

# UC San Diego Achieves Instant SQL Recovery and Migrates to AWS S3 with Rubrik

## UC San Diego

### INDUSTRY

Education

### RESULTS

- 90% faster recoveries (from 4+ hours to <10 minutes for restores)
- 90% management time savings (from 10 hours/week to minutes/week)
- Data archival to AWS S3 for long-term retention and instant access

### BUSINESS TRANSFORMATION

UC San Diego employs Rubrik's simple multi-tenant model to provide self-service access and management to other lines of business. With SQL Live Mount, they can instantly spin up copies of SQL databases for accelerated test/dev or security analysis. Rubrik also allows the university to migrate to AWS S3. They will use CloudOn in the future for a stronger disaster recovery strategy.

### IT TRANSFORMATION

The university previously struggled with a complex and expensive legacy environment. Additionally, they were unable to integrate with cloud. With Rubrik, they achieved a software converged solution to provide easy management and deeper analysis across their entire environment. They easily integrated with AWS S3 for archival and disaster recovery in the future.

Founded in 1960, University of California San Diego (UC San Diego) is a high-ranking public institution located in the La Jolla community of San Diego, California. With over \$1 billion in annual research funding, UC San Diego is one of top 15 research universities worldwide. Their faculty, researchers, and alumni have received numerous awards, including 25 Nobel Prizes, three Field Medals, and two Pulitzer Prizes. The university has six undergraduate colleges, five academic divisions, and five graduate and professional schools.

At the university, the 400-person IT department supports over 30,000 students and 6,000 faculty and staff. John Iraci, Director of Computing Infrastructure, oversees a team of 50 to manage infrastructure operations and applications. "From ensuring secure access to student's emails, providing computer software at our research labs, or enabling a staff member to complete a purchase order, IT lives at the center of the university," said Iraci. "With Rubrik, we have peace of mind that our data is protected."

### MANAGEMENT COMPLEXITY AND RISING COSTS FROM A MULTI-TIERED ARCHITECTURE

When the university consolidated nine groups into one centralized IT department, it resulted in a complex IT environment consisting of disparate hardware and software components. "We had almost one of everything. It was a management nightmare. Our previous solution was error-prone, and we were receiving alerts and notifications from seven different products. This resulted in a lot of extra work and wasted time troubleshooting backup failures across multiple systems," said Dave Vassall, Systems Analyst. Complex management was accompanied by increasing licensing and maintenance costs. Each hardware and software component required expensive upgrades while operational inefficiencies led to unnecessary costs.

In order to scale effectively, the team needed a single solution that was easy to use and provided automation capabilities. "Rubrik was a paradigm shift in backup. Today, technology evolves extremely fast. We need to be able to shift on the fly," said Iraci. "To do so, you need a system that can integrate with any application or technology from the past, present, and future. Traditional backup can't do that, but Rubrik can."

### EMPOWERING OTHER BUSINESS UNITS WITH SELF-SERVICE DATA MANAGEMENT

One of the key requirements for UC San Diego was multi-tenancy. "To accelerate the delivery of backup and recovery across the organization, we wanted to give greater access and privileges to other departments," said Iraci. "Rubrik takes an innovative approach to multi-tenancy, providing an easier way to define organizations and assign policies and protected objects at a granular level. Now, we can provide each department self-service access to manage its own policies that align with business objectives."

### SQL LIVE MOUNT FOR FAST RECOVERY AND FORENSIC ANALYSIS

Rubrik's innovation with SQL Live Mount was an integral use case for the university. "We absolutely love SQL Live Mount; it intelligently handles data management to enable fast recovery for our physical and virtual SQL databases. Even if we rename a database, Rubrik

ensures that we keep the same backup chain, so I never lose my old one,” said Vassall.

