

Cisco Vision Dynamic Signage



Cisco® Vision Dynamic Signage solution delivers immersive and customized experiences that enable you to differentiate your business. This proven end-to-end high-definition video and digital content solution provides the needed flexibility to transform the look and feel of your venue by providing the power to fully control and manage how digital content is showcased throughout your venue. Unleash the power of the digital experience with Cisco Vision Dynamic Signage.

Cisco Vision Dynamic Signage Benefits

Unlike conventional digital signage offerings that typically focus on narrowcasting a limited number of content combinations, Cisco Vision Dynamic Signage is built and optimized to deliver an enhanced experience, to enable new revenue streams, and to improve operational efficiencies for the venue. Engaging, communicating, and influencing visitors that are fans, shoppers, guests and travelers while providing significant growth opportunities is what Cisco Vision Dynamic Signage provides.

Enhanced Visitor Experience

Visitors, no matter whether they are in their seats at a game, in open spaces, in retail shops, or in dedicated spaces like clubs and restaurants, will enjoy an enhanced experience delivered by the Cisco Vision Dynamic Signage solution. This solution offers venues the flexibility to deliver a much wider range of high-quality video and digital content-based experiences, providing brands, sponsors, and advertisers with a more effective venue segmentation platform and medium to convey their message and drive engagement. Digital content, in the form of still or animated graphics, motion video or video ad insertions, can be targeted and delivered – with accompanying event video or separately – to any display or group of displays throughout the venue. With the Cisco Vision Dynamic Signage solution, the integration of HD- or UHD-video feeds along with high-impact digital content increases the visibility of the accompanying content, providing visitors with a unique experience, and providing advertising partners and sponsors with a larger and more relevant and attentive audience.

HD Video and More

Live streaming and external broadcast video, targeted and coordinated advertisements and sponsor promotions, digital menus, directional signage and external web content – such as news, scores, and social media – can be offered in unique combinations to displays. Streamed video content can also form the background for eye-catching composed, dynamic signage beyond a single display in video wall arrangements, side by side, or vertical layouts.

With support for video feeds from multiple internal and external sources, venues can provide content from multiple in-house sources, cable and satellite providers, local channels from over-the-air feeds, and even the digital media players themselves to all or some of the endpoints throughout the environment, including retail shops, lobbies and concourses, bars and restaurants, back offices, concession areas, and even in the restrooms.

With support for standard definition (SD) to Ultra HD (4K) video feeds, the Cisco Vision Dynamic Signage solution can deliver your video channel lineup simultaneously to thousands of displays with quality equal to or better than what is delivered to the home. Resolutions up to full Ultra HD (3840x2160@60p) are delivered to the connected display over a High-Definition Multimedia Interface (HDMI) on the digital media player (DMP).

Venue Transformation

A growing number of venues are home to multiple sports teams and/or host a wide variety of events, such as concerts, tradeshows, or special day events. For these venues, it is often desirable to have different “themes” presented for different events. With Cisco Vision Dynamic Signage Director (see Cisco Vision Dynamic Signage Solution Component Overview below), you can easily transform a venue from one theme (colors, images, sponsorship) to another – from one day to the next, or even from morning to night. Because these themes are stored as scripts, it is easy to revert back to a previous theme. These capabilities enable you to quickly deliver the relevant and unique experiences customers expect.

New Revenue Opportunities

The Cisco Vision Dynamic Signage solution offers many opportunities to generate revenue from these new experiences, including the ability to provide more premium services to specific areas and guests, plus a variety of targeted advertising options for sponsors. Each DMP and connected display adds to the overall advertising real estate, either as an individual location, combined for a bigger effect in a video wall, or part of a group distributed throughout the venue.



Targeted Advertising

Taking advantage of the concept of zones and groups, unique advertising content (logos, animated graphics, or video) can be displayed on each screen alongside the streaming video within the differentiated areas of the venue. The venue can display promotional information on selected displays; venue sponsors can display different ads in different locations; and concessionaires can advertise their products on nearby displays.

Because you can customize the content for each area of the venue, sponsors of clubs, restaurants, and retail are afforded a unique branding opportunity. During the event, each location can display its own advertisements for merchandise, food or drink specials alongside the video feed, regardless of which channel is displayed.

