



# Cisco Vision Software Installation and Upgrade Guide

Dynamic Signage Director

Release 6.4

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# Contents

- About This Guide . . . . . 7
  - Document Revision History . . . . . 7
  - Document Organization . . . . . 8
  - Related Documentation and Resources. . . . . 9
    - Cisco Vision Documentation Go URL . . . . . 9
    - Release-Specific Documents . . . . . 9
    - Cisco Vision Documentation Notifications . . . . . 9
    - Obtaining Cisco Product Documentation . . . . . 9
- Getting Started Installing or Upgrading Cisco Vision Dynamic Signage Director . . . . 11
  - Before You Begin . . . . . 11
  - Hardware Prerequisites. . . . . 12
    - Minimum Virtual Machine System Requirements for Cisco Vision Dynamic Signage Director . . . . . 12
    - Mini-Scale Server Deployment . . . . . 12
    - Small-Scale Server Deployment . . . . . 13
    - Standard-Scale Server Deployment . . . . . 14
    - Large-Scale Server Deployment . . . . . 15
  - VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director . . . . . 16
  - Restrictions for Virtual Machine Support . . . . . 16
  - Overview of the Installation and Upgrade Process . . . . . 16
    - Installing on a Virtual Machine for the First Time . . . . . 17
    - Upgrading an Existing Server Already Running Cisco Vision Director . . . . . 17
      - Upgrading From Cisco Vision Dynamic Signage Director Release 6.3 . . . . . 17
- Installing Cisco Vision Dynamic Signage Director for the First Time . . . . . 19
  - Prerequisites. . . . . 19
  - Virtual Machine Environment. . . . . 19
  - Installation Tasks . . . . . 19
    - Downloading the ISO Files from Cisco.com. . . . . 20
  - What To Do Next . . . . . 20
- Upgrading Cisco Vision Director Software, Language Packs, and Fonts . . . . . 21
  - Best Practices . . . . . 21
  - Prerequisites. . . . . 22
    - Preparing for Upgrade. . . . . 22

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What To Do Next . . . . .	22
Using Cisco Vision Director to Update Existing Software . . . . .	22
ISO Upgrade Files . . . . .	23
Disk Maintenance . . . . .	23
Upgrade Tasks . . . . .	23
Downloading ISO Upgrade Files from Cisco.com . . . . .	23
Uploading and Installing an ISO Upgrade File on Cisco Vision Director Server . . . . .	24
Prerequisites . . . . .	24
Task . . . . .	24
Rebooting the Cisco Vision Dynamic Signage Director Server . . . . .	26
Installing Language Packs . . . . .	26
Installing Fonts . . . . .	27
Guidelines for Installing Fonts . . . . .	27
Procedure . . . . .	27
What to Do Next . . . . .	28
Verifying the Upgrade . . . . .	29
Clearing the Browser Cache . . . . .	29
Importing the Security Certificate . . . . .	30
Adding a Security Exception for Mozilla Firefox . . . . .	30
DSD Certificate Import . . . . .	30
Logging Into Cisco Vision Dynamic Signage Director . . . . .	31
Verifying the Menu . . . . .	31
Verifying that Services are Running . . . . .	31
Configuring the Media Player for VLAN Compliance Checking . . . . .	32
Upgrading the DMP Firmware . . . . .	33
Rebooting the DMPs . . . . .	33
Verifying Media Players, Groups, and Zones in the Device Management . . . . .	33
Verifying the Multicast Configuration . . . . .	34
Completing the Post-Upgrade Checklist and Testing . . . . .	34
Upgrading the DMP Firmware . . . . .	35
Contents . . . . .	35
Prerequisites . . . . .	35
Provisioning Tasks . . . . .	36
Downloading the Firmware for All Media Players . . . . .	36
Downloading the DMP Production Firmware . . . . .	36
Downloading the DMP Base Firmware . . . . .	36
Uploading the DMP Firmware to Cisco Vision Dynamic Signage Director . . . . .	36
Configuring the DMPs for Auto-Registration . . . . .	37
Smart Software Licensing . . . . .	41
Overview . . . . .	41

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Registering Smart Software Licensing . . . . .	42
Create a Smart Account . . . . .	42
Register Cisco Vision Director Products with Smart Licensing Software . . . . .	42
Smart Software Licensing Status . . . . .	43
Reserve Cisco Vision Director Products with Smart Software Licensing. . . . .	43
Transport Settings. . . . .	45
Smart License Usage . . . . .	46
Appendix A: Post-Upgrade Checklist. . . . .	49
Appendix B: Port Reference . . . . .	51
Cisco Vision Dynamic Signage Director Ports . . . . .	51
Cisco Vision Dynamic Signage Director Input Ports . . . . .	51
Cisco Vision Dynamic Signage Director Output Ports. . . . .	52
Digital Media Player Ports . . . . .	52
Common Media Player Input Ports . . . . .	53
Network Input Ports . . . . .	53
Common Digital Media Player Output Ports . . . . .	53
Output Ports . . . . .	54





# About This Guide

This document describes the requirements and tasks to install and upgrade the software for Cisco Vision Dynamic Signage Director Release 6.4.

The content is intended for Cisco Vision Director system administrators and technical field engineers who are responsible for designing and deploying Cisco Vision solutions. You should be familiar with basic IP networking, Linux, and VMware virtualization.

In the documentation for Cisco Vision Dynamic Signage Director, we changed the terms “master” to “lead, leader, or primary,” the term “slave” to “secondary,” the term “whitelist” to “allowlist,” and the term “blacklist” to “blocklist.” There are currently no changes to the product’s syntax, so these terms are still present in the documentation where the current code requires their use. Where an industry standard exists, such as IEEE terminology, we cannot alter the term until the standards change.

This section includes the following topics:

- [Document Revision History, page 7](#)
- [Document Organization, page 8](#)
- [Related Documentation and Resources, page 9](#)

## Document Revision History

**Table 1** lists the technical changes made to this document since it was first published.

**Table 1 Document Revision History**

Date	Change Summary
2021-06-11	First release of this document for Cisco Vision Dynamic Signage Director Release 6.4.0-183.

## Document Organization

This guide includes the following modules:

Chapter	Description
<a href="#">Getting Started Installing or Upgrading Cisco Vision Dynamic Signage Director, page 11</a>	Provides information that you should read before you perform an initial installation or upgrade of the Cisco Vision Dynamic Signage Director Release 6.4 software.
<a href="#">Installing Cisco Vision Dynamic Signage Director for the First Time, page 19</a>	Describes how to install the Cisco Vision Dynamic Signage Director Release 6.4 software on your server from a full ISO image.
<a href="#">Upgrading Cisco Vision Director Software, Language Packs, and Fonts, page 21</a>	Describes how to upgrade a Cisco Vision Dynamic Signage Director server already running Cisco Vision Dynamic Signage Director software, as well as how to install language packs and fonts.
<a href="#">Verifying the Upgrade, page 29</a>	Describes how to verify a successful upgrade process.
<a href="#">Upgrading the DMP Firmware, page 35</a>	Describes how to obtain and upload firmware for the DMPs and how to configure the auto-registration settings.
<a href="#">Smart Software Licensing, page 41</a>	Describe the new capability of managing your software licenses by product, registering, renewing, or returning your licenses using Cisco Vision Director.
<a href="#">Appendix A: Post-Upgrade Checklist, page 49</a>	Provides a checklist that is useful after you upgrade your software on a Cisco Vision Dynamic Signage Director server.
<a href="#">Appendix B: Port Reference, page 51</a>	Identifies the ports used by Cisco Vision Dynamic Signage Director.



## Related Documentation and Resources

### Cisco Vision Documentation Go URL

For more information about Cisco Vision Director hardware and software installation, configuration, and operation, see the Cisco Vision documentation available on Cisco.com at:

[www.cisco.com/go/stadiumvisiondocs](http://www.cisco.com/go/stadiumvisiondocs)

### Release-Specific Documents

- [Release Notes for Cisco Vision Dynamic Signage Director Release 6.4](#)
- For the listing page of all Cisco Vision documentation, go to:

<http://www.cisco.com/c/en/us/support/video/stadiumvision/tsd-products-support-series-home.html>

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# Getting Started Installing or Upgrading Cisco Vision Dynamic Signage Director

Read this module before you perform an initial installation or upgrade of the Cisco Vision Dynamic Signage Director software. It includes the following topics:

- [Before You Begin, page 11](#)
- [Hardware Prerequisites, page 12](#)
- [Overview of the Installation and Upgrade Process, page 16](#)

## Before You Begin

**IMPORTANT:** Read all reference content and prepare. **ONLY** use the procedure documented in [Installation Tasks, page 19](#), or your installation will not work properly.

Be sure that you understand and have met the following prerequisites before you begin to install or upgrade the Cisco Vision Dynamic Signage Director software:

- Refer to the [Release Notes for Cisco Vision Dynamic Signage Director Release 6.4](#) for the latest information about hardware and software requirements, changes, important notes, and caveats for your software release.
- Determine if you have compatible media player models and firmware versions available.  
  
The media player firmware images are not bundled with the Cisco Vision Dynamic Signage Director software. Download the firmware image separately. For more information about supported firmware versions, see the [Release Notes for Cisco Vision Dynamic Signage Director, Release 6.4](#).
- Be sure that you have a supported browser installed for access to Cisco Vision Dynamic Signage Director. See the [Cisco Vision Content Planning and Specifications Guide, Release 6.4](#).
- To access the Cisco Integrated Management Controller (CIMC) for the software installation on a Cisco Integrated Management Controller (CIMC) server, see their documentation [here](#).
  - Your computer meets the minimum browser and Flash player requirements for Cisco Vision Dynamic Signage Director, and also has Java 1.6 or later installed. The minimum Flash version is 22.0.0.209 (applies to both Mac OS and Windows).
  - You have a laptop connection with access to the Cisco Vision Dynamic Signage Director server network.
  - You have the IP address of the CIMC interface on the Cisco Vision Dynamic Signage Director server.
  - You have the CIMC interface login credential. The default credential is **admin** and **password**.

**Note:** It is difficult to recover from an interrupted installation process if the installation shell is accidentally closed or the network drops. We **strongly recommended** that you use a server console connection method that does not pose a risk to the success of upgrade completion, if the session breaks during upgrade. You also can use a monitor and keyboard that are directly connected to the Cisco Vision Dynamic Signage Director server to log into the TUI.

## Hardware Prerequisites

To learn more about the KVM console and the CIMC interface, see the Cisco UCS C-Series Integrated Management Controller Configuration guide that corresponds to your server release at:

<http://www.cisco.com/c/en/us/support/servers-unified-computing/ucs-c-series-integrated-management-controller/products-installation-and-configuration-guides-list.html>

- Assess your installation environment and see [Overview of the Installation and Upgrade Process, page 16](#) for more information and to find out what modules in this guide you should follow.

## Hardware Prerequisites

You can install Release 6.4 on your own virtual machine to run the Cisco Vision Dynamic Signage Director software. Follow the requirements in this section to be sure that your virtual environment meets the minimum and tested specifications.

Cisco Vision Director offers the following four server profile deployment options:

- Mini
- Small
- Standard
- Large

This section includes the following topics:

- [Minimum Virtual Machine System Requirements for Cisco Vision Dynamic Signage Director, page 12](#)
- [VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director, page 16](#)
- [Restrictions for Virtual Machine Support, page 16](#)

## Minimum Virtual Machine System Requirements for Cisco Vision Dynamic Signage Director

Be sure that your configuration meets the minimum system requirements. This section details the minimum requirements for each deployment size.

### Mini-Scale Server Deployment

For a mini-scale deployment, be sure that your configuration meets the minimum system requirements in [Table 1 on page 13](#) and supports a VMware virtual machine environment with a compatible vSphere version (See [VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director, page 16](#)).

**Note:** Install Cisco Vision Dynamic Signage Director servers close to the DMPs that they operate with, such as at the remote venue edge. Cisco Vision Dynamic Signage Director communicates to the players over a LAN.

To maintain software licensing compliance, Cisco Vision Dynamic Signage Director servers must be installed in the following manner:

- The Cisco Vision Dynamic Signage Director server is installed in a data center or in an enterprise data closet, or the Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment.

