Production

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MARKET FOCUS - Reinhard Wagner

Video servers in a transition

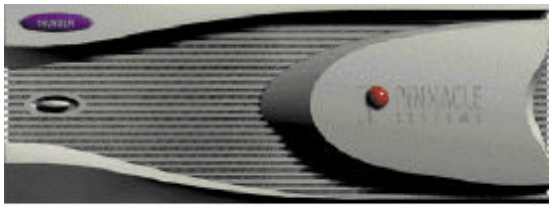
HDTV may not yet be on the European agenda, but increased system integration, disk storage for post, Internet transparency and even 24p are key concerns for European broadcasters considering server purchase. Here, Reinhard Wagner reviews recent developments in the market, as well as what we're likely to see at NAB 2000.

Broadcast video server technology is evolving, the requirements for implementation are changing and HDD prices are dropping. HDTV/2k production has had some influence on manufacturers since the 24p question came to the fore. The need to develop new interfaces, mainframes and units to support bitstream rates of 80, 100, 300Mbps and further is pressing. And in the UK market especially, there are increasing requests for servers in film production and high end commercials post production. And some manufacturers are looking not just to Europe, but to the United States market as well.

DVS is one of them. Its HDTV server ProntoVision is an HDTV disk recorder (realtime 1.3Gbps I/O, D5 & D1 partitioned storage, and film play-out at 24fps) with multi-standard capabilities at 8/10-bit quantisation and colour space conversion in realtime. Uncompressed HDTV 4:2:2 video sequences are in studio-level quality and ready for the DTV-DVB broadcast revolution. Two D1/D5 channels can be combined for 720 or 960 progressive at 60 frames per second. All formats recorded at 24fps can play out with 3:2 pull down at 30fps.

With a new interface option ProntoVision is compatible with Panasonic's AJ-PHD-500 HDTV 1080i video recording processor, which is a 4:1 compression system. Interfacing to graphics and animation workstations is enabled with ProntoVision's control software for Unix and Windows NT.

From the UK comes SpiRINT, SpiDDR and con4mer, made by Post Impressions. The company has introduced SpiRINT, claimed to be the first NT-based workstation able to process HDTV and digital film images in realtime. The SpiRINT architecture provides a scalable path through SDTV to HDTV and digital film. It can handle and process up to 2,000-line resolution images in realtime and provides 60 minutes of HDTV Raid-3 protected storage. SpiRINT's ultra-high bandwidth disk and I/O subsystem run a realtime operating system and a proprietary file system, designed to overcome the bottlenecks encountered when opening multiple large files in realtime at video frame rates.


Thunder: Installed at N24 Munich

The first application available on the SpiRINT platform will be SpiDDR HD. This is a version of Post Impressions' SpiDDR software re-written for the SpiRINT HD workstation. It is a format and resolution-independent storage, I/O and networking device for use in telecine, graphics and machine rooms. Being NT based, SpiDDR HD operates as a central gateway to PCs, Macs and Unix networks delivering a frame accurate HD video I/O with machine control.

Con4mer HD gives HD post production the fast auto-conform capabilities that its standard definition version is already bringing to long form broadcast programme makers. Its use of intelligent capture algorithms minimises pre-roll, cue-times, and enables facilities to speed up and streamline the HD auto-conform process significantly.

LEITCH TO MPEG

EVS from Belgium recently delivered servers to FR3 in France. Since September 1999, FR3 has run a fully remote-controlled contribution network, the Spider Network, based on software by Netia and EVS servers. All FR3 local studios are equipped with DVB servers, linked together through DVB-T, and control signals are transmitted via IP. Each connected site accesses a common database. Transmission requests are placed on the clients and executed automatically.

In Luxembourg EVS has made its first steps in the e-cinema business by using its DVB server as a recording/playout station for HDTV. In January EVS showed a complete transmission and playout-system for e-cinema in partnership with SES/Astra-NET, CLT-UFA and Barco. For the demonstration, D5 material was MPEG-2 encoded onto the DVB-server, transmitted over an Astra transponder, recorded on a remote site onto the DVB server and projected through a Barco beamer on a 12 metre cinema screen. Further announcements of partnership and co-operation will be made shortly.

MPEG-2 servers from Leitch (VR300 series FC-AL shared storage video) are widely used in Europe. Installations include Denmark with 20 channels (attached to an archive-roboting system from StorageTek); Spain with 22 channels (VR300 series at TeleMadrid); England with up to 42 channels at three different stations; and Germany with a total of 116 channels (several commercial broadcasters) supported by VR400/300 series. The next generation of Leitch servers will have DVCPRO and SX on top of the existing MPEG support.

