



Azure IaaS Overview

Microsoft Services



Agenda

- Cloud Computing
- Microsoft Azure





Cloud Computing

Microsoft Services



What is Cloud Computing?

The term Cloud computing is used to describe Internet based computing, where services such as servers, storage and applications are delivered to an organization's computers and devices over the Internet as opposed to a LAN.



Cloud Computing Options

Public Cloud

- A public cloud is one in which the services and infrastructure are provided off-site and accessible over the Internet e.g. Microsoft Azure

Private Cloud

- A private cloud is one in which the services and infrastructure are maintained on a private network e.g. Microsoft Azure Stack

Hybrid Cloud

- A hybrid cloud includes a variety of public and private clouds with multiple providers e.g. Microsoft Azure & Microsoft Azure Stack

Benefits of Cloud Computing

Lower Cost

Pay-as-you-go means that you pay only for the resources that you use

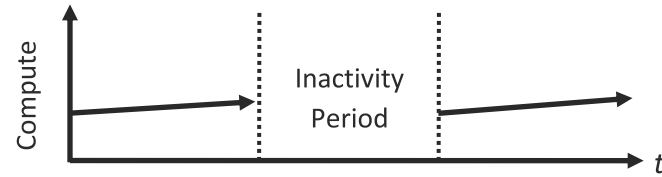
More Flexibility

With unlimited resources, you are able to scale on the fly

Reduced Management

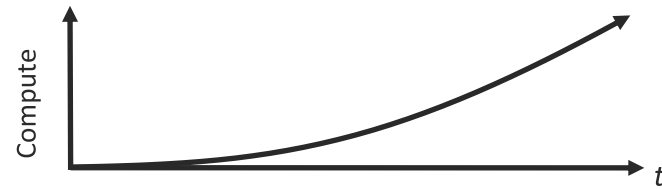
Vendor managed hardware and software means less management overhead

Benefits of Cloud Computing



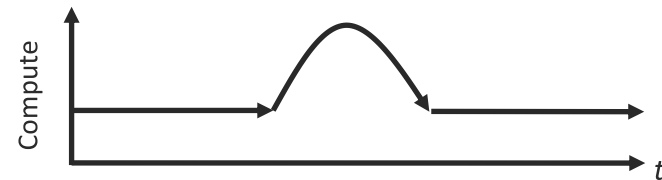
On and Off

On and off workloads (e.g. batch job)
Over provisioned capacity is wasted
Time to market can be cumbersome



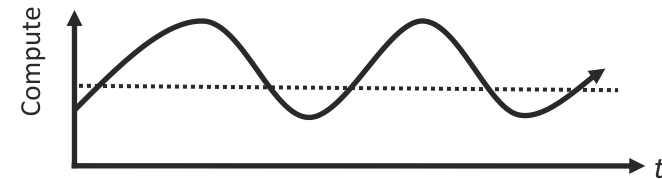
Growing Fast

Successful services needs to grow/scale
Keeping up with growth is a big IT challenge
Cannot provision hardware fast enough



Unpredictable Bursting


Unexpected/unplanned peak in demand
Sudden spike impacts performance
Cannot over provision for extreme cases



Predictable Bursting

Services with micro seasonality trends
Peaks due to periodic increased demand
IT complexity and wasted capacity