## Hardware Prerequisites

**Table 1 Minimum System Requirements for a Virtualized Environment Running Mini-Scale Cisco Vision Dynamic Signage Director**

System Component	Minimum Requirement
Processor	Two processors each equivalent to an Intel Xeon Processor E5-2640 (15 MB cache, 1.9 GHz clock, 7.20 GT/s Intel® QPI)
CPU Clock Speed (GHz)	1.9
CPU Cache (MiB)	9
Forward write (fwrite) operations per second	2,500
Local attached SSD (RAID10)	2 x 6 Gb/s
Virtual CPUs <sup>1</sup>	6
Virtual Disk Space	225 GB
Virtual RAM (VRAM)	8 GB <sup>2</sup>

1. Hyperthreading can be used. Be sure that the BIOS is properly configured to enable it.
2. Reserve a minimum of 8 GB VRAM to install and operate the Mini/Smaller-Scale Cisco Vision Dynamic Signage Director system. Allow additional storage for the ESXi OS.

## Small-Scale Server Deployment

For a small-scale deployment, be sure that your configuration meets the minimum system requirements in [Table 2 on page 14](#) and supports a VMware virtual machine environment with a compatible vSphere version (See [VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director, page 16](#)).

**Note:** Install Cisco Vision Dynamic Signage Director servers close to the DMPs that they operate with, such as at the remote venue edge. Cisco Vision Dynamic Signage Director communicates to the players over a LAN.

To maintain software licensing compliance, Cisco Vision Dynamic Signage Director servers must be installed in the following manner:

- The Cisco Vision Dynamic Signage Director server is installed in a data center or in an enterprise data closet, or the Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment.

## Hardware Prerequisites

- The Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment, or the remote server hardware is installed in a data center or in an enterprise data closet..

**Table 2 Minimum System Requirements for a Virtualized Environment Running Smaller-Scale Cisco Vision Dynamic Signage Director**

System Component	Minimum Requirement
Processor	Two processors each equivalent to an Intel Xeon Processor E5-2640 (15 MB cache, 2.50 GHz clock, 7.20 GT/s Intel® QPI)
CPU Clock Speed (GHz)	2.5
CPU Cache (MiB)	15 to 19.25
Forward write (fwrite) operations per second	2,500
Local attached SSD (RAID10)	4 x 6 Gb/s
Virtual CPUs <sup>1</sup>	6-24
Virtual Disk Space	225 GB
Virtual RAM (VRAM)	8 GB <sup>2</sup>

1. Hyperthreading can be used. Be sure that the BIOS is properly configured to enable it.
2. Reserve a minimum of 8 GB VRAM to install and operate the Smaller-Scale Cisco Vision Dynamic Signage Director system. Allow additional storage for the ESXi OS.

## Standard-Scale Server Deployment

For a standard-scale deployment, be sure that your configuration meets the minimum system requirements in [Table 3 on page 14](#) and supports a VMware virtual machine environment with a compatible vSphere version (See [VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director, page 16](#)).

**Note:** Install Cisco Vision Dynamic Signage Director servers close to the DMPs that they operate with, such as at the remote venue edge. Cisco Vision Dynamic Signage Director communicates to the players over a LAN.

To maintain software licensing compliance, Cisco Vision Dynamic Signage Director servers must be installed in the following manner:

- The Cisco Vision Dynamic Signage Director server is installed in a data center or in an enterprise data closet, or the Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment.
- The Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment, or the remote server hardware is installed in a data center or in an enterprise data closet..

**Table 3 Minimum System Requirements for a Virtualized Environment Running Standard-Scale Cisco Vision Dynamic Signage Director**

System Component	Minimum Requirement
Processor	Two processors each equivalent to an Intel Xeon Processor E5-2640 (15 MB cache, 2.50 GHz clock, 7.20 GT/s Intel® QPI)
CPU Clock Speed (GHz)	2.5 to 3.5
CPU Cache (MiB)	15 to 19.25 (new)
Forward write (fwrite) operations per second	10,000
Local attached SSD (RAID10)	6 x 12Gb/s

## Hardware Prerequisites

**Table 3 Minimum System Requirements for a Virtualized Environment Running Standard-Scale Cisco Vision Dynamic Signage Director**

System Component	Minimum Requirement
Virtual CPUs <sup>1</sup>	24
Virtual Disk Space	900 GB
Virtual RAM (VRAM)	32 GB <sup>2</sup>

1. Hyperthreading can be used. Be sure that the BIOS is properly configured to enable it.
2. Reserve a minimum of 32 GB VRAM to install and operate the Cisco Vision Dynamic Signage Director system. Allow additional storage for the ESXi OS.

## Large-Scale Server Deployment

For a large-scale deployment, be sure that your configuration meets the minimum system requirements in [Table 4 on page 15](#) and supports a VMware virtual machine environment with a compatible vSphere version (See [VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director, page 16](#)).

**Note:** Install Cisco Vision Dynamic Signage Director servers close to the DMPs that they operate with, such as at the remote venue edge. Cisco Vision Dynamic Signage Director communicates to the players over a LAN.

To maintain software licensing compliance, Cisco Vision Dynamic Signage Director servers must be installed in the following manner:

- The Cisco Vision Dynamic Signage Director server is installed in a data center or in an enterprise data closet, or the Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment.
- The Cisco Vision Dynamic Signage Director software is installed on the customer's choice of hardware that supports a VMware virtualized environment, or the remote server hardware is installed in a data center or in an enterprise data closet..

**Table 4 Minimum System Requirements for a Virtualized Environment Running Large-Scale Cisco Vision Dynamic Signage Director**

System Component	Minimum Requirement
Processor	Two processors each equivalent to an Intel Xeon Processor E5-2640 (15 MB cache, 2.50 GHz clock, 7.20 GT/s Intel® QPI)
CPU Clock Speed (GHz)	3.6 or greater
CPU Cache (MiB)	24
Forward write (fwrite) operations per second	10,000
Local attached SSD (RAID10)	6 x 12Gb/s
Virtual CPUs <sup>1</sup>	32
Virtual Disk Space	900 GB
Virtual RAM (VRAM)	60 GB <sup>2</sup>

1. Hyperthreading can be used. Be sure that the BIOS is properly configured to enable it.
2. Reserve a minimum of 32 GB VRAM to install and operate the Cisco Vision Dynamic Signage Director system. Allow additional storage for the ESXi OS.

[Table 5 on page 16](#) provides additional information about the tested VM hardware and OS specifications to use when configuring a virtual machine to support Cisco Vision Dynamic Signage Director.

**Table 5 Virtual Machine Hardware and OS Specifications Tested for Cisco Vision Dynamic Signage Director**

System Component	Specification
VM Hardware	Version 8
Guest Operating System	RedHat Enterprise Linux 7 (64-bit)
Network Adapter	E1000
SCSI Controller	LSI Logic Parallel or LSI Logic SAS
Disk Provisioning	Thick

## VMware vSphere Tested Versions for Cisco Vision Dynamic Signage Director

Cisco Vision Dynamic Signage Director has been tested with VMware ESXi, 6.7.0. Other versions should work, but they have not been tested.

**Note:** Any VMware license that does not allow your virtual machine to be set to the minimum requirements described in [Table 5 on page 16](#) is not supported.

## Restrictions for Virtual Machine Support

Be sure that you consider the following restrictions before you configure a virtual machine environment for Cisco Vision Dynamic Signage Director:

- When using a virtual machine environment, Cisco Technical Support only provides support for the Cisco Vision Dynamic Signage Director software. No support is provided for third-party hardware or the virtual OS environment installed by the customer.
- We recommend a dual virtual machine environment to support a primary and backup server using the standard Cisco Vision Dynamic Signage Director backup/restore and failover tools.
- Cisco has not tested and does not provide support for any VMware tools in a Cisco Vision Director system. If your site chooses to use backup, recovery or other tools outside of the Cisco Vision Dynamic Signage Director software to manage your virtual machines, you accept the risks and responsibility associated with securing your data.

## Overview of the Installation and Upgrade Process

There are different tasks required to install or upgrade your Cisco Vision Dynamic Signage Director server for software Release 6.4 depending on your current server environment:

- [Installing on a Virtual Machine for the First Time, page 17](#)
- [Upgrading an Existing Server Already Running Cisco Vision Director, page 17](#)



## Installing on a Virtual Machine for the First Time

The installation process for a virtual machine running Cisco Vision Dynamic Signage Director software for the first time involves the following tasks:

- Verifying that your virtual machine meets the requirements listed in [Minimum Virtual Machine System Requirements for Cisco Vision Dynamic Signage Director, page 12](#).
- Configuring the virtual machine specifications according to the tested specifications with Cisco Vision Dynamic Signage Director provided in [Table 5 on page 16](#).
- Installing VMware client software.

**Note:** Cisco Vision Dynamic Signage Director has been tested with VMware ESXi, 6.7.0. Other versions have not been tested.

Any VMware license that does not allow your virtual machine to be set to the minimum requirements described in [Minimum Virtual Machine System Requirements for Cisco Vision Dynamic Signage Director, page 12](#) is not supported.

- Loading the Cisco Vision Dynamic Signage Director software full ISO.
- Running the installation.
- Upgrading the media player firmware.

For detailed information, see [Installing Cisco Vision Dynamic Signage Director for the First Time, page 19](#).

## Upgrading an Existing Server Already Running Cisco Vision Director

**Note:** Always check the current [Release Notes](#) for the release from which you are updating. The upgrade paths and Service Pack information is always there and is the most current.

### Upgrading From Cisco Vision Dynamic Signage Director Release 6.3

The only way to upgrade to Release 6.4 is from the latest release of Release 6.3. Check prior release [Release Notes](#) to verify that you are completing all the upgrades in order. The upgrade process from an existing Cisco Vision Dynamic Signage Director Release 6.3 system involves the following tasks:

- Upgrading the Cisco Vision Dynamic Signage Director software
- Upgrading the digital media player firmware

See [Upgrading Cisco Vision Director Software, Language Packs, and Fonts, page 21](#) and [Upgrading the DMP Firmware, page 35](#).

Repeat these processes until you have installed and are preparing to install Release 6.4. See [Upgrading Cisco Vision Director Software, Language Packs, and Fonts, page 21](#) and [Upgrading the DMP Firmware, page 35](#).





# Installing Cisco Vision Dynamic Signage Director for the First Time

This module describes the requirements for installing Cisco Vision Dynamic Signage Director on a VM (virtual machine). It includes the following topics:

- [Prerequisites, page 19](#)
- [Virtual Machine Environment, page 19](#)
- [Installation Tasks, page 19](#)

## Prerequisites

Refer to the [Release Notes for Cisco Vision Dynamic Signage Director 6.4](#) for the latest information about hardware and software requirements, changes, important notes, and caveats for your software release.

Be sure that the following requirements are met before you upgrade your server:

- You have the network information required to configure the Ethernet connection on the Cisco Vision Dynamic Signage Director server, such as:
  - IP address (IPv4 only) and network mask

**Note:** The Cisco Vision Dynamic Signage Director server should be configured with a static IP address or a non-expiring DHCP lease.

  - Default gateway address
  - DNS server address
  - Hostname

## Virtual Machine Environment

Installing Cisco Vision Dynamic Signage Director in a virtual machine environment includes setting up your machine environment, running the full ISO for Cisco Vision Dynamic Signage Director, and configuring the network. For more information see [Hardware Prerequisites, page 12](#) and [Installing on a Virtual Machine for the First Time, page 17](#) in [Getting Started Installing or Upgrading Cisco Vision Dynamic Signage Director, page 11](#).

## Installation Tasks

**Note:** This section includes the tasks to install Cisco Vision Dynamic Signage Director for the first time on a machine.

## What To Do Next

To install Cisco Vision Dynamic Signage Director for the first time on a machine, complete the following tasks:

- [Downloading the ISO Files from Cisco.com, page 20](#) (required)
- [What To Do Next, page 20](#) (required)

## Downloading the ISO Files from Cisco.com

You are eligible to access the Cisco Vision Dynamic Signage Director full ISO file after you purchased the proper licensing. Contact Cisco Technical Support for information about how to download the ISO file ([Table 1 on page 20](#)).

**Note:** Choose the ISO for SV-DIRECTOR.

[Table 1 on page 20](#) shows the filename conventions used for full ISO images for the Cisco Vision Dynamic Signage Director server.

