

R&S® Storage solutions

Versatility meets performance



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In the post production and broadcast studio business, two things count when it comes to storage: Speed and reliability. The shared storage solutions from Rohde&Schwarz DVS allow you to save valuable resources and spend your time on what's important. They remove bottlenecks in your workflows as they take the usual infrastructure problems off the table: They are reliable thanks to their RAID system and redundant power supplies, protecting you from disk failure. Moreover, they offer extreme performance and speed, such as UHD, 4K, and 8K. On top of that, the systems are extremely versatile in terms of size, capacity, scalability, speed – you name it.



Experience that matters

Since 1985 we have been providing solutions for the media and entertainment business as well as supporting numerous high-profile clients. We will assist your team every step of the way: From selecting the best solution for your existing and future workflows to configuring and supporting heterogeneous storage infrastructures for efficient file-based workflows.

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SpycerBox Cell	
In a nutshell	
SpycerBox Cell is our flexible and modular shared storage solution. Place it at the core of your workflow for any of your performance requirements. Among its highlights: It offers maximum reliability thanks to a unique failover system and incredible speed of up to 8K. SpycerBox Cell will make your life easier: It's easy to expand, scale, and maintain thanks to its modular design.	
Highlights	
<ul style="list-style-type: none"> 30 disks in 1U Capacity SAS version: up to 36 TB Capacity SSD version: up to 28 TB 	<ul style="list-style-type: none"> 3 GB/s per unit Scalable Unique failover system
Solution	
The SpycerBox Cell is the perfect solution for extra performance in color grading, mastering, and distribution.	

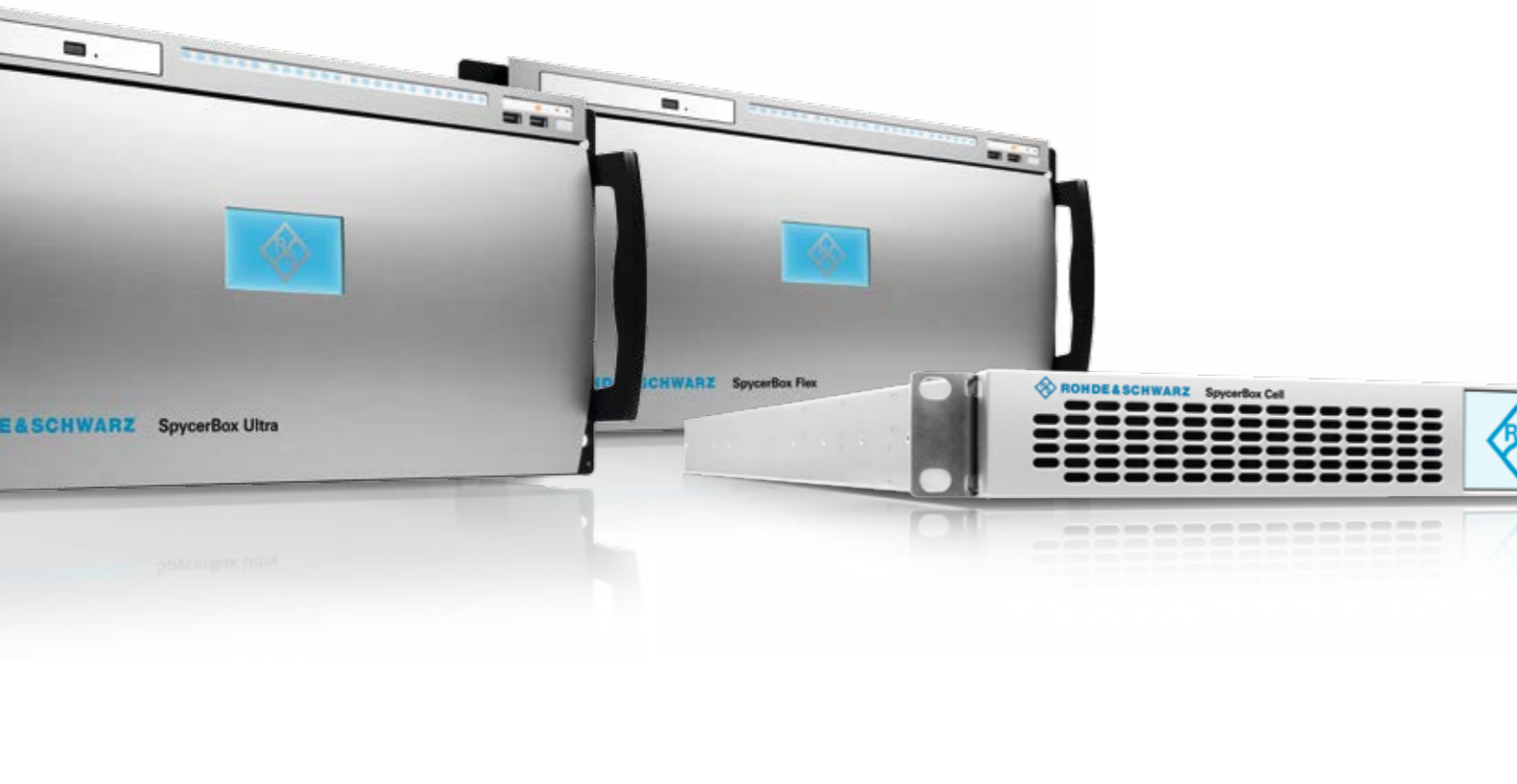
SpycerBox Flex	
In a nutshell	
SpycerBox Flex offers you maximum performance in a single box. SpycerBox Flex has proven its endurance in some of the most demanding workflows in the industry. Its comprehensive feature set and superior performance are always a reliable choice.	
Highlights	
<ul style="list-style-type: none"> 48 disks in 5U Capacity SAS version: up to 57 TB Capacity SSD version: up to 46 TB 	<ul style="list-style-type: none"> 4.5 GB/s High availability option
Solution	
In its SSD version the SpycerBox Flex is the perfect solution for local data processing thanks to its 12 GB/s of local performance and 4.5 GB/s of server performance.	

SpycerBox Ultra	
In a nutshell	
The SpycerBox Ultra is a cost-effective SAN and NAS solution which integrates seamlessly into your existing storage architecture. It offers parallel access via SMB, NFS, block-level, and more. Capable of delivering up to three concurrent 2K streams, SpycerBox Ultra is an established, fast, and reliable nearline storage solution.	
Highlights	
<ul style="list-style-type: none"> 24 disks in 5U/48 disks in 4U Capacity for 5U version: up to 144 TB Capacity for 4U version: up to 288 TB 	<ul style="list-style-type: none"> High-performance, nearline storage solution, providing 3x2K uncompressed streams High availability option
Solution	
The SpycerBox Ultra is an entry-level enterprise HD/2K solution, especially for mastering. Moreover, it's a cost-efficient nearline storage solution that complements the other members of the SpycerBox family.	

