# VIDEO AT THE EDGE

PROFESSIONAL IPTV SOLUTIONS FOR BROADCAST, EDUCATIONAL,
CORPORATE, MEDICAL AND GOVERNMENT APPLICATIONS

Visionary Solutions, Inc

VSICAM.COM

# A SINGLE SCALABLE NETWORK

## FOR YOUR VIDEO AS WELL AS YOUR COMPUTER NEEDS

### Take the next step

The integration of video content and video equipment with Internet Protocol networks is the next big step in media.

This change has already taken place in some organizations. There's no longer any reason to design, install and maintain a separate infrastructure for AV transport and communications, when you already have an IP network.

Think of the savings in cost and frustration: No more extra cable pulls. No more worries about signal loss, noise and degradation. No more troubleshooting of complex, nonstandard systems. In most cases, you can be ready for IPTV with inexpensive, straight-forward upgrades to your existing network. You'll gain flexibility, control, integration, reliability and efficiency, not only for your video program but across the organization.

A single network for your voice, data and video applications is within reach. What has been missing is a practical, affordable means of bringing analog and digital media formats to the network in real time. We offer a solution that is reliable 24/7, easy to manage and support, scalable and based on the latest industry standards.

### Video at the edge

Though the world is moving to one big network, not everyone can afford the same position in its topology.

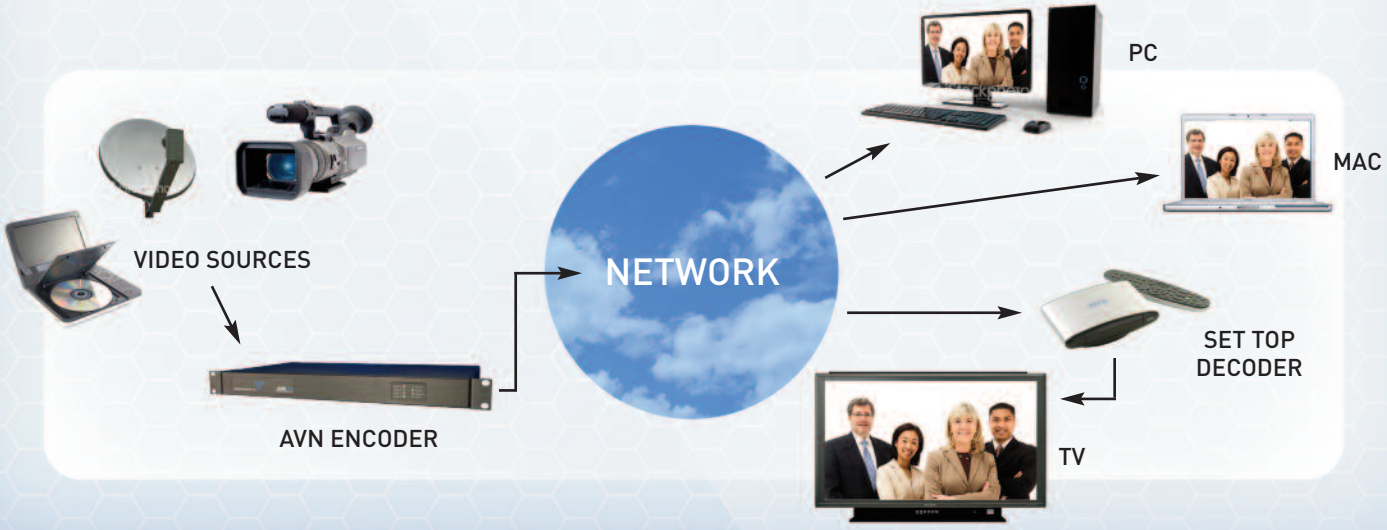
At or near the center of the net are the largest telcos, cable companies, government agencies, content delivery network and Internet providers. Very large organizations like these can afford the most expensive servers and encoders because they can spread their costs over hundreds of thousands of users or subscribers.

Smaller organizations have much more limited budgets, yet their clients and employees still expect the best production values.

