Case study
TeleZüri goes tapeless with Rohde & Schwarz DVS technology

At a glance

TeleZüri, Switzerland's most successful regional TV station, has switched from tape-based operations to file-based workflows. At the same time, TeleZüri was introducing HD as standard resolution in its workflows. High-end Rohde & Schwarz DVS equipment is placed in all strategic positions in the new production chain: The central storage solution R&S®DVS-SAN, one R&S® SpycerBox as reliable near-line storage and six R&R®VENICE video systems ensure reliable and flexible ingest and playout. The new infrastructure also provides the foundation for TeleZüri's future expansion. As a result of the successful transition, TeleZüri now offers its services to the sports channel Schweizer Sportfernsehen (SSF), which is located at TeleZüri's premises.

About TeleZüri

TeleZüri was founded in 1994 and was one of Switzerland's first regional TV broadcasters, delivering information to the region in and around Zurich (potential audience: 2,7 million). News broadcasts and talk shows make TeleZüri the information station for the entire Zurich region, with high levels of credibility and acceptance from the public that make it the clear Number 1 among Swiss regional TV stations. As a forward-thinking TV station, TeleZüri is increasingly placing

importance to new distribution channels like video on demand or mobile applications to meet the changing media consumption behavior among its younger audience.

Challenge

TeleZüri was looking for high-end technologies that would enable a smooth transition to even more efficient ingest, content preparation and playout. It was also the right time for leaving tape-based workflows behind and moving to a file-based workflow – up to the playout of the content. As TeleZüri was still working with material in both SD and HD, they were in need of video servers which could easily switch between both resolutions thus providing the material in the requested quality. In order to free journalists and editors from tedious tasks such as the search for media but allowing them to fully concentrate on the creative part of their work instead, all content needed to be easily available within the entire network.

Solution

Responsible for the design of the sophisticated file-based workflow was the Swiss systems partner Jordi AG Communication. The team around its Managing Director Michael Jordi aimed at equipping the broadcaster with high-end technology while at the same time making the transfer as easy as possible.

"We benefit enormously from the introduction of tapeless workflows using Rohde & Schwarz DVS technology. The six VENICE systems provide us with considerable time savings, allowing us to respond more quickly and flexibly in our current broadcast operations."

Peter Canale,
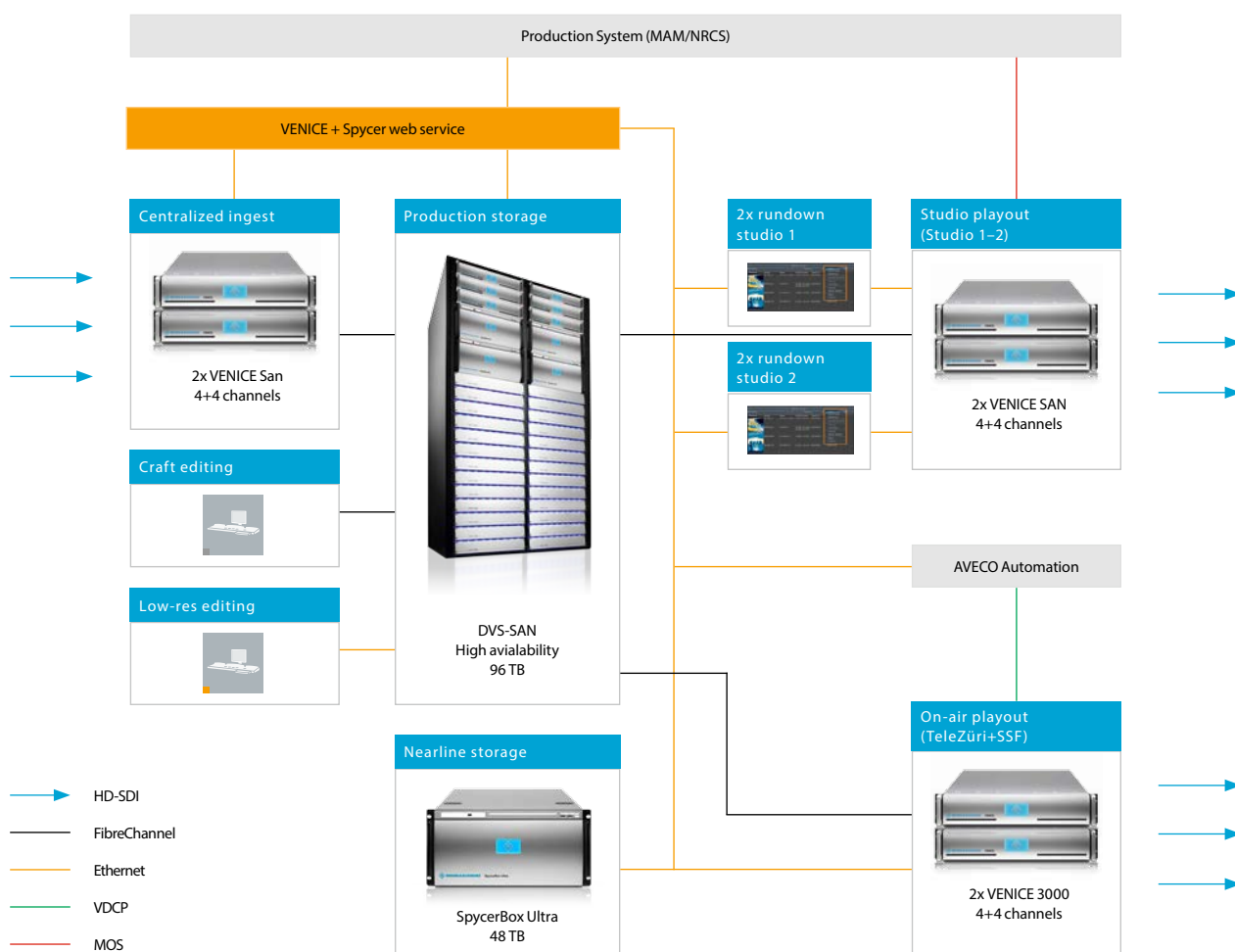Head of Business and Technology at TeleZüri