DVS-SAN	
In a nutshell	
With a long industry pedigree, DVS-SAN is an outstanding, fully customizable solution. Moreover, it offers full redundancy, zero downtime, and seamless failover. As a completely tailored and individual storage solution, DVS-SAN is the perfect fit for a vast array of heterogeneous workflows.	
Highlights	
<ul style="list-style-type: none"> Customizable disks and capacities Performance: Tailored to your specific requirements 	
Solution	
In its SSD version the SpycerBox Flex is the perfect solution for local data processing thanks to its 12 GB/s of local performance and 4.5 GB/s of server performance.	

R&S® SpycerBox family

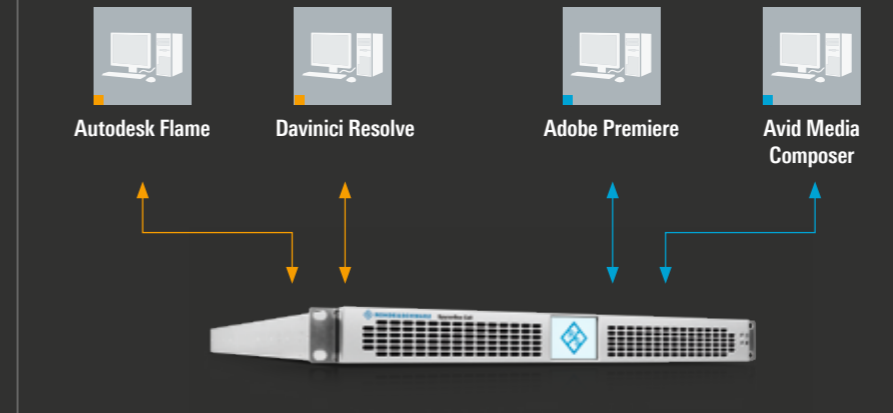
The perfect storage for your media



SpycerBox is Rohde&Schwarz DVS's flexible and modular storage solution for high-performance file-based workflows. Equipped with R&S®Spycer, the content control software, SpycerBox is the perfect solution for your data management workflow. And thanks to its web-based SAN Remo GUI, you can easily configure and monitor your SpycerBox infrastructure.

Simplify your workflow

Several applications in a single storage



Benefits

- Flexible (NAS, SAN)
- Performance of up to 8K uncompressed
- Simplified management by reducing the number of servers involved
- High reliability and endurance with unique failover system and high-availability option

SAN Remo



The SAN Remo GUI helps you configure and monitor the infrastructure of your SpycerBox systems

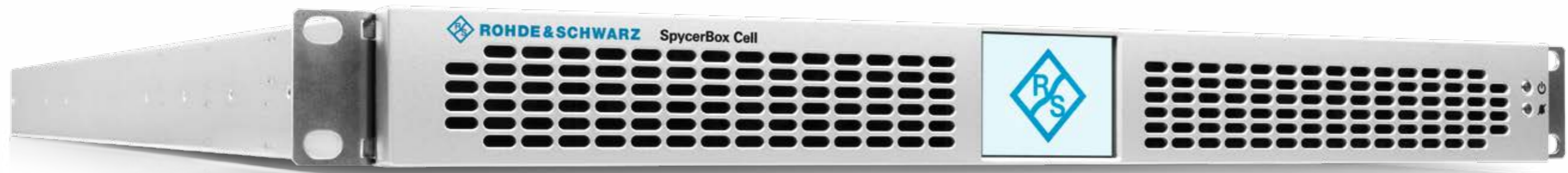
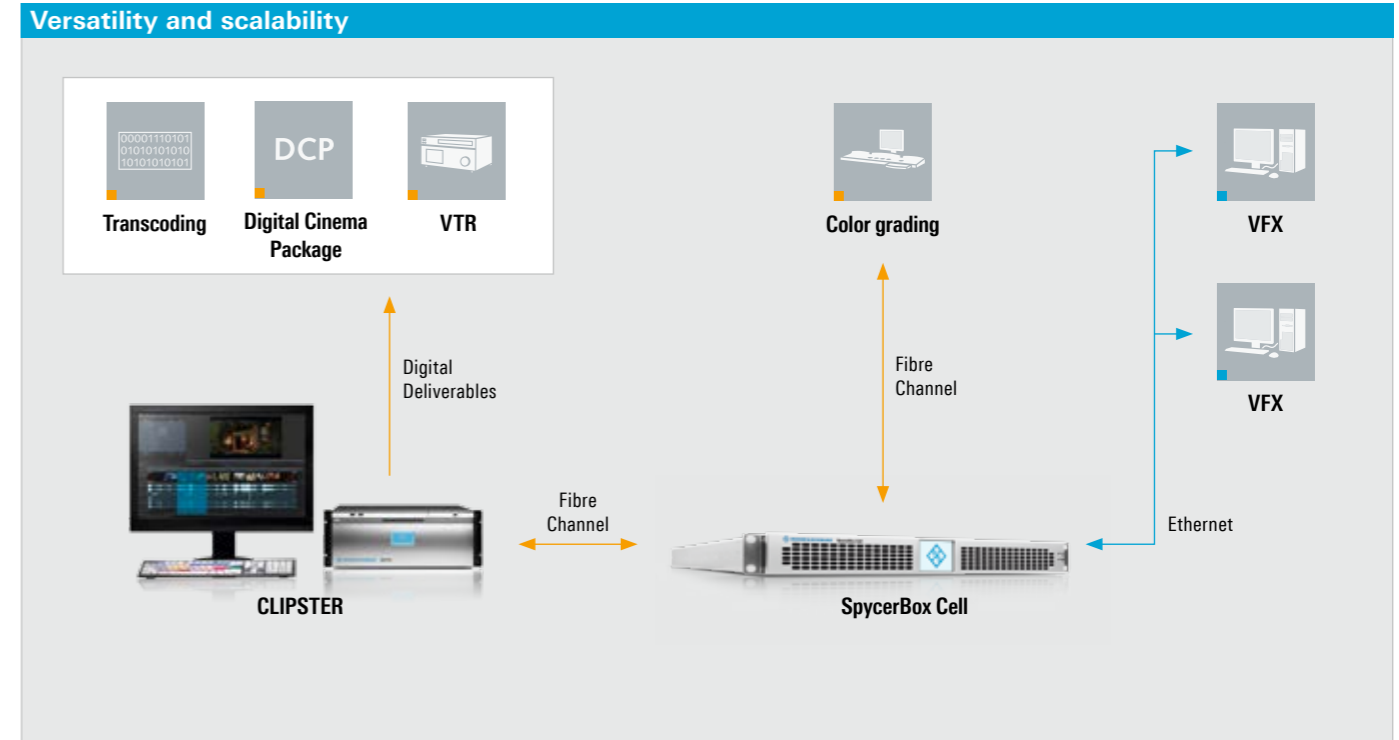
SAN Remo offers easy configuration of your compact storage solutions' infrastructure and software services

