Cloud and Microsoft Azure 101

Types of Cloud Service
Microsoft Azure Primer
Types of "as a Service"
Getting access to Azure and types of subscription

9

Cloud Services

- Many types of Cloud Service
- These cloud services can be hosted:
  - Within an organizations own infrastructure, Private Cloud, with full access to all aspects
  - From an external party accessed over the Internet and made available to general public, Public Cloud, e.g. Microsoft Azure, Amazon Web Services. Access only to specific aspects based on the service
  - Some organizations share an infrastructure which can be thought of as a Community Cloud
  - A combination of clouds brings a Hybrid Cloud solution

10

What is a "Cloud"

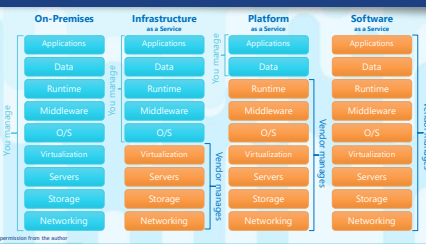
- Many definitions
- US NIST defines 5 critical characteristics to be a cloud
  - On-demand self-service
  - Broad network access
  - Resource pooling
  - Rapid elasticity
  - Measured service
- http://dx.doi.org/10.6028/NIST.SP.800-145

11

Types of "As a Service"

12

Types of "As a Service"



13

Important Point

In a real public cloud you are not putting in an order for servers to be racked!

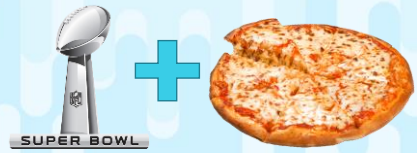
14

When to use Public Cloud solutions

- There is no definite right or wrong answer
- Different organizations have different priorities and can operate services/datacenters at different price points
- Requirements for resiliency not possible on-premises
- The key point is that Public Cloud solutions charge you based on consumption
  - If I consume 100 TB of storage I pay for 100 TB and not the 500 TB I may need in the future
  - If a virtual machine runs for 12 hours a month I pay for the 12 hours it is running only
- The fact you pay only when its needed means Public Cloud fits a number of key scenarios perfectly

15

Public Cloud Example



16

Other Great Scenarios

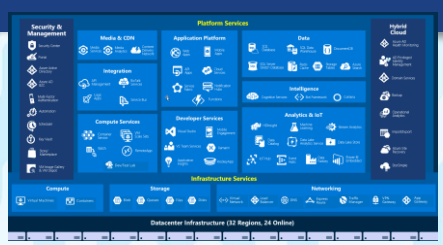
17

Key Scenarios I see

- Test and development
- Disaster Recovery
- DMZ scenarios
- Special projects
- Many organizations are just "all in"

18

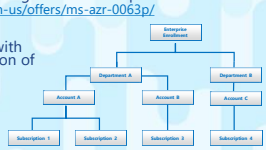
Azure Services



19

How to get Azure?

- Get a free one-month trial with $200 credit
  - http://azure.microsoft.com/en-us/pricing/free-trial/
- Get Azure as part of your existing MSDN subscription
  - http://azure.microsoft.com/en-us/offers/ms-azr-0063p/
- Buy Azure as you use it
- Create an Azure agreement with Microsoft which allows creation of different subscriptions and administrators plus reduced rates
- Cloud Service Provider



20

Account Setup Methodology

- Different options for creating accounts including:
  - Functional Teams (Sales, Legal, Marketing)
  - Business Divisions (Windows, Bing)
  - Geographic (North America, Europe)
  - Applications

21

Limits and Quotas

- There are soft limits and hard limits
- Initially subscriptions have fairly low limits to help protect you from over use
- http://azure.microsoft.com/en-us/documentation/articles/azure-subscription-service-limits/
- You can increase this via Subscription – Usage + quotas – Request Increase
- On your account you can enable or remove spending limits

22

Reliability Layer in the Cloud

- Reliability in the hardware is what you often implement on-premises
  - Centralized storage (e.g. a SAN)
  - Clusters of hosts
  - Migration of VMs between hosts in planned situations and failover in unplanned
  - Typically single instance of workloads
- Reliability in the software is used in the cloud
  - Distributed, multiple instances of compute and storage
  - VMs not migrated during maintenance
- Note Azure datacenter architectures are highly durable and resilient!
- Reliability in the software is the only practical architecture for mega-scale however it does not mean its worse than reliability in the hardware
- You need to factor this as part of your architecture and provide reliability in the application through multiple instances

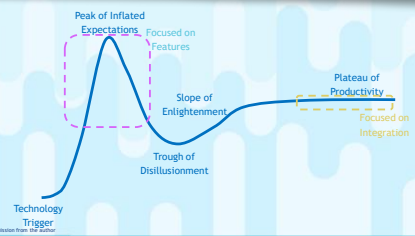
23

Why Should You Use Azure?

- Gartner has a magic quadrant around many technologies. The magic quadrant are leaders in their vision and ability to execute
- Microsoft is in the leader magic quadrant for many services, e.g.:
  - Cloud Infrastructure and Platform Services
  - X86 Server Virtualization (now retired)
- Azure and Hyper-V are leaders
- Microsoft can provide a hybrid solution

24

But What About Feature X?



25

What Does This Mean?

- Azure is really one of the few realistic big guys in this space
- The billions of dollars needed to be available geographically available and commit to the scale limit those who can truly play in this space
- Everyone else will likely be niche players
- You are betting on a good horse ☺
- If Azure does become self-aware it will treat you well as an early adopter

26


QUESTIONS?
ASK IN THE COMMENTS
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27