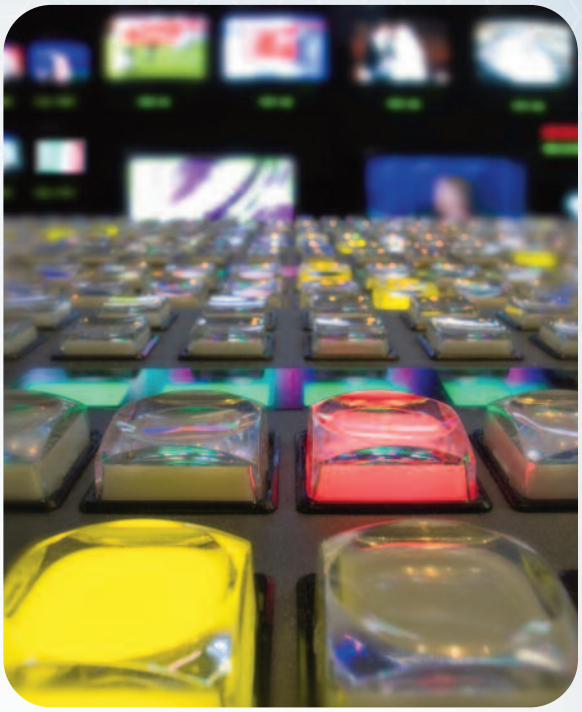
At Visionary Solutions, we design our products for people living and working at the edge of the public Internet as well as those using LANs, WANs and virtual private networks.

We engineer our "edge acquisition" and "edge distribution" products to be cost effective, easy to use and of very high quality.

We are pushing the envelope to provide value in a new technology, making us the cost performance leader in professional IPTV.



## Full-screen, full-resolution digital video



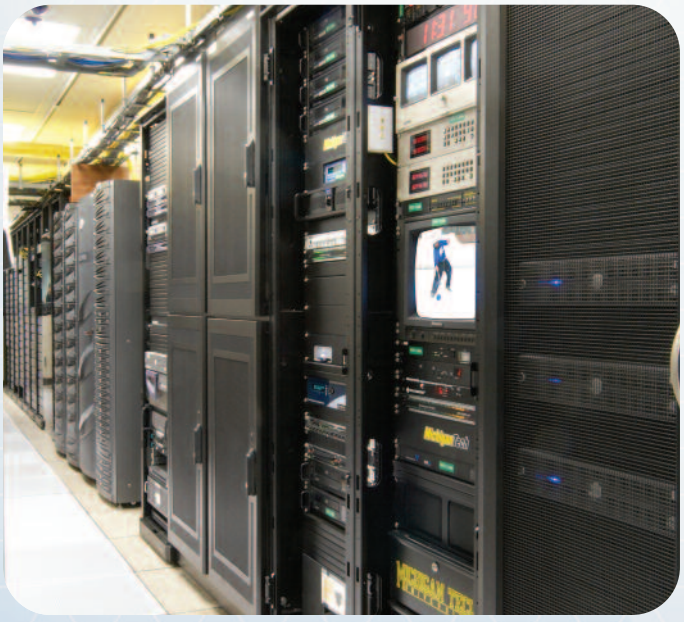
Visionary Solutions encoders produce full-motion, full-resolution standard or high definition video streams in MPEG-2 or h.264/MPEG-4 formats. Video and audio are processed in real time for digital delivery to private or public viewers connected to high speed LANs, WANs or the Internet. Advantages include:

- Real-time encoding from live or prerecorded sources
- Standard and high-definition video with stereo audio
- Transport over an affordable IP infrastructure
- Compatible with multicast, wecast and video-on-demand protocols

VSI encoders provide audio/video quality that rivals competitive broadcast equipment costing up to five times more. Depending on the product, our encoders can provide from 1.5 to 15 megabits per second (Mbps). MPEG-2 at 4 - 7 Mbps is roughly equivalent to what you'd see from a digital cable feed or home satellite dish and very close to a DVD. Higher bit rates give you a little more sharpness, fewer artifacts and crisper color. They are recommended for the most critical applications.

The latest compression standard, referred to as h.264 or MPEG-4 Part 10/AVC, is up to four times more efficient than MPEG-2 and can deliver standard or high definition video with a huge savings in bandwidth.