Provides an overview of your hardware status as well as performance and bandwidth parameters

HTML5-powered GUI

R&S® SpycerBox Cell

Scalability at its maximum



Post production solution: scalability at its maximum

SpycerBox Cell is an outstanding storage solution for demanding media applications. Never before have 30 hot-swappable drives been placed in a 1U system that allows incredible speeds of up to 8K. Its innovative and powerful design combines incredible storage density with system redundancy and easy maintenance for total reliability and maximum scalability.

Place our flexible and modular shared storage solution at the core of your workflow for any of your performance requirements. Its highlights include unparalleled reliability thanks to a unique failover system and incredible speeds of up to 8K. SpycerBox Cell will make your life easier: It is easy to expand, scale, and maintain thanks to its modular design, reducing downtime to a minimum.

In post production, SpycerBox Cell is the perfect fit for traditional mixed environments. Combine multiple SpycerBox systems to create a dynamic media storage infrastructure. What's more, automated proxy clip generation is suitable for almost any content. Pick the SpycerBox Cell in its SSD version and enjoy the tremendous speed in your workflow thanks to our state-of-the-art SSD technology. Use your favorite color grading software and mastering system, such as R&S®CLIPSTER, while the volume is being accessed by

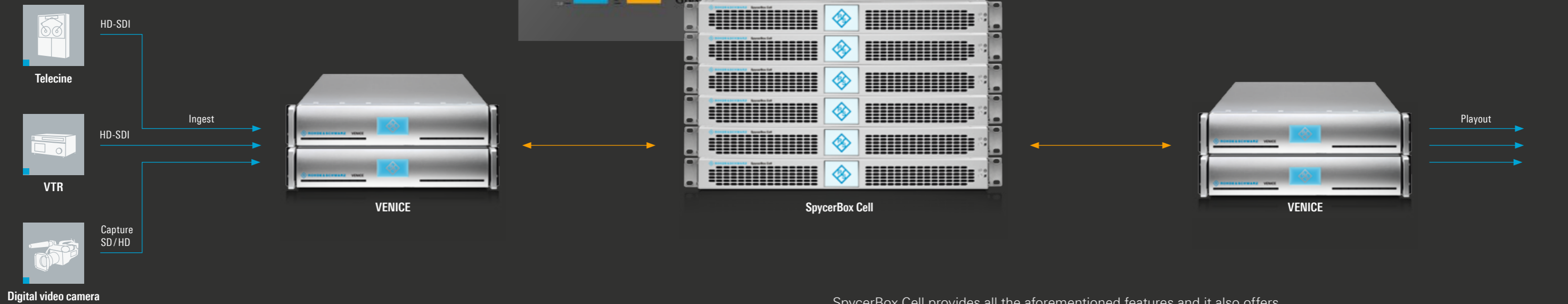
other Ethernet clients without dropping a single frame. Equally profound is our backup and archiving strategy: SpycerBox Cell can directly access Fibre Channel LTO drives and provides the greatest reliability in combination with the proven content control software R&S®Spycer. Its large number of IOPs makes SpycerBox Cell the perfect storage solution for intensive data access environments such as in render farms for distribution.

R&S® SpycerBox Cell

Reliability at its maximum

Broadcast solution: reliability at its maximum

SpycerBox Cell is equipped with enough bandwidth to fulfill even the most demanding tasks in broadcast workflows, like working with compressed formats and RAW video, providing high-resolution clips to editing suites, and supplying compressed proxy clips – all at the same time. Benefit from the wide variety of connectivity options and utilize SpycerBox Cell as a dependable NAS bridge to your existing SAN.



“The DVS SpycerBox was the best solution for us. It’s expandable and compatible with other DVS systems so our storage can grow and adapt to changing production requirements.”

Lee Phillips, Senior Editor at Ragdoll Productions

SpycerBox Cell provides all the aforementioned features and it also offers a further range of outstanding functions:

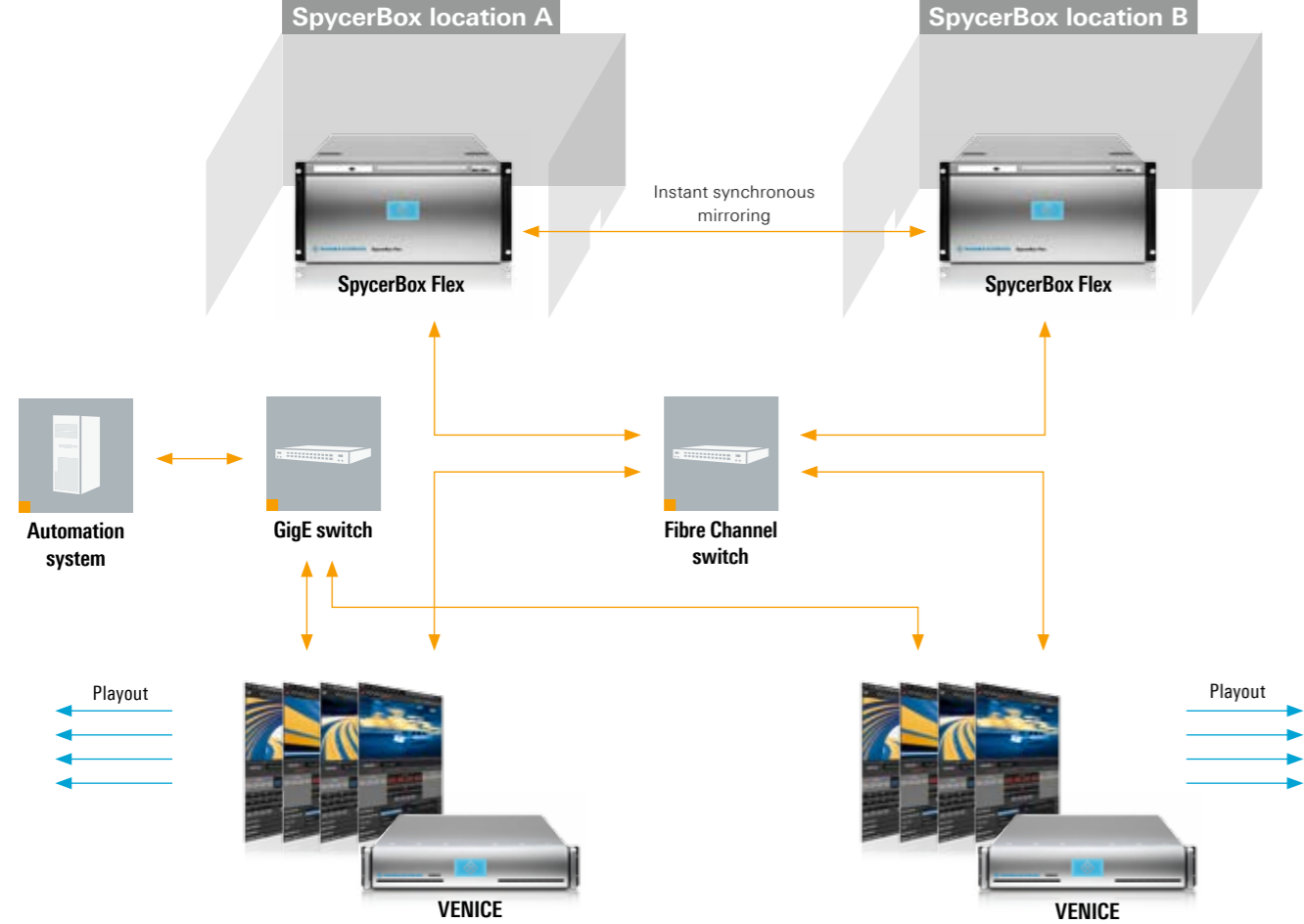
- ▮ High-speed data copying thanks to Spycer software and SpycerLink connections
- ▮ Offline editing combined with high-performance, high-demand bandwidth tasks
- ▮ Automatic backup generation thanks to the built-in scheduler
- ▮ Supports Final Cut Pro® clients with Xsan® software
- ▮ Connects realtime and nearline workflows with each other
- ▮ Hardware-based remote control over dedicated Ethernet
- ▮ Enhanced protection with a unique failover system ensuring reliability in 24/7 environments
- ▮ Enterprise SAS disks and state-of-the-art SSD technology

R&S® SpycerBox Flex

SpycerBox Flex offers you the ultimate in performance in a single box. SpycerBox Flex has proven its endurance in some of the most demanding workflows in the industry. Its comprehensive feature set and superior performance are always a reliable choice.

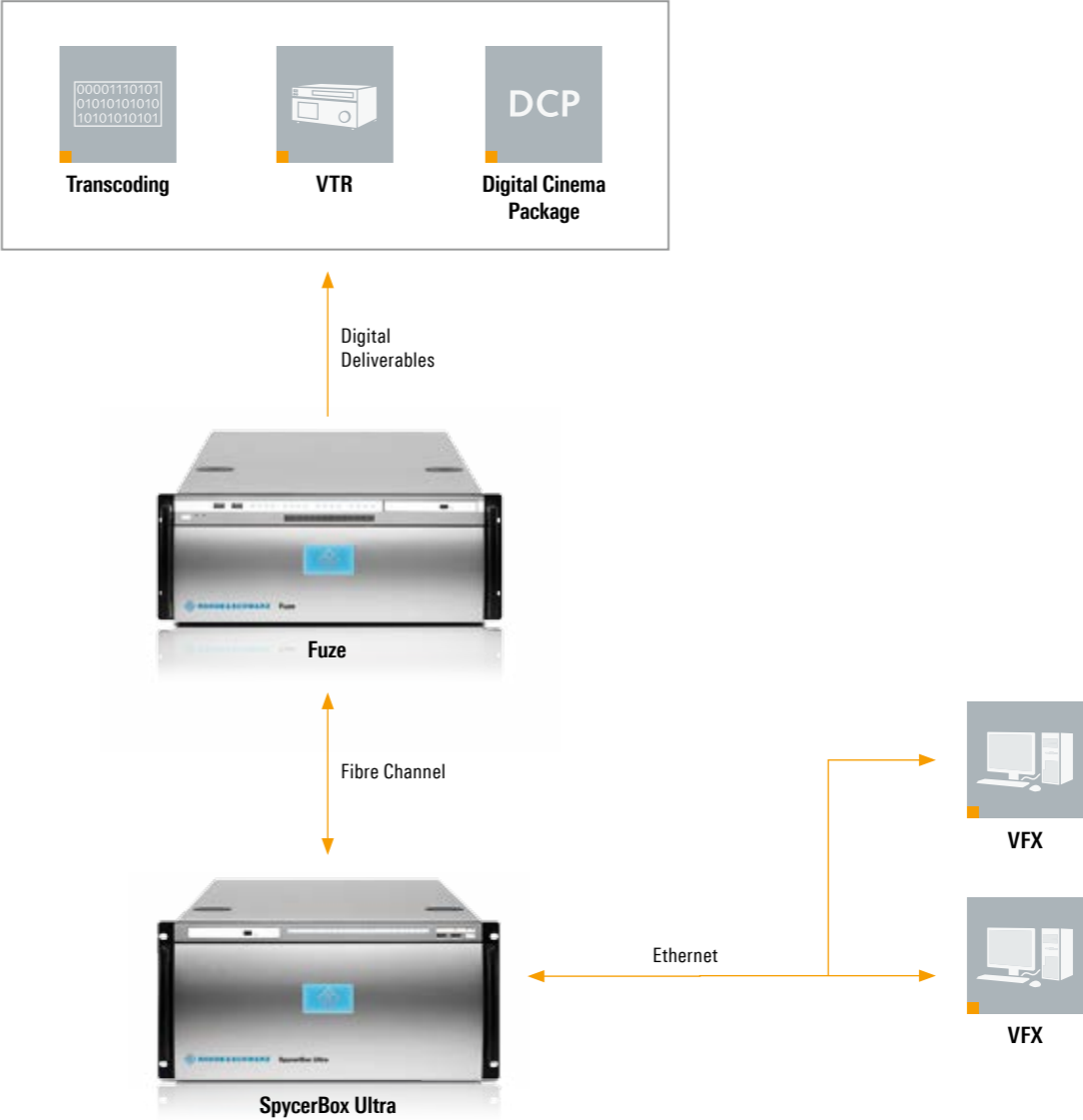
High-availability storage synchronization

With its high-availability option SpycerBox Flex ensures uninterrupted operation offering extreme reliability through its failover functionality. Low latency instant synchronization ensures that data is identical on both the primary and secondary box at any given time. What's more, you benefit from instant failover in mission-critical workflows. Other fields of application include archive environments at multiple locations or synchronous/asynchronous data replicas. WAN-connectivity is also possible. SpycerBox Flex provides an integrated solution that is easy to manage and robust enough to act as the core of your workflow.



