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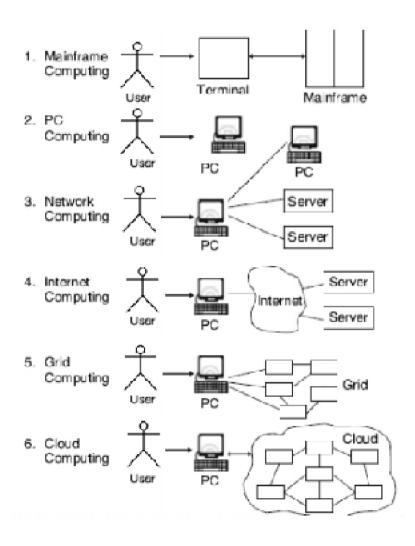


From Here we see all users data

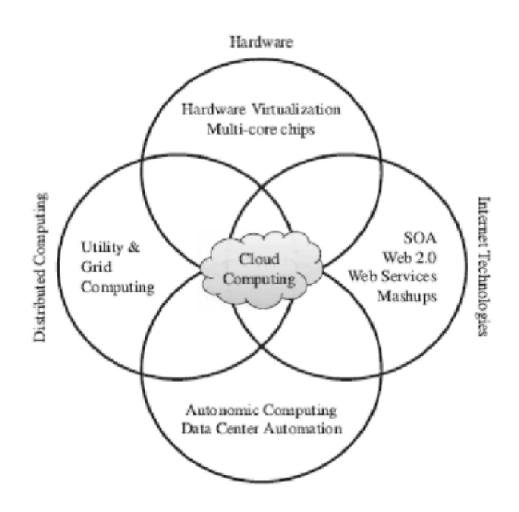
## Sisteme Distribuite

Mihai Zaharia Curs 5

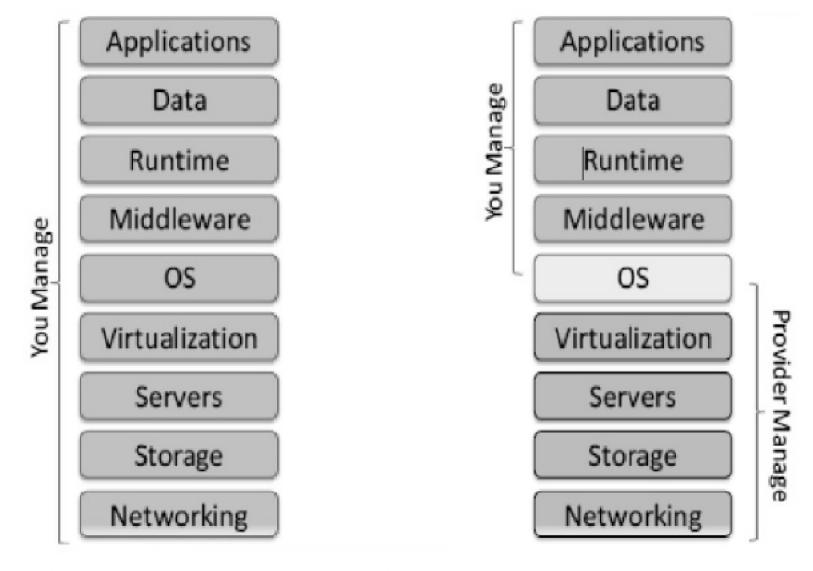
## Scurtă analiză a evoluției structurilor de calcul



# Unde se află de fapt norul?



#### laaS - Infrastructure as a Service



Modelul Traditional (on-premise) versus IaaS

#### Ce este norul?

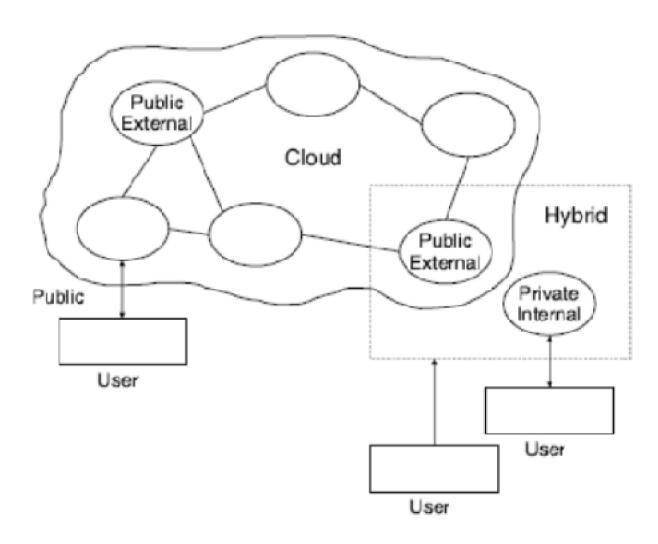
#### Definiţia NIST

- Cloud computing este un model de plata functie de utilizare care permite accesul, pe baza de retea, la cerere, convenabil, disponibil, la o grupare de resurse de calcul configurabile (ex., retele, servere, stocare, aplicatii).
- Aceste servicii care pot fi oferite rapid si cu un effort de administrare minimal sau cu interactiune minimala cu furnizorul de serviciu.

