Oracle® Solaris Cluster Data Service for Domain Name Service (DNS) Guide

ORACLE®

110714@25097

Contents

Preface

Oracle Solaris Cluster Data Service for Domain Name Service (DNS) Guide explains how to install and configure Oracle Solaris Cluster HA for DNS.

Note – This Oracle Solaris Cluster release supports systems that use the SPARC and x86 families of processor architectures: UltraSPARC, SPARC64, AMD64, and Intel 64. In this document, x86 refers to the larger family of 64-bit x86 compatible products. Information in this document pertains to all platforms unless otherwise specified.

This document is intended for system administrators with extensive knowledge of Oracle software and hardware. Do not use this document as a planning or presales guide. Before reading this document, you should have already determined your system requirements and purchased the appropriate equipment and software.

The instructions in this book assume knowledge of the Oracle Solaris Operating System and expertise with the volume-manager software that is used with Oracle Solaris Cluster software.

Using UNIX Commands

This document contains information about commands that are specific to installing and configuring Oracle Solaris Cluster data services. The document does *not* contain comprehensive information about basic UNIX commands and procedures, such as shutting down the system, booting the system, and configuring devices. Information about basic UNIX commands and procedures is available from the following sources:

- Online documentation for the Oracle Solaris Operating System
- Oracle Solaris Operating System man pages
- Other software documentation that you received with your system

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P–1 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your `.login` file.
		Use `ls -a` to list all files.
		`machine_name% you have mail.`
AaBbCc123	What you type, contrasted with onscreen computer output	`machine_name%` **`su`**
		`Password:`
aabbcc123	Placeholder: replace with a real name or value	The command to remove a file is `rm` *filename*.
AaBbCc123	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the *User's Guide*.
		A *cache* is a copy that is stored locally.
		Do *not* save the file.
		Note: Some emphasized items appear bold online.

Shell Prompts in Command Examples

The following table shows the default UNIX system prompt and superuser prompt for shells that are included in the Oracle Solaris OS. Note that the default system prompt that is displayed in command examples varies, depending on the Oracle Solaris release.

TABLE P–2 Shell Prompts

Shell	Prompt
Bash shell, Korn shell, and Bourne shell	`$`
Bash shell, Korn shell, and Bourne shell for superuser	`#`
C shell	`machine_name%`
C shell for superuser	`machine_name#`

Related Documentation

Information about related Oracle Solaris Cluster topics is available in the documentation that is listed in the following table. All Oracle Solaris Cluster documentation is available at `http://docs.sun.com`.

Topic	Documentation
Data service administration	*Oracle Solaris Cluster Data Services Planning and Administration Guide*
	Individual data service guides
Concepts	*Oracle Solaris Cluster Concepts Guide*
Overview	*Oracle Solaris Cluster Overview*
Software installation	*Oracle Solaris Cluster Software Installation Guide*
System administration	*Oracle Solaris Cluster System Administration Guide*
Hardware administration	*Oracle Solaris Cluster 3.3 Hardware Administration Manual*
	Individual hardware administration guides
Data service development	*Oracle Solaris Cluster Data Services Developer's Guide*
Error messages	*Oracle Solaris Cluster Error Messages Guide*
Command and function reference	*Oracle Solaris Cluster Reference Manual*

For a complete list of Oracle Solaris Cluster documentation, see the release notes for your release of Oracle Solaris Cluster at `http://docs.sun.com`.

Related Third-Party Web Site References

Third-party URLs that are referenced in this document provide additional related information.

Note – Oracle is not responsible for the availability of third-party web sites mentioned in this document. Oracle does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Oracle will not be responsible or liable for any actual or alleged damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Documentation, Support, and Training

See the following web sites for additional resources:

- Documentation (http://docs.sun.com)
- Support (http://www.oracle.com/us/support/systems/index.html)
- Training (http://education.oracle.com) – Click the Sun link in the left navigation bar.

Oracle Welcomes Your Comments

Oracle welcomes your comments and suggestions on the quality and usefulness of its documentation. If you find any errors or have any other suggestions for improvement, go to http://docs.sun.com and click Feedback. Indicate the title and part number of the documentation along with the chapter, section, and page number, if available. Please let us know if you want a reply.

Oracle Technology Network (http://www.oracle.com/technetwork/index.html) offers a range of resources related to Oracle software:

- Discuss technical problems and solutions on the Discussion Forums (http://forums.oracle.com).
- Get hands-on step-by-step tutorials with Oracle By Example (http://www.oracle.com/technology/obe/start/index.html).
- Download Sample Code (http://www.oracle.com/technology/sample_code/index.html).

