

# NYU Migrates and Upgrades

How Enquizit Helped Move Legacy Systems to the AWS Cloud

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New York University (NYU) has been an innovator in higher education since its founding in 1831. But with a legacy on-premises data center using expensive—and scarce—New York City real estate, NYU decided it was time to migrate their data to the cloud. Motivated by the need for more classroom space and reduced total cost of ownership (TCO), they committed to vacating their existing data center, housing more than 2,200 servers, within 18 months—an aggressive timeline for any organization. Based on their exemplary track record with previous engagements, Enquizit was recommended by Amazon Web Services (AWS) to partner with NYU to move the infrastructure to the AWS Cloud. This is the story of how Enquizit helped.

## A Legacy System in Need of a Makeover

**H**ousing an on-prem data center in the middle of New York City had become untenable for NYU. Not only did they need the valuable real estate for classrooms, but their current environment consisted of segmented servers running operating systems and software. NYU needed a partner well versed in cloud migration to accomplish their goal of transferring all of their data to the cloud in 18 months.

Enquizit already had a relationship with NYU and had completed a few smaller projects for them in the past. As an AWS Premier Consulting Partner with a Migration Consulting Competency, and with previous experience migrating Harvard University and Wharton business school to the cloud, they were the obvious choice. The fact that Enquizit also had extensive experience with Oracle, which NYU required as part of their infrastructure, was an added bonus. In addition to migration and reducing TCO, Enquizit established a third objective for the university: retiring technical debt as part of the mass migration effort.



# Using Experience To Plan for Success

To kick off the project, Enquizit leveraged its proprietary SkyMap tool and other third-party discovery utilities to review and analyze the NYU infrastructure. They needed to identify which servers were candidates for migration, as well as determining processing power, memory, and disk allocation capabilities. After analyzing the infrastructure, they found that NYU's data environment not only consisted of multiple data centers, but also servers that were running various versions of both Linux and Windows operating systems. In addition, the environment was broken out into different security zones based on data privacy requirements—an environment they'd need to replicate to keep university records secure.

During this review period, one of the more considerable challenges Enquizit uncovered was that legacy and non-supported servers would need to be re-platformed—moving to a different operating system entirely, a much more complex process than a simple rehosting—before migrating to the cloud. Mapping NYU's different security zones to AWS environment also proved to be a challenge, requiring separate virtual private clouds (VPCs) to retain current security and privacy requirements.

Here are the steps Enquizit used to plan the migration:

## 1 Audit all workloads

Using SkyMap as a central repository, Enquizit worked with NYU systems administrators to collect and aggregate data. As part of the discovery process, they not only developed an extensive list of necessary workloads, but they were also able to identify unused systems running in the background—workloads that were no longer necessary. After conducting extensive interviews with various stakeholders, Enquizit was able to group the workloads into “apps,” instances, resources and processes that work together to serve a specific need. They also planned to retire the superfluous workloads that were taking up precious computing power.

## 2 Analyze costs

Enquizit used the current data and bandwidth usage to calculate how much disk space would be needed in the cloud. One of NYU's goals was to reduce TCO, so Enquizit tirelessly went server by server, app by app, and environment by environment to predict and optimize storage and computing costs using AWS EC2 instances.

## 3 Develop an extensive plan

Working backward from the 18-month deadline, Enquizit created a full migration plan using “waves” of server and app migrations, prioritizing apps that used fewer servers to minimize risk. This also allowed them to evaluate each migration wave so that subsequent moves could take the lessons learned from previous waves as they grew more complex.

The plan included a deep dive into Oracle, their database environment, which would be moved to the on-prem instance to Amazon Relational Database Service (RDS). Due to the short bursts of allowed downtime, the Enquizit team scheduled the Oracle migration for weekends so university operations could continue during normal business hours.

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After working with IT Services, the security team, cloud engineers, and the network operations center, Enquizit was able to provide NYU with a centralized management system for their infrastructure and related services. This allowed for standardization of processes and technology and increased collaboration between NYU IT and the university's departments and functional units. Now the infrastructure is scalable, secure, and agile, taking advantage of the faster performance and disaster recovery capabilities of the AWS Cloud.

The financial advantages were also a major win: the new data structure will save NYU approximately \$3.8M annually, resulting in a five-year ROI of 120%. Interdepartmental revenue, driven by centralizing school-owned servers, is estimated to increase by 18%. And none of these savings take into account the NYC real estate assets that were freed up, or the vast time savings that come with more efficient upgrades and maintenance.

## Enhanced Speed and Efficient Storage

Moving student and administration applications from an on-premises environment to the AWS Cloud in only 18 months was no small feat, but Enquizit's meticulous planning and preparation made the process as smooth as possible for NYU. Thanks to SkyMap and Enquizit's experience with cloud migration, NYU now enjoys improved automation, standardized platforms, and enhanced speed and recovery. The university is now positioned to focus on more value-add services—a significant win for both administration and students.

To speak with experts about how Enquizit helps colleges and universities migrate their data and systems to the AWS Cloud, go to [enquizit.com](https://enquizit.com).

