NSX-T Upgrade Guide

NSX-T 1.1

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Upgrading NSX-T

The *NSX-T Upgrade Guide* provides step-by-step information about upgrading the NSX-T components, which include the data plane, control plane, and management plane with minimum system downtime.

Intended Audience

This information is intended for anyone who wants to upgrade NSX-T 1.0.1 to NSX-T 1.1. The information is written for experienced system administrators who are familiar with virtual machine technology and virtual networking concepts and operations.

VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to http://www.vmware.com/support/pubs.

NSX-T Upgrade Checklist

Use the checklist to track your work on the upgrade process.

You must follow the prescribed order and upgrade the hosts, NSX Edge clusters, NSX Controller cluster, and Management cluster.

Table 1-1. Upgrade to NSX-T 1.1

Task	Instructions
☐ Review the known upgrade problems and workarounds documented in the release notes.	See the NSX-T Upgrade Known Issues section.
☐ Prepare and update your infrastructure to meet the system configuration requirements.	See the system requirements section of the *NSX-T Installation Guide*.
☐ Evaluate the operational impact of the upgrade.	See Operational Impact of the NSX-T Upgrade.
☐ Verify that the NSX-T environment is in a healthy state.	See Verify the Current State of NSX-T.
☐ Download the latest NSX-T upgrade bundle.	See Download the NSX-T Upgrade Bundle.
☐ Configure the upgrade coordinator on an NSX Manager node.	See Activate the Upgrade Coordinator.
☐ Upload upgrade bundle to the NSX Manager.	See Upload the Upgrade Bundle.
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☐ Upgrade the NSX Edge clusters.	See Upgrade NSX Edge Clusters.
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☐ Troubleshoot upgrade errors.	See Troubleshooting Upgrade Failures.

Preparing to Upgrade NSX-T

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You must prepare your infrastructure and follow the task sequence provided in the checklist for the upgrade process to be successful.

Perform the upgrade process in a maintenance time frame defined by your company.

This chapter includes the following topics:

- Operational Impact of the NSX-T Upgrade
- Verify the Current State of NSX-T
- Download the NSX-T Upgrade Bundle
- Activate the Upgrade Coordinator

Operational Impact of the NSX-T Upgrade

The NSX-T upgrade process time depends on the number of components you have to upgrade in your infrastructure. It is important to understand the operational state of NSX-T components during an upgrade, such as when some hosts have been upgraded, or when NSX Edge nodes have not been upgraded.

The upgrade process is as follows:

Hosts > NSX Edge clusters > NSX Controller cluster > Management cluster.

Hosts Upgrade

During Upgrade	After Upgrade
• VMs on vSphere must be powered off or manually moved to new hosts before the upgrade. When your VMs are powered off during the upgrade, you might experience a brief traffic disruption amongst the tenant VMs on the ESX host and the distributed firewall session is discontinued. There is no traffic disruption between the NSX-T components because of the powered off tenant VMs. • For KVM, the upgrade takes place while workloads are running and VMs are powered on. During the upgrade, you might experience a brief traffic disruption and the distributed firewall session on VMs is discontinued. • Configuration changes are not blocked on NSX Manager but might be delayed. • Upgraded hosts are compatible with non-upgraded hosts, NSX Edge clusters, NSX Controller cluster, and Management cluster. • Packet forwarding is briefly affected on the host currently undergoing an upgrade.	• Configuration changes are allowed. • Upgraded hosts are compatible with NSX Edge clusters, NSX Controller cluster, and Management cluster. • New features introduced in the upgrade are not configurable until the NSX Edge clusters, NSX Controller cluster, and Management cluster are upgraded.

NSX Edge Clusters Upgrade

During Upgrade	After Upgrade
• Configuration changes are not blocked on NSX Manager but might be delayed. • Packet forwarding is temporarily affected.	• Configuration changes are allowed. • Upgraded NSX Edge clusters are compatible with non-upgraded NSX Edge clusters, NSX Controller cluster, and Management cluster. • New features introduced in the upgrade are not configurable until the NSX Controller cluster and Management cluster are upgraded.

NSX Controller Cluster Upgrade

During Upgrade	After Upgrade
• Configuration changes are not blocked on NSX Manager but might be delayed.	• Configuration changes are allowed. • Upgraded NSX Controller clusters are compatible with non-upgraded NSX Edge clusters, NSX Controller cluster, and Management cluster. • New features introduced in the upgrade are not configurable until the Management cluster is upgraded.

Management Cluster Upgrade

During Upgrade	After Upgrade
• Configuration changes are blocked on the Management cluster. • API service is unavailable. • User interface is unavailable.	• Configuration changes are allowed. • New features introduced in the upgrade are configurable.

