Building SaaS Applications on Microsoft Azure

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ZenSar TECHNOLOGIES

Your Transformation Partner

Software as a Service (SaaS) – Various Dimensions

What is SaaS

SaaS is a Software Delivery Model ("As a Service" as against "Licensed") where the Software is

- Hosted centrally
- Accessed through internet
- Normally accessed using thin client (browser)

Business

- Subscription based rather than Purchasing
- Normally pay-per-use payment models

Operations

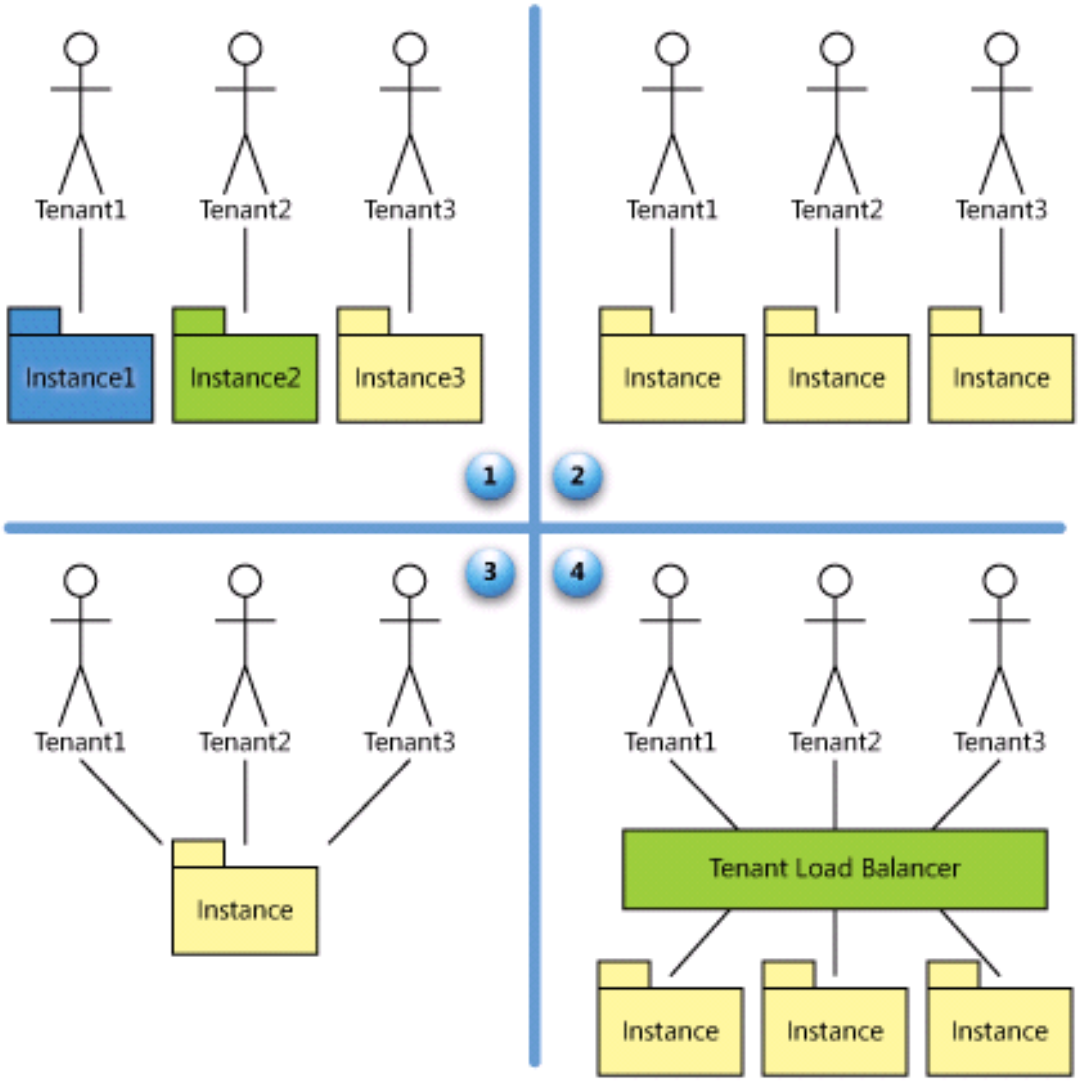
- Easy Deployment and upgrades
- Quick scale-out
- Normally a single code set

