

Kazakh British Technical University

What is Cloud Computing?



“Take only what you need.”

©MGMT - Kids

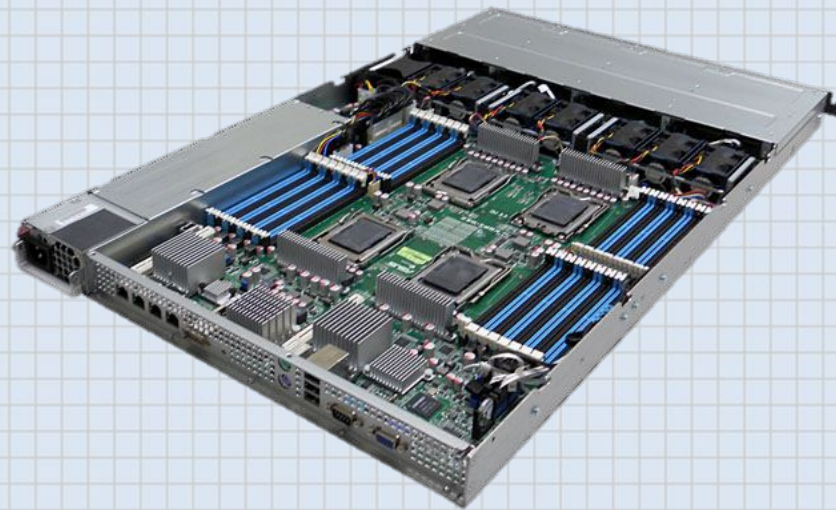
Made by: *V. Popov*

Almaty 2016



"Хорош катать вату!" - посыл #ProfitCloudDay

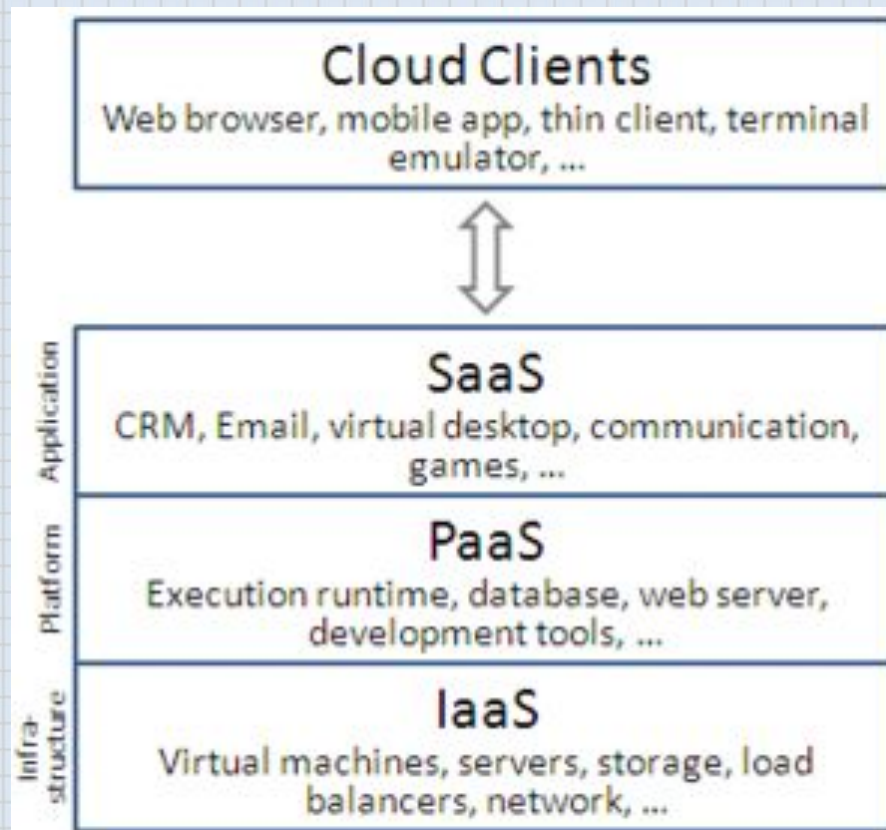