Most recent installations of GVG Profile servers are in Switzerland, Austria and Germany. Applications as playout, delay or simply storage device are covered. Profile runs as a 24-hour intermediate storage device at SAT 1 Medienzentrum in conjunction with content/asset management software. Incoming feeds are permanently recorded, viewed, material selected by journalist or operators and transferred to further editing and transmission.

For the European market GVG does not yet plan to release a HDTV Profile XP version.

THUNDER AND CLUSTERS

In December Pinnacle Systems delivered three Thunder servers, each equipped with four channels and 800GB RAID-5 storage, for the Internet TV application of the new N24 news channel (part of the Pro 7 group) in Munich. Thunder was selected because of its ability to generate proxies and to browse that material via TCP/IP. Also in December, German broadcaster SWR in Baden Baden installed one Thunder with two channels and 400GB Raid-5 storage for commercial playout. Other

customers include Donau TV and Landesfunk Tyrol, Tele Ticino Lugano and Ugra TV Chanti Mansisk. In addition, five MediaStream 700 servers have been running at N-TV Moscow since July, and one at RNF in Mannheim since December -- all for day-to-day playout.

SeaChange from the US has sold numerous Broadcast MediaCluster servers into Europe. Now, 21 European customers rely on their cluster technology with many running two or more servers at playout centres.

Etisalat, the national telecom operator in the United Arab Emirates, recently selected Thomson Broadcast Systems Nextore servers for installation at a programme playout centre for its new cable television system. This facility allows the re-transmission of several programmes (with the possibility for modifications, logo insertion, subtitling and translation), local channels and additional pay-per-view programmes.

Panasonic's 4 channel DVCPRO on-air server

By using the Mercury Sanergy file management software, each single Nextore cluster is part of the SAN and connected via FC to allow content sharing between the clusters and the archive server via a Gigabit Ethernet network. The playout centre will be managed through a Louth automation system able to handle content exchange between clusters and the central storage as well as all master control equipment. At NAB, Nextore will be demonstrated in a global system environment illustrating a typical programme workflow in a TV station.

Panasonic has not yet shipped any DVCPRO servers into the European market. Panasonic's German representative Frank Fell-Bosenbeck says, "The servers are still in quality assurance and will be shipped in the very near future". In the meantime, some of the most recent DVCPRO installations in Germany rely on GVG Profile servers as an interim solution.

Philips Digital Video Systems runs several installations with its MediaPool throughout Europe and the Middle East. Current projects in Germany include Professional TV and Deutscher Bundestag Berlin and in the UK at NTL. Latest developments and enhancements of MediaPool are: 36GB HDD availability, HDTV support, MediaPool availability on Windows NT (not just Unix) clients, and the browsing application Surf with picture analysis.

For news and playout applications, Pluto Technology designed the AirSpace NewsPlayer. This series of servers is specifically designed to work in real-world news environments with Avid NewsCutter editors. AirSpace NP delivers two playout channels to support the A/B requirements for news productions from five to 48 hours of RAID protected storage. It supports playout from a wide variety of industry standard automated controllers, including Avstar's BCST newsroom solution.

The AirSpace CartPlayer (or CP) video server series is designed for commercial spot, newsreel, or other programme play-to-air applications. AirSpace CP is said to replace or significantly reduce cycle time on BetaCart, LMS or Mark tape robotic systems.

Finally, Signum Bildtechnik Germany provides the SIGI plus system series. It is designed to use uncompressed 601-video data with D1 picture quality in 4:3/16:9 format (up to 360 Mbits). 8-bit (optional 10-bit) technology for image data storage (4:2:2:4 resolution) is used to handle stills, video clips or sequences with one linear key channel. If DigiBeta quality is sufficient the SIGI plus GVG Profile can be the right choice.

The integrated Profile server is used for stills or clips storage. Stills and clips can be transferred via GVG's high-speed FC IF for fast accessing rates, which is also used by Signum for data import and export. The SIGI plus InterServ Internet option for image selection is also supported. When using

SigiStudio software, the Profile 300/PRO (MPEG-2 coding) supports parallel play-out of up to six channels. The Signum client list include broadcasters such as RTL TV, ZDF, SWR, ORB, BR, WDR, SAT-1 TV, NDR, and DSF.

Web service

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