VSI customers are using our products for broadcast and cable television feeds, building-wide TV distribution systems, conference center AV, university webcasts, multicasts and podcasts, digital signage networks, educational and corporate TV, videoconferencing and telemedicine.



## About Visionary Solutions

Visionary Solutions, Inc. (VSI) designs and manufactures IPTV hardware and software and offers a growing range of video over IP solutions. We also meet the core video technology needs of various OEMs in industries ranging from healthcare to security.

Located on the California coastline just south of Santa Barbara, VSI was founded in 1995 and is privately held. We design and manufacture all of our equipment in the United States. We are known for the quality and value of our products and our professional tech support.

# WHAT CAN IPTV DO FOR YOU?

## VISIONARY SOLUTIONS HAS OVER 4,000 ENCODERS INSTALLED WORLDWIDE, USED IN A BROAD ARRAY OF APPLICATIONS.

### In a regional broadcast or cable TV station



Smaller TV broadcasters often need to transport high quality video from remote feeds to the studio or from the station to parent networks.

- AndoverTV, a PEG station in Massachusetts, uses AVN220 encoders to transport video over the town's virtual LAN from five remote locations, then serves it in real time to Comcast and Verizon.
- A number of network TV affiliates use VSI gear to encode news and weather feeds and transport them to their studios for over-the-air broadcast.
- A Colombian radio station is webcasting music videos from their website, telemusicahit.com, using our PackeTV Webcaster.

### At a school or university



Visionary Solutions' educational customers use our systems for media distribution, webcasting and multicasts.

- Huron Valley Schools in Southeastern Michigan use VSI encoders in building-wide systems that distribute TV and educational videos to multiple classrooms.
- Michigan Tech University uses AVN210 encoders to multicast student-produced programming on the Internet2.
- The Madison County School District in Georgia uses VSI hardware to encode video from their public-access educational channel and distribute it to classroom computers and projection systems over their IP infrastructure.
- Blue Ridge Community College in Virginia multicasts an internal video information channel across their campus using VSI gear.

### On a corporate or government network



Moving news, public information and training videos over an enterprise network can enhance and simplify critical communications.

- The AFL-CIO is using a VSI system to encode eight cable news feeds, including CNN and C-SPAN, and stream them over its wide area network for executive use.
- A Chicago-based airline is streaming 17 TV and cable news feeds to executives so they can monitor major media coverage from their PCs.
- A number of other corporate and government offices, including Northrop Grumman, Sandia National Laboratories, NASA's Johnson Space Center and Raytheon are using VSI gear for various video distribution applications.

### In a digital signage network

VSI systems provide an affordable way to utilize IP networks to distribute high-impact public notices, advertising and emergency messages.

- Michigan Tech is using Visionary Solutions equipment to expand and replace a campus-wide signage and emergency broadcast system by tying an existing head end into its IP network.
- Progressive Gaming International Corporation is using VSI encoders for signage applications in a number of casinos.

## In a hospital, hotel or multi-residence building

Private network administrators use Visionary Solutions products to multicast TV and in-house video to viewers across large buildings and campuses.

- Metro Hospital in Grand Rapids, Michigan encodes 54 satellite TV channels, then delivers them, together with educational videos, to 208 patient rooms, lobbies and public areas over their IP network.
- A number of large hotel and condominium projects are underway worldwide using VSI equipment to encode television for distribution to guest rooms and residences.

## For AV distribution and overflow rooms

Moving multimedia content to breakout and overflow rooms typically requires expensive switchers and high-cost wiring. VSI customers use IP infrastructure, cutting costs dramatically with no loss of quality or control.

- U.S. District Courts in New York, Louisiana, Virginia, Rhode Island and Mississippi are using VSI encoders to transport audio and video from higher-profile trials and hearings to overflow rooms able to handle large audiences.
- Several large corporations are doing the same within their conference and training centers.
- The Loma Linda University School of Dentistry encodes video in operating rooms for viewing in classrooms and lecture halls.

