cisco Prime Network Registrar Bugs

For more information on a specific bug or to search all bugs in a particular Cisco Prime Network Registrar release, see [Using the Bug Search Tool, page 8](#).

This section contains the following information:

- [Resolved Bugs, page 7](#)
- [Enhancement Features, page 7](#)
- [Using the Bug Search Tool, page 8](#)

Resolved Bugs

For the complete list of bugs for this release, see the `cpnr_8_2_2-buglist.pdf` file available at the product download site. See this list especially for information about fixes to customer-reported issues.

Enhancement Features

For the complete list of enhancement features added in this release, see the `cpnr_8_2_2-enhancements.pdf` file available at the product download site.

Using the Bug Search Tool

Use the Bug Search tool to search for a specific bug or to search for all bugs in a release.

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- Step 1** Go to <http://tools.cisco.com/bugsearch>.
- Step 2** At the Log In screen, enter your registered Cisco.com username and password; then, click **Log In**. The Bug Search page opens.



Note If you do not have a Cisco.com username and password, you can register for them at <http://tools.cisco.com/RPF/register/register.do>.

- Step 3** To search for a specific bug, enter the bug ID in the Search For field and press **Return**.
- Step 4** To search for bugs in the current release:
- Click the **Search Bugs** tab and specify the following criteria:
 - In the **Search For** field, enter Prime Network Registrar and press **Return**. (Leave the other fields empty.)
 - When the search results are displayed, use the filter tools to find the types of bugs you are looking for. You can search for bugs by status, severity, modified date, and so forth.



Tip To export the results to a spreadsheet, click the **Export All to Spreadsheet** link.

Related Documentation

See [Cisco Prime Network Registrar Documentation Overview](#) for a list of Cisco Prime Network Registrar 8.2.2 guides.

Accessibility Features in Cisco Prime Network Registrar 8.2.2

All product documents are accessible except for images, graphics, and some charts. If you would like to receive the product documentation in audio format, braille, or large print, contact accessibility@cisco.com.

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>

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