Clearing the Air on Cloud Computing

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Microsoft
Agenda

• Cloud Computing Overview
  • The Evolution to the Cloud
  • Why use the Cloud?
  • Windows Azure – Windows in the Cloud
• Business Scenarios for the Cloud
• The Cloud for Content
• Q/A
Platform Continuum

On-Premises Servers
- Bring your own machines, connectivity, software, etc.
- Complete control
- Complete responsibility
- Static capabilities
- Upfront capital costs for the infrastructure

Hosted Servers
- Renting machines, connectivity, software
- Less control
- Fewer responsibilities
- Lower capital costs
- More flexible
- Pay for fixed capacity, even if idle

Cloud Platform
- Shared, multi-tenant infrastructure
- Virtualized & dynamic
- Scalable & available
- Abstracted from the infrastructure
- Higher-level services
- Pay as you go
Why Use the Cloud?

- **Pay-per-use consumption model**
  - Only pay for Processing/Storage/Networking
- **No up-front capital costs for infrastructure**
  - All initial costs associated with product development
- **Illusion of Infinite Resources**
  - Scale applications up/down on-demand
- **Pay-per-use consumption model**
  - Only pay for Processing/Storage/Networking
Cloud != Cloud
<table>
<thead>
<tr>
<th>Cloudy Tomorrow</th>
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<tbody>
<tr>
<td>Private Clouds</td>
<td>- Virtualized infrastructure provided by internal IT organization</td>
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<tr>
<td></td>
<td>- CAPEX model for hardware</td>
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<td>Public Clouds</td>
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<tr>
<td>Infrastructure</td>
<td>• Virtualized infrastructure</td>
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<tr>
<td>as a Service</td>
<td>• Servers you manage</td>
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<td>• Maintaining/Patching Servers</td>
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<td>Platform</td>
<td>• Higher level of abstraction</td>
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<tr>
<td>as a Service</td>
<td>• Developers and IT focus on building and deploying applications</td>
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<td></td>
<td>• No infrastructure configuration</td>
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Microsoft in the Cloud
The Windows Azure Platform

**Compute:** Virtualized compute environment based on Windows Server

**Storage:** Durable, scalable, & available storage

**Management:** Automated, model-driven management of the service

**Database:** Relational processing for structured/unstructured data

**Service Bus:** General purpose application bus

**Access Control:** Rules-driven, claims-based access control
Raising the Level of Abstraction

Application
Virtual OS
Server
Storage

Networking
Raising the Level of Abstraction
Raising the Level of Abstraction

Azure

App Fabric

Access Control

Service Bus

Windows Azure

Processing

Storage

SQL Azure

Database
Cloud Business Scenarios

**Variable Usage**
- Applications with Spikes/Ebbs in usage

**Unknown Demand**
- Experimental Web Sites
- New Applications

**Batch Processing**
- Applications that use large amounts of processing can complete tasks quicker
The Cloud for Content

• Entire infrastructure in the cloud
  • Reduced capital costs
  • Companies can focus on core competencies
• Elastic scalability
  • Scale up/down based on usage
• Highly reliable
• Increase Revenues
  • Additional content can be accessed by premium subscribers