

Cisco StadiumVision Solution



The Cisco StadiumVision™ solution is a proven, end-to-end, high-definition IPTV solution that provides advanced digital content management and delivery that can transform the look and feel of venues. Built on top of the Cisco® Connected Stadium solution and centrally-managed through the StadiumVision Director, the Cisco StadiumVision solution enables the integration and automated delivery of customized and dynamic content from multiple sources to different areas of the stadium in high definition quality.

The Cisco StadiumVision solution is purpose-built for sports and entertainment venues that have extensive video systems deployed throughout. It is designed to enhance the fan experience and to provide the venue with additional revenue streams through targeted advertising with customizable content. In addition, it uses video systems in restaurants, clubs, and luxury suites to allow fans to view both in-house programming and external network channels.

CISCO STADIUMVISION BENEFITS

Unlike conventional digital signage and narrowcasting, the features of the Cisco StadiumVision solution combine to provide an enhanced fan experience, enable new revenue streams, and improve operational efficiencies for the venue.

ENHANCED FAN EXPERIENCE

Fans, whether they are in the stands, in the concourses, in the luxury suites, or in the clubs and restaurants, will enjoy an enhanced experience through the features that the Cisco StadiumVision solution provides.

HD Everywhere - Enhanced Video Quality, Flexibility, and Reliability

With support for HD and even SD video feeds in MPEG-2 or MPEG-4 formats, the Cisco StadiumVision solution can deliver video simultaneously to thousands of displays with quality equal to or better than what is delivered to the home. Full HD resolution (1920 x 1080) is delivered to the display over a High-Definition Multimedia Interface (HDMI) interface on the digital media player (DMP).

Because the Cisco StadiumVision solution supports reliable delivery of content to up to 3000 endpoints, venues have the flexibility to place numerous TVs throughout the concourses, in the bars and restaurants, in the luxury suites, in the locker rooms and back offices, in the concession areas, and even in the restrooms.

Moreover, the Cisco StadiumVision solution supports video feeds from multiple internal and external sources, allowing venues to deliver content from multiple in-house sources, cable and satellite providers, and local channels from terrestrial feeds to the all the video endpoints throughout the venue.

Going Beyond Video - A Total Digital Experience

The Cisco StadiumVision solution offers venues the flexibility to deliver a much wider range of high-quality video and digital content-based experiences, providing sponsors and advertisers with a more engaging and effective medium to convey their message. Digital content, in the form of still or animated graphics, video overlays with transparency¹, and video ad insertions, can be targeted and delivered—with accompanying live event video or separately—to any display or group of displays throughout the venue. With the Cisco StadiumVision solution, the integration of HD video feeds along with high-impact digital content increases the visibility of the displays and accompanying content, providing fans with a unique viewing experience, and providing sponsors with a larger, more relevant and attentive audience.

State of the Art Luxury Suites

The Cisco StadiumVision solution provides the luxury suite guest with state-of-the-art features for an enhanced event experience. You can place multiple displays throughout the luxury suite and control each display (either individually or as a group) using a Cisco IP Phone, a third-party touch-panel, or a mobile device supported by the enhanced User Control API, such as Apple and Android devices. With the delivery of broadcast as well as in-house channels to the luxury suite, the guests can choose watch another sport or game on one TV while watching the in-house event on another.

With optional integration to a point-of-sale (POS) application, venues can give luxury-suite guests the opportunity to easily purchase food, beverages, and merchandise or enable suite attendants to do the same so nobody has to leave the suite and miss the action. During the ordering process, the available choices can be displayed on one of the luxury-suite displays for all to see.



Enhanced Fan Experience in Clubs, Restaurants, and Bars

Similar to the luxury suites, the content of the displays in clubs, restaurants, and bars can be controlled with large touch panels, allowing customers to watch not only the in-house event, but also as many other broadcast events as there are TVs.

¹ Requires StadiumVision SV-4K DMP.

NEW REVENUE OPPORTUNITIES

Attracting more fans and being able to charge higher ticket prices are certainly beneficial to venue owners. However, the Cisco StadiumVision solution offers many other opportunities to generate additional revenue, including the ability to provide more premium services to luxury-suite owners and guests, plus a variety of targeted advertising options for sponsors as each DMP and attached display adds to the overall advertising real estate.

Differentiated Premium Offerings in Suites

Luxury suites, by their definition, are designed to offer the owners and guests a unique, premium experience. The luxury suite features of the Cisco StadiumVision solution increases the value of the suites, making them easier to sell or lease. During non-event days, venues can rent out these suites for meetings and presentations. Guests can display pre-loaded videos or presentations through the self-service content feature of Cisco StadiumVision solution without the need for a projector setup.

