

Quantum.

Studio RD101 Accelerates Production of Metaverse Content with High-Performance Storage from Quantum



CASE STUDY

Studio RD101 is a leading visual effects (VFX) and media production studio in South Korea that contributes to a variety of TV shows, films, and streaming programs. To meet fast-growing demand for metaverse content, RD101 needed to build a robust, scalable storage environment. By implementing an end-to-end, multi-tiered solution based on the Quantum StorNext platform, the studio has modernized its infrastructure to support cutting-edge workflows.

An established leader in VFX, RD101 has ventured into the metaverse—virtual reality and mixed reality worlds where people and businesses can interact. RD101 has created an R&D center to build metaspaces and produce digital content for businesses that are establishing their presence in these new worlds.

As part of its journey into the metaverse, RD101 is also creating “metahumans.” The studio uses patented technology to develop highly realistic digital representations of people with a variety of lifelike expressions and emotions. Because they are digital, these metahumans can easily be modified over time. RD101 can help advertisers subtly adjust

S T U D I O
RD101

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CEO, RD101

**FEATURED
PRODUCTS**





SOLUTION OVERVIEW

- Quantum StorNext® 7 File System
- Quantum F-Series NVMe Storage
- Quantum Xcellis® Workflow Director
- Quantum Xcellis Workflow Extender
- Quantum QXS™ Disk Storage

KEY BENEFITS

- Gained the scalability to support rapidly rising data volumes of ultra-high-definition video, VFX, and metaverse content.
- Accelerated VFX, metaverse, and post-production workflows with high-performance storage.
- Facilitated collaboration, enabling more than 80 creators to easily store, share, and access metaverse content.
- Helped ensure uptime and data availability with responsive technical support.

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metahumans to match evolving changes in consumer tastes or to better support new product promotions.

Creating metahumans requires a powerful storage environment. RD101 needed storage that could deliver the optimal combination of scalability, performance, and support for collaborative workflows.

Pinpointing Storage Requirements for Metaverse Content

To create digital representations of humans, RD101 uses 4D scanning technology that captures eye, lip, and other facial movements as 6K sequential images. Those images are extracted and stored as representations of more

than 50,000 facial expressions. Images captured at 60 fps by 22 cameras produce 1 TB of new data every second. To process and store these images, RD101 needs storage with large and scalable capacity.

Performance is also key. A high data I/O rate is essential for ensuring fast processing of captured images and newly generated data. Storage systems also must perform repetitive simulation tasks rapidly.

Collaboration requires robust performance as well. Whether creating metaverse characters or working on more typical post-production tasks, such as

editing or color correction, multiple team members must be able to work on the same project, simultaneously, without slowdowns. At the same time, integration between NAS and SAN storage systems is critical for allowing team members to rapidly transfer large amounts of data.

Implementing Robust, End-to-End Storage with Quantum

To meet the rigorous requirements of all the studio's projects, RD101 implemented an end-to-end storage solution from Quantum. The solution is powered by the StorNext 7 shared storage file system. StorNext provides a high-speed, collaborative file system that is ideal for working with the large ultra-high-definition video files that RD101 is capturing and creating. The studio can easily scale their StorNext subscription for file system services, maintenance, and support to adapt to their changing storage environment as needed.

The StorNext 7 File System runs on Xcellis Workflow Director and Extender systems to support integrated management of the entire storage system operating environment. Quantum F-Series NVMe (Non-Volatile Memory Express) storage provides the ultra-high-speed performance needed for demanding work. The solution also includes QXS Disk Storage as lower-tier storage.

"The Quantum solution provides high-performance, high-availability, shared, and unified storage that is optimized for studio editing, rendering, and other performance-intensive workloads, such as creating metaverse content," says Kwon Kyung-dal, CEO of RD101. "The Quantum StorNext and F-Series NVMe storage platforms provide powerful and scalable performance plus collaboration capabilities at each stage of the video editing workflow."

In the future, the studio plans to integrate archival and backup storage as well as a cloud-based content management system. With these additional components, the team can expand capacity to support growing volumes of metaverse, VFX, and video content.

Tapping into High-Performance Storage for Demanding Workloads

The F-Series NVMe storage server provides outstanding performance from a single 2U chassis. The NVMe communication standard can achieve speeds up to six times higher than a SATA interface, making it suitable for high-speed and large-capacity data processing. For the RD101 team, that speed enables real-time editing of 8K 60 fps high-resolution content without dropping frames.

The combination of an NVMe system with StorNext, Xcellis, and a 100 Gb network gives RD101 the speed for performance-intensive workflows. Now the team can collaboratively produce metahumans, generate exciting VFX, and complete post-production projects while meeting tight deadlines.

Maintaining Reliability and Gaining Scalability for the Future

With the Quantum solution, Studio RD101 has a reliable storage environment that is backed by strong support. "We selected the Quantum solution by comprehensively considering system reliability, technical support, and ease of expansion," says Kwon Kyung-dal. "Quantum provides quick technical support in the event of a failure."

The RD101 team can maintain that reliability even as it scales storage capacity. By implementing the platform, the studio can easily add

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capacity to accommodate growing volumes of large files. Tiering helps RD101 store data for long periods of time while still providing ready access to content.

Facilitating Collaboration Among Diverse Teams

Quantum's shared storage platform makes high-performance file sharing and collaboration easy. RD101 team members can share files among systems, regardless of whether they are using Windows, Linux, Mac, or Unix operating systems. With the Quantum solution, RD101 also has flexible storage connectivity options—including SAN, distributed LAN client (DLC), NAS, and workstation connections—to help further facilitate file sharing.

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Preparing for a Fast-Changing Field

With the solution in place, the RD101 team is well prepared for the future of the metaverse and demand for any other new types of content. “The industry is changing rapidly,” says Kwon Kyung-dal. “We can survive only by changing the existing production environment to connect new opportunities with profits and meet consumer expectations.”

ABOUT RD101

Founded in 2018, Studio RD101 today offers a full range of visual effects (VFX), commercial, digital intermediary, and media production services. RD101 has become a leading VFX studio in South Korea, providing stunning results for episodic TV shows, feature films, streaming services, and now the metaverse.

Quantum

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter. Quantum is listed on Nasdaq (QMCO) and the Russell 2000® Index. For more information visit www.quantum.com.

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