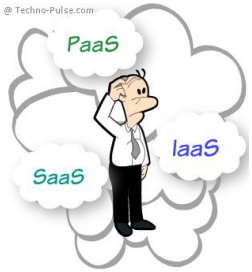
Virtualization Status

- Offerings from many companies
  - e.g. VMware, Microsoft
- Hardware support
  - Fits well with the move to 64 bit (very large memories) multi-core (concurrency) processors.
  - Intel VT (Virtualization Technology) provides hardware to support the Virtual Machine Monitor layer
- **Virtualization is now a well-established technology**



Service Models

SaaS • Software

Microsoft Office Communications Online · NETSUITE · salesforce.com · ZOHO Work. Online · workday.

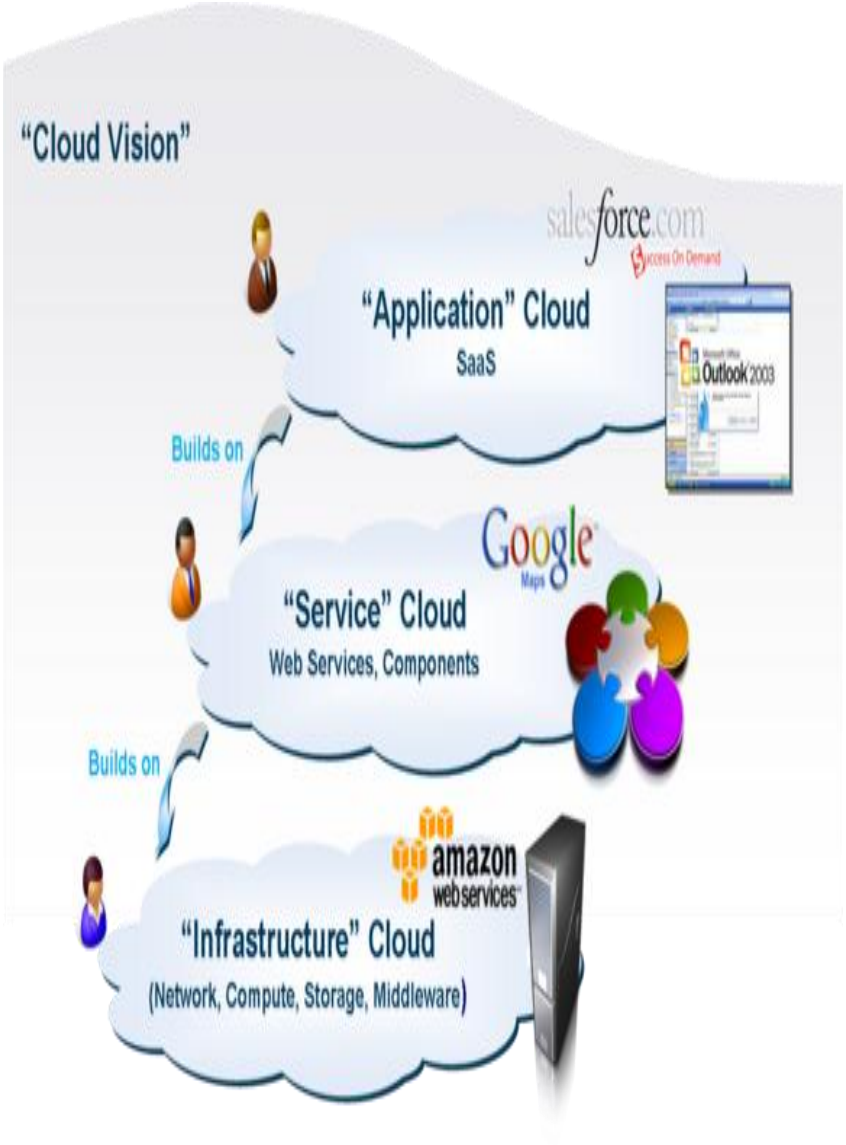
PaaS • Platform

Windows Azure Platform · Live Services · Google App Engine · force.com platform as a service

