Configure SVM-scoped NDMP

ONTAP 9

NetApp
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Enable SVM-scoped NDMP on the cluster

If the DMA supports the Cluster Aware Backup (CAB) extension, you can back up all the volumes hosted across different nodes in a cluster by enabling SVM-scoped NDMP, enabling NDMP service on the cluster (admin SVM), and configuring LIFs for data and control connection.

What you'll need

The CAB extension must be supported by the DMA.

About this task

Turning off node-scoped NDMP mode enables SVM-scoped NDMP mode on the cluster.

Steps

1. Enable SVM-scoped NDMP mode:

   ```
   cluster1::> system services ndmp node-scope-mode off
   ```

   SVM-scoped NDMP mode is enabled.

2. Enable NDMP service on the admin SVM:

   ```
   cluster1::> vserver services ndmp on -vserver cluster1
   ```

   The authentication type is set to `challenge` by default and plaintext authentication is disabled.

   For secure communication, you should keep plaintext authentication disabled.

3. Verify that NDMP service is enabled:

   ```
   cluster1::> vserver services ndmp show
   ```

   ```
   Vserver       Enabled   Authentication type
   ------------- --------- -------------------
   cluster1      true      challenge
   vs1           false     challenge
   ```

Enable a backup user for NDMP authentication

To authenticate SVM-scoped NDMP from the backup application, there must be an

administrative user with sufficient privileges and an NDMP password.

About this task

You must generate an NDMP password for backup admin users. You can enable backup admin users at the cluster or SVM level, and if necessary, you can create a new user. By default, the users with the following roles can authenticate for NDMP backup:

- Cluster-wide: `admin` or `backup`
- Individual SVMs: `vsadmin` or `vsadmin-backup`

If you are using an NIS or LDAP user, the user must exist on the respective server. You cannot use an Active Directory user.

Steps

1. Display the current admin users and permissions:

   ```
   security login show
   ```

2. If needed, create a new NDMP backup user with the `security login create` command and the appropriate role for cluster-wide or individual SVM privileges.

   You can specify a local backup user name or an NIS or LDAP user name for the `-user-or-group-name` parameter.

   The following command creates the backup user `backup_admin1` with the `backup` role for the entire cluster:

   ```
   cluster1::> security login create -user-or-group-name backup_admin1
   -application ssh -authmethod password -role backup
   ```

   The following command creates the backup user `vsbackup_admin1` with the `vsadmin-backup` role for an individual SVM:

   ```
   cluster1::> security login create -user-or-group-name vsbackup_admin1
   -application ssh -authmethod password -role vsadmin-backup
   ```

   Enter a password for the new user and confirm.

3. Generate a password for the admin SVM by using the `vserver services ndmp generate password` command.

   The generated password must be used to authenticate the NDMP connection by the backup application.

   ```
   cluster1::> vserver services ndmp generate-password -vserver cluster1
   -user backup_admin1

    Vserver: cluster1
       User: backup_admin1
   Password: qG5CqQHYxw7tE57g
   ```

Configure LIFs

You must identify the LIFs that will be used for establishing a data connection between the data and tape resources, and for control connection between the admin SVM and the backup application. After identifying the LIFs, you must verify that firewall and failover policies are set for the LIFs, and specify the preferred interface role.

Beginning with ONTAP 9.10.1, firewall policies are deprecated and wholly replaced with LIF service policies. For more information, see LIFs and service policies in ONTAP 9.6 and later.

Steps

1. Identify the intercluster, cluster-management, and node-management LIFs by using the `network interface show` command with the `-role` parameter.

   The following command displays the intercluster LIFs:

```
cluster1::> network interface show -role intercluster

            Logical           Status     Network            Current
Current Is
Vserver     Interface         Admin/Oper Address/Mask       Node
Port    Home
----------- ----------        ---------- ------------------
------------- ------- ----
cluster1    IC1               up/up      192.0.2.65/24      cluster1-1
e0a     true
cluster1    IC2               up/up      192.0.2.68/24      cluster1-2
e0b     true
```

   The following command displays the cluster-management LIF:

```
cluster1::> network interface show -role cluster-mgmt

            Logical           Status     Network            Current
Current Is
Vserver     Interface         Admin/Oper Address/Mask       Node
Port    Home
----------- ----------        ---------- ------------------
------------- ------- ----
cluster1    cluster_mgmt      up/up      192.0.2.60/24      cluster1-2
e0M     true
```

   The following command displays the node-management LIFs:

```
cluster1::> network interface show -role node-mgmt

            Logical           Status     Network            Current
Current Is
Vserver     Interface         Admin/Oper Address/Mask       Node
Port    Home
----------- ----------        ---------- ------------------ ------------
------  ------
cluster1    cluster1-1_mgmt1  up/up      192.0.2.69/24      cluster1-1
e0M     true
            cluster1-2_mgmt1  up/up      192.0.2.70/24      cluster1-2
e0M     true
```

2. Ensure that the firewall policy is enabled for NDMP on the intercluster, cluster-management (cluster-mgmt), and node-management (node-mgmt) LIFs:
   a. Verify that the firewall policy is enabled for NDMP by using the `system services firewall policy show` command.