Verify the Current State of NSX-T

Before you begin the upgrade process, it is important to test the NSX-T working state. Otherwise, you cannot determine if the upgrade caused post-upgrade problems or if the problem existed before the upgrade.

Note Do not assume that everything is working before you start to upgrade the NSX-T infrastructure.

Procedure

1 Identify administrative user IDs and passwords.

2 Verify that you can log in to the following components:

- NSX Manager Web UI

- NSX Manager nodes CLI

3 Ping between two VMs that are on the same logical switch but on two different hosts.

4 Validate North-South connectivity by pinging out from a VM.

5 Select **System > Overview** to make sure that all status indicators are green/normal/deployed.

6 Record BGP states on the NSX Edge devices.

- `get logical-routers`

- `vrf`

- `get bgp`

- `get bgp neighbor`

7 (Optional) If you have a test environment, test the upgrade and post-upgrade functionality before upgrading your production environment.

Download the NSX-T Upgrade Bundle

The upgrade bundle contains all the files to upgrade the NSX-T infrastructure. Before you begin the upgrade process, you must download the correct upgrade bundle version to upgrade to.

Procedure

1 Locate the NSX-T build on the download portal.

2 Download the NSX-T build on your system.

3 Navigate to the upgrade folder and expand the folder.

4 Verify that the master upgrade bundle filename extension ends with `.mub`.

The upgrade bundle filename has a format similar to `VMware-NSX-upgrade-bundle-ReleaseNumberNSXBuildNumber.mub`.

5 Download the NSX-T upgrade bundle to the same system you are using to access the NSX Manager user interface.

Activate the Upgrade Coordinator

The upgrade coordinator is a self-contained Web application that orchestrates the upgrade process between different NSX-T components.

Note The upgrade coordinator user interface is available only on one of the NSX Manager node that is enabled in the Management cluster.

The upgrade coordinator makes sure that the upgrade follows the proper sequence. It tracks the upgrade process and displays the progress on the NSX Manager user interface. You can pause and resume the upgrade process with the upgrade coordinator. It provides the serial or parallel menu items to upgrade the components depending on your NSX-T infrastructure.

Procedure

1   Log in to the NSX Manager node using CLI.

2   Check whether the upgrade coordinator is active.

    ```
    get service install-upgrade
    ```

    The IP address of the NSX Manager node the upgrade coordinator is already activated on appears.

3   Activate the upgrade coordinator.

    ```
    set service install-upgrade enabled
    ```

    You can enable the upgrade coordinator only on one of the NSX Manager nodes in the cluster.

4   From your Web browser, log in to the newly configured NSX Manager at https://*nsx-manager-ip-address*.

5   Select **Upgrade** from the navigation panel.

You can only view the Upgrade user interface on the NSX Manager node you activated.

What to do next

Proceed to upgrade NSX-T. See Preparing to Upgrade NSX-T.

Upgrading NSX-T

<div style="text-align: right">3</div>

After you finish the prerequisites for upgrading, downloading the upgrade bundle, and activating the upgrade coordinator, you can initiate the upgrade process.

Based on your input, the upgrade coordinator updates the hosts and NSX Edge clusters. Contact Vmware support for assistance with upgrading the NSX Controller cluster. You must use the CLI to upgrade manually the Management cluster.

1   Upload the Upgrade Bundle

The upgrade bundle must be uploaded to the NSX Manager where the upgrade coordinator is activated for the upgrade process to begin.

2   Configure Hosts

The upgrade sequence updates the hosts first.

3   Upgrade NSX Edge Clusters

The upgrade sequence updates the NSX Edge clusters second.

4   Upgrade NSX Controller Cluster

The upgrade sequence updates the NSX Controller cluster.

5   Upgrade Management Cluster

You must manually upgrade the Management cluster using an SSH client to access the Management nodes.

Upload the Upgrade Bundle

The upgrade bundle must be uploaded to the NSX Manager where the upgrade coordinator is activated for the upgrade process to begin.

Note   After you begin the upgrade, you cannot upload another version of the upgrade bundle.

Prerequisites

Verify that the upgrade coordinator is activated. See Activate the Upgrade Coordinator.

Procedure

1   From your browser, log in to an NSX Manager at https://*nsx-manager-ip-address*.

2   Select **Upgrade** from the navigation panel and review the pre-upgrade environment.

3   The existing NSX-T release version and nodes are listed.

   a   Identify a component such as, hosts.

   b   Click the number listed under the Count column.