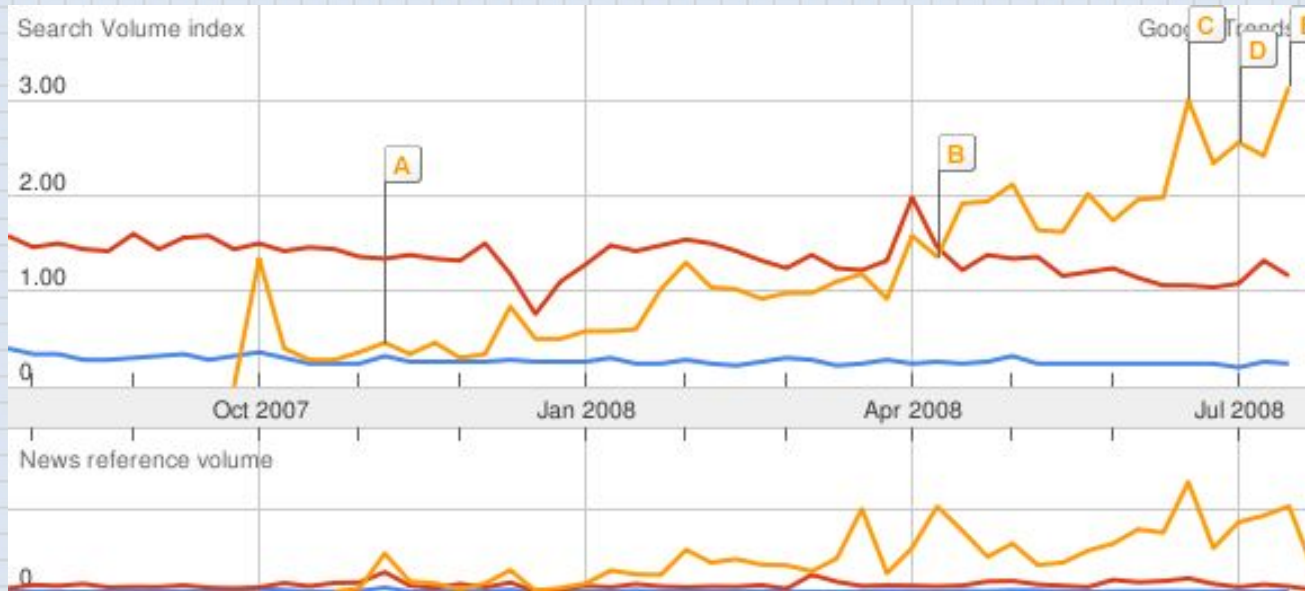
Hardware Servers

Cloud

Hypervisor, such as Xen, Oracle VirtualBox, KVM, VMware ESX/ESXi, or Hyper-V runs the virtual machines as guests.



SEO trends



Cluster Computing
Cloud Computing
Grid Computing



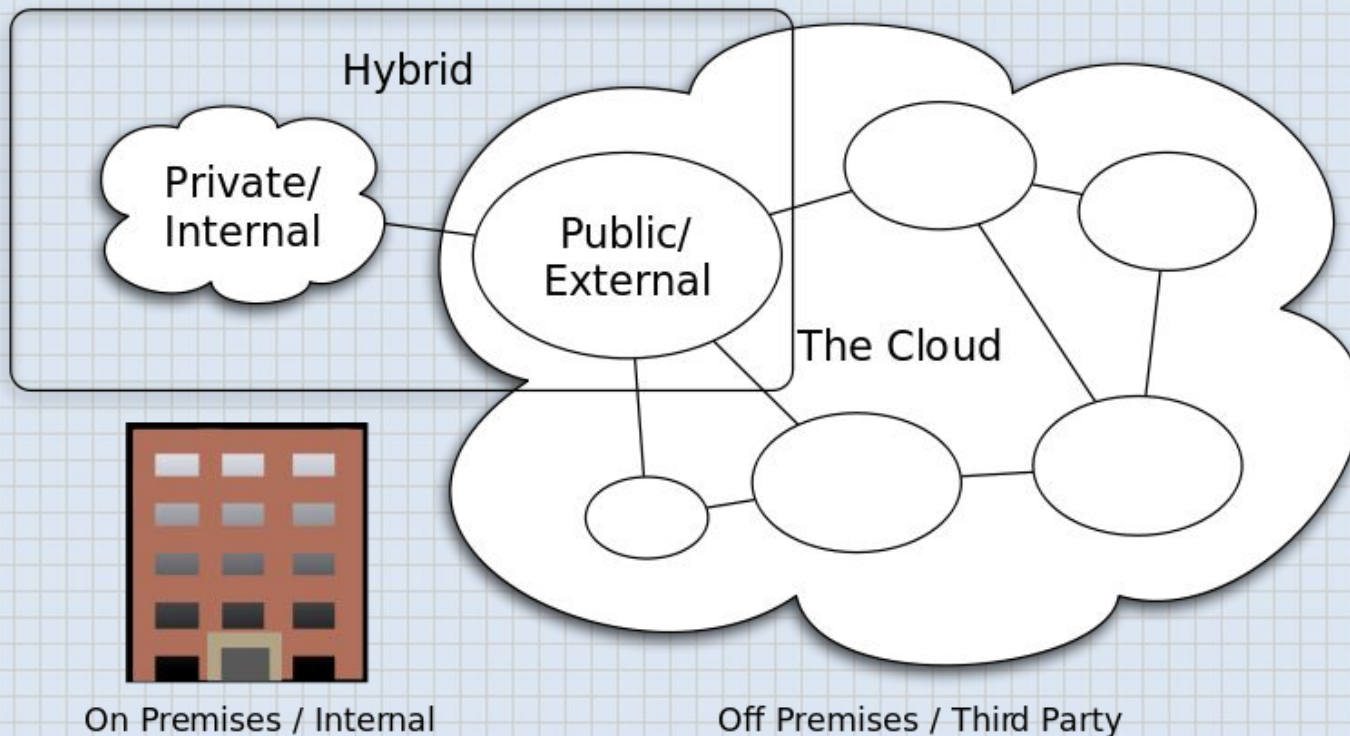
What is Cloud?