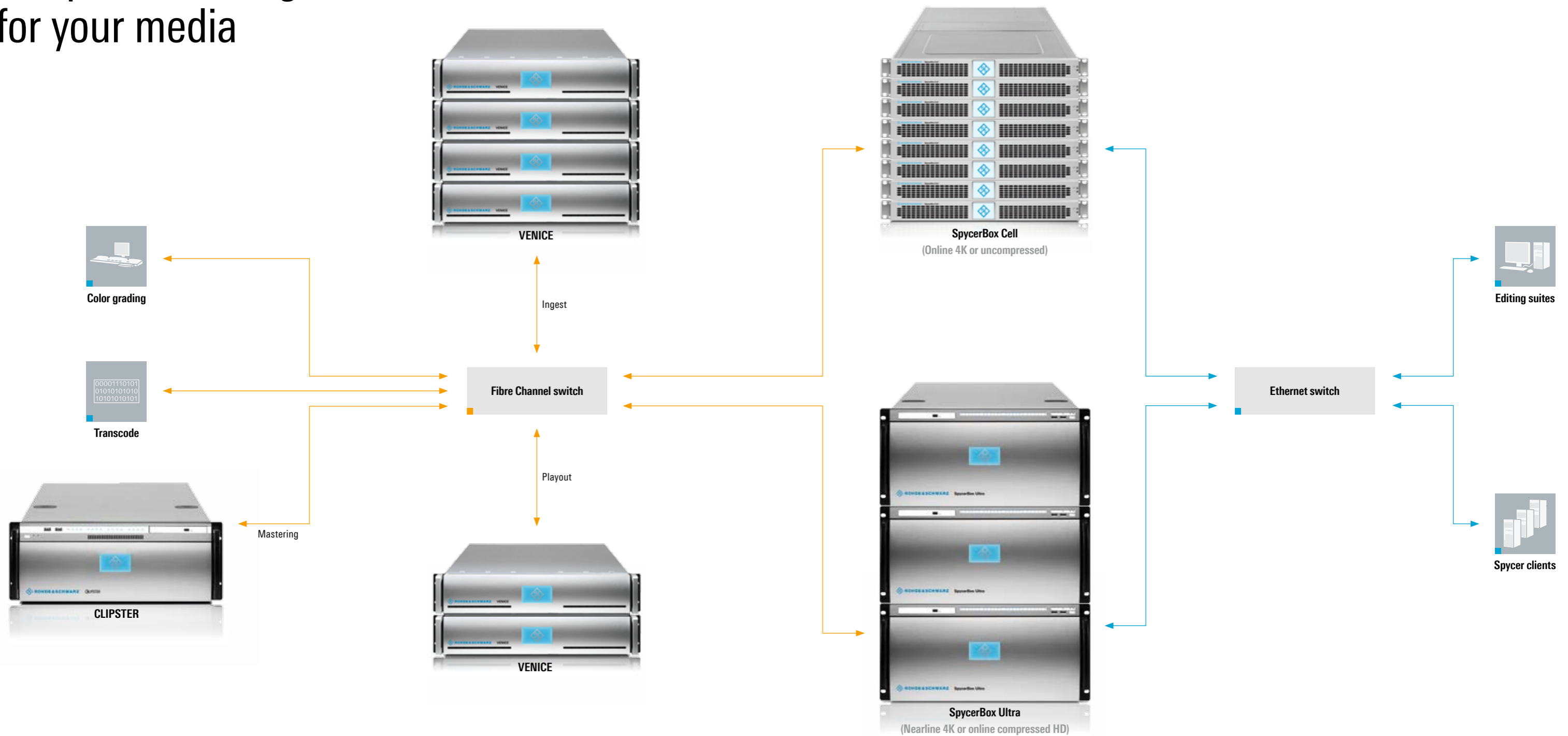
R&S® SpycerBox Ultra

SpycerBox Ultra is a SAN and NAS solution which integrates seamlessly into your existing storage architecture. It offers parallel access via SMB, NFS, block-level, and more. In addition to our high-performance SpycerBox models, SpycerBox Ultra is a fast and reliable nearline storage solution that completes the Rohde & Schwarz DVS storage family. Equipped with 3.5" hard disks it can easily handle three 2K DPX uncompressed streams or more than 50 compressed streams, making it the perfect entry-level enterprise storage solution that's also cost-effective.



R&S® SpycerBox family

The perfect storage for your media



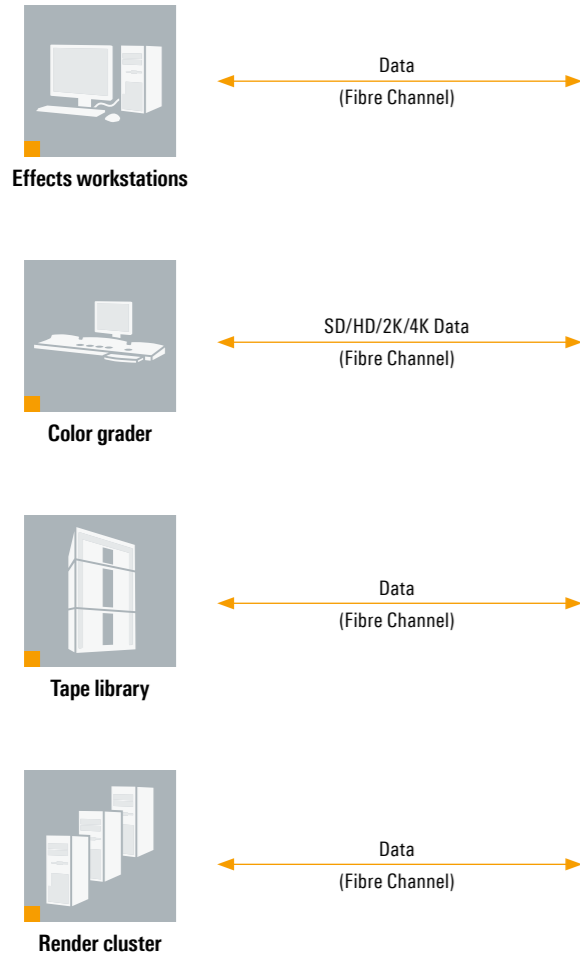
System philosophy and openness

The SpycerBox family's strength is its open architecture – it is not a proprietary, insular solution. It meets every workflow and performance need. Whether working with compressed or uncompressed material in HD, 2K, 4K, and even 8K, all connected clients can directly access digital

film and video data on the SpycerBox at sustained data rates. Create the perfect pair by teaming up different SpycerBox models. When it comes to your storage system, utilize the performance of the SpycerBox Cell and the cost-effective SpycerBox Ultra to achieve optimum compatibility and maximum performance.

