



Cisco Vision Dynamic Signage Director On-Premise Architecture Overview

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In its most basic design, the Cisco Vision Dynamic Signage Director on-premise architecture consists of all components of the solution implemented at a single site or venue. The basic Cisco Vision Dynamic Signage Director design can be extended to a multi-venue architecture. In a multi-venue design, a Cisco Vision Dynamic Signage Director server installed at a central location can be used to manage and control content for multiple sites.

Cisco Vision Dynamic Signage Director Remote servers also can be installed at the remote sites to support Cisco DMP 4310Gs, and they are connected to the central server over the Cisco Connected Venue (Connected Stadium) wide-area network (WAN). Otherwise, SV-4K and DMP-2K media players can be installed at remote venues but still controlled by the central Cisco Vision Dynamic Signage Director server.

This module describes the standard on-premise architectures associated with Cisco Vision Dynamic Signage Director standard and multi-venue designs. It includes the following topics:

- [Standard Cisco Vision Dynamic Signage Director Network Architecture, page 5](#)
- [Centralized Cisco Vision Dynamic Signage Director Network Architecture, page 8](#)
- [Server Platforms, page 10](#)

Standard Cisco Vision Dynamic Signage Director Network Architecture

The three primary areas of the standard Cisco Vision Dynamic Signage Director network architecture include:

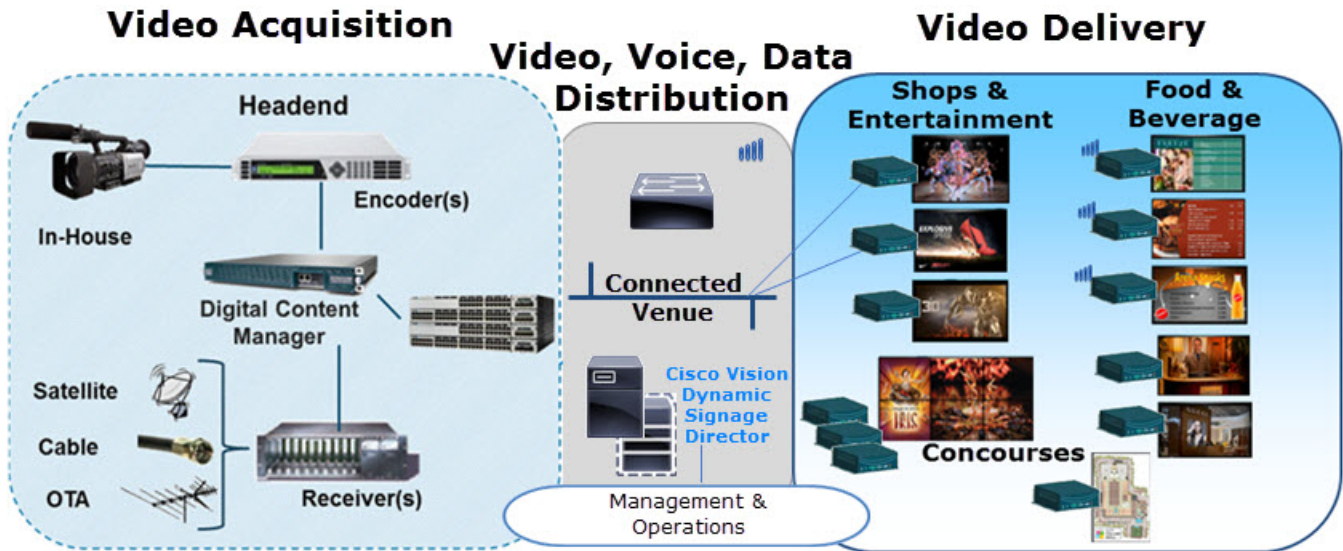
- Headend for video acquisition

The Cisco Vision Dynamic Signage Director headend is designed to acquire, process, and encode the video content used in the Cisco Vision solution.

- IP network (Connected Venue)
- Endpoints (SV-4K, DMP-2K, Cisco DMP 4310G)

Figure 1 on page 6 shows the basic network architecture for a Cisco Vision Dynamic Signage Director network.

Figure 1 Basic Cisco Vision Dynamic Signage Director Architecture



Cisco Vision Dynamic Signage Director Server Redundancy

Cisco Vision Dynamic Signage Director supports an environment of two servers that run the Cisco Vision Dynamic Signage Director software, where one of the servers operates as the primary active server, and the other server operates as a secondary backup server. If a failure occurs, you can configure the backup server to become the active server, but the failover process is not automatic.

Cisco Vision Dynamic Signage Director supports two, physical Platform 3 servers or a dual virtual server environment. Figure 2 on page 6 shows two virtual servers running Cisco Vision Dynamic Signage Director installed on a single subnet.

Figure 2 Cisco Vision Dynamic Signage Director Redundancy



Figure 3 on page 7 shows the architecture of Cisco Vision Dynamic Signage Director server redundancy under normal network conditions and operation. The primary and secondary servers are addressed as independent hosts with two different IP addresses on the same subnet in the Cisco Connected Venue (Connected Stadium) network.

