VSNNEWS

Digital System for Newscasts and Studio Programs Production

In News Enviroment **Speed** of Reaction is the **Key**

PRODUCT INFORMATION

VSN
INNOVATION & MEDIA SOLUTIONS

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1. GENERAL DESCRIPTION

VSN's digital systems for newscasts integrate all means necessary for the integrated production of programs. The **VSNNEWS** system can be based on single-server architectures for small systems or on architectures consisting of several storage units for larger systems or when a better distribution of all operations in the servers is needed. Either way the operation is similar.

In the **VSNNEWS** system, there commonly is a Daily Server –central shared storage allowing for simultaneous recordings of materials coming from external feeds and VTRs while providing all users with instant and simultaneous access to all information- and a Playout Server –whose principal role is the playout of materials following the sequence as set up in the rundown.

Modularity, scalability and reliability are key concepts of all **VSN** solutions. The configuration of **VSNNEWS** is the best example. Besides offering noteworthy advantages regarding hardware and software redundancy that prevent any failure points, its open and modular architecture provides full scalability to expand and combine the system with other manufacturer's products thus allowing higher effectiveness and profitability.

VSNNEWS can be installed in SD and HD multiformat configurations making it compatible with existing workflows. When the TV channel already has a text tool (NRCS), the video and editing part can be resolved by means of **VSNNEWS** MOS version. All previously installed devices like titling systems or teleprompters can continue to be used in **VSN** systems.

Modularity, scalability, reliability and teamwork are the key concepts of **VSNNEWS**

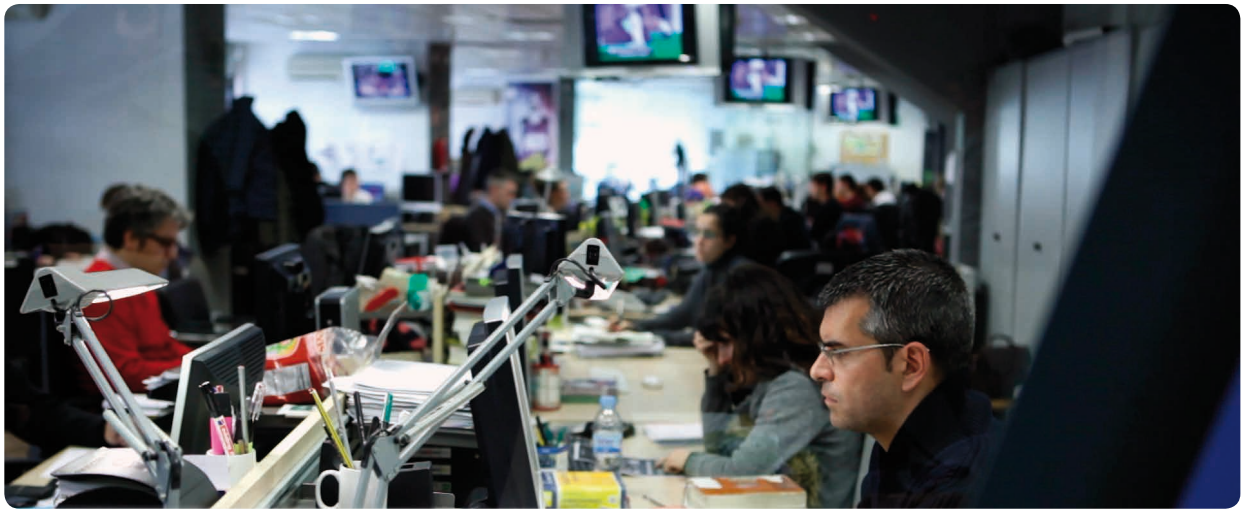
Al Kout TV Studio Control Room

The two servers, Daily and Playout, have been built using standard, fully-tested computing hardware. These high performance server modules are integrated in a system of mixers and digital routers that are controlled by the **VSN** software installed in the News Playout. This allows setting up systems with one or several input and one or two output channels, with the desired storage.

