

Cisco IP/TV 3.4

Cisco IP/TV® 3.4 delivers a complete, highly scalable, bandwidth-efficient solution for high-quality video communications over enterprise networks

Part of the Cisco content networking product line, Cisco IP/TV is a turnkey solution for delivering networked video with unparalleled ease of use and integration with IP network services. Cisco IP/TV supports live video, scheduled video, video on demand (VOD), synchronized presentations and screen captures, and a wide range of video management functions.

Cisco IP/TV is designed with scalability in mind, addressing the need to deliver high-quality video broadcasts safely across the largest enterprises. It incorporates IP multicast technology to deliver one stream throughout the network regardless of the audience size and enables detailed monitoring of quality and usage from every desktop during an event.

Built around industry standards to facilitate interoperability, Cisco IP/TV enables a broad spectrum of applications for enterprise communications including training, corporate communications, business TV, and distance learning.

To further ensure the success of each event, Cisco IP/TV hardware and software is fully backed by the industry-leading Cisco SMARTnet™ maintenance service and support program.

The Power of Scheduled Events, Delivered Safely and Easily **Leveraging Standards for Interoperability**

A key advantage of the Cisco IP/TV system is its adherence to standards, enabling interoperability with other standards-based devices.

Cisco IP/TV safely delivers a wide range of video and audio formats, most commonly MPEG-2 for the highest quality broadcasts; MPEG-1 for TV quality; and MPEG-4, the new ISO-standard format for high quality at lower bandwidths.

Moreover, Cisco IP/TV uses industry standards for media streaming, offering compatibility with industry specifications that enable interoperability with a wide range of players and devices.

Cisco IP/TV is part of the Cisco content networking product line, offering a unified solution for content management, content-edge delivery, content routing, content switching, and intelligent network services. Cisco content networking solutions allow enterprises to intelligently and securely deliver any rich media content over a Web infrastructure.



The Cisco IP/TV and content networking solutions are based on Cisco AVVID (Architecture for Voice, Video and Integrated Data) and lay the foundation for converged enterprise communication networks. Cisco AVVID encompasses converged client devices, infrastructure hardware/software, directory services, call processing, telephony/data applications, network and policy management, and service and support.

Ease-of-Use Through a Turnkey Solution

Cisco IP/TV has many built-in capabilities, requiring no programming or systems integration. It offers a wide range of management functions from a simple interface, including:

- Integrated event scheduling allows producers to set up a live or scheduled events using an easy point-and-click browser interface. Scheduled rebroadcast capability allows time-shifted multicasts of the original event, either from the same broadcast server or a remote Cisco IP/TV server, minimizing use of expensive WAN bandwidth.
- IP/TV Program Listing offers an easy way for the audience to view IP/TV events and participate. Hosted by the IP/TV Content Manager, a listing is generated automatically and updated whenever events are scheduled or new content is added. Similar to a television guide, the Program Listing is accessible from either a Web browser or the Cisco IP/TV client.
- WebPresenter, ScreenCaster, and SlideCast eliminate the need for programming to deliver synchronized presentations along with the video stream to thousands of live viewers.

Using these tools, producers can deliver native HTML or PowerPoint files, create and broadcast screen captures of any application, or browse a Web site that the audience follows automatically. The combined video and presentation can be recorded for later viewing as a scheduled multicast or VOD.

- QuestionManager gives the audience one-button access to the presenter. Audience members can quickly and easily send inquiries without waiting in a telephone queue. A moderator can efficiently gather feedback from large audiences and maximize the interactivity of the presentation.

High-Quality Delivery Through Tight Network Integration

Cisco IP/TV takes advantage of the network infrastructure to ensure the best possible broadcast quality.

- IP Multicast. Cisco IP/TV facilitates delivery over multicast networks to minimize bandwidth for live and scheduled video, broadcasting a single stream over the network regardless of audience size.
- Support for Source-Specific Multicast (SSM) simplifies the management and control of an IP Multicast network. SSM eases multicast deployment, removes address allocation problems, and improves multicast performance for one-to-many broadcasts.
- Quality of Service via the IP/TV Content Manager enables IP Quality of Service (QoS) using ResourceReservation Protocol (RSVP) to ensure bandwidth is allocated for an IP/TV event.

Cisco IP/TV also optimizes delivery for live events over wide-area networks (WANs) by using protocols designed for real-time streaming. Audio and video streams are delivered independently, with audio prioritized to minimize the impact of network congestion on the end-user experience.

- StreamWatch enables quality and usage monitoring from every desktop during an event and generates logs for post-event analysis. With Cisco IP/TV 3.4, StreamWatch can receive reports from tens of thousands of desktops to handle the largest enterprise broadcasts. It can filter the feedback based on quality, location, IP address, or other parameters to facilitate the success of a large broadcast.



