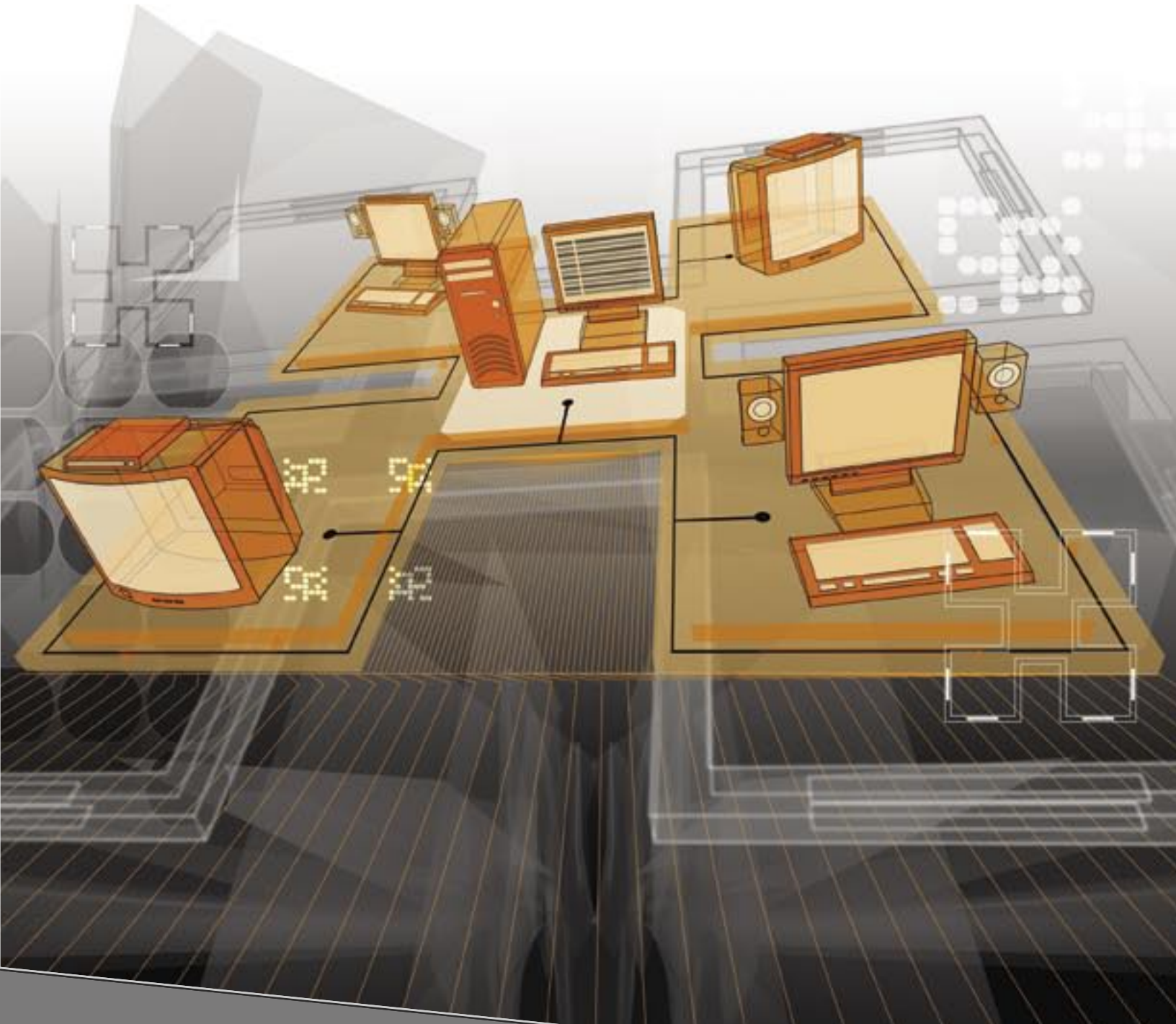


MediaEdge2

LAN-based Video Distribution System



canopus

TOWER RECORDS

including 13 songs
Sweet & Great
LOVE PSYCHEDELICO
ALL TRACKS COMPOSED & PERFORMED BY LOVE PSYCHEDELICO III



LOVE PSYCHEDELICO New Album
LOVE PSYCHEDELICO III
2004. 2.25 Out.