**Table 1** ISO Filename Conventions

Filename Convention <sup>1</sup>
■ SV-DIRECTOR-FULL-6.4.0-XXX.x86_64.iso
■ SV-DIRECTOR-FULL-6.4.0-XXX.x86_64.iso.md5sum
■ SV-DIRECTOR-FULL-6.4.0-XXX.x86_64.iso.sha512sum

1. “XXX” represents the build number of the image in the file.

To verify the integrity of your upgrade file from the download, you can use a command-line or GUI utility on your laptop to calculate the checksum on the .iso file. Open the .sha512sum file to compare the value that you calculated with the expected value provided in the .sha512sum file. The values should match. If they do not, retry the download.

## What To Do Next

After you have installed the Cisco Vision Dynamic Signage Director software, do the following:

**Note:** For initial deployments of the DMPs, follow the instructions in the [Cisco Vision Deployment Guide for Digital Media Players: Dynamic Signage Director, Release 6.4](#).

- Upgrade the DMP firmware (required).  
See [Upgrading the DMP Firmware, page 35](#).
- Go to the “[Configuring Cisco Vision Director Server System Settings](#)” module of the [Release 6.4: Cisco Vision Administration Guide: Dynamic Signage Director](#) to complete initial setup of the server and do the following:
  - Generate the SSL certificate (*required* for Release 6.4).
  - Configure NTP on Cisco Vision Dynamic Signage Director Servers and DMPs.
  - Configure NTP and PTP for the DMPs.

**Note:** By default, all media players use the Cisco Vision Dynamic Signage Director server as the NTP source. When using PTP on the DMPs, only the PTP leader device references an NTP source. To change the NTP source used by the DMPs, change the DMP global settings.

- Configure multicast ports for Cisco Vision Dynamic Signage Director.



# Upgrading Cisco Vision Director Software, Language Packs, and Fonts

This module describes using the Cisco Vision Dynamic Signage Director Software Manager to:

- Upgrade an existing Cisco Vision Director to a later release in the supported upgrade path.
- Install language packs and fonts.

This module includes the following topics:

- [Best Practices, page 21](#)
- [Prerequisites, page 22](#)
- [Using Cisco Vision Director to Update Existing Software, page 22](#)
- [Upgrade Tasks, page 23](#)
- [Installing Language Packs, page 26](#)
- [Installing Fonts, page 27](#)
- [What to Do Next, page 28](#)

## Best Practices

**Caution: Do not alter the RAID configuration prior to upgrade.**

Before you begin upgrading an existing Cisco Vision Dynamic Signage Director server, consider the following best practices:

- Choose an appropriate down time to perform the upgrade on the server when there is adequate time to complete and verify the upgrade before any scheduled events and to allow time to resolve any unexpected issues.
- See Release Notes for [Cisco Vision Dynamic Signage Director Release 6.4](#) for the latest information about hardware and software requirements, changes, important notes, and caveats for your software release.
- Know the required hardware and software versions for other devices supporting your Cisco Vision Director solution. Upgrade those devices as needed. For example, generally only certain firmware versions are supported for the DMP hardware, or a new firmware version is needed to provide additional functionality supported by the Cisco Vision Dynamic Signage Director software.
- Perform a backup and restore of the primary and secondary servers:
  - Perform a backup of the currently active primary server.
  - Restore the backup data onto the standby secondary server.

## Prerequisites

**Note:** To do the restore, run the config service on the secondary server.

For more information about performing a backup and restore on a Cisco Vision Dynamic Signage Director Server, see the “[Backing Up and Restoring Cisco Vision Dynamic Signage Director Servers](#)” module of the [Cisco Vision Administration Guide: Dynamic Signage Director](#).

- Promote the secondary server to primary.

For more information about promoting a secondary server to primary, see the “[Configuring Failover Between Redundant Cisco Vision Dynamic Signage Director Servers](#)” module of the [Cisco Vision Administration Guide: Dynamic Signage Director](#).

- Access the promoted secondary server to perform the upgrade.
- It is difficult to recover from an interrupted installation process if the Linux shell is accidentally closed or the network drops. We **highly recommended** that you use a server console connection method that does not pose a risk to the success of upgrade completion, if the session breaks during upgrade. You also can use a monitor and keyboard that are directly connected to the Cisco Vision Dynamic Signage Director server into the web browser interface.

## Prerequisites

Be sure that the following requirements are met before you upgrade your server:

- Your server is running a minimum of Cisco Vision Dynamic Signage Director Release 6.3. See the [Release Notes for 6.4](#) to be certain you followed the upgrade paths.
- You have the IP address for the server where you want to upload the ISO upgrade image. Use this information as part of the URL to access the ISO upload utility.
- You have a supported browser version for Cisco Vision Dynamic Signage Director. For more information about the latest supported browsers, see [Rendered Versions and Support](#) in the [Cisco Vision Content Planning and Specifications Guide, Release 6.4](#).

## Preparing for Upgrade

Before you begin an upgrade process, be sure to backup all data to the secondary machine, then power it down. Before upgrading, take a VM snapshot so you can recover, if necessary.

Before upgrading to Release 6.4, verify that your virtual machine meets the minimum requirements for the current deployment. See [Getting Started Installing or Upgrading Cisco Vision Dynamic Signage Director, page 11](#). If your virtual machine does not meet the minimum requirements, your existing configuration may get downgraded upon installing Release 6.4.

## What To Do Next

- Upgrade your system to Cisco Vision Dynamic Signage Director Release 6.4.

## Using Cisco Vision Director to Update Existing Software

The ISO upgrade procedure for Cisco Vision Dynamic Signage Director includes the following tasks:

1. Downloading an ISO service pack or upgrade file from the software download site on Cisco.com to your laptop.
2. Uploading the ISO file from your laptop to the Cisco Vision Dynamic Signage Director server using the **Manage Software > Upgrade** interface.
3. Installing the ISO image using the install function in the **Manage Software > Upgrade** interface.

## ISO Upgrade Files

You can store multiple ISO upgrade files on a Cisco Vision Dynamic Signage Director server. The files will be displayed with a version number and the ISO filename in the **Manage Software > Upgrade** interface for you to select which file to install.

## Disk Maintenance

There is no automatic aging of ISO upgrade files, but you can delete files directly in the **Manage Software** interface. Delete ISO files via the TUI: **Troubleshooting > Disk Monitoring > Delete Files > Clean upgrade ISO files**.

The **System Status** interface has a gauge for % Disk Utilization or you can use the TUI to get file system usage.

**Note:** To conserve disk space if you have installed language packs in your current system, use the **Manage Software > Language Packs** tab prior to upgrade to remove the language files. There is no harm to the system if you do not remove them. However, the language files will not appear in the **Manage Software** interface for removal **after** you upgrade; they will remain in storage.

## Upgrade Tasks

To upgrade your Cisco Vision Dynamic Signage Director server, complete the following tasks:

- [Downloading ISO Upgrade Files from Cisco.com, page 23](#) (required)
- [Uploading and Installing an ISO Upgrade File on Cisco Vision Director Server, page 24](#) (required)
- [Rebooting the Cisco Vision Dynamic Signage Director Server, page 26](#) (required)
- [Installing Language Packs, page 26](#) (as required)
- [Installing Fonts, page 27](#) (as required)

## Downloading ISO Upgrade Files from Cisco.com

Download the upgrade files to a location, such as a laptop computer, where you can access them for installation onto the Cisco Vision Dynamic Signage Director server.

### To download an ISO upgrade file:

1. Go to the Cisco Vision Director software download site.

**Note:** This site page is available from the [Cisco Vision Director](#) product support page by clicking **Download Software > Cisco Vision Dynamic Signage Director**.

2. Select the ISO upgrade or service pack file (as available), and optionally the companion sha512checksum file, and download them.

[Table 1](#) shows the filename conventions used for ISO upgrades.

**Note:** Choose the ISO for SV-DIRECTOR.

**Table 1 ISO Upgrade Filename Conventions**

Filename Convention <sup>1</sup>
■ SV-DIRECTOR-UPGRADE-6.4.0-XXX.x86_64.iso
■ SV-DIRECTOR-UPGRADE-6.4.0-XXX.x86_64.iso.filenameesum
■ SV-DIRECTOR-UPGRADE-6.4.0-XXX.x86_64.iso.filenameeSHASum

1. “XXX” represents the build number of the image in the file.

Download the files using one of the following methods:

- Download both files at one time—Select each file and click **Add to Cart**. Then at the top of the download page, click the “Download Cart (2 items)” link.
  - Download each file independently—Click the **Download Now** button in the file selection box for each file.
3. (Optional) To verify the integrity of your upgrade file from the download, use the **Manage Software** UI to verify the checksum on the .iso file.

The SHA512 checksum is calculated by the system and is shown on the **Manage Software** UI. Compare what is shown on the UI and the downloaded SHA512 checksum. The values should match. If they do not, retry the download. See the [Uploading Task, page 24](#).

## Uploading and Installing an ISO Upgrade File on Cisco Vision Director Server

After you download the ISO upgrade file from Cisco.com, use the **Manage Software UI** to upload the file to the Cisco Vision Dynamic Signage Director server and to install the upgrade image.

### Prerequisites

Know the IP address of the server where you want to upload the file. Use a supported browser version for Cisco Vision Dynamic Signage Director.

### Task

**To upload and install an ISO upgrade file on the Cisco Vision Dynamic Signage Director server:**

1. Log into Cisco Vision Dynamic Signage Director as an Administrator.
2. From your browser, go to the following URL:

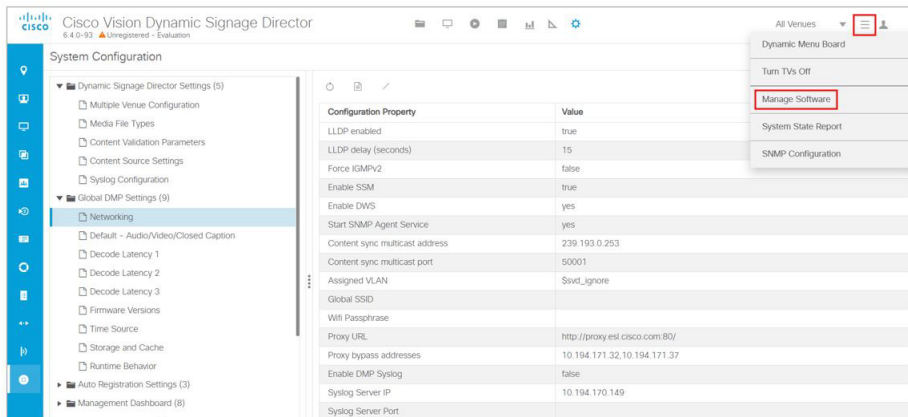
http://x.x.x.x

where x.x.x.x is replaced by the IP address of the server where you want to upload the upgrade software.

3. Click **More > Manage Software**.

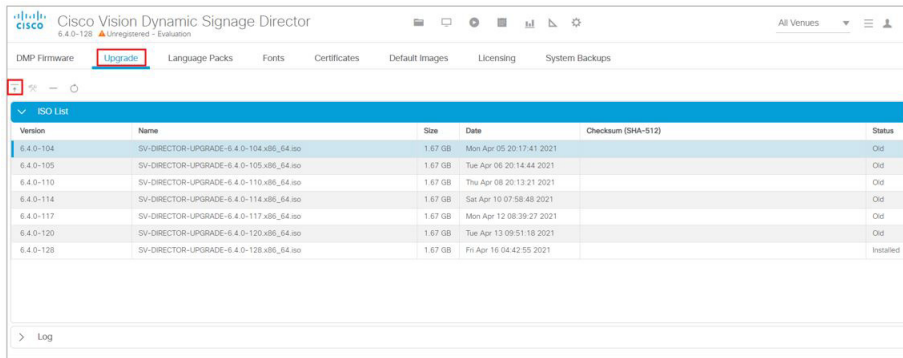


Upgrade Tasks



4. Click **Upgrade** tab. Select the file that you want to upload and click the **Upload** icon (Figure 1 on page 25). Roll over action icons (boxed). The Upload ISO File dialog box appears.

Figure 1 ISO File Selection and Upload



5. Navigate to the location of the ISO upgrade file that you downloaded from Cisco.com. Select the file that you want to upload and click **Choose**. The file name populates the **Name** field.