Cisco IP/TV Solution

Cisco IP/TV consists of three primary functional components:

- IP/TV Content Manager — Enables central management of the environment.
- IP/TV Broadcast and Archive Servers — Enables real-time encoding and delivery of live, scheduled, and on-demand video.
- IP/TV Viewer — Provides high quality reception of video streams and synchronized media, either as a standalone application or browser plug-in for Web access.

The Cisco IP/TV Content Manager, Broadcast Servers, and Archive Servers can be purchased as preconfigured appliances or as software that works on appropriately configured Windows NT and 2000 servers. The Cisco IP/TV viewer runs on Windows 98, 2000, NT, and XP systems.

When combined, these components offer industry-leading capabilities for high-quality streaming across corporate networks.

Cisco IP/TV Content Manager

The central management platform for the Cisco IP/TV network, the IP/TV Content Manager offers a simple browser interface for a wide range of capabilities.

Through the Content Manager, administrators can create, schedule, and manage events, manage IP/TV servers, monitor QuestionManager, establish preferences and network settings, and move content among servers.

The Content Manager automatically creates and hosts the IP/TV Program Listing. It supports optional Cisco Host Intrusion Detection (IDS) software to protect against network security threats.

Cisco IP/TV Broadcast and Archive Servers

Cisco IP/TV Broadcast and Archive Servers use the same IP/TV Server software. Broadcast Servers are configured with a capture card to encode streams from analog video and audio sources.

Both Broadcast and Archive Servers can deliver on-demand or scheduled rebroadcasts of IP/TV programs that can include synchronized media produced with WebPresenter, ScreenCaster, and SlideCast. Archive Servers are typically located on enterprise LANs at an organization's distributed sites, to enable rich media delivery without traversing a WAN.

By leveraging the existing IP multicast technology of Cisco routers, the Broadcast Servers deliver events as they happen, such as a CEO's speech to thousands of employees, while using the network bandwidth of an individual stream.

Broadcast Servers offer varying compression techniques, depending upon application requirements and available bandwidth. They are ideal for multicasting live events or prerecorded programs on a scheduled basis. They can receive content from analog sources such as video cameras, VCRs, satellite feeds, cable feeds, or existing ASF, AVI, or MPEG digital files.

Cisco IP/TV 3.4 now offers the ability to encode in ISO MPEG-4, the latest industry standard for high-quality streaming at low bit rates. Because encoding is done in software, a new software kit combines the IP/TV Server with a Winnov Videum 1000 Plus card for deployment on appropriately configured Windows servers.

Cisco IP/TV 3.4 also enhances interoperability among environments with support for the MPEG-2 Transport Stream, enabling delivery over cable TV networks via the Cisco uBR7200VXR Series Broadband Router. It can also stream directly over Ethernet to qualified set-top boxes, and of course to Cisco IP/TV viewers on standard PC desktops.



Cisco IP/TV 3400 Series Server

The Cisco IP/TV 3400 Series servers, with preconfigured software, preinstalled capture cards, network interface cards, and device drivers, offers an easy way to deploy network video throughout an enterprise.

The Cisco IP/TV 3400 Series includes the IP/TV 3412 Control Server, the IP/TV 3425 and 3425A Broadcast Servers, the IP/TV 3432 Archive Server, and the IP/TV 3417 Video Starter System.

Cisco IP/TV 3400 servers and software are fully backed by the industry-leading Cisco SMARTnet maintenance service and support program. SMARTnet support provides quick response to hardware replacement needs, 24x7 telephone support, and software upgrades. As the networking leader, Cisco provides full network support, from routers to switches, hubs, firewalls, Cisco IOS® Software, and systems integration consulting.

Cisco IP/TV 3412 Control Server

The Cisco IP/TV 3412 Control Server comes preconfigured with the Content Manager and StreamWatch applications for centralized management of a Cisco IP/TV installation.

Cisco IP/TV 3425 and 3425A Broadcast Servers

Two preconfigured models, Cisco IP/TV 3425 and 3425A Broadcast Servers, satisfy the need for high-performance encoding, with all encoding done in hardware.

The Cisco IP/TV 3425 Broadcast Server captures real-time and prerecorded content and streams it over the network using television-quality MPEG-1 or broadcast-quality MPEG-2 compression techniques for the highest quality streaming.

The Cisco IP/TV 3425A is identical to the 3425, but it encodes and delivers MPEG-1 streams at a lower price point.

Cisco IP/TV 3432 Archive Server

The Cisco IP/TV 3432 Archive Server is the premium choice for businesses that plan extensive use of prerecorded video on demand or scheduled rebroadcasts from a site that is remote from the origin Broadcast Server.

The Cisco IP/TV 3432 Archive Server offers high performance for VOD applications, storing up to 150 hours of 1-Mbps video. It delivers more than 50 Mbps of aggregate video bandwidth.

Cisco IP/TV 3417 Starter Kit

The Cisco IP/TV 3417 Video Starter System introduces high-quality IP/TV network video to an enterprise that is evaluating future larger-scale deployments. This system combines the capabilities of a Broadcast Server, a Control Server, and an Archive Server into a single unit. It is ideal for a department or small group training. A software and encoder card kit is also available.



