

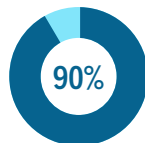
CASE STUDY

Cloud Chaos to Cost Control

Making smart education platforms even smarter at a lower cost!



Several Hundred
Thousand Dollars in
Cloud Cost Savings



90%
Fewer Servers



Faster & More Efficient
Performance



Future-Ready Cloud
Infrastructure

At a Glance

About the Client

Leading K-12 Education Platform

Industry

Education Technology (EdTech)

Challenge

Unscalable cloud infrastructure leading to high, unpredictable cloud costs, inefficiencies, and maintenance challenges.

Solution

Redesigned the cloud architecture using Oracle's Pluggable Database (PDB) model, consolidating 300+ environments into just 10 servers.

Results

- Monthly Cloud Savings
- 90% infrastructure reduction
- Better experience for students & educators

Enabling a Cost-Efficient, Smart Future: Redefining Cloud Infrastructure

A leading K-12 education platform, fueling the move toward digital learning with an extensive suite of tools for online testing, scoring, and performance tracking. With major adopters of the platform including large Independent School Districts, it has become essential for school districts across the country.

As the world moved towards the remote learning landscape, this leading online education platform saw rapid expansion. However, this growth posed a crucial challenge in its cloud infrastructure due to the system's reliance on separate online environments for each school.

They were aiming to adapt a smarter, more streamlined cloud strategy. That's where Buchanan's expertise came in.

“ Buchanan as the Application Optimization leader re-designed our application architecture and infrastructure to utilize native Cloud features including elasticity, pluggable databases, and compute on-demand. This re-architecture significantly improved response time of our applications as well as Azure costs

- IT Leader, Leading Education Platform

The Problem: Rising Unpredictable Costs Caused by an Unscalable Cloud Model

For hundreds of schools, over 300 separate cloud environments were required for development, testing, and production, which meant significant computing power, storage, and memory requirements regardless of the school's size. This significantly increased cloud expenses, with monthly Azure bills fluctuating wildly from one cycle to the next. Operational inefficiencies made maintenance and updates resource-intensive, making it difficult to rollout and scale up even with small size schools.

- **High Costs:** \$100,000+ monthly, unpredictable cloud expenses.
- **Inefficiency:** Several hundred environments, resource-heavy maintenance..
- **Redundancy:** Over-provisioning and inefficient resource utilization.
- **Scalability Issues:** The previous architecture was not scalable.

The Solution: Streamlined and Intelligent Cloud Architecture

Our team carried out a thorough and detailed architectural review to map the inefficiencies and constraints with the current design. Buchanan introduced a scalable model which would leverage Oracle's Pluggable Database (PDB) model to reinvent their application infrastructure. So, instead of maintaining separate virtual infrastructures for each school, the platform can now integrate many school databases into a streamlined system. The scale-up ability of the new architecture facilitates smooth deployment and ramp-up of new schools.

The significant benefit of the new design is resulting in the consolidation of over 300 isolated environments to only 10 highly efficient servers, leading to reduced infrastructure constraints. Leveraging in-memory processing and data handling as part of the new design improved runtime operations and improved application performance.

- **Reduced Infrastructure:** 300+ environments → 10 servers.
- **Lower Cloud Costs:** Shared resources = significant savings.
- **Improved Performance:** Faster, more efficient operations.
- **Scalable Growth:** Added schools without added infrastructure.

The Impact: Several Hundred Thousand Dollars in Cloud Cost Savings and Future-Proof Scalability

Buchanan's team helped our customer to reduce cloud costs by several hundred thousand dollars. Another lasting impact was that the system became exponentially more scalable, allowing the fast-growing platform to onboard more schools without increasing infrastructure costs. Performance improvements ensured faster response times for schools and districts. Our team made sure that, beyond the cost savings, this optimization laid the groundwork for long-term innovation.

The key takeaway from this case is that for any company operating in the cloud without the right architecture, costs can spiral out of control. Strategic optimization is critical as more businesses shift from traditional data centers to cloud environments and metered services. By rethinking its infrastructure, the customer didn't just reduce costs, it also created a scalable, future-ready foundation that enables innovation and long-term success.

Business Impact

Before	After
✗ 300+ Separate Cloud Environments	✓ 10 Centralized Servers
✗ \$100,000+ in Monthly Cloud Costs	✓ \$100,000+ Monthly Savings
✗ High Operational Overhead	✓ Streamlined Operations
✗ Unscalable Architecture	✓ Scalable, Future-Ready Platform
✗ Performance Bottlenecks	✓ Improved Performance & Reliability

Want to optimize your cloud environment?

Contact us today to see how Buchanan can help your business run smoother and faster.

CONTACT US