        A list of all the configured hosts appear in the dialog box.
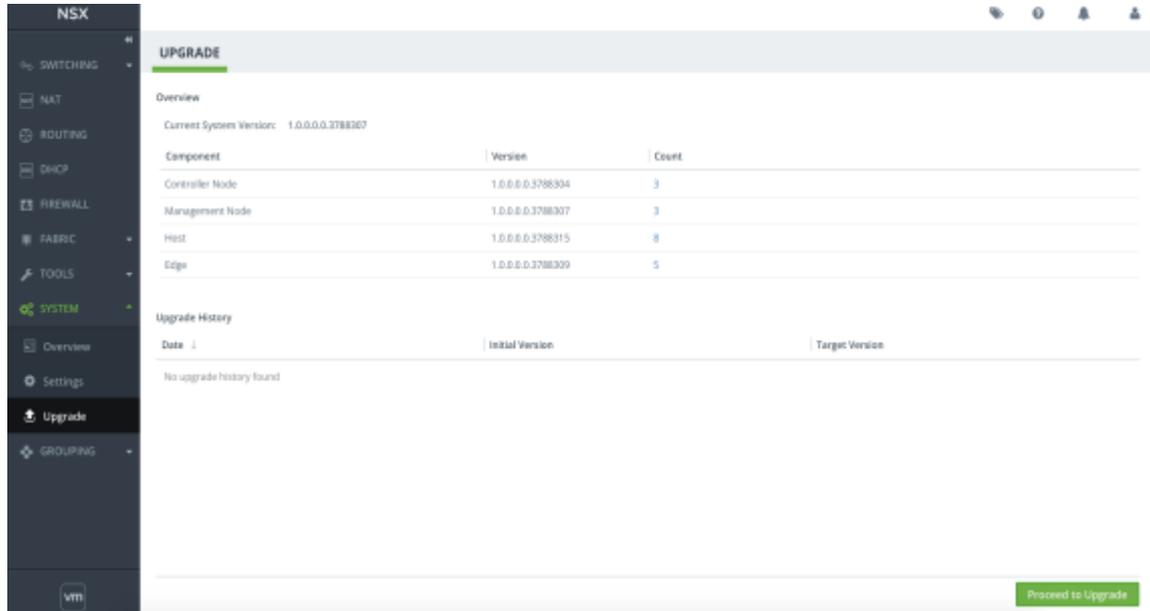
4   Click **Proceed to Upgrade**.

5   Click **Browse** to navigate to the location you downloaded the upgrade bundle .mub file.

6   Click **Upload** to transfer the upgrade bundle into the NSX Manager.

     The upload process might take 15–20 minutes, depending on your network speed. If the network times

     out, reload the upgrade bundle.

     When the upload process finishes, the **Begin Upgrade** button becomes active.

7   (Optional) Click **Cancel Upload** if there is a latest upgrade bundle available and upload the correct .mub
     file.

     ───

     Note   You cannot upload another .mub file after the upgrade coordinator is upgraded.

     ───

8   Click **Begin Upgrade** to initiate the upgrade.

9   Accept the notification to proceed with the upgrade.

     The newly upgrade bundle version such as, `Upgrade Coordinator version: 1.1.0.0.4128701`
     appears.

10   Identify errors in the pre-upgrade environment.

     ───

     Note   If you see a warning notification, click the notification to view the warning details. Resolve the
     warning notification before you proceed with the upgrade to avoid problems during the upgrade.

     ───

11   Click **Next**.

The hosts are ready to be upgraded and the planned upgrade sequence appears.

Configure Hosts

The upgrade sequence updates the hosts first.

You can configure the upgrade to pause at various stages of the upgrade process.

Each host group consists of hosts for example, all ESX hosts are added in one host group. The default maximum limit for a host group is 32. Before you upgrade the hosts, you can select to update the hosts simultaneously or consecutively. You can edit the host group to move a host to a different host group. You can also reorder the upgrade sequence of the host groups or reorder the hosts within a host group.

Prerequisites

- Verify that the latest version of the upgrade bundle is uploaded. See Upload the Upgrade Bundle.
- Verify that the ESX and KVM hosts are prepared for upgrade. See Hosts Upgrade.
- Increase the memory of each ESX hypervisor in the system to avoid post upgrade problems.
  ```
  localcli --plugin-dir=/usr/lib/vmware/esxcli/int sched group setmemconfig --
  group-path=host/vim/vimuser/nsx-sfhc --min=64 --max=-1 --minlimit=-1 --
  units=mb
  ```
- Verify that all the VMs on ESX hosts are powered off or moved to other hosts. After being moved, the ESX hypervisors must be powered on.
- Verify that the transport zone or transport node host switch name does not contain spaces following. If there are spaces, create a transport zone with no spaces in host switch name, reconfigure all the components that are associated with the old transport zone to use the new transport zone, and delete the old transport zone.
- Verify that all the RHEL KVM hypervisors that have static routes through OVS devices managed by NetworkManager have the NetworkManager service stopped.

