Configure host-name resolution

ONTAP 9

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Configure host-name resolution

Overview

ONTAP must be able to translate host names to numerical IP addresses in order to provide access to clients and to access services. You must configure storage virtual machines (SVMs) to use local or external name services to resolve host information. ONTAP supports configuring an external DNS server or configuring the local hosts file for host name resolution.

When using an external DNS server, you can configure Dynamic DNS (DDNS), which automatically sends new or changed DNS information from your storage system to the DNS server. Without dynamic DNS updates, you must manually add DNS information (DNS name and IP address) to the identified DNS servers when a new system is brought online or when existing DNS information changes. This process is slow and error-prone. During disaster recovery, manual configuration can result in a long downtime.

Configure DNS for host-name resolution

You use DNS to access either local or remote sources for host information. You must configure DNS to access one or both of these sources.

ONTAP must be able to look up host information to provide proper access to clients. You must configure name services to enable ONTAP to access local or external DNS services to obtain the host information.

ONTAP stores name service configuration information in a table that is the equivalent of the `/etc/nsswitch.conf` file on UNIX systems.

Configure an SVM and data LIFs for host-name resolution using an external DNS server

You can use the `vserver services name-service dns` command to enable DNS on an SVM, and configure it to use DNS for host-name resolution. Host names are resolved using external DNS servers.

Before you begin

A site-wide DNS server must be available for host name lookups.

You should configure more than one DNS server to avoid a single-point-of-failure. The `vserver services name-service dns create` command issues a warning if you enter only one DNS server name.

About this task

See Configure dynamic DNS services for more information about configuring dynamic DNS on the SVM.

Steps

1. Enable DNS on the SVM:

```
vserver services name-service dns create -vserver vserver_name -domains
domain_name - name-servers ip_addresses -state enabled
```

The following command enables external DNS server servers on the SVM vs1:

```
vserver services name-service dns create -vserver <vs1.example.com>
-domains <example.com> -name-servers <192.0.2.201,192.0.2.202> -state
<enabled>
```

The vserver services name-service dns create command performs an automatic configuration validation and reports an error message if ONTAP cannot contact the name server.

2. Enable DNS on LIFs owned by the SVM:

If you are	Use this command:
Modifying an existing LIF zone-name	`network interface modify -lif lifname -dns-zone`
Creating a new LIF zone-name	`network interface create -lif lifname -dns-zone`

```
vserver services name-service dns create -vserver <vs1> -domains
<example.com> -name-servers <192.0.2.201, 192.0.2.202> -state <enabled>
network interface modify -lif <datalif1> -dns-zone
<zonename.whatever.com>
```

3. Validate the status of the name servers by using the `vserver services name-service dns check` command.

```
vserver services name-service dns check -vserver vs1.example.com
VserverName       Server     Status    Status Details
----------------  ---------- -------   -------------------------
vs1.example.com   10.0.0.50  up        Response time (msec): 2
vs1.example.com   10.0.0.51  up        Response time (msec): 2
```

Configure the Name Service Switch Table for Host-Name Resolution

You must configure the name service switch table correctly to enable ONTAP to consult local or external name service to retrieve host information.

Before you begin

You must have decided which name service to use for host mapping in your environment.

Steps

1. Add the necessary entries to the name service switch table:

```
vserver services name-service <ns-switch> create -vserver <vserver_name>
-database <database_name> -source <source_names>
```

2. Verify that the name service switch table contains the expected entries in the desired order:

```
vserver services name-service <ns-switch> show -vserver <vserver_name>
```

Example

The following example creates an entry in the name service switch table for SVM vs1 to first use the local hosts file and then an external DNS server to resolve host names:

```
vserver services name-service ns-switch create -vserver vs1 -database
hosts -sources files dns
```

Manage the hosts table (cluster administrators only)

A cluster administrator can add, modify, delete, and view the host name entries in the hosts table of the admin storage virtual machine (SVM). An SVM administrator can configure the host name entries only for the assigned SVM.

Commands for managing local host-name entries

You can use the `vserver services name-service dns hosts` command to create, modify, or delete DNS host table entries.

When you are creating or modifying the DNS host-name entries, you can specify multiple alias addresses separated by commas.

If you want to…	Use this command…
Create a DNS host-name entry	`vserver services name-service dns hosts create`
Modify a DNS host-name entry	`vserver services name-service dns hosts modify`
Delete a DNS host-name entry	`vserver services name-service dns hosts delete`

For more information, see the ONTAP 9 commands for the `vserver services name-service dns hosts` commands.

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