



# Upgrade Software

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*Table 1: Feature History*

<b>Feature Name</b>	<b>Release Information</b>	<b>Feature Description</b>
Card Controller Software Package	Cisco NCS 2000 Release 12.3	Card Controller software package includes all packages specific to the SVO card.

Feature Name	Release Information	Feature Description
Software Upgrade Enhancements	Cisco NCS 2000 Release 12.3.1	<p>The following Software Upgrade enhancements are done:</p> <ul style="list-style-type: none"> <li>• The software repository capacity is increased to maintain up to eight <a href="#">Download Software Package</a>. The <b>Software Packages</b> tab lists the packages and their contents. This feature improves the installation process by making more packages readily available for activation.</li> <li>• The operating system of the SVO device can be remotely upgraded from the <b>Device Software</b> tab. This eliminates the need to perform an on-site operating system upgrade of the SVO device.</li> <li>• An "Active session" label is displayed against the SVO card in the <b>Device Software</b> tab to indicate that it is running the active SVO session. This makes it simple to identify the active SVO card for operating system upgrades.</li> </ul>

This chapter describes the software upgrade in Cisco NCS 2000 SVO and its related tasks. This chapter applies to the NCS 2000 node that is already migrated to SVO with release greater than R12.x

- [SVO Software Package](#), on page 3
- [Workflow for Software Upgrade](#), on page 3
- [Download Software Package](#), on page 4
- [Delete Software Package](#), on page 5
- [Activate Admin Plane Software](#), on page 5
- [Activate SVO Software](#), on page 6
- [Download Device Software](#), on page 7
- [Activate Device Software](#), on page 8
- [Workflow for Software Downgrade](#), on page 9

# SVO Software Package

The software package is distributed as a single file that is downloaded to the local file system of SVO and it contains all the required packages for upgrading the system. The single file image is different depending on the SVO installation type: SVO line card (ISO image file) or SVO external server (TAR image file). The package can be downloaded by any active SVO ROADM instance running on the line card or external server.

External server TAR image consists of the following:

- NCS 2000 software packages
- SVO software package
- Admin plane package

ISO line card image consists of the following:

- NCS 2000 software packages
- SVO software package
- Admin plane package
- SVO line card operating system
- Additional packages for specific line card management
- Card controller software package



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**Note** You must download the software only from the ROADM SVO instance and not from the OLA, DGE or TXP SVO instances.

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## Workflow for Software Upgrade

The **Software Manager** page has four tabs which are used for upgrading the device software.



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**Note** The following sequence is mandatory for software upgrade.

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1. Use the **Download** tab to download the necessary packages. The relevant procedure is discussed at [Download Software Package, on page 4](#). The downloaded packages appear in the **Software Packages** tab.
2. Use the **Admin Plane Software** tab to activate the SVO package. It lists the active software versions. The relevant procedure is discussed at [Activate Admin Plane Software , on page 5](#).
3. Use the **SVO Software** tab to activate the SVO package. It lists the active software versions. The relevant procedure is discussed at [Activate SVO Software , on page 6](#).

4. Use the **Device Software** tab to download the NCS 2000 device software packages. The relevant procedure is discussed at [Download Device Software , on page 7](#).
5. Use the **Device Software** tab to activate the NCS 2000 device software packages. The relevant procedure is discussed at [Activate Device Software, on page 8](#).




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**Note** After upgrading the SVO solution to R12.31, you should adjust the Reserved memory of the SVO container. For more information on how to adjust the reserved memory, see [Edit Reserved Memory of an SVO Instance](#).

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## Download Software Package

Use this task to download the software package on the SVO card.

### Before you begin

[Log into the SVO Web Interface](#)

### Procedure

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- Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.
- Step 2** Click the **Download** tab.
- Step 3** From the **Protocol** drop-down list, choose SFTP.
- Step 4** Enter the remote file path of the software package in the **Remote File Path** field.
- Step 5** Choose to enter the credentials either through **User-Password** or **Auth-Group**.
  - If you choose **User-Password**, enter the **Username** and **Password** in the given fields.
  - If you choose **Auth-Group**, choose the authentication group from the **Auth Group** drop-down list.
- Step 6** Click **Download** to download the software package on the SVO card.
 

