

Cloud Computing : The Present and Future

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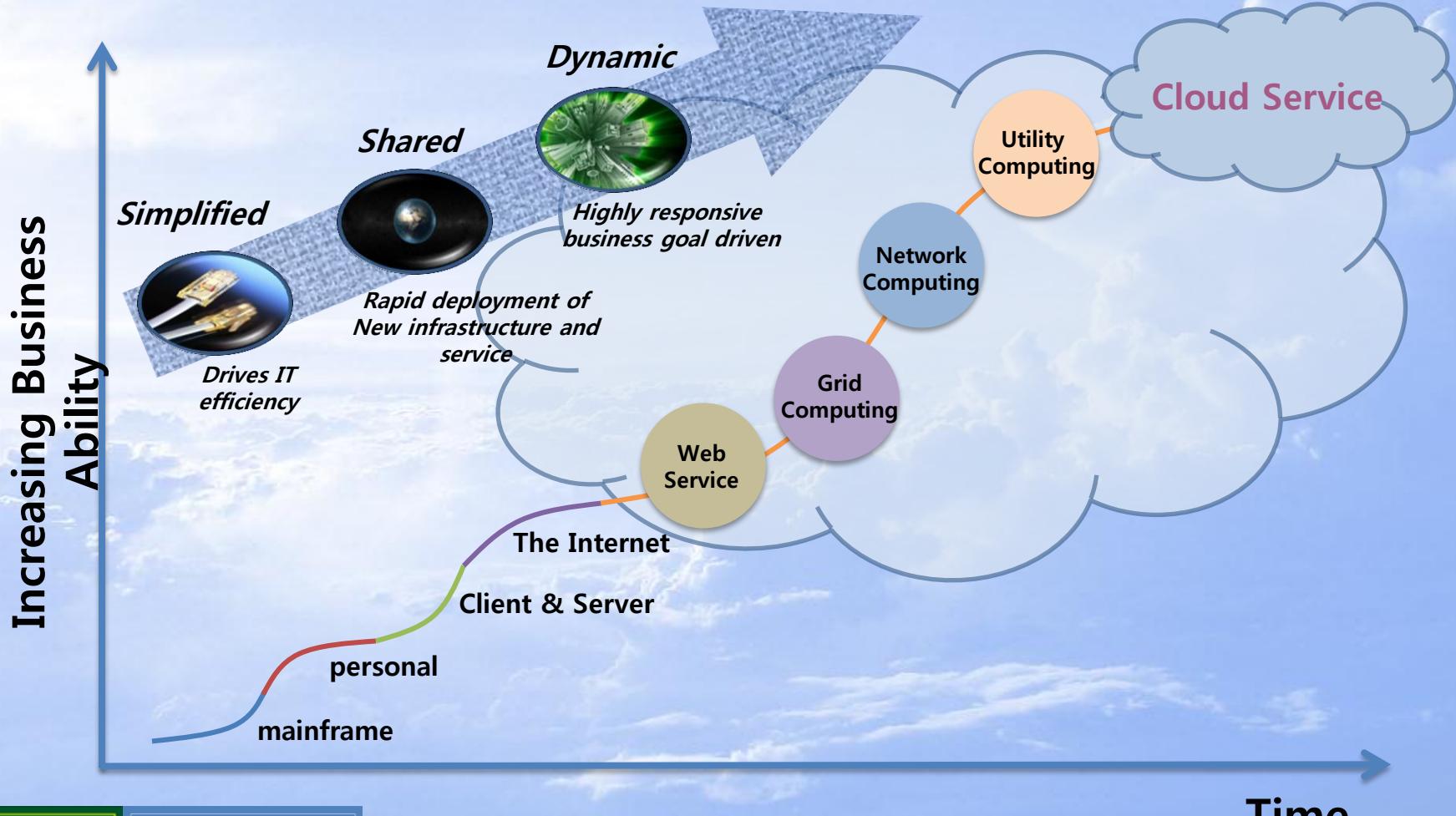
II . The Present of Cloud Computing

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I . Why Cloud Computing?

Evolution of Computing

Total growth rate of IT is about 5%, but growth rate of cloud services is about 27%



Paradigm Shift of Computing

Burden Iron Works



Corporate Data Center



Edison Power Plant & Power Grid



Cloud Computing & Internet

- Change in way of ownership of computing resources

- Outsourcing of IT resources and services expanded

- Expansion of Internet-based services

- SW and the content of the online service enablement

Cloud Computing

Cloud Computing

Def	Company 	On-demand IT infrastructure provided as a service to host/run services and user applications
	End-User 	Virtualized infrastructure/platform/service to run client applications and to store data on heterogeneous devices whenever/wherever

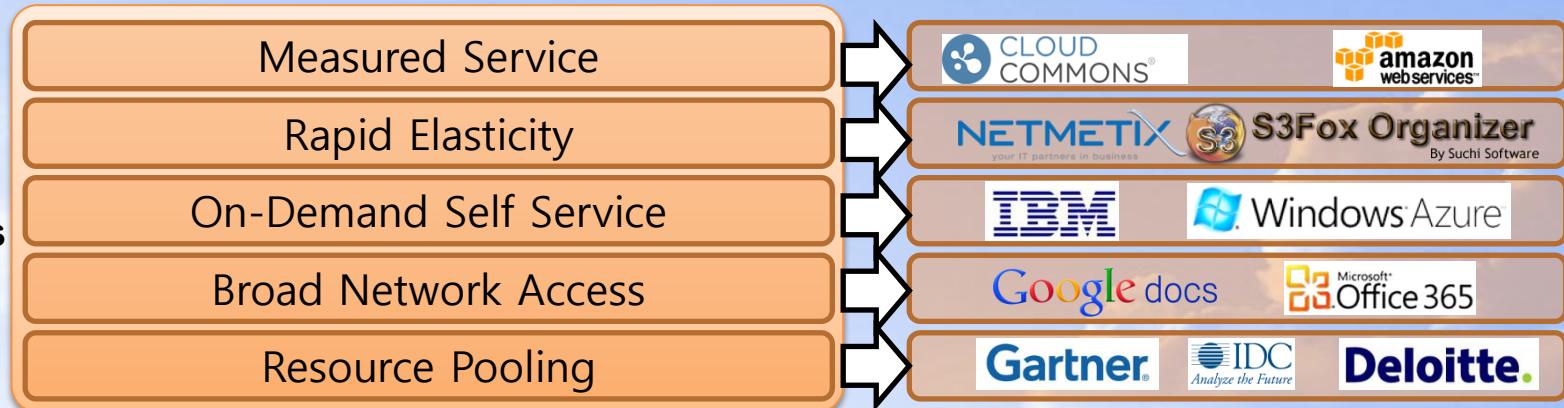
Top 10 Strategic Technology Areas for 2010