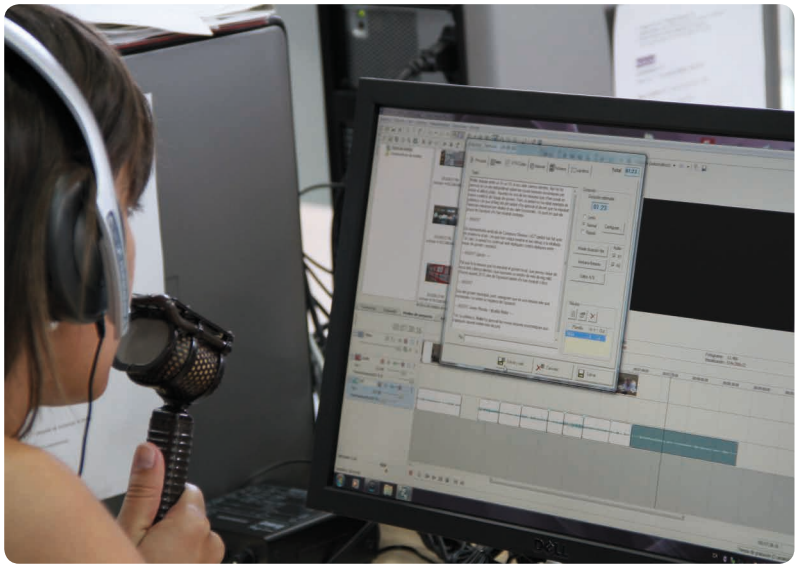
A complete system of permissions and authorizations for each user level allows administrators to securely and optimally manage the whole system. Various optional modules such as the newswires incoming server **VSNWIRES** help complete the news production workflow.

In combination with non-linear stations for text and news editing and with the recording and playout stations, these systems allow the news production process to be carried out in an exceptionally effective and profitable way.

Open non-proprietary technology, full scalability for number of stations and capacity, different levels of redundancy and security and work environments specially designed by and for journalists and editors guarantee we are dealing with the most reliable and integrated live contents production system. Over 180 systems operating daily in more than 50 countries worldwide confirm it.