## At rural telcos and smaller ISPs

Smaller telecommunications companies and Internet service providers are using VSI gear for video multicasts and webcasts.

- A number of overseas and niche domestic providers will soon offer multicast and on-demand television services to their subscribers over an IP infrastructure.
- Several domestic and overseas firms, including Qwest Communications, Iowa Communications Network, and the West African Togo Telecom use VSI encoders for video transport and backhaul applications on their internal networks.

## In videoconferencing or telemedicine

In situations where you regularly connect to a fixed number of locations over a private network, VSI gear can be considerably less expensive than traditional teleconferencing tools. It can also use less bandwidth and provide far better quality.

With this type of setup, there is no need for a traditional conferencing codec, gateway or MCU, and there are no connection costs once you have configured your network.

- Cisco Systems uses AVN-series encoders to demonstrate network capabilities in a number of hospital applications.
- Johns Hopkins Hospital in Baltimore is using VSI gear for intra-hospital video communications.
- Several school districts around the nation are considering linking all of their buildings in this manner for affordable, high-end distance learning.

**Our customers continue to find new uses for our products.**
**Be sure to check our website for updates and customer case studies.**

# HIGHEST-QUALITY VIDEO OVER AN IP NETWORK OR THE INTERNET

## INDUSTRY STANDARD FORMATS – NO NEED FOR PROPRIETARY SOFTWARE OR SPECIAL WIRING

### IP Video Encoders

Visionary Solutions encoders can turn video from almost any source into full-screen, full-resolution Internet Protocol digital video in real time.

Each AVN unit encodes one channel of standard or high definition video and audio and streams it at extremely high quality over LAN or WAN infrastructures. Each encoder connects via a standard RJ-45 Ethernet port and provides 30 frames per second and full screen resolution of 720 x 480 (or 1920 x 1080)–or you can stream at a reduced resolution to conserve bandwidth. Viewers can see transmitted video directly on a PC or Macintosh (with appropriate plug-in installed) or on an analog TV monitor using an optional decoder box.

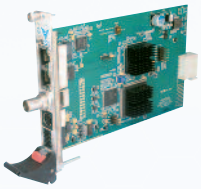
### AVN200 Stand Alone Encoder


Low-cost device serves MPEG-2 video at 1.5 to 7.5 megabits/second (Mbps) plus mono or stereo audio (using a 1/8" stereo input). Has RS-232 and RS-422 control for use with third-party control units or CCTV security systems.

### AVN210 Rack Mount Encoder

Robust and versatile MPEG-2 server streams 1.5 to 7.5 Mbps and has balanced and unbalanced audio inputs and a pre-amp with bass, treble and volume controls. Full RS-232 control. Fits in standard equipment rack.

### AVN220 Encoder Blade

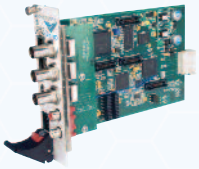


Compact MPEG-2 server streams at 1.5 to 15 Mbps. Has balanced and unbalanced audio inputs and volume control plus RS-232 and 422 control accessed via an RJ-45 receptacle. Ideal for larger systems - mounts in a high-density Media Processing Platform (up to 17 channels in a three RU chassis size).

### AVN420 Encoder Blade

Uses h.264 (MPEG-4 Part 10/AVC) video for high quality at lower bandwidths. Shares the features of the AVN220 and offers similar quality at 100 Kbps to 4 Mbps. Mounts in a high-density Media Processing Platform.

### AVN441HD High Definition Encoder Blade

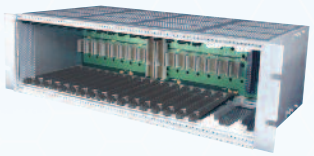


Encodes high definition video to 1080i in an h.264 stream (MPEG-4 Part 10/AVC). Shares the features of the AVN420 at 4 to 20 Mbps throughput. Mounts in a high density Media Processing Platform.

### Media Processing Platforms

House AVN encoder blades in a high-density, space-saving chassis that can itself be rack-mounted.

**The MPP200** is a one RU tall chassis that holds two blades for two channels of IPTV.



**The MPP1700** is a three RU chassis built to hold up to 17 blades for 17 channels. Two PSA200 power supplies may be fitted to each MPP1700 for redundant, fail-safe power.