While the secondary server is still connected to the network, notice that communication and control only occurs between the primary Cisco Vision Dynamic Signage Director server and the rest of the network, including the Digital Media Players (DMPs) and any wireless access point.

The secondary server is only connected to the network to be made available as a backup to the primary should a failure occur. In addition, the secondary server can (and should) be configured to be backed up with data from the primary server on a scheduled basis so that it can be ready as a warm standby.

Figure 3 Cisco Vision Dynamic Signage Director Redundancy Under Normal Operation

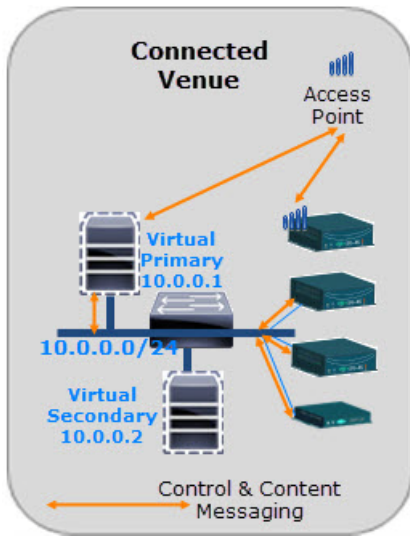
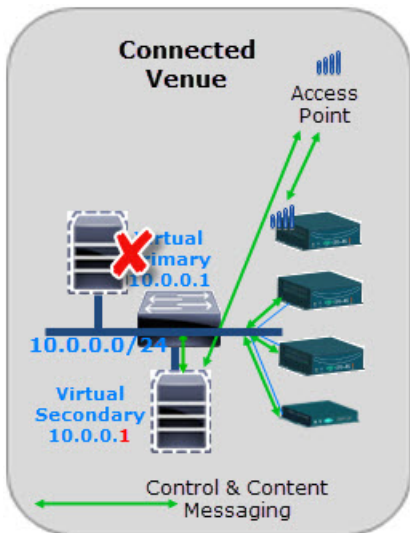


Figure 4 on page 7 shows the redundancy environment when connectivity from the primary Cisco Vision Dynamic Signage Director server fails. When the primary server fails, a manual process must take place to restore the secondary server from a backup, shut down the primary server, and activate the secondary server.

Figure 4 Cisco Vision Dynamic Signage Director Redundancy Under Manual Failover



Notice that the secondary server must be reconfigured to use the same IP address the original primary server. In this example, the secondary server IP address is changed to 10.0.0.1 (from 10.0.0.2) to match the primary server address. When the process is complete, communication and control only occurs between the newly activated secondary server and the rest of the network.

Note: The word “failover” does not mean automatic activation of a secondary server. The failover process is manual with the secondary server acting as a warm standby.

For more information about how to perform the failover process, see the [“Configuring Failover Between Redundant Cisco StadiumVision Director Servers”](#) module on page 99.

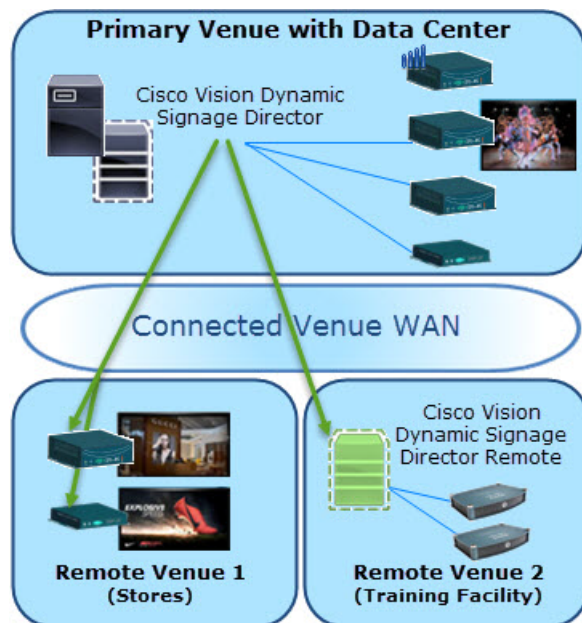
Centralized Cisco Vision Dynamic Signage Director Network Architecture

Note: SV-4K and DMP-2K media players are not supported with Cisco Vision Dynamic Signage Director Remote servers. The SV-4K and DMP-2K can be located at remote venues, but those DMPs must be controlled by the central server at the primary venue as shown in [Figure 5 on page 8](#). For more information, see the [“Restrictions for Configuring Multiple Venue Support”](#) module on page 58.

[Figure 5 on page 8](#) shows a central Cisco Vision Dynamic Signage Director server (that is connected to the headend), with network connections over the Cisco Connected Venue WAN to multiple remote sites.