Procedure

1 Complete the host group overall upgrade details.

You can configure the overall group upgrade order to set the host groups to be upgraded first.

Option	Description
Serial	Upgrade all the host groups consecutively.
	This menu item is selected by default. This selection is applied to the overall upgrade sequence. This option is useful if the system has a resource constraint.
	For example, if the overall upgrade is set to serial and the host group upgrade is set to parallel. The host groups are upgraded one at a time instead of at once.
Parallel	Upgrade all the host groups simultaneously.
	You can upgrade some hosts in parallel and upgrade the rest of the hosts later. You can upgrade up to five hosts simultaneously.

Option	Description
When an upgrade unit fails to upgrade	Select to pause the upgrade process if the host upgrade fails. This selection allows you to fix the error on the host group and resume the upgrade.
After each group completes	Select to pause the upgrade process after each host group finishes upgrading. By default, the upgrade pauses when all the hosts are updated. After you review the upgrade result, you can proceed to upgrade the NSX Edge clusters.

2   (Optional) Reorder the upgrade sequence of a host group.

If you configure the overall group upgrade as serial, the upgrade waits for a host group upgrade to finish before proceeding to upgrade the second host group. You can reorder the host group upgrade sequence to upgrade a host group first.

   a   Select the host group and click the **Actions** tab.

   b   Select **Reorder** from the drop-down menu.

   c   Select **Before** or **After** from the drop-down menu.

   d   Click **Save**.

3   (Optional) Disable a host group from the upgrade sequence.

You can disable some host groups and upgrade them later.

   a   Select the host group and click the **Edit** tab.

   b   Toggle the **State** button to disable the host group.

   c   Click **Save**.

4   (Optional) Click **Reset** to discard your changes and revert to the default state.

> ⚠️ **Caution**   After reset, you cannot restore your previous changes.

What to do next

Determine whether to add, edit, or delete host groups or to upgrade host groups. See Manage Host Groups or Upgrade Hosts.

Manage Host Groups

You can add new host groups and move hosts from the existing group to the new host group. You can also edit and delete an existing host group before you start the upgrade or after you pause the upgrade.

Prerequisites

Verify that you have configured the overall hosts upgrade. See Configure Hosts.

Procedure

1   Create a host group.

   a   Click **Add** to include existing hosts into a host group.

   b   Toggle the **State** button to enable or disable the host group from the upgrade.

c   Select an existing host in a host group and click the arrow icon to move that host to the newly created host group.

If you select an existing host that was part of a host group, the host is moved to the new host group.

d   Select whether to upgrade the host group simultaneously or consecutively.

e   Click **Save**.

2   Move an existing host to another host group.

a   Select a host group.

b   Select a host.

c   Click the **Actions** tab.

d   Select **Change Group** from the drop-down menu to move the host to another host group.

e   Select the host group name from the drop-down menu to move the host to.

f   Click **Save**.

g   (Optional) Select **Reorder** from the drop-down menu to reposition the host in the host group.

h   (Optional) Select **Before** or **After** from the drop-down menu.

i   (Optional) Click **Save**.

3   Delete a host group.

You cannot delete a host group that has hosts. You must first move the hosts to another group.

a   Select the host group.

b   Select a host.

c   Click the **Actions** tab.

d   Select **Change Group** from the drop-down menu to move the host to another host group.

e   Select the host group name from the drop-down menu to move the host to.

f   Click **Save**.

g   Select the host group and click **Delete**.

h   Accept the notification.

What to do next

Upgrade the newly configures hosts. See Upgrade Hosts.

Upgrade Hosts

Upgrade the hosts in your infrastructure.

Prerequisites

Verify that you have configured the overall hosts upgrade. See Configure Hosts.

Procedure

1   Verify that the hosts configuration is accurate.

2   Click **Start** to upgrade the hosts.

3   Monitor the upgrade process.

You can view the overall upgrade status and specific progress of each host group in real time. The upgrade duration depends on the number of host groups you have in your environment.

You can pause the upgrade to configure the host group that is not upgraded and resume the upgrade.

When the upgrade finishes, the status of each host group appears as successful or failed.

What to do next

You can proceed with the upgrade only after the upgrade process finishes successfully. If some of the hosts are disabled, you must enable and upgrade them before you proceed. See Upgrade NSX Edge Clusters.

If there are upgrade errors, you must resolve the errors. See Troubleshooting Upgrade Failures.

Upgrade NSX Edge Clusters

The upgrade sequence updates the NSX Edge clusters second.