1. Cloud Computing
2. Web-Oriented Architecture
3. Servers Beyond Blades
4. Enterprise Mashups

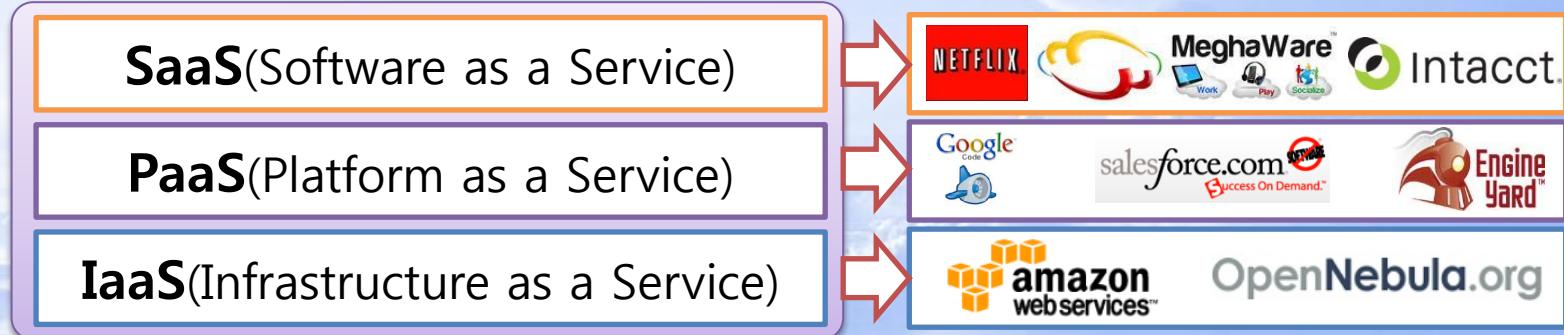
Cloud Computing, rated 1st in Gartner selected top 10 IT technologies consecutively in 2009 and 2012

Introduction to Cloud Computing Architecture

Essential Characteristics



Service Models



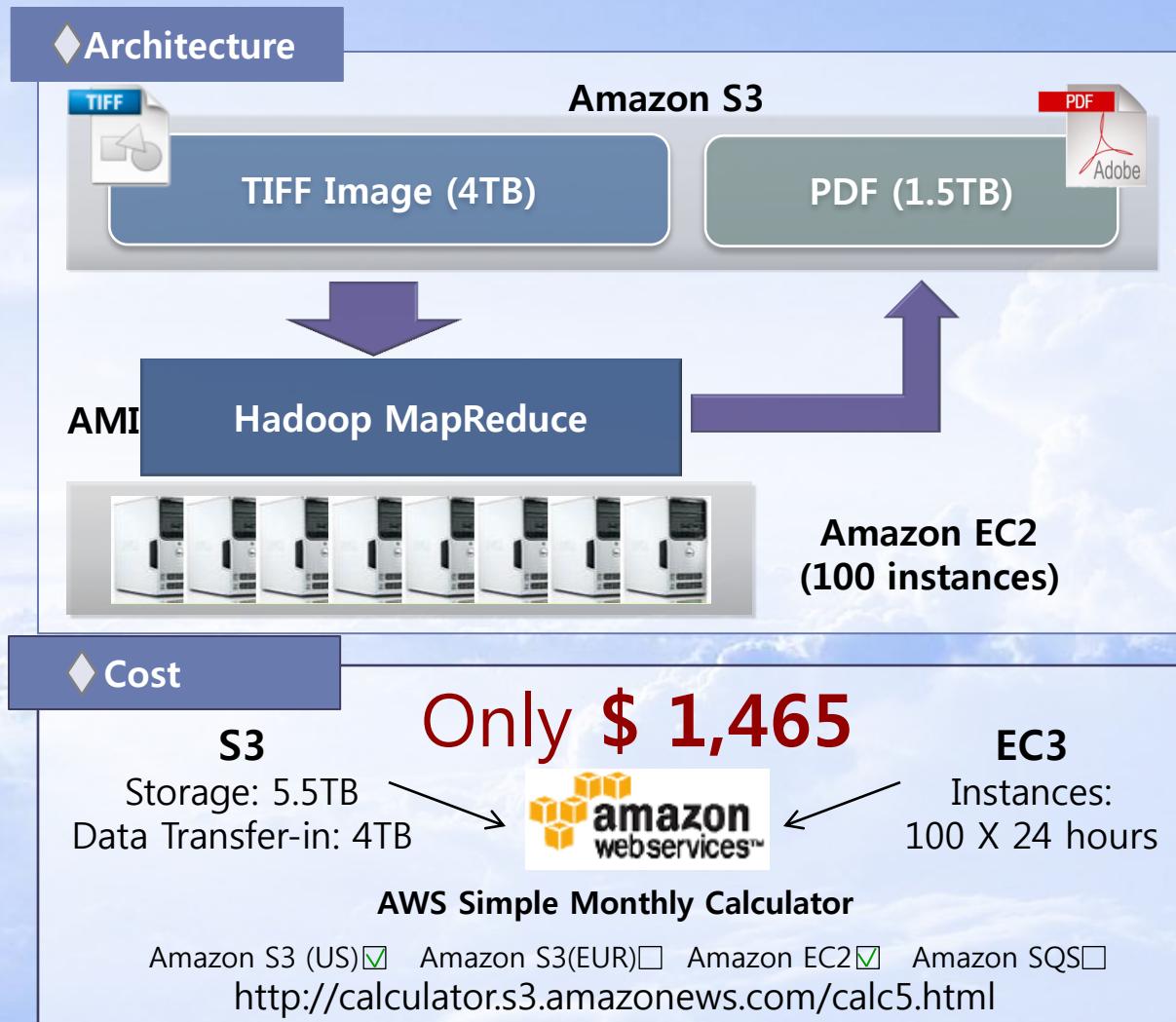
Deployment Models



* '09, NIST(National Institute of Standards and Technology's)

