

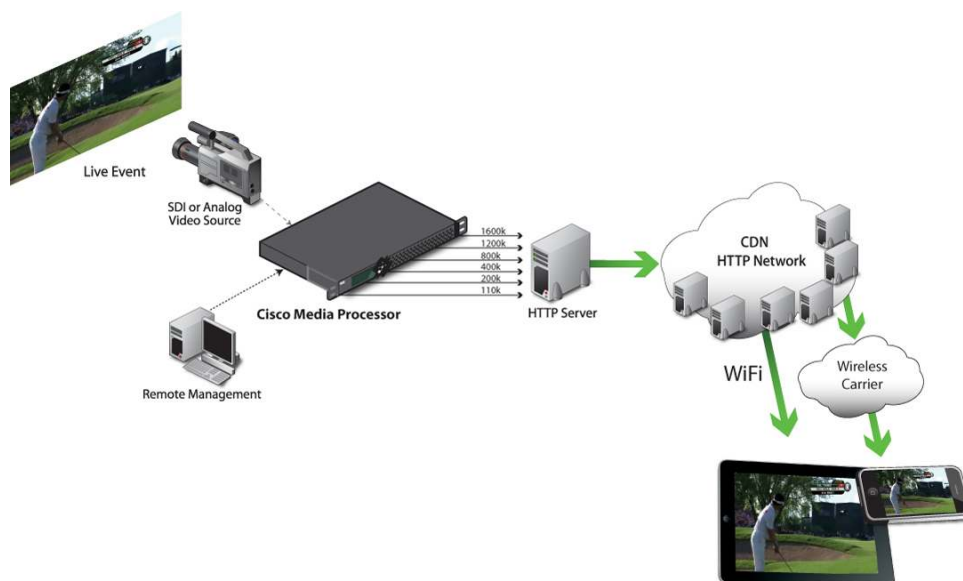
# Cisco Media Processor Live Streaming Appliances

The Cisco® Media Processor Family of advanced, live standard- and high-definition (SD and HD, respectively) encoding solutions is redefining the online video experience with best-in-class quality for live media delivery applications such as live sports and events, web streaming, broadband TV, IPTV, enterprise, education, or government video. An easily deployable solution that provides exceptional quality streaming, the Cisco Media Processor is easy to set up and use, and it delivers great video quality. Customers such as Major League Baseball, Home Shopping Network, UniversalSports.com, and MTV stream live content using the Cisco Media Processor.

## Full Support for Adaptive Streaming

Adaptive streaming is a breakthrough advanced media delivery method that switches transparently between multiple streams, depending on the available bandwidth and PC performance at any given moment. The best possible video stream is automatically delivered to the end user without stuttering, dropped frames, or buffering. Although the process itself is invisible to the end user, it results in a much improved user experience. In order to effectively implement this delivery, multiple encoders need to be able to output multiple, synchronized streams. The Cisco Media Processor offers full support for adaptive streaming, including Apple® iPhone® and iPad® streaming using multiple bitrates over Apple® HTTP Live Streaming (HLS), Microsoft Smooth Streaming, and Adobe Dynamic Streaming. The Cisco Media Processor also provides the synchronization necessary to help ensure that all bitrates are delivered transparently.

**Figure 1.** Cisco Media Processor Live Streaming Appliance workflow example.



---

## Multiple Formats, Multiple Resolutions, Multiple Streams

The Cisco Media Processor offers an unparalleled combination of multiple formats, multiple resolutions, and multiple streams. Its powerful and flexible core software platform can output multiple formats from one appliance, including Windows Media (VC-1), Silverlight, H.264 Flash, Flash 8 (VP6), Third-Generation Partnership Project (3GPP), and H.264 in an MPEG-2 transport stream. The solution also offers a range of resolutions, from a wide range of mobile devices (including iPhone® and iPad®) to SD to HD. In addition to format and resolution flexibility, the solution can output up to eight simultaneous streams at varying bitrates.

## Encapsulation

Cisco Media Processor's internal encapsulation wraps a single adaptive transport stream (ATS) into multiple delivery formats for simultaneous output. Encapsulation provides a tremendous density boost—up to 300 percent—to the existing multiple output capabilities of the solution, enabling you to reach the widest range of screens from a single encoder. This feature also reduces your total cost of ownership (TCO) through capital expenditures (CapEx) reduction (less data center space required) and operating expenses (OpEx) reduction (reduced power and reduced number of appliances). This internal encapsulation lets you quickly and economically expand your service offerings and content to new markets and devices. The Cisco Media Processor is the only encoder on the market that offers this feature.

## Easy to Set Up and Manage

The Cisco Media Processor was designed to be easy to set up and manage. Its award-winning web-based interface gives you the flexibility of controlling the encoder from any networked computer. Users can utilize any one of the preloaded presets optimized by the experts at Cisco, or take advantage of the almost unlimited—and unmatched—ability of the Cisco Media Processor to customize encoding settings. The solution also automatically detects your video source, and even lets you preview your video source before starting the encoder. Additionally, the processor comes with built-in authentication to stream Windows Media and Flash to the major content delivery networks (CDNs). All encoders are field-upgradable to the latest software release, meaning you will not have to throw away your equipment when Cisco develops new software features.

## Video Quality

Although ease of use and reliability matter to the programmer, it is the quality that ultimately matters to the end user. In order to provide the highest-quality video, Cisco starts with a high-end video capture card, adds multiple preprocessing options and powerful Intel processors, uses patent-pending Dynamic Complexity balancing, and exposes one of the most/a comprehensive list of advanced compression settings. This compelling combination allows the Cisco Media Processor to consistently win video-quality competition.

Additional factors that affect video quality are resolution and bitrate. The Cisco engineering team has taken the principles of anamorphic compression from the motion picture industry to allow customers to compress their video internally on the encoder and then expand it back on playback. This feature lets you output a higher-resolution stream at a lower bitrate than was previously possible.

## Automated Operation and Remote Management

The Cisco Media Processor Family can help make your life easier. First, our web-based interface allows you to check on the encoder from anywhere in the world. Second, the scheduling capabilities of the processor allow you to set up future one-time or recurring events. Third, the solution boasts an XML application programming interface (API) that allows you or third-party applications to control the processor with automated commands.

---

## Metadata and Captioning

In addition to the video and audio streams, an additional data stream travels with the video. For television broadcasts, this data is the closed-captioning information that TVs are designed to interpret. Internet streaming offers multiple captioning options, and Cisco supports all of them: open captions, closed captions, Synchronized Accessible Media Interchange (SAMI) SAMI captions, script streams, cue points, etc. This flexibility gives you multiple ways to reach a broader base of users and meet government or corporate requirements. In addition to the captioning data, the Cisco Media Processor also supports the insertion of metadata into a Windows Media or Flash stream. Such metadata can be statistics, URLs for advertisements, and contextual information.

## Multiple Solutions

The Cisco Media Processor Family offers multiple options to meet your streaming needs. From single format to multiformat, from SD to HD, to streaming audio to mobile phones, the Cisco Media Processor does it all.



---

**Americas Headquarters**  
Cisco Systems, Inc.  
San Jose, CA

**Asia Pacific Headquarters**  
Cisco Systems (USA) Pte. Ltd.  
Singapore

**Europe Headquarters**  
Cisco Systems International BV Amsterdam,  
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

Cisco and the Cisco Logo are trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and other countries. A listing of Cisco's trademarks can be found at [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1005R)