Dynamic Menu Boards

In concession areas, you can change the content of the menu throughout the event or day to reflect changes in prices or selection, enabling easy accommodation of different events at a multi-purpose venue. Concession-stand owners can highlight certain items and change the list of available items. In addition, multiple vendors can use the same concession areas at different times. For example, an area can be used to sell children's merchandise during "Kids' Day" at a game and to sell programs and T-shirts for a concert that night.

Cisco Vision Dynamic Signage Director maintains proof-of-play information about all advertisements displayed during the entire event. Sponsors, who often pay for advertising based on the number of showings per event, want this information.

Premium Offerings

Dedicated spaces can be designed to offer guests a unique, premium experience. The features of the Cisco Vision Dynamic Signage solution increase the value of these areas, making them easier to sell or lease and providing brands a unique opportunity for premium promotion placement. During non-event days, venues can repurpose and rent out these areas for meetings and presentations. Guests can present their content through the Cisco Vision Dynamic Signage solution to one or more displays without the need for projector setup.

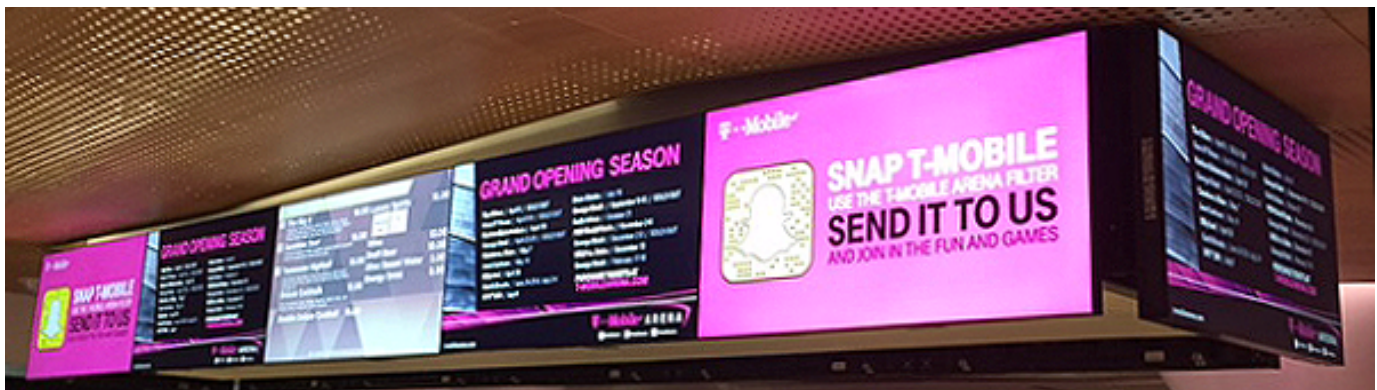
Improved Operational Efficiencies

While venues want to improve the experience for their visitors, they do not want to add complexity to their daily operations. Cisco Vision Dynamic Signage Director can simplify the operation of a venue by providing central control of all displays and their content, enabling easy venue transformation to support the unique needs of multiple events.

Centralized Control

Using Cisco Vision Dynamic Signage Director, you can control the entire video and content delivery system from a central location. This includes the ability to automatically or manually turn all displays on or off from a central location, to control the volume on each, a grouping of, or all of the displays.

Using the scripting capabilities of Cisco Vision Dynamic Signage Director, you can schedule the play-out of desired channels, advertising, promotions, tickers, and messages (such as post-event directional messaging) ahead of time to run automatically during the event or day. If an interruption or emergency occurs, you can easily display informational messages throughout the venue at the push of a button.



Distributed Control

You can place multiple displays throughout a dedicated space such as a suite and control each display (either individually or as a group) using a third-party dedicated touch-panel or mobile device. With the delivery of broadcast as well as in-house channels to the suite, the guests can choose to watch a broadcast channel on one TV while watching the in-house event on another. The solution even allows for the use of external video sources, such as a DVD player or PC, so guests can entertain their small children with a movie during the event or host a presentation. This allows the suite area to be appropriately self-managed in both content and TV display control.