- Remote Venue 1 uses only DMPs that are remotely located, but control is retained by the central Cisco Vision Dynamic Signage Director server. This is the only configuration supported by the SV-4K and DMP-2K media players.
- Remote Venue 2 shows implementation of a virtual Cisco Vision Dynamic Signage Director Remote server that is used to control Cisco DMP 4310G media players.

Figure 5 Centralized Cisco Vision Dynamic Signage Director with Remote Sites



Cisco Vision Dynamic Signage Director Remote Servers are installed at remote sites to provide a way of targeting site-specific content to locally-installed DMPs in a distributed Cisco Vision Dynamic Signage Director network environment, where event operation can also be limited to designated venue operators and administrators.

Hierarchical Management

The centralized Cisco Vision Dynamic Signage Director architecture implements control of multiple venues using Hierarchical Management, which includes the following areas of functionality:

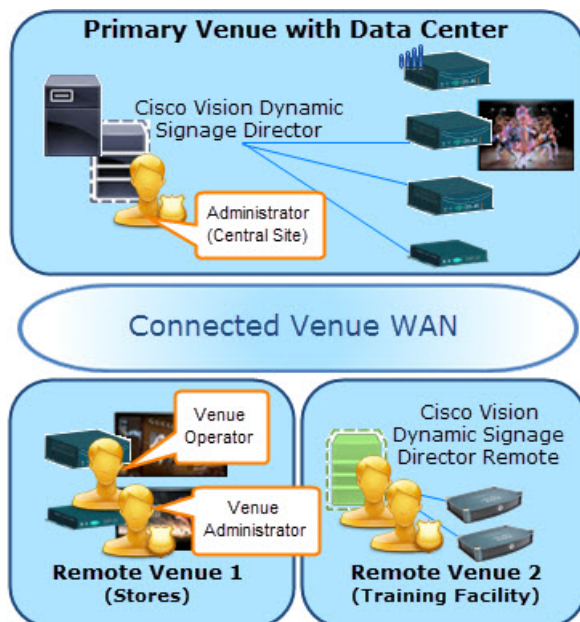
- Organization of Venue Administrator, Venue Operator, location, playlist, and script objects into site-specific groups by the central Administrator role using venue association to manage access and control.
- Use of the Venue Operator role to limit access and control of event operation at one or more assigned remote sites.
- Use of the Venue Administrator role (introduced in Release 5.0) to provide additional administrative, but limited permissions at the venues authorized by the central Administrator for that user, for the following areas of Cisco Vision Dynamic Signage Director:
 - Control Panel—Content, Control (Script control and Staging), Schedule.
 - Management Dashboard—Read-only access with limited command support.
 - Command Center Monitoring—Read-only access.
 - Setup—Devices (Display specifications only); Read-only access to Zones & Groups, Channels, Luxury Suites.

Note: External content, channels, and Dynamic Menu Board (DMB) content are global to all venues. Therefore, these global content items also can be deleted by a Venue Administrator.

Figure 6 on page 9 shows the use of Hierarchical Management in Cisco Vision Dynamic Signage Director, where a central site user with administrator role-based access control (RBAC) permissions is located at the central site data center where the primary Cisco Vision Dynamic Signage Director server resides.

The remote venues can have venue operators and venue administrators, assigned by the primary administrator.

Figure 6 Hierarchical Management in Centralized Cisco Vision Dynamic Signage Director



The primary Administrator can perform all venue-related functions, including assigning venue administrators, venue operators, content and scripts into their corresponding venue-specific scopes of control. At the remote venues, the remote venue operators can control the scripts associated to their assigned venue scope-of-control.

Server Platforms

For more information, see the following modules of this guide:

- For a description of the supported user roles in Cisco Vision Dynamic Signage Director, see [User Management in Cisco Vision Dynamic Signage Director, page 71](#).
- For information about configuring remote venues in a centralized Cisco Vision Dynamic Signage Director network architecture, see [Configuring Cisco Vision Dynamic Signage Director for Multiple Venue Support, page 51](#).

Server Platforms

Note: The Platform 3 server has reached end-of-sale (EOS). Release 5.0 is the last release to support upgrades on the Platform 3 server hardware. Future releases of Cisco Vision Dynamic Signage Director will be supported in a virtual server environment only.

The Cisco Vision Dynamic Signage Director Release 5.0 software is supported as an upgrade on existing Platform 3 physical, Cisco UCS C220 M3 rack servers, or on a virtual server platform.

New installations of Cisco Vision Dynamic Signage Director Release 5.0 are supported in a virtual server environment using Cisco Systems or other third-party hardware.

Virtual Server Support

For information about virtual server requirements and installation in Cisco Vision Dynamic Signage Director and Cisco Vision Dynamic Signage Director Remote see:

- [Release Notes for Cisco Vision Dynamic Signage Director Release 5.0](#)
- [Cisco Vision Software Installation and Upgrade Guide: Dynamic Signage Director Release 5.0](#)
- [Cisco Vision Software Installation and Upgrade Guide: Dynamic Signage Director Remote Release 5.0](#)