



Applying Windows Patch Updates

Windows Service Pack updates should be completed on one Hyper-V Server at a time to prevent the HyperFlex cluster from experiencing an outage. Multiple Hyper-V hosts booting at the same will cause their associated controller VMs to be offline and a HyperFlex cluster with 5 or more nodes can only tolerate 2 controller VMs being offline at the same time.



Note Clusters comprised of 3 or 4 nodes can only tolerate one node to be down at a time.

Perform the following procedure for updating Windows Service Pack that includes cluster health checks.

Step 1 Log in to a controller VM to verify that the cluster is healthy. Check for **The Resiliency Health** and “# of node failures tolerable” lines. Make a note of how many node failures are tolerable by your HX cluster.

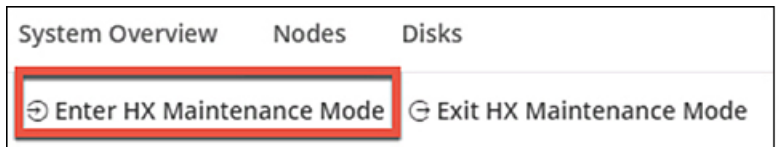
Step 2 Run the **hxcli cluster info** command.

Sample Output:

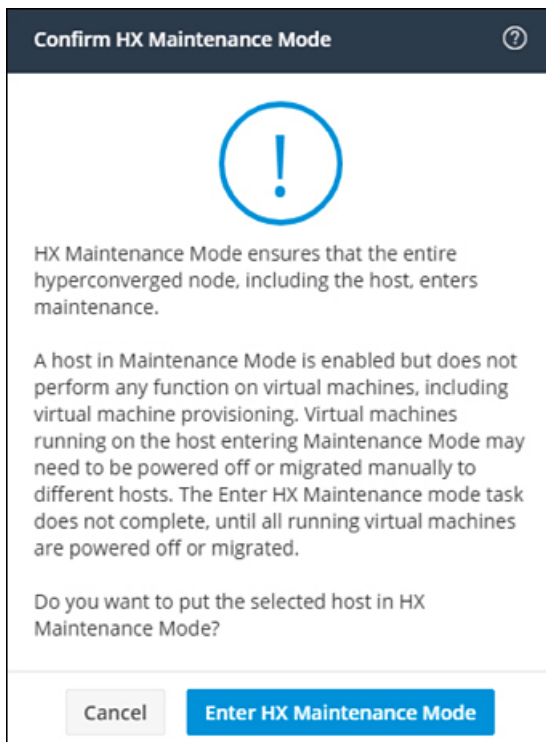
```
Cluster Name : SUP61-SMB
Cluster UUID : 3789536550516014784:5974749742096294602
Cluster State : ONLINE
Cluster Access Policy : Lenient
Space Status : NORMAL
Raw Capacity : 92.4 TB
Total Capacity : 30.8 TB
Used Capacity : 269.8 GB
Free Capacity : 30.5 TB
Compression Savings : 82.61%
Deduplication Savings : 0.00%
Total Savings : 82.61%
# of Nodes Configured : 4
# of Nodes Online : 4
Data IP Address : SUP61-CIP.hx.local
Resiliency Health : HEALTHY
Policy Compliance : COMPLIANT
Data Replication Factor : 2 Copies
# of node failures tolerable : 1
# of persistent device failures tolerable : 2
# of cache device failures tolerable : 2
Zone Type : Unknown
All Flash : No
```

Step 3 Select a Hyper-V host to be updated.

- Step 4** Log in to **HX Connect** with the HyperFlex Admin Service account.
- Step 5** Navigate to **System Information > Nodes**.
- Step 6** Click on the Hyper-V host to be updated. The host entry is highlighted in a light blue color.
- Step 7** In the **Nodes** tab, Click **Enter HX Maintenance Mode**.



- Step 8** An HX Maintenance Mode screen displays with an alert for maintenance mode operations.



- Step 9** In Failover Cluster Manager, verify in the **Roles** screen that all VMs have been evacuated from the selected Hyper-V Host with the exception of the Controller VM (StCtlVM). The controller VM cannot be reallocated.
- Step 10** Perform the Window Update on the selected Hyper-V host.
- Step 11** After all the reboots and software updates have been completed in the HX Connect UI, **System Information > Nodes**, select the updated Hyper-V host and click **Exit HX Maintenance Mode**.
- Step 12** Log in to a controller VM and use the **hxcli cluster info check** command to verify that the cluster is healthy and can tolerate the same number of node failures in *Step 1*.
- Note** This operation may take a few minutes before the cluster returns to a healthy state.
- Step 13** Once the cluster is healthy and can tolerate the same number of node failures in *Step 1* then repeat *Steps 2 – 12* until all Hyper-V hosts have been updated.