Technology

- Multi-tenancy
- Data segregation
- Configuration / Personalization

SaaS – Different Levels

- Diff. code
- Diff. instances



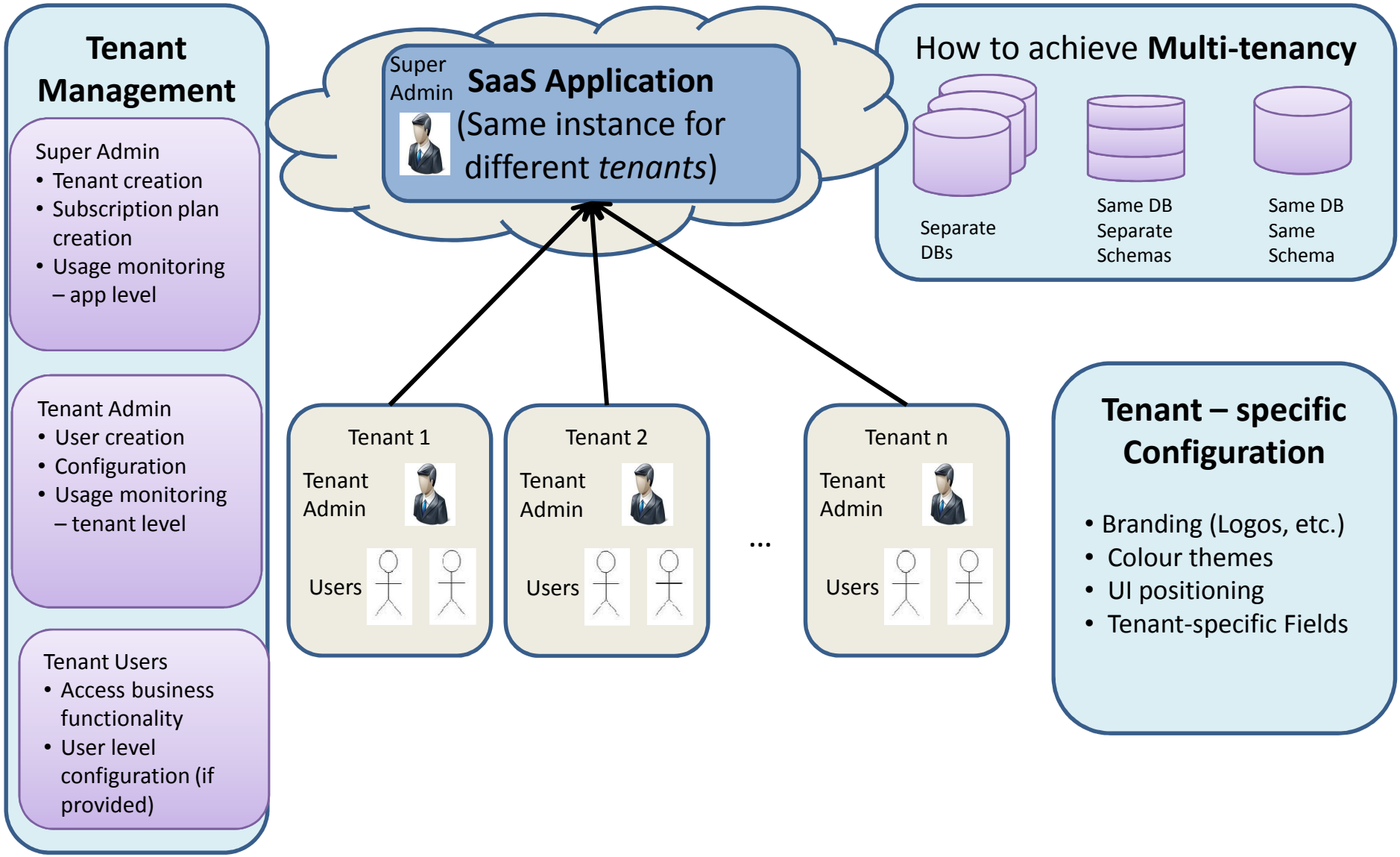
- Same code
- Diff. instances

- Same code
- Same instance

- Same code
- Horizontally scaled instances

Source: MSDN Article 2006 http://msdn.microsoft.com/en-us/library/aa479069.aspx

SaaS Characteristics



SaaS Application on Microsoft Azure

Combining the power of SaaS and Cloud

- Scaling:
  - SaaS application requires Scaling - Azure makes it very easy not only to scale-up but also to scale-down
  - Application can be divided into multiple web / worker roles to be scaled according to requirement
- Application can be deployed to specific geography
- Pay-per-use model of SaaS application is backed up by the same model at the platform level
- Use of Content Delivery Network for large BLOB content
- Other inherent Cloud advantages
  - No upfront infrastructure cost
  - No upfront licensing cost