6. Click **Upload**. The file is sent to the server.

When the ISO upload completes, one of the following occurs:

- When the image is validated and uploaded successfully, a message displays stating that the ISO image has been uploaded.
- The image upload failed. Retry the upload.

**Caution:** The upload might take several minutes. Do **not** refresh or reload the Software Manager page while the upload process is running. Any interruption will corrupt the ISO image being uploaded.

7. Click **Install** icon.

**Note:** Upon successful upload, you will see an entry with the newly uploaded upgraded ISO file. Verify that the displayed checksum matches the checksum from the Cisco download site.

8. The installation process begins and status messages display.
9. After the installation completes, Cisco Vision Dynamic Signage Director services restart.

## Rebooting the Cisco Vision Dynamic Signage Director Server

### To reboot the Cisco Vision Dynamic Signage Director server:

1. Log into the TUI as **installer**. The TUI Main Menu displays.
2. Go to the **Cisco Vision Server Administration** menu.
3. Select **Reboot**.
4. At the confirmation prompt, press **Y** to start the reboot process.

## Installing Language Packs

**Note:** Language packs are release-specific. When the language packs for 6.4 become available, upload the relevant language pack and install it. Install language packs for Release 6.4, **after** you install or upgrade to the required 6.4 release.

Upload and install only the specific language(s) that you want to support through the independent installation of Language Packs. Perform the upload and installation of the language packs using Cisco Vision Dynamic Signage Director.

### To install language packs:

1. Download the desired language pack from Cisco.com.
2. Log into Cisco Vision Dynamic Signage Director as an Administrator.
3. Go to **More > Manage Software**.
4. Click **Language Packs** tab (Figure 2 on page 26).

**Figure 2** Language Packs Tab

Version	Name	Size	Date	Checksum (SHA-512)	Status
6.2.0_6-1	sv-locale-tr-6.2.0_6-1.noarch.rpm	80 Bytes	Mon Nov 04 18:30:43 2019	d9f189c3654798000f31804e2f289c22c654c1b4201665dcae184f2413765a15c4822b6f33121206518b05670019620c506...	Not installed
6.2.0_6-1	sv-locale-de-6.2.0_6-1.noarch.rpm	467.96 KB	Mon Nov 04 18:55:53 2019	834d598c56609d09569acc94570671c93530103e8a427a55aa965a707161aa73c6d869cc2f8492796f57ab7d44469202c11...	Installed
6.2.0_6-1	sv-locale-es-6.2.0_6-1.noarch.rpm	475.96 KB	Mon Nov 04 18:56:11 2019	8a8986e61e72251f30c74542f81ba933e0b0aa6306025ac63fa41170b00be9a04e54b50c82321a613c9b13744200279c315e...	Installed

5. Click **Upload**.
6. In the File Upload dialog box, navigate to the downloaded Language Pack RPM file, and click **Open**. The language pack is sent to the server.
7. Click **Install/Upgrade** to install the language pack.

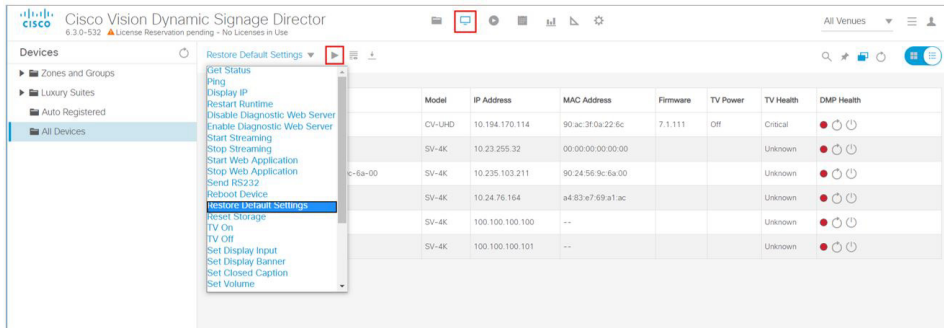
**Note:** If you are using a secondary Cisco Vision Dynamic Signage Director server, install the language pack on both the primary and secondary servers.

8. To transfer the locales to the digital media players, do the following:
  - a. Click **Device Management > Restore Default Settings** (Figure 3 on page 27).

## Installing Fonts

- b. In the Devices panel, select the digital media player(s).
- c. To execute the command, click the **Play (Send Command)** icon.

**Figure 3 Restore Default Settings in Device Management**



### 9. Stage content to the digital media players.

For more information, see the “Staging Content to the Media Player” topic in the [Cisco Vision Director Operations Guide](#).

## Installing Fonts

**Note:** Follow these guidelines to install new fonts on your system for use in the Widgets tool. These fonts are not used for external HTML pages. This section includes the following topics:

- [Guidelines for Installing Fonts, page 27](#)
- [Procedure, page 27](#)

## Guidelines for Installing Fonts

**Note:** In Cisco Vision Director, the unifont.ttf font is embedded in the media player firmware. This means that the font is available as a fallback font to external HTML pages that might not explicitly reference fonts in their CSS.

Consider the following guidelines before installing fonts:

- To save system memory on the media player, install fonts that have the minimal set of required characters.
- Asian languages like Chinese (which contain more glyphs) require more memory.
- The fallback font is Arial; it is the default font in cases where the widget or external URL is referencing a font that is not available.
- Only True Type fonts (.ttf) and OpenType fonts (.otf) are supported.

## Procedure

### To install fonts:

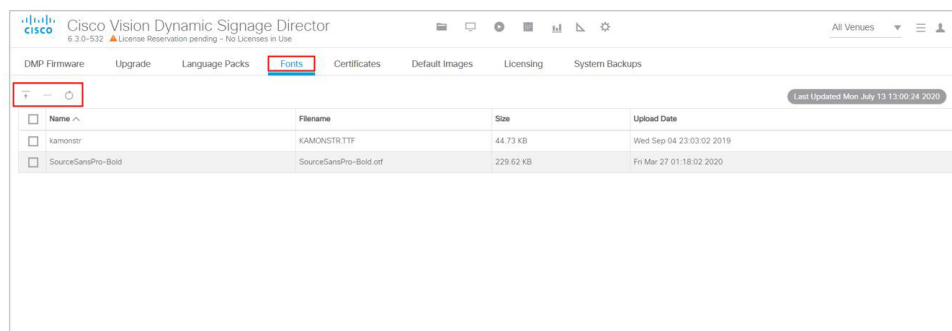
1. Obtain the desired fonts.

**Note:** Fonts must be TrueType (.ttf) or OpenType (.otf).

## What to Do Next

2. Log into Cisco Vision Dynamic Signage Director as an Administrator.
3. Go to **More > Manage Software**.
4. Click **Fonts** tab (Figure 4 on page 28).

Figure 4 Fonts Tab



Name ^	Filename	Size	Upload Date
<input type="checkbox"/>	kamonstr	KAMONSTR.TTF	Wed Sep 04 23:03:02 2019
<input type="checkbox"/>	SourceSansPro-Bold	SourceSansPro-Bold.otf	Fri Mar 27 01:18:02 2020

Last Updated Mon July 13 13:00:24 2020

5. Click **Upload**.
6. In the Font Upload dialog box, do the following:
  - a. Click **Choose**.
  - b. Navigate to the location of your font file and click **Open**.
  - c. Click **Upload**.
7. Stage content to the media player.

For more information, see the “Staging Content to the Media Player” topic in the [Cisco Vision Director Operations Guide](#).

## What to Do Next

- Follow the steps in [Verifying the Upgrade, page 29](#) to verify that the upgrade process was successful.
- Use [Appendix A: Post-Upgrade Checklist, page 49](#) to complete the required verification steps.
- Import DMP Certificates. See Importing Certificates on the DMP in the [Cisco Vision Administration Guide: Release 6.4](#) or the [Release Notes for Cisco Vision Dynamic Signage Director, Release 6.4](#).



# Verifying the Upgrade

This module describes how to verify that the upgrade process was successful.

To verify the upgrade, complete the following tasks:

- [Clearing the Browser Cache, page 29](#) (mandatory)
- [Importing the Security Certificate, page 30](#) (required)
- [Logging Into Cisco Vision Dynamic Signage Director, page 31](#) (required)
- [Verifying the Menus, page 31](#) (required)
- [Verifying that Services are Running, page 31](#) (required)
- [Configuring the Media Player for VLAN Compliance Checking, page 32](#) (required)
- [Upgrading the DMP Firmware, page 33](#) (required)
- [Rebooting the DMPs, page 33](#) (required)
- [Verifying Media Players, Groups, and Zones in the Device Management, page 33](#) (required)
- [Verifying the Multicast Configuration, page 34](#) (required)
- [Completing the Post-Upgrade Checklist and Testing, page 34](#) (required)

## Clearing the Browser Cache

**Caution:** It is critical that **all** Cisco Vision Dynamic Signage Director users clear their browser cache to prevent **permanent** database corruption and to be sure that you are running the latest version of Cisco Vision Dynamic Signage Director. Notify all users of the Cisco Vision Dynamic Signage Director system to clear their browser cache before using the system after an upgrade.

**To clear the browser cache in Mozilla FireFox:**

1. From the menu bar, go to **Tools > Clear Recent History**.

The Clear Recent History dialog box appears.

**Note:** Or press Ctrl + Shift + Delete to open the Clear Recent History dialog box.

2. In the “Time range to clear:” box, select **Everything**.
3. Open the Details drop-down list and select the **Cache** checkbox if it does not have a checkmark.
4. Click **Clear Now**.

## Importing the Security Certificate

When you access a Cisco Vision Dynamic Signage Director server for the first time using Mozilla Firefox, a security certificate warning appears. Some Cisco Vision Dynamic Signage Director functionality requires that the certificate is imported.

## Adding a Security Exception for Mozilla Firefox

### To add the security exception for Mozilla Firefox:

1. When you see the warning page with the title “This Connection is Untrusted,” click the “**I Understand the Risks**” option.
2. Click **Add Exception...**
3. In the Add Security Exception dialog box, click **Confirm Security Exception**.
4. Close all Mozilla Firefox windows.

You should now be able to access the Cisco Vision Dynamic Signage Director server using Mozilla Firefox without any security certificate warnings.

## DSD Certificate Import

Manage certificates for Cisco Vision Dynamic Signage Director (DSD) with the Software Manager interface. It eliminates untrusted browser warnings from popping up. This feature allows you to import your own DSD certificate so that the annoying security warning goes away. These certificate types .cer, .crt and .pem are supported.

### To import DSD certificates:

1. Click **More > Manage Software > DSD Certificate** (Figure 1 on page 30).
2. Click the **Upload** icon. The Certificate Upload dialog box appears.

**Figure 1 Import DSD Certificate**

Name	Filename	Size	Upload Date	Issuer Name	Valid From	Valid Till	
<input type="checkbox"/>	dtd	dtd.cisco.com.cer	2.5 KB	Thu May 14 16:22:20 2020	HydrasD SSL ICA G2	Mar 20 03:42:15 2019 GMT	Apr 20 03:52:00 2019 GMT

3. Choose a Certificate Name file.
4. Choose a Private Key file.
5. Click **Upload**. If successful, a success message displays.

For details on using this new feature, refer to [Release 6.4: Cisco Vision Dynamic Signage Director System Administration Guide](#).

**Note:** After uploading the certificate, restart the DSD web server for the new certificate to take effect. Use a TUI.

## Logging Into Cisco Vision Dynamic Signage Director

**To verify that the upgrade was successful and that Cisco Vision Dynamic Signage Director is up and operating:**

1. Open a browser window and type the URL for the Cisco Vision Dynamic Signage Director server, in the following sample format, where *x.x.x.x* is the IPv4 address of the server:

```
https://x.x.x.x/CiscoVision/login.html
```

or alternatively,

```
http://x.x.x.x
```

The Cisco Vision Dynamic Signage Director login screen appears.

2. Type your Cisco Vision Dynamic Signage Director administrator login credentials and click **Log In**.

**Note:** When you first log into Cisco Vision Dynamic Signage Director, the default administrator username is *admin* and password is *C-V1\$ion*.

The Cisco Vision Dynamic Signage Director Asset Library screen appears.