Center for Social Media Cloud Computing

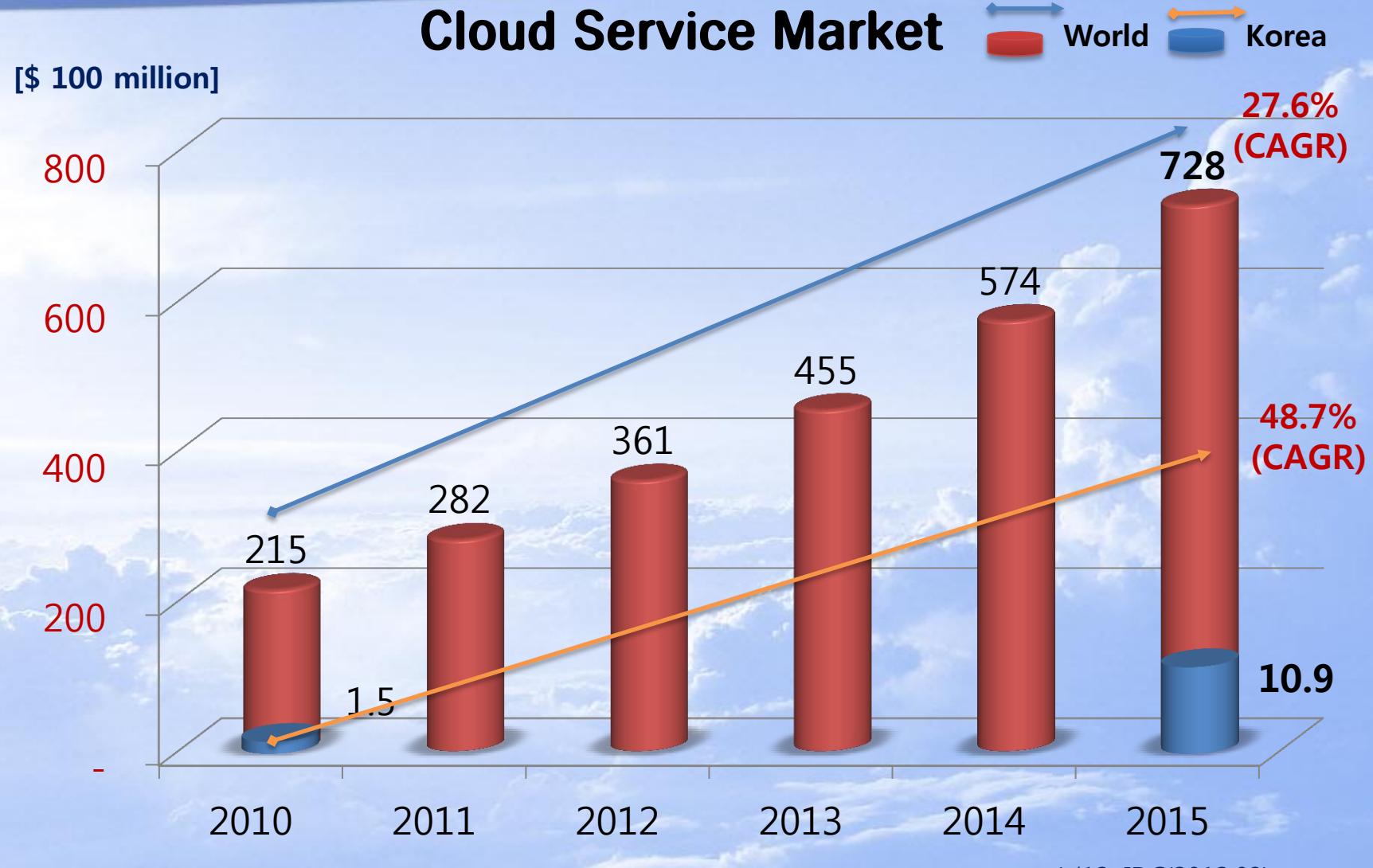
New York Times



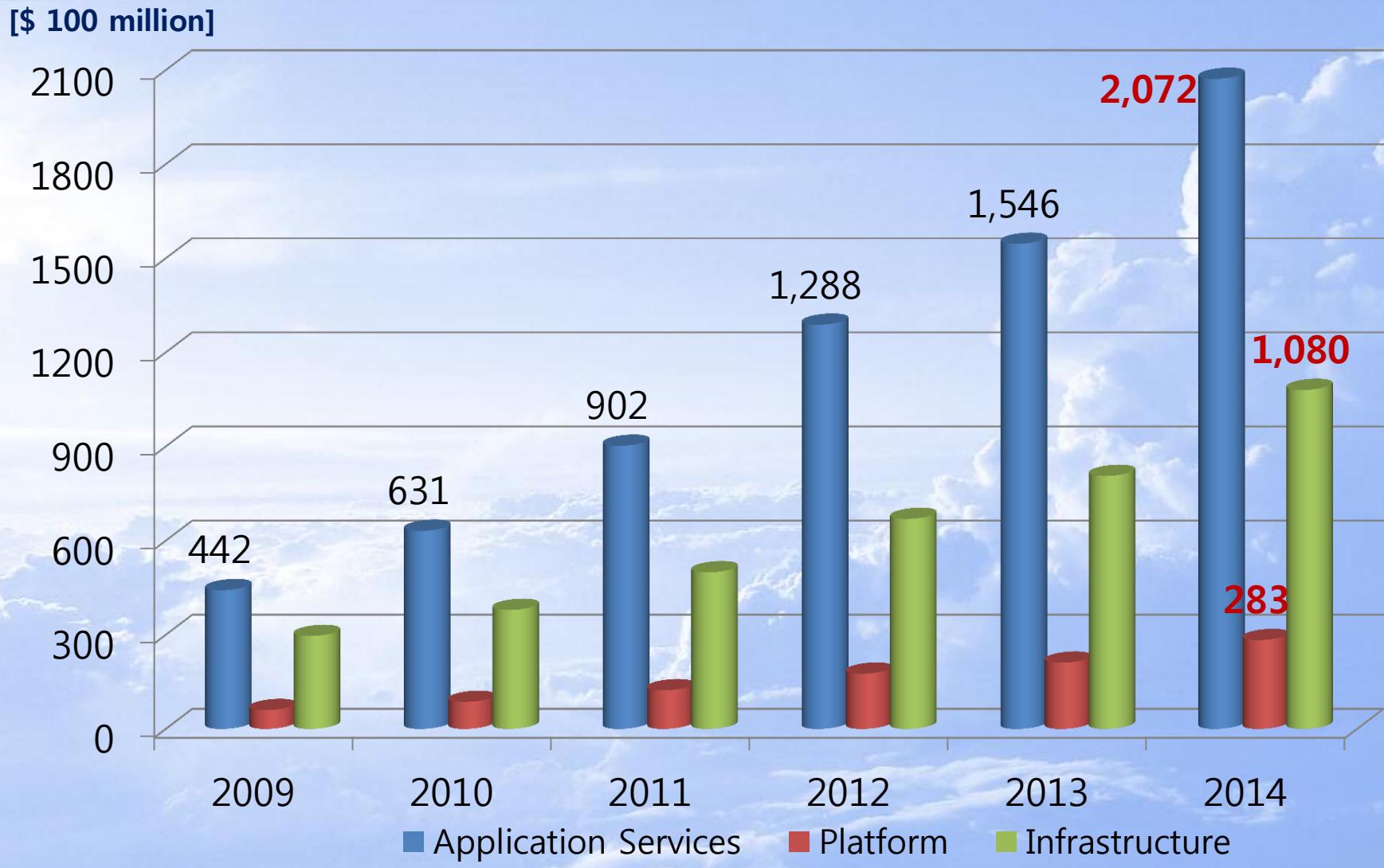
Case Studies : U.S. Government Agencies

Agency	Cloud Service	Doing Morewith less
	EPA Internet Security Services	<ul style="list-style-type: none"> ○ Improved identification of and response to cyber-threats and attacks ○ Tripled bandwidth for internet connections to support mission requirements 	<ul style="list-style-type: none"> ○ Reduced cost-per-MB from \$179 to \$83
	Air Force Customer Relationship Management Service	<ul style="list-style-type: none"> ○ Improved response time from 2-4 minutes to 2-4 seconds ○ Reduced call center volume by 23%, through better service responses ○ Tripled system capacity for queries 	<ul style="list-style-type: none"> ○ \$12M savings
	Health and Human Services(FDA) MedWatch+	<ul style="list-style-type: none"> ○ Eliminated two costly legacy systems ○ Improved analysis of drug side effects now taking place in a cloud environment 	<ul style="list-style-type: none"> ○ \$1M in savings ○ Reduced hosting costs by 87%
	Treasury(BEP) Business Process Management Services	<ul style="list-style-type: none"> ○ Established a new infrastructure for state of the art manufacturing services ○ Enabled BEP's implementation of Treasury's internet payment platform 	<ul style="list-style-type: none"> ○ \$1-2M annual savings ○ Eliminated 20 legacy systems