Cisco IP/TV Part Numbers

Systems	
Control Server	IPTV-3412-CTRL
MPEG1/2 Broadcast Server	IPTV-3425-BCAST-M
MPEG-1 Broadcast Server	IPTV-3425A-BCAST-M
Archive Server	IPTV-3432-ARCH
Starter Kit	IPTV-3417-START-M
Software	
Content Manager	IPTV-CM-3.4
Broadcast/Archive Server	IPTV-SERV-3.4
Server w/ MPEG-4 card & license	IPTV-SERV-MP4-3.4
Starter Kit	IPTV-START-HD1-3.4
MPEG-4 100-client license	IPTV-VIEW-MP4-LIC
MPEG-2 Client Kit	IPTV-VIEW-MP2-BASE
Additional MPEG-2 Clients	IPTV-VIEW-MP2-ADD
1000-bundle MPEG-2 Client	IPTV-VIEW-MP2-1000
Miscellaneous	
MPEG 1/2 Full D1 Card	IPTV-MPEG2-FD1
MPEG-1/2 Half D1 Card	IPTV-MPEG2-HD1
Spare Encoder Cable Set	IPTV-MPEG2-CABLE=
Keyboard	IPTV-3400-KEYBRD=
Mouse	IPTV-3400-MOUSE=



Cisco IP/TV Hardware Specifications

	3412 ControlServer	3417 Video Starter System	3425 Broadcast Server	3425A Broadcast Server	3432 ArchiveServer
Live Encoding Formats*		MPEG-1, Half D1 MPEG-2	MPEG-1, Half D1 & Full D1 MPEG-2	MPEG-1	
File Formats		ASF, AVI, MPEG, MP3, MP4, RTP	ASF, AVI, MPEG, MP3, MP4, RTP	ASF, AVI, MPEG, MP3, MP4, RTP	ASF, AVI, MPEG, MP3, MP4, RTP
Video Storage		18 GB	18 GB	18 GB	72 GB
Network Connectivity	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet	10/100 Ethernet
MPEG Capture Card Support		MPEG-1, HD1 MPEG-2	MPEG-1, HD1 & FD1 MPEG-2	MPEG-1	
Peripheral Ports	VGA graphics, keyboard, mouse,	VGA graphics, keyboard, mouse	VGA graphics, keyboard, mouse	VGA graphics, keyboard, mouse	VGA graphics, keyboard, mouse
Height	1.72 in (43.7 mm)	1.72 in (43.7 mm)	1.72 in (43.7 mm)	1.72 in (43.7 mm)	1.72 in (43.7 mm)
Width	14.13 in. (358.8 mm)	14.13 in. (358.8 mm)	14.13 in. (358.8 mm)	14.13 in. (358.8 mm)	14.13 in. (358.8 mm)
Depth	14.13 in (358.8 mm)	14.13 in (358.8 mm)	14.13 in (358.8 mm)	14.13 in (358.8 mm)	14.13 in (358.8 mm)
Weight	12.5 lb (5.67 kg)	12.5 lb (5.67 kg)	12.5 lb (5.67 kg)	12.5 lb (5.67 kg)	12.5 lb (5.67 kg)
Power Supply	65W	65W	65W	65W	65W
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Current @ 100-120 / 200-240 VAC	2/1A	2/1A	2/1A	2/1A	2/1A
Operating Temperature	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)
Non-operating Temperature	-25°C to +70°C (-13°F to +158°F)	-25°C to +70°C (-13°F to +158°F)	-25°C to +70°C (-13°F to +158°F)	-25°C to +70°C (-13°F to +158°F)	-25°C to +70°C (-13°F to +158°F)
Operational Humidity	95% relative humidity	95% relative humidity	95% relative humidity	95% relative humidity	95% relative humidity

*This represents only a sampling of many audio codecs that are supported. Please refer to <http://www.cisco.com/go/iptv> for a complete listing.



Agency Compliance

The Cisco IP/TV 3400 Series Server has the following agency approvals:

Safety Compliance:
UL (UL 1950, Third Edition Standard)
cUL (CAN/CSA 22.2, No. 950-95, Third Edition)
CE Mark (EN 60950 with amendments 1, 2, 3 and 4)
IEC 60950, 2nd edition with amendments 1, 2, 3 and 4

EMC Compliance
FCC Class A: 47CFR FCC Part 15
ICES003, Issue 3; 1998
AS/NZS 3548 Class B; 1995
VCCI Class B
CISPR 22 Class B; 1997
Immunity per EN 50082-1: 1997
EN 55022 Class B; 1998
EN 55024; 1998
EN 61000-3-2
EN 61000-3-3
EN 61000-4-2: 1995
EN 61000-4-3: 1997
EN 61000-4-4: 1995

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