



OpenStack의 중요성

안명호, MHR Inc

mhr.james@gmail.com

facebook.com/james.ahn.9

Part I

The OpenStack Project

OpenStack?

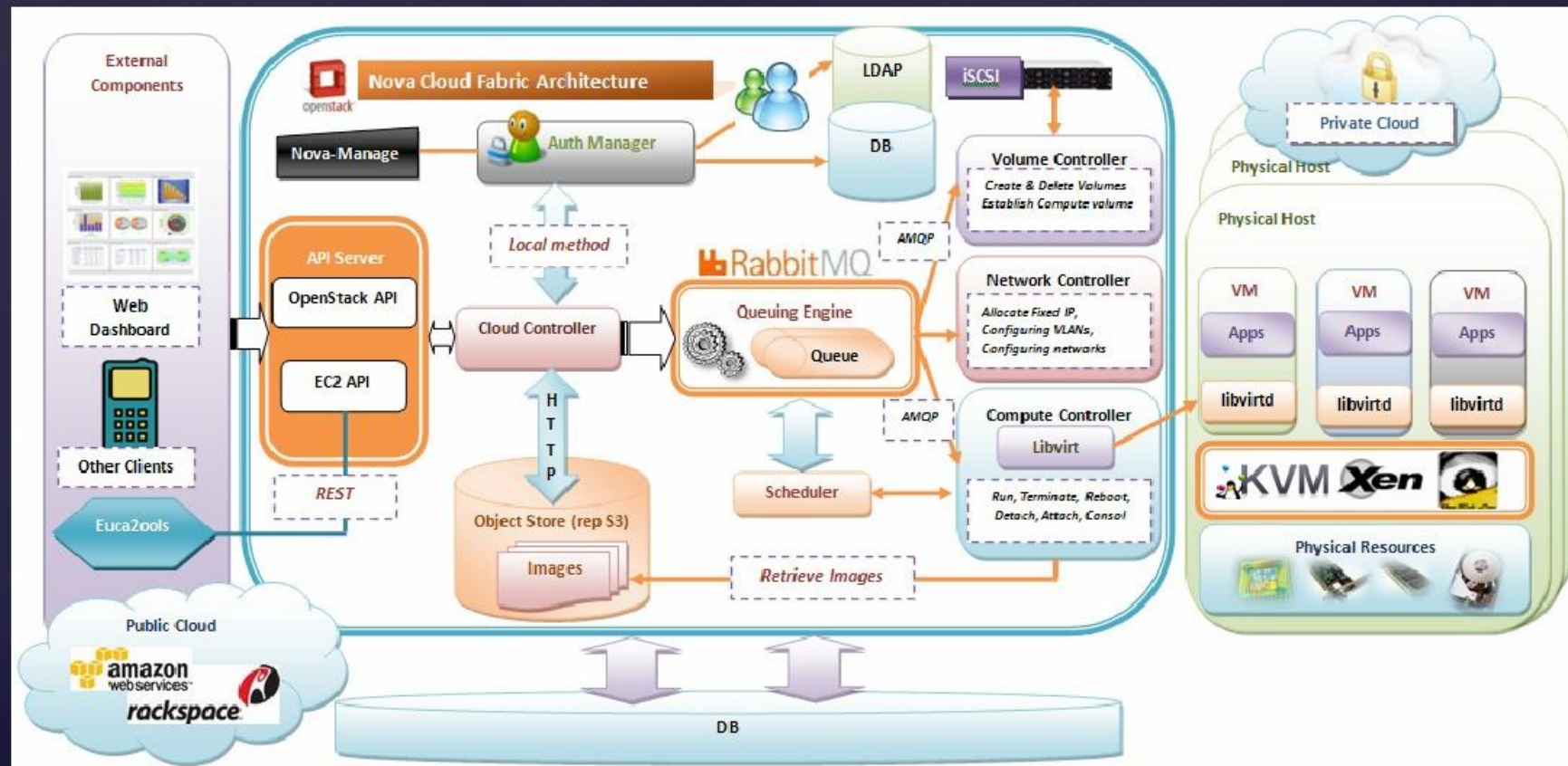
→ Open Source Cloud Computing Solution

- NASA, RackSpace 에 의해 개발, 2010년 오픈소스로 공개
- 170개 이상의 회사가 참여하여 개발하고 있음.