3. Verify that the correct version displays in the upper left of the screen.

**Note:** If your window does not display the correct version, clear the browser cache as described in [Clearing the Browser Cache, page 29](#).

## Verifying the Menus

**To verify menus:**

1. From the Cisco Vision Dynamic Signage Director **Main Menu**, click **System Configuration**. After a few moments of loading resources, the Cisco Vision Dynamic Signage Director screen opens in a new window.
2. Confirm the version and build number of your Cisco Vision Dynamic Signage Director software in the upper left of the **Library** (Main Menu) screen.

**Note:** If your window does not display the appropriate version and build that you loaded, clear the browser cache as described in [Clearing the Browser Cache, page 29](#).

3. Verify that you can open the other Cisco Vision Dynamic Signage Director screens and menus.

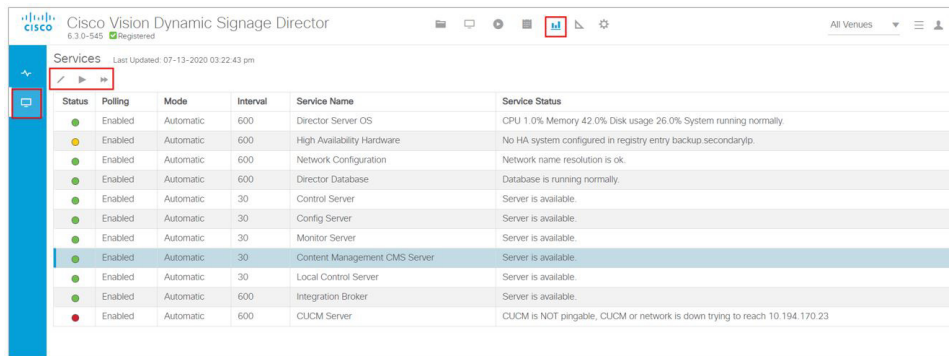
## Verifying that Services are Running

After installing or upgrading to Release 6.4, verify and confirm the update and virtual machine profile of the Dynamic Signage Director configuration from TUI.

After you upgrade, verify that all of the primary Cisco Vision Dynamic Signage Director services are running.

**To verify that services are running:**

1. Click **System Status > Monitor and Status**.
2. The **Services** panel appears ([Figure 2 on page 32](#)).
3. Verify that all of the primary services—in particular the Content Management CMS Server—are in “Normal” (green) state without any service alerts.

**Figure 2 Verifying Normal Service States**


Status	Polling	Mode	Interval	Service Name	Service Status
●	Enabled	Automatic	600	Director Server OS	CPU 1.0% Memory 42.0% Disk usage 26.0% System running normally
●	Enabled	Automatic	600	High Availability Hardware	No HA system configured in registry entry backup.secondaryip.
●	Enabled	Automatic	600	Network Configuration	Network name resolution is ok.
●	Enabled	Automatic	600	Director Database	Database is running normally.
●	Enabled	Automatic	30	Control Server	Server is available.
●	Enabled	Automatic	30	Config Server	Server is available.
●	Enabled	Automatic	30	Monitor Server	Server is available.
●	Enabled	Automatic	30	Content Management CMS Server	Server is available.
●	Enabled	Automatic	30	Local Control Server	Server is available.
●	Enabled	Automatic	600	Integration Broker	Server is available.
●	Enabled	Automatic	600	CUJCM Server	CUJCM is NOT pingable, CUJCM or network is down trying to reach 10.194.170.23

- If the CMS server or another service in the above list is not in Normal state but should be, use the TUI services menu to restart it. Go to **Main Menu > Services Control > Content Management System (cms)**.

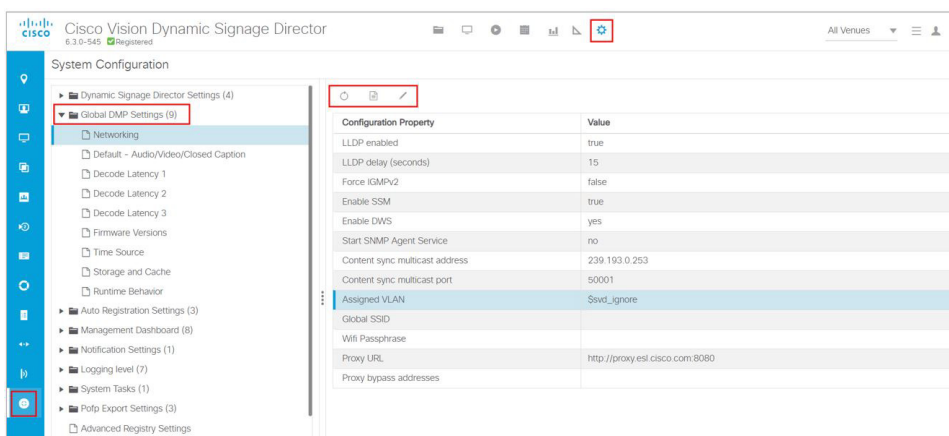
## Configuring the Media Player for VLAN Compliance Checking

After you upgrade, change the Assigned VLAN property according to your VLAN configuration for the media players if you want to perform VLAN compliance checking.

**Note:** We recommend setting the assigned VLAN property for the media players if all devices are located on the same VLAN. When a value is set, it is checked against what is being sent by the media player. Otherwise, configure **\$svd\_ignore**, which is the default.

**To configure the Assigned VLAN property:**

- Click **Configuration > System Configuration > Global DMP Settings > Networking**.

**Figure 3 Assigned VLAN Property Configuration for the DMPs**


Configuration Property	Value
LLDP enabled	true
LLDP delay (seconds)	15
Force IGMPv2	false
Enable SSM	true
Enable DWS	yes
Start SNMP Agent Service	no
Content sync multicast address	239.193.0.253
Content sync multicast port	50001
Assigned VLAN	\$svd_ignore
Global SSID	
Wifi Passphrase	
Proxy URL	http://proxy.esi.cisco.com:8080
Proxy bypass addresses	

- Find the Assigned VLAN property.
- Click **Edit**. The Edit Configuration Setting dialog box appears. Do one of the following:
  - If all of your DMPs are located on the same VLAN (recommended)—Type the number of the VLAN in the **Value** field.
  - If all of your DMPs are not located on the same VLAN, or you want to bypass any VLAN compliance checking—Type **\$svd\_ignore** in the **Value** field.
- Click **Save**.



## Upgrading the DMP Firmware

**IMPORTANT:** All DMPs require a firmware upgrade for Release 6.4.

If this is the initial upgrade of your system to Cisco Vision Dynamic Signage Director Release 6.4 software, a new firmware upgrade and configuration for the firmware is required. Go to the chapter [Upgrading the DMP Firmware, page 35](#).

## Rebooting the DMPs

After an upgrade of the Cisco Vision Dynamic Signage Director software, restart the DMPs to get the latest version of the runtime software.

- If this is the initial upgrade of your system to Release 6.4 and you performed a DMP firmware upgrade, then the DMPs already rebooted. Do not reboot the DMPs.
- If this is an upgrade from Release 6.3 to Release 6.4, then reboot the DMP to update the DMP's runtime software.

To verify the system runtime on the DMP, see [Verifying Media Players, Groups, and Zones in the Device Management, page 33](#).

## Verifying Media Players, Groups, and Zones in the Device Management

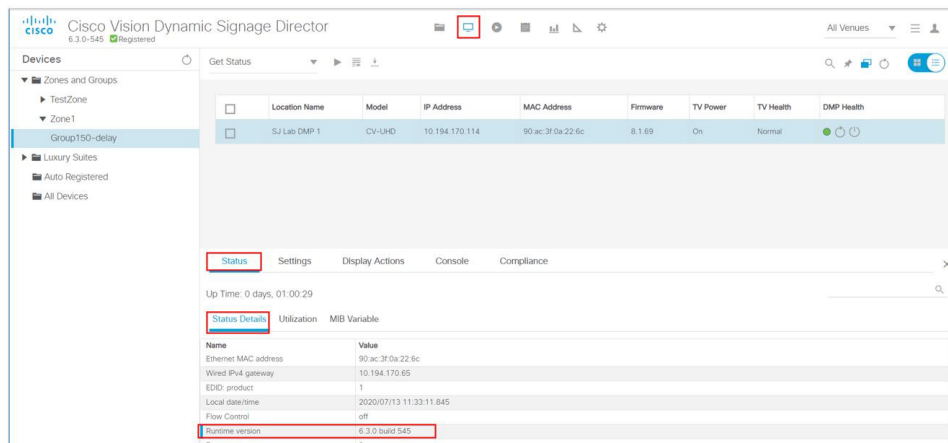
**Note:** Before you verify media player status, set the Assigned VLAN property so that the VLAN compliance check can be performed. For more information, see [Configuring the Media Player for VLAN Compliance Checking, page 32](#).

**To check media players, groups, and zones after you upgrade your software:**

1. Click **Device Management** and verify that all of your groups, zones and media players are present and in the green state.
2. Run the **Get Status** command on all devices to update and confirm that all devices successfully reboot and are in good health.

**Note:** This will also update the MAC address for the media players.

3. Verify that the correct Cisco Vision Dynamic Signage Director runtime version is loaded on the DMP:
  - a. Select the DMP(s) that you want to verify. Click the **Play** icon.
  - b. Go to **Status > Status Details**.
  - c. Scroll to the Runtime version and verify the Version reported ([Figure 4 on page 34](#)).

**Figure 4 Device Status Details in Device Management**

4. (Optional) Change the DMP State of healthy DMPs to “Production” using the Command pull-down menu: **Change DMP State**.
5. Run **Get Status** to check the device state after the change.
6. Investigate any devices that are not in “Normal” state.

## Verifying the Multicast Configuration

Cisco Vision Dynamic Signage Director uses both unicast and multicast communications for DMP control-plane operation. The Cisco Connected Stadium design requires that Cisco Vision Dynamic Signage Director uses the 239.193.0.0 multicast group address range.

The multicast group address for Cisco Vision Dynamic Signage Director is configured in the “MulticastHostPort” registry.

For more information about multicast configuration, see the “Configuring Multicast Ports for Cisco Vision Director” topic in the “Configuring the Cisco Vision Director Server System Settings” module of the [Cisco Vision Server Administration Guide: Dynamic Signage Director](#).

**To verify or configure the multicast addressing for Cisco Vision Dynamic Signage Director:**

1. Click **Configuration > System Configuration > Advanced Registry Settings**.
2. Scroll to the “MulticastHostPort” registry key in the list and confirm the entry for the registry.
3. To change the value, click **Edit**. The Edit Configuration Settings dialog box appears.
4. In the **Value** field, specify a multicast address in the range 239.193.0.0/24.

**Note:** Be sure to use the value that is configured in your Cisco Connected Stadium network and include the *:port*. The recommended default is **:50001**.

5. Click **Save**.

## Completing the Post-Upgrade Checklist and Testing

Use [Appendix A: Post-Upgrade Checklist, page 49](#) to verify you completed the required steps.



# Upgrading the DMP Firmware

**Note:** This module describes how to upgrade the firmware for Cisco Vision Dynamic Signage Director Release 6.4. If you are deploying a digital media player for the first time, see [Cisco Vision Deployment Guide for Digital Media Players: Dynamic Signage Director](#).

**Caution:** Immediately after installing Cisco Vision Dynamic Signage Director Release 6.4, configure the new auto-registration settings in Configuration > System Configuration. Failure to perform this configuration can cause the media player to repeatedly boot.

The DMP firmware upgrade is done automatically when the device starts up or reboots.

Each time a device is powered on or reboots, a compliance check is done against the firmware that is loaded on the device against the Cisco Vision Dynamic Signage Director auto-registration settings. If the firmware versions do not match, the device initiates a firmware upgrade automatically.

In Cisco Vision Director, the DMPs require that a minimum—or *base*—firmware version is provisioned before they can be upgraded to the *production* firmware version supported in Cisco Vision Dynamic Signage Director Release 6.4.

An auto-registration configuration requirement ensures that this required firmware upgrade sequence is automatically preserved for affected media players in the system.

With proper configuration, the system upgrades existing digital media player firmware to the prerequisite or base firmware versions automatically, before provisioning the production firmware version supported in Release 6.4.

