

SUCCESS STORY

INTERNATIONAL SPORTS BROADCASTER STREAMLINES LIVE STREAMING WITH VAST

CHALLENGE

TECHNICAL DEMANDS OF LIVE-STREAMING VIDEO DELIVERY

Live streaming events such as horse racing involves a highly orchestrated, lightning-fast balancing act. Anywhere from half-a-dozen to two dozen cameras may be used, each producing a live stream of 4K video images that requires 120 Mbps of bandwidth. Because video capture, manipulation, recording, and playback all involve writing to (and reading from) storage, minimizing read/write access times is fundamental to making the “live” part of real-time streaming feel live to viewers.

Video production company Kanal 75 is very familiar with these challenges. One of the largest multimedia companies in the Nordic region, Kanal 75 produces TV, internet and news content focused on horse racing and the betting culture surrounding it. The company produces more than 100 hours of TV each week and delivers more than 1000 live productions each year for viewers in Europe, Australia, South Africa, and the USA. Kanal 75’s renown grew exponentially during the COVID-19 pandemic as viewers across the world embraced horse racing at a time when almost all other sporting events had been canceled due to global social distancing efforts.

Kanal 75’s traditional approach to live streaming involved multiple storage technologies, mostly tiered. This meant some fast flash-based storage, backed up by a larger collection of slower hard disks. It also meant time, effort, and complexity to manage how data moves among tiers during production and playback. What drove Kanal 75 away from tiered storage came from variable latency in its runtime environment, rather than outright performance issues. That said, when such variation brought even slight increases in write latency—fundamental to recording raw footage, and then to producing edited, formatted, captioned, and titled viewer-ready video streams—company teams struggled to keep the “live” part of live streaming as close to real time as possible. They also found themselves constantly tweaking and tuning tiered storage solutions to keep latency as low as possible. Alas, this involved time and effort from key engineers, and kept them from doing more to improve quality or speed the production process along.



SOLUTION

UNIVERSAL STORAGE SIMPLIFIES AND SPEEDS UP SOFTWARE PRODUCTION

Indeed, the company's primary selection criterion for storage was *performance, performance, performance*. And that's where VAST Data Universal Storage really showed its strengths. In pilot testing this solution, Kanal 75 ran simulations based on projections for what CTO Stefan Hammerlund called its "reasonable highest load for the next five years" to determine unequivocally that VAST Data could handle its needs. Those projections included the following elements:

120 to 180 simultaneous live-streaming feeds, each running at 120 Mbps (for a constant combined bandwidth/data rate just over 14 Gbps)

An ongoing array of production tasks typical for racing events, including titles, captions, translations, formatting, voice-overs, close-ups, and image manipulations), all applied in real time as streams were active

Emphasis on monitoring and minimizing write speeds to emphasize and amplify the live look and feel for production outputs

Happily, VAST Data handled these simulated workloads with ease, and kept latencies to acceptable levels. According to Hammerlund: "Even under the heaviest loads, latencies stayed at or under one second, about as good as such things get in live-streaming video environments."

"Our previous production storage simply couldn't keep up with new demands," Hammerlund says. "Our storage was tiered, which made video capture, editing and broadcast unpredictable and caused a number of production problems due to fluctuating storage latency issues."

Another, perhaps more surprising selection criterion that VAST Data aced was simplicity and ease of development for Kanal 75's homegrown production tools. These work in tandem with commercial production suites such as Adobe Premiere, to deliver final output for live-streamed events. As Hammerlund explains it, "VAST Data storage works like a simple 'black box' that developers can use for read/write I/O operations without requiring use of complex APIs, tier and storage consumption management, and coordination needed when coding for other storage environments." This not only let Kanal 75 lower the number of storage tools, it also simplified and sped up production of software.

Kanal 75's selection of VAST also helped prime itself to cater to a new and growing live audience. "After a lengthy evaluation period in which we looked into alternative tiered storage and very expensive all-flash solutions from others, we were impressed by the simplicity and cost efficiency of VAST's solution, coupled with the capability of the support team," added Hammerlund. "In contrast to our previous setup, VAST's solution has allowed us to provide consistently-predictable broadcast performance and is delivering additional savings in the form of data reduction by efficient deduplication on our video assets."



RESULTS

IMPROVED QUALITY AND DEPTH OF COVERAGE FOR LIVE-STREAM EVENTS

Ultimately, it was VAST Data's high-speed, all-flash storage that really made the difference for Kanal 75. According to Hammerlund, it produced "steady, reliable performance with no variation." He also observed it imposed no need to manually tune or tweak the storage environment to maximize performance. Thus, VAST Data offered an excellent fit for Kanal 75's need for speed and simplicity when producing live-streamed events. This let its staff concentrate on improving quality of production, and enhancing viewer experiences, rather than constantly tweaking performance.

At present, the company is expanding the role that VAST Data plays in live-streaming productions. It is increasing the number of events it streams (and the number of simultaneous per-event streams it can put to work to expand coverage and visual interest for each event). Longer term, Kanal 75 is looking into integrating its archives under the VAST Data umbrella. Then, it can more easily add historical highlights from earlier events to further enliven coverage for live streams.

Now that Kanal 75 can easily support double its typical workload (and more), Hammerlund feels comfortable that "Kanal is well-positioned to support our steep growth for the foreseeable future."

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– Stefan Hammerlund, CTO, Kanal 75

ABOUT KANAL 75

Kanal 75 is a Stockholm-based video production company that specializes in live streaming horse races. Founded in 2000, the company routinely streams more than 1,000 racing events annually, to global markets in the Nordic countries, Europe, Asia, and North America. It's the biggest betting company in Sweden, and one of the largest horse racing production and streaming companies in the world. Kanal 75 covers the many Swedish horse races that occur daily, especially harness racing, with events all over the country and betting conducted through the ATG betting agency.

ABOUT VAST

Headquartered in New York City, VAST Data is a storage company bringing an end to complex storage tiering and HDD usage in the enterprise. VAST consolidates applications onto a highly scalable all-flash storage system to meet the performance needs of the most demanding workloads, while also redefining the economics of flash infrastructure to finally make it affordable enough to store all of your data on flash. Since its launch in February 2019, VAST has established itself as the fastest selling storage startup in history. VAST's Universal Storage now powers several of the world's leading data centric computing centers.