Case Study – ZenAutoPro

ZenAutoPro is a cloud hosted **(Microsoft Azure)** application for Automation Test Scripts generation that can be used by multiple customers / internal testing teams on "As A Service" basis.

Business Challenge

- Testing Professionals need separate licenses to generate automated Test Script
- The initial system was developed as a desktop application needing separate installations.
- Difficult to make customer-specific changes and maintain each of them

Solution Provided

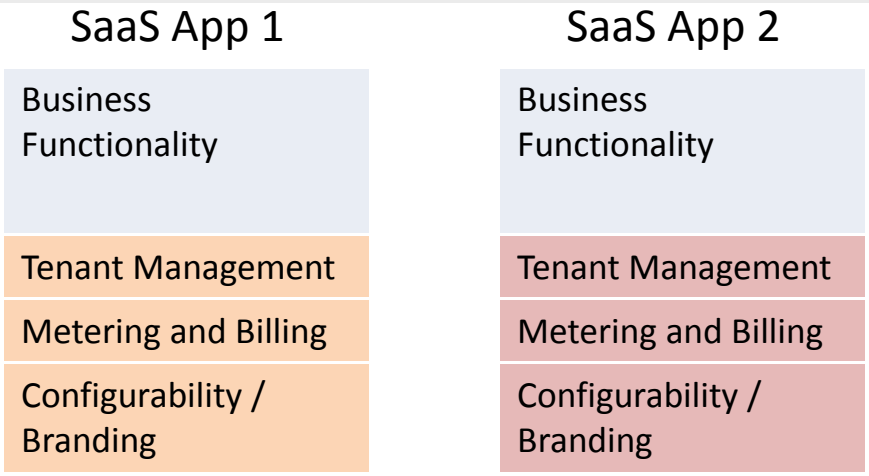
- Developed Cloud enabled Web Application using Windows Azure cloud
- Use of SaaS Framework developed by Zensar to implement standard SaaS features
- Separate Schemas are maintained to achieve data segregation among different customers
- Azure Diagnostics to maintain the Logs

Customer Benefit

- Possible reduction in licensing cost
- Reduced Infrastructure and Software maintenance cost
- Easier deployment , maintenance and support
- Dynamic scalability (easy scale up and scale down)

SaaS Applications

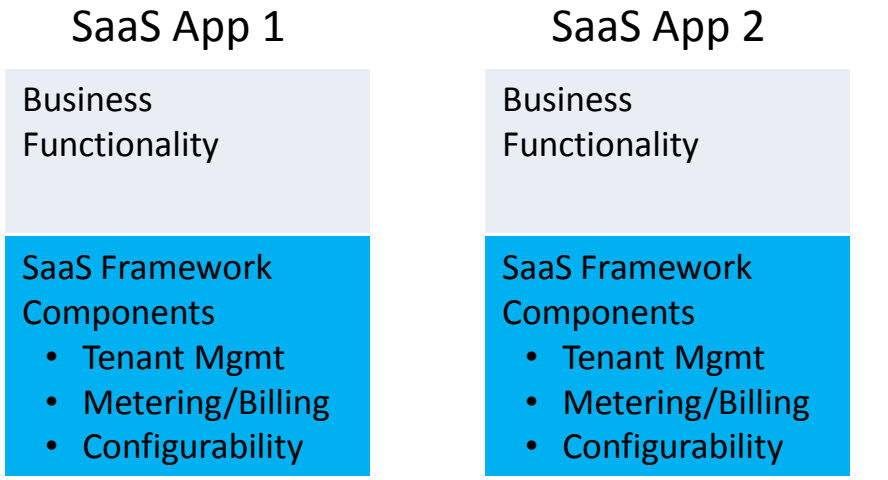
Need for Framework Based Approach



SaaS App 1 and App 2 are independently implementing very similar SaaS-specific features