THE HIGH-LOWS
〈日曜日よりの使者〉
NOW ON SALE

BOSE Sib.tv KEN LISA



SUPERCAR
5000
ALBUM

TOWER RECORDS
NO MUSIC NO LIFE
THE BEST PLACE TO FIND MUSIC

MediaEdge Setup

MediaEdge2

Canopus MediaEdge2 provides a multi-channel, multi-location video delivery solution using standard TCP/IP networks and display devices. MediaEdge offers a cost-effective method of distributing video content, ranging from VideoCD-quality to DVD-quality or better, to multiple PC and set-top box clients. Flexible content delivery capabilities include pre-programmed playback, live streaming of video broadcasts and full-featured interactive video-on-demand services. MediaEdge2 sets the standard for low-cost video distribution and is ideal for point-of-sale, educational, corporate and other video retrieval and display applications.

Video-on-demand,
Live Streaming
and Scheduled Video

Flexible, Modular Design

Developed to operate from within a PC-based server, MediaEdge LAN-based video networking solutions can consist of:

MediaEdge Server Software (MediaEdge-SVS2)

This advanced software application facilitates the setup and administration of sophisticated broadcast systems over a client/server-based network, providing video-on-demand, scheduled video and live video-stream playback capabilities. The software features several applications responsible for overall content management and server configuration, as well as and even utilities for controlling and updating MediaEdge set-top boxes (STB).

Configuration of the MediaEdge server, as well as monitoring and content creation of the site can be managed and updated automatically either locally or remotely via a web browser.



> MediaEdge-SVS2

MediaEdge-SVS2 Benefits

- > Cost-effective network architecture using 100Base-TX or faster
- > High-quality MPEG-1, MPEG-2 and MPEG-4 video and audio via LAN and high-speed WAN
- > MPEG encoding capabilities - providing up to eight live streams with Canopus MVRD2200 and MVRD4000 cards (optional)
- > Customizable, HTML-based user interface
- > Local and remote management capabilities

MediaEdge Set-Top Box (MediaEdge-STB2)

Designed as a compact network device, this set-top box operates as an MPEG decoding unit with basic Intranet Web browsing capabilities. Connecting to a standard Ethernet network and providing both S-Video and composite RCA outputs, MediaEdge-STB2 units utilize a full-featured remote control to navigate through dynamically updated, Web-styled content menus generated by the MediaEdge server. The remote control also provides volume, pause, search back and search forward functions. MediaEdge-STB2 units can also be controlled remotely from the server.

MediaEdge-STB2 Benefits

- > Easy-to-use network appliance
- > Compact and lightweight
- > No moving parts
- > MPEG-1, MPEG-2 and MPEG-4 decoding and playback
- > Supports S-Video and composite output
- > Supports SPDIF audio output
- > Remote control to select content or change channels
- > RS-232 port to communicate with serial devices such as touchscreens



