DVStation IP³

DVStation: Advanced Monitoring for Digital Networks

Spearheading the IP Evolution
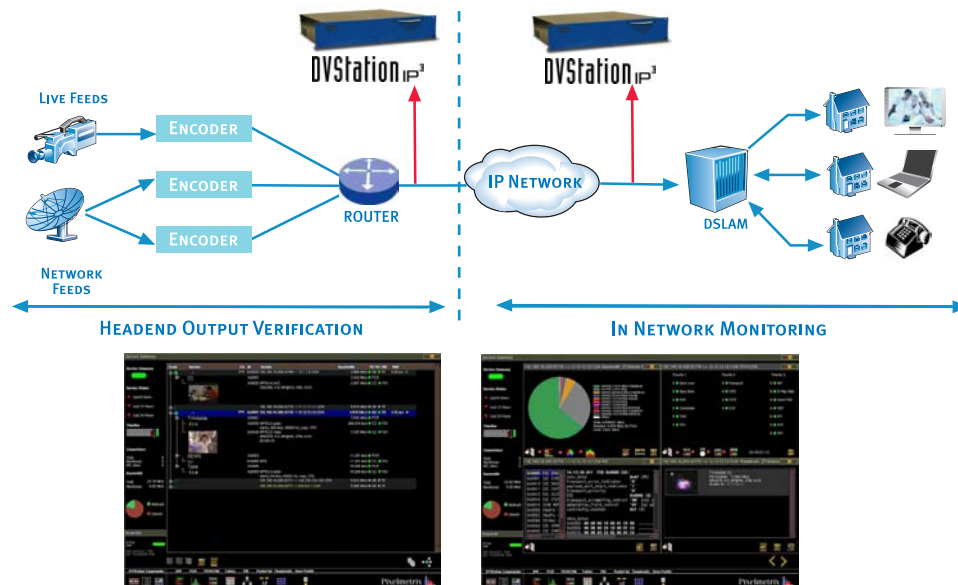service integrity
signal integrity
remote monitoring

DVStation-IP³: MPEG over IP Test and Monitoring

Optimized for Video-Over-IP

The Pixelmetrix DVStation-IP³ is an MPEG-2/H.264 test and monitoring platform that is ideal for operators who require the transmission of video and data over the internet or other IP networks.

Improvements in internet performance and related equipment now means that using IP transport for television transmission is finally a viable alternative to telecom leased lines, ATM and satellite circuits.

The DVStation-IP³ provides MPEG-2 Transport Stream analysis and monitoring over an IP connection via a 10, 100 and 1000 Mbps Ethernet port. Once connected, DVStation-IP³ can be set to sniff out video traffic on any set of IP address pairs and perform extensive Transport Stream and IP analysis.

LIVE FEEDS

ENCODER
ENCODER
ENCODER

NETWORK FEEDS

ROUTER

IP NETWORK

DSLAM

HEADEND OUTPUT VERIFICATION

IN NETWORK MONITORING

Key Features

- 10, 100 or 1000 Mbps Ethernet test and management port
- MPEG-2 TS over UDP or RTP/UDP
- IP input payload capability of up to 1Gbps (Full GigE input)
- Monitoring ALL services on GigE input
- Support for both MPEG-2 and H.264 services
- MDI (Media Delivery Index) on ALL services - Full GigE monitoring
- Support for both MPTS & SPTS delivery mechanisms
- High Definition and Standard Definition support (MPEG-2 and H.264)
- MPEG-2 and H.264 video thumbnails on ALL services
- Remote Service View (RSV)
- Real-time comprehensive Transport Stream monitoring:
  - Bandwidth utilization
  - Packet interval
  - TR101-290 compliance
  - PCR Jitter
  - Real-time Transport Stream decoding
  - Real-time PSI/SI table decoding
- IGMP Join/Leave capability
- Configurable thresholds and alarm settings
- Bandwidth display by service name
- HTML, SNMP and CORBA remote control
- 2RU rack mount enclosure

Using IP for Video Transport - Status at a Glance

Conventional long distance video distribution relies on expensive satellite links, leased lines from telecom providers or implementing troublesome point-to-point microwave links. However, the tremendous growth in the internet has translated to greater efficiencies and more reliable equipment technologies which have created new opportunities for reliable and cost effective data transfer.