Cloud OS <- OpenStack

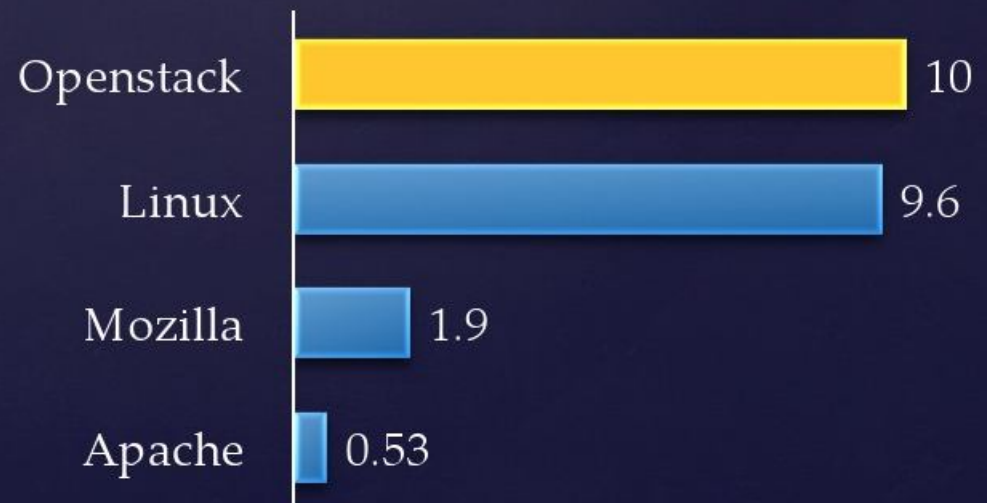
OpenStack is a software tool for “Programmable IT Infrastructure”



Incredible OpenStack Project!

- 1) 가장 빠르게 성장하는
- 2) 펀드 No.1 오픈소스 프로젝트

오픈소스 펀드금액



Splendid Sponsors

구분	OpenStack	Apache
Total	180	28
Chip Maker	Intel, AMD	AMD
Linux	Ubuntu, RedHat, Suse	
Hardware	IBM, HP, Dell, NEC	IBM, HP
Network	Cisco, Alcatel-Lucent, Huawei, F5, Akamai, Broadcom	Huawei
Internet	Yahoo, Paypal	Yahoo, Google, Facebook
Software	Microsoft, VMWare	Microsoft, Citrix
Telecomm	AT&T, NTT Docomo	
IDC	Rackspace, DreamHost	

Swellheaded OpenStack

Sponsorship	OpenStack	Apache
Platinum	NA Board Approval	\$ 100k/year
Gold	NA Board Approval	\$40k / year
Silver(Corporate)	\$25k/year	\$20k / year
bronze		\$5k / year

Part II

OpenStack's Charm?

Public Enemy, Amazon!



Amazing Amazon!!!

\$ 1.19 Billion

**1/3 of Daily
User**

**1% of Internet
Traffic**

<http://gigaom.com/cloud/just-how-big-is-the-amazon-cloud-anyway/>

“대기업, 아마존 클라우드 이미 쓰고 있다”

ZDNet, 2012.11.26

대기업들이 통념과 달리 아마존의 퍼블릭 클라우드를 이미 사용하고 있다는 주장이 나왔다.

최근 기가옴, 美 지디넷 등 외신들은 대기업이 아마존웹서비스(AWS)를 이미 사용중이거나, 도입 테스트를 진행중이라고 보도했다. 포춘 선정 1천대 기업 중 다수가 AWS에 조심스러운 입장을 보이면서도, 조용히 도입을 준비중인 것으로 알려졌다.