Economic Demand

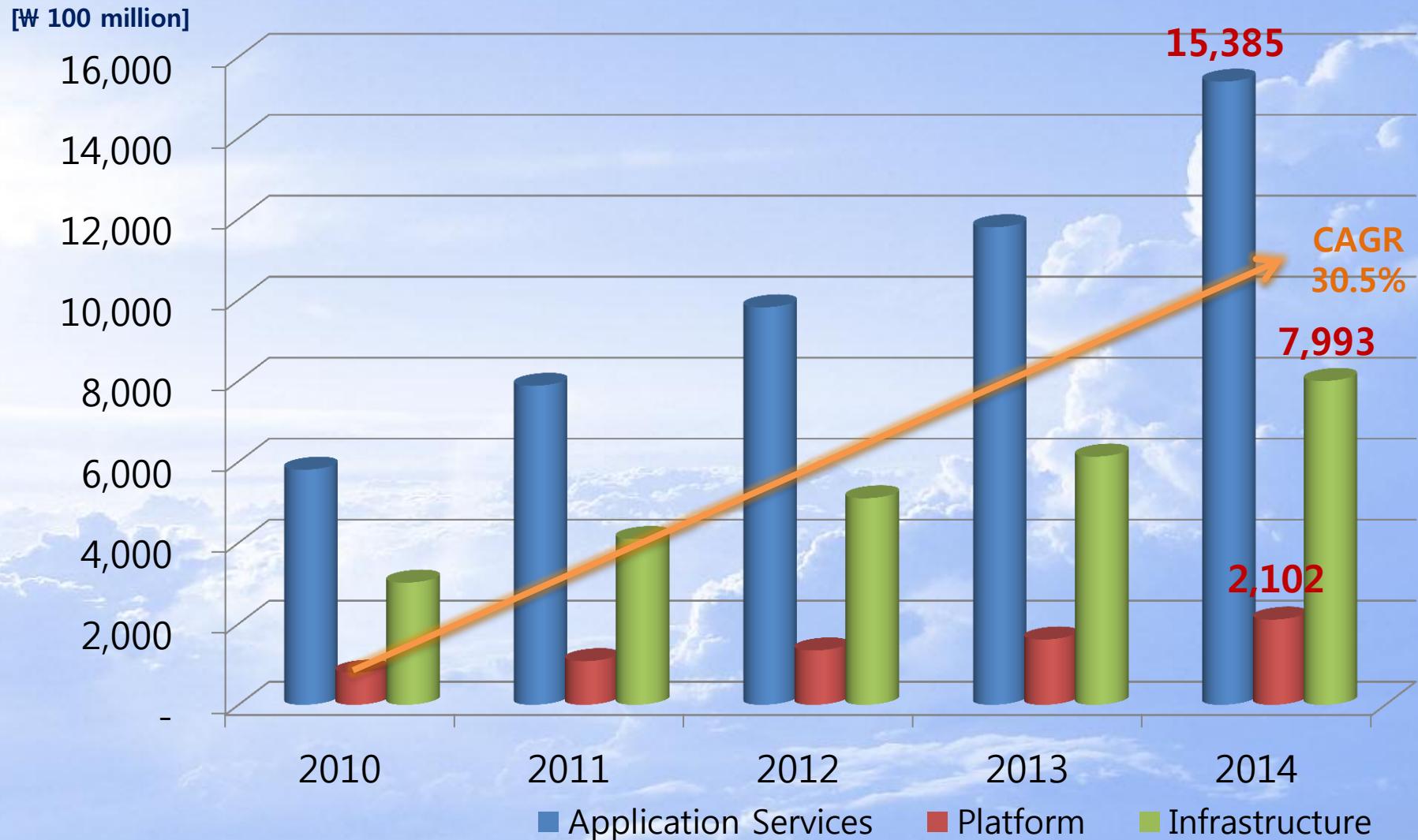


Cloud Computing Market (World)



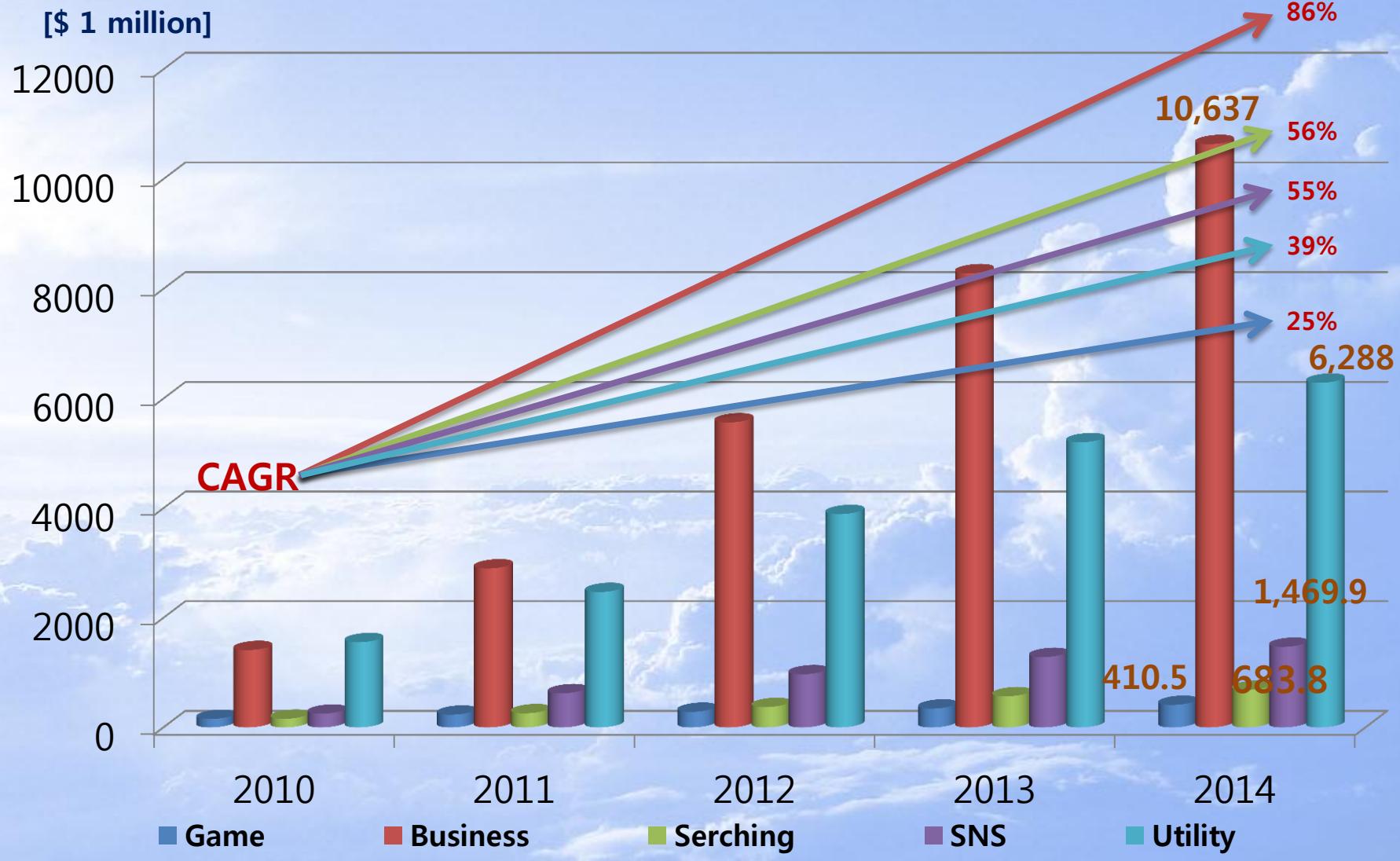
* IBM(2008), Gartner(2008), IDC(2008), KEIT(2009)

Cloud Computing Market (Korea)



* IBM(2008), Gartner(2008), IDC(2008), KEIT(2009)

Mobile Cloud Computing Market (World)



Cloud Service Market Share in Various Fields

Field	2009	2010	2011	2012	2013	2014
Government	14%	14%	15%	15%	15%	15.5%
Financial Services	20%	20%	21%	21%	21%	21.5%
Health	4%	4%	5%	5%	5%	5%
Communications and High Tech	15%	16%	16%	16%	16%	16.5%
Energy	5%	5%	5%	5%	5%	5%
Media and Entertainment	3%	3%	3%	3%	3%	3%
Retail/Wholesale	10%	10%	10%	10%	10%	10%
Manufacturing	20%	19%	19%	19%	19%	18.7%
Transportation and Infrastructure	4%	4%	4%	4%	4%	3.8%
Others	5%	5%	2%	2%	2%	1%

