Upgrade switches

Cluster and storage switches

NetApp
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Upgrade switches

Overview of upgrade process for BES-53248 switches

Before configuring BES-53248 cluster switches for an upgrade, review the configuration overview.

To upgrade a BES-53248 cluster switch, follow these steps:

1. Prepare the BES-53248 cluster switch for upgrade. Prepare the controller, and then install the EFOS software, licenses, and reference configuration file (RCF). Last, verify the configuration.
2. Install the EFOS software. Download and install the Ethernet Fabric OS (EFOS) software on the BES-53248 cluster switch.
3. Install licenses for BES-53248 cluster switches. Optionally, add new ports by purchasing and installing more licenses. The switch base model is licensed for 16 10GbE or 25GbE ports and two 100GbE ports.
4. Install the Reference Configuration File (RCF). Install or upgrade the RCF on the BES-53248 cluster switch, and then verify the ports for an additional license after the RCF is applied.
5. Install the Cluster Switch Health Monitor (CSHM) configuration file. Install the applicable configuration file for cluster switch health monitoring.
6. Enable SSH on BES-53248 cluster switches. If you use the Cluster Switch Health Monitor (CSHM) and log collection features, enable SSH on the switches.
7. Enable the log collection feature. Use this feature to collect switch-related log files in ONTAP.
8. Verify the configuration. Use the recommended commands to verify operations after a BES-53248 cluster switch upgrade.

Upgrade the BES-53248 cluster switch

Follow these steps to upgrade the BES-53248 cluster switch.

This procedure applies to a functioning cluster and allows for a nondisruptive upgrade (NDU) and nondisruptive operation (NDO) environment. See the Knowledge Base article How to prepare ONTAP for a cluster switch upgrade.

Review requirements

Before you install the EFOS software, licenses, and the RCF file on an existing NetApp BES-53248 cluster switch, make sure that:

- The cluster is a fully functioning cluster (no error log messages or other issues).
- The cluster does not contain any defective cluster network interface cards (NICs).
- All connected ports on both cluster switches are functional.
- All cluster ports are up.
- All cluster LIFs are administratively and operationally up and on their home ports.
- The first two cluster LIFs on each node are configured on separate NICs and connected to separate cluster switch ports.

- The ONTAP `cluster ping-cluster -node node1` advanced privilege command indicates that `larger than PMTU communication` is successful on all paths.

There might be command dependencies between command syntax in the RCF and EFOS versions.

For switch compatibility, consult the compatibility table on the Broadcom cluster switches page for the supported EFOS, RCF, and ONTAP versions.

Prepare the controller

Follow this procedure to prepare the controller for a BES-53248 cluster switch upgrade.

Steps

1. Connect the cluster switch to the management network.
2. Use the ping command to verify connectivity to the server hosting EFOS, licenses, and the RCF.

   If this is an issue, use a nonrouted network and configure the service port using IP address 192.168.x or 172.19.x. You can reconfigure the service port to the production management IP address later.

   Show example

   This example verifies that the switch is connected to the server at IP address 172.19.2.1:

   ```
   (cs2)# ping 172.19.2.1
   Pinging 172.19.2.1 with 0 bytes of data:

   Reply From 172.19.2.1: icmp_seq = 0. time= 5910 usec.
   ```

3. Verify that the cluster ports are healthy and have a link using the command:

   ```
   network port show -ipspace Cluster
   ```

Show example

The following example shows the type of output with all ports having a `Link` value of up and a `Health Status` of healthy:

```
cluster1::> network port show -ipspace Cluster

Node: node1

Ignore
                                                  Speed(Mbps) Health
Health
Port   IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
------ ------------ ---------------- ---- ---- ----------- --------
------
e0a    Cluster      Cluster          up   9000  auto/10000 healthy
false
e0b    Cluster      Cluster          up   9000  auto/10000 healthy
false

Node: node2

Ignore
                                                  Speed(Mbps) Health
Health
Port   IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
-----  ------------ ---------------- ---- ---- ----------- --------
------
e0a    Cluster      Cluster          up   9000  auto/10000 healthy
false
e0b    Cluster      Cluster          up   9000  auto/10000 healthy
false
```

