Chapter 17 Configuring DNS Services

This chapter provides general information about DNS service properties. The topics in this chapter include:

- **Configuring DNS Service Properties**
  - Configuring DNS Access Control
  - About Time To Live Settings
  - Configuring Hostname and Server ID Options
  - Enabling and Disabling DNS Health Check Monitor
  - Adding an Email Address to the SOA Record
  - Notifying External Secondary Servers
  - Enabling the Configuration of RRset Orders
  - Specifying Port Settings for DNS
  - Deleting PTR Records associated with A or AAAA Records
  - Specifying Minimal Responses
  - Starting and Stopping the DNS Service

- **About DNS Cache**
  - Clearing DNS Cache
  - Clearing Cache for DNS Views
  - Clearing Domains and Subdomains from DNS Cache
  - Viewing DNS Configuration
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- **Using Forwarders**
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- **Controlling DNS Queries**
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    - Enabling Recursive Resolution Using EDNS Client Subnet (ECS)
    - Enabling DNS Fault Tolerant Caching

- **Controlling AAAA Records for IPv4 Clients**
  - Enabling AAAA Filtering

- **About NXDOMAIN Redirection**
  - About NXDOMAIN Rulesets
  - NXDOMAIN Redirection Guidelines
  - Configuring NXDOMAIN Redirection
  - Creating Rulesets
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- **Detecting and Mitigating DNS DDoS Attacks**
  - Automated Mitigation of Phantom Domain Attacks
    - Guidelines for Mitigating Phantom Domain Attacks
    - Configuring Parameters for Mitigating Phantom Domain Attacks
  - Detecting NXDOMAIN Attacks
    - Tracking NXDOMAIN Responses
    - Tracking Cache Hit Ratio of Recursive Queries
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  - Mitigating Possible NXDOMAIN Attacks
  - Support for RRL (Response Rate Limiting)

- **About Blacklists**
  - About Blacklist Rulesets
  - Blacklist Guidelines
  - Configuring the Blacklist Feature
  - Enabling Blacklisting

- **Enabling Zone Transfers**
  - Configuring Zone Transfers
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- **About Root Name Servers**
  - Specifying Root Name Servers

- **About Sort Lists**
  - Defining a Sort List

- **Configuring a DNS Blackhole List**
  - Defining a DNS Blackhole List

- **Specifying Hostname Policies**
  - Defining Grid Hostname Policies
  - Defining Hostname Restrictions
  - Obtaining a List of Invalid Record Names

- **About DNS64**
  - Configuring DNS64
About Synthesis Groups

DNS Record Scavenging

Scavenging Rules

Configuring DNS Record Scavenging Properties

Scheduling Automatic Scavenging

Scavenging DNS Records Immediately

Disabling Scavenging for Individual Records

Administrative Permissions for DNS Records Scavenging

Restoring Reclaimed Records

Monitoring DNS Queries

Configuring DNS Traffic Control Properties

Configuring DNS Service Properties

You can configure general DNS service properties and change some default values. The DNS service is disabled by default. To enable the member to provide DNS service, you must start the DNS service. For information about how to start and stop the DNS service, see Starting and Stopping the DNS Service.

The following sections describe the DNS service properties that you can configure:

- Configuring DNS Access Control
- About Time To Live Settings
- Configuring Hostname and Server ID Options
- Adding an Email Address to the SOA Record
- Notifying External Secondary Servers
- Specifying Port Settings for DNS
- Specifying Minimal Responses
- Starting and Stopping the DNS Service

Configuring DNS Access Control

You can add ACEs (access control entries) or use a named ACL (access control list) to determine which hosts can perform specific DNS tasks. For information about how to define a named ACL, see Defining Named ACLs. When you add ACEs or a named ACL to Grid DNS properties, the configuration overrides member and object access control for DNS zone transfers, dynamic DNS updates, DNS queries and recursive queries, blackhole lists, and AAAA filtering. For a full list of operations that support access control, see Operations that Support Access Control.

To configure DNS access control:

1. From the Data Management tab, select the DNS tab, expand the Toolbar and click Grid DNS Properties.
2. In the Grid DNS Properties editor, click Toggle Advanced Mode, and select one of the following tabs for specific DNS tasks:
   - Updates tab: Define ACEs or a named ACL to control Grid level dynamic DNS updates, as described in Enabling DNS Servers to Accept DDNS Updates.
   - Queries tab: Define ACEs or a named ACL to control Grid level DNS queries, recursive queries, and AAAA filtering, as described in Controlling DNS Queries, Enabling Recursive Queries, and Configuring Minimal Responses.
   - Zone Transfers tab: Define ACEs or a named ACL to control Grid level DNS zone transfers, as described in Enabling Zone Transfers. This does not apply to zone transfers for Microsoft servers. For information about Microsoft servers, see Setting Zone Properties.
   - Blackhole tab: Configure ACEs or a named ACL to define IP addresses and networks that you do not want to include during the DNS resolution process, as described in Configuring a DNS Blackhole List.
   - DNS64 tab: Configure ACEs or a named ACL for clients to which the appliance sends synthesized AAAA records DNS64 groups, as described in Setting DNS64 Group Properties.
3. Save the configuration.

You can override the Grid settings at the member and object levels.