* '10, Gartner, 2010. 5

Regional Market Share of Cloud Service

분야	2009	2010	2011	2012	2013	2014
North America	60%	58%	56%	54%	51%	50%
Westem Europe	22.5%	23.8%	25.2%	26.5%	28.5%	29%
Eastem Europe	2.5%	2.5%	2.5%	2.5%	2.5%	2.8%
Middle East and Africa	0%	0.7%	0.8%	1%	1%	1.2%
Japan	10%	10%	10.5%	11%	12%	12%
Asia/pacific	3%	3%	3%	3%	3%	3%
Latin America	2%	2%	2%	2%	2	2%

* '10, Gartner, 2010. 5

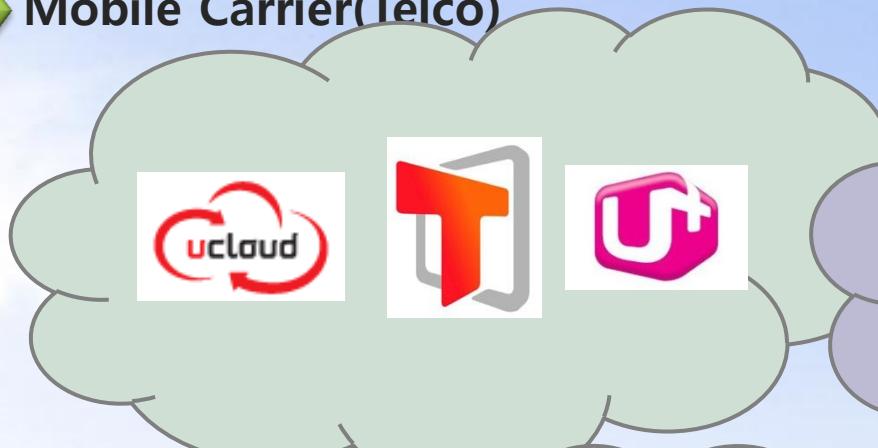
Cases (World)

◆ Cloud Infrastructure



Cases (Korea)

◆ Mobile Carrier(Telco)



◆ Internet Portal Provider



◆ SI / IDC Provider

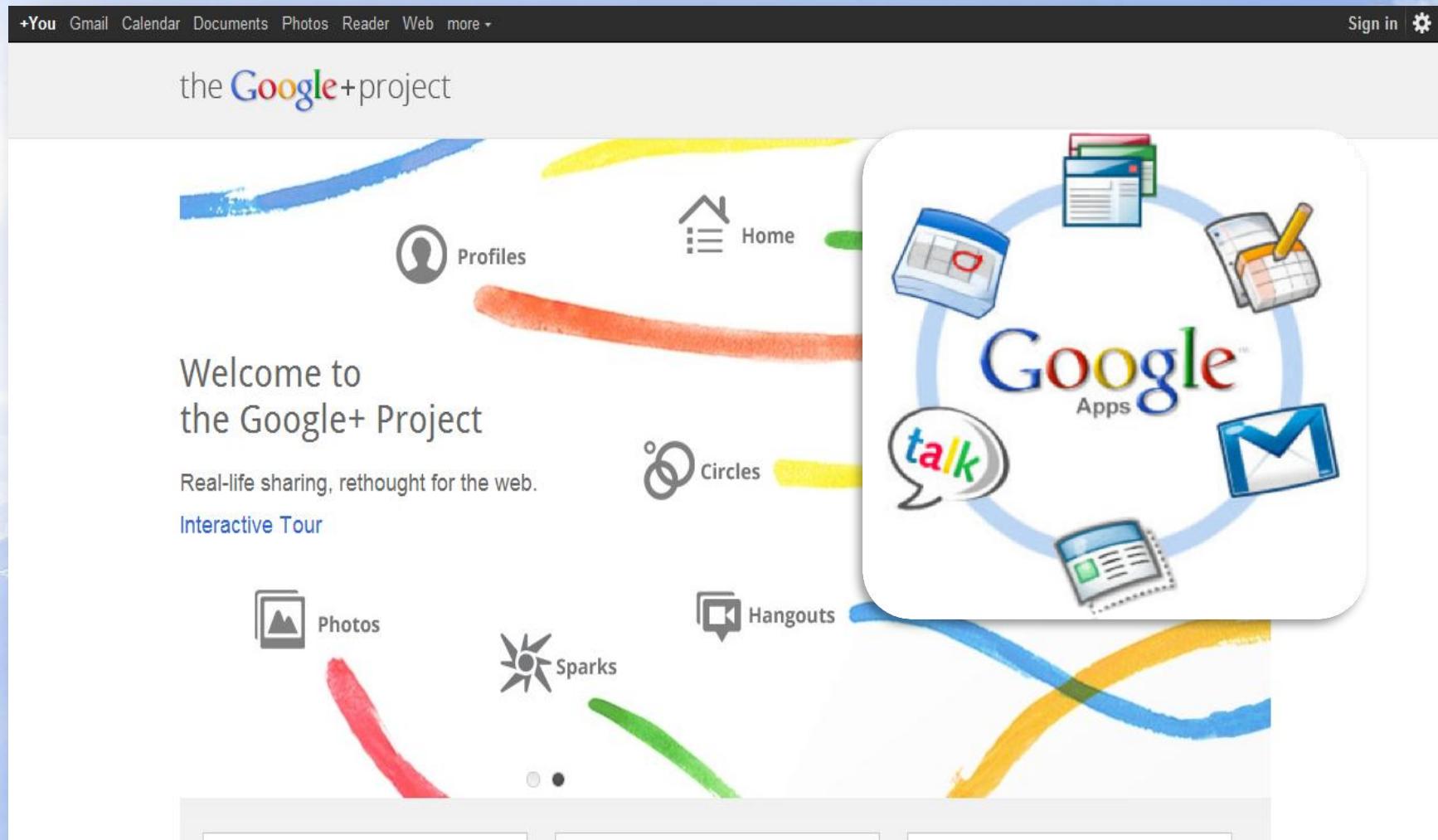


◆ Solution Provider



II. The Present of Cloud Computing

Google



Amazon

Amazon Cloud's long-term strategy focuses on B2C

- 1 Cloud encompasses infrastructure(uphill) and usage(downhill)



Cloud infrastructure

Google can boast as much
Experience in **cloud technologies**

Consumer usage
Apple's **digital content**
approach is strong

- 2 Amazon is approaching the market with a two-fold strategy



The **B2C cloud market** will
Flourish thanks to pervasive fiber
and wireless connectivity.