기가옴의 바브 대로우는 최근 다양한 클라우드 업계 선두주자들과 나눈 대화를 소개했다. 그는 **AWS 고객 중 적어도 30%는 대기업 고객**일 것으로 추산된다고 밝혔다.

만약 아마존이 성장하면?

서버  웨어

네트  장비

스  지

소  소프트웨어

아마존의 힘 : 기술력

Netflix의 고백



john ciancutti.

Director of Engineering at Facebook.

Former long term at Netflix

Amazon calls their web services “undifferentiated heavy lifting,” and that’s what it is. **The problems they are trying to solve are incredibly difficult ones,** but they aren’t specific to our business. Every successful internet company has to figure out great storage solutions, hardware failover, networking infrastructure, etc.

아마존의 힘 : 8년 운영 노하우

The screenshot shows the Amazon.com homepage from 2004. The browser's address bar displays 'www.amazon.com'. The top navigation bar includes the Amazon logo, 'Join Prime', and links for 'Your Amazon.com', 'Today's Deals', 'Gift Cards', and 'Help'. A search bar is positioned in the center, flanked by 'Shop by Department' and 'Go' buttons. On the right, there are links for 'Hello, Sign in Your Account', 'Join Prime', 'Cart', and 'Wish List'. A prominent banner for 'Top Holiday Deals' with the tagline 'New deals every day' is visible. Below this, a Citi advertisement promotes a '\$10 off for you' offer. The main content area features a large section for 'Kindle Fire HD', described as 'The #1 most gifted product on Amazon', with a price starting from \$199. To the right, a 'Christmas Corner' section is titled 'Your Holiday Headquarters'. At the bottom, another 'Top Holiday Deals' banner is shown, featuring a movie poster for 'The Dark Knight Rises' and a 'Take 25% Off' promotion on handbags, wallets, and sunglasses.

amazon.com
Join Prime
Your Amazon.com Today's Deals Gift Cards Help

Shop by Department Search All Go

Hello, Sign in Your Account Join Prime Cart Wish List

Top Holiday Deals New deals every day

Kindle Fire HD
The #1 most gifted product on Amazon
From \$199 > Shop now

Kindle, from \$69 > Shop now

Christmas Corner
Your Holiday Headquarters
> Shop now

Gifts for them. \$10 off for you.
Spend \$50 or more today with your Citi credit card and get \$10 off your next \$50 purchase at Amazon.com.
Terms and restrictions apply. Get Details

Top Holiday Deals
New deals every day
> See the deals

Take 25% Off
Handbags, Wallets & Sunglasses > See more

The Dark Knight Rises

Since 2004

Amazon, Invincible?