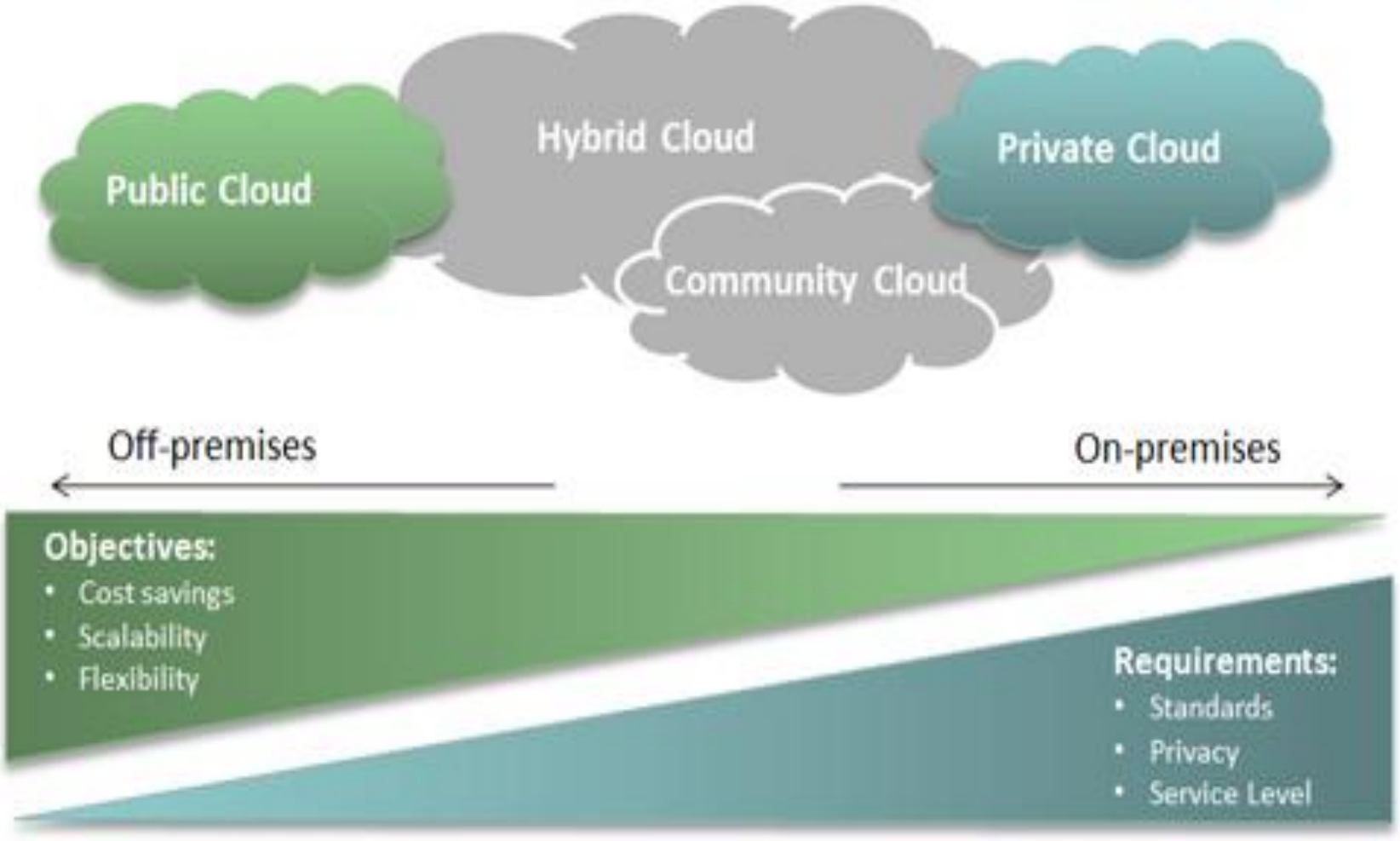
IaaS • Infrastructure

the rackspace cloud · amazon web services · GOGRID · GIGASPACES

- Infrastructure as a Service(IaaS)
  - *Deliver Infrastructure on Demand in the form of **virtual Hardware, Storage and Networking**. Virtual Hardware is utilised to provide compute on demand in the form of virtual machine instances*
  - ***Eg.Amazon EC2***
- Platform as a Service (PaaS)
  - *Deliver scalable and **elastic runtime environments on demand that host the execution of applications**.*
  - *Backed by core middleware platform for creating abstract environment to deploy and execute application*
- Software as a service (SaaS)
  - *Provide application and services on demand eg office automation, Photo Editing software accessible through browser on demand*



Deployment Models



- Public Cloud
  - *Hosted , operated and managed by a third party system owned by organization selling cloud services*
- Private Cloud
  - *The private cloud infrastructure is operated for the exclusive use of an organization. The cloud may be managed by that organization or a third party. Private clouds may be either on- or off-premises.*
- Hybrid Cloud
  - *A hybrid cloud combines multiple clouds (private, community of public) where those clouds retain their unique identities, but are bound together as a unit.*
- Community Cloud
  - *A community cloud is one where the cloud has been organized to serve a common function or purpose.*
  - *It may be for one organization or for several organizations, but they share common concerns such as their mission, policies, security, regulatory compliance needs, and so on*

Cloud Companies/Service Providers

Advantages of Cloud Computing

- Lower Computational Costs
- Improved Performance
- Reduced Software Costs
- Instant Software updates
- Unlimited storage capacity
- Increased Data Reliability
- Universal Document Access
- Latest version availability
- Easier Group Collaboration/ Sharing
- Device Independence

Disadvantages of Cloud Computing

- Requires constant Internet Connection
- Does not work well with low speed connection
- Stored data might not be Secured