



Configure SVM-scoped NDMP

ONTAP 9

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Configure SVM-scoped NDMP

Enable SVM-scoped NDMP on the ONTAP 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.

Before you begin

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 backup users for ONTAP 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
```

Learn more about `security login show` in the [ONTAP command reference](#).

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.

Learn more about `security login create` in the [ONTAP command reference](#).

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 ONTAP LIFs for SVM-scoped NDMP

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 the service and failover policies are set.



Beginning with ONTAP 9.10.1, firewall policies are deprecated and wholly replaced with LIF service policies. For more information, see [Manage supported traffic](#).

ONTAP 9.10.1 or later

Steps

1. Identify the intercluster LIF hosted on the nodes by using the `network interface show` command with the `-service-policy` parameter.

```
network interface show -service-policy default-intercluster
```

Learn more about `network interface show` in the [ONTAP command reference](#).

2. Identify the management LIF hosted on the nodes by using the `network interface show` command with the `-service-policy` parameter.

```
network interface show -service-policy default-management
```

3. Ensure that the intercluster LIF includes the `backup-ndmp-control` service:

```
network interface service-policy show
```

Learn more about `network interface service-policy show` in the [ONTAP command reference](#).

4. 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
```

| Vserver | Logical Interface | Home Node:Port | Failover Policy | Failover 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 | c1-1_mgmt1 | cluster1-1:e0m | local-only | Default Failover |
| Targets: | | | | |
| cluster1-2 | c1-2_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
```

Learn more about network interface modify in the [ONTAP command reference](#).

5. 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
```

6. 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
```

ONTAP 9.9 or earlier

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
```

| Current Is | Logical | Status | Network | Current |
|------------|-----------|------------|---------------|------------|
| 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
```

| Current Is | Logical | Status | Network | Current |
|------------|--------------|------------|---------------|------------|
| 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 | | | |

Learn more about `network interface show` in the [ONTAP command reference](#).

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
```

| Failover Vserver Group | Logical Interface | Home Node:Port | Failover Policy |
|------------------------------|----------------------|-------------------|--------------------|
| ----- | ----- | ----- | |
| cluster cluster | cluster1_clus1 | cluster1-1:e0a | local-only |
| Targets: | | | Failover |
| cluster1 wide Default | cluster_mgmt | cluster1-1:e0m | broadcast-domain- |
| Targets: | | | Failover |
| Default | IC1 | cluster1-1:e0a | local-only |
| Targets: | | | Failover |
| Default | IC2 | cluster1-1:e0b | local-only |
| Targets: | | | Failover |
| cluster1-1 Default | cluster1-1_mgmt1 | cluster1-1:e0m | local-only |
| Targets: | | | Failover |
| cluster1-2 Default | cluster1-2_mgmt1 | cluster1-2:e0m | local-only |
| Targets: | | | Failover |

- 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
```

Learn more about `network interface modify` in the [ONTAP command reference](#).

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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