Edge groups consist of NSX Edge nodes that are part of an NSX Edge clusters. You can reorder Edge groups and enable or disable an Edge group from the upgrade sequence.

Note   You cannot move an NSX Edge node from one Edge group to another because the Edge group membership is determined by the NSX Edge cluster membership prior to the upgrade.

The NSX Edge nodes are upgraded consecutively by default so that the upgrading node is down and the other nodes in the NSX Edge clusters remain active to continuously forward traffic.

Prerequisites

- Verify that the hosts are upgraded successfully. See Configure Hosts.

- Familiarize yourself with the impact during the NSX Edge cluster upgrade. See Upgrade NSX Edge Clusters.

Procedure

1 Complete the NSX Edge clusters overall upgrade plan details.

Option	Description
Serial	Upgrade all the Edge groups consecutively.
	This menu item is selected by default. This selection is applied to the overall upgrade sequence.
	For example, if the overall upgrade is set to parallel and the Edge group upgrade is set to serial, the Edge groups are upgraded at once and the NSX Edge nodes are upgraded one at a time .
Parallel	Upgrade all the Edge groups simultaneously.
When an upgrade unit fails to upgrade	Selected by default to allow you to fix an error on the Edge group and continue the upgrade.
	You cannot deselect this command.
After each group completes	Select to pause the upgrade process after each Edge group finishes upgrading.
	By default, the upgrade pauses when all the NSX Edge clusters are updated. After you review the upgrade result, you can proceed to upgrade the NSX Controller clusters.

2 (Optional) Reorder the upgrade sequence of an Edge group.

If you configure the overall group upgrade as serial, you can reorder the Edge groups serving internal networks or Edge groups interfacing with external networks to be upgraded first.

You cannot reorder the NSX Edge nodes within an Edge group.

a   Select the Edge group and click the **Actions** tab.

b   Select **Reorder** from the drop-down menu.

c   Select **Before** or **After** from the drop-down menu.

d   Click **Save**.

3 (Optional) Disable an Edge group from the upgrade sequence.

You can disable some Edge groups and upgrade them later.

a   Select the Edge group and click the **Actions** tab.

b   Toggle the **State** button to disable the Edge group.

c   Click **Save**.

4 (Optional) Click **Reset** to revert to the default state.

⚠️ **Caution** After reset, **y**ou cannot restore your previous configuration.

5 Click **Start** to upgrade the NSX Edge clusters.

6 Monitor the upgrade process.

You can view the overall upgrade status and specific progress of each Edge group in real time. The upgrade duration depends on the number of Edge groups you have in your environment.

You can pause the upgrade to configure the Edge group that is not upgraded and restart the upgrade.

When the upgrade finishes, the status of each Edge group appears as successful or failed.

What to do next

You can proceed with the upgrade if the process is successful. See Upgrade NSX Controller Cluster.

If there are upgrade errors, you must resolve the errors. See Troubleshooting Upgrade Failures.

Upgrade NSX Controller Cluster

The upgrade sequence updates the NSX Controller cluster. The NSX Manager user interface is not available when you upgrade the NSX Controller cluster.

Note Contact VMware support at https://www.vmware.com/support/nsx.html for technical assistance on how to upgrade the NSX Controller cluster.

Upgrade Management Cluster

You must manually upgrade the Management cluster using an SSH client to access the Management nodes.

The instructions on the Management Node Upgrade page show the IP address, build number, and commands that must be run on each Management node. Copy and save these commands from this page and run them on the applicable Management node. During the upgrade, the NSX Manager user interface is inaccessible.

Note   You must successfully finish an upgrade task on the applicable Management node before you proceed to the next task to avoid problems with the upgrade.

Prerequisites

■   Verify that the NSX Controller cluster is upgraded successfully. See Upgrade NSX Controller Cluster.

■   Familiarize yourself with the impact during the NSX Management cluster upgrade. See Management Cluster Upgrade.

Procedure

1   Use an SSH client to access all the Management nodes.

```
ssh NodeIPAddress
```

2   Log in to each Management node with administrator credentials.

3   Detach all other Management nodes from the cluster with the exception of the Management node running the upgrade coordinator service.

   a   Shut down services on all the other Management nodes.

   ```
   stop service manager
   ```

   b   Detach all the other Management nodes except from the Management node running the upgrade coordinator service.

   ```
   detach management-cluster OtherManagementNodeIPAddress
   ```

   c   Power off and delete all the other detached Management nodes.

   d   Keep the communication interface on the remaining Management node and remove additional interfaces.

   ```
   ifdown Interface
   ```

   For example, if you have interface eth0 and eth1 you can remove the eth1 interface with the `ifdown eth1` command.

