

Cisco Network Registrar 7.0

General

Q. What is Cisco® Network Registrar®?

- A.** The Cisco Network Registrar solution provides comprehensive Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP) administrative functions to help customers automate and streamline IP networking services, including business-critical tasks such as client configuration and provisioning. It also supports Trivial File Transfer Protocol (TFTP), which can be used to download and upload data.

Licensing

Q. What licensing mechanism is used in Cisco Network Registrar 7.0?

- A.** Cisco Network Registrar implements FlexLM as the licensing mechanism for version 7.0 and later.

Q. Why FlexLM?

- A.** FlexLM provides a better way to monitor the number of licenses used compared to the number of purchased licenses. FlexLM also provides better reporting to alert users when they are about to reach the maximum number of devices covered by their right-to-use (RTU) licenses. Cisco standardizes FlexLM as the licensing mechanism for software applications to ease software licensing management. Users can query a central server for details of a software license in the event the licensing information is lost.

Q. What is the Cisco Network Registrar licensing model?

- A.** Cisco Network Registrar continues to be licensed based on the number of IP nodes, the same model it has been supporting over the years. To order Cisco Network Registrar users first order the base license, which includes the software media kit and a license for 1000 IP nodes. If the network has more than 1000 IP nodes, users can order additional licenses to cover the remaining IP nodes. Similarly, when upgrading to Cisco Network Registrar, users can upgrade the base license and then add additional licenses if necessary.

Features

Q. What are the features introduced in Cisco Network Registrar 7.0?

- A.** New features in Cisco Network Registrar 7.0 include a configuration wizard, real-time server status dashboard, improved search capability, carrier-class lease reservation performance, installation wizards and auditing RFC 4388, better error handling and reporting, IPv6 support enhancements, and DOCSIS® 3.0 support.

Q. What is the configuration wizard?

- A.** The configuration wizard helps users navigate through the different Cisco Network Registrar configuration steps. With the wizard, users can easily perform DHCP and DNS configuration by entering the parameters that are essential for the configuration. This is the basic configuration mode. The advanced configuration mode is still available for users with more in-depth experience of DNS and DHCP configuration.

Q. What is the benefit of using the configuration wizard?

- A.** The main objective of the configuration wizard is to ease the configuration of DNS and DHCP services. Instead of presenting a screen with many fields to complete, the configuration wizard only asks the user for the mandatory parameters. For users who are new to Cisco Network Registrar, the configuration wizard provides a much more friendly and much less intimidating interface than the advanced mode.
- Q. What is the real-time server status dashboard?**
- A.** The dashboard provides an at-a-glance, real-time indicator of the server health, system metrics, alarms and alerts, and inventories of the Cisco Network Registrar server. The dashboard displays graphs for monitoring DHCP and DNS general information, throughput, and error data that can affect network operation. To measure address usage over time, the dashboard can collect DHCP utilization information for a time period and present graphs showing trends that are useful for capacity planning.
- Q. Why is the status dashboard important?**
- A.** The dashboard in a car provides the driver with all critical information about the condition of the car: the speed at which the car is moving, the temperature of the engine, and the amount of fuel in the tank. Similarly, the status dashboard provides all the information that is critical to the daily operation of the Cisco Network Registrar DNS and DHCP servers.
- Q. What improvements have been made to the searching capability?**
- A.** Users can search for an IP address and retrieve the relevant information associated with the address. Users can find out the current state of the address, the scope to which it belongs, and the date and time the lease was granted. Users can start the search by entering the IP address or a MAC address that is associated with the IP address.
- Q. How does the carrier-class lease reservation configuration work?**
- A.** For users with needs for static IP address assignment, Cisco Network Registrar can handle up to 500,000 lease reservations. Because Cisco Network Registrar supports failover deployment, the enhanced lease reservation synchronizes the lease reservation between the main and the backup server to make sure any update to the configuration will be populated between these servers. Modification to the reserved lease configuration can be done through the Web UI, a command-line interface (CLI), and the Java Software Development Kit (SDK).
- Q. Why is it important to have high performance for lease reservations?**
- A.** Many service providers offer static IP addresses as a premium service. In a metropolitan area, it is very common to see demands for tens of thousands of static IP addresses, and Cisco Network Registrar scalable lease reservation helps service providers meet this demand.
- Q. What is the installation wizard?**
- A.** The wizard eases users through the installation procedure, providing assistance on each data point or wherever a decision is required. The default configuration allows users to quickly install Cisco Network Registrar. The wizard summarizes and presents all the entered input to users, thus effectively giving users a chance to review the configuration values before proceeding with the installation.
- Q. Why is the installation sanity check important?**
- A.** Cisco Network Registrar helps ensure that the server has the required minimum memory and disk capacity before allowing the installation process to move forward. The checklist includes the appropriate operating system version, hardware dependencies, and required software components like JavIf the server does not meet all the items on the checklist, the installation

