

## SUCCESS STORY

### ACCELERATE: MEDIA BROADCAST

Czech Television Speeds and Simplifies Fast-Growing Media Broadcast and Production Demands with Fully Integrated, Future-Proof DDN MEDIAScaler Storage Platform



### CHALLENGES

- Surge of digital video content and high-end video equipment spurred the need for fast, scalable, robust, and reliable storage
- Simultaneous support for data-intensive color correction and film restoration services required on-demand scale-out and scale-up performance
- Desire existed for simple, seamless storage to keep pace with modern media workflows and concurrent client workloads

### SOLUTION

DDN's MEDIAScaler parallel file system:

- Serves as an all-in-one, high-performance storage appliance with streamlined deployment and ensured ease of use by consolidating multiple workflows on a single system
- Provides fast, efficient support for around-the-clock operations
- Has the ability to scale to capacity, and performance on demand keeps pace with a wide variety of media workflows

### RESULTS

- All-in-one, high-performance storage appliance streamlined deployment and ensured ease of use by consolidating multiple workflows on a single system
- Fast, efficient support for around-the-clock operations
- Ability to scale capacity and performance on demand keeps pace with wide variety of media workflows

**CZECH TELEVISION IS THE PUBLIC TELEVISION BROADCASTER IN THE CZECH REPUBLIC, DELIVERING SIX channels of news, sports, family, arts, and educational content.** With the goal of imparting useful information 24/7 while also broadcasting original programs, Czech TV offers high-quality television across a rich variety of genres.

The organization produces more than two-thirds of its programming using state-of-the-art television production technologies and services, including ultra-high-definition (UHD) formats. Additionally, Czech TV is a leader in hybrid viewing, with more than 87,000 hours of recordings archived for on-demand distribution to smart phones and hybrid TVs.

As a broadcaster and post-production facility, Czech TV embraces the latest solutions to accelerate collaborative workflows and manage end-to-end media lifecycles. The organization's fully featured post-production suites are designed to meet any filmmaker's requirements with transcoding, editing, Dolby<sup>®</sup> mixing, and color correction on the most current 4K media streams.

According to Jaroslav Sladek, video department chief for Czech Television, seamless data access is strategic to maximizing production value while minimizing time to delivery. "The ability to store and share project data and video/audio assets among different clients and various digital cinema workflows is crucial," he explains. "We determined that a centralized solution would best enable us to meet modern media workflow challenges."

## THE CHALLENGE

Topping Czech TV's list of workflow challenges was the explosion of digital video content and data-intensive demands of new, high-end production equipment. In particular, the move to 4K uncompressed DPX workflows created a major spike in storage requirements, since the size of native raw files quadrupled as well as the performance required by the storage. Despite the massive data influx, Czech TV still had to guarantee flawless real-time workflows of concurrent UHD video streams—across ingest, editing, transcoding, distributing, and archiving. "The pressure of modern post-production and broadcast techniques intensifies as bigger and bigger files are produced," says David Stein, CEO of Interlab, a France-based systems integrator with an extensive background in the film and broadcast industries, who works with Czech TV. "Sustaining the highest levels of throughput quickly becomes a top business priority."

For Czech TV, they needed to accommodate multiple teams of people working on the same large files all at once to perform necessary color correction, and as well as restore many old films in bad initial condition. "Up to five people could be working in real time on 4K files all at once," adds Stein. "Throughout the day, they ingested and read from storage, so storage needed to sustain a high throughput and then scale performance and capacity to manage their future needs."