Lookback on Smartphone



Apple VS Non-Apple by Google



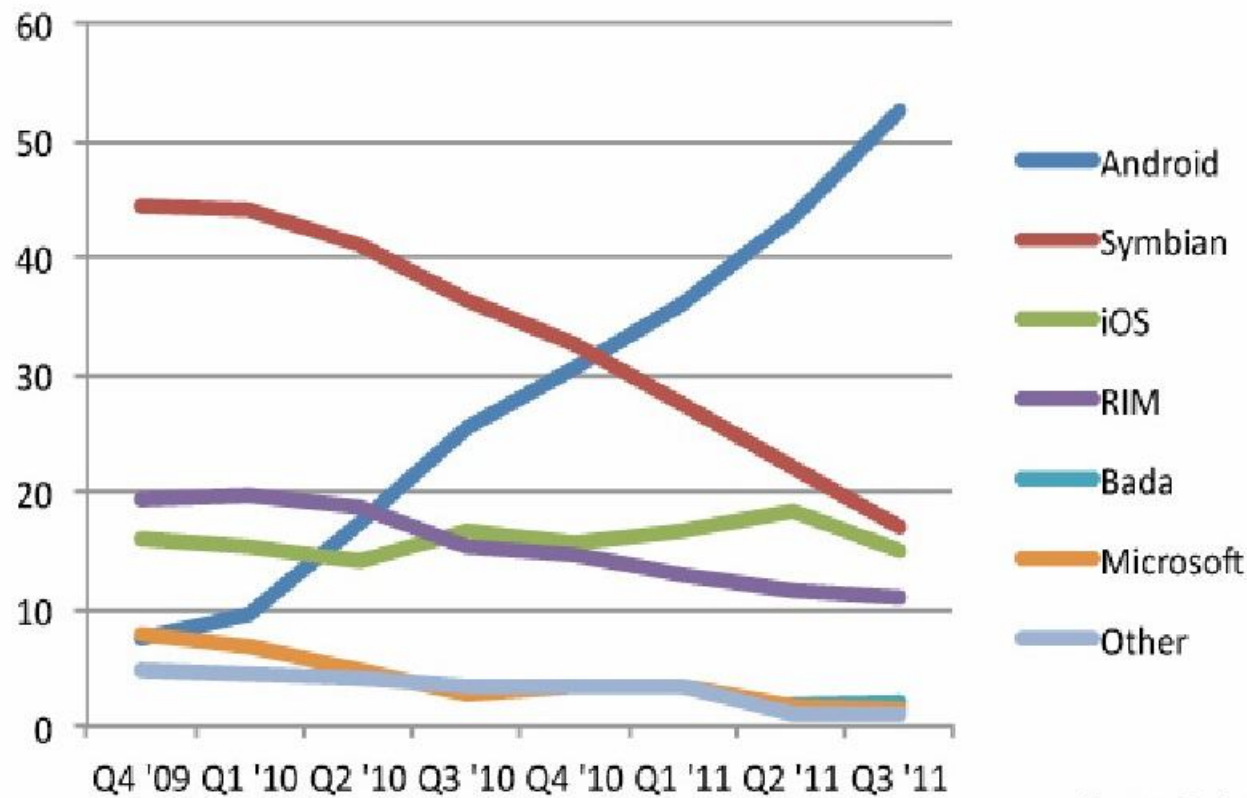
Finally Android Won!

Silicon Alley Insider



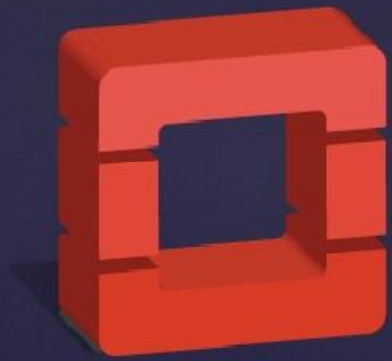
Chart of the Day

Market Share For Smartphone Operating Systems



Source: Gartner

OpenStack = Android?