- **Cloud** \approx multiple hardware machines combine their computing power and resources
 - Share them between multiple applications
 - To save costs and use resources more efficiently
- **Public clouds**
 - Provide computing resources on demand
 - Publicly in Internet
 - Paid or free of charge (to some limit)
 - Kazakhtelecom Dynamic Cloud Server, PS.kz
Jelastic, Amazon AWS, Google App Engine,
Microsoft Azure, Rackspace, AppFog, Heroku,
AppHarbor, ...

Cloud computing types

Hybrid=Private+Public

(Internal+External)



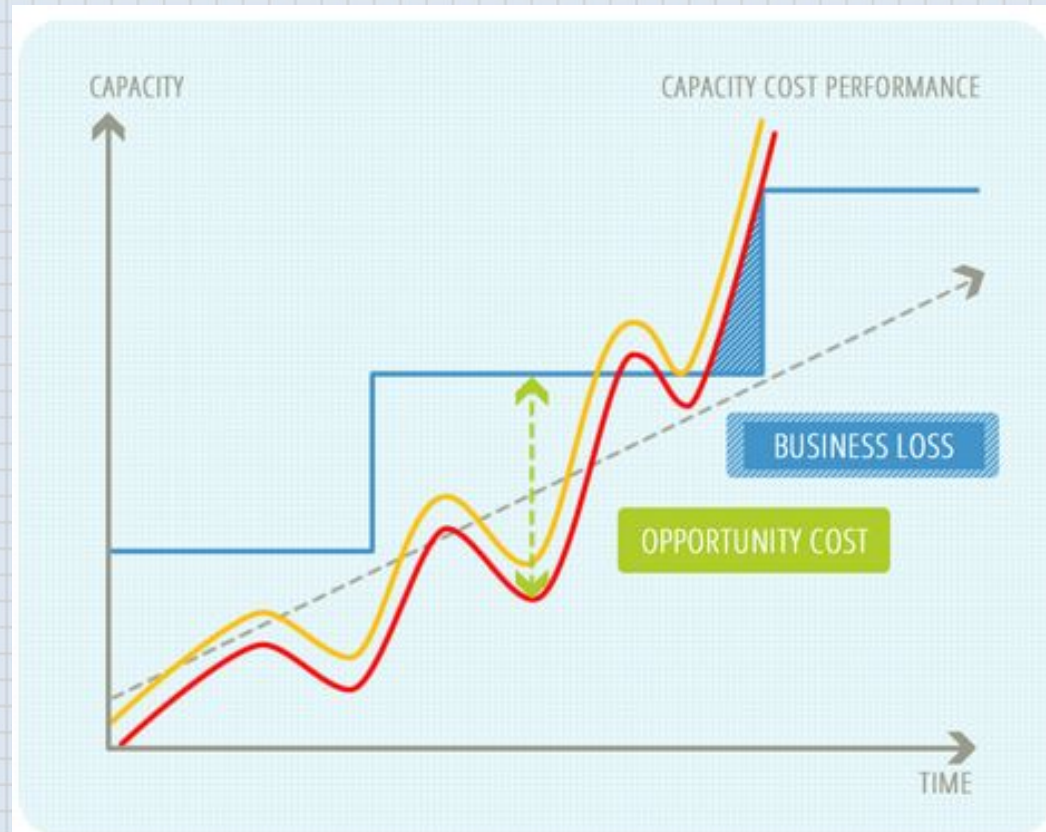
On Premises / Internal

Off Premises / Third Party

Cloud Computing Types

Cloud

- Autoscaling
- Pay-as-you-go
- OPEX vs. CAPEX



With cloud computing you only pay for what you need at any time

- Predicted demand
- Actual demand
- Traditional hosting
- Automated cloud capacity