- 3 By introducing new devices, Amazon reaches more customers



Kindle



Amazon Media Center



Amazon Tablet



Amazon Silk

Netflix

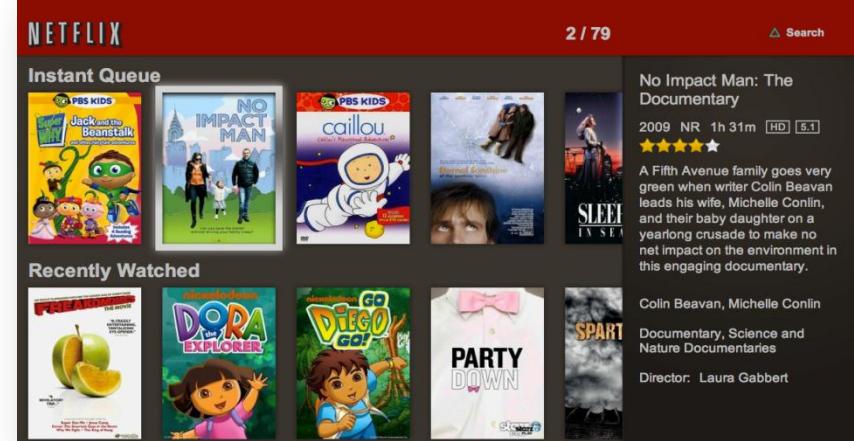


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Partners

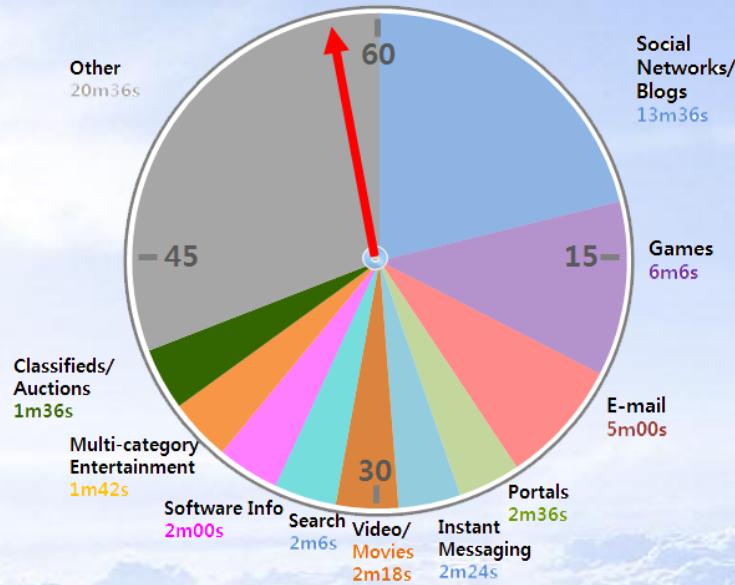
Devices



Launch of API



Facebook



Facebook's Value Proposition

- 1 Website Integration
- 2 Facebook Pages
- 3 Facebook Ads
- 4 Facebook Apps
- 5 Facebook Analytics