### 16-Channel Trunk Card

**Coming 4th Quarter 2009.** A gigabit Ethernet switch that plugs into the MPP1700 to aggregate data from 16 encoder blades to just one Ethernet port and trunk cable, greatly reducing your network connection needs. Includes blade management and intelligent alarm capabilities (can trigger email if any failure).

### IP Video Decoders

You will need a set-top box / decoder if you'd like to view MPEG-2 or h.264 on a standard television or video monitor.

IPTV set-top boxes have an RJ-45 Ethernet port to plug into your network plus outputs to your TV or monitor. These may range from composite video and audio through S-video, component, and HDMI.

We can recommend a set-top box for your needs, and we offer several from Amino. Your choices include:

**The AmiNET110 and AmiNET110H** decode MPEG-2 video at up to 640 x 438 resolution at 10 Mbps. They handle multicast and video on demand protocols and output composite, S-video and component plus RF loop-through. The AmiNET "H" models are designed mainly for hotel and healthcare installations.

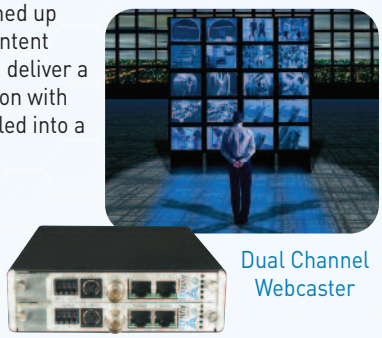
**The AmiNET125** decodes h.264 or MPEG-4 Part 10/AVC as well as MPEG-2 video and is compatible with the AVN420. It outputs composite, S-video, RGB and component plus stereo audio.

**The AmiNET130 and 130H** decode h.264 or MPEG-4 Part 10/AVC and 720p output plus stereo audio. We recommend them for use with the AVN441HD.

## PackeTV® Webcaster

Even a novice can begin streaming to thousands of viewers.

Visionary Solutions has teamed up with a leading edge CDN (Content Delivery Network) partner to deliver a worldwide webcasting solution with equipment and service bundled into a simple package.



Dual Channel Webcaster

Package includes an AVN420 Webcaster (with one or more encoder blades) and a subscription to the CDN service.

Connect the AVN420 Webcaster to any analog source such as a video camera, VCR, DVD player or video server, then plug it into an Internet enabled network. Use it to load content to our servers and schedule webcasts. Email viewing times and your unique URL to your audience and you're ready to go.

Audience members can view your video and audio content through any web browser with a QuickTime™ or VLC™ plug-in or play them on TVs and flat panel displays tied into the net with an appropriate set-top box.

## PackeTV® Software Suite

**PackeTV Manager** is a multifunction application that securely manages and simultaneously controls all of the AVN-series encoders installed on a network. Use it to discover and query each remote AVN unit, start/stop streams, set network properties and configure all encoding parameters.

**PackeTV Client** is an easy to use application that allows users to simply click, view, and/or record channel streams.

Administrators have full control of PackeTV Client content, since only channel streams from one or more pre-configured channel lists are available for viewing. Administrators create these playlists using PackeTV Manager, and the playlists autoload for users upon startup of PackeTV Client and Manager.

System requirements: Windows XP or Vista plus a third-party software decoder (VLC's Media Player or Elecard's MPEG Player) installed on each administrator and user PC.