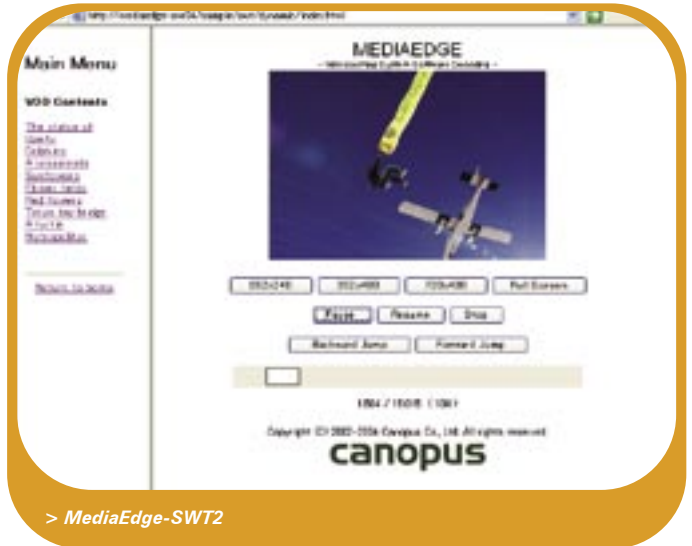
MediaEdge Software Client

(MediaEdge-SWT2)

The MediaEdge-SWT2 software client functions as a Web browser plug-in for any PC connected to the MediaEdge network. From the browser, clients can access a dynamically updating Web-based menu of video-on-demand content or scheduled channels and watch video content within the browser window.

MediaEdge-SWT2 Benefits

- > Simple to install and use
- > No additional hardware required
- > MPEG-4 decoding and playback
(MPEG-1 and MPEG-2 support to be implemented)



> MediaEdge-SWT2



Multiple Streaming Capabilities

Video-on-Demand (VOD)

The VOD option allows users to select video clips stored on the server from a menu system. This content can be paused, stopped and resumed at any time by the user. Content chapter points can be created for faster navigation, and clients can fast-forward or rewind any video clips during playback.

Scheduled Playback

The scheduled playback option allows an unlimited number of users to view a preprogrammed arrangement of multiple video clips. MediaEdge servers can have multiple scheduled “channels” running simultaneously, with set program times scheduled to run hourly, daily or monthly. Users have an option to surf channels by simply using the remote control. MediaEdge-SWT2 clients have the same functionality from within a Web browser.

Live Broadcasting

MediaEdge can utilize the realtime encoding capability of MVRD2200 and MVRD4000 to transmit live external video sources such as cameras, VCRs and DVD players as professional-quality MPEG-1, MPEG-2 and MPEG-4 streams to multiple clients with minimal delay. With this feature, MediaEdge can retransmit externally broadcast mediums such as television and satellite feeds.

Content that is broadcast using either MVRD2200 or MVRD4000 may also be recorded for later viewing or scheduling.

Additional MediaEdge Options

MVRD2200 and MVRD4000

Encoding Solutions

Encode live, external video footage into high-quality MPEG in realtime. Both MVR boards provide control over video parameters, including the bitrate, delivering varying qualities of video ranging from VideoCD-quality through to DVD-quality and beyond. MVRD2200 supports MPEG-1 and MPEG-2 encoding and MVRD4000 supports MPEG-1, MPEG-2 and MPEG-4 encoding.

MediaEdge SmartScheduler 2

The MediaEdge SmartScheduler application simplifies the management of schedules within an easy-to-use interface. Tasks such as channel creation, schedule adjustment, duplication and removal can be performed quickly and easily, directly updating the MediaEdge database.

MediaEdge Content Delivery System (MediaEdge-CDS2)

MediaEdge-CDS2 is an additional service that provides the ability to automatically share MediaEdge content and schedules over several remote locations. Content and schedules that are created from the central MediaEdge site are then uploaded to an FTP server. Remote MediaEdge client sites will periodically check the FTP server and automatically download new content and schedules upon their discovery. Once transfer is complete, the remote servers will reload the database, incorporating the new content and schedules, and making them available to the clients at the remote site.

MediaEdge-CDS2 not only assists with the expansion of the MediaEdge network by providing a single, automated system of synchronization, but it also removes the need for additional MediaEdge-SVS2 installations at each remote site, thereby simplifying management.