Twitter

FOLLOW US ON
twitter

170 Million (Daily)

REAL-TIME OUTPUT

iCloud

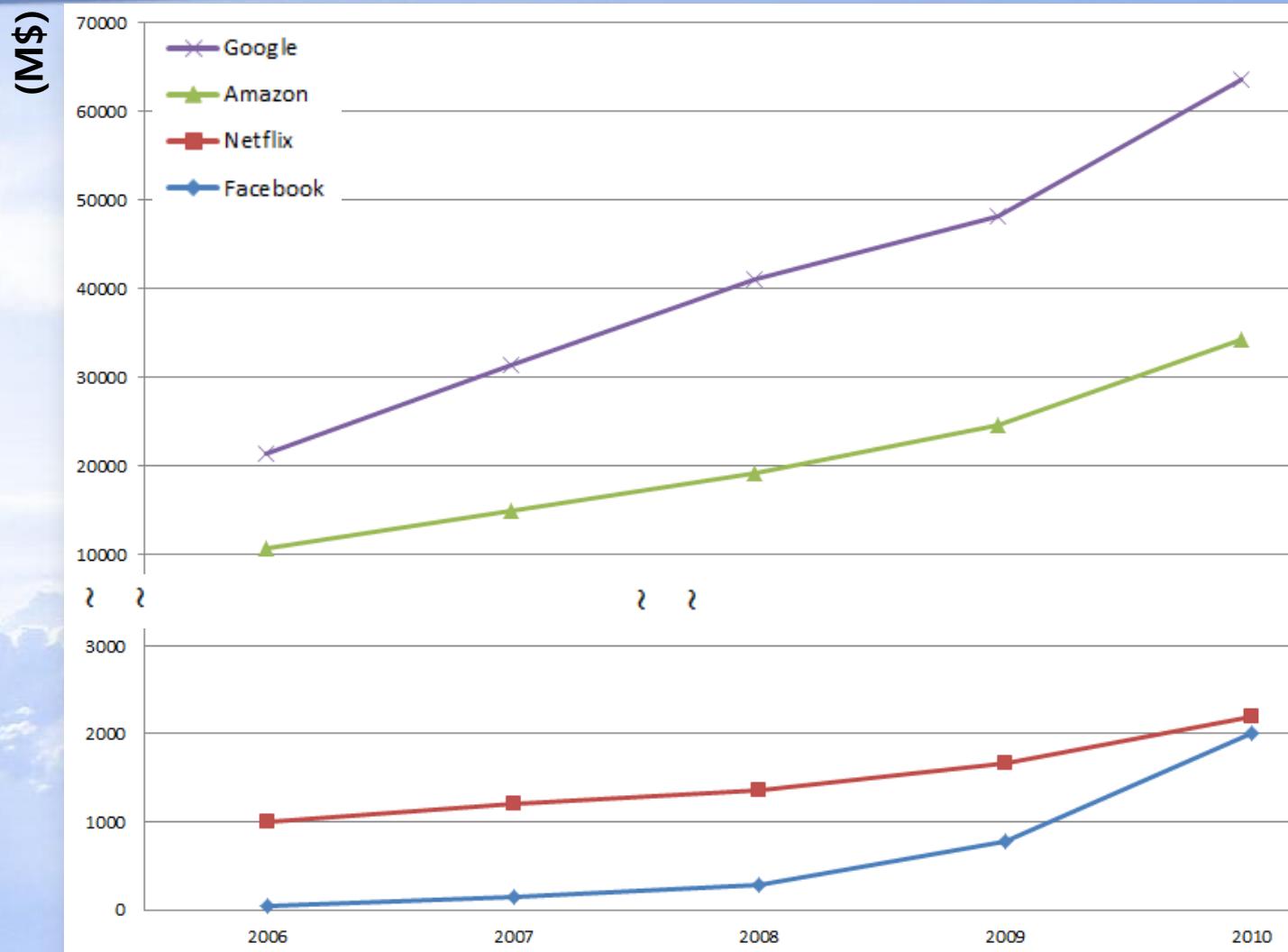


U-Health service in U.S.A



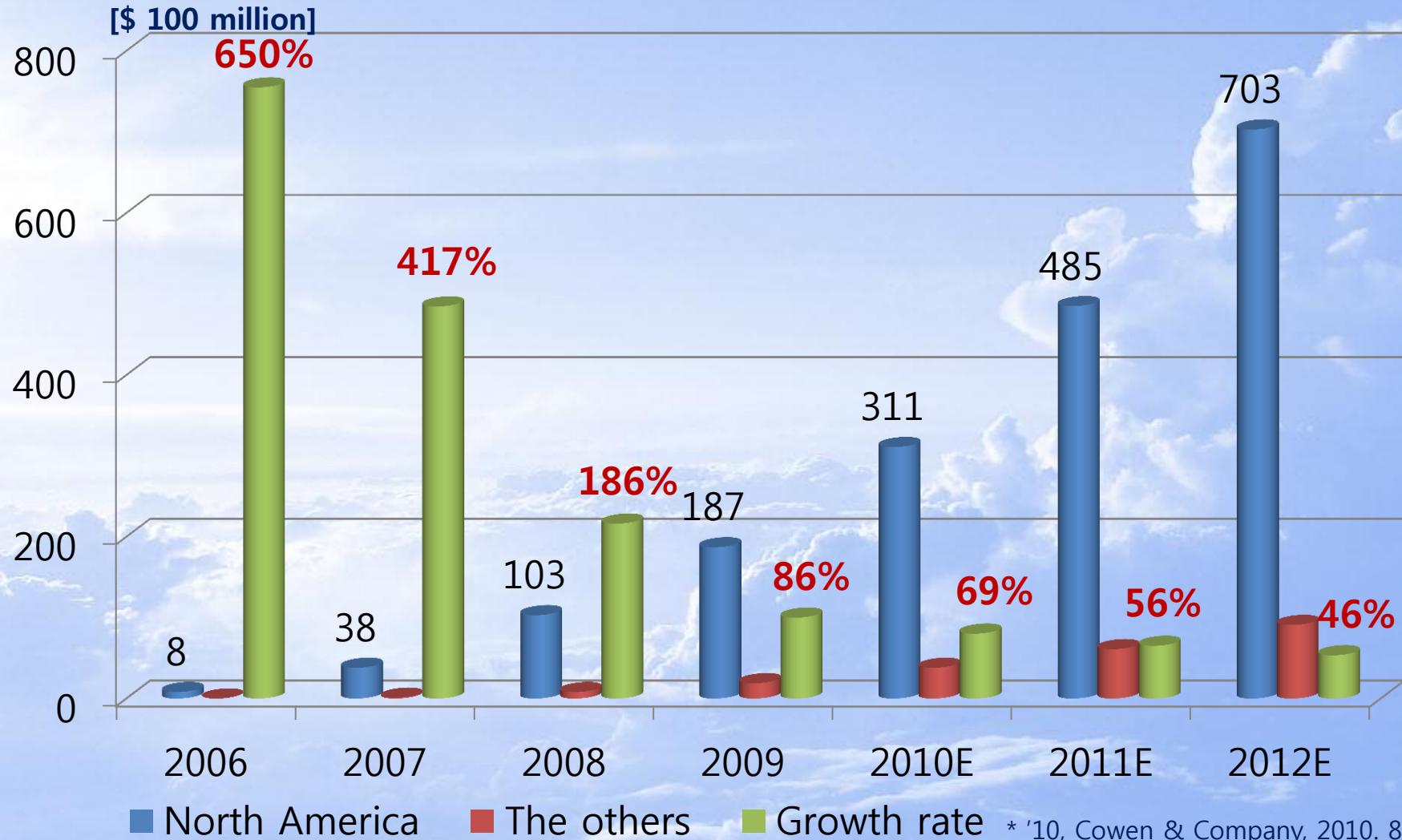
Pro social

Google, Amazon, Netflix, Facebook



* Reference : Amazon Annual Report, Google Annual Report
Netflix Annual Report, www.techcrunch.com

Sales and Prospects of Amazon



Korea?



III. The Future of Cloud Computing

The Tortoise and the Hare



The Tortoise and the Hare (cont)

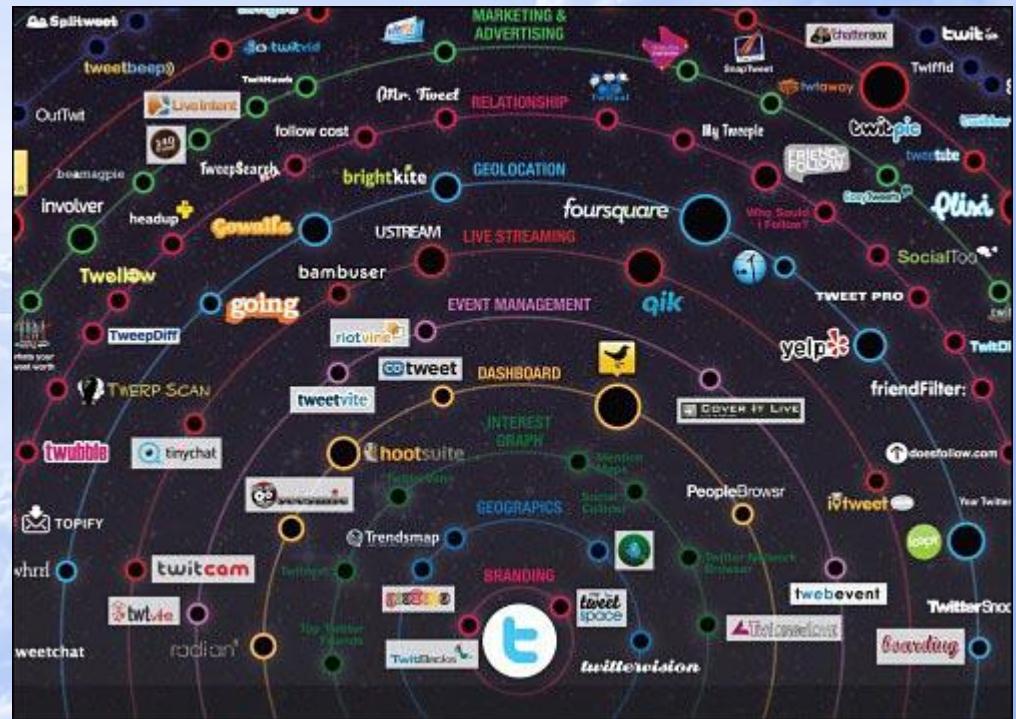


Galaxy series & Smart TVs



Want The One Ring? Then

- ◆ Platform is the one ring to dominate the market
 - ◆ Google bets USD 120 million to protect Android against patent attacks
 - ◆ The higher the market share of platform, HW/SW sales will be better
- ◆ The rise of platform wars
 - ◆ Open platform
 - ◆ Lightweight platform
- ◆ Social Platform
 - ◆ Facebook
 - ◆ Twitter
 - ◆ Kakao Talk



Self Reflection of Google



- A Google engineer, Steve Yegge, accidentally broadcast his self-reflection google+ mention outside of Google
- ...that Google doesn't do well is Platforms. **We don't understand platforms.** We don't "get" platforms
- **Google+ is a prime example of our complete failure to understand platforms** from the very highest levels of executive leadership (hi Larry, Sergey, Eric, Vic, howdy howdy) down to the very lowest leaf workers (hey yo)
- The Golden Rule of platforms is that you **Eat Your Own Dogfood.** The Google+ platform is a pathetic afterthought. We had no API at all at launch, and last I checked, we had one measly API call... to get someone's stream

Self Reflection of Google (cont)