When the software package is successfully downloaded, the **Status** is updated to **Download of package completed on <time and date>**.
- Step 7** After the download, click the **Refresh** icon on the **Software Packages** tab.
 

The **Software Packages** tab displays the list of software packages that are downloaded. The **Software Packages** tab lists the NCS2K, SVO, operating system, and Admin Plane packages.

From Release 12.3.1, the **Software Packages** tab displays the list of software packages in the increasing order of their release. Expand each package to see its software components.

The following details are displayed for the downloaded packages:

  - **Software Package ID**—Displays the package ID of the ISO or TAR file.
  - **Software Component**—Displays the name of the individual component that is part of the ISO or TAR file.
  - **File Name**—Displays the filename of the software package.

- **Version**—Displays the version of the software package.
- **CRC Valid**—Cyclical Redundancy Check (CRC) to perform package integrity and ensure that the package content is valid.
- **Size (in bytes)**—Displays the size of the software package.

**Note** From Release 12.3.1, the **Software Packages** tab displays up to eight software packages. If the ninth software package is downloaded, it automatically overwrites the oldest package that is not in use.

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## Delete Software Package

Use this task to delete the software package on the SVO card or application.

### Before you begin

[Log into the SVO Web Interface](#)

### Procedure

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**Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.

**Step 2** Click the **Software Packages** tab.

The package names and their corresponding software versions are displayed.

**Step 3** Check the checkbox against the SW Package ID of the SVO package which you want to delete.

**Step 4** Click **Delete**.

**Note** The SVO application checks to verify that no application (such as Admin Plane, SVO instance) or device (such as NCS2K, SVO controller) is running one of the images being removed. In case of NCS2K device, the standby package version is also checked. If any image in the selected package is currently running, then the deletion operation is stopped.

A dialog box for deleting the software package appears.

**Step 5** Click **Delete**.

A confirmation message appears.

**Step 6** Click **Yes**.

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## Activate Admin Plane Software

Use this task to activate the admin plane software package on the SVO card.

**Before you begin**

[Log into the SVO Web Interface](#)

**Procedure**

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**Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.

**Step 2** Click the **Admin Plane Software** tab.

The following details of the admin plane software are displayed:

- **Name**—Displays the name of the admin plane software that is active.
- **SW Version**—Displays the admin plane software version that is active.

**Step 3** Click **Activate**.

The **Software Image Activation** dialog box appears.

**Step 4** From the drop-down list, choose the software image to activate.

**Step 5** Click **Activate**.

A confirmation message appears.

**Step 6** Click **Yes**.

When the admin plane software is successfully activated, **Activation of SW to version <version-number> has succeeded on <time and date>** message appears next to the **Activate** button.

The activated software version appears in the **SW Version** column.

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## Activate SVO Software

Use this task to activate the SVO software package on the SVO card.

**Before you begin**

[Log into the SVO Web Interface](#)

**Procedure**

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**Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.

**Step 2** Click the **SVO Software** tab.

The following details of the SVO software are displayed:

- **Name**—Displays the name of the SVO software that is active.
- **SW Version**—Displays the SVO software version that is active.

- Step 3** Click **Activate**.  
The **Software Image Activation** dialog box appears.
- Step 4** From the drop-down list, choose the software image to activate.
- Step 5** Click **Activate**.  
A confirmation message appears.
- Step 6** Click **Yes**.  
The SVO software activation takes around 4 minutes to complete.  
After the activation is complete, your session ends and the login page appears.
- Step 7** Log in using your credentials and check for the updated version of the SVO software in the **SW version** column.
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## Download Device Software

Use this task to download the device software package from the SVO card to NCS 2000 device. In R12.x, you can download the device software package to only one NCS 2000 device for each SVO instance.

