

University of Reading Strengthens Cyber Resilience, and Gains Control Over Massive Research Data Estate with Rubrik NAS Cloud Direct

INDUSTRY

Higher Education

CHALLENGES

- **Lack of Data Visibility and Control:** Vast amounts of fragmented NAS backups across numerous files and folders made data management and monitoring difficult.
- **Insufficient Threat Detection and Monitoring:** Inability to effectively monitor and respond to rapidly evolving cybersecurity threats, leaving valuable research data vulnerable to breaches.
- **Inefficient Recovery:** Manual recovery processes delayed recovery, hampering productivity and preventing the IT team from focusing on more strategic initiatives.

RESULTS

- Effectively utilized Rubrik's anomaly detection capabilities for near real-time threat detection and alerts on suspicious activity.
- Reduced cloud storage footprint by 70%, enhancing cost-efficiency and scalability.
- Achieved 50% faster file recovery with targeted and rapid restoration of critical data.
- Streamlined and automated NAS data protection and management with Rubrik, leading to reduced administrative overhead.

The University of Reading is one of the UK's leading research-intensive universities, with a mission to deliver world-class teaching and push the boundaries of knowledge. With over 19,000 students from around the globe and sites spanning the UK and Malaysia, the university generates massive volumes of unstructured data from academic research projects across disciplines like meteorology, food science, real estate, and more. This data is crucial for the university's research endeavors, contributing to significant advancements in various fields.

"Our researchers are producing many terabytes of new data every month from simulations, modeling, imaging, and other activities," said Kevin Mortimer, Head of Operations at the University of Reading. "Managing and protecting all of this unstructured data was an immense challenge. The sheer volume and diversity of the data made it difficult to ensure that everything was properly backed up and secure."

BURIED IN AN AVALANCHE OF RESEARCH-FUELED UNSTRUCTURED FILE DATA

Like most universities, Reading's IT team used large-scale Network Attached Storage (NAS) systems to house all of their researchers' file-based data. This included everything from tiny config files to multi-gigabyte video files, all wildly intermixed across millions of folders and subfolders. The complexity of managing such a vast and varied data estate was overwhelming.

"Some of our research data is just a collection of small files, while other projects have massive individual files that are terabytes in size," explained Mortimer. "It was impossible for us to get our arms around and protect it all. The diversity in file sizes and types added layers of complexity to our data management processes."

The university had been using Rubrik's NAS Direct Archive capability to back up their NAS data to the cloud, but this approach required the data to be first ingested to the on-premises Rubrik appliance before being sent to the cloud archive, consuming valuable backup storage capacity. The archive process was inefficient and didn't provide great visibility into the data itself.

"We essentially treated our NAS backups as just another copy of the data," said Mortimer. "But walking through the entire archive tree every day to monitor for things like ransomware was nearly impossible with so much data spread across so many files and folders. The lack of visibility and control over our data was a significant pain point that continued to grow year over year."

STREAMLINING UNSTRUCTURED DATA SECURITY AND MANAGEMENT WITH RUBRIK

In 2022, Reading deployed Rubrik NAS Cloud Direct, which allows the direct ingestion of NAS data into a cloud-based data lake without the need for an on-premises Rubrik appliance. A lightweight virtual appliance is spun up on the NAS cluster itself to transfer data directly to the cloud target. This innovative approach streamlined the data management process and provided the university with greater control over their data.

“Getting NAS Cloud Direct up and running was so easy,” recalled Mortimer. “We spun up the Rubrik VA on our Nutanix Files cluster, pointed it at our NAS shares, and it just worked – pushing all of our data directly into our Rubrik Cloud Vault overnight. The simplicity and efficiency of the deployment were remarkable.”

With all of their unstructured data now residing in an immutable, indexed data lake, Reading has gained powerful new capabilities for managing and recovering their critical research assets. Global predictive search allows them to quickly locate any file across their entire data estate based on metadata, filename patterns, or other criteria. This capability has significantly improved the efficiency of data retrieval processes.

“In the past, recovering a researcher’s lost file could be a nightmare – we’d have to hunt through our entire archive tree trying to find it,” said Mortimer. “Now we just search for it and restore it instantly from the data lake. The performance is incredible. The time saved in data recovery has allowed our IT team to focus on more strategic initiatives.”

The streamlined approach has also drastically reduced Reading’s cloud storage footprint by up to 70%, since only unique, compressed data is stored in the data lake. This reduction in storage requirements has led to significant cost savings for the university.

And thanks to Rubrik’s anomaly detection capabilities, any suspicious encryption or deletion events across the

university’s NAS data are now quickly flagged. “We used to treat our NAS backups as just cold DR copies, but now it’s an active, living dataset that we can monitor and analyze,” said Mortimer. “We get alerts anytime something looks out of the ordinary so we can investigate right away. This proactive approach to data security has enhanced our ability to protect our valuable research data.”

EMPOWERING RESEARCH AND ACADEMIC EXCELLENCE

For the University of Reading, Rubrik’s modern approach to unstructured data management has been a game-changer in terms of data security, operational efficiency, and supporting the university’s core research mission. The ability to manage and protect their data more effectively has empowered researchers to focus on their work without worrying about data loss or security breaches.

“Our research data is a precious asset that powers academic discovery and innovation,” said Mortimer. “With Rubrik NAS Cloud Direct, we finally have a solution that allows us to truly understand, control, and protect this vital data on a massive scale. The peace of mind that comes with knowing our data is secure and easily accessible is invaluable.”

The university’s IT team has also benefited from the enhanced visibility and control provided by Rubrik NAS Cloud Direct. They can now monitor unstructured data usage patterns, identify potential issues before they become critical, and ensure compliance with data protection regulations. This level of oversight has improved the overall efficiency and effectiveness of the university’s IT operations.

In addition to the technical benefits, the deployment of Rubrik NAS Cloud Direct has had a positive impact on the university’s reputation as a leading research institution. The ability to manage and protect large volumes of research data effectively has attracted more researchers and students to the university, furthering its mission to deliver world-class teaching and push the boundaries of knowledge.



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