MediaEdge Application



SAS Radisson, St. Gallen, Switzerland

MediaEdge Applications

The flexibility of MediaEdge configurability and architecture allows for systems to be implemented in a wide variety of applications, including:

- > Corporate training - tutorial videos available to large PC networks
- > Interactive displays - information kiosks, museum stands with touch screens and infomercial display monitors located throughout shopping centers
- > Media advertising - movie trailer screens in cinemas
- > Education - library archiving and streamlining of High-Use reference material
- > Entertainment - In-house video distribution for hotels
- > Video walls - large outdoor screens, multi-monitor displays and tradeshow booths
- > Live local area video distribution - public announcement systems and integration of stored video content with external television channels

Case Studies

SAS Radisson, St. Gallen, Switzerland

Usage:

This installation delivers video over the local area network, removing the need for RF cabling. Typically in hotel TV systems, the VOD element is digital, but the standard TV programs are still transmitted by RF, so both network (CAT5) and RF cabling need to be installed throughout the hotel. For the St. Gallen installation, 25 satellite TV and audio channels are fed into multiple Canopus MVRD2200 boards, generating 25 multicast streams. The VOD is organized as pay-per-view and stored on five servers. Canopus Europe partnered with software developers COMO, who created an interface that communicates with the Micros Fidelio Opera property management system, as well as a software tool to manage files. Billing and message information is converted from Opera to the MediaEdge Web interface.

The installation was developed with network partners Alcatel and Itelpro, Switzerland.

MediaEdge components used:

- > 5 x MediaEdge-SVS
- > 135 x MediaEdge-STB
- > 25 x MVRD2200 boards (five boards per server)

Case Studies

Indiana University Purdue University

Indiana, Indianapolis, IN, USA

Usage:

The Indiana University Purdue University Indiana (IUPUI) campus includes a student center with common areas, advisor offices, classrooms, and a learning center. The objective was to create a centrally managed system for messaging and video program delivery throughout most of the common areas of the facility.

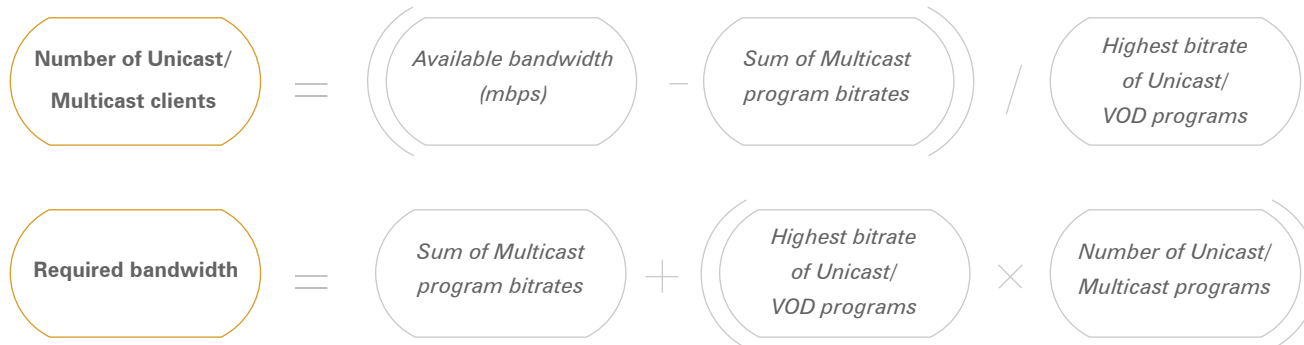
The MediaEdge Server software is installed on a Dell PowerEdge server, connected via Fiber Channel to a 250GB SAN drive. Each MediaEdge set-top box is directly connected to the same Gigabyte switch. Video monitors are a mix of 40-inch plasma and 17-inch flat panel displays located around the campus. The MediaEdge server is configured with four Canopus Amber cards, each capable of realtime MPEG encoding. A VCR with closed-caption decoding is attached to several Amber cards, and a text messaging system is attached to another Amber. The IUPUI campus cable television system is connected to each VCR.