R&S® DVS-SAN

The tailored storage solution

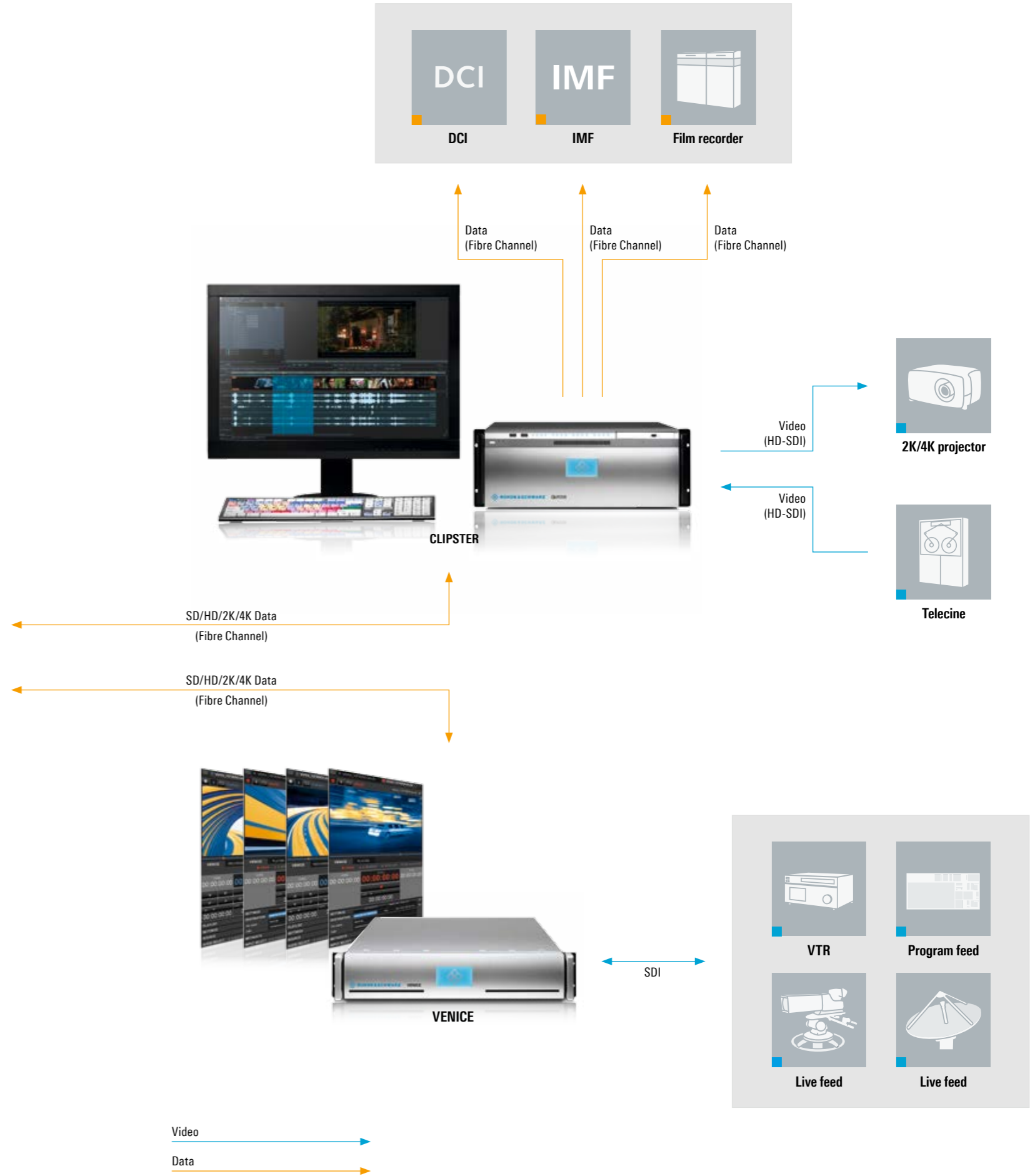


Customized and modular

As the need for storage increases over time, Rohde&Schwarz DVS's custom storage solutions are designed to scale to your requirements. Rohde&Schwarz DVS offers powerful entry level, mid-size, and enterprise class storage solutions to meet a wide variety of requirements, while providing the modularity to adapt to each and every infrastructure present. Benefit from our years of SAN expertise and let us help you configure a cutting-edge storage system tailored specifically to your workflow needs.