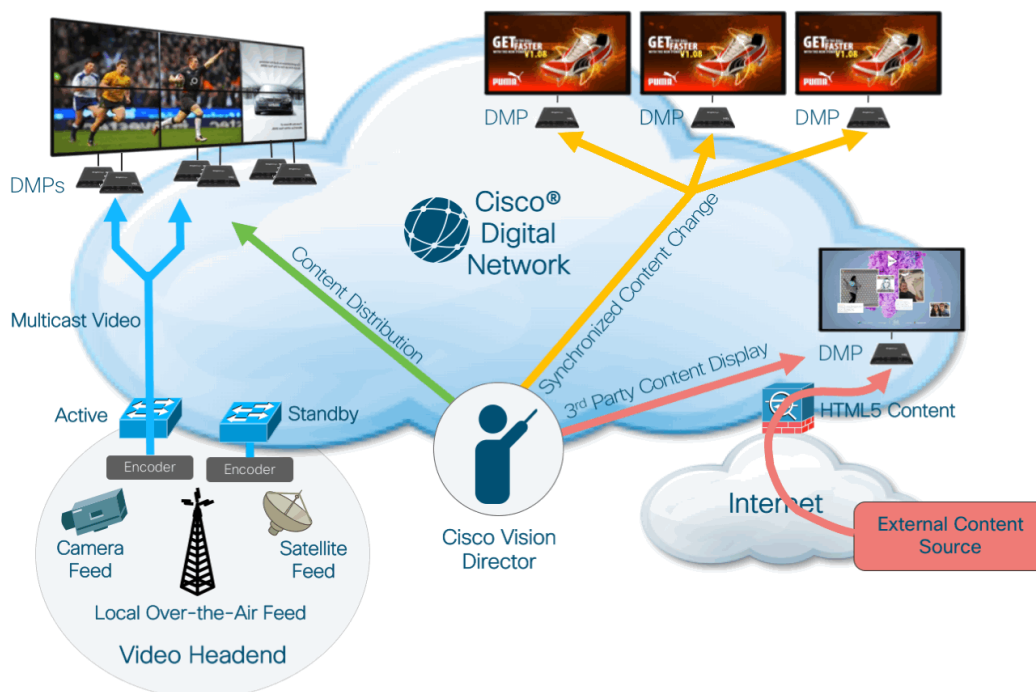
Cisco Vision Dynamic Signage Component Overview

The Cisco Vision Dynamic Signage solution enables the integration and automated delivery of customized and dynamic content from multiple internal and external sources to different areas of the venue.

Four major components constitute a Cisco Vision Dynamic Signage solution:

- Cisco Vision Dynamic Signage Director for centralized content management and operations
- Digital Media Player for content playback
- Video Headend for video aggregation and distribution
- Cisco Digital Network, the IP infrastructure foundation for content transport

Figure 1. Cisco Vision Solution Components Diagram



Cisco Vision Dynamic Signage Director

Cisco Vision Dynamic Signage Director provides centralized management and operations of the Cisco Vision Dynamic Signage solution. It acts as a single point of control for managing all Digital Media Player (DMP) endpoints, for placing and delivering content (video, graphics, and external content), for defining unique display areas (zones and groups), as well as for the creation of entitlement areas (bars, restaurants, clubs, and suites). It also provides the interface to third-party

applications and devices, score boards and statistics systems, external contact closure and IP triggering systems, and third-party touch panels (for local display control).

Digital Media Player

The Digital Media Player (DMP) renders and displays static and dynamic content on each of the venue's connected displays. In addition to the support of UHD video resolution, the DMP can be powered by 802.3at Power over Ethernet, supports dual video regions, video wall and virtual ribbon-board synchronization, and the rendering of HTML5 content. The DMP also supports Live TV playback via the HDMI 2.0a input to play content from any broadcast channel – even protected HDCP content. The DMP is also available with built-in Wi-Fi, allowing you to deliver digital content to hard-to-reach displays, such as those on mobile kiosks.