Today, IP transport is being used in both video backhaul applications as well as end-user distribution. Backhaul networks – where television programs are transferred in real-time between two sites – are typically point-to-point and embed an MPTS (Multi-Program Transport Stream) into a single IP connection.

On the other hand, end-customer distribution and delivery of video usually employs a PC or set top box as the final receiving device. Since there could be hundreds of identical programs delivered to many end users, it is more common to embed an SPTS (Single Program Transport Stream) into separate IP connections. In this case, content multiplexing is performed by the IP network.

Finally, there are two mechanisms for encapsulating MPEG-2 transport packets into IP packets: one using RTP and the other using UDP. Typically, seven MPEG-2 TS packets are inserted into each RTP or UDP packet.

Pixelmetrix
c o r p o r a t i o n

Remote Control & Automation

SNMP and CORBA interfaces allow full control and retrieval of results to an external database or control computer – perfect for network management, system integration or manufacturing test applications.

Media Delivery Index (MDI)

The DVStation-IP[3] has the capability to compute the Media Delivery Index on ALL services - a network level measurement for video transport performance typically displayed as delay factor (DF) and Media Loss Rate (MLR) separated by a colon (:).

Service Summary

Comprehensive TS Monitoring

Real-time measurement and alarm detection of MPEG-2 Transport Streams on a fully loaded gigabit ethernet pipe:
• Bandwidth of services and PIDs • PCR jitter
• TR 101 290 health checks • IP traffic monitoring
• MHP (Multimedia Home Platform) • Stream capture
• Automatic On-Air Content Validation

Live Thumbnails Display allows you to visually confirm the presence of correct program content.

Service View that spans multiple TS, displaying video thumbnails, critical TS and audio/video parameters in a concise format - a user-friendly CommanderGUI Interface.

Service View

Log Management & Alarms

The comprehensive logging feature allows you to keep track of errors as they are detected. These files are easily viewed and exported for in-depth analysis and troubleshooting.

In addition, measurement logs can be generated upon user-defined settings. These are useful for isolating hard-to-find problems and determining proof of performance signal quality and integrity.

The Remote Service View (RSV) feature allows streaming of both audio and video to a receiving PC over the IP network, allowing complete Quality of Experience (QoE) verification in real-time.

The service is streamed out via the management port of the DVStation-IP[3]. RSV enables users to specify a destination address and UDP port for the stream. This feature not only allows users to select one programme, but also offers the flexibility to stream the entire Transport Stream. The stream can be configured to be multicast, thereby allowing multiple clients to Join and receive the same stream over the IP network.

Specifications

Test & Management Port
• Ethernet (RJ45, optical): 10, 100, 1000 Mbps

Supported Encapsulations
• MPEG-2 TS over UDP
• MPEG-2 TS over RTP

Mass Storage
• 16x DVD-ROM
• 80 GB hard disk drive

Mechanical & Electrical Characteristics
• 19-inch, 2RU rack mount enclosure
• 100 – 240V ~ 5A, 50 – 60 Hz
• Operating temperature: +10°C to +30°C
• Storage temperature: 0°C to +50°C

Local & Remote Control Interfaces
• HTML web browser
• VGA, keyboard and mouse
• VNC remote client
• CORBA software application program library
• SNMP MIB for network management system

Auxiliary Interfaces
• 10, 100, 1000 Mbps Ethernet port for remote control
• USB Keyboard/Mouse
• 1024x768 display resolution

Regulatory
• CE Mark

Options
• Optical SFP interfaces (850nm and 1310nm)
• Redundant power supply

Distributor Contact

Pixelmetrix Corporation

The Americas
10097 Cleary Boulevard
Suite 114 Fort Lauderdale
Florida 33324, USA
Tel: +1 954 472 5445
Fax: +1 212 671 1549

Asia Pacific
31 Kaki Bukit Road 3
#07-03 Techlink
Singapore 417818
Tel: +65 6547 4935
Fax: +65 6547 4945

Europe
Moosstrasse 6
CH 5443 Niederrohrdorf
Switzerland
Tel: +41 56641 0317
Fax: +41 56500 0161

www.pixelmetrix.com

Pixelmetrix
c o r p o r a t i o n