



Preface

This guide describes configuring Cisco CNS Network Registrar by using the Web-based user interface (Web UI) and command line interface (CLI).

Who Should Read This Guide

This guide is designed for network managers who are responsible for maintaining the network Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), and Trivial File Transfer Protocol (TFTP) servers. The network manager should be familiar with the following topics:

- Basic concepts and terminology used in internetworking
- Network topology and protocols

How This Guide Is Organized

This guide describes how to become familiar with Network Registrar features so that you can use them to administer network addresses. The parts of this guide are described in the following subsections.

Part 1—Getting Started

Getting Started introduces Network Registrar, describes the management and protocol components, and describes the user interfaces. This part includes the following chapters:

Chapter 1	Network Registrar Components	Introduces Network Registrar, its deployment scenarios, and some deployment guidelines.
Chapter 2	Network Registrar User Interfaces	Describes the Network Registrar management and protocol components.
Chapter 3	Deploying Network Registrar	Describes the Network Registrar local and regional Web UIs and CLIs.

Part 2—Local and Regional Administration

Local and Regional Administration describes how to configure administrators, manage the central configuration, and maintain the servers and databases (including backup and recovery). This part includes the following chapters:

Chapter 4	Configuring Local and Regional Administrators	Describes how to configure the local and regional administrators, and provides administration tutorials.
Chapter 5	Managing the Central Configuration	Describes how to manage the central network configuration from the regional cluster.
Chapter 6	Maintaining Servers and Databases	Describes how to maintain the Network Registrar servers.
Chapter 7	Backup and Recovery	Describes how to back up or recover the databases.

Part 3—Address Management

Address Management describes how to manage the IP address space and its hierarchy, hosts, Router Interface Configuration (RIC) servers, owners and regions, and reports. This part includes the following chapters:

Chapter 8	Managing Address Space	Describes how to manage address space elements known as address blocks and subnets.
Chapter 9	Managing Hosts	Describes how to manage network hosts.
Chapter 10	Managing Router Interface Configurations	Describes how to manage the RIC server.
Chapter 11	Managing Owners and Regions	Describes how to manage network owners and regions.
Chapter 12	Managing Reports	Describes how to manage American Registry of Internet Numbers (ARIN) and address allocation reports.

Part 4—Domain and Zone Administration

Domain and Zone Administration describes how to configure DNS servers, zones, resource records, server attributes, and High Availability (HA) servers. This part includes the following chapters:

Chapter 13	Introduction to the Domain Name System	Introduces the Domain Name System (DNS) protocol and its Network Registrar implementation.
Chapter 14	Managing Zones	Describes how to manage DNS zones.

Chapter 15	Managing Resource Records	Describes how to manage DNS resource records (RRs).
Chapter 16	Managing DNS Server Properties	Describes how to set more advanced DNS server properties.
Chapter 17	Configuring High Availability DNS Servers	Describes how to configure a High Availability (HA) DNS server.

Part 5—Dynamic Host Administration

Dynamic Host Administration describes DHCP and how to configure scopes and leases and their several deployments, IPv6 addresses, clients and client-classes, failover, DNS Update, and special processing using extensions. This part includes the following chapters:

Chapter 18	Introduction to Dynamic Host Configuration	Introduces DHCP and its Network Registrar implementation.
Chapter 19	Configuring Scopes and Networks	Describes how to configure scopes and networks.
Chapter 20	Configuring Policies and Options	Describes how to configure policies and options.
Chapter 21	Managing Leases	Describes how to manage leases.
Chapter 22	Advanced DHCP Server Properties	Describes how to manage the more advanced DHCP server properties.
Chapter 23	Configuring Client-Classes and Clients	Describes how to configure DHCP clients and client-classes.
Chapter 24	Using Expressions	Describes how to use expressions for DHCP processing.
Chapter 26	Configuring DHCP Failover	Describes how to configure DHCP failover servers.
Chapter 27	Configuring DNS Update	Describes how to configure DNS Update for DHCP.
Chapter 28	Using Extension Points	Describes how to use extensions for DHCP processing.