There should be Gartner Magic Quadrant (MQ)



Shared Hosting

- +PLUS: Affordable; Easy to Start
- MINUS: Lack of Server Control & Performance



Dedicated Hosting

- +PLUS: Maximum Control; Great Server Performance
- MINUS: Expensive; Skilled IT Staffs Needed



VPS Hosting

- +PLUS: Root Server Access; Secured Environment
- MINUS: More Expensive Than Shared Hosting



Cloud Hosting

- +PLUS: Server Scalability; Cost Efficient
- MINUS: Advance IT Knowledge; Insecure (arguable)

SaaS
Software as a Service

PaaS
Platform as a Service

IaaS
Infrastructure as a Service



SaaS

Software as a Service



SaaS

Software delivery model

- Increasingly popular with SMEs
- No hardware or software to manage
- Service delivered through a browser



SaaS

Advantages

- Pay per use
- Instant Scalability
- Security
- Reliability
- APIs



SaaS

Examples

- CRM
- Financial Planning
- Human Resources
- Word processing

Commercial Services:

- Salesforce.com
- emailcloud



PaaS
Platform as a Service



Platform delivery model

PaaS

- Platforms are built upon Infrastructure, which is expensive
- Estimating demand is not a science!
- Platform management is not fun!



Popular services

PaaS

- Storage
- Database
- Scalability



Advantages

PaaS

- Pay per use
- Instant Scalability
- Security
- Reliability
- APIs



Examples

PaaS

- Google App Engine
- Mosso
- AWS: S3



laaS
Infrastructure as a Service



Computer infrastructure delivery model

Access to infrastructure stack:

- Full OS access
- Firewalls
- Routers
- Load balancing

IaaS



Advantages

- Pay per use
- Instant Scalability
- Security
- Reliability
- APIs

IaaS



Examples

- Flexiscale
- AWS: EC2

IaaS



SaaS
Software as a Service

PaaS
Platform as a Service

IaaS
Infrastructure as a Service



SaaS

Common Factors

PaaS

- Pay per use
- Instant Scalability
- Security
- Reliability
- APIs

IaaS



SaaS

Advantages

PaaS

IaaS

- Lower cost of ownership
- Reduce infrastructure management responsibility
- Allow for unexpected resource loads
- Faster application rollout



SaaS

Cloud Economics

PaaS

IaaS

- Multi-tenanted
- Virtualisation lowers costs by increasing utilisation
- Economies of scale afforded by technology
- Automated update policy



Examples of usage



SaaS

- Your current CRM package is not managing the load or you simply don't want to host it in-house....use a SaaS provider such as Salesforce.com

- Your email is hosted on an exchange server in your office and it is very slow...outsource this using Hosted Exchange.



PaaS

- You need to host a large file (5Mb) on your website and make it available for 35,000 users for only two months duration. Use Cloud Front from Amazon.
- You want to start storage services on your network for a large number of files and you do not have the storage capacity...use Amazon S3.



- You want to run a batch job but you don't have the infrastructure necessary to run it in a timely manner. Use Amazon EC2.
- You want to host a website, but only for a few days. Use Flexiscale.

IaaS



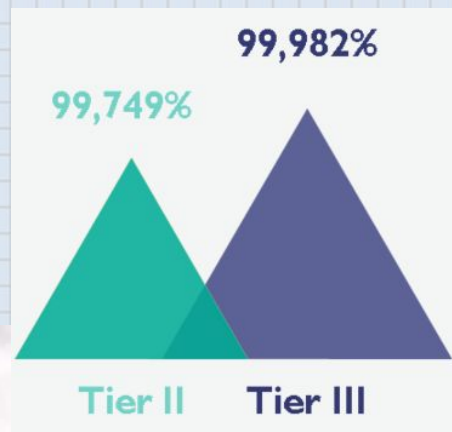
Why Cloud Computing?

- Pay per use
- Instant Scalability
- Security
- Reliability
- APIs



Our Everything

SLA



<http://d1116051-16095.idhost.kz/3d/Pavlodar/Pavlodar.swf>

<http://www.idhost.kz/page/index/id/tour>



Thank you for
attention!