Getting Help

If you have problems installing or using Oracle Solaris Cluster, contact your service provider and provide the following information:

- Your name and email address (if available)
- Your company name, address, and phone number
- The model number and serial number of your systems
- The release number of the Oracle Solaris Operating System (for example, Oracle Solaris 10)
- The release number of Oracle Solaris Cluster (for example, Oracle Solaris Cluster 3.3)

Use the following commands to gather information about each node on your system for your service provider.

Command	Function
prtconf -v	Displays the size of the system memory and reports information about peripheral devices
psrinfo -v	Displays information about processors
showrev –p	Reports which patches are installed
prtdiag -v	Displays system diagnostic information
/usr/cluster/bin/clnode show-rev	Displays Oracle Solaris Cluster release and package version information

Also have available the contents of the /var/adm/messages file.

1

Installing and Configuring Oracle Solaris Cluster HA for DNS

This chapter describes the steps to install and configure the HA for Domain Name Service (DNS) data service on your Oracle Solaris Cluster servers.

This chapter contains the following sections.

- "Overview of the Installation and Configuration Process for Oracle Solaris Cluster HA for DNS" on page 11
- "Installing DNS" on page 12
- "Installing the Oracle Solaris Cluster HA for DNS Packages" on page 14
- "Registering and Configuring Oracle Solaris Cluster HA for DNS" on page 16
- "Verifying Data Service Installation and Configuration" on page 21
- "Tuning the Oracle Solaris Cluster HA for DNS Fault Monitor" on page 21

You must configure Oracle Solaris Cluster HA for DNS as a failover data service. See Chapter 1, "Planning for Oracle Solaris Cluster Data Services," in *Oracle Solaris Cluster Data Services Planning and Administration Guide* and the *Solaris Cluster Concepts Guide for Solaris OS* document for general information about data services, resource groups, resources, and other related topics.

Note – The Oracle Solaris Cluster HA for DNS can be configured to run in a whole root or a sparse root non-global zone, if required.

Overview of the Installation and Configuration Process for Oracle Solaris Cluster HA for DNS

The following table lists the sections that describe the installation and configuration tasks.

TABLE 1–1   Task Map: Installing and Configuring Oracle Solaris Cluster HA for DNS

Task	Instructions
Install DNS	"Installing DNS" on page 12
Install Oracle Solaris Cluster HA for DNS packages	"How to Install the Oracle Solaris Cluster HA for DNS Packages" on page 15
Configure and start Oracle Solaris Cluster HA for DNS	"Registering and Configuring Oracle Solaris Cluster HA for DNS" on page 16
Verify the data service installation and configuration	"Verifying Data Service Installation and Configuration" on page 21
Tune the Oracle Solaris Cluster HA for DNS fault monitor	"Tuning the Oracle Solaris Cluster HA for DNS Fault Monitor" on page 21

Installing DNS

This section describes the steps to install DNS and to enable DNS to run as Oracle Solaris Cluster HA for DNS.

Oracle Solaris Cluster HA for DNS uses the Internet Domain Name Server (in.named) software that is bundled with the Solaris 8, Solaris 9, and Solaris 10 operating systems. See the in.named(1M) man page for information about how to set up DNS. The Oracle Solaris Cluster configuration involves the following differences.

- The DNS database is located on the cluster file system, not a local file system.
- A network resource (relocatable IP address), not the name of a physical host, identifies the name of a DNS server.

▼ How to Install DNS

This section describes how to install the DNS.

1   On a cluster member, become superuser or assume a role that provides solaris.cluster.admin RBAC authorization.

2   Decide on the network resource that will provide the DNS service.

This name should be an IP address (logical hostname) that you set up when you install the Oracle Solaris Cluster software. See the *Solaris Cluster Concepts Guide for Solaris OS* document for details about network resources.

3 Ensure that the DNS executable (`in.named`) is in the directory `/usr/sbin`.

The DNS executable is bundled with the Solaris 8, Solaris 9, and Solaris 10 operating systems. Ensure that this executable is located in the /usr/sbin directory before you begin the installation.

4 Create directory structure `/global/dns/named` on the cluster file system to hold the DNS configuration files (at level `/global/dns`) and database files (at level `/global/dns/named`).