With the integration of four VENICE SAN and two VENICE systems with internal storage, a DVS-SAN with 96 TB as central production storage solution, a SpycerBox with 48 TB as reliable near-line storage, an Aveco ASTRA automation as well as a Norcom NCPower production system, TeleZüri has successfully transitioned to file-based operations.

Although TeleZüri's goal was to implement file-based workflows, this was not completely possible since there was still tape-based SD material to be considered, as for example archive material, material coming from different ENG cameras, or newsfeeds via satellite. With its built-in multi-format variety and integrated scaler, VENICE proved to be the perfect solution for ingest and playout of both SD and HD material.

The innovative data management software R&S®Spycer has proved the ideal solution for TeleZüri to effortlessly manage the material within the entire network. Spycer enables high-speed copying processes as well as searching and editing of image meta data. As file format, TeleZüri opted for Sony XDCAM® EX as this provided a good combination of image quality and data rates at 35 Mbps. It is also natively supported by VENICE. The video system enables capture and playout at all crucial points of the production chain. The flexibility of VENICE allowed the optimum allocation of video channels between TeleZüri's different studios in order to meet the changing needs for ingest and playout channels for every program.

Production System (MAM/NRCS)		

VENICE + Spycer web service

Centralized ingest
2x VENICE San
4+4 channels

Craft editing

Low-res editing

Production storage
DVS-SAN
High avialability
96 TB

2x rundown studio 1

2x rundown studio 2

Studio playout (Studio 1–2)
2x VENICE SAN
4+4 channels

AVECO Automation

On-air playout (TeleZüri+SSF)
2x VENICE 3000
4+4 channels

Nearline storage
SpycerBox Ultra
48 TB

Legend:
- HD-SDI
- FibreChannel
- Ethernet
- VDCP
- MOS

Workflow example

The six VENICE systems provide 22 video channels spread across the entire workflow and are responsible for key production tasks such as ingest, studio playout and on-air playout. Content coming from a wide range of sources such as ENG cameras, tapes, newsfeeds via satellite, and studios, is ingested via two VENICE systems. Ingest tasks can be controlled by the user via VENICE's GUI. Scheduled ingest tasks can be received from NCPower via web service.

The Rohde & Schwarz DVS video system manages native real-time capturing, simultaneously scaling the different formats. All content needs to be available in HD within the production chain for different reasons: On the one hand it is used to provide editors with homogenous material. On the other hand all data is stored in HD on the DVS-SAN to have high-quality archive material available for future usage. VENICE uses its integrated hardware scaler to convert the material from SD to HD in real time. The material is already available for editing even while it is still being recorded which leads to considerable time savings.

The DVS-SAN is configured as the central production storage. Thanks to its 24/7/365 high-availability operation, the DVS-SAN ensures smooth production providing TeleZüri with the greatest possible reliability on account of its redundant design and failover functionality. All connected clients such as hi- and lo-res editing workstations can directly access the data on the DVS-SAN. As the VENICE SAN systems used for ingest and studio playout have no internal storage, DVS-SAN ensures the smooth ingest and playout of data. SpycerBox with 48 TB functions as reliable near-line storage as well as backup and archiving solution for TeleZüri's entire media.

Two VENICE SAN systems provide eight channels for the studio playout at TeleZüri and are controlled via multiple protocols and systems. Thanks to its integrated user-friendly GUI, VENICE can easily be operated.

For primary playout VENICE is connected to the Newsroom Control System (NRCS): Rundowns are sent via MOS to VENICE. VENICE's GUI not only

shows the operator a comprehensive overview of the playlist but also controls the playout. Changes in the rundown like adding additional clips or changing the running order can be done manually by the user or automatically by the NRCS even while the playlist is being played out.

Frequently repeated background graphics such as the ZüriNews logo animation are being controlled by the video switcher via VDCP as secondary playout.

VENICE enables transparency effects by supporting various file formats with integrated alpha channel. Key and fill signals are available on the 3G HD-SDI ports. This way, producers at TeleZüri can easily realize sophisticated opening and closing sequences.

Two VENICE systems with internal storage in a mirrored set-up to provide redundancy enable the on-air playout of TeleZüri and Schweizer Sport-fernsehen. The program is scheduled by an Aveco ASTRA automation system. VDCP is used for play-out communication. Spycer is responsible for content control: Triggered via web service, Spycer copies the media from the main production storage to the internal storages of both VENICE systems used for on-air playout. Spycer applies the sophisticated bandwidth throttling for copy jobs to ensure the real-time playout of the program as well as integrity of the copied data.

About Rohde & Schwarz DVS

For more than 25 years, Rohde & Schwarz DVS GmbH has been very successful in the professional film, video post production and broadcast markets. The specially developed and manufactured hardware and software are applied to the production of popular TV series, Hollywood blockbusters and in Digital Cinema. R&S®CLIPSTER was the first system in the world to make real-time 4K processing possible. The future-proof ingest and production server R&S®VENICE offers a flexible solution for modern, file-based workflows in broadcast environments.

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