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Business Solutions. On Cloud.

Limitations of Windows Azure and Ways to beat 'em

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Introduction

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Windows Azure & Its limitations

- ✓ High-impact Platform limitations
- ✓ Customer Stories & Cases Studies
- ✓ Workarounds
- ✓ Questions

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Background

- Built several large-scale B2B products on Azure
- 15-20k businesses hosted on each application
- Each business with 10,000+ users
- Multi-tenancy; multi-themes; dynamic layout

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Azure – Platform Limitation #1

Limitation

"The environment does not automatically increase or decrease role instances for increase or decrease in load"

What's the impact?

- Someone needs to manually monitor
- Sudden increase in load will impact the performance

Case Study

- An online shopping portal had 4 medium instances running & were expecting increase in load during festival time.

Workaround

- Use Auto Scaling Application Block

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Azure – Platform Limitation #2

Limitation

"SQL Azure* database size cannot go beyond 150 GB"

(*MS Azure SQL database)

What's the impact?

- Huge databases not possible on Windows Azure SQL Database

Case Study

- Core Banking app
- Stock broking/ Retail app

Workaround

- Use of SQL Federation in RDBMS is required
- Use SQL Server on VMs (IAAS)
- Consider using NoSQL solutions like Windows Azure Tables, MongoDB, Cassandra, RavenDB

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Azure – Platform Limitation #3

Limitation

"Latency issues when the database is not in the same datacenter"

What's the impact?

- Performance will get impacted
- Availability & Reliability will get impacted

Case Study

- Large scale ecommerce App
- Core Banking
- Hybrid platforms

Workaround

- Use Transient Fault Handling Application Block

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Azure – Platform Limitation #4

Limitation

"Virtual Machines (VMs) are not load balanced by default"

What's the impact?

- Someone needs to manually monitor
- Sudden increase in load will impact the performance

Case Study

- A Core banking solution had to be quickly migrated to Windows Azure & IAAS approach was chosen

Workaround

- Use tools like HA Proxy, Cloudify, etc.

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Azure – Platform Limitation #5

Limitation

"When a Virtual Machine (VM) is created, you are charged on hourly basis, even when the VM is shutdown. You have to remove the VM altogether to stop the billing"

What's the impact?

- You are charged even when the VMs are not being used
- You need to recreate the VMs from the image when it is required again

Case Study

- ISVs

Workaround

New Feature @ TechEd

- Very soon you'll be charged by the minute
- Very soon you'll be charged only for the time VM is active.
- To stop the charges when the VM is not being used, simply shutdown the VM & not remove it altogether

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Open Question

PCI compliance on Cloud!

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Azure – Platform Limitation #6

Limitation

"Rules & Regulations related to data"

What's the impact?

- The data repository cannot reside in a datacenter outside the country

Case Study

- Banking solutions
- Portals related to Educational Institutions that manage student data

Workaround

- Use of a Hybrid Solution where the data repository can reside either on-premise or on a local cloud (if available)

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Azure – Platform limitation #7

Limitation

"Ingress is Free but Egress is charged"

What's the impact?

- Will have an impact on billing if the database/data-store is in a different datacenter/on-premise

Case Study

Workaround

- Have the database/data-store in the same datacenter

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Azure – Platform limitation #8

Limitation

"Billing issues - you are charged even when your application is deployed in Staging environment"

What's the impact?

- You have to pay even during development & testing phase
- Perceived unnecessary expenditure

Case Study

Workaround

- Do the testing in Emulator as much as possible

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Azure – Platform Limitation #9

Limitation

"SQL Azure doesn't support Distributed Queries & Transactions"

What's the impact?

- Migrating existing databases becomes a challenge
- Migrating to SQL Azure Database may become impossible

Case Study

- A Core banking solution which was marked for migration to Windows Azure was using 2 databases, 1 for Bank Account holders & 1 for Transactions

Workaround

- Merge multiple databases (if possible)
- Use SQL Server on VM (IAAS)
- Use SQL Server from On-premise (Hybrid Solution)

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More pointers…

Azure – Platform Limitation #10

Limitation

"Azure SLAs"

What's the impact?

- SLA rules applicability & terms.

Case Study

Workaround

- Need to have min 2 instances to have the SLA applicability.

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Azure – Platform Limitation #11

Limitation

"You need a VPN Gateway device (Hardware) to connect to an On-premise network"

What's the impact?

- Additional investment in Capex

Case Study

- A company wanted to create a SharePoint Server 2010 Farm on Windows Azure & wanted to connect that environment with their on-premise environment

Workaround

New Feature @ TechEd

- With Windows Server 2012 server running On-Premise, it will be possible to connect to a Virtual Network directly without any use of a VPN gateway device

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Azure – Platform Limitation #12

Limitation

"Media Services feature does not support Live streaming"

What's the impact?

- Cannot create media workflows that involve Live streaming

Case Study

Workaround

- Will have to use on-demand streaming

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Questions ?

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Thank you

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