GORDON COLLEGE

Accelerating 21st-Century Education with
Flash Storage from Reduxio

Industry: Education | **Location:** North America | **Use Case:** Private Cloud

CHALLENGES

- High latency in existing SAN array slows down databases, impacting end-user experience.
- Existing system is too slow and cannot support new projects.
- Cyber security concerns.

SOLUTION

- Accelerated SQL Server databases and virtual servers with Reduxio HX550 enterprise flash storage.
- Expanded performance capability to allow for more applications and IT services to run.
- Easy recovery to any second in time.

BENEFITS

12X More IOPS

Significant improvement in SQL and applications performance.

Greater Application Consolidation

Deployed new VDI environments and other applications.

20X Lower SQL Latency

Reduced database latency using Reduxio's unique flash architecture and in-memory dedupe.

CUSTOMER PROFILE

Top 9% college by Forbes Magazine

38 majors

Over 2,000 students

Established 1889

Located in Wenham, MA

GORDON'S ENVIRONMENT

Situated just 25 minutes from Boston and 3 miles from the ocean, Gordon College is one of the nation's premier Christian colleges, offering its students close to 40 majors programs in various disciplines, focusing on liberal arts and sciences.

An outstanding nationally ranked institution, the college constantly looks for opportunities to improve efficiency and deliver greater and improved services to its students and its faculty. Its 125th anniversary milestone provided an opportunity for a comprehensive campus-wide reflection on Gordon's past, present and future. This research culminated in the "20/20 Project" - a strategic plan for its future.

The college's infrastructure - school management systems and many IT services runs on three Hyper-V 4-node clusters hosted in two buildings located in two different ends of the campus, 1 mile apart. Dozens of applications using Microsoft SQL Server databases as the backend are used to deliver services. The storage infrastructure for these application was stored on two traditional FC-based SAN arrays.

HIGH LATENCY, INFREQUENT PROTECTION

Over time, as more applications and users were added to the systems response times increased to the extent that it was noticeable to end users. Investigations by the IT team isolated the issue to the SAN arrays which could no longer keep up with the load requirements.

Expensive hardware upgrade offered by the SAN array vendor would have alleviated some of the performance issues but would not have provided performance for new applications - the most critical being the VDI environment for "Gordon 360" - a new website for campus extra-curricular activities with innovative social networking built-in.

In addition, the college's IT team wanted to improve their data protection capability. Being a college with a global outreach, Gordon's network accepts traffic from around the world, and with it also come ransomware and other viruses. The overhead of snapshots on their SAN arrays meant that they were taking one snapshot per day with a retention of just 3 days.

The performance challenges and data recovery limitations led Eric Reinhold, System Manager at Gordon College to look for alternative solutions. After a comprehensive review of a wide range of technologies and vendors - traditional hybrid arrays, hyperconverged solutions and VM-centric systems, Eric concluded that only Reduxio provided the combination of high performance and instant data recovery that was critical for his IT environment.

> **What really set Reduxio apart is their ability to recover data at any second. We configured our system so that we can go back to any second for the last 24 hours, any hour in 3 days, any day in the last week, and any week in the last 3 months."**
>
> Eric Reinhold, System Manager at Gordon College

FASTER, MORE PROTECTED

The college deployed two Reduxio HX550 systems to replace their old FC-based storage infrastructure. The Hyper-V clusters were migrated to the systems. The new infrastructure supports 170 Microsoft Windows Server 2012 R2 and Windows Server 2016 VMs that host a myriad of applications - Jenzabar web-based student management system, NuView staff and faculty HR management system, Wordpress-based public and student portal websites, Microsoft SCCM tools, digital signage, Aruba Airwave and Clearpass wireless management and monitoring, AVST voicemail, the AlertUs emergency notification software for campus emergencies.

> **I am getting more than 4 times the throughput than the previous SAN. This is a huge boost for us, enabling so many new applications."**
>
> Eric Reinhold, System Manager at Gordon College

The IT team observed significant improvement in database performance and lower end-user response time. The Reduxio storage systems also support the college's Microsoft Exchange, and hosts departmental file shares, Papercut print management, and Radius servers.

The performance boost provided by Reduxio's flash-first architecture and NoDup data reduction technology enabled Gordon's IT team to consolidate more application - including a 40-session VDI pool for the new library lab, a 16-session pool for the Computer Science lab, and multiple virtual workstations for developing and testing new applications.

SOLUTION COMPONENTS

REDUXIO PRODUCTS

- 2x Reduxio HX550 storage systems

ENVIRONMENT

- Dell® PowerEdge R7xx, HP ProLiant servers
- Microsoft® Windows Server 2012 R2, 2016
- Microsoft Hyper-V 2012, 2016
- Microsoft SQL Server 2012, 2016
- Microsoft Exchange, SCCM
- Veeam® Backup and Replication
- Jenzabar® student information system
- Ignite NuView HR and payroll systems