4   Stage the upgrade bundle on the remaining Management node.

```
copy url http://NodeIPAddress:8080/repository/1.1.0.0.BuildNumber/Manager/nub/VMware-NSX-
manager-1.1.0.0.BuildNumber.nub
```

   NodeIPAddress is the IP address of the NSX Manager node in the Management cluster where the upgrade coordinator is enabled.

   For example, `copy url`
   ```
   http://192.10.80.161:8080/repository/1.1.0.0.4128701/Manager/nub/VMware-NSX-
   manager-1.1.0.0.4128701.nub
   ```

5   Verify the upgrade bundle on the Management node.

```
verify  upgrade-bundle  VMware-NSX-manager-1.1.0.0.BuildNumber
```

   For example, `verify upgrade-bundle VMware-NSX-manager-1.1.0.0.4128701`

6   Upgrade the Management node.

```
start upgrade-bundle VMware-NSX-manager-1.1.0.0.BuildNumber playbook playbook
```

   For example, `start upgrade-bundle VMware-NSX-manager-1.1.0.0.4128701 playbook playbook`

   The Management node reboots after the upgrade finishes.

7   Wait 5-10 minutes until all the components are configured.

8   Verify that the Management node is upgraded to the latest version.

```
get version
```

9   Log in to the NSX Manager.

What to do next

Perform post-upgrade tasks or troubleshoot errors depending on the upgrade status. See Post-Upgrade Tasks or Troubleshooting Upgrade Failures.

Post-Upgrade Tasks

<div style="text-align: right; font-size: 3em;">4</div>

After you upgrade NSX-T, perform applicable post-upgrade tasks.

This chapter includes the following topics:

- Verify the Current State of NSX-T
- Check Component Status Post Upgrade
- Detaching DHCP Service from Tier-1 Downlinks
- Modifying IPFIX Profile

Verify the Upgrade

After you upgrade NSX-T, you can check whether the versions of the upgraded components have been updated.

Prerequisites

Perform a successful upgrade. See Upgrading NSX-T.

Procedure

1 From your browser, log in to an NSX Manager at https://*nsx-manager-ip-address*.

2 Select **System > Utilities > Upgrade** from the navigation panel.

3 Review the Overview page to verify that all the components have the latest product version.

4 (Optional) Select **System > Overview** to view the upgrade details of each Management node and NSX Controller node.

Check Component Status Post Upgrade

Post upgrade, you must check the status of several components.

- Fabric nodes installation
- Transport node LCP and management plane agent connectivity
- Routers connectivity
- NAT rules
- DFW rules
- DHCP lease
- Flows in the IPFIX collector
- TOR connectivity to enable network traffic

Detaching DHCP Service from Tier-1 Downlinks

Post upgrade, after the administrator creates a DHCP profile and server, detach DHCP relay service from Tier1 downlink interfaces.

Modifying IPFIX Profile

If you defined the IPFIX profile in the NSX-T 1.0.1 environment, then it is recommended to update that profile after upgrading to NSX-T 1.1.

In the NSX-T 1.0.1 release, the IPFIX profile was global. In the NSX-T 1.1 release, the IPFIX configuration is granular. You can enable IPFIX on a set of logical switches or logical ports. The IPFIX profile configuration is limited to serving a specific set of logical switches or logical ports. The IPFIX profile when created with **applied to** field for logical switches or logical ports is applied to hypervisors serving VMs attached to selected logical switches or logical ports.

You can find IPFIX in the Tools section of the NSX Manager to limit the service to logical switches or logical ports.

Upgrade ESXi Host

Depending on your environment you must manually upgrade the ESXi host from ESXi 6.0 to ESXi 6.5 version.

Prerequisites

Verify that the upgrade process is successful. See Verify the Upgrade.

Procedure

1   Check existing nsx-lcp packages.

    esxcli software vib list | grep -i nsx

2   In the root folder, download the nsx-lcp packages for ESXi 6.5.

3   Apply the higher version of a full image profile onto the host.

    esxcli software profile update --depot http://build-
    squid.eng.vmware.com/build/mts/release/bora-**<build>**/publish/CUR-
    depot/ESXi/index.xml --profile ESXi-6.5.0-**<build>**-standard --allow-
    downgrades --no-sig-check

4   Reboot the ESXi host.

5   Install nsx-lcp packages.

```
esxcli software vib update -d /root/*
```

6   Test the installed nsx-lcp packages.

```
esxcli software vib list | grep -i nsx
```

Upgrade Ubuntu KVM

Depending on your environment you must manually upgrade the Ubuntu 14.04 to 16.04 version.

Prerequisites

Verify that the upgrade process is successful. See Verify the Upgrade.