Video Headend

The headend is where video is received from various sources, such as in-house feeds (through the venue video control room), over-the-air channels (typically from local over-the-air broadcast networks), and broadcast channels from cable or satellite providers. It is responsible for placing the video feeds onto the IP network with minimal latency. Video feeds may be provided in Ultra HD, HD or SD resolution, and in encrypted or unencrypted formats.

The headend of the Cisco Vision Dynamic Signage solution is designed to accommodate all of these feeds and perform the necessary encoding, transcoding, and extracting to create H.264 (MPEG-4, Part 10), H.265 (HEVC), or legacy MPEG-1, MPEG-2 encoded streams. The headend then takes the processed streams, assigns a unique IP multicast address to each, and places it on the IP network to be joined by the digital media player endpoints as a channel.

Cisco Digital Network

Cisco's Digital Network is the foundational IP infrastructure that not only connects the video headend with the DMPs but typically interconnects all building IP endpoints to each other and to the outside world. The Cisco Vision Dynamic Signage solution requires a converged, highly scalable, secure digital network designed specifically for low latency and redundancy to bring together all forms of access, communications, entertainment and operations. This infrastructure is designed to enable the delivery of high-quality video, using advanced features of IP Multicast and quality of service (QoS). This network also acts as the foundation to enable other services within the venue, such as wireless communications, physical security, IP telephony, network audio and Point of Sales communications.

Cisco Services for Cisco Vision Dynamic Signage

Realize the full business value of your Cisco Vision Dynamic Signage investment with smart, personalized services from Cisco. Cisco Services for the Cisco Vision Dynamic Signage solution incorporate architecture planning, solution design, and implementation services. As the venue comes into production, Cisco Vision Content Creation Service can create the desired customer experience as a one-time service or on an ongoing basis. Cisco Vision On-Site Operation Service can even staff an expert to run events. These services are designed to help facilitate a smooth deployment and ongoing maintenance of the solution, including hardware coverage and software upgrades.

Cisco Vision Solution Components

For more information about the components in these tables, please see individual product listings and data sheets on cisco.com or contact your local Cisco account manager.

Table 1. Cisco Vision Solution Components

Component	Description
Cisco Vision Dynamic Signage Director	Cisco Vision virtual machine application which centralizes management and operations
Digital Media Player (DMP)	Cisco Vision rendering on CV-HD2, CV-UHD2 Series 4 digital media players
Video Headend	Aggregation, encoding, transcoding of incoming video feeds to compatible multicast streams possibly with other video infrastructure to provide redundancy, control, or other regional needs
Cisco Digital Network	Cisco Vision IP network infrastructure: PoE+, LLDP, NTP, PTP, DHCP, Multicast, QoS
Services	Cisco Vision Plan, Deploy, Implementation (PDI) Service Cisco Vision Digital Media Content Creation Service Cisco Vision Event Day Operator Service

Table 2. Digital Media Player Comparison Chart

Cisco Vision Dynamic Signage Feature	CV-HD2	CV-UHD2
Power Over Ethernet or Local Power	Yes	Yes
HDMI out to Display	Yes	Yes
TV Control using RS-232 and IR Remote	Yes	Yes
TV Power using HDMI CEC	Yes	Yes
Audio Out and IR Remote	Yes	Yes
Touchscreen Support	Yes	Yes
Auto-Registration	Yes	Yes
Dual Video Regions with Luma Key Support	No	Yes
HDMI-In as a Channel Source	No	Yes
HDMI-In Pass-Through for HDCP-compliant devices	No	Yes
Video Stream Encoding from HDMI-In	No	Yes
Video Stream Encoding from HDMI-Out	No	Yes
Encrypted Multicast Video Channels	Yes	Yes
Remote Monitoring of HDMI-Out	Yes	Yes
Content Synchronization	Yes	Yes
On Device Storage	64 GB	128 GB
Dolby Vision and HDR10	No	Yes
UHD Local Video and HTML	No	Yes
5.1 Dolby plus/AC3	Yes	Yes
UHD Video Rendering Regions	1	2

For More Information

For more information about Cisco Vision Dynamic Signage and the interactivity it provides, please visit:

<https://www.cisco.com/c/en/us/products/video/stadiumvision/index.html> or contact your local account representative.

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