Part 6—Appendixes, Glossary, and Index

Appendices, Glossary, and Index includes appendixes that describe DNS RRs, DHCP options, and the DHCP extension dictionary. This part also includes a glossary and an index.

Appendix A	Resource Records	Describes the DNS RRs.
Appendix B	DHCP Options	Describes the DHCP options.
Appendix C	DHCP Extension Dictionary	Describes the DHCP extension dictionary.
Glossary	Glossary	Glossary of terms used in Network Registrar.
Index	Index	Index to the guide.

Document Conventions

This guide uses the following documentation conventions.

Formatting

This guide uses the following formatting conventions:

- User input and controls are indicated in **bold**; for example “enter **1234**” and “click **Modify Scope**.”
- Object attributes are indicated in *italics*; for example “the *failover-safe-period* attribute.”
- Cross-references to chapters or sections of chapters are indicated in [blue](#) type; for example “see the “[Document Conventions](#)” section on page [XXVIII](#).”

Navigation and Screens

This guide uses the following navigation and screen display conventions:

- Windows systems use a two-button mouse. To drag and drop an object, click and hold the left mouse button on the object, drag the object to the target location, then release the button.
- Solaris systems use a three-button mouse. To drag and drop an object, click and hold the middle mouse button on the object, drag the object to the target location, then release the button.
- Screen displays can differ slightly from those included in this guide, depending on the system or browser you use.

Call-Outs

Call-outs in the text have the following meaning:



Be careful. The description alerts you to potential data damage or loss.

**Note**

Take note. The description is particularly noteworthy.

**Timesaver**

Save time. The description can present a timesaver.

**Tip**

Consider this helpful hint. The description can present an optimum action to take.

Network Registrar Documentation

The Network Registrar version 6.2 documentation set consists of:

- *Release Notes for Cisco CNS Network Registrar, Release 6.2*
- *Cisco CNS Network Registrar Installation Guide*
- *Cisco CNS Network Registrar User's Guide*
- *Cisco CNS Network Registrar CLI Reference Guide*

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/techsupport>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Product Documentation DVD

Cisco documentation and additional literature are available in the Product Documentation DVD package, which may have shipped with your product. The Product Documentation DVD is updated regularly and may be more current than printed documentation.

The Product Documentation DVD is a comprehensive library of technical product documentation on portable media. The DVD enables you to access multiple versions of hardware and software installation, configuration, and command guides for Cisco products and to view technical documentation in HTML. With the DVD, you have access to the same documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .pdf versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD=) from Cisco Marketplace at this URL:

<http://www.cisco.com/go/marketplace/>

Ordering Documentation

Beginning June 30, 2005, registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:

<http://www.cisco.com/go/marketplace/>

Nonregistered Cisco.com users can order technical documentation from 8:00 a.m. to 5:00 p.m. (0800 to 1700) PDT by calling 1 866 463-3487 in the United States and Canada, or elsewhere by calling 011 408 519-5055. You can also order documentation by e-mail at tech-doc-store-mkpl@external.cisco.com or by fax at 1 408 519-5001 in the United States and Canada, or elsewhere at 011 408 519-5001.

Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com.

You can send comments about Cisco documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- Nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:

<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

**Note**

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:
<http://www.cisco.com/go/marketplace/>
- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:
<http://www.ciscopress.com>
- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:
<http://www.cisco.com/packet>
- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

or view the digital edition at this URL:

<http://ciscoiq.texterity.com/ciscoiq/sample/>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:
<http://www.cisco.com/ipj>
- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:
<http://www.cisco.com/en/US/products/index.html>
- Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:
<http://www.cisco.com/discuss/networking>
- World-class networking training is available from Cisco. You can view current offerings at this URL:
<http://www.cisco.com/en/US/learning/index.html>