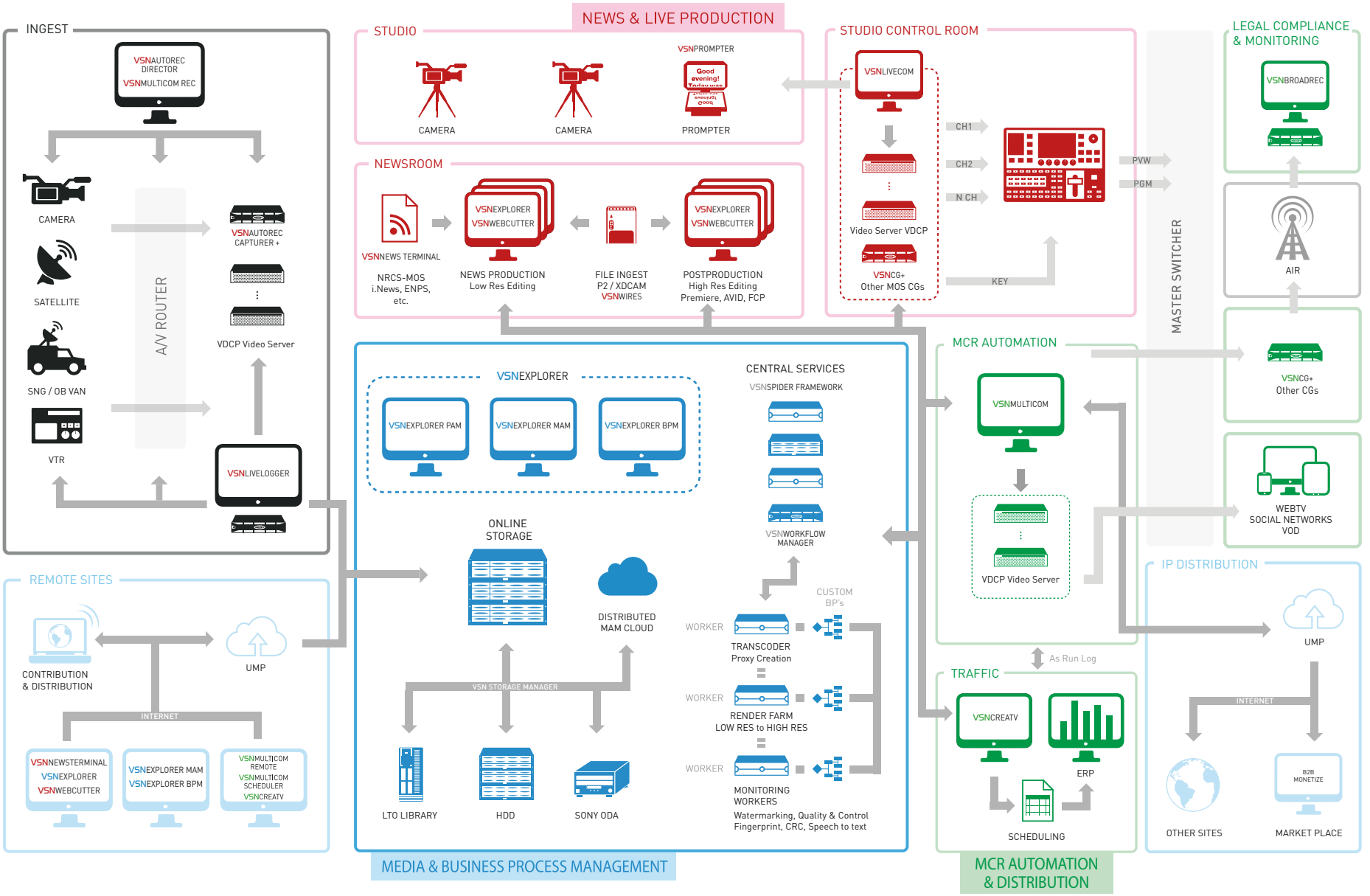
Newsroom at Barça TV



Newsroom at Vallés Visió TV

Thanks to the **VSNNEWS**, the journalist can prepare text, video and audio from her desk.

VSN's GENERAL WORKFLOW



2. E/S CHANNELS AND STORAGE CAPACITY

The number of simultaneous users and activities the server system is able to support –feeds to be recorded, editing, playout, copies to archive, etc.- depend on the number of input and output channels available in the ingest router and the network infrastructure and the servers installed.

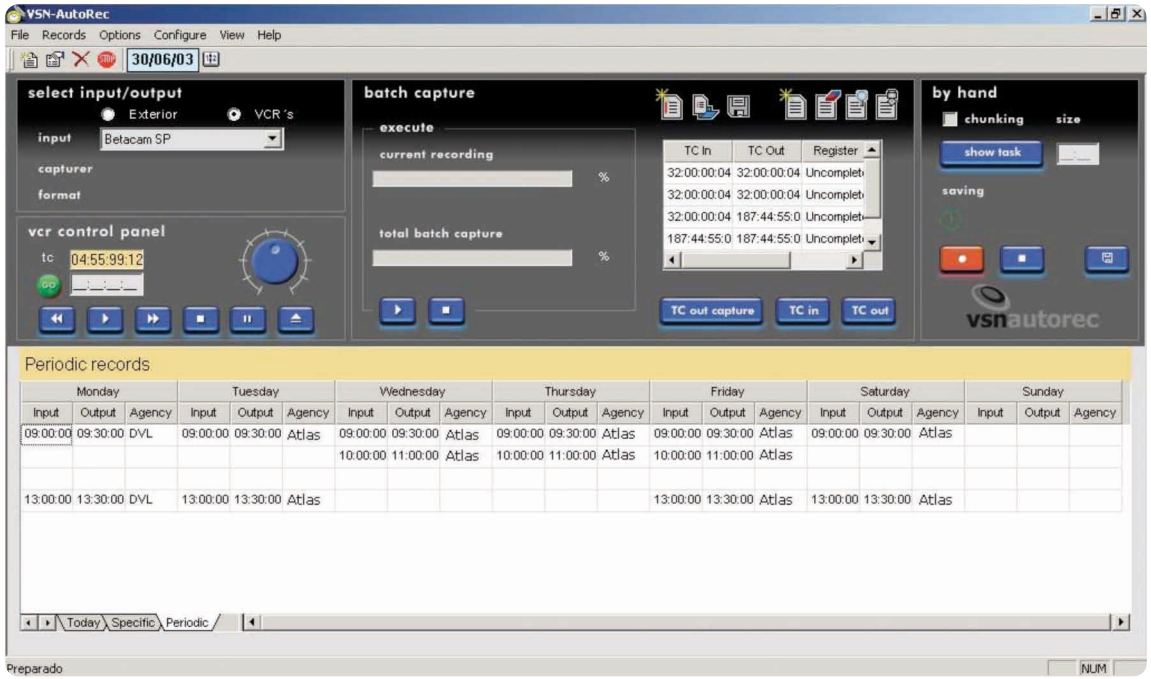
As the system is based on standard IT infrastructure, scalability is practically boundless, having as a unique requirement a proper design of the bandwidth available, i.e. the storage and network architecture.