PackeTV® Manager

## AVN ENCODER COMPARISON

| | AVN200 | AVN210 | AVN220 | AVN420 | AVN441HD |
|---|---|---|---|---|---|
| COMPRESSION | MPEG-2 | MPEG-2 | MPEG-2 | h.264 (MPEG-4 Part 10/AVC) | h.264 (MPEG-4 Part 10/AVC) |
| THROUGHPUT | 1.5 to 7.5 Mbit/s at 25 or 30 fps | 1.5 to 7.5 Mbit/s at 25 or 30 fps | 1.5 to 15 Mbit/s at 25 or 30 fps | 100 kbps to 4 Mbit/s at 25 or 30 fps | 4 to 20 Mbit/s at 25, 30, 50 or 60 fps |
| RESOLUTION | Standard definition up to 720 x 480 | Standard definition up to 720 x 480 | Standard definition up to 720 x 480 | Standard definition up to 720 x 480 | High definition up to 1080i (1920 x 1080) |
| VIDEO INPUT | S-Video, Composite BNC | S-Video, Composite BNC, Composite RCA | S-Video, Composite BNC | S-Video, Composite BNC | Composite (BNC) Component (BNC) |
| DIGITAL AV INPUT | N/A | N/A | N/A | N/A | HDMI |
| AUDIO INPUT (stereo) | Unbalanced only 1/8" stereo jack | Balanced & unbalanced XLR, RCA | Balanced & unbalanced tension spring clamp for easy field termination | Balanced & unbalanced tension spring clamp for easy field termination | Balanced & unbalanced tension spring clamp, RCA |
| AUDIO INPUT GAIN | None | Preamp w tone, bass, treble balance, volume & mute | Preamp with volume & mute | Preamp with volume & mute | Preamp with volume & mute |
| CONTROL | Browser, PackeTV, telnet via RJ-45; Console via RS-232 or RS-422 | Browser, PackeTV, telnet via RJ-45; Console via RS-232 | Browser, PackeTV, telnet via RJ-45; Console via RS-232 or RS-422 | Browser, PackeTV, telnet via RJ-45; Console via RS-232 or RS-422 | Browser, PackeTV, telnet via RJ-45; Console via RS-232 or RS-422 |
| CHASSIS | Stand-alone | Stand-alone or rack-mount | MPP200 or MPP1700 (rack-mountable) | MPP200 or MPP1700 (rack-mountable) | MPP200 or MPP1700 (rack-mountable) |
| POWER SUPPLY | External: +3.3V DC (power brick) 2.1 mm power jack | 100V - 240V AC, IEC C13/C14 | With MPP1700 chassis: single or dual 100V-240V AC, IEC C13/C14 | With MPP1700 chassis: single or dual 100V-240V AC, IEC C13/C14 | With MPP1700 chassis: single or dual 100V-240V AC, IEC C13/C14 |
| | | | With MPP200 chassis: 5V DC, 2 pin jack w/screw locks | With MPP200 chassis: 5V DC, 2 pin jack w/screw locks | With MPP200 chassis: 5V DC, 2 pin jack w/screw locks |
| **LIST PRICE** | **$1,190** | **$1,995** | **$1,995** | **$3,495** | **$7,995** |

Prices and specifications subject to change without notice.

# EDGE AQUISITION

## REAL TIME ENCODING AND TRANSPORT AT THE EDGE OF THE NETWORK

**Video Source:** local access programs, lectures & classes, weather & news feeds, digital signage content, training videos, surveillance feeds, tapes & DVDs

# EDGE DISTRIBUTION

## REAL TIME TRANSPORT AND DECODING AT THE EDGE OF THE NETWORK

In homes, classrooms, offices, hospitals, conference areas, hotels and digital signage networks

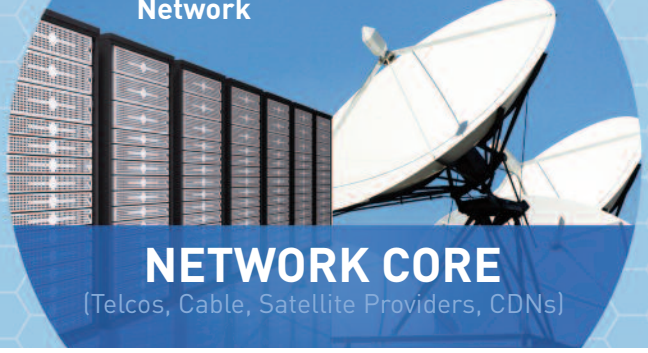



IPTV SET TOP BOX

**Multicast or Webcast**

AVN Encoder or PackeTV Webcaster

**Remote Head End** with Media Processing Platform




## NETWORK CORE

(Telcos, Cable, Satellite Providers, CDNs)

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