4. Verify that the cluster LIFs are administratively and operationally up and reside on their home ports, using the command:

   `network interface show -vserver Cluster`

Show example

In this example, the `-vserver` parameter displays information about the LIFs that are associated with cluster ports. `Status Admin/Oper` must be up and `Is Home` must be true:

```
cluster1::> network interface show -vserver Cluster

          Logical      Status     Network             Current
Current Is
Vserver   Interface    Admin/Oper Address/Mask        Node
Port    Home
--------- ----------   ---------- ------------------  -------------
------- ----
Cluster
          node1_clus1
                       up/up      169.254.217.125/16  node1
e0a     true
          node1_clus2
                       up/up      169.254.205.88/16   node1
e0b     true
          node2_clus1
                       up/up      169.254.252.125/16  node2
e0a     true
          node2_clus2
                       up/up      169.254.110.131/16  node2
e0b     true
```

Install software

Follow these instructions to install the software.

1. Install the EFOS software. Download and install the Ethernet Fabric OS (EFOS) software on the BES-53248 cluster switch.
2. Install licenses for BES-53248 cluster switches. Optionally, add new ports by purchasing and installing more licenses. The switch base model is licensed for 16 10GbE or 25GbE ports and two 100GbE ports.
3. Install the Reference Configuration File (RCF). Install or upgrade the RCF on the BES-53248 cluster switch, and then verify the ports for an additional license after the RCF is applied.
4. Install the Cluster Switch Health Monitor (CSHM) configuration file. Install the applicable configuration file for cluster switch health monitoring.
5. Enable SSH on BES-53248 cluster switches. If you use the Cluster Switch Health Monitor (CSHM) and log collection features, enable SSH on the switches.
6. Enable the log collection feature. Use this feature to collect switch-related log files in ONTAP.

Verify the configuration after a BES-53248 cluster switch upgrade

You can use recommended commands to verify operations after a BES-53248 cluster switch upgrade.

Steps

1. Display information about the network ports on the cluster using the command:

   `network port show -ipspace Cluster`

   `Link` must have the value `up` and `Health Status` must be `healthy`.

Show example

The following example shows the output from the command:

```
cluster1::> network port show -ipspace Cluster

Node: node1

Ignore
                                                  Speed(Mbps) Health
Health
Port   IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
------ ------------ ---------------- ---- ---- ----------- --------
------
e0a    Cluster      Cluster          up   9000  auto/10000 healthy
false
e0b    Cluster      Cluster          up   9000  auto/10000 healthy
false

Node: node2

Ignore
                                                  Speed(Mbps) Health
Health
Port   IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
-----  ------------ ---------------- ---- ---- ----------- --------
------
e0a    Cluster      Cluster          up   9000  auto/10000 healthy
false
e0b    Cluster      Cluster          up   9000  auto/10000 healthy
false
```

2. For each LIF, verify that `Is Home` is `true` and `Status Admin/Oper` is `up` on both nodes, using the command:

   `network interface show -vserver Cluster`

Show example

```
cluster1::> network interface show -vserver Cluster

            Logical    Status     Network            Current
Current Is
Vserver     Interface  Admin/Oper Address/Mask       Node
Port    Home
----------- ---------- ---------- ------------------ -------------
------- ----
Cluster
            node1_clus1  up/up    169.254.217.125/16 node1
e0a     true
            node1_clus2  up/up    169.254.205.88/16  node1
e0b     true
            node2_clus1  up/up    169.254.252.125/16 node2
e0a     true
            node2_clus2  up/up    169.254.110.131/16 node2
e0b     true
```

3. Verify that the `Health Status` of each node is `true` using the command:

   `cluster show`

Show example

```
cluster1::> cluster show

Node                 Health  Eligibility   Epsilon
-------------------- ------- ------------  ------------
node1                true    true          false
node2                true    true          false
```

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