See the *Solaris Cluster Software Installation Guide for Solaris OS* for information on how to set up cluster file systems.

```
# mkdir -p /global/dns/named
```

5 Place the configuration file for DNS, `named.conf` or `named.boot`, under the `/global/dns` directory.

If you have already installed DNS, you can copy the existing named.conf or named.boot file to the /global/dns directory. Otherwise, create a named.conf file in this directory. See the in.named(1M) man page for information on the types of entries to place in named.conf or named.boot. Either the named.conf file or the named.boot file must exist. Both files can exist.

6 Place all of the DNS database files (listed in the `named.conf` file) under the `/global/dns/named` directory.

7 On all of the clients of Oracle Solaris Cluster HA for DNS, create an entry for the network resource of the DNS service in the `/etc/resolv.conf` file.

On all of the nodes or zones, edit the /etc/resolv.conf file to contain the network resource. The following example shows the entries for a four-node configuration (phys-schost-1, phys-schost-2, phys-schost-3, and phys-schost-4) with the logical hostname schost-1.eng.sun.com.

```
domain eng.sun.com

; schost-1.eng.sun.com

(Only entry to be added if the file is already present.)

nameserver 192.29.72.90

; phys-schost-2.eng
nameserver 129.146.1.151

; phys-schost-3.eng
nameserver 129.146.1.152

; phys-schost-4.eng
nameserver 129.144.134.19

; phys-schost-1.eng
nameserver 129.144.1.57
```

Make the network resource the first entry after the domain name. DNS attempts to use the addresses in the order that they are listed in the resolv.conf file to access the server.

> **Note –** If the /etc/resolv.conf is already present on the nodes or zones, just add the first entry that shows the logical hostname in the preceding example. The order of the entries determines the order in which DNS tries to access the server.

8   On all of the cluster nodes or zones, edit the `/etc/inet/hosts` file to create an entry for the network resource of the DNS service.

In the following example, perform these steps.

- Replace the *IPaddress* variable with your actual IP address, such as 129.146.87.53.

- Replace the *logical-hostname* variable with your actual network resource (logical hostname).

```
127.0.0.1                          localhost
IPaddress                          logical-hostname
```

9   On all of the cluster nodes or zones, edit the `/etc/nsswitch.conf` file to add the string `dns` after `cluster` and `files` to the `hosts` entry.

Example:

```
hosts:          cluster files dns
```

10   On all of the cluster nodes or zones, test DNS.

The following example shows how to test DNS.

```
# /usr/sbin/in.named -c /global/dns/named.conf
# nslookup phys-schost-1
```

11   On all of the cluster nodes or zones, stop DNS.

Be sure to stop the in.named executable before you proceed.

```
# pkill -x in.named
```

Next Steps   If you installed the Oracle Solaris Cluster HA for DNS packages during your Oracle Solaris Cluster installation, go to "Registering and Configuring Oracle Solaris Cluster HA for DNS" on page 16. Otherwise, go to "Installing the Oracle Solaris Cluster HA for DNS Packages" on page 14.

Installing the Oracle Solaris Cluster HA for DNS Packages

If you did not install the Oracle Solaris Cluster HA for DNS packages during your initial Oracle Solaris Cluster installation, perform this procedure to install the packages. To install the packages, use the installer program.

> **Note –** You need to install the Oracle Solaris Cluster HA for DNS packages in the global cluster and not in the zone cluster.

▼ How to Install the Oracle Solaris Cluster HA for DNS Packages

Perform this procedure on each cluster node where you are installing the Oracle Solaris Cluster HA for DNS packages.

You can run the `installer` program with a command-line interface (CLI) or with a graphical user interface (GUI). The content and sequence of instructions in the CLI and the GUI are similar.

> **Note –** Even if you plan to configure this data service to run in non-global zones, install the packages for this data service in the global zone. The packages are propagated to any existing non-global zones and to any non-global zones that are created after you install the packages.

Before You Begin Ensure that you have the Oracle Solaris Cluster installation media.

If you intend to run the `installer` program with a GUI, ensure that your `DISPLAY` environment variable is set.

1 On the cluster node where you are installing the data service packages, become superuser.

2 Load the Oracle Solaris Cluster installation media into the DVD-ROM drive.

If the Volume Management daemon `vold(1M)` is running and configured to manage DVD-ROM devices, the daemon automatically mounts the DVD-ROM on the `/cdrom` directory.