Years of SAN expertise

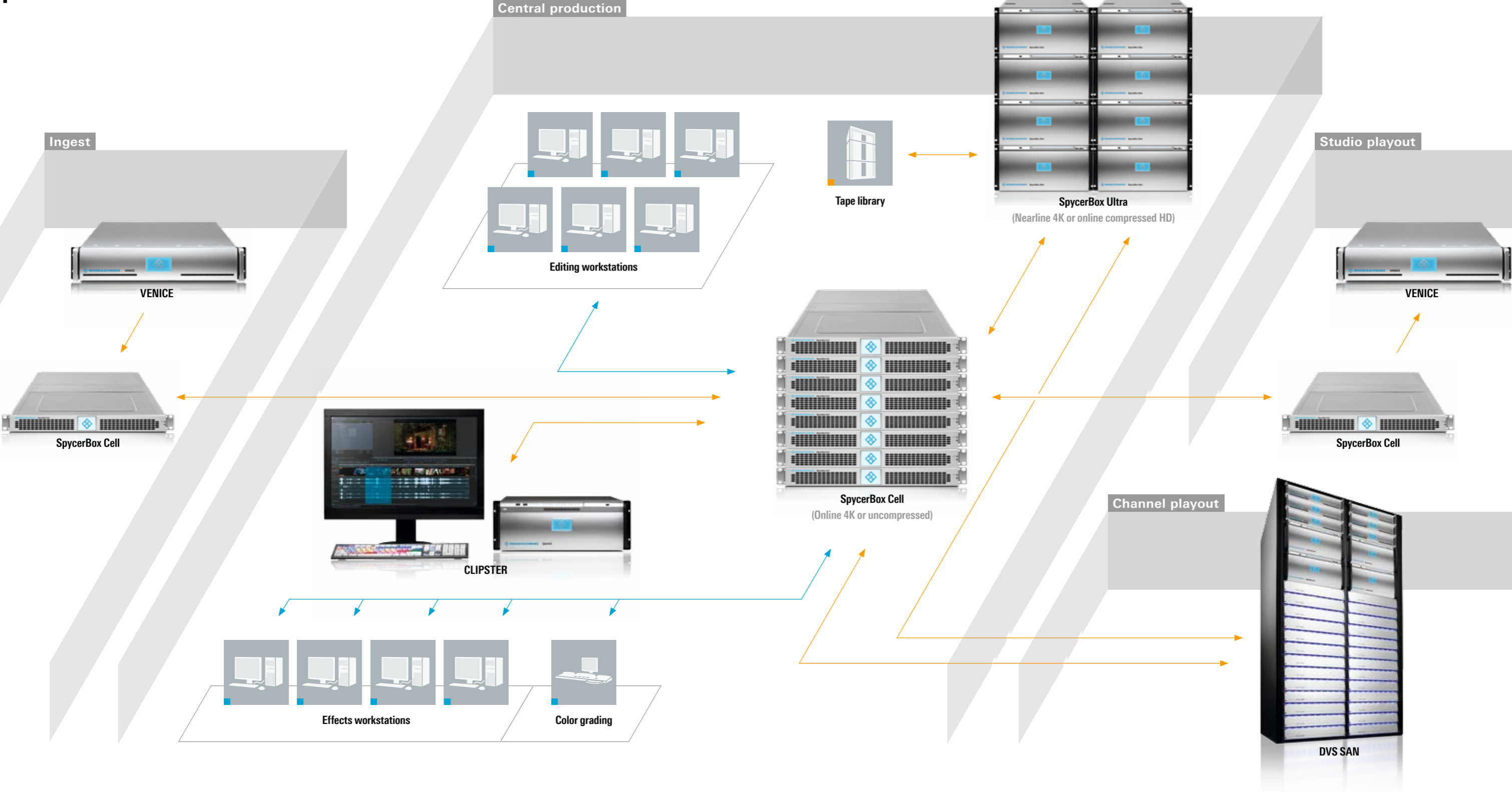
Digital film and video post production and broadcasting present different requirements on storage than general IT-industry use. Rohde&Schwarz DVS has years of experience handling both uncompressed and compressed high-resolution video material. DVS-SANs are high-performance storage solutions that exceed the demanding requirements of today's media industry workflows, and are designed to meet future challenges head-on. Future-ready, the DVS-SAN provides a long-term solution for your unique requirements.



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Fitting in your workflow
 What you see here is how versatile the R&S systems are applied. Our storage systems for example, are ideal in several workflows: ingest, central production, studio layout or channel layout.



R&S® Spycer

The complete content control

- Gain an overview of your files and metadata
- Effectively tidy up your SAN or NAS
- Correct and edit the names of file sequences
- Edit and amend the metadata in the file headers
- View the content distributed in your facility via an intuitive GUI, and eliminate the use of command-line tools
- Use the unique de-scattering tool to maximize storage performance and efficiently optimize individual, fragmented clips
- Avoid nerve-racking process delays thanks to Spycer's high-speed copy algorithms
- Use the Spycer job scheduler to automate copying, archiving, and de-scattering processes
- Automate proxy generation for preview and offline editing by defining watchfolders



The value of metadata

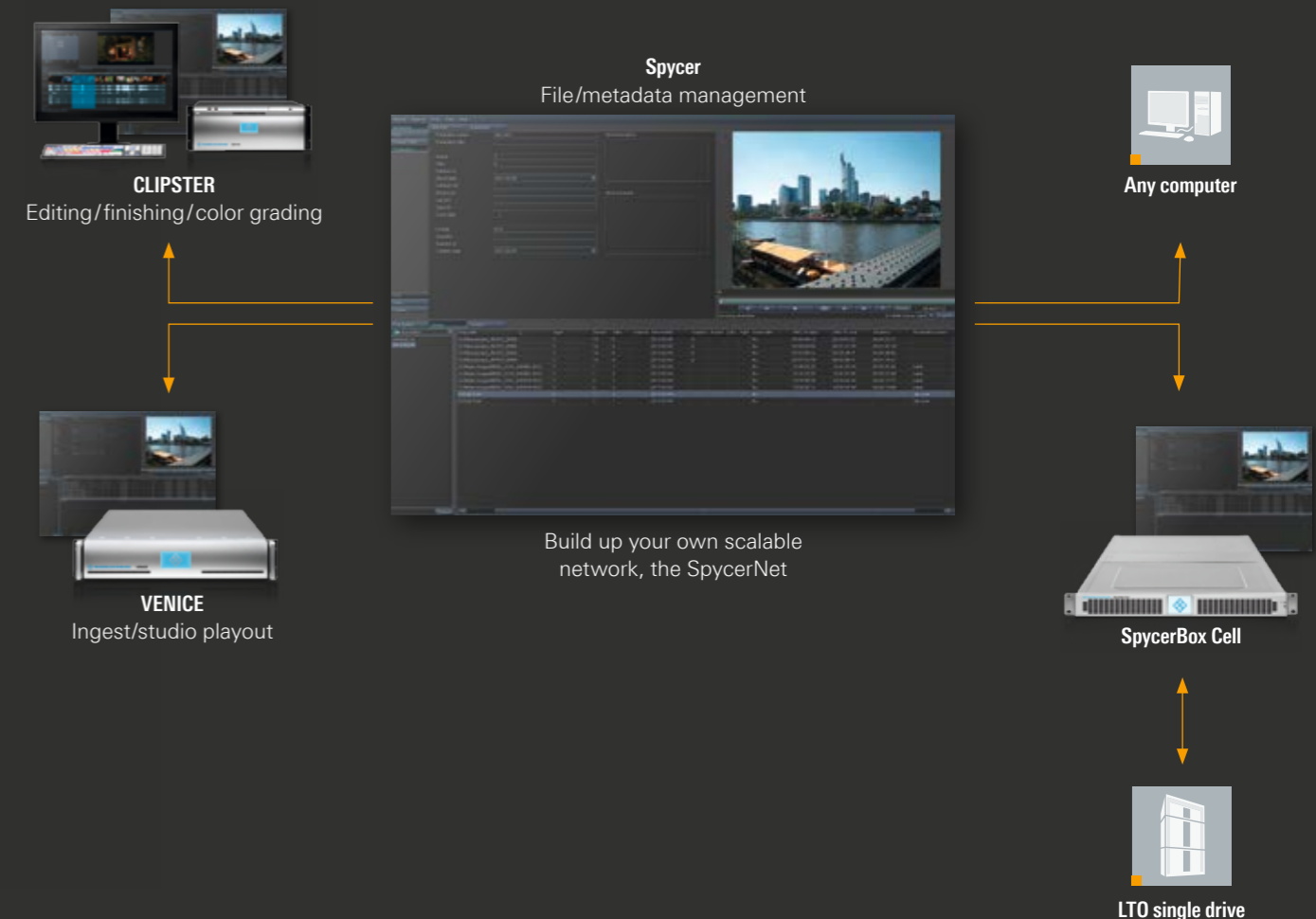
With Spycer, you gain full control over your value of metadata. Browse and preview your media and handle the corresponding metadata. Read, modify, index, and search metadata across your whole SpycerNet. Customize the metadata field to adapt it to your needs. Spycer supports over 180 different formats, including multiple MXF variants typically used in broadcast workflows with codecs like DVCPRO®, XDCAM®, and DNxHD®. It can also handle RAW file data shot by many cameras including those from RED®, ARRI, Sony, Phantom, and Silicon Imaging, and it can also visualize 3D LUTs represented as a color cube.