The Daily Server's storage time configuration can be scaled to meet the client's needs, video formats to be used and video quality (SD/HD). Thus, for example, some specific configurations show an extraordinary storage capacity featuring multiple ingest stations.

There are various configurations tailored for the Playout Server, based on the file format and the number of channels (1-2) required. The MOS version can also operate in A/B mode at production, with **VSN** servers (**VMAX**) or other manufacturers'. **VSN** also offers redundant optional configurations for the highest security.

The system specifies the **VSNAUTOREC** capture stations connected to the ingest router based on the maximum number of feeds that need to be recorded simultaneously. Recording processes can be manual and/or automated and be scheduled as needed. These stations include SDI or HD-SDI digital input connections. In case the ENG equipment is of the tapeless, XDCAM, P2, EX kinds, etc. the **VSNSCENES** module allows for the partial or total selection of materials and direct copy to the daily server. Free from loss.

VSNNEWS also allows uploading contents into the Daily Server from a set of cameras and/or VTRs either via local capture from the journalist's station or via a rack of shared VTRs controlled from the **VSNRECPRO** module.



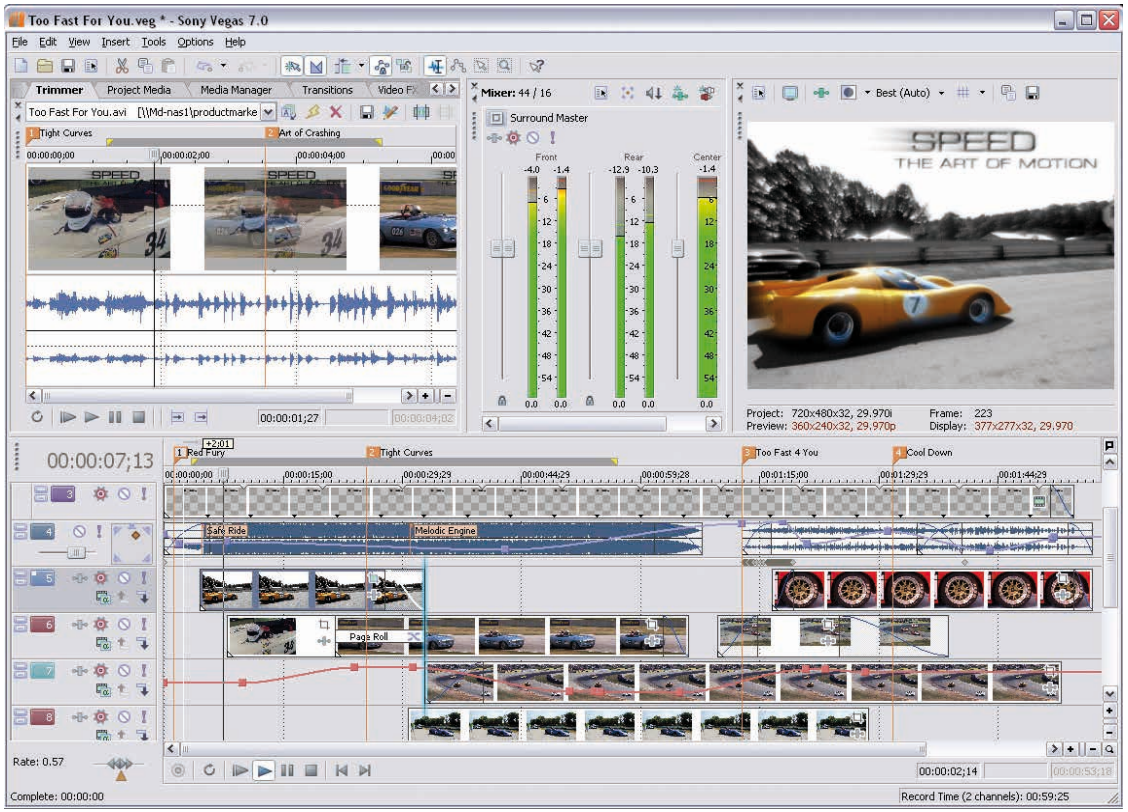
VSNAUTOREC: scheduled captures and management interface

3. MODULES DESCRIPTION

3.1.GENERAL

The **VSNNEWS** software includes several operating modules:

- Filing clients that manage the recording of materials to the Daily Server from feeds, ENGs or VTRs, through scheduled recording lists or manually, as needed. **VSNAUTOREC TERMINAL**, **VSNRECPRO TERMINAL** and **VSNSCENES**.
- Administration clients (or materials management) that distribute and organize the materials on the network (**VSNSHARER**), catalog and compile them for archiving purposes (**VSNARCHIVE**).
- A system's client manager, for control and maintenance (**VSNLOGGER**).
- A/V editing software tools (most part of the NLE systems available are compatible with **VSNNEWS**) that access materials for editing and postproduction directly on the server.
- Playout rundown managers (**VSNAIRNEWS** and **VSNAIRNEWS TERMINAL**) that provide:
- Rundown creation or, if the rundown is supplied from the newsroom, rundown preview and execution (users with permission only).
- Complete automation of devices like the **VSNCG** titling software and **VSNPROMPTER** teleprompter.
- Comprehensive management of the programs, last minute rundown rearrangement, external feeds input, etc. (**VSNAIRNEWS**).



Vegas Video Editing. Any standard NLE can be integrated

3.2. MODULES FOR INGEST AND REGISTRATION: VSNAUTOREC DIRECTOR

- Creation and edition of materials recording lists.
- Database generation that includes information on the materials.
- Remote control of Filing's VTRs.
- Manual recording from feeds or VTRs.
- Loop recording (endless).
- Automated recording of feeds with registry lists.

3.3. MODULES FOR CONTENT MANAGEMENT: VSNSHARER

- Search of contents (using filters) on the server.
- 'Smart' deletion by category expiration or authorized user.
- Allocation of materials for editing via direct access to the server or via dump to some local storage unit (at user's choice).
- Projects shared from different terminals.
- Dump of finished editions to the Daily server or Playout Server.
- Simultaneous access to materials from different editing stations.

VSNSHARER's browsing interface (MAC OS version)

3.4. MODULES FOR PLAYOUT: VSNAIRNEWS

- One rundown per each playout server (playout terminal). The standard system allows for real-time synchronized rundowns and visible from any terminal.
- Up to two (A/B) output channels to the mixer/router under control of the rundown.
- Synchronization of teleprompter texts and titles in the character generator.
- Allows rundown modification: change/insertion/deletion/shift of rundown lines up to 5 seconds before each line is played out.
- Automatic/Manual rundown operation.
- Playout triggered by GUI (graphic user interface) or remote control (attachable button panel).
- Really fast events cue/re-cue.
- Rundown creation/change/printing, depending on users' permissions.
- Redundant playout configuration (optional).

3.5. MATERIAL MANAGEMENT: VSNSHARER

- Comprehensive and intuitive material search. A simple identification/recognition code for each clip's high and low resolution versions.
- Integrated archiving function to different media (VSNARCHIVE only) featuring smart management of the space available on every server or archive tape.
- Management by logical categories (avoids Windows Explorer navigation and independently of the physical location of clips).
- Centralized contents database, both in high and low resolution, subject to availability.
- Distribution of individual contents or event lists to different playouts.
- Programmed automated distribution and transcoding (optional).

All resources available for the journalist- editor

3.6. JOURNALIST TOOLS

3.6.1. VSNNEWS TERMINAL (NRCS)

VSNNEWS TERMINAL allows journalists to switch the news playlist view into Editing, Production and CG views:

- The Editing view is restricted to news terminal and includes additional information of interest for the reporters such as the specific reporter the news item has been assigned to, the time the news item was last modified, among other useful information.
- The Production view is actually the same playlist view as the one shown in the news playout, **VSNAIRNEWS**, user interface.
- Finally, the CG view is also restricted to news terminal and shows on the playlist all information relative to the graphic objects that may have been added to news events.

To facilitate the reporters' editing tasks, the A/V editor can be accessed from the news items edit dialog. **VSNNEWS TERMINAL** does not feature ON AIR or playout capabilities. Since playout tasks are responsibility of the master control room's director, only **VSNAIRNEWS** includes these functionalities.

3.6.2. VSNWEBNEWS (Web-based NRCS)

News and content editing is not limited to local area networks any more. **VSNNEWS**' web client, **VSNWEBNEWS**, allows users to work in a remote way having virtually the same functionality as local users. Remote reporters can look for patterns in their shows, spot the stories assigned to them and display all resources on a web browser in order to enter all texts, comments and graphics into the system. News immediacy is absolute. Also, if the reporter has a **VSNIPTRANSFER** node available he/she could also associate the freshly recorded content with the specific rundown line he/she's working on.

