



Microsoft Partner
Gold Software Development

Common Windows Azure Implementation “Pitfalls”: *and How to Avoid Them*



Introductions

Presenters

- Greg Johnson, Director of Consulting Services
- Clayton Peddy, Director of Architecture Services

Terrace Software, Inc.

- Specialized Software Development Consulting Firm
- Focus on Emerging Technologies (Cloud, Mobile)
- Multiple Azure Implementations and Migrations Completed



Overview

Windows Azure: A Robust Platform for Hosting Applications

- Based Upon Time Tested and Proven Technologies
- Enables Rapid Development
- Highly Scalable
- Low Infrastructure Costs

Moving to Windows Azure

- Common “Pitfalls” Result of Outdated or Insufficient Application Design
- Enhance Designs to Embrace Utility of Azure Platform



Design Considerations

Common Azure Development Scenarios

- New Application (Green Field)
- Application Migration
- Migration with Enhancements
- Design Patterns Apply to All

About Azure SLAs

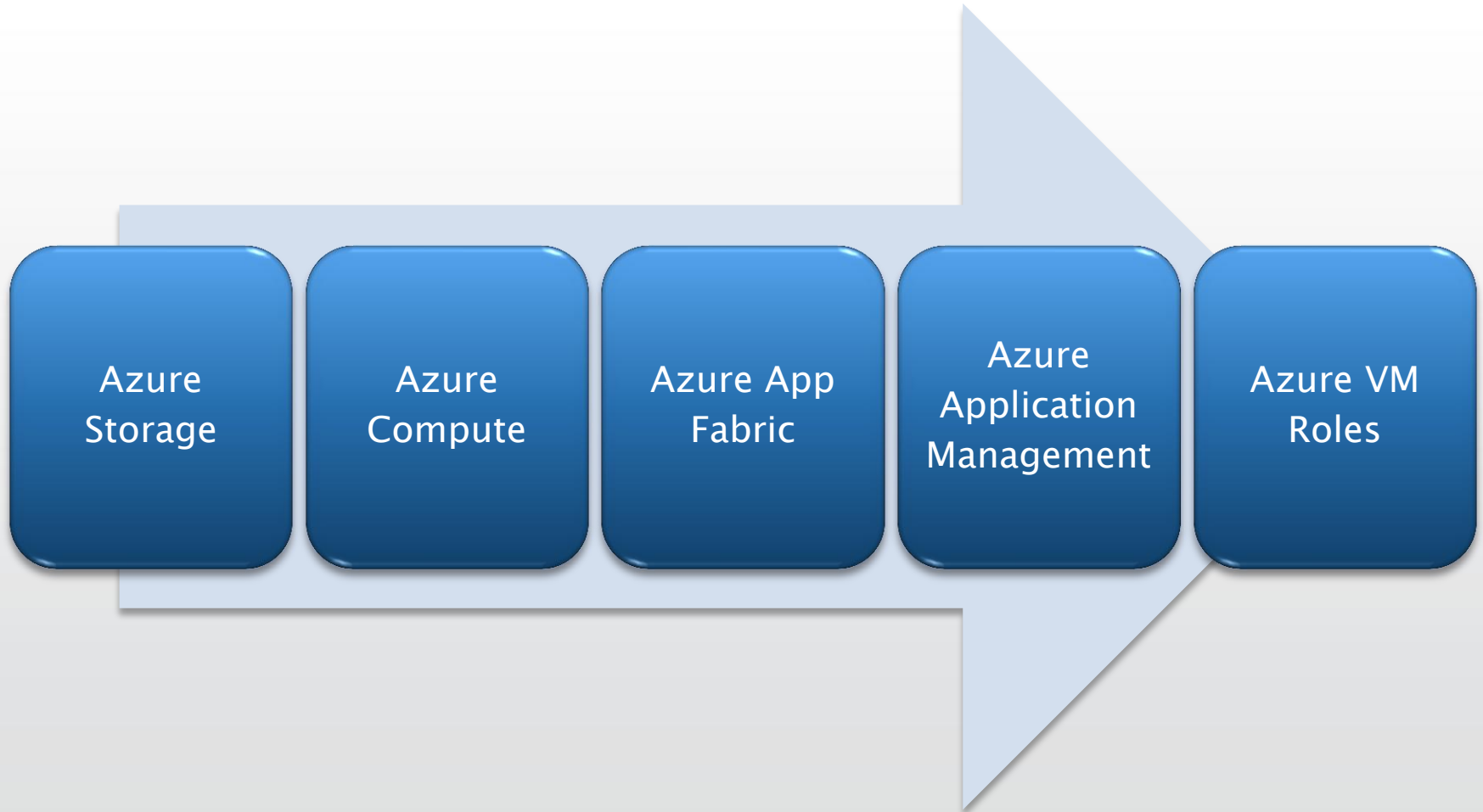
- 2 Instances of Compute Required

Development of Azure

- Iterative Feature Releases
- Embrace CTP Releases in Design



Topics We'll Discuss