It's all about speed

Share the data remotely across the SpycerNet at top speed between your storage solutions. Use the unique de-scattering tool to maximize storage performance, and efficiently optimize individual, fragmented clips. Control your Rohde & Schwarz DVS systems from wherever you are, create transcode jobs in R&S®CLIPSTER, and schedule jobs in R&S®VENICE – the list is endless.

One tool for your workflow

- Ingest your media from camera storage solutions like XDCAM® or P2
- Transcode proxy resolutions for easy browsing of your media
- Configure watch folders and create scheduled jobs for automated processes
- Integrated in all products from Rohde & Schwarz DVS



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- Parallel streams/unit
- Maximum capacity/unit
- Unit height
- Disks/unit
- Online scalability to multiple petabytes
- RAID protected disks
- Redundant controller
- Redundant power supply
- Redundant metadata controller
- No single point of failure
- Integrated Spycer control
- SAN Remo Web GUI management tool
- Optional SSD metadata array
- Optional SSD data array
- SAN 16 Gb Fibre Channel clients
- NAS 10 Gb Ethernet clients
- NAS 40 Gb Ethernet clients
- SMB/NFS support

Parallel streams/unit	3x 4K
Maximum capacity/unit	36 TB
Unit height	1U
Disks/unit	30x 2.5"
Online scalability to multiple petabytes	✓
RAID protected disks	✓
Redundant controller	active/passive
Redundant power supply	✓
Redundant metadata controller	✓
No single point of failure	✓
Integrated Spycer control	✓
SAN Remo Web GUI management tool	✓
Optional SSD metadata array	✓
Optional SSD data array	✓
SAN 16 Gb Fibre Channel clients	✓
NAS 10 Gb Ethernet clients	✓
NAS 40 Gb Ethernet clients	optional
SMB/NFS support	✓

Parallel streams/unit	4x 4K
Maximum capacity/unit	57,6 TB
Unit height	5U
Disks/unit	48x 2.5"
Online scalability to multiple petabytes	-
RAID protected disks	✓
Redundant controller	High availability option
Redundant power supply	✓
Redundant metadata controller	-
No single point of failure	-
Integrated Spycer control	✓
SAN Remo Web GUI management tool	✓
Optional SSD metadata array	✓
Optional SSD data array	✓
SAN 16 Gb Fibre Channel clients	✓
NAS 10 Gb Ethernet clients	✓
NAS 40 Gb Ethernet clients	optional
SMB/NFS support	✓

Parallel streams/unit	3x 2K
Maximum capacity/unit	144 TB/288 TB
Unit height	5U/4U
Disks/unit	24 x 3.5"/48 x 3.5"
Online scalability to multiple petabytes	-
RAID protected disks	✓
Redundant controller	High availability option
Redundant power supply	✓
Redundant metadata controller	-
No single point of failure	-
Integrated Spycer control	✓
SAN Remo Web GUI management tool	✓
Optional SSD metadata array	✓
Optional SSD data array	-
SAN 16 Gb Fibre Channel clients	✓
NAS 10 Gb Ethernet clients	✓
NAS 40 Gb Ethernet clients	-
SMB/NFS support	✓

Parallel streams/unit	custom
Maximum capacity/unit	custom
Unit height	custom (2U per disk enclosure)
Disks/unit	24 x 2.5"/12 x 3.5"/48 x 3.5"
Online scalability to multiple petabytes	✓
RAID protected disks	✓
Redundant controller	active/active
Redundant power supply	✓
Redundant metadata controller	optional
No single point of failure	✓
Integrated Spycer control	✓
SAN Remo Web GUI management tool	-
Optional SSD metadata array	✓
Optional SSD data array	✓
SAN 16 Gb Fibre Channel clients	✓
NAS 10 Gb Ethernet clients	optional
NAS 40 Gb Ethernet clients	optional
SMB/NFS support	optional

Service

Offering superior service for our entire product portfolio is integral to the Rohde&Schwarz DVS philosophy. Our support and service team is comprised of engineers who consider first-class, professional customer service their first priority.

We offer optimum support and service, with service packages tailored to clients' specific needs – even with optional 24/7 support. Our service team can assist onsite or perform services quickly and reliably via remote control. Rohde&Schwarz DVS also has a service website, complete with detailed technical documentation to provide current updates, upgrades, and relevant information.

Our services reflect the quality of our products: Our clients benefit from individualized support and reliable service.

Our service team is available to you at service.dvs@rohde-schwarz.com

Training

Learn in-depth about your product from Rohde&Schwarz DVS. With our comprehensive training program, we offer the opportunity to become completely at home with your equipment. We're also happy to support you with the implementation and setup of your system.

Our authorized Education Center offers individual training programs onsite and is ready to assist you with relevant information on each workflow. We'd also be happy to welcome you at the Rohde&Schwarz DVS headquarters for a hands-on training session with your new equipment. You will receive concise training courses for various product updates, allowing you to immediately familiarize yourself with new developments.

Our professional training courses provide you with the detailed knowledge to make the most of your equipment.

Ask about our training packages at training.dvs@rohde-schwarz.com

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 realtime 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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