## Contents

- [Prerequisites, page 35](#)
- [Provisioning Tasks, page 36](#)

## Prerequisites

Before you upgrade the DMP firmware, be sure that the following requirements are met:

**Caution:** For initial deployment of a new DMP, verify:

- **No other accessories are attached to the DMP.**
- **You are using standard Category 5e or 6 cabling up to 100 m in length.**
- You have read the [Release Notes for Cisco Vision Dynamic Signage Director Release 6.4](#) to obtain the latest information and to verify the supported DMP firmware upgrade paths.
- The switch is configured, including the required LLDP for proper POE+ operation.
- A DHCP server has been configured with required Option 60 and Option 43 properties.

For more information, see the [Cisco Vision Network, Server, and Video Headend Requirements Guide](#) and the [Cisco Vision Product Deployment Requirements](#) available to qualified Cisco Vision partners.

## Provisioning Tasks

To provision the firmware, complete the following tasks:

- [Downloading the Firmware for All Media Players, page 36](#) (required)
- [Uploading the DMP Firmware to Cisco Vision Dynamic Signage Director, page 36](#) (required)
- [Configuring the DMPs for Auto-Registration, page 37](#) (required)

## Downloading the Firmware for All Media Players

The media player firmware image is not bundled with the Cisco Vision Dynamic Signage Director software.

**Note:** Download the firmware to a device that you also can use to access the Cisco Vision Dynamic Signage Director software.

## Downloading the DMP Production Firmware

**To download the DMP production firmware, go to:**

<https://www.brightsign.biz/downloads/dmp-firmware-download-6083-0516>

## Downloading the DMP Base Firmware

If you do not already have one of the required base firmware versions uploaded to Cisco Vision Dynamic Signage Director, download the firmware image separately from a password-protected site and then upload it to Cisco Vision Dynamic Signage Director.

Contact your Cisco Systems representative for the “How to Download DMP Firmware” document, available to qualified Cisco Vision (StadiumVision) partners.

## Uploading the DMP Firmware to Cisco Vision Dynamic Signage Director

After you obtain the DMP firmware image from the external vendor, upload the image to Cisco Vision Dynamic Signage Director.

**Caution:** For the DMPs, upload the firmware version to the Cisco Vision Dynamic Signage Director server:

**Base firmware version—8.3.22 for Series 3 and 4 DMPs, base firmware version 5.1.68.1 for Series 2 DMPs**

**Production firmware version—8.3.22**

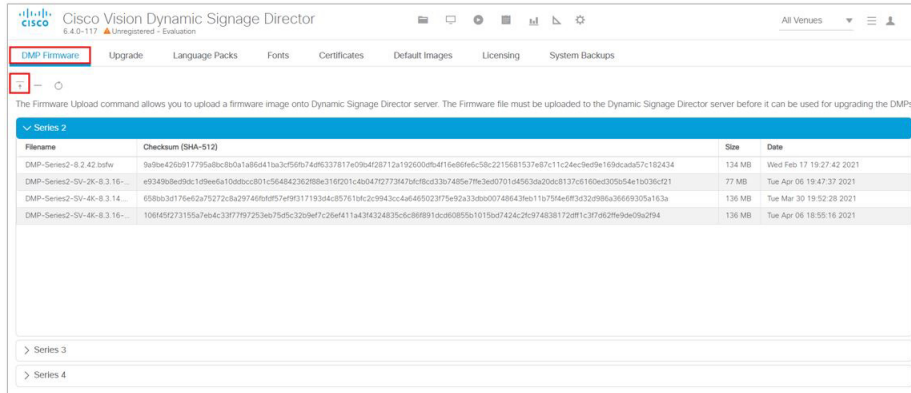
**Note:** Click **More > Manage Software > Firmware Upgrade** tab, to upload the firmware. Do **not** run the command to provision the software on the device from there. Each time the device powers on or reboots, a compliance check is done against the firmware that is loaded on the device against the Cisco Vision Dynamic Signage Director auto-registration settings. If the firmware versions do not match, the DMP initiates a firmware upgrade **automatically**.

**To upload the DMP firmware:**

1. From the device where you downloaded the firmware, log into Cisco Vision Dynamic Signage Director as an Administrator.
2. Click **More > Manage Software > DMP Firmware**.

3. Select the **Series 2**, the **Series 3**, or the **Series 4** arrow according to the DMP model that you are provisioning.
4. Select the file and click the **Upload** icon (Figure 1 on page 37).

**Figure 1 DMP Firmware Upload**



An upload status string appears that indicates when the firmware upload completes.

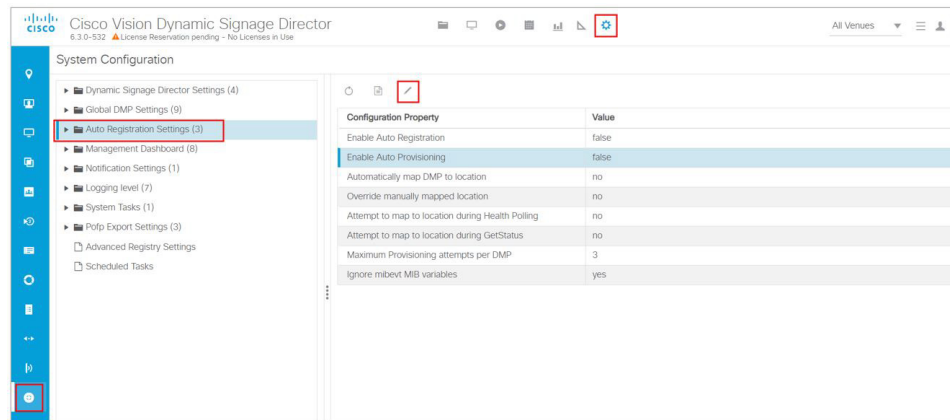
## Configuring the DMPs for Auto-Registration

Before you provision the firmware to the media player, upload it to Cisco Vision Dynamic Signage Director and then configure the auto-registration settings.

**To configure the DMPs for auto-registration:**

1. Click **Configuration > System Configuration > Auto Registration Settings > Enable Auto Provisioning** (Figure 2 on page 37).

**Figure 2 Enable Auto Provisioning**



2. Click **Edit**. The Edit Configuration Settings dialog box appears.
3. Change the **Value** field to **true**.
4. Click **Save**.
5. Do one of the following:
  - To provision an SV-4K or DMP-2K, click **Series 2 DMP**.

- To provision a CV-HD or CV-UHD, click **Series 3 DMP**.
- To provision a CV-HD2 or CV-UHD2, click **Series 4 DMP**.

6. In the Configuration Property panel, find and configure the firmware properties.

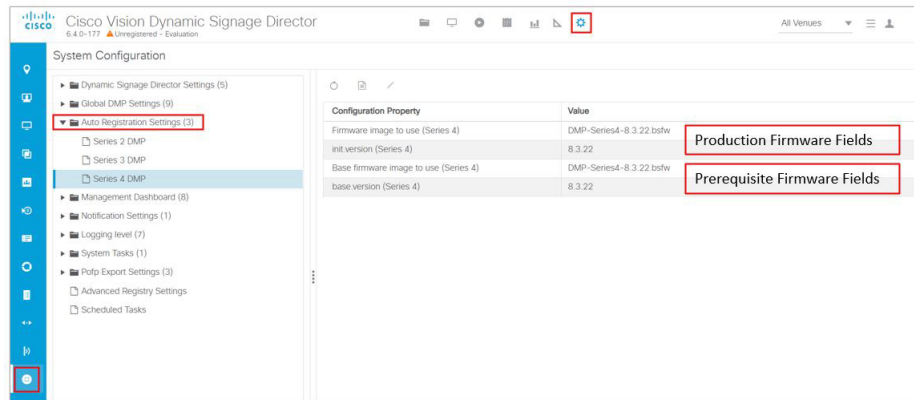
- [Figure 3 on page 38](#) shows the auto-registration configuration and [Table 1 on page 38](#) identifies the required firmware properties for the CV-UHD2 and CV-HD2 in Release 6.4.
- [Figure 4 on page 39](#) shows the auto-registration configuration and [Table 2 on page 39](#) identifies the required firmware properties for the CV-UHD and CV-HD in Release 6.4.
- [Figure 5 on page 39](#) shows the auto-registration configuration and [Table 3 on page 39](#) identifies the required firmware properties for the SV-4K and DMP-2K in Release 6.4.

**Note:** The CV-HD and CV-UHD media players require a different *base* firmware than the SV-4K and DMP-2K media players.

- Firmware image to use—Select from dropdown box.
- init.version—Type the version.
- Base firmware image to use—Select from dropdown box.
- Base.version—Type the version.

**Note:** If you have just uploaded the firmware image, you need to click the Refresh icon next to the drop-down box for the new file to appear.

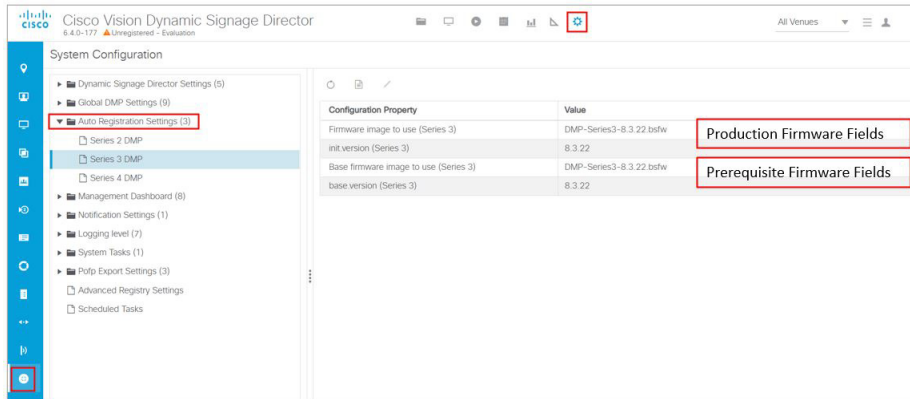
**Figure 3** Firmware Image and Version Properties Required to Provision the CV-UHD2 and CV-HD2



**Table 1** Required Firmware Properties for the CV-UHD2 and CV-HD2 in Release 6.4

Release Number	Firmware Property	Value for Release
6.4.0-183	Firmware image to use (CV-UHD2, CV-HD2)	DMP-Series4-8.3.22.bsfw
	init.version (CV-UHD2, CV-HD2)	8.3.22
6.4.0-183	Base firmware image to use (CV-UHD2, CV-HD2)	DMP-Series4-8.3.22.bsfw
	base.version (CV-UHD2, CV-HD2)	8.3.22

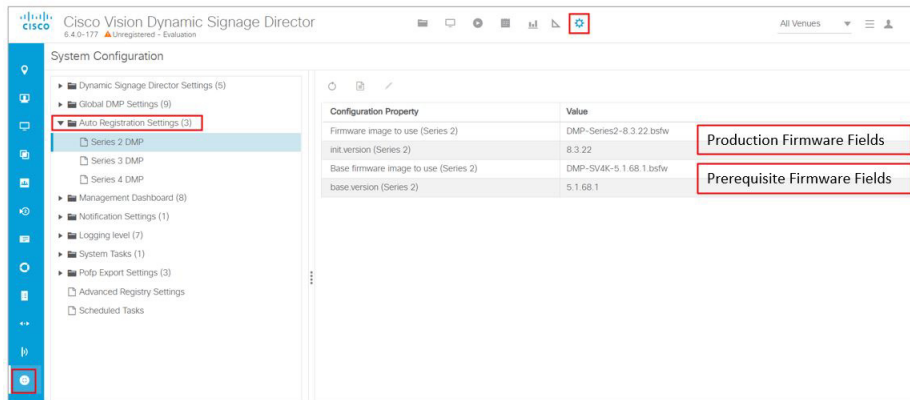
**Figure 4 Firmware Image and Version Properties Required to Provision the CV-UHD and CV-HD**



**Table 2 Required Firmware Properties for the CV-UHD and CV-HD in Release 6.4**

Release Number	Firmware Property	Value for Release
6.4.0-183	Firmware image to use (CV-UHD, CV-HD)	DMP-Series3-8.3.22.bsfw
	init.version (CV-UHD, CV-HD)	8.3.22
6.4.0-183	Base firmware image to use (CV-UHD, CV-HD)	DMP-Series3-8.3.22.bsfw
	base.version (CV-UHD, CV-HD)	8.3.22

**Figure 5 Firmware Image and Version Properties Required to Provision the SV-4K and DMP-2K**



**Table 3 Required Firmware Properties for the SV-4K and DMP-2K in Release 6.4**

Release Number	Firmware Property	Value for Release
6.4.0-183	Firmware image to use (SV-4K, DMP-2K)	DMP-Series 2-8.3.22.bsfw
	init.version (SV-4K, DMP-2K)	8.3.22
6.4.0-183	Base firmware image to use (SV-4K, DMP-2K)	If a prerequisite firmware is not already installed, upload and select the 5.1.68.1 firmware file.  <b>Note:</b> Contact your Cisco Systems representative for information about how to obtain the 5.1.68.1 firmware.
	base.version (SV-4K, DMP-2K)	5.1.68.1

7. Save the changes.
8. Power on or reboot the DMP.
9. Verify the startup sequence. For more information on the startup sequence, see the [Cisco Vision Deployment Guide for Digital Media Players: Dynamic Signage Director](#).