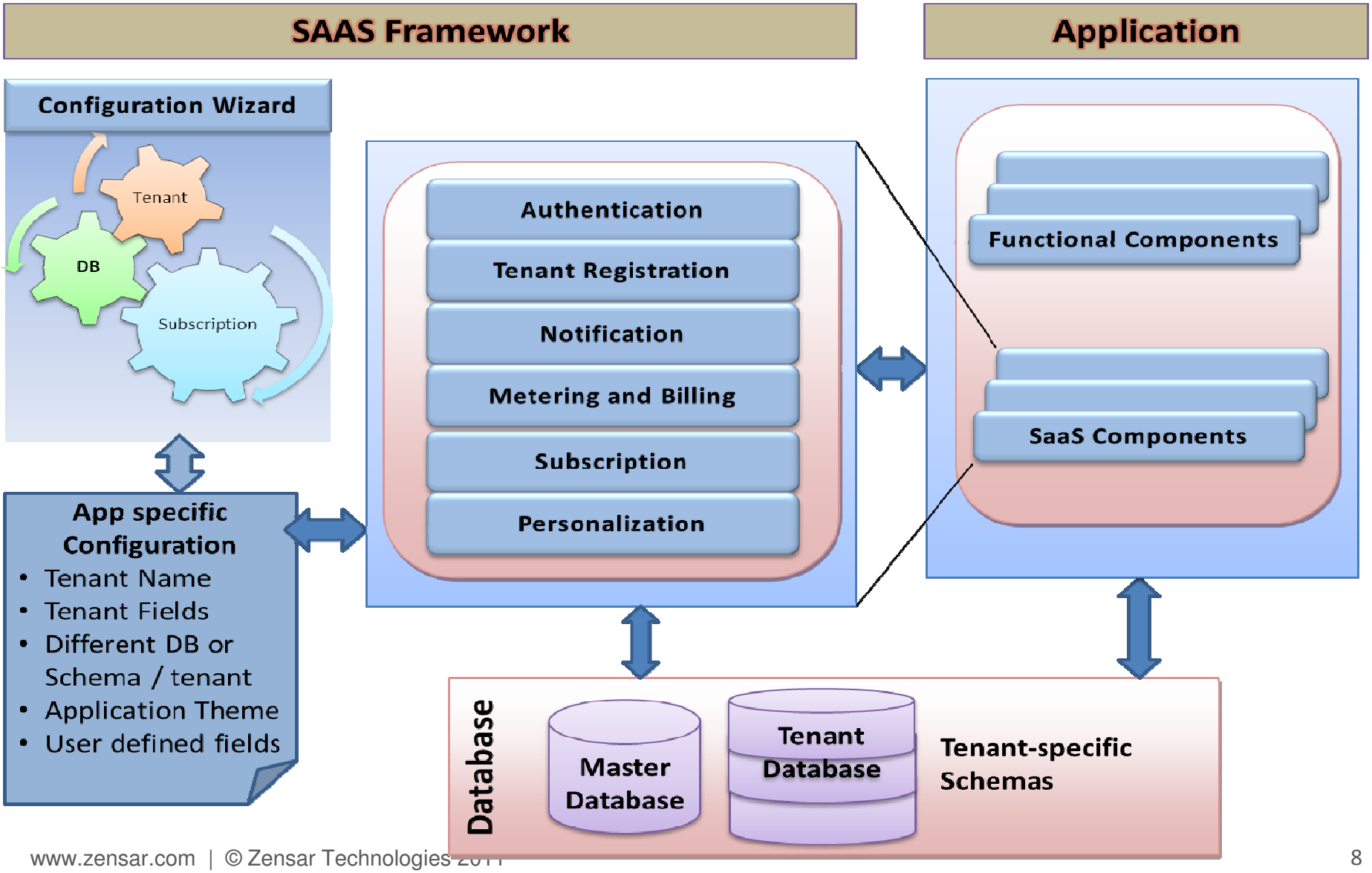
- **Duplication** of code/efforts
- **Missing out / insufficient implementation** of standard SaaS features