openstack™



Amazon VS Non-Amazon



Part III

The Change by OpenStack

CPU



Clock Speed

Virtualization Support

Intel VT AMD-V

OS



Feature

Hypervisor Compatibility

Hardware



Performance, Support

Cost, Energy

AWS uses 36 1U servers in each rack,

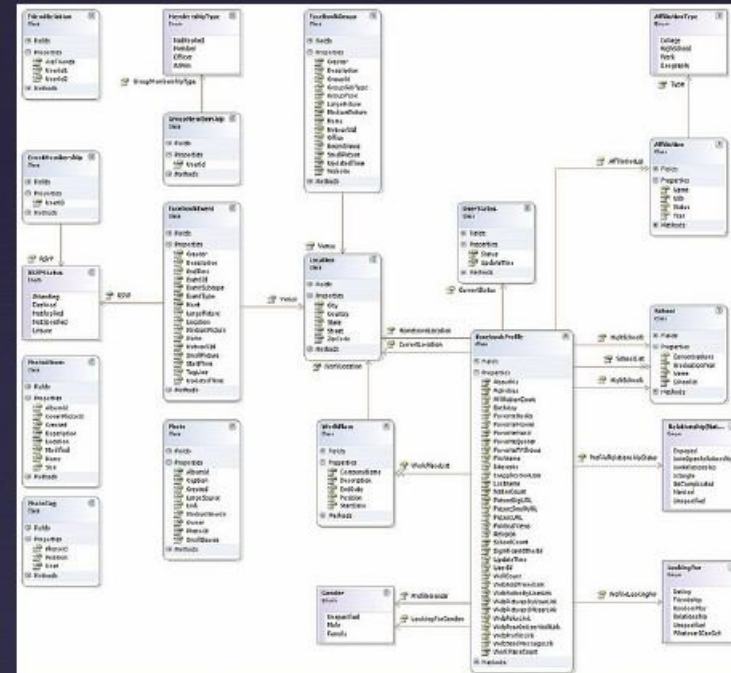
IDC



Server