Targeted Advertising

Taking advantage of the concept of zones and groups, unique advertising content (logos, static or animated graphics, or recorded video) can be displayed on screen alongside the video in the different 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.

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

The synchronized video wall and virtual ribbon board feature of the Cisco StadiumVision solution enables a truly impressive and immersive medium for sponsors and advertisers.



IMPROVED OPERATIONAL EFFICIENCIES

Although venues want to add fan-attracting features, they do not want to add complexity to their daily operations. Going beyond the goal of not adding complexity, Cisco StadiumVision Director can actually simplify the operation of a venue by providing central control of all displays and their content, enabling easy venue transformation to support multiple events, and providing concessionaires with the ability to dynamically change their menus.

Centralized Control

Using Cisco StadiumVision Director, you can control the entire video delivery system of the venue from a central location. This includes the ability to turn all displays on or off automatically or manually from a central location, as well as the ability to control the volume on each, a grouping of, or all displays.

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

The new Script Scheduler feature provides a calendar-based script scheduling function makes it even easier to use. This feature allows you to:

- Schedule a single occurrence or recurring event series in advance.
- Automate the start and stop of an event script.
- View scheduled event scripts by day, week, and month

StadiumVision Director also 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.

Venue Transformation

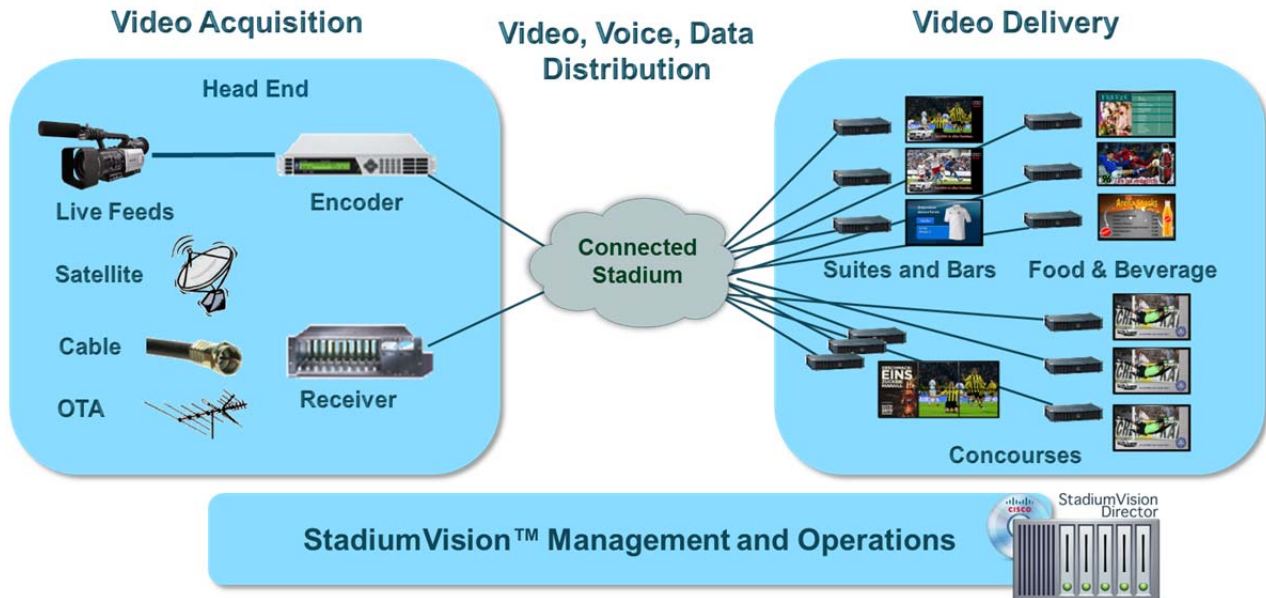
A growing number of venues are home to multiple sports teams and host a wide variety of events, such as concerts and tradeshows. For these venues, it is often desirable to have different “themes” presented for different events. With StadiumVision Director, you can easily transform a venue from one theme (colors, logos, 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.

Dynamic Concession Boards

In concession areas, you can change the content of the menu throughout the event 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 for faster sales, change the list of available items, and update the prices dynamically.