      The following command displays the firewall policy for the cluster-management LIF:

```
cluster1::> system services firewall policy show -policy cluster

Vserver     Policy       Service    Allowed
-------     ------------ ---------- -----------------
cluster     cluster      dns        0.0.0.0/0
                         http       0.0.0.0/0
                         https      0.0.0.0/0
                        ** ndmp       0.0.0.0/0**
                         ndmps      0.0.0.0/0
                         ntp        0.0.0.0/0
                         rsh        0.0.0.0/0
                         snmp       0.0.0.0/0
                         ssh        0.0.0.0/0
                         telnet     0.0.0.0/0
10 entries were displayed.
```

      The following command displays the firewall policy for the intercluster LIF:

```
cluster1::> system services firewall policy show -policy intercluster

Vserver     Policy       Service    Allowed
-------     ------------ ---------- -------------------
cluster1    intercluster dns        -
                         http       -
                         https      -
                         **ndmp       0.0.0.0/0, ::/0**
                         ndmps      -
                         ntp        -
                         rsh        -
                         ssh        -
                         telnet     -
9 entries were displayed.
```

The following command displays the firewall policy for the node-management LIF:

```
cluster1::> system services firewall policy show -policy mgmt

Vserver     Policy       Service    Allowed
-------     ------------ ---------- -------------------
cluster1-1  mgmt         dns        0.0.0.0/0, ::/0
                         http       0.0.0.0/0, ::/0
                         https      0.0.0.0/0, ::/0
                         **ndmp       0.0.0.0/0, ::/0**
                         ndmps      0.0.0.0/0, ::/0
                         ntp        0.0.0.0/0, ::/0
                         rsh        -
                         snmp       0.0.0.0/0, ::/0
                         ssh        0.0.0.0/0, ::/0
                         telnet     -
10 entries were displayed.
```

b. If the firewall policy is not enabled, enable the firewall policy by using the `system services firewall policy modify` command with the `-service` parameter.

The following command enables firewall policy for the intercluster LIF:

```
cluster1::> system services firewall policy modify -vserver cluster1
-policy intercluster -service ndmp 0.0.0.0/0
```

3. Ensure that the failover policy is set appropriately for all the LIFs:

a. Verify that the failover policy for the cluster-management LIF is set to `broadcast-domain-wide`, and

the policy for the intercluster and node-management LIFs is set to `local-only` by using the `network interface show -failover` command.

The following command displays the failover policy for the cluster-management, intercluster, and node-management LIFs:

```
cluster1::> network interface show -failover

          Logical            Home               Failover
Failover
Vserver   Interface          Node:Port          Policy
Group
--------- -----------------  ----------------- --------------------
--------
cluster   cluster1_clus1     cluster1-1:e0a    local-only
cluster
                                                   Failover
Targets:
                                                   .......

**cluster1   cluster_mgmt       cluster1-1:e0m    broadcast-domain-
wide Default**
                                                   Failover
Targets:
                                                   .......
          **IC1                 cluster1-1:e0a    local-only
Default**
                                                   Failover
Targets:
          **IC2                 cluster1-1:e0b    local-only
Default**
                                                   Failover
Targets:
                                                   .......
**cluster1-1 cluster1-1_mgmt1   cluster1-1:e0m    local-only
Default**
                                                   Failover
Targets:
                                                   ......
**cluster1-2 cluster1-2_mgmt1   cluster1-2:e0m    local-only
Default**
                                                   Failover
Targets:
                                                   ......
```

b. If the failover policies are not set appropriately, modify the failover policy by using the `network`

`interface modify` command with the `-failover-policy` parameter.

```
cluster1::> network interface modify -vserver cluster1 -lif IC1
-failover-policy local-only
```

4. Specify the LIFs that are required for data connection by using the `vserver services ndmp modify` command with the `preferred-interface-role` parameter.

```
cluster1::> vserver services ndmp modify -vserver cluster1 -preferred
-interface-role intercluster,cluster-mgmt,node-mgmt
```

5. Verify that the preferred interface role is set for the cluster by using the `vserver services ndmp show` command.

```
cluster1::> vserver services ndmp show -vserver cluster1

                            Vserver: cluster1
                       NDMP Version: 4
                       .......
                       .......
            Preferred Interface Role: intercluster, cluster-mgmt, node-
mgmt
```

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