# Smart Software Licensing

## Overview

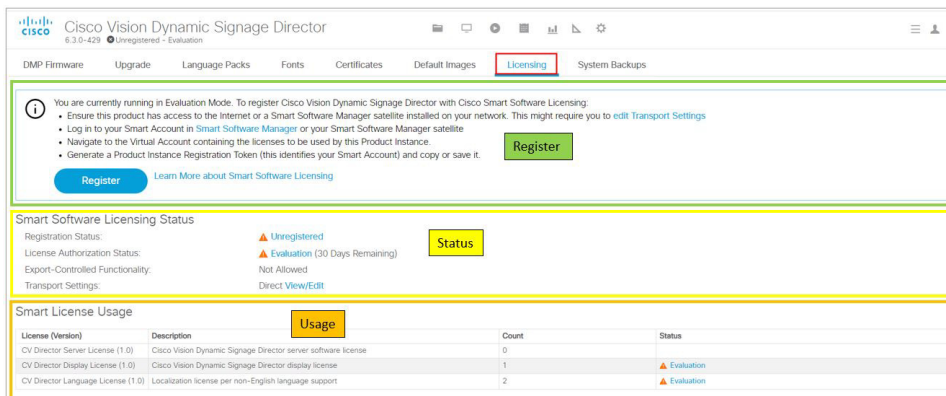
Cisco Smart Software Licensing is a simplified and standardized process for managing licenses for Cisco products in the cloud. Smart Software Licensing provides complete visibility into license ownership and consumption. It renders a unified experience across all product lines. Using Smart Software Licensing, Cisco products / software can automatically self-register upon configuration, making it easier to manage your software subscriptions. Our valued customers will have a 90-day grace period, allowing you to evaluate the Smart Software Licensing system and add additional products. At the end of the 90-day trial period, you must purchase a license for each product in your deployment.

**Note:** License Management is accessible to Administrators only.

### To access your license interface:

1. Click **More > Manage Software**.
2. Click the **Licensing** tab (Figure 1 on page 41).

Figure 1 Smart Licensing Interface



This interface is explained with three elements:

- Registering Smart Software Licensing, page 42
- Smart Software Licensing Status, page 43
- Smart License Usage, page 46

# Registering Smart Software Licensing

Cisco Smart Software Licensing allows you to manage and control the licenses for your Cisco products from a central location instead of dealing with your licenses locally.

## Create a Smart Account

The first step to enabling smart software licensing is to create a Smart Account with Cisco, unless your organization has already established one.

### To start the Smart Software licensing process:

1. Click [Smart Software Manager](#) in the text. The Cisco Software Central window appears.
2. Click **Get a Smart Account**. Follow the instructions.

This does not register your Cisco Vision Director deployment with Cisco Smart Software Licensing. Cisco Vision Director will be in Evaluation Mode until you register the product with the Smart Software Licensing application.

## Register Cisco Vision Director Products with Smart Licensing Software

### To register your license with Smart Software Licensing:

1. After you complete enabling a Smart Account, go back the Cisco Vision Director, click **More > Manage Software > Licensing** and click [Smart Software Licensing](#) link in blue text. The Smart Software Licensing screen appears.
2. Log in to your account.
3. In the **General** tab, click **New Token**. The Create New Token dialog box appears.
4. Fill in all the fields and click **Create Token**. Max. Number of Uses defines how many times this token can be use for registering Cisco Vision Director.
5. A confirmation green check box flashes. You see the new token information listed in the table.
6. In the **Actions** drop-down arrow, click **Copy** or **Download** to get the token information.
7. In the Cisco Vision Director UI, click **Register**. The Smart Software Licensing Product Registration box appears.
8. Paste the token information from the Smart Licensing server in the black box and click **Register**.

Use the checkbox if the product is already registered.

Wait a few moments for the software to register and refresh the screen.

You see three lines appear: one for CV Director, one for the Displays (DMPs), and one for Language Packs ([Figure 1 on page 41](#))—all granted for one purchased Director license. When you register Cisco Vision Director (the parent purchase), the number of licenses purchased against the parent, meaning the Displays (DMPs) and Languages, versus the actual usage of the parent (Director, usually 1), the total number of DMPs and language pack s are compared. For example, if the licenses purchased for Displays (DMPs) is 500 and you use 250, the status of the License is Authorized. Conversely, if you specify 500 and you use 750 DMPs, then the status of your license is Out of Compliance.

**Note:** Once you register your Director license, the corresponding number of DMPs you are using will be authorized. It may take up to an hour to show that your licenses are authorized. In the meantime, you may see a Non-Compliant orange caution symbol. Later, when more Director / Devices / Language Packs are added to the parent license, the count updates every and the usage will be reported to the Licensing Smart Account Server.

**Note:** After an upgrade, Cisco Vision Director remains in Unregistered–Evaluation mode for 90 days. After 90 days, the Evaluation period expires.

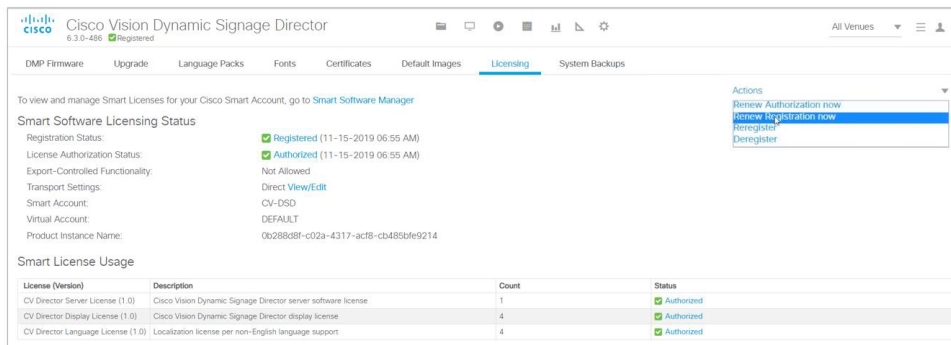
## Smart Software Licensing Status

This portion of the screen shows the status of your current licenses. Click on any of the icon links showing on your screen for more information. The links are notifications only.

Use the **Actions** pull-down to perform a license registration function (Figure 2 on page 43). You can do the following with your licenses:

- Renew Authorization now—renews authorization for a valid license on Director
- Renew Registration now—renews registration for a valid license on Director
- Reregister—process is like registration
- Deregister—releases the licenses used by Director software

**Figure 2 License Register Actions**



License registration is renewed every six months automatically. The info bubble on the Authorization status (Figure 3 on page 43) mentions three dates:

1. When did Director send the last Authorization request?
2. When will the next Authorization request be sent?
3. When will the Authorization Period expire?

**Figure 3 License Renewal Information Pop-Up**

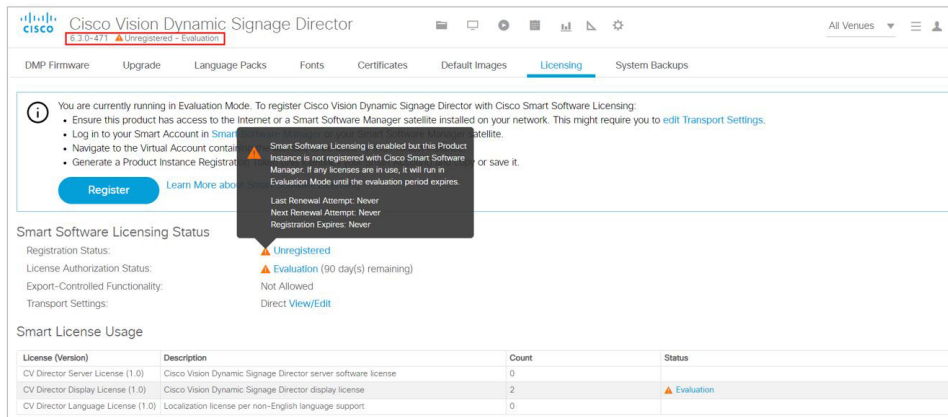


Choose **Renew Authorization now** to renew authorization from the **Action** drop-down (Figure 2 on page 43).

Check the info bubbles for authorization dates for authorization. Use the **Action** drop-down.

## Reserve Cisco Vision Director Products with Smart Software Licensing

When you use Cisco Vision Director without registering and requesting a license, you run in Evaluation Mode. You see the orange caution symbol at the top of your screen reminding you to register your license, no matter which interface you use. Click on the Unregistered link and a pop-up displays (Figure 4 on page 44).

**Figure 4 Registration Information**

Likewise, click on the **Evaluation** link for more information.

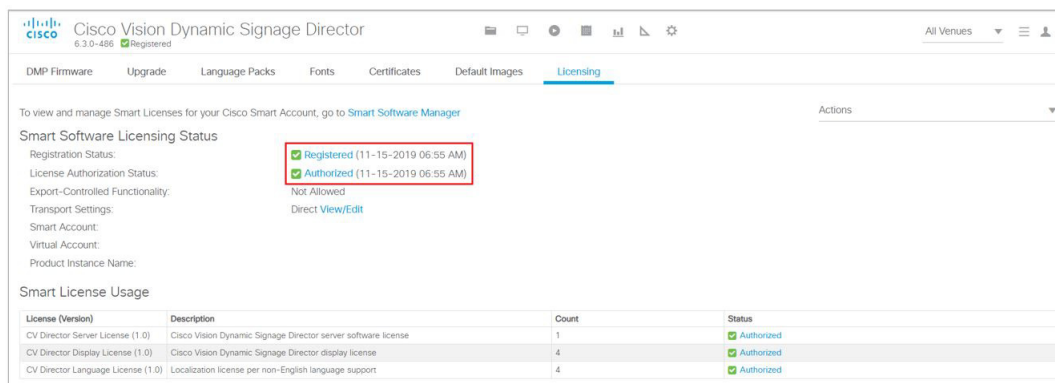
**To reserve a license and use that license when it is registered:**

1. Click [start here](#). The Smart Software License Reservation box appears.
2. Click **Confirm**. The box changes to allow you to **Generate** a license token.
3. Click **Generate**. The License Reservation Request Code box appears with the code string.
4. Click **Copy to Clipboard** or **Save to File**.
5. Use the generated Reservation Request Code and generate an Authorization Code from the Licensing Server.

After generating the Reservation Request Code, the status changes.

6. Enter the Authorization Code: The Authorization Code generated from the Licensing Server has to be entered here and the reservation process continues.

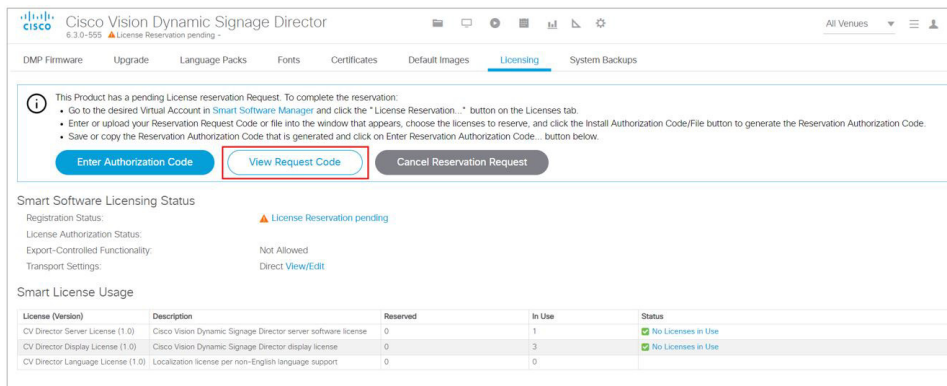
Figure 5 on page 44 shows a successful registration.