VSNNEWS TERMINAL

3.6.3. VSNWEBCUTTER (Web-based pre-editor)

With the new Web pre-editing solution, **VSNWEBCUTTER**, it is possible to edit contents in the central server remotely. An easy-to-use GUI allows for shot selection, in/out point modification and content blending from any web browser. This tool is also useful for archive retrieval, material clean-up prior to post-production, quality control environments, etc.

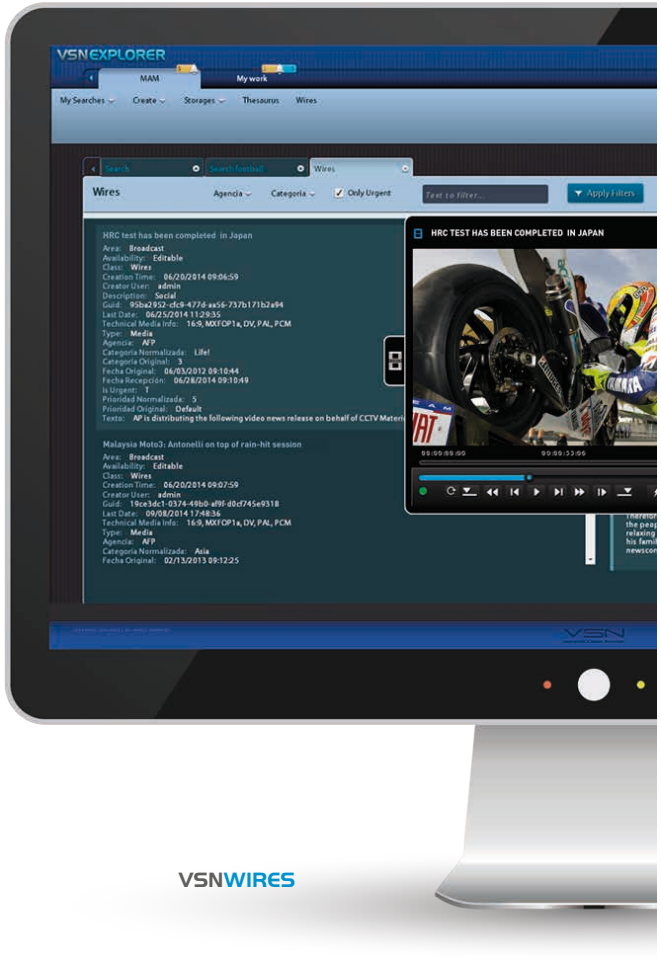
3.7. MODULES FOR SYSTEM SCALABILITY:

VSNRENDER FARM & VSNTRANSCODER SERVER

- Faster rendering and transcoding processes of editing projects.
- The journalists and editors do not waste their time (background processes).
- Automatic creation of low resolution versions of all ingested contents without overloading the capture stations.
- Video editing: the journalists can edit the low-res contents and the same project is automatically consolidated, without intervention by the operator, using the high-res materials. The consolidated project is then delivered to the destination server specified, thus being ready for playout.
- Full scalability, the higher the calculation power the higher the output speed.
- Fully standard hardware, higher cost-effectiveness.

3.8. MODULES FOR NEWS WIRES: VSNWIRES

- All newswires together in a single GUI. Includes warnings and alerts.
- User Customizable by key words, interests, topics, etc.
- A sophisticated search system.
- Powerful and easy to use. Just "drag & drop" into **VSNNEWS TERMINAL**.



4. KEY ADVANTAGES OF VSNNEWS

4.1. GENERAL

All recording resources available (external feeds and VTRs) will be made visible on screen to the recordings staff. The staff will be able to deal with several recordings from that screen. All available resources can be automatically assigned with the system resources management software.

Scheduled or manual recordings are managed from the screen as well as, for example, the national or international distribution of the materials, etc.

No need to look for tapes or making copies for editing (multiple access to the archive constitutes the standard process); no need to worry for the location of the materials on the server. Everything is managed in a way that is transparent for the user.

The staff devoted to editing will be able to access all incoming materials as soon as recording starts, thus achieving the latest and fastest news coverage. The 'Precataloguing' option allows previewing the ingested materials and adding metadata in real time in order to accelerate the editing processes right after they have been transferred.