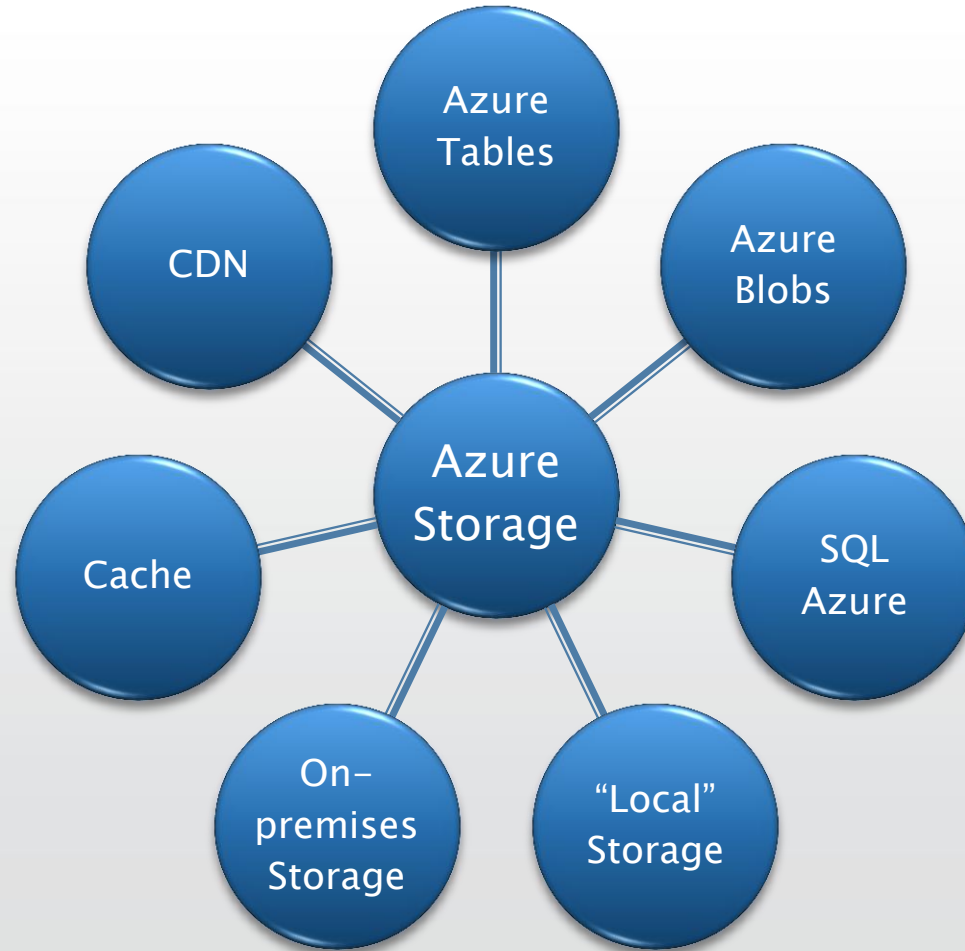


Azure Storage

Everything In Its Right Place



Azure Storage Basics





Cost Sidebar

Understanding TCO
Essential

Utilization vs.
Capacity Based
Capital
Expenditures

Cost is a Design
Consideration



Azure Storage Considerations

Create a Storage Strategy

- Local Storage
- Not All Data is Relational
- Right Storage for Right Data
- Performance and Functionality vs. Cost
- Fault Tolerance and Disaster Recovery

SQL Azure Features and Behaviors

- Database Centric vs. Server Centric
- No inter-database communication (at this time)
- Size Limitations: 50GB (at this time)



Azure Compute

The Azure Application Engine



Azure Compute Basics

Web Role

- IIS7 Website Hosted on Azure
- Host Sites and Web Services

Worker Role

- Backend Processing Without IIS
- Conceptually Similar to Windows Service

Virtual Machine Role

- Windows 2008 R2 Enterprise VM



Compute Considerations

Utilizing Storage

- Local vs. “Local” Storage and Blobs
- Dynamic Content

State Management

- Migrating Session
- Alternatives to Session
- Workflow Foundation

Scaling

- Not Just for Volume – Can Be Performance
- Asynchronous Processing
- Caching Strategy