**Figure 5 License Status Successfully Registered**

If, for any reason you canceled the process before the code was visible in the registration box, you can recover it.

**To view the request code:**

In the Registration zone, click View Request Code (Figure 6 on page 45).

**Figure 6 View Request Code**

You can purchase more than one Cisco Vision Director license and choose to deploy them however you want, even in one venue.

**Note:** You must also register your secondary server—in case of a fail-over.

#### To update your reservation:

1. Access the Smart Licensing server and generate the Authorization Code, like above.
2. Enter the Authorization Code in the pop-up.

After updating, Cisco Vision Director provides confirmation code.

3. Enter the code in the Licensing Server window and click the “Code is Entered” to acknowledge the update in the Licensing Server.

## Transport Settings

The transport settings interface controls how you link from the cloud Smart Software Manager to Cisco Vision Director. There are three options available:

- Direct—whereby the product communicates directly with Cisco’s licensing server.
- Transport Gateway—the gateway or satellite must have access to the internet. Select this and enter the URL of the Transport Gateway or Cisco Smart Software Licensing satellite used to communicate with the Cisco Smart Licensing server.
- HTTP/HTTPS Proxy—Select this and enter the URL and port number for the HTTP or HTTPS proxy server used to communicate with the Cisco Smart Licensing server.

#### To access transport settings:

1. Click **edit Transport Settings**. The Transport Setting box appears (Figure 7 on page 46).

**Figure 7 Transport Settings**

**Note:** If you select anything but **Direct**, you must provide the **URL**, **IP Address** and **Port** information. We recommend using the **Direct** option.

2. Select the communication method.
3. Click **Save**.

## Smart License Usage

The Smart License Usage portion of the screen gives you the dashboard status of your licenses by product. The License column shows the specific type of product registered successfully. In this example, we show Dynamic Signage Director server, Cisco Vision Director DMPs and a Language Pack license (Figure 8 on page 46).

**Figure 8 Smart License Usage**

License (Version)	Description	Count	Status
CV Director Server License (1.0)	Cisco Vision Dynamic Signage Director server software license	1	Authorized
CV Director Display License (1.0)	Cisco Vision Dynamic Signage Director display license	4	Authorized
CV Director Language License (1.0)	Localization license per non-English language support	4	Authorized

Here is a table showing the Product Identification numbers.

**Table 1 Cisco Vision Director License Product Identification Numbers**

License Version/Product ID	Description
R-SV-DR-DIR-SW-K9	Cisco Vision Dynamic Signage Director Server Software License
L-SV-DR-DISP-FSV (1 per digital media player)	Cisco Vision Dynamic Signage Director Display License (DMPs)
LV-SV-DR-LOCAL (Optional)	Localization License per non-English Language Support
L-SV-DR-LCTRL-WEB (Optional)	One license required per third-party or web-based device used for local control Web Control License for Cisco Vision Dynamic Signage Director
L-SV-DR-ENCODER (Optional)	Director encoder license for up to 10 DMPs to encode video locally







# Appendix A: Post-Upgrade Checklist

Use the following checklist to verify operation of the system after you upgrade your software on a Cisco Vision Dynamic Signage Director server.

List Item	Checkoff
1. Complete any specific verification steps documented for your particular upgrade.	<input type="checkbox"/>
2. Do the following in your browser: <ul style="list-style-type: none"> <li>a. Clear the browser cache.</li> <li>b. Close all browser windows and wait for 10 seconds before restarting.</li> </ul> <b>Caution: Notify all Cisco Vision Dynamic Signage Director users about the mandatory requirement to clear their browser cache and to shutdown/restart the browser software before accessing the latest Cisco Vision Dynamic Signage Director software.</b>	<input type="checkbox"/>
3. Verify that the UI shows the Cisco Vision Dynamic Signage Director version and build number that you installed.	<input type="checkbox"/>
4. If you are using phone control, verify that the phones work.	<input type="checkbox"/>
5. If using IP phones for local TV control, verify you can successfully change channels.	<input type="checkbox"/>
6. Verify that channel names and favorites are properly set.	<input type="checkbox"/>
7. If using suite commerce integration, use the IP phone to verify you can successfully place an order.	<input type="checkbox"/>
8. Verify that all devices are properly in the nonevent_group.	<input type="checkbox"/>
9. Go to the System Status window in the UI and make sure that all relevant services are green. <p><b>Note:</b> If necessary, click the refresh button to re-poll all services for status. If needed, disable services that are not part of your installation.</p>	<input type="checkbox"/>
10. Verify that the devices have been rebooted and are running the latest system runtime version. <p><b>Note:</b> A manual reboot is required if a DMP firmware upgrade was not required for your release.</p>	<input type="checkbox"/>
11. Verify that all DMPs and TVs in the <b>Device Management</b> are green.	<input type="checkbox"/>
12. Start an existing event script and validate that screens display the expected content.	<input type="checkbox"/>

List Item	Checkoff
<b>13.</b> Stop the event script and validate that screens power off.	<input type="checkbox"/>
<b>14.</b> Make a minor edit to the event script and make sure it saves.	<input type="checkbox"/>
<b>15.</b> Verify that you can push a new video file in the <b>Library</b> -Content Management System (CMS) to the DMPs.	<input type="checkbox"/>
<b>16.</b> If using dynamic menu boards, make a change to a menu item and verify that the change is reflected on the menu board.	<input type="checkbox"/>
<b>17.</b> If using external content integration, be sure to re-enable your data sources and restart the External Content Integration application from the <b>Data Integration &gt; Manage</b> tab.	<input type="checkbox"/>
<b>18. (As needed for sites that schedule the CMSRestartTask)</b> Delete the CMSRestartTask from the Scheduled Tasks area of the <b>System Configuration</b> .  <b>Note:</b> The CMS is automatically restarted after a backup runs.	<input type="checkbox"/>
<b>19.</b> Perform a server backup for the upgrade configuration.	<input type="checkbox"/>
<b>20.</b> After satisfying your site's testing and event requirements, fail back to the primary server and upgrade it to the same version of software that you validated on your secondary server.  For more information, see <a href="#">"Configuring Failover Between Redundant Cisco Vision Dynamic Signage Director Servers"</a> module in <a href="#">Cisco Vision Administration Guide: Dynamic Signage Director</a> .	<input type="checkbox"/>
<b>21.</b> After you perform failback, reconfigure your backup and restore environment using the Text-based Utility Interface (TUI).	<input type="checkbox"/>



# Appendix B: Port Reference

The following tables identify the default ports used by Cisco Vision Dynamic Signage Director:

- [Cisco Vision Dynamic Signage Director Ports, page 51](#)
- [Digital Media Player Ports, page 52](#)

## Cisco Vision Dynamic Signage Director Ports

The Cisco Vision Dynamic Signage Director ports are divided into tables for input and output ports.

### Cisco Vision Dynamic Signage Director Input Ports

[Table 1 on page 51](#) lists the input ports used by all Cisco Vision Dynamic Signage Director servers.

**Table 1 Cisco Vision Dynamic Signage Director Input Ports**

Originator	Protocol	Port	Target Application	For Web UI Access
DMP	UDP	123	NTP	Time sync when using Director as NTP server in initial setup
Laptop	TCP	22	SSH <sup>1</sup>	Remote login
MPI Client	TCP	22	sftp	For Media Planner API / playlist import
Director	TCP	22	sftp	System backup from Primary Server
Laptop (browser UI), DMP	TCP	80	HTTP	Redirect to port 8080
Laptop	TCP	443	HTTPS	Web UI access
DMP	TCP	9090	HTTP	For data feed from widgets
DMP	TCP	8080	HTTP	Fetch DMP config/data, firmware, content

1. When remote login is enabled.

[Table 2 on page 52](#) lists the additional input ports used by Cisco Vision Dynamic Signage Director server only during troubleshooting access from a PC.

**Table 2 Cisco Vision Dynamic Signage Director Input Ports**

Originator	Protocol	Port	Target Application	Usage
External NTP server	UDP	123	NTP	Time synchronization (Director as NTP client)
DMP	UDP	514	Syslog	Proof of Play, Alerts

## Cisco Vision Dynamic Signage Director Output Ports

**Note:** Data integration with Daktronics or OES is over UDP. The port number is configurable in Director and must match the score data source.

**Table 3 Cisco Vision Dynamic Signage Director Output Ports**

Originator	Protocol	Port	Target Application	Usage
Director	UDP	123	NTP	As request to NTP server, and as response to DMPs
Director	UDP	Varies (default =50001)	DMP runtime	Multicast commands (default = 239.192.0.254:50001)
Director	UDP	Varies (default=50080-50099)	DMP runtime	Multicast commands when per-script multicast is enabled
Director	FTP	21	FTP server	Fetching integration broker data over FTP, Playlist integration
Director	TCP	22	ssh	Remote login
Director	TCP	22	sftp	Automated content import
Director	TCP	22	sftp	System backup; Proof of Play data
Director	TCP	80	http	Redirect to port 8080
Director	TCP	80 / 443	external web server	Fetching of data for integration broker
Director	TCP	443	https	Web UI access
Director	TCP	8000	DMP runtime	DMP control commands

## Digital Media Player Ports

The DMP ports are divided into tables for input and output ports:

- [Common Media Player Input Ports, page 53](#)
- [Network Input Ports, page 53](#)
- [Common Digital Media Player Output Ports, page 53](#)
- [Output Ports, page 54](#)

## Common Media Player Input Ports

Table 4 on page 53 lists the input ports used by all media player models.

**Table 4 Common Media Player Input Ports**

Originator	Protocol	Port	Target Application	Usage
Director	UDP	varies (default: 50001)	DMP runtime	Multicast commands (default is 239.192.0.254:50001)
Director	UDP	varies (default: 50080-50099)	DMP runtime	Multicast commands when per-script multicast is enabled
Headend	UDP	varies	DMP firmware	Multicast video
NTP server	UDP	123	NTP	Time sync response

## Network Input Ports

Table 5 on page 53 lists the input ports only used by the digital media player.

**Table 5 Input Ports**

Originator	Protocol	Port	Target Application	Usage
Laptop	TCP	80	DMP diagnostic web server (dws)	Diagnostic Web Server, when enabled
Director	TCP	8000	DMP control and debugging web server	For commands and queries by Cisco Vision Director server
Laptop	UDP	161	SNMP service	Listening agent for SNMP management information  This port is only open when the SNMP service is enabled in Cisco Vision Dynamic Signage Director
DMP	UDP	319, 320	PTP	Event and general messages for time sync (DMP)
DMP	UDP	50001, 50002	DMP runtime	For content synchronization, such as in video walls
Laptop	TCP	2099	Javascript inspector for DMP browser	To run Javascript Inspector when enabled to debug/troubleshoot by Cisco support
NTP Server	UDP	123	Network Time Protocol (NTP)	Sync the time on the DMP

## Common Digital Media Player Output Ports

Table 6 on page 54 lists the output ports used by all digital media player models.

## Digital Media Player Ports

**Table 6 Common Digital Media Player Output Ports**

Originator	Protocol	Port	Target Application	Usage
Director	TCP	8080	httpd	Fetching of DMP config, autoprovisioning, and related
DMP	TCP	80	httpd	External content URL.
DMP	TCP	8888	java (Mule)	Fetching preview (data pull requests) from Integration Broker
DMP	TCP	33333	java (Mule)	Fetching data integration images from Integration Broker
Director	UDP	123	NTP	Time sync request
DMP 43	UDP	514	syslog	Proof of Play, Alerts

## Output Ports

[Table 7 on page 54](#) lists the output ports used by the Series 2 media players.

**Table 7 DMP Output Ports**

Originator	Protocol	Port	Target Application	Usage
Laptop	UDP	161	SNMP service	This port is only open when the SNMP service is enabled in Cisco Vision Dynamic Signage Director
DMP	UDP	319, 320	PTP	Event and general messages for time sync
DMP	UDP	50001, 50002	DMP sync manager port	For sync leader