Procedure

1   Show all Linux Standard Base and distribution-specific information.

```
lsb_release -a
```

2   Install packages using the apt tool.

```
sudo apt update
```

3   Fetch the latest packages.

```
sudo apt-get upgrade
```

4   Handle dependencies such as substituting obsolete packages with new packages.

```
sudo apt dist-upgrade
```

5   If the latest version is not available, open the /etc/update-manager/release-upgrades file.

6   Verify that Prompt value is set to normal.

7   If the value is not set to normal, change the value and save the file.

8   Upgrade to the Ubuntu 16.04 version.

```
do-release-upgrade
```

Upgrade RHEL KVM

Depending on your environment you must manually upgrade the RHEL 7.1 to 7.2 version.

Prerequisites

Verify that the upgrade process is successful. See Verify the Upgrade.

Procedure

1   Find the grub2 entry.

```
awk -F\' '$1=="menuentry " {print $2}' /etc/grub2.cfg
```

2   Set the default booting kernel.

```
grub2-set-default 2
```

3   Clear the Yum cache.

```
Yum clean all
```

4 Update packages.

    ```
    Yum update
    ```

5 Restart the RHEL host.

    ```
    Reboot host
    ```

Troubleshooting Upgrade Failures

<div style="text-align: right; font-size: 3em;">5</div>

You can review the log messages to identify the problem. After you resolve the problem, you can continue with the upgrade.

You can also configure a remote logging server and send log messages for troubleshooting. See *NSX-T Administration Guide*.

Troubleshoot a Failed Upgrade

If the upgrade process fails, you can review the error messages to assist you with the troubleshooting process.

Procedure

1   Identify the failed host group, Edge group, Controller node that is highlighted in red.

2   Click the failed component.

    A dialog box with error messages appears.

3   Resolve the error.

Upgrade Unit	Errors
TN-edgenode-02a	• [Edge UCP] Edge 1.0.0.0.0.3788284/Edge/nub/VMware-NSX-edge-1.0.0.0.0.3788309.nub install OS task failed on edge TransportNode 88284f1e-05ba-4d5f-bf47-d7e934b69416: clientType EDGE , target edge fabric node id 4d6bfb9a-ff60-11e5-8ec7-005056ae60cd, return status Polling install_os timed out .

1 Upgrade Unit

Serial	● Enabled	⚠ Failed	0%

In the example, wait for some time and restart the upgrade on the NSX Edge node.

4   Click **Continue** to resume the upgrade.

Upgrade Known Issues 6

NSX Manager user interface is not available when you upgrade the NSX Controller cluster. Contact VMware support at https://www.vmware.com/support/nsx.html for assistance on how to upgrade the NSX Controller clusters.

Issue 1770700: Upgrading from an NSX-T 1.0.1 with ESX hypervisor to NSX-T 1.1 fails because of memory leak

Upgrading NSX-T 1.0.1 with an ESX hypervisor system to NSX-T 1.1 fails because of vdr memory leak.

Workaround: Before upgrade, reboot all of the ESX hypervisors in your system.

Issue 1771427: After upgrading NSX-T from 1.0.1 to 1.1.0, the backup and restore feature fails

After you upgrade your environment from 1.0.1 to 1.1.0, you take backups for the purpose of restoring the environment in the event of a failure. If the NSX Manager node fails and you deploy a new NSX Manager node running 1.1.0 and attempt a restore, the operation fails and NSX Manager stops running.

Workaround: In the scenario described above, after the NSX Manager node fails, perform the following steps:

1. Deploy a fresh NSX-T 1.0.1 NSX Manager node.

2. From the NSX Manager GUI, perform an upgrade to 1.1.0.

3. Restore the backup of your choice to this NSX Manager node.

Issue 1773168: Upgrade of VIBs from 1.0.1 to 1.1 on ESXi host fails

When upgrading from 1.0.1 to 1.1, you might run into an insufficient memory issue on an ESXi host. Upgrade coordinator reports that the upgrade failed. NSX Manager user interface shows that there is a problem with the node. The API `GET https://<nsx mgr>/api/v1/fabric/node/<node-id>/state` indicates an error. The log file esxupdate.log on the ESXi host has messages containing the string "MemoryError". Rebooting the host causes the VIBs' version to go back to 1.0.1.

Workaround: Complete the following steps:

1. Reboot the host if not already done.

2. Run the following command on the host:

    ```
    localcli --plugin-dir=/usr/lib/vmware/esxcli/int sched group setmemconfig --
    group- path=host/vim/vimuser/nsx-sfhc --min=64 --max=-1 --minlimit=-1 --
    units=mb
    ```

3. Upgrade the host again from upgrade coordinator.

Issue 1780136: Install-upgrade service not running by default in case of NSX Manager reboot or shutdown before its first boot is completed

If a reboot or shutdown is attempted on NSX Manager before the first boot of NSX Manager is completed, then the install-upgrade service is not running by default on NSX Manager.