3 Change to the installation wizard directory of the DVD-ROM.

- **If you are installing the data service packages on the SPARC platform, type the following command:**

  `# cd /cdrom/cdrom0/Solaris_sparc`

- **If you are installing the data service packages on the x86 platform, type the following command:**

  `# cd /cdrom/cdrom0/Solaris_x86`

4 Start the installation wizard.

`# ./installer`

5   **When you are prompted, accept the license agreement.**

6   **From the list of Oracle Solaris Cluster agents under Availability Services, select the data service for Domain Name Service (DNS).**

7   **If you require support for languages other than English, select the option to install multilingual packages.**

    English language support is always installed.

8   **When prompted whether to configure the data service now or later, choose Configure Later.**

    Choose Configure Later to perform the configuration after the installation.

9   **Follow the instructions on the screen to install the data service packages on the node.**

    The installation wizard displays the status of the installation. When the installation is complete, the wizard displays an installation summary and the installation logs.

10 **(GUI only) If you do not want to register the product and receive product updates, deselect the Product Registration option.**

    The Product Registration option is not available with the CLI. If you are running the installation wizard with the CLI, omit this step.

11 **Exit the installation wizard.**

12 **Unload the installation media from the DVD-ROM drive.**

    a. **To ensure that the DVD-ROM is not being used, change to a directory that does *not* reside on the DVD-ROM.**

    b. **Eject the DVD-ROM.**

        ```
        # eject cdrom
        ```

Next Steps   See "Registering and Configuring Oracle Solaris Cluster HA for DNS" on page 16 to register Oracle Solaris Cluster HA for DNS and to configure the cluster for the data service.

Registering and Configuring Oracle Solaris Cluster HA for DNS

This procedure describes how to use the clresource(1CL) command to register and configure Oracle Solaris Cluster HA for DNS.

Note – Other options also enable you to register and configure the data service. See "Tools for Data Service Resource Administration" in *Oracle Solaris Cluster Data Services Planning and Administration Guide* for details about these options.

Setting Oracle Solaris Cluster HA for DNS Extension Properties

The sections that follow contain instructions for registering and configuring Oracle Solaris Cluster HA for DNS resources. For information about the extension properties, see Appendix A, "Oracle Solaris Cluster HA for DNS Extension Properties." The Tunable entry indicates when you can update a property.

See Appendix A, "Standard Properties," in *Oracle Solaris Cluster Data Services Planning and Administration Guide* for details about all the Oracle Solaris Cluster properties.

To set an extension property of a resource, include the following option in the clresource(1CL) command that creates or modifies the resource:

-p *property=value*

-p *property*
    Identifies the extension property that you are setting.

value
    Specifies the value to which you are setting the extension property.

You can also use the procedures in Chapter 2, "Administering Data Service Resources," in *Oracle Solaris Cluster Data Services Planning and Administration Guide* to configure resources after the resources are created.

▼ How to Register and Configure Oracle Solaris Cluster HA for DNS

This section describes how to register and configure Oracle Solaris Cluster HA for DNS.

To perform this procedure, you need the following information about your configuration.

- The name of the resource type for Oracle Solaris Cluster HA for DNS. This name is SUNW.dns.
- The names of the cluster nodes that master the data service.
- The network resource that clients use to access the data service. You normally set up this IP address when you install the cluster. See the *Solaris Cluster Concepts Guide for Solaris OS* document for details about network resources.

■ The path to the DNS configuration files, which you must install on a cluster file system. This path maps to the `Config_dir` resource property that is configured in this procedure.

Note – Perform this procedure on any cluster member.

---

1 **On a cluster member, become superuser or assume a role that provides `solaris.cluster.admin` RBAC authorization.**

2 **Disable the SMF service `/network/dns/server:default`.**

Perform this step before starting any Oracle Solaris Cluster HA for DNS resource.

In the event of any failure in the initial primary node or zone, failover is possible only if the Service Management Facility (SMF) service `/network/dns/server:default` is disabled. On all potential primary nodes, disable this service by running the following command.

```
# svcadm disable /network/dns/server:default
```

3 **Register the resource type for the data service.**

```
# clresourcetype register SUNW.dns
```

SUNW.dns
   Specifies the predefined resource type name for your data service.

4 **Create a resource group for network and DNS resources to use.**

You can use the `-n` option to optionally select the set of nodes or zones on which the data service can run.

```
# clresourcegroup create [-n node-zone-list] resource-group
```

[-n *node-zone-list*]
   Specifies a comma-separated, ordered list of zones that can master this resource group. The format of each entry in the list is *node*. In this format, *node* specifies the node name and *zone* specifies the name of a non-global Solaris zone. To specify the global zone, or to specify a node without non-global zones, specify only *node*.