The display content is a mixed bag of video and text – meeting notices, classroom change information, and conference center updates. Live programs, including IUPUI team sports, are pulled from the campus cable television network. There is also provision for “breaking news” when appropriate. Prior to the installation of MediaEdge, urgent newscasts would result in situations where faculty and students would crowd around three functioning TVs.

MediaEdge components used:

- > 1 x MediaEdge-SVS
- > 9 x MediaEdge-STB
- > 4 x Amber

MediaEdge Calculator



Example:

- > Available bandwidth = 60Mbps
- > Two Multicast programs - 1 x 4Mbps, 1 x 6Mbps
- > Four Unicast/VOD programs
 - 1 x 4Mbps, 2 x 6Mbps, 1 x 8Mbps
- > Sum of Multicast program bitrates
 - = 6Mbps + 4Mbps = 10Mbps
- > Highest bitrate of Unicast/VOD programs = 8Mbps

Number of Unicast/Multicast clients

= (60Mbps - 10Mbps)/8Mbps = 50/8
= six Unicast/Multicast clients

Required bandwidth

= 10Mbps + (8Mbps x six Unicast/Multicast programs)
= 58Mbps

Unicast – streams that run independently over the network to each individual client, typically VOD content.

Multicast – streams that are broadcast across an entire network, available to all clients simultaneously. Scheduled playback falls into this category.