As a rule, materials and projects are shared among the editing stations. And more importantly, the user does not need to know the server's storage module where the materials are located. All contents are stored in a single database and the system is presented to the user as a single server logically arranged by category.

The newswires' incoming server allows the staff to have at their disposal all sources being provided to the TV channel without delay in a categorised way; and all that via a single user interface.

Multiple versions of a story are possible thanks to shared access and non-destructive editing. Materials can be transferred in the background from tape to disc as the editing points selection process goes on. And the news broadcasting process is really fast as the piece of news can be broadcast at the very same time as it is recorded to the Playout Server.

In the most habitual scenario, the journalist-editor works on the real-time view of the program's rundown, selects the assigned pieces, edits the texts and audio/video and, when saving the project, the materials are automatically assigned to the line of the rundown that the journalist initially selected.

This process is commonly made using the high resolution original contents. But when the number of clients is too high, **VSN** offers its **VSNNEWS XL** solution. This variant automatically creates low resolution versions (proxies) of all the ingested contents with the help of the **VSNTRANSCODER SERVER**. The editing staff will then work on these proxies letting the system to automatically consolidate the projects, including the video effects, with the equivalent high-resolution materials. This process is performed by the **VSNRENDER FARM** and requiring no human intervention whatsoever.

The staff devoted to playout also takes advantage of an utterly flexible playout, be it through a continuous rundown update from the newsroom or via dragging and dropping to the playout terminal control screen.

Back to the real world everything is permitted: change the entry point manually, finishing in advance, freezing the last frame for later finishing, skip to the next event, selecting and positioning events, executing an A/B effect and a background at once...

Also, the mixer control in the newscast studio can be automated from the News Playout Server.

The maintenance personnel will evaluate features like remote diagnosis, redundant (PSU) power supplies, control panels, CPU boards, n +1 cooling fans, the RAID system as a standard, etc.

Directors will also appreciate the advantages contributed by a fast, inexpensive, open and scalable system that widely enhances production using fewer resources.

We also want to emphasize the many advantages that the integration of the archive module **VSNARCHIVE** in the **VSNNEWS** system may have for journalists and writers and the interconnection with the PCs in the newsroom.

Studio control room at Spring News TV, Thailand

4.2. INPUTS AND OUTPUTS

In order to accomplish the simultaneous recording of all incoming materials as well as multiple and independent access to files, the system opts for a flexible configuration: the number of input stations, which are independent of the playout servers, can be increased at will. Always in SDI or HD-SDI. Multiformat compatibility is guaranteed.

Each **VSNAIRNEWS** server allows up to 2 output (A/B) channels towards the video router. The MOS compatible version also allows for use in A/B mode for effects in the video router.

4.3. USE OF STANDARD FILES DV, MPEG-2, IMX, MXF, ETC.

The **VSNAIRNEWS** server is compatible with the different standards WM9, DV25/50 (SD)/100 (HD), MPEG2 IBP, and MPEG2 I-Frame up to 50 Mbps in SD and up to 80 Mbps in HD, IMX, QT, etc. The compression scheme will adapt to news production applications depending on the image quality required and the post-production systems to be used.

4.4. HIGH SPEED TRANSFER OF AUDIO AND VIDEO FILES

Depending on the equipment and formats used, the system allows working from DV, Betacam, SX, Digital, and MPEG IMX VTRs. In the case of XDCAM and P2, contents can be transferred via FTP or edit on the disc directly, thus getting rid of ingest losses.

Depending on the network architecture, transfers of contents among the different nodes can be almost instantaneous. Furthermore, this speed rate increases as there is no need to move the high-resolution files, but only their low-res copies (proxies).

In the case of the **VSNNEWS XL**, the journalists' editing processes are also made on the proxies, so render farms only access the daily server for project consolidation. This process prevents computing network overloads and frees up the journalists' stations so these can take on new jobs at once.

4.5. A PLAIN AND COMPREHENSIBLE FILE SYSTEM

All files are saved in their native formats and all management is carried out from the **VSN** databases through an uncomplicated, easy to use user interface. There is no need to explore the network to access contents or be waiting for complex filename assignment.

4.6. DIRECT CONTROL ON FILES FROM NON-LINEAR EDITING STATIONS

The server's video and audio files can be accessed from several editing stations simultaneously and independently, so there is no need to upload the files from the server. Besides, each editor has independent permissions on categories or contents depending on his/her profile.