   This list is optional. If you omit this list, the global zone of each cluster node can master the resource group.

resource-group
   Specifies the name of the resource group. This name can be your choice but must be unique for the resource groups within the cluster.

5 **Add network resources to the resource group.**

For example, run the following command to add a logical hostname to a resource group.

```
# clreslogicalhostname create -g resource-group -h logical-hostname [logical-hostname] \
[-N netiflist] logical-hostname
```

-h *logical-hostname*

Specifies a comma-separated list of network resources (logical hostname). If you require a fully qualified hostname, you must specify the fully qualified name with the -h option and you cannot use the fully qualified form in the resource name.

-N *netiflist*

Specifies an optional, comma-separated list that identifies the IP Networking Multipathing groups that are on each node or zone. The format of each entry in the list is *netif*@*node*. The replaceable items in this format are as follows:

netif   Specifies an IPMP group name, such as sc_ipmp0, or a public network interface card (NIC). If you specify a public NIC, Oracle Solaris Cluster attempts to create the required IPMP groups.

node   Specifies the name or ID of a node. To specify the global zone, or to specify a node without non-global zones, specify only *node*.

Note – Oracle Solaris Cluster does not currently support the use of the adapter name for netif.

---

6   **Add a DNS application resource to the resource group.**

```
# clresource create -g resource-group \
-t SUNW.dns -p Resource_Dependencies=network-resource,... \
-p Port_list=port-number/protocol -p DNS_mode=config-file \
-p Confdir_list=config-directory  resource
```

The resource is created in the enabled state.

-t SUNW.dns

Specifies the name of the resource type to which this resource belongs. This entry is required.

-p Resource_Dependencies=*network-resource*, ...

Specifies a comma-separated list of network resources (logical hostnames) that DNS will use. If you do not specify this property, the value defaults to all the network resources that are contained in the resource group.

-p Port_list=*port-number/protocol*

Specifies a port number and the protocol to be used. If you do not specify this property, the value defaults to 53/udp.

-p DNS_mode=*config-file*

Specifies the configuration file to use, either conf (which specifies the file named.conf) or boot (which specifies the file named.boot). If you do not specify this property, the value defaults to conf.

-p Confdir_list=*config-directory*

Specifies the DNS configuration directory, which must be on the cluster file system. Oracle Solaris Cluster HA for DNS requires this extension property. The 'directory' directive in the global portion (options) of the named.conf should match this value.

resource
> Specifies the DNS application resource name.

7 Run the `clresourcegroup(1CL)` command to complete the following tasks.

- Enable the resource and fault monitoring.
- Move the resource group into a managed state.
- Bring the resource group online.

```
# clresourcegroup online -M resource-group
```

`-M`
> Moves all resources within the resource group to the `MANAGED` state.

resource-group
> Specifies the name of the resource group.

Example 1–1 Registering Failover Oracle Solaris Cluster HA for DNS

The following example shows how to register Oracle Solaris Cluster HA for DNS on a two-node cluster. Note that at the end, the `clresourcegroup` command starts Oracle Solaris Cluster HA for DNS.

```
Cluster Information
Node names: phys-schost-1, phys-schost-2
Logical hostname: schost-1
Resource group: resource-group-1 (for all the resources)
Resources: schost-1 (logical hostname), dns-1 (DNS application resource)

(Disable the SMF service /network/dns/server:default.)
# svcadm disable /network/dns/server:default

(Register the DNS resource type.)
# clresourcetype register SUNW.dns

(Add the resource group to contain all the resources.)
# clresourcegroup create resource-group-1

(Add the logical hostname resource to the resource group.)
# clreslogicalhostname create -g resource-group-1 -h schost-1 schost-1

(Add DNS application resources to the resource group.)
# clresource create -g resource-group-1 -t SUNW.dns \
-p Resource_Dependencies=schost-1 -p Port_list=53/udp \
-p DNS_mode=conf -p Confdir_list=/global/dns dns-1

(Bring the failover resource group online.)
# clresourcegroup online -M resource-group-1
```

Verifying Data Service Installation and Configuration

To verify that you have correctly installed and configured Oracle Solaris Cluster HA for DNS, run the following command after you complete the procedure "How to Register and Configure Oracle Solaris Cluster HA for DNS" on page 17.

```
# nslookup logical-hostname logical-hostname
```

In this example, *logical-hostname* is the name of the network resource that you have configured to service DNS requests—for example, schost-1—as shown in the previous registration example. The output should indicate that the network resource that you specified answered (served) the query.