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 STADIUMVISION COMPONENTS



The Cisco StadiumVision solution comprises four major components:

- Video acquisition (or video headend)
- Converged voice, video, and high-speed IP data network
- Video delivery (streaming and positioned content)
- Centralized management and operations

VIDEO HEADEND

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

The headend of the Cisco StadiumVision solution is designed to accommodate all of these feeds and perform the necessary encoding, transcoding, and extracting to create an MPEG-2 or MPEG-4 stream. The headend then takes the processed feeds, assigns a unique IP multicast address to each, and places it on the IP network to be picked up by the video endpoints.

CONVERGED IP NETWORK

The IP network infrastructure, which connects the video headend with the video endpoints, is provided by the Cisco Connected Stadium solution. The Cisco Connected Stadium solution is a converged, highly scalable, secure network designed specifically for sports and entertainment venues 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 communications, and Power over Ethernet (PoE).

VIDEO DELIVERY

The video delivery component is supported on both the new SV-4K and the Cisco Digital Media Player (DMP) 4310G digital media players (DMPs). The players are mounted behind or attached to each of the venue's indoor or outdoor displays (TVs) at the venue. The DMP is responsible for controlling basic functions on the display (such as power and volume) as well as providing video to the display rendered from streaming and positioned content.

The new SV-4K DMP enhances the solution by adding support for:

- HTML5 content, which allows you to pull in a variety of data sources, including: team/player stats, out-of-town scores, fantasy stats, Twitter, Facebook, pic to screen, and more to create compelling content for your fans
- Dual video regions with luma key transparency, which allows you to display eye-catching, animated ad-wrappers and special effects
- Faster processor, which allows for more content on the screen than ever before. You can move items into the screen with animated text, add glow and highlight effects, use dynamic pricing to change menu items on the fly, and display compelling overlays for moments of exclusivity (MOE)
- Improved script synchronization for video walls and ribbon boards, which allows you to instantaneously change any group of screens showing unique individual content into a video and then go back to individual screens at the push of a button and, all in sync

The StadiumVision DMPs work in conjunction with the centralized management component of the Cisco StadiumVision solution to provide the TV with the video feed, customized content, and tickers—formatted into a selected template.

CENTRALIZED MANAGEMENT AND OPERATIONS

The centralized management and operations of the Cisco StadiumVision solution is provided by StadiumVision Director, which acts as a single point of control for managing all video endpoints (DMPs), for determining and delivering content (video, graphics, and tickers), for defining unique display areas (zones and groups), as well as for the creation of entitlement areas (bars, restaurants, clubs, and luxury suites). It also provides the interface to third-party applications and devices, such as POS applications, score boards and statistics systems, external contact closure and IP triggering systems and third-party touch panels (for local display control).

In addition, Cisco StadiumVision Director offers optional licenses for local control (through a Cisco IP Phone, third-party touch-screen, or web-based application) and commerce services.

CISCO SERVICES FOR THE STADIUMVISION SOLUTION

Realize the full business value of your Cisco StadiumVision investment with smart, personalized services from Cisco. Cisco Services for the Cisco StadiumVision solution incorporate architecture planning, solution design, and implementation services. These services are designed to help facilitate a smooth deployment and ongoing maintenance of the solution, including hardware coverage and software upgrades. For more information about Cisco Services for the StadiumVision solution, please see the Data Sheets for the StadiumVision Content Creation Service and the On-Site Operation Service or contact your local Cisco account manager.

CISCO STADIUMVISION SOLUTION SPECIFICATIONS

Table 1. Cisco StadiumVision 4.0 Solution Specifications

Supported video sources	<ul style="list-style-type: none"> In-house sources, which are used for live coverage of the event: These feeds are provided by cameras placed throughout the venue and routed through the venue control room. Terrestrial TV (off-air) sources, which are sent from broadcast transmitters owned by the local network affiliates of the national broadcasters, as well as public television stations. Cable and fiber sources, which include multiple service operators (MSOs), such as Comcast and Cablevision, as well as incumbent local exchange carrier (ILEC) providers, such as AT&T and Verizon. Satellite sources, which include direct broadcast satellite providers, such as DirecTV and Dish Network: The solution also supports DirecTV three-dimensional (3D) content feeds and Sonic Tap music channels.
Supported video formats	<ul style="list-style-type: none"> SD and HD resolution Encrypted and unencrypted formats MPEG-2 and MPEG-4 Both embedded and separate audio Dual video regions with Luma key transparency²
Scalability	<ul style="list-style-type: none"> 3000 video endpoints 100 menu boards 250 video channels 500 luxury suites 1000 playlists in the database; 100 playlists per group 1200 items per playlist; 2200 items per event 50 states per event 100 zones 20 groups per zone; 500 groups total
Features and functions	<ul style="list-style-type: none"> Event scripting, scheduling, and operation Ad insertion with proof of play Ticker feeds with interleave and screening HTML5 support² Targeted content and promotion areas Dynamic menu boards (DMBs) Customizable channel guide Centralized and local channel control with API support Closed captioning³ Luxury suite display and media control Per suite localization³ POS integration for luxury suites³ and menu boards External Content Integration (Basketball & Hockey score boards, NFL GSIS) Touchscreen support³ Video walls Self-Service Content³ Event Trigger API Media Scheduling API
Performance: End-to-end latency of in-house feeds*	~ 450ms