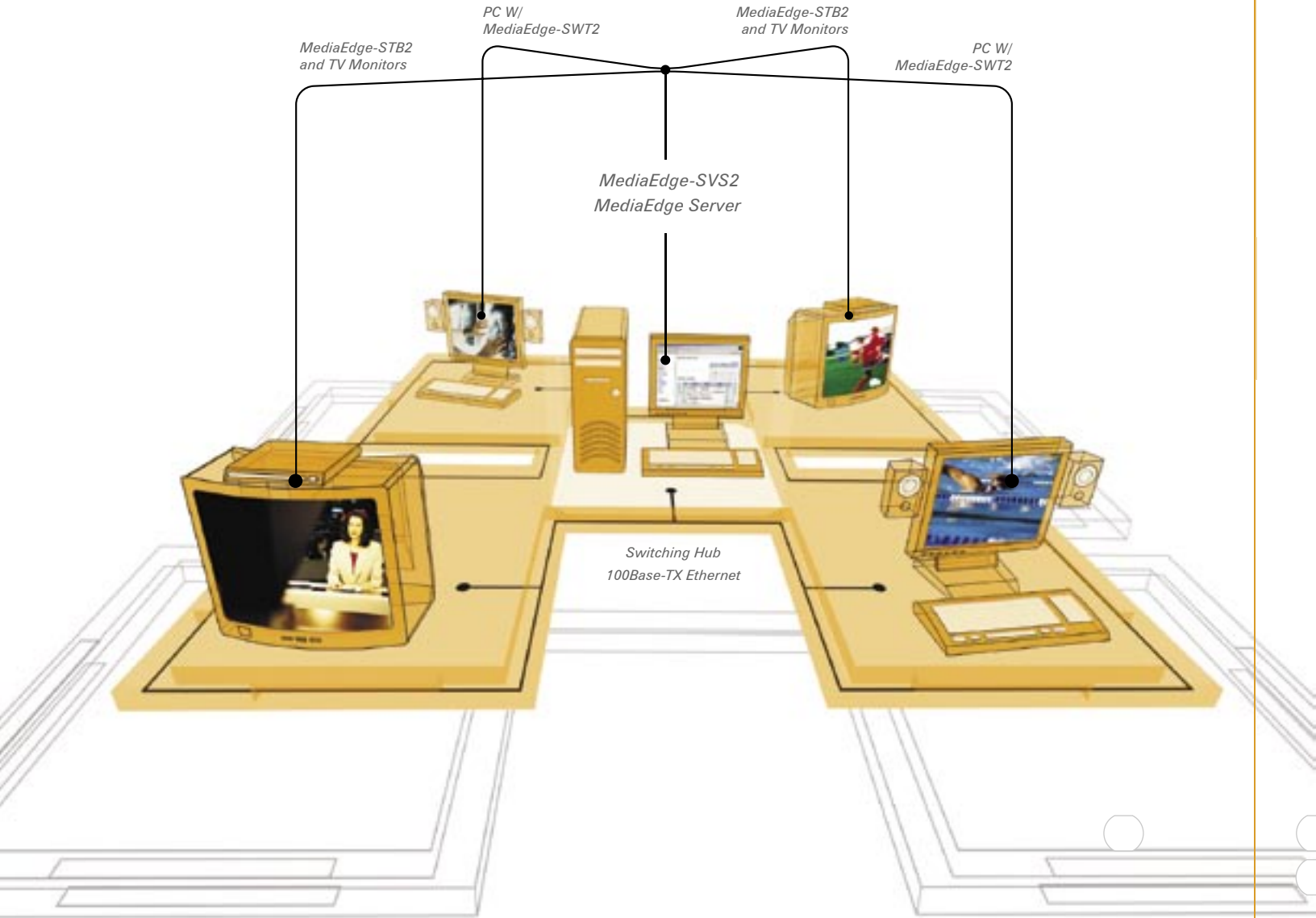
Available Network Bandwidth

100base-TX Networks: 60Mbps

1000base-T Networks: 500Mbps*

* Requires a switch that supports IGMP snooping. If not available, the sum of the total number of Multicast programs and the highest bitrate of Unicast/VOD programs must be equal to or lesser than 60Mbps.

MediaEdge Flow Diagram



Specifications

MediaEdge-STB2

Package Contents

- > 1 x MediaEdge-STB2 set-top box
- > Set-top box stand
- > MediaEdge-STB2 user manual
- > AC adapter
- > IR remote control
- > 2 x AA 1.5V batteries

Technical Specifications

Video Decoder

- > MPEG-2: MP@ML, 2Mbps-15Mbps, Full-D1, Half-S1, SIF
- > MPEG-1: 1Mbps-1.8Mbps SIF
- > MPEG-4: Advanced/Simple Profile (GMC, QPEL not supported) 1Mbps-15Mbps

Audio Decoder

- > MPEG layer I, layer II, MPEG-2 AAC, MPEG-4 AAC

Analog Video Output

- > 1 x S-Video (4-pin miniDIN)
- > 1 x composite (RCA)

Analog Audio Output

- > 1 x unbalanced stereo (RCA)
- > 1 x SPDIF coaxial

Network

- > 100Base-TX full duplex (RJ-45)

Serial Port

- > RS-232 (D-Sub 9-pin)

Dimensions

- > 6.3in x 6.7in x 1.7in

Weight

- > Approx. 14.1oz

MediaEdge-SVS2

Package Contents

- > MediaEdge-SVS2 server software
- > MSDE database software
- > MediaEdge-SVS2 user manual
- > MediaEdge USB dongle

Minimum System Requirements

- > Intel® Pentium® III 1GHz CPU or faster
- > 128MB RAM (256MB or more recommended)
- > Windows® 2000 Server (requires Service Pack 4 or later) or Windows® 2003 Server
- > 4GB or more hard disk space (Storage OS and applications)
- > 4GB or more hard disk space (Database)
- > 18GB or more hard disk space (Dependent on amount of video)
- > Graphics card with hardware-based DirectDraw overlay and 24-bit color display at a 1024x768 resolution
- > One free USB port (1.1 or higher)
- > 100Base-TX Ethernet adapter

Technical Specifications

Transfer Protocol

- > RTP, RTSP

Supported Video Formats

- > MPEG-2 program stream
- > MPEG-1 system stream
- > MPEG-4 MP4 ISO stream

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