Virtual Machine

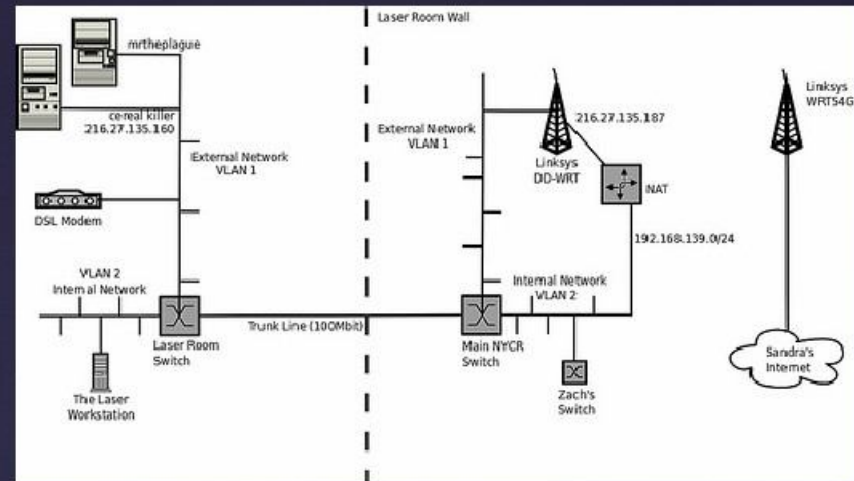
Software



DB, Component

Latency, API, NoSQL

Network



Physical

Virtual

In Summary,

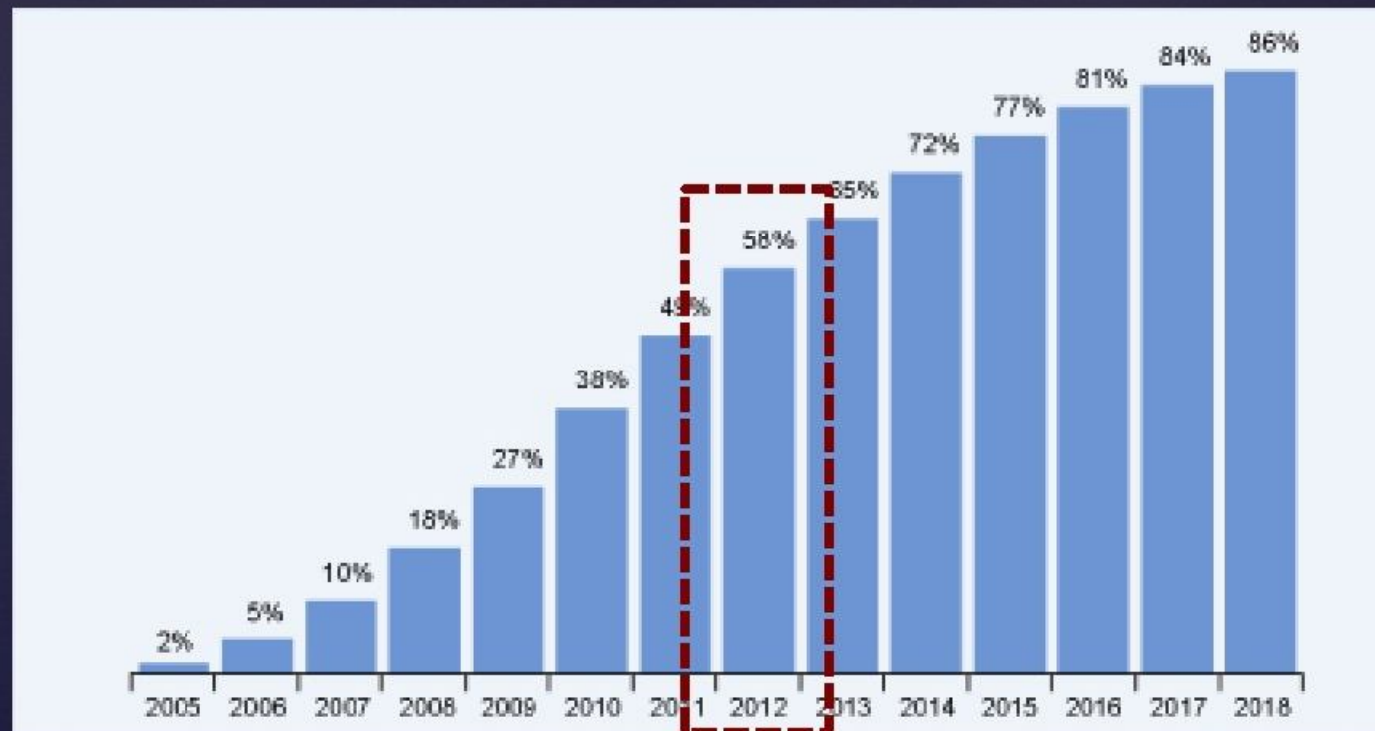
구분	관련업체
서버하드웨어	HP, Dell, IBM, Intel, AMD
네트워킹	Cisco, Juniper
스토리지	EMC(VMware)
OS	Redhat, Ubuntu, Suse
소프트웨어	Oracle, Microsoft
서비스운영	DevOps