* Results gathered in a test environment. MPEG-4 using Cisco D9096 with the SV-4K DMP.

² Requires SV-4K DMP.

³ Requires Cisco DMP 4310G.

CISCO STADIUMVISION SOLUTION REQUIREMENTS

Table 2. Cisco StadiumVision Solution Requirements

Headend	<p>In-House Encoding</p> <ul style="list-style-type: none"> • Cisco D9096 Encoder (MPEG-4/HD) <p>Terrestrial TV Channels</p> <ul style="list-style-type: none"> • Cisco DCM 8VSB module <p>DirecTV Feeds</p> <ul style="list-style-type: none"> • DirecTV COM-200 chassis • DirecTV COM-24 cards <p>DirecTV Special Feeds (3D and Sonic Tap)</p> <ul style="list-style-type: none"> • DirecTV COM-200 chassis • DirecTV COM-24 cards <p>ClearQAM Feeds</p> <ul style="list-style-type: none"> • Cisco Spectra QAM Demodulator <p>Digital Content Manager</p> <ul style="list-style-type: none"> • Cisco D9900 DCM <p>Video Distribution Switch</p> <ul style="list-style-type: none"> • Cisco Catalyst 6500 Series Switches • Cisco Catalyst 3560 X Series Switches • Cisco Catalyst 3850 Series Switches <p>Legacy Integration</p> <ul style="list-style-type: none"> • Cisco D9858 Transcoder
Converged voice and video network	<p>Cisco Connected Stadium Solution</p> <ul style="list-style-type: none"> • IP Multicast • QoS • Network Time Protocol (NTP) • Precision Time Protocol (PTP) ⁴ • PoE • PoE+ ⁴
Video Delivery	<ul style="list-style-type: none"> • SV-4K DMP (SV-DMP-4K-NA-K9 and SV-DMP-4K-ROW-K9) • Cisco DMP 4310G (DMP-4310G-54-K9)
Luxury suites	<ul style="list-style-type: none"> • Cisco Unified Communications Manager Versions 8.6(2a) and 9.1(2) • Cisco Unified IP Phone 7975 and 9971
Central management and control	<p>Cisco StadiumVision Director 4.0 with appropriate licenses</p> <ul style="list-style-type: none"> • Display license for Cisco DMP 4310G • Full Display license for SV-4K DMP • Signage-only license for SV-4K DMP • Local Control with IP Phone license • Local Control with 3rd Party Device or Web-based Application license • Commerce license <p>Refer to the <i>Cisco StadiumVision Director Version 4.0 Data Sheet</i> for more information.</p>
Local TV Control	<ul style="list-style-type: none"> • Cisco Unified IP Phones 7975 and 9971 • Cisco DMP IR Remote • AMX or Crestron touch-panels • Customers-selected device integrated with User Control API

⁴ For SV-4K DMP

Table 3. Cisco StadiumVision Supported Third-Party Integration

Point of Sale	Concessions and merchandise ordering requires a compatible POS solution: <ul style="list-style-type: none"> • Quest (http://www.quest.com.au/) • Micros (http://www.micros.com/)
Touch Panel	Panel hardware and compatible software are available from these providers: <ul style="list-style-type: none"> • Crestron (http://www.crestron.com/) • AMX (http://www.amx.com/) • Customer-selected device integrated with User Control API
Campaigns and proof-of-play analysis	Master scheduling of all media types (radio, print, etc) and associated reporting: <ul style="list-style-type: none"> • KORE Interactive (http://www.koreinteractive.com/) • Customer-selected partner via Media Scheduling API
Event State Control	<ul style="list-style-type: none"> • Customer-selected system via Contact Closure or IP integrated with Event Trigger API

FOR MORE INFORMATION

For more information about the Cisco StadiumVision solution and the benefits it provides, please visit <http://www.cisco.com/web/strategy/sports/> or contact your local Cisco account representative.



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