Workaround: Manually start the service by running the CLI command set service install-upgrade enabled on NSX Manager.

Issue 1780141: Bridge cluster status is down after upgrading to ESXi 6.5

For more information, see http://kb.vmware.com/kb/2148182.

Issue 1780145: On RHEL KVM hypervisors, if there are static routes through OVS devices which are managed by NetworkManager, these static routes might be lost during the upgrade process

Workaround: Do not have OVS devices that are managed by NetworkManager. You can prevent OVS devices from being managed by NetworkManager by creating or configuring the OVS devices using system network configuration files, for example, /etc/network/interfaces, /etc/sysconfig/network-scripts, etc.

Issue 1780148: Upgrade history does not show upgrade from NSX-T 1.0 to 1.0.1

If you upgrade from 1.0 to 1.0.1 and then to 1.1, the upgrade coordinator shows the upgrade from 1.0.1 to 1.1, but not from 1.0 to 1.0.1.

Workaround: None

Issue 1782600: Warning messages on the upgrade coordinator user interface do not disappear after problems are resolved

During an upgrade, if there are problems, warning messages appear on the upgrade coordinator user interface. However, after the problems are resolved, the warning messages might not disappear.

Workaround: After resolving the problems, navigate to the corresponding page such as Hosts Upgrade or NSX Edge Upgrade and refresh it. Then go to the upgrade bundle status page and refresh it.

Issue 1756625: After upgrading NSX-T from 1.0.1 to 1.1, some VM on one router fails to reach another VM on another router

This issue is caused by the BFD Allowed Hops value in the default NSX Edge cluster profile being set too low.

Workaround: Create an NSX Edge cluster profile with an appropriate BFD Allowed Hops value.

Issue 1767273: Upgrading from NSX-T 1.0.1 TO 1.1 fails if you remove or move an NSX Edge node from an NSX Edge cluster during the upgrade

Workaround: Do not remove or move an NSX Edge node from an NSX Edge cluster during an upgrade.

Issue 1773420: After upgrading bridge cluster nodes from ESXi 6.0 to ESXi 6.5, the bridge cluster status is DOWN

The following upgrade scenario results in the bridge cluster status being DOWN:

- A bridge cluster with 2 ESXi 6.0 transport nodes is up and running.

- Upgrade the ESXi 6.0 bridge cluster nodes to 6.5.

- Upgrade the nsx-lcp packages from ESXi 6.0 to ESXi 6.5.

Workaround: Remove the upgraded ESXi transport nodes from the bridge cluster and add them back to the bridge cluster. The status of the bridge cluster should be UP.

Issue 1772488: After upgrading from NSX-T 1.0.1 TO 1.1, the HTTP connection timeout value is 30000 seconds

Upgrade fails to set this timeout to a reasonable value.

Workaround: Use the CLI to set the timeout to a reasonable value.

For example: `set service http connection-timeout 30`

Issue 1772562: Upgrade from NSX-T 1.0.1 to 1.1 fails when the name of a host switch contains one or more spaces

Upgrade fails with the error messages "Software nsx-support-bundle-client not present on host" and "New version MPA did not come up on host node."

Workaround: You cannot edit a transport zone to change the name of a host switch. You must create new transport zones to replace the transport zones that have host switch names that contain spaces, reconfigure all components that are associated with the old transport zones to use the new transport zones, delete the old transport zones, and then upgrade.

Issue 1773145: After upgrading from NSX-T 1.0.1 TO 1.1, an API and a CLI command fail

In the response from the API `GET https://<nsx-mgr>/api/v1/fabric/nodes`, the os_version field for some ESXi hosts is empty. Also, the CLI command detach management-plane causes CLI to hang. The cause of these issues is that the nsx-da python daemon fails to terminate on the ESXi hosts.

Workaround: Run the following commands to stop the process python /usr/lib/vmware/nsx-da/nsxDaVim.py:

```
PYTHON_FILE=/usr/lib/vmware/nsx-da/nsxDaVim.py
pid=$(ps -ci | grep $PYTHON_FILE | grep -v grep | grep -v sh | awk '{print $1}' | sed
    -n 1p)
kill -9 $pid
```

Issue 1763597: After upgrading the data plane using CLI, the guest management IP interfaces are lost and restored to the NSX Manager

For a guest VM on KVM, after the upgrade process if the management IP is a virtual-net-device of an Open vSwitch interface such as breth0, the management IP loses attached interfaces.

Workaround: Reboot the guest VM.