will not proceed, thus avoiding potential problems that might arise due to inadequate system resources.

Q. What is installation auditing?

- A.** Cisco Network Registrar creates a log file capturing all the user input, responses, and error information generated during the installation. If users encounter any problem during the installation, they can diagnose the problem by reviewing the input and output information, which plays back the full installation activities.

Q. What is RFC 4388?

- A.** Cisco Network Registrar conforms to DHCP lease query per RFC 4388. This allows external device and processes to query Cisco Network Registrar for information about a lease.

Q. What improvement is available with error reporting?

- A.** Cisco Network Registrar provides a consistent error reporting mechanism to help users better understand and correct any DHCP and DNS problems encountered in the network. Moreover, Cisco Network Registrar simplifies the reporting schemes by eliminating intermediate translations and highlighting the information that is essential for problem identification and correction.

Q. What DHCPv6 enhancements are available?

- A.** Cisco Network Registrar expands the DHCP extension capability to include support for DHCPv6. The newly added extension features assist users in classifying client types in IPv6 networks. Cisco Network Registrar also supports dynamic DNS update per RFC 3315 to allow the Cisco Network Registrar DHCPv6 protocol server to update the DNSv6 zone and records. Users can configure dynamic DNS update through the Web UI, CLI, or the Java SDK. This support simplifies the integration of DNSv6 and DHCPv6 by allowing DNS information to be updated automatically when the client receives or returns a DHCPv6 lease. To differentiate client types, client-class processing allows users to handle DHCPv6 clients just as they have been doing. The client-class support gives users the option to configure Cisco Network Registrar to differentiate clients and treat the clients accordingly.

Q. Does Cisco Network Registrar support DOCSIS 3.0?

- A.** The DOCSIS 3.0 support primarily consists of new options that users can configure from the CLI and Web UI that allow Cisco Network Registrar to decode, display, and return the configured values to clients.

The DOCSIS 3.0 DHCPv6 options are:

- CableLabs® vendor-specific information options:
 - CL_OPTION_ORO (option request)
 - CL_OPTION_TFTP_SERVERS (TFTP server addresses)
 - CL_OPTION_CONFIG_FILE_NAME (configuration file name)
 - CL_OPTION_SYSLOG_SERVERS (syslog server addresses)
 - CL_OPTION_TLV5
 - CL_OPTION_DEVICE_ID (DOCSIS device identifier)
 - CL_OPTION_CCC (client configuration) placeholder for PacketCable™/CableHome™
 - Relay agent cable modem termination system (CMTS) capabilities and its suboptions (1 = DOCSIS version number)

- DHCPv6 relay agent remote ID option (RFC 4649)
- DHCPv6 relay agent subscriber ID option (RFC 4580)
- DHCPv6 relay agent assignment notification option (draft-ietf-dhc-dhcpv6-agentopt-delegate)
- DHCPv6 relay agent RADIUS attribute option (draft-ietf-dhc-v6-relay-radius)
- DHCPv6 vendor-specific information PacketCable/CableHome for device class
- DHCPv6 time protocol servers and time offset options (draft-ietf-dhc-dhcpv6-rfc868-servers)

Q. Why is DOCSIS 3.0 important?

- A.** With support for DOCSIS 3.0, Cisco Network Registrar provides Cable multiple service operators (MSOs) the capability to roll out new revenue-generating services.



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