Tuning the Oracle Solaris Cluster HA for DNS Fault Monitor

The Oracle Solaris Cluster HA for DNS fault monitor is contained in the resource that represents DNS. You create this resource when you register and configure Oracle Solaris Cluster HA for DNS. For more information, see "Registering and Configuring Oracle Solaris Cluster HA for DNS" on page 16.

System properties and extension properties of this resource control the behavior of the fault monitor. The default values of these properties determine the preset behavior of the fault monitor. The preset behavior should be suitable for most Oracle Solaris Cluster installations. Therefore, you should tune the Oracle Solaris Cluster HA for DNS fault monitor *only* if you need to modify this preset behavior.

For more information, see the following sections.

- "Tuning Fault Monitors for Oracle Solaris Cluster Data Services" in *Oracle Solaris Cluster Data Services Planning and Administration Guide*
- "Changing Resource Type, Resource Group, and Resource Properties" in *Oracle Solaris Cluster Data Services Planning and Administration Guide*
- Appendix A, "Standard Properties," in *Oracle Solaris Cluster Data Services Planning and Administration Guide*

Operations by the Fault Monitor During a Probe

The fault monitor probe uses the nslookup command to query the health of DNS. Before the probe actually queries the DNS server, a check is made to confirm that network resources are configured in the same resource group as the DNS data service. If no network resources are configured, an error message is logged, and the probe exits with failure.

The result of the nslookup command can be either failure or success. If DNS successfully replied to the nslookup query, the probe returns to its infinite loop, waiting for the next probe time.

If the nslookup fails, the probe considers this scenario a failure of the DNS data service and records the failure in its history. The DNS probe considers every failure a complete failure.

Based on the success or failure history, a failure can cause a local restart or a data service failover. "Tuning Fault Monitors for Oracle Solaris Cluster Data Services" in *Oracle Solaris Cluster Data Services Planning and Administration Guide* further describes this action.

A

Oracle Solaris Cluster HA for DNS Extension Properties

This section describes the extension properties for the resource type `SUNW.dns`. This resource type represents the DNS application in a Oracle Solaris Cluster configuration.

For details about system-defined properties, see the `r_properties(5)` man page and the `rg_properties(5)` man page.

The extension properties of the `SUNW.dns` resource type are as follows:

`Confdir_list`
The DNS configuration directory, which contains the configuration file for a DNS instance.

Data type	String
Default	No default defined
Range	Not applicable
Tunable	At creation

`DNS_mode`
The DNS configuration file to use, either `conf` (which specifies the file `named.conf`) or `boot` (which specifies the file `named.boot`).

Data type	String
Default	`conf`
Range	Not applicable
Tunable	At creation

`Monitor_retry_count`
The number of times that the process monitor facility (PMF) restarts the fault monitor during the time window that the `Monitor_retry_interval` property specifies. This property refers to restarts of the fault monitor itself rather than to the resource. The system-defined properties `Retry_interval` and `Retry_count` control resource restarts.

Data type	Integer
Default	4
Range	0 - 2,147,483,641

−1 indicates an infinite number of retry attempts.

Tunable	At any time

Monitor_retry_interval

The time (in minutes) over which failures of the fault monitor are counted. If the number of times that the fault monitor fails exceeds the value that is specified in the extension property Monitor_retry_count within this period, the PMF does not restart the fault monitor.

Data type	Integer
Default	2
Range	0 – 2,147,483,641

−1 indicates an infinite retry interval.

Tunable	At any time

Probe_timeout

The timeout value (in seconds) that the fault monitor uses to probe a DNS instance.

Data type	Integer
Default	120
Range	0 – 2,147,483,641
Tunable	At any time

Index

C
`clnode` command, 9
commands, node information, 8
configuring, Oracle Solaris Cluster HA for DNS, 17

D
DNS
   See also Oracle Solaris Cluster HA for DNS
   installation
      installing software, 12
Domain Name Service
   See DNS
   See Oracle Solaris Cluster HA for DNS

E
extension properties, `SUNW.dns` resource type, 23–24

F
fault monitor, Oracle Solaris Cluster HA for DNS, 21

G
global zone, 15

H
help, 8–9

I
installing
   DNS, 12
   Oracle Solaris Cluster HA for DNS, 14–16

L
local zones, *See* non-global zones

M
`messages` file, 9

N
non-global zones, 15

O
Oracle Solaris Cluster HA for DNS
   See also DNS
   fault monitor, 21
   installation
      verifying, 21