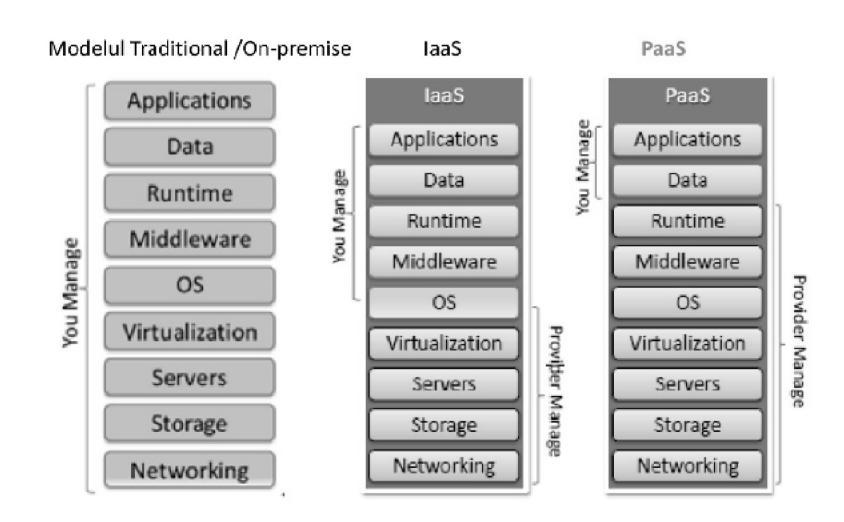
#### Caracteristicile de baza

- Auto-service la cerere
- Acces de oriunde la retea
- Grupare a resurselor independente de locatie.
- Plata dupa cat consumi

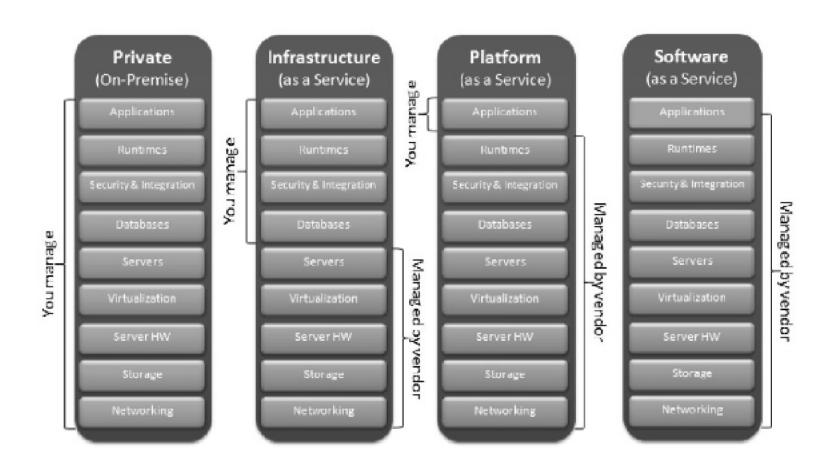
# Tipuri de Nori



# Platform as a Service (PaaS)



### Furnizori de servicii Cloud

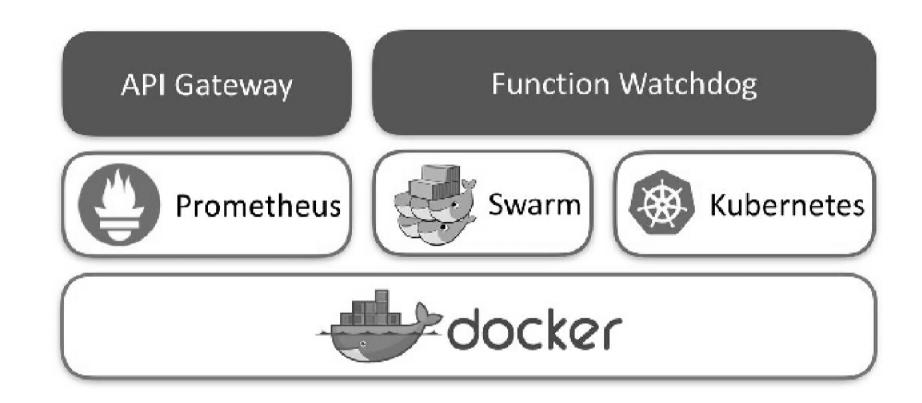


## Piramida Norului

flickr Zoho Apps Oracle Apps Amazon SOS gOS Amazon FPS Google Maps MokaFive Google Apps Alexa Yahoo! Maps OpenID Yahoo! BOSS Google AppEngine Heroku
IBM IT Factory LongJump
Coghead
Microsoft Azure .NET Mosso WorkXpress Facebook ThriftAneka WMware vSphere Google Chrome OS Amazon SimpleDB GoGrid Amazon EC3 Que OpenNebula Slicehost Amazon S3 metaCDN AMI Flexiscale Force.com Trackvia Apache Hadoop Box.net Eucalyptus Sector/Sphere Nebulas Joyent SunCloud Dynamo IBM Blue Cloud SnowFlock dsNET Clouder Globus Nimbus AppNexus Enomaly ECP Nirvanix