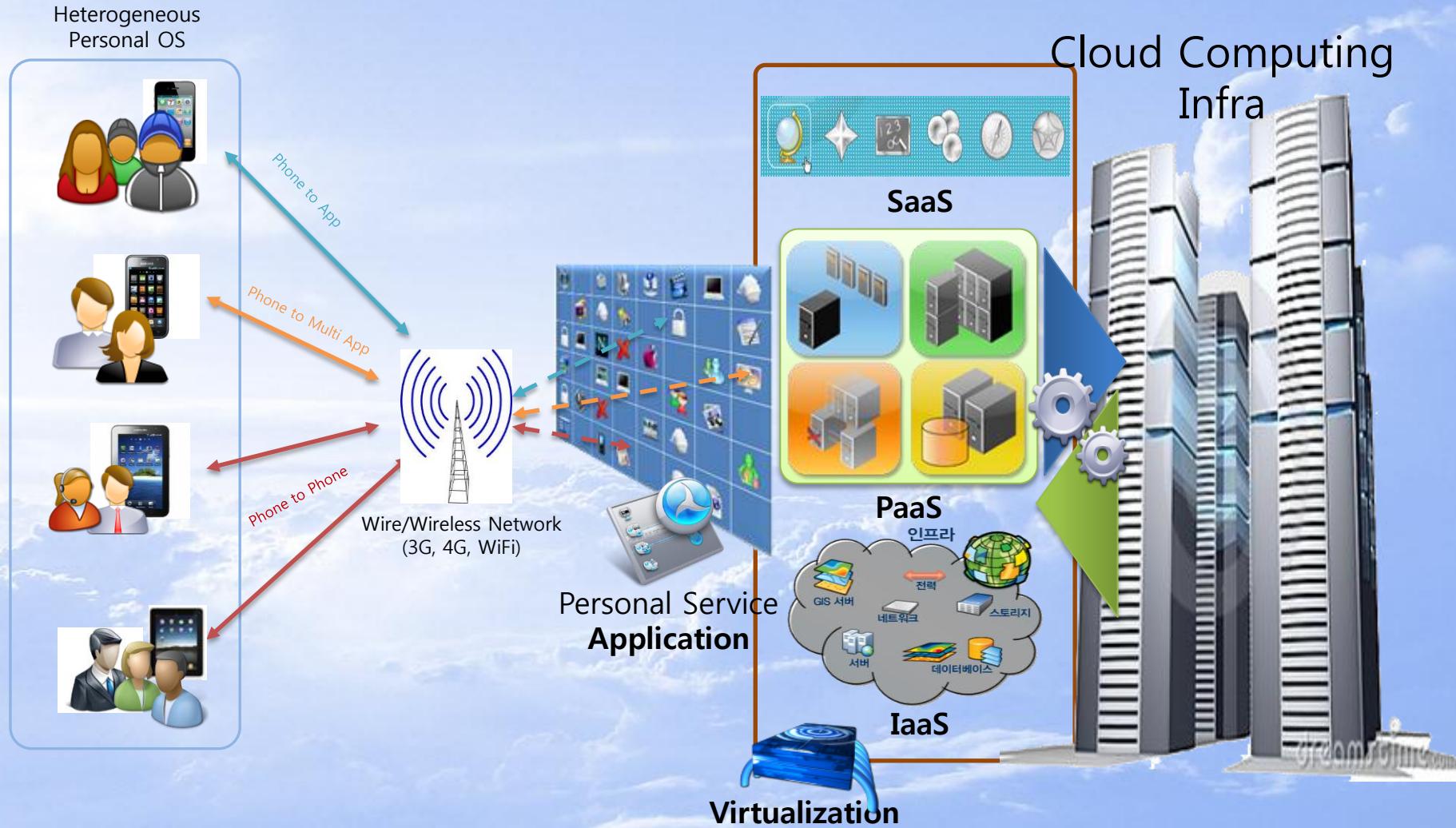
- ◆ Google+ is...a study in short-term thinking, predicated on the **incorrect notion that Facebook is successful because they built a great product**. But that's not why they are successful.
- ◆ Facebook is successful **because they built an entire constellation of products by allowing other people to do the work**...Some people spend all their time on Mafia Wars. Some...on Farmville. There are hundreds or maybe thousands of different high-quality time sinks available, **so there's something there for everyone**
- ◆ Google+ team took a look at the aftermarket and said: "**Gosh, it looks like we need some games. Let's go contract someone to, um, write some games for us.**" Do you begin to see how incredibly *wrong* that thinking is now?
- ◆ **You can't do that**...There have been precious few people in the world, over the entire history of computing, who have been able to do it reliably. Steve Jobs was one of them. We don't have a Steve Jobs here

Super Imagination

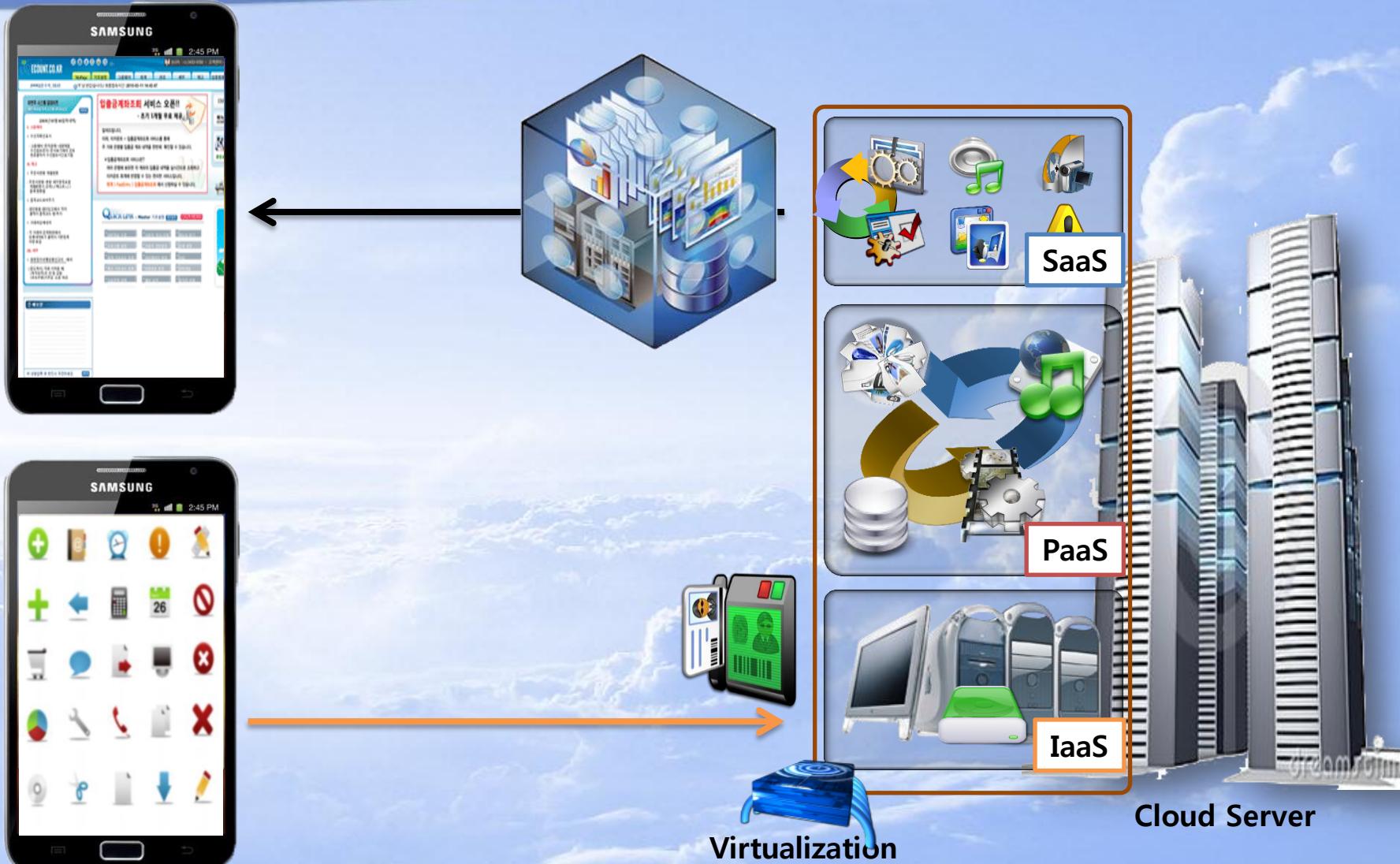
- Miraculous success cases of Korea's shipbuilding industry in the past
- Creative imagination beyond common sense
- Technologies from imagination to reality



Personal Cloud Computing



Personal Cloud Computing(cont)



Hallyu(Korean Wave)



THANK YOU