

A STUDENT REGISTRATION SYSTEM IN THE AZURE CLOUD

A decorative graphic consisting of several overlapping, wavy, translucent blue bands that flow across the lower half of the slide, creating a sense of motion and depth.

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INTRODUCTION

- EVERY YEAR:
 - **8000** Students have to make a online registration
 - Fill a survey, regarding current social situation

INTRODUCTION

- Typical client-server architecture
- Web on line application

CURRENT PROBLEM

- Intensive use for 15 days (Registration Student)
- First two days extremely intensive

CURRENT PROBLEM

- Old information system
- Hardware solution with no possibility to upscale in an easy way

NEW HARDWARE SYSTEM OPTION

- Virtualization
 - New hardware for computing and upscaling
 - New Storage
 - New knowledge

NEW HARDWARE SYSTEM OPTION

- Advantage
 - High availability
 - Easy upscaling
 - Flexibility

NEW HARDWARE SYSTEM OPTION

- Disadvantage

- Price:

- High Cost for hardware virtualization
 - Cost for software licensing
 - Cost for Service Level Agreement (SLA)
 - Technical expertise

- High availability need that hardware to be there sitting waiting to be used

THE AZURE CLOUD OPTION

- The cloud option was clearly the winner, mainly for three reasons:
 - the price;
 - The Microsoft developers community;
 - the underlying services

THE AZURE CLOUD OPTION

- The Price:
 - The price means that instead of buying a new, and expensive, hardware for a load-balancing architecture, we could pay per usage. In this case, it is a huge difference, considering that half of the resources would only be used a couple of times a year.

THE AZURE CLOUD OPTION

- The Microsoft developers community:
 - Choosing Microsoft was a matter of continuity, considering our expertise in windows server, database and .NET/C# development.

THE AZURE CLOUD OPTION

- The underlying services
 - The underlying cloud services guarantee a full Service Level Agreement (SLA), regarding uptime and system administration, together with a solid development architecture. Programming for the cloud, means that programmers have to comply with a scalable software solution.

THE AZURE CLOUD OPTION

- Easy use of Administration:

The screenshot displays the Microsoft Azure portal interface for SQL Azure. At the top, the navigation bar includes 'Windows Azure Services', 'Windows Azure', 'SQL Azure', 'AppFabric', and 'Marketplace'. The user's profile 'utad' with email 'utad@live.com' and options for 'Billing', 'Projects', and 'sign out' are visible in the top right. The main content area is titled 'Server Administration' and is divided into 'Summary' and 'Help and Resources' tabs. A left-hand navigation pane shows 'Windows Azure', 'SQL Azure', 'Database', 'AppFabric', and 'Marketplace'. The 'Server Information' section provides the following details:

Server Information	
Server Name:	bqtkyussv8 <i>bqtkyussv8.database.windows.net</i>
Administrator Username:	utad <input type="button" value="Reset Password"/>
Server Location:	West Europe <input type="button" value="Drop Server"/>

At the bottom of the main content area, there are tabs for 'Databases' and 'Firewall Settings'.

THE SOLUTION

- We need to:
 - Information system
 - ✓ Authentication
 - ✓ Verify that foreign student are allowed to stay on the territory
 - ✓ Register student and fill a survey
 - Infra-structure
 - ✓ High availability with low cost
 - ✓ Upscale as needed

THE SOLUTION

- Authentication :
 - From the cloud, we needed to reach our Identity Manager – we used web services to accomplish that task

AZURE

Windows Azure

.NET Services

SQL Services

Live Services



Silverlight
ASP.NET



IDM
Authentication

THE SOLUTION

- Foreign Student :
 - BEFORE:
 - ✓ Register at the University
 - ✓ Validate the registration at the Homeland Security Agency, to obtain/renew the authorization for residence on the national territory
 - ✓ Back to the University with the authorization and then complete the registration

THE SOLUTION

- Foreign Student :
 - AFTER:
 - ✓ Homeland Security Agency provides Web Services that is an easy way, (using the passport ID, VISA, ...) to verify and validate that foreign student were allowed to study in our university and at the same time obtain/renew the authorization of residence

AZURE

Windows Azure

.NET Services

SQL Services

Live Services



SEF

Homeland Security Services



Silverlight

ASP.NET

THE SOLUTION

- Register student and fill a survey
 - Silverlight -> Rich Internet Application, like a desktop application
 - WCF Services
 - SQL Azure