#### **FaaS**

## Functions as a Service



## Orice ca serviciu (XaaS)

- Storage as a Service
- Database as a Service
- Communication as a Service
- Network as a Service
- Monitoring as a Service
- Testing as a Service
- HPC as a Service.
- Human as a Service
- Process as a Service
- Information as a Service
- Identity as a Service
- Application as a Service
- Integration as a Service
- Governance as a Service
- Security as a Service
- Backup as a Service

#### Serviciile Amazon

- Elastic Compute Cloud
- Simple Storage Service
- Simple Queue Service
- SimpleDB
- CloudFront

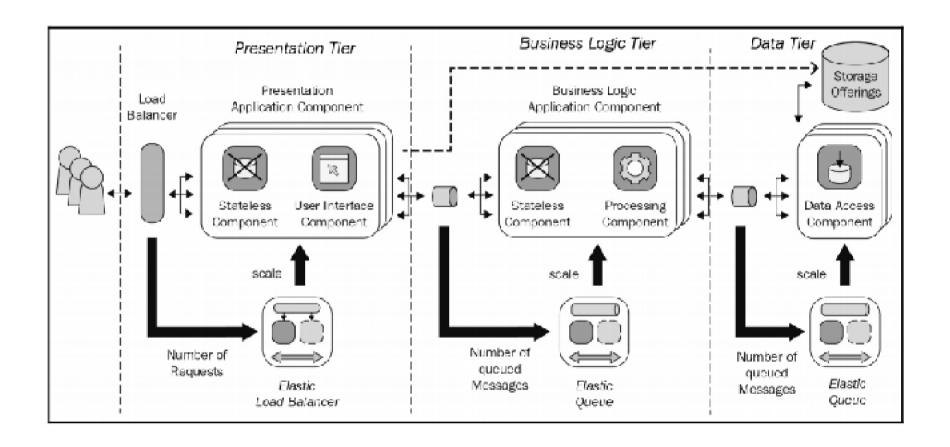
### **Windows Azure**



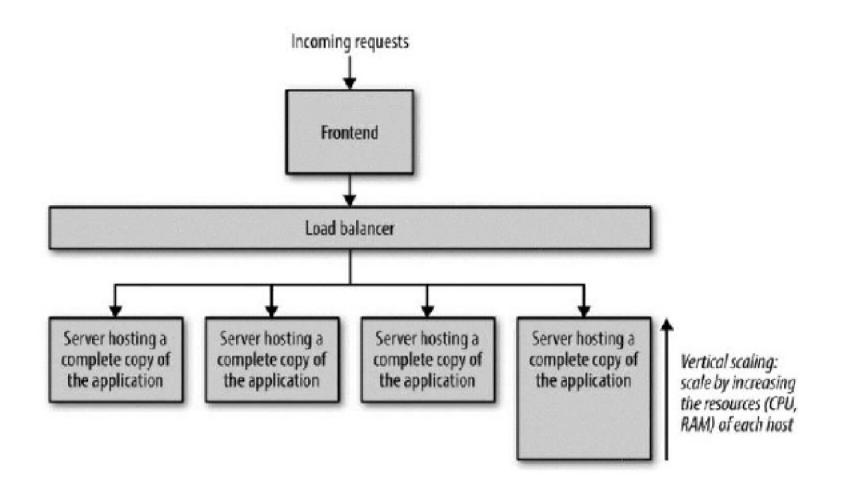
## Terminologie și concepte specifice norilor

- Centru de calcul cu patru straturi (Tier 4 data center)
- Hiperconvergenta
- Platforma hiperconvergenta

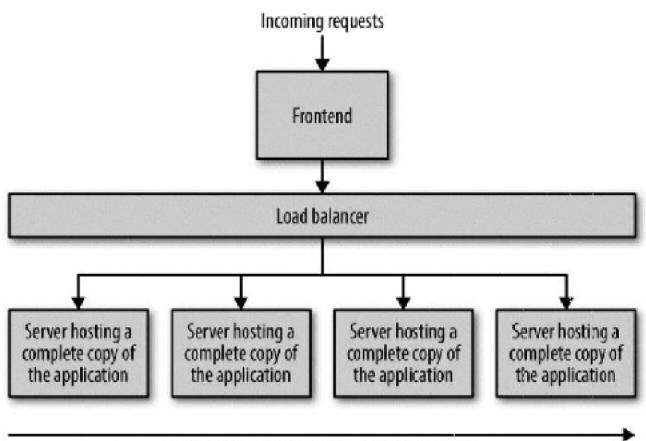
## Arhitectura norului



# Scale-up sau Vertical Scaling



## Scale-out sau Horizontal Scaling



Horizontal scaling: scale by adding more servers

## Modelul de securitate al nor