### Before you begin

- [Log into the SVO Web Interface](#)
- [Activate SVO Software](#) , on page 6

### Procedure

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- Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.
- Step 2** Click the **Device Software** tab.  
The following details of the software packages are displayed:
- **Name**—Displays the name of the device where the software package is downloaded.
  - **Component**—Displays the platform name.
  - **Working SW Version**—Displays the package version that is active.
  - **Protect SW Version**—Displays the backup package version.
  - **Status**—Displays the progress of package download.
- Step 3** Check the checkbox against the **Name** of the device for which you want to download the new software.
- Note** The **Device Software** tab lists the NCS2K, svo-primary, and svo-secondary devices. Only the NCS 2000 device software package can be downloaded in R12.x.
- Step 4** Click **Download**.

The **Select Software Image** dialog box appears.

**Step 5** From the **Software Image** drop-down list, select the software package.

**Step 6** Click **Download**.

The **Status** field displays the progress (%) of package download. After the download, the downloaded package is indicated in the Protect SW Version column.

**Note** If you choose to download the TNC or TNCE card for the NCS 2000 device package, the **Status** column displays the download progress (%) of only the active card and not the standby card. The **Status** field changes to downloaded only after the standby card is downloaded.

After the device software is downloaded, the USB-sync alarm is raised. The USB-sync alarm clears after 6 minutes. Click the **Bell** icon to see the USB-sync alarm in the **Alarms** tab.

Use the **Terminate Download** option to terminate the software downloading on the selected device.

**Note** We recommend that you limit the number of simultaneous software downloads to eight nodes.

## Activate Device Software

Use this task to activate the NCS 2000 device software package in R12.x.



**Note** After you have downloaded the device software, wait for the USB-sync alarm to clear. If the alarm is not cleared, the activation of the NCS 2000 device software package fails.

### Before you begin

- [Log into the SVO Web Interface](#)
- [Activate SVO Software](#), on page 6
- [Download Device Software](#), on page 7

### Procedure

**Step 1** Click the hamburger icon at the top-left of the page, and select **Software Manager**.

**Step 2** Click the **Device Software** tab.

**Step 3** Choose the NCS 2000 device, and click **Activate** to activate the device software package on NCS 2000 device.

The downloaded package that is available in the Protect SW Version is activated to the Working SW Version.

**Note** If you choose to activate the TNC or TNCE card for the NCS 2000 device package, the **Status** field displays the activation progress (%) of only the active card and not the standby card.

**Note** From Release 12.3, you can upgrade the CardController component of the SVO devices.



**Note** From Release 12.3.1, you can upgrade the OS component of the SVO devices. However, the **Activate** button is enabled only when you select the OS component for both the SVO devices or the device that is not running the Active SVO session. *Active session* label is added next to the SVO device that is running the Active SVO session. In case of Standalone configuration, the **Activate** button remains enabled.

During the activation of the new operating system, access is temporarily lost on the active session card and the SVO Web UI.

**Caution** Currently no automatic rollback procedure is supported for the OS component upgrade. If issues arise, the device can be only recovered on site.

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## Workflow for Software Downgrade

The **Software Manager** page has four tabs which are used for downgrading the device software.



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**Note** The following sequence is mandatory for software downgrade.

1. Use the **SVO Software** tab to activate the SVO package. It lists the active software versions. The relevant procedure is discussed at [Activate SVO Software](#) , on page 6.
2. Use the **Admin Plane Software** tab to activate the SVO package. It lists the active software versions. The relevant procedure is discussed at [Activate Admin Plane Software](#) , on page 5.
3. Use the **Device Software** tab to download the NCS 2000 device software packages. The relevant procedure is discussed at [Download Device Software](#) , on page 7.
4. Use the **Device Software** tab to activate or revert the NCS 2000 device software packages. The relevant procedure is discussed at [Activate Device Software](#), on page 8.



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**Note** When you downgrade the SVO solution to R12.3 from R12.31, the Reserved memory assigned for the SVO container increases by 2 GB in R12.3. After downgrading the SVO solution, you should adjust the Reserved memory of the SVO container. For more information on how to adjust the reserved memory, see [Edit Reserved Memory of an SVO Instance](#).

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