## BUSINESS BENEFITS

- Production teams readily manage multiple, high-end 4K workflows without bottlenecks
- Integrated platform enables use of a single system for data ingest, color correction, film restoration, transcoding, and finalizing media files
- Ability to add workflows on demand keeps pace with growing broadcast and production needs
- Getting away from legacy SAN FC-based technologies makes CzechTV have a very low TCO

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**David Stein**  
CEO of Interlab

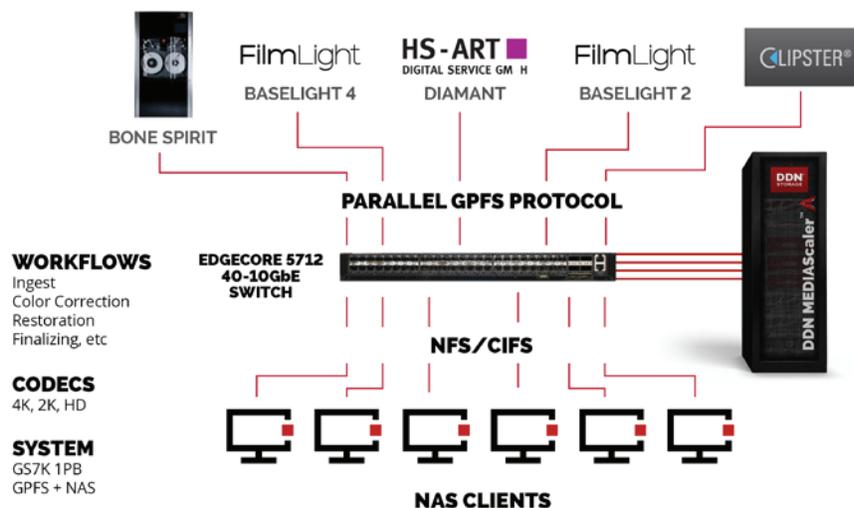
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**David Stein**  
CEO of Interlab

## THE SOLUTION

In reviewing the storage landscape for potential solutions, Czech TV enlisted Interlab to help identify and evaluate fast, scalable, and stable platforms. “As trusted advisors, we worked with Czech TV to determine the most advanced storage technology,” says Stein. “We needed a solution that would support current digital cinema workflows while meeting emerging needs in the future.” To that end, Interlab sought a platform that could be expanded effortlessly to hundreds of gigabytes per second of performance and tens of petabytes of capacity.



The process began by revisiting Czech TV's legacy storage, which was anchored by previous-generation offerings from DataDirect Networks (DDN) SAN storage device and Quantum. In stepping up to DDN's newest technologies, Czech TV had an opportunity to deploy converged media storage that consolidated media workflows onto a single platform. “DDN's MEDIAScaler® provided an all-in-one, turnkey solution that overcomes the scale, performance, and cost hurdles associated with data-hungry media environments,” adds Stein. “This made it easy for Czech TV to grow performance and capacity on demand with both scale-up and scale-out schemas.”

Purpose-built as an easy-to-deploy, scale-out parallel file system appliance, DDN's MEDIAScaler® leverages the power of DDN's Storage Fusion Architecture® (SFA) and performance of IBM® Spectrum Scale™ File System (formerly known as GPFS). Thanks to the embedded SFA technology, DDN enables Czech TV to implement a fully integrated system to meet all its big data demands, giving access to the client via high-performance 40GbE Ethernet over Native workload client or standard SMB and NFS protocols. MEDIAScaler is designed to deliver greater performance and flexibility than traditional Fibre Channel systems, with more ease of use and at a fraction of the price, as this solution also eliminated the need for file-system servers and dedicated hardware, such as FC switches and cards.

Moreover, the organization could take advantage of MEDIAScaler capabilities to integrate storage seamlessly with critical applications, including Baselight for color correction, Diamant for film restoration, and DVS Clipster® for finalization. The strong track record of the previous DDN implementation in terms of stable, proven performance also was appealing.

For instance, Interlab worked with Stordis, a high-performance distributor and open networking proponent, which recommended an Edgecore switch-based network backbone for robust, low-latency client-storage connectivity via IP Ethernet. Edgecore is an open platform that can be used for video distribution in the future.

“During the competitive bid process, several things played in DDN's favor,” explains Stein. “Czech TV really appreciated the reliability of its previous DDN storage as well as the ability to manage crucial workflows on the new storage as a single, fully integrated platform while easily connecting with the corporate network. Usually the best solutions are the simplest ones.”