Cloud Computing Services



IaaS

Infrastructure as a Service


Host



PaaS

Platform as a Service

Build

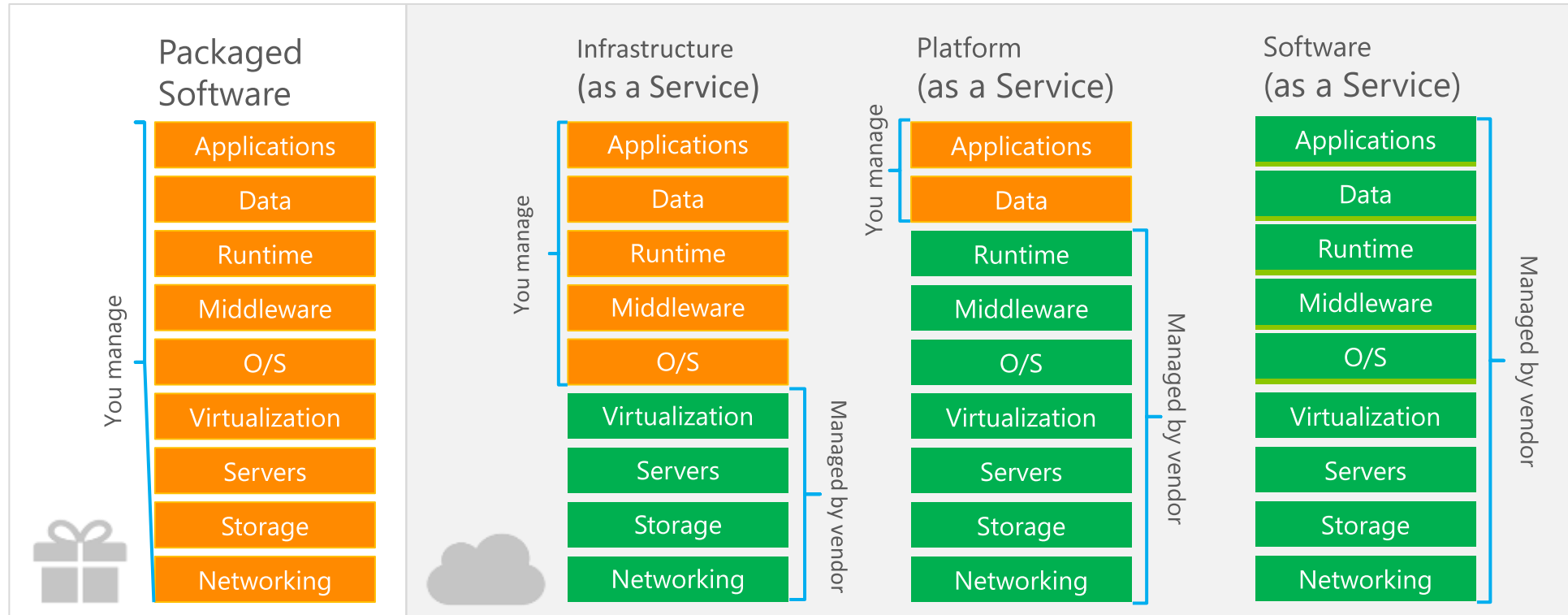


SaaS

Software as a Service

Consume

Cloud Computing Services





Microsoft Azure

Microsoft Services



What is Microsoft Azure

Microsoft Azure is Microsoft's public cloud computing platform

Over 100 datacenters across 58 regions worldwide

Available in 140 countries

Hyper Scale Computing

Top 3 networks worldwide



Microsoft
Azure

Hyper Scale Infrastructure

- 58 regions worldwide with 4 additional regions announced



Microsoft Azure Infrastructure

Over 2 million physical
servers globally

~50 servers per rack

~20 racks make up a
“cluster” which
provides a unit of
fault isolation

Using Software
Defined Networking
(Operating at Virtual
Layer-2)

5 servers per rack are reserved for the Fabric Controller (FC)

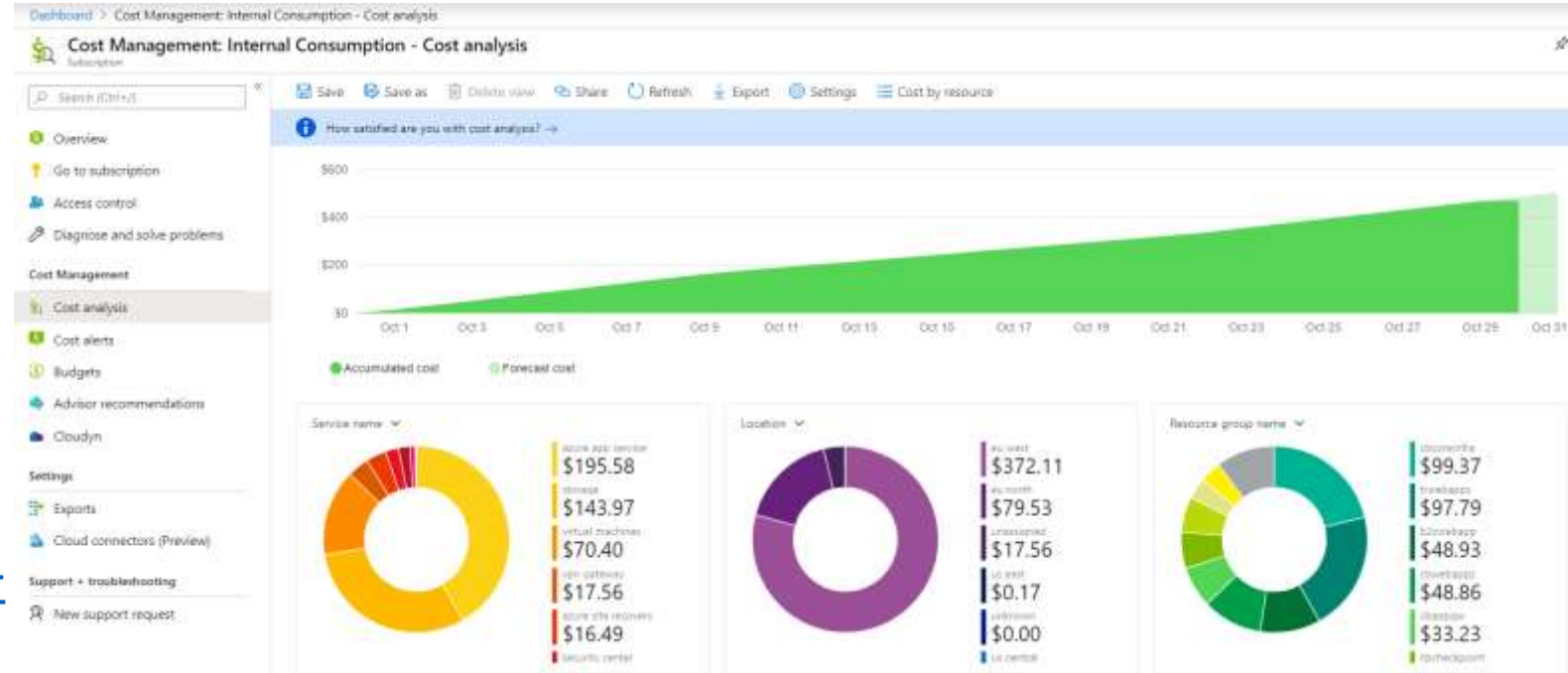
The FC is the “kernel” of the Azure cloud operating system responsible for:

- Datacenter resource allocation
- Datacenter resource provisioning
- Service lifecycle management
- Service health management

Microsoft Azure Billing

- Pay only for what you use*
- VM's usage is by the second
- Storage charges still apply to deallocated IaaS VM's
- Billing can be estimated at:

<https://azure.microsoft.com/en-us/pricing/calculator/>



*Microsoft Azure Enterprise Agreement (EA) billing process differs

