Microservices architecture for scalability and resilience

Application should be able to withstand such a load without any downtime. Since there is payment transaction also

The view count was expected to be in hundreds per second with a target audience of 30 million students. The

With high profile public sector involvement and impact on the exam results/data provided to be showcased on this

Admission are over.

4. Uneven traffic as the portal usage will be high only during admissions & results, infrastructure agility is the most

Core problems stated by the State Education Board & Universities were:

7. More or less all the users who had applied to various colleges on the platform logged in on a single day

6. Additional compute could be provisioned on the database as well during the last few days of

2. During the last two days before the deadline for application for admissions the load increased

Microsoft Workloads on AWS

The Challenge

As soon as the cloud migration project was identified, the State Education Board took the initiative to harness the power of cloud computing for higher education, leading to a significant increase in enrollment.

However, this expansion put a strain on the existing infrastructure.

The State Education Board was confronted with challenges such as:

- Scalability and load handling
- Performance and responsiveness
- Security and compliance
- Cost optimization

Proposed Solution

Microsoft Workloads on AWS

The education board initially evaluated various cloud providers, but Microsoft Azure emerged as the clear choice due to its comprehensive range of services and integrations that aligned perfectly with the board's requirements.

Microsoft Azure's cloud services provide:

- Scalability and reliability to handle the increased load
- Performance and responsiveness to ensure smooth user experience
- Security and compliance to meet the stringent data protection standards
- Cost optimization through Azure's pay-as-you-go model

Migration Process

The migration of the current infrastructure to Azure was a complex process involving several stages:

1. Assessment:
   - Evaluating the current infrastructure
   - Identifying the components that need to be migrated
   - Planning the migration strategy

2. Preparation:
   - Creating a cloud strategy
   - Performing cost estimation
   - Implementing a pilot project

3. Execution:
   - Migrating the application to Azure
   - Optimizing the infrastructure
   - Testing the new environment

4. Post-migration:
   - Monitoring the performance
   - Ensuring compliance
   - Adjusting the infrastructure as necessary

Architecture

Benefits

- Scalability and load management
- Performance and responsiveness
- Security and compliance
- Cost optimization

Outcomes & Results

- Significant improvement in load handling capacity
- Enhanced user experience
- Improved security posture
- Reduced infrastructure costs