UC San Diego currently uses SQL Live Mount for accelerated upgrade testing and security analysis for machines that may have been compromised. “Live Mount makes test/dev so much easier than our previous solution. Even more, Rubrik enables self-service recoveries for our DBAs,” said Vassall. “Our security team also uses SQL Live Mount for forensic analysis. Once we uncovered a potential intrusion, our DBAs performed a Live Mount to instantly spin up copies of several databases to analyze and resolve the situation without being online.”

## DATA ARCHIVAL TO AWS S3 FOR LONG-TERM RETENTION AND FUTURE DISASTER RECOVERY

With its previous legacy solution, UC San Diego was unable to migrate to the cloud. “If we tried archiving to the cloud, it would have taken weeks. Also, our legacy solution lacked a native integration so there was no clear path to getting started,” said Vassall. “With Rubrik, it only took 36 hours to migrate our entire infrastructure, around 2,000 virtual machines, into AWS S3.”

“Rubrik allowed us to integrate seamlessly with AWS S3 and securely mobilize our applications from on-prem to cloud,” added Iraci. “Cloud elasticity lets us scale our capacity as we grow, whether that’s adjusting retention policies or adding new systems. We also plan on closing our data centers on campus over the next few years so we’ll need to migrate a significant number of applications to the cloud.”

UC San Diego is also evaluating cloud to enable a stronger disaster recovery plan. “Having our data in multiple locations provides greater insurance in the event of data loss or a failure. Since Rubrik is a top tier partner with public cloud vendors, such as Amazon, it provides seamless integration between our data management solution and cloud storage,” said Vassall. “With Rubrik’s CloudOn, we can quickly spin up cloud instances in AWS S3 and power down immediately after the conversion. This will allow us to easily move workloads between on-prem and cloud to enable a stronger disaster recovery to the cloud.”

## DELIVERING GREATER VALUE FROM BACKUP

UC San Diego uses Rubrik to manage its physical and virtual environment including Microsoft SQL Server, Oracle, Windows

and Linux, Microsoft SharePoint, and home-grown applications. Benefits include:

- **\$100K immediate hard savings:** “With Rubrik, we have nearly shut down two entire legacy instances that were costing us nearly \$100K/year in tenancy costs and maintenance. On top of that, we have also eliminated unnecessary storage components, which cost thousands in maintenance, licensing and support. Coupled with significant management time savings, I’m confident we’ll see a return on our Rubrik investment in less than two years.”
- **90% faster restores:** “With Rubrik’s Live Mount for VMs and SQL databases, recoveries take 30 minutes or less from start to finish—from log-in to search to recovery. It used to take at least 4 to 5 hours to just get started. Also, recovery from the cloud with Rubrik is extremely fast.”
- **Faster backup performance:** “We were confident in Rubrik’s solution in terms of speed and efficiency. What Rubrik can do in days took our legacy solution weeks, if not months. Rubrik just works. It’s amazing!”
- **Significantly reduced data center footprint:** “We have replaced 60-75U of servers and storage with six Rubrik appliances (12U).”
- **Easy to set up:** “With Rubrik, there are no licenses, agents, or additional software costs. Installation was so simple.”
- **90% management time savings:** “We went from spending 10 hours a week on managing backup to just 5-10 minutes. With our previous solution, we had to troubleshoot disparate pieces of hardware and software. Rubrik eliminates tickets to the help desk. We can do everything immediately by ourselves.”
- **More time for innovation:** “Rubrik gives time back to our operations team for more value-add projects like working with customers, modernizing our architecture, or setting up cloud.”
- **Deeper analytics:** “Rubrik delivers actionable insights, so we can anticipate infrastructure needs. It’s one of the best prediction tools that we have since it provides analyses on our entire environment.”
- **Extensive automation capabilities:** “We are excited to leverage Rubrik’s REST API suite to start automating data protection workflows at scale.”
- **Self-managing architecture:** “Rubrik eliminates one of the largest issues with traditional backup with automatic updates to all connectors. No manual management or downtime.”

UC San Diego

“Rubrik is Amazon Prime-like technology. It’s user-friendly, always-on, and instantaneous.”

– Dave Vassall, Systems Analyst at UC San Diego



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