A Better Approach would be as below

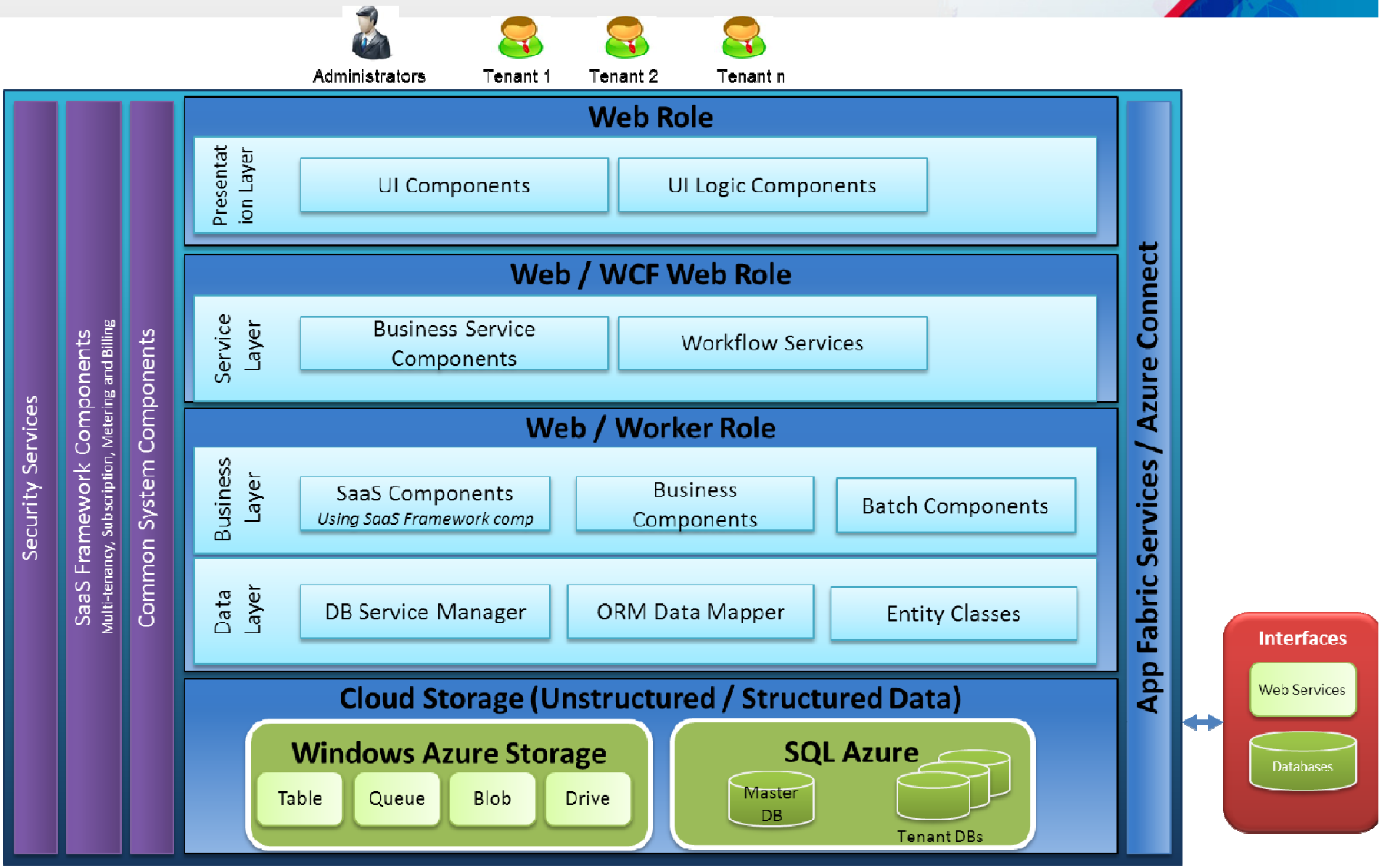


- Standard SaaS features **implemented once** in the SaaS framework and **Re-used** by all applications
- Applications can **concentrate on business functionality**

SaaS Framework System Architecture



Mapping a typical SaaS application to Azure



Summary

Benefits of Framework based approach on Azure

- Flexibility of starting-small still maintaining the scalability
- SQL Azure allowed Multi-tenancy to be achieved different schema level in the same database
- Very small learning curve for team members
- Tenant Management and Metering/Billing became highly configurable
  - Tenant name and fields, UDFs, Subscription types, User defined transactions, Billing cycles
- Configurability
  - At SaaS provider level
  - At Tenant level

Thank you

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