Compelling ROI from a Cloud

Youngstown State University gains cost savings and flexibility by moving core student systems to the cloud

An aging server infrastructure meant Youngstown State University (YSU) in Ohio needed to make a big decision. Should IT keep the core Ellucian Banner software installed in on-premises servers and storage systems or move it to Oracle Cloud Infrastructure (OCI)? An ROI analysis of these options made a compelling business case, showing that a move to OCI would produce cost savings of up to $500,000 over five years.

"Compared to replacing our internal server environment, the move to a cloud environment was very cost-effective for us from an ROI perspective," says Jim Yukech, the university's CIO.

As the migration project began, YSU also discovered ongoing benefits from the move itself and from migration assistance provided in a consulting engagement with Mythics.

A Broad View Leads to Better Solution Design

YSU uses Banner for a student information and finance management system. The Banner software, associated Oracle database and add-on applications were previously hosted on an internal AIX-based server and storage infrastructure.

At the same time the IT team was considering OCI for a Banner migration, the university chose to adopt the Ellucian Degree Works software for degree audits. YSU made the decision to move from its previous solution in part because Degree Works integrates easily with Banner. By deploying these core systems together, YSU discovered the cloud could offer a simpler and lower-cost hosting infrastructure.

Yet that deployment needed a successful architecture, one designed from a deep understanding of OCI cloud resources and Oracle database technology. The architecture would also need to accommodate how the complete Banner solution is used in higher education operations. For assistance with these challenges, YSU turned to Mythics consulting services.

A Knowledgeable Guide for an Unfamiliar Journey

Mythics expertise in OCI design and migration of core enterprise systems helped the YSU team by providing:

- An improved understanding of the cloud architecture, component connectivity and security elements in OCI
- Insights to define a disaster recovery design using OCI resources and a plan for user authentication to the cloud applications
- Guidance for making cost-effective use of surge resources during periods of peak demand
- A dashboard for clear presentation of OCI utilization reports, including drill-down access to detailed usage data

To help prepare for the Banner migration, Mythics consultants performed tasks such as creating containers and defining database definitions in the cloud. The YSU team then performed the work to move the Banner software, Oracle database and other components to OCI. Once the Banner software was running on OCI, Mythics helped the team with application testing and performance tuning.

ROI and Ongoing Benefits

The cost savings realized by YSU from the move to OCI are summarized in a compelling ROI analysis. When

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comparing the costs of the OCI move to replacing the in-house infrastructure, Yukech projected a total savings of $250,000 per year, based on reduced hardware expenses and lower licensing fees for the Oracle database.

Adoption of the Degree Works software in the cloud added to the savings by allowing YSU to avoid an expense of $250,000 for an enterprise database license that would have been required for an on-premises deployment.

"As a midsized public university, we don't have a large technical budget. Trying to squeeze out a $250,000 investment was going to be very difficult, if not impossible," says Yukech. "When you combine the lower licensing costs with not having to purchase net new hardware by using the cloud, the move had a really compelling ROI."

Ongoing cost savings and operational benefits come from the flexibility to add cloud infrastructure capacity as needed. For example, the IT team discovered they could reduce the number of permanent Banner instances they would need to configure and manage. By taking advantage of the flexible cloud capacity

Recognizing When a Consultant Can Help

High-impact technology projects can often be made easier by leveraging the knowledge and skills of an experienced outside consultant. For a Banner migration or initial deployment in the cloud, consider if the IT team will need assistance with challenges such as:

▶ In-depth project planning for the migration effort

▶ Infrastructure design and implementation specific to OCI, including a plan for surge and disaster recovery capacity

▶ Banner software installation and upgrades within the cloud

▶ Database administrator assistance to understand cloud differences that impact the database

▶ Design for network connectivity via Internet2 and Oracle FastConnect

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for compute and storage, these instances can be activated only for the time they're actually in use.

Infrastructure flexibility is especially valuable to the university during annual registration weeks.

"Mythics showed us what we could do to flexibly increase compute power, storage capacity and availability to handle those peak demand periods and not pay for the extra resources year-round," says Marianne Cohol, YSU director of application services and the IT project management office. "Instead, we pay for extra resources only during the weeks that we need them."

The YSU team gained additional benefits from the move to OCI, including:

▶ The ability to eliminate legacy equipment, which reduced management work and expense

▶ An infrastructure based on the widely used Linux operating system, which makes it easier to recruit and retain knowledgeable IT staff

▶ Compatibility with existing tools for managing security and virtual servers

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Covering All the Evaluation Bases

The YSU team offers several recommendations for other higher education institutions considering a Banner migration to OCI.

Yukech notes that moving Banner to a cloud provider other than OCI won't produce the same level of cost savings, because the reduced Oracle database license fee won't apply. He also recommends adding a disaster recovery instance in the cloud, because this approach is more cost-effective than buying a second hardware installation in a separate location.

Cohol points out that in many cases the employees who developed the internal Oracle deployment may have retired, so it takes time to fully understand what will need to be replicated in the cloud design.

Also important is a good understanding of how the Banner data is accessed and used by other applications and end users.

An At-the-Ready Infrastructure

The success of OCI for the Banner move and the new deployment of Degree Works points YSU to a clear direction for the future.

"We will consider this cloud environment first for add-on applications, because we know it will give us the best performance," says Yukech.

This piece was developed and written by the Center for Digital Education Content Studio, with information and input from Mythics.