## TECHNICAL BENEFITS

- Up to five workstations doing real-time 4K DPX can work concurrently with no performance hit
- DDN's integrated parallel file system ensures seamless integration with Diamant, Baselight, Bone, Clipster, Avid DS, and other critical media applications
- The ability to integrate new clients on demand helps avoid any rigidity
- OpenFlow support ensures fast, flexible path to open networking in the future

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**David Stein**  
CEO of Interlab

“DDN's MEDIAScaler is an essential piece of our future global storage network. And the best part of all is that the platform does exactly what it's supposed to. The best product is the one you forget about because it simply works—and that's DDN.”

**Jaroslav Sladek**  
Video Department Chief for Czech Television

Deploying the DDN MEDIAScaler with one petabyte of raw capacity proved simple and straightforward. The installation and data migration from the legacy storage was completed in less than two weeks with no disruption to Czech TV's 24-hour operation. “It was great to oversee the DDN MEDIAScaler deployment at Czech TV,” Stein says. “The professionalism of the DDN implementation team and their deep understanding of media and entertainment workflows, together with outstanding products, made all the difference.”

## THE BENEFITS

Czech TV realized immediate benefits from its DDN MEDIAScaler, starting with the ease with which production teams manage several real-time, high-end 4K workflows throughout the day. As centrally shared storage, the DDN system supports 2K scanning using a Bone Spirit scanner; 4K restoration via three Diamant restoration suites; 4K color correction with two Baselight 4, four-node clusters; 4K and 2K color correction using Baselight 2; and 2K DVS Clipster for finalizing production files. The system also supports data-conforming and editing on an Avid DS high-end finishing system.

The use of Ethernet network technologies – instead of FC – and standard protocols such as SMB and NFS provides straightforward system access, enabling Czech TV to add clients to the system on-demand. This alleviates the rigidity experienced with the traditional SAN system they were using before. The DDN scale-out and scale-up simplicity enables adding more storage without limits—all in the same namespace without downtime or restriping. “We can freely add more productions or applications without the performance bottlenecks of traditional storage,” says Sladek. “And, we can achieve that while realizing an excellent return on our investment.”

With nearly a petabyte of capacity and more than 7GB/s single-stream performance, Czech TV has a future-proof storage infrastructure to satisfy evolving demands, including the emergence of 3D and 8K formats. To that end, the organization also will be able to evolve its network and storage to support OpenFlow, the emerging industry protocol for enabling software-defined networking. “With DDN's support of OpenFlow, Czech TV will have a fast, flexible path to the future,” says Waldemar Scheck, VP at Stordis. “The disaggregation of hardware from software to bring different network functions into the software layer will create new opportunities. Czech TV will have more control over their network and networked-attached storage to ensure the highest levels of quality of service for the most demanding workloads.”

Thanks to DDN's integrated parallel file system appliance, Czech TV will be able to make its vision a reality and create a single pool of data across departments while connecting file storage, tape technology, and eventually object storage into an open, software-defined storage backbone. “DDN's MEDIAScaler is an essential piece of our future global storage network,” concludes Sladek. “And the best part of all is that the platform does exactly what it's supposed to. The best product is the one you forget about because it simply works—and that's DDN.”

## **ABOUT DDN®**

DataDirect Networks (DDN) is the world's leading big data storage supplier to data-intensive, global organizations. For more than 18 years, DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, universities, and government agencies to generate more value and to accelerate time to insight from their data and information, on premise and in the cloud. Organizations leverage the power of DDN technology and the deep technical expertise of its team to capture, store, process, analyze, collaborate, and distribute data, information, and content at largest scale in the most efficient, reliable, and cost effective manner. DDN customers include many of the world's leading financial services firms and banks, healthcare and life science organizations, manufacturing and energy companies, government and research facilities, and web and cloud service providers. For more information, visit our website [www.ddn.com](http://www.ddn.com) or call 1-800-837-2298.