# DNS Client Configuration Mode Commands

The DNS Client Configuration Mode is used to manage the system's DNS interface and caching parameters.

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Important** The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).


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# bind

Binds the DNS client to a pre-configured logical IP interface.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

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**configure** > **context** *context_name* > **dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description**

```
bind { address ip_address [ port number ] | query-over-gtp }
no bind address
```

**no**

Removes the binding of the client to a specified interface.

**bind address *ip_address***

Specifies the IP address of the interface to which the DNS client is being bound in IPv4 dotted-decimal notation.

**bind port *number***

Specifies the UDP port number of the interface to which the DNS client is being bound as an integer from 1 to 65535. Default: 6011

**bind query-over-gtp**

Specifies that DNS client query is to be performed over GTP.

**Usage Guidelines**

Use this command to associate the client with a specific logical IP address.

**Example**

The following command binds the DNS client to a logical interface with an IP address of *10.2.3.4* and a port number of *6000*:

```
bind address 10.2.3.4 port 6000
```

# cache algorithm

Configures the method of use for the DNS VPN and session cache.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure** > **context** *context_name* > **dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description**

```
cache algorithm { central | local } { FIFO | LRU | LFU }
default cache algorithm { central | local }
```

**default**

Sets the DNS VPN and session cache method to default setting.

**central | local**

**central**: Specifies the central proclet (VPN manager)

**local**: Specifies the local proclet (session manager)

**FIFO | LRU | LFU**

**FIFO**: First in first out. This is the default setting for the central proclet.

**LRU**: Least recently used. This is the default value for the local proclet.

**LFU**: Least frequently used.

**Usage Guidelines**

Use this command to configure the method by which entries are added and removed from the DNS cache.

**Example**

The following command configures the cache algorithm for the central proclet to least frequently used (LFU):

```
cache algorithm central lfu
```

# cache size

Configures the maximum number of entries allowed in the DNS cache.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description**

```
cache size { central | local } max_size
default cache size { central | local }
```

**default**

Sets the maximum number of entries allowed in the DNS cache to default setting.

**{ central | local } *max_size***

**central** *max_size*: Specifies the maximum number of entries allowed in the central proclet cache as an integer from 100 through 65535. Default: 50000.

**local** *max_size*: Specifies the maximum number of entries allowed in the local proclet cache as an integer from 100 through 65535. Default: 1000.

**Usage Guidelines** Use this command to configure the maximum number of entries allowed in the DNS cache.

**Example**

The following command configures the cache size of the central proclet to *20000*:

```
cache size central 20000
```

# cache ttl

Configures the DNS cache time to live (TTL) for positive and negative responses.

**Product** All

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure** > **context** *context_name* > **dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description**

```
cache ttl { negative | positive } seconds
default cache ttl { negative | positive }
no cache [ ttl { negative | positive } ]
```

**no**

Disables any or all configured DNS cache parameters.

**default**

Sets the DNS cache time to live for positive and negative responses to the default setting.

**{ negative | positive } *seconds***

**negative** *seconds*: Specifies the time to live for negative responses as an integer from 60 through 86400. Default: 60.

**Note** The DNS client is always reinitialized when the **ip name-servers** CLI configuration is changed for a context. As a result, the **cache ttl negative** value is reset to the default value if **no cache ttl negative** CLI is configured for the DNS client in the context. Therefore, check and reconfigure the **no cache ttl negative** CLI after the **ip name-servers** CLI configuration is changed on the node.

**positive** *seconds*: Specifies the time to live for positive responses. as an integer from 60 through 86400. Default: 86400 (1 day).

**Usage Guidelines** Use this command to adjust the DNS cache time to live.

#### Example

The following commands set the TTL DNS cache to *90* seconds for negative responses and *43200* seconds for positive responses:

```
cache ttl negative 90
cache ttl positive 43200
```

# case-sensitive

Configures the case sensitivity requirement for responses to DNS requests.

**Product** All

**Privilege** Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description** **[ default | no ] case-sensitive response**

#### default

Returns the command to its default setting of disabled.

#### no

Disables the requirement for case sensitivity in DNS responses.

#### case-sensitive response

Enables the requirement for case sensitivity in DNS responses.

**Usage Guidelines** Use this command to require case sensitivity (identical case usage between request and response) on all responses to DNS request messages.

# description

Allows you to enter descriptive text for this configuration.

**Product** All

**Privilege** Security Administrator, Administrator

**Syntax Description**

```
description text
no description
```

**no**

Clears the description for this configuration.

***text***

Enter descriptive text as an alphanumeric string of 1 to 100 characters.

If you include spaces between words in the description, you must enclose the text within double quotation marks (" "), for example, "AAA BBBB".

**Usage Guidelines** The description should provide useful information about this configuration.

# end

Exits the current configuration mode and returns to the Exec mode.

**Product** All

**Privilege** Security Administrator, Administrator

**Syntax Description**

```
end
```

**Usage Guidelines** Use this command to return to the Exec mode.

# exit

Exits the current mode and returns to the parent configuration mode.

**Product** All

**Privilege** Security Administrator, Administrator

**Syntax Description**

```
exit
```

**Usage Guidelines** Use this command to return to the parent configuration mode.

# randomize-answers

Configures the DNS client to return DNS answers in random fashion if multiple results are available for a DNS query.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

`[context_name]host_name(config-dns-client)#`

**Syntax Description**

**`[no | default] randomize-answers`**

**no**

Removes the configured random method for DNS answers.

**default**

Disables the random method for DNS answers.

**randomize-answers**

Enables the random method for DNS answers.

**Usage Guidelines**

Use this command to configure the DNS client to return the DNS results in a random fashion if multiple results are available for a DNS query.

Only one valid option can be used for distribution of DNS answers: default, round-robin, or randomized.

**Example**

The following command configures the DNS client to use randomize the DNS query answers if multiple results are available for a DNS query:

**`randomize-answers`**

# resolver

Configures the number of DNS query retries and the retransmission interval once the response timer expires.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

**Syntax Description**

**`resolver { number-of-retries` *`retries`* `| retransmission-interval` *`time`* `}`**
**`default resolver { number-of-retries | retransmission-interval }`**

**default**

Resets the specified resolver configuration to the default.

**number-of-retries *retries***

Configures the number of DNS query retries on DNS response timeout as an integer from 0 through 4. Default: 2.

**retransmission-interval *time***

Configures the initial retransmission interval (in seconds) for retransmission after the DNS response timeout as an integer from 2 to 5. Default is 3 seconds. The retransmission interval doubles after each retry when only one server is configured. In case both primary and secondary servers are configured, the retransmission time is doubled for the last retry.

**Usage Guidelines**

Set the DNS retransmission retries or the retransmission interval. Issue the command twice to configure both parameters, one-at-a-time.

**Example**

The following command sets the DNS resolver retries to *4*:

**`resolver number-of-retries 4`**

# round-robin answers

Configures the DNS client to return the DNS results in round-robin fashion if multiple results are available for a DNS query.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > DNS Client Configuration

**configure > context** *context_name* **> dns-client** *client_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-dns-client)#
```

## Syntax Description

```
[ no | default ] round-robin-answers
```

### no

Removes the configured round robin method for DNS answer.

### default

Disables the round robin method for DNS answer.

### round-robin-answers

Enables the round robin method for DNS answer.

## Usage Guidelines

Use this command to configure the DNS client to return the DNS results in round-robin fashion if multiple results are available for a DNS query.

### Example

The following command configures the DNS client to use round robin method for DNS query answers:

```
round-robin-answers
```