App Fabric

*The PaaS *Secret* Sauce*



App Fabric Basics





App Fabric Considerations

Connect vs. Service Bus

- Connect VPN Tunnel
- Service Bus Publisher–Subscriber Model

Access Control Services (ACS)

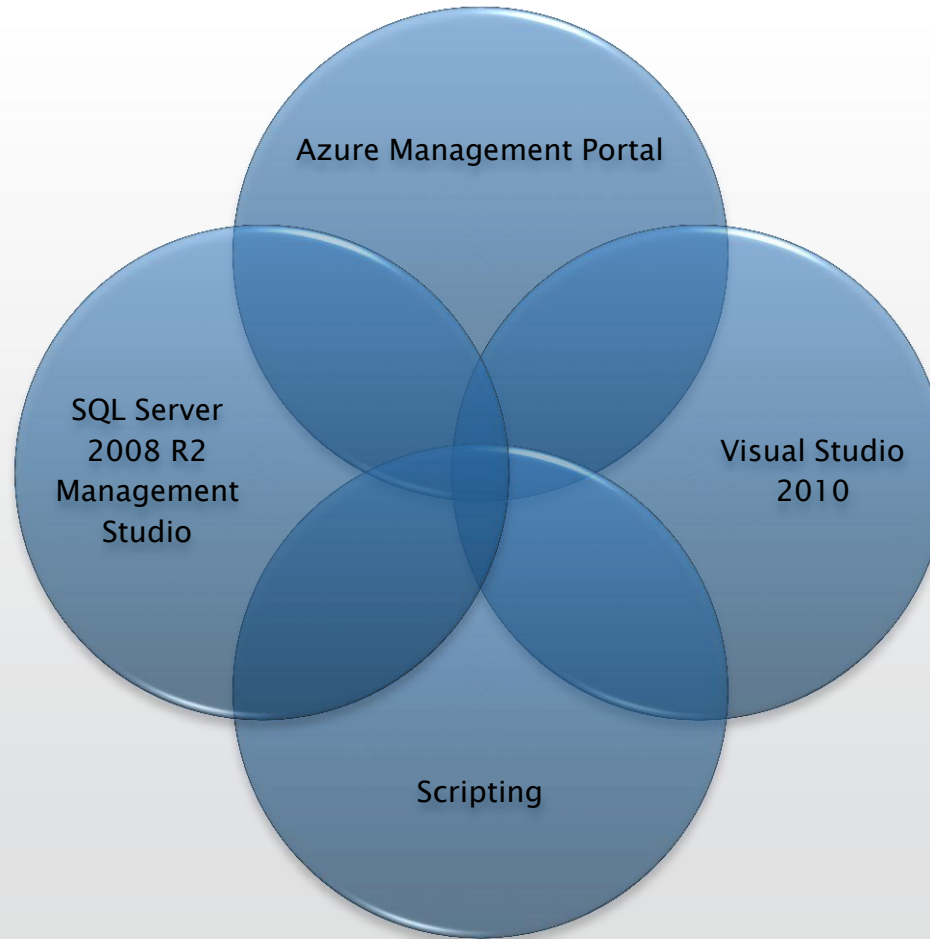
- Authentication and Authorization Strategy
 - ASP.Net Membership Provider
 - On–Premises Active Directory
 - OpenID
 - Use any OpenID Provider for Authentication
 - Works with Active Directory Federated Services (ADFS)
 - Cost Savings in Support



Application Management

In the Azure Driver's Seat

App Management Basics





Management Considerations

Certificates

- Management Certificates
- Endpoint Certificates

Deployment

- Deployment Strategies
- Packaging

Application Health

- Remote Instance Access
- Logging
- Performance Monitoring

CTPs

- Sign up early



Virtual Machine Role

Not Evil, But Not What You Think

Virtual Machine Basics



Windows 2008 R2 Enterprise VM

Uses Hyper-V technology

NOT Persistent

Virtual Machine Considerations



Persistence

- Storage
- State

Image Preparation

- Sysprep
- Certificates
- Firewall, Windows Security Lockdown

Deployment

- Time to Upload
- Test Image Locally First
- Deployment from VM (csupload -SkipVerify)



Conclusion



Design For Azure

Save Time & Money

- Develop Faster
- Deploy Easier
- Lower Support Costs

Keep SLAs in Mind

Incorporate Cost Model in Design

Leverage Azure Specific Features

- Utilize Storage Options
- Embrace Scalable Platform



Q&A



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