Part IV

OpenStack & Opportunity

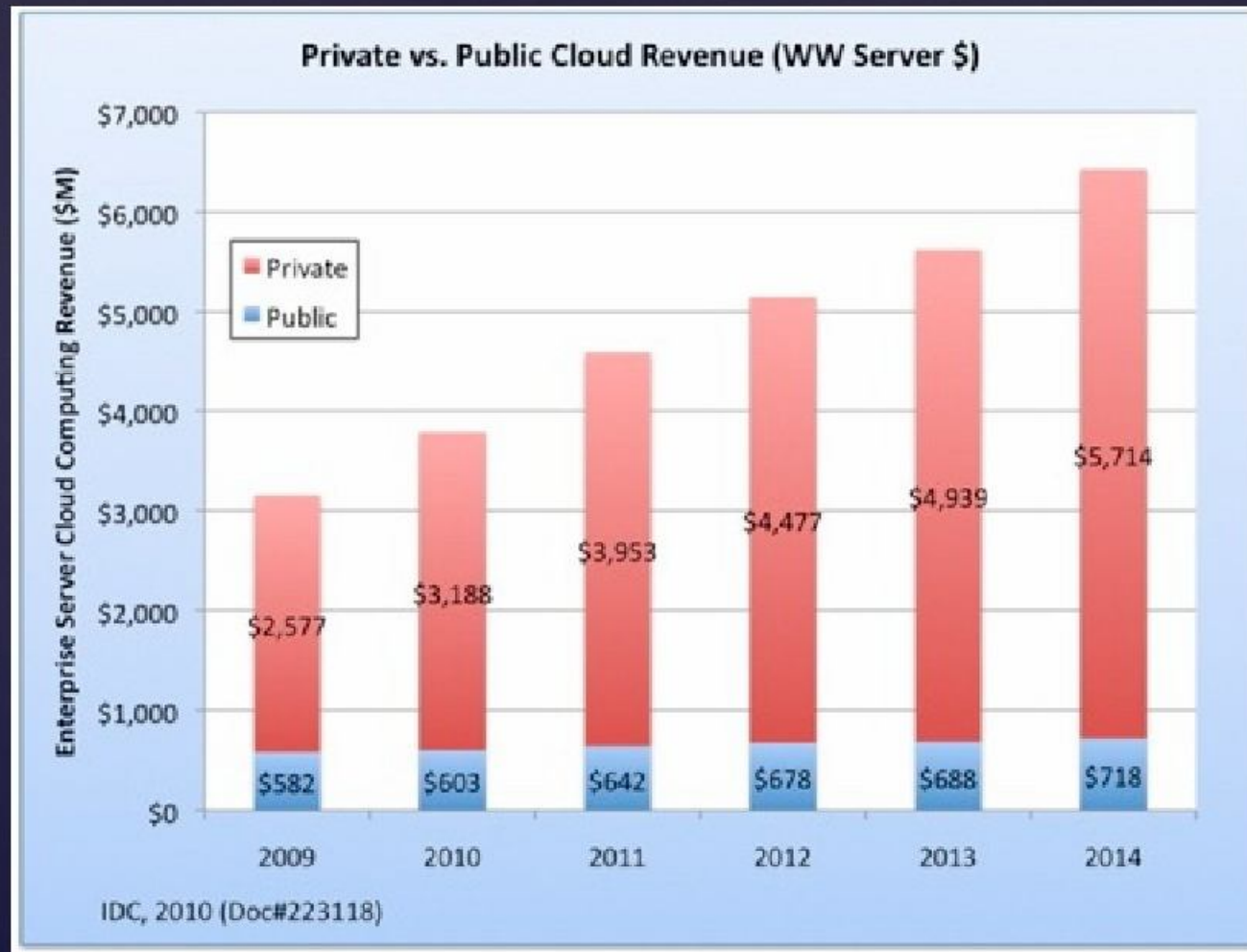
~~Paradigm Shift~~ Paradigm Shifted

Percentage of x86-Architecture Workloads Running in VMs

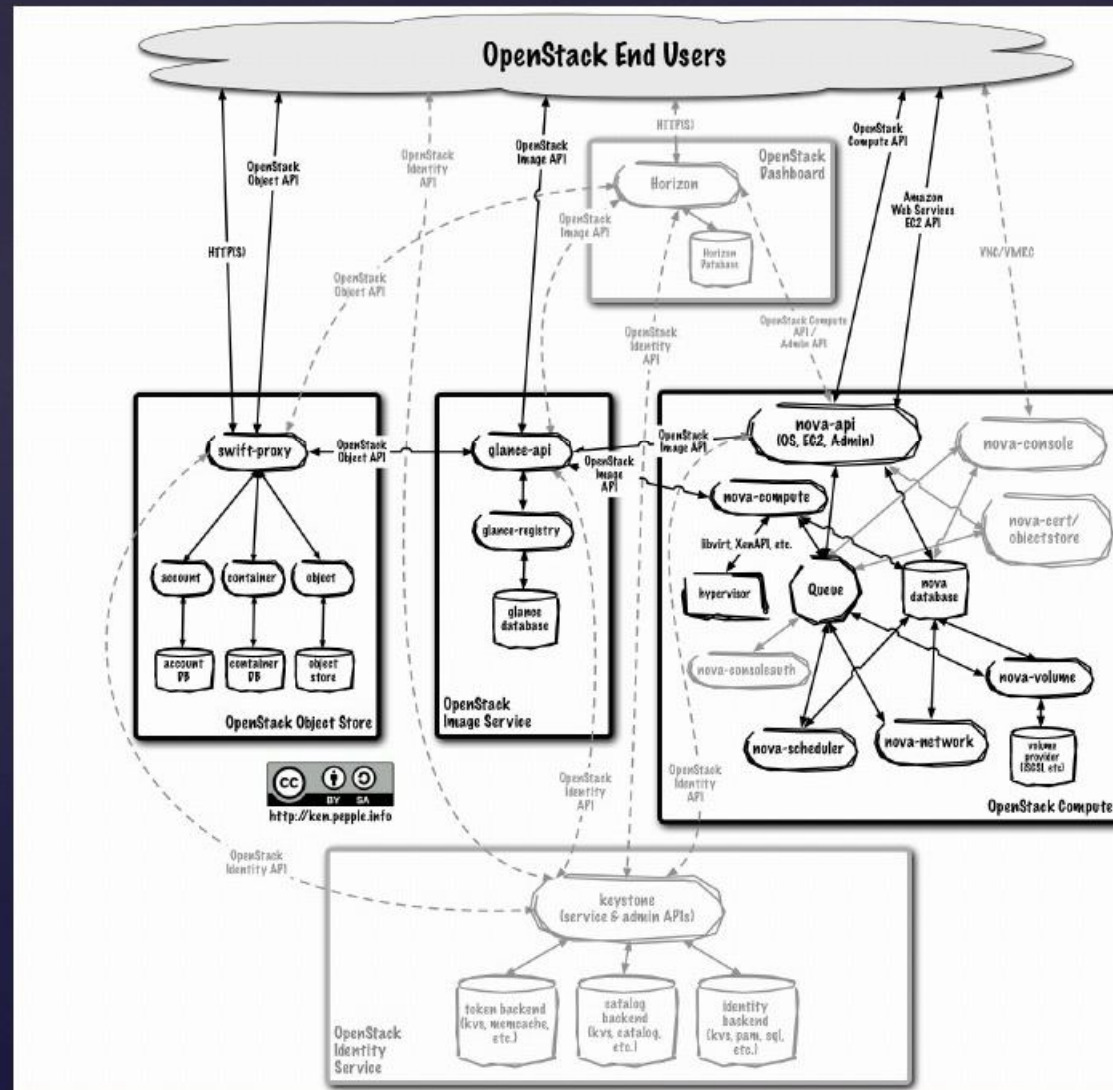


Source : Gartner 2011

OpenStack >> Amazon



OpenStack still in Early Stage



OpenStack Development Stage



Infrastructure

Operation

Optimization

Top 10 Cloud Computing Jobs

1. Cloud Architect	Development and implementation of cloud-based initiatives
2. Cloud Software Engineer	Design and development of distributed software modules
3. Cloud Sales	Develop cloud business
4. Cloud Engineer	Conduct technical tasks for internal virtualisation infrastructure
5. Cloud Service Developer	Design and build customer-facing tools
6. Cloud System Administrator	Configure & Manage cloud infrastructure
7. Cloud Consultant	Conduct technical studies and evaluations of business area requirements
8. Cloud System Engineer	Build the virtual systems that support the cloud implementation
9. Cloud Network Engineer	Perform the implementation, operational support, maintenance and optimization of network hardware, software
10. Cloud Product Manager	Perform product planning for cloud-based offerings including creating product concept and strategy

Riding on OpenStack



로켓에 올라타세요. 회사가 빠르게 성장할 때에는 많은 충격이 있고 커리어는 알아서 성장하게 되어 있습니다. 그런데 회사가 빠르게 성장하지 못하고 회사의 미션이 별로 얘기가 안될 때에는 정체와 사내정치가 시작됩니다. **로켓에 자리가 나면 그 자리가 어디 있는지 따지지 마세요. 우선 올라타세요**

에릭 슈미츠, 구글 회장

감사합니다.

안명호, MHR Inc

mhr.james@gmail.com

facebook.com/james.ahn.9

[Twitter.com/stayhungry9](https://twitter.com/stayhungry9)