The **VSN** software has precise control over file at the frame level for all different editing operations. Most operations can be performed via "drag and drop".

4.7. HIGH-QUALITY VIDEO AND AUDIO

Depending on the **VSNAIRNEWS** version, the system plays back all contents natively in standard format and the highest original quality, even in HD.

There is no proprietary technology or tedious transcodings that may diminish quality. An integrated, more cost-effective workflow than traditional systems is thus achieved.

4.8. DATA PROTECTION

In a system **VSNNEWS**, data are protected in two different ways. On the one hand, the server duplicates the data from the files in the database.

On the other hand, the **VSNNEWS** software can be installed in different RAID configurations in case some trouble arose in any of the hard disk units. Operation is never compromised by making use of redundancy.

In case a hard disk drive failed, the failing drive can be hot swapped. Right after, the server will generate the data on the new hard drive with no interruption of the system operations.

4.9. SEAMLESS OPERATION

All **VSN** storage units come equipped with redundant power sources (up to three sources, depending on the model). The system routers, control hardware and computers normally come with redundant power sources as well.

Depending on the version, it is possible to hot swap a hard drive, a cooling fan or a power source during the normal operation process and without affecting the system's habitual performance.

4.10. SYSTEM UPDATES

The philosophy behind the design of **VSN**'s newscasts and program production system allows for future updates and an easy, virtually boundless expansion of the number of servers and connected clients (editing, archive, playout, etc.) Besides, the system can easily integrate or combine with other manufacturers' solutions.

As it is a software-based system, the enhanced performance that can be attained with the new versions is much more cost-effective.

The shift from **VSNNEWS** into multiformat or even HD systems is very simple and does not require a whole new system to be installed. The different modules can be upgraded separately. The different versions can be maintained and updated remotely, via secure connections. As a result, operating costs are much lower than in traditional proprietary systems.

Maintenance and support programs exist that allow users stop worrying about said costs for over a 2-3 year period and available at a yearly fee. These programs include operation tutorials, remote diagnosis and safe updates via the internet, warranty extensions, replacement of faulty hardware, etc.

4.11. REMOTE WORK ENVIRONMENT

News and content editing is not limited to local area networks any more. **VSNNEWS**' Web client, **VSNWEBNEWS**, and the Web pre-editing solution, **VSNWEBCUTTER**, allow users to work in a remote way having virtually the same functionality as local users. Remote reporters can look for patterns in their shows, spot the stories assigned to them and display all resources on a web browser in order to enter all texts, comments and graphics into the system.

5. REFERENCES

IN SPAIN

Castilla y León TV (several facilities), ¡EsMadrid! TV, 8Madrid, Uniprex, Nova TV, Vallés Visió, Canal Málaga, Canal Blau, El Nou TV, La Tribuna TV (several facilities), TV Murciana, Thader Molina, Onda Azul, Onda Cádiz, TV Fuengirola, Interalmería, Maresme, Canal Terrassa, RTV Ceuta, Popular Mediterráneo, Info TV (several facilities), ETV Esplugues, TV Ontinyent, TV Alcázar de San Juan, Feval, INAEM Zaragoza, Granollers TV, TV Caldes, Tele7, Universidades de Sevilla, Burgos and CJC...

OVERSEAS

RTVA (Andorra), Canal9 and La Télé (Switzerland), Cap24 (France), AAJ TV (Pakistan), Telefé (Argentina), Ecuador TV, Ad-dounia TV and ORTAS (Syria), TV Guinea Ecuatorial, RTV Cabo Verde, Al Kout (Kuwait), Al-Shababiyah (Egipto), Ay-Yapim Elma TV and OlayTV (Turkey), Record TV, Benfica TV, IPP and Univ. Lisboa (Portugal), Islam Channel, MRITV, PropellerTV and Channel7 (United Kingdom), Ishtar TV (Irak), Azad TV and Orissa TV (India), Teletutto and TVQui Modena (Italy), RTV San Marino, TV Nacional, Canal 12 and Tele Montecarlo (Uruguay), TV Antioquía and Univ. Javeriana (Colombia), GTRK Omsk, STS San Petersburgo, Canal 9, Chanson TV, Vladivostok TV and Mosobl TV (Russia), Campus TV (Honduras), Hosanna TV (Panamá), RPP (Perú), Flash TV, Best TV, ORT, Nea TV, Star Lamia and TRT (Greece), Até ao Fin do Mundo (Angola), Kantipur TV (Nepal)...

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