AZURE

Windows Azure

.NET Services

SQL Services

Live Services



SEF

Homeland Security Services



Silverlight

ASP.NET

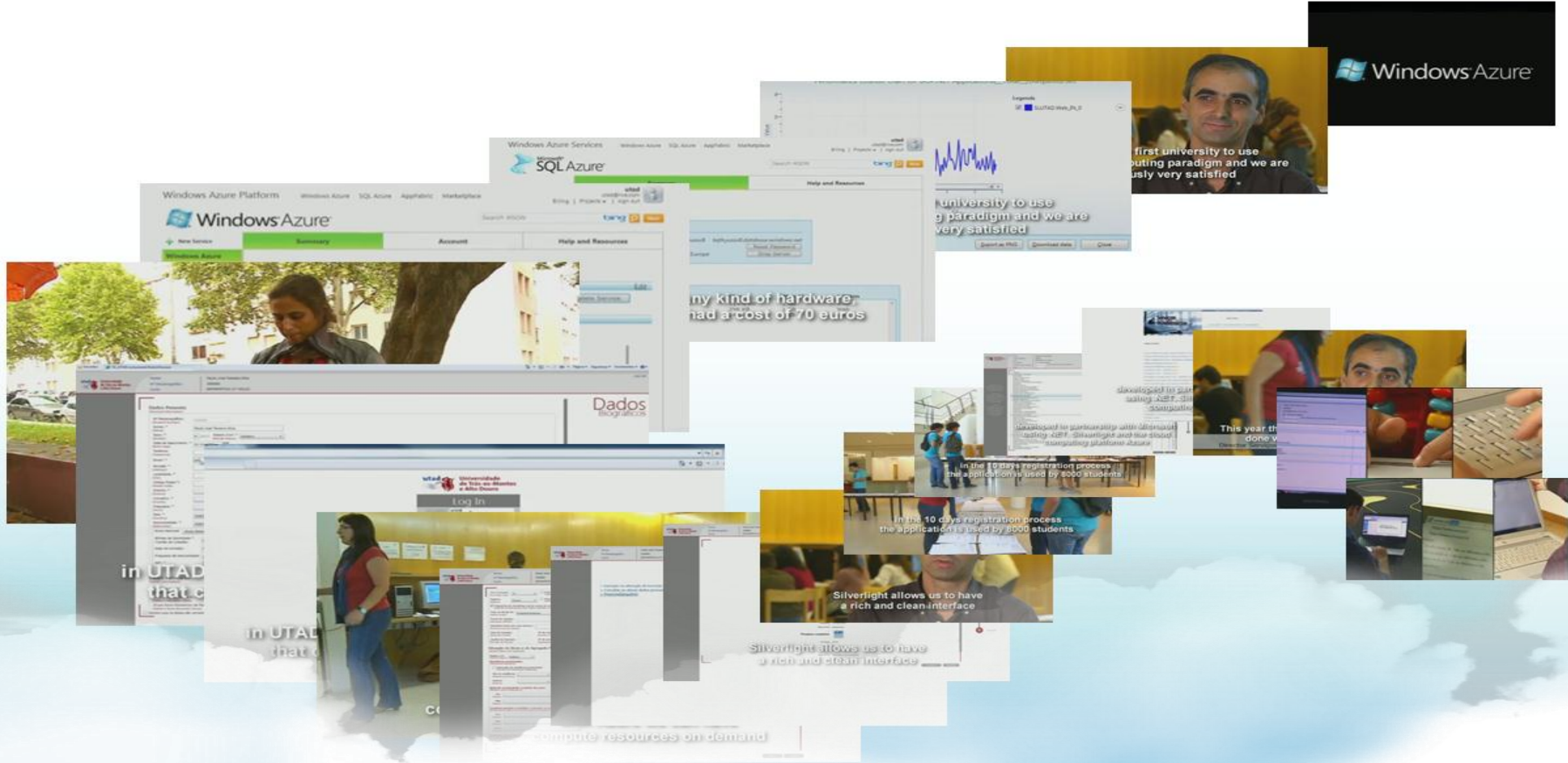


IDM

Authentication

VIDEO

<http://www.youtube.com/watch?v=Sgyf7kTU1FU>



CONCLUSION

– New Hardware Option

- Costs
 - Acquisition: Thousands €
 - SLA: Thousands € / Year
 - High Availability: Thousands €

– Windows Azure Option

- Costs
 - Acquisition: 70€ / Month
 - SLA: Included in acquisition
 - High Availability: Included in acquisition

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