



Internet Innovation in China

From “Copy to China” to “Creation from China”

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Internet Users in China Totaled 618 Million

User base ranking No.1 in the world; growth rate maintaining at 10%; penetration rate 46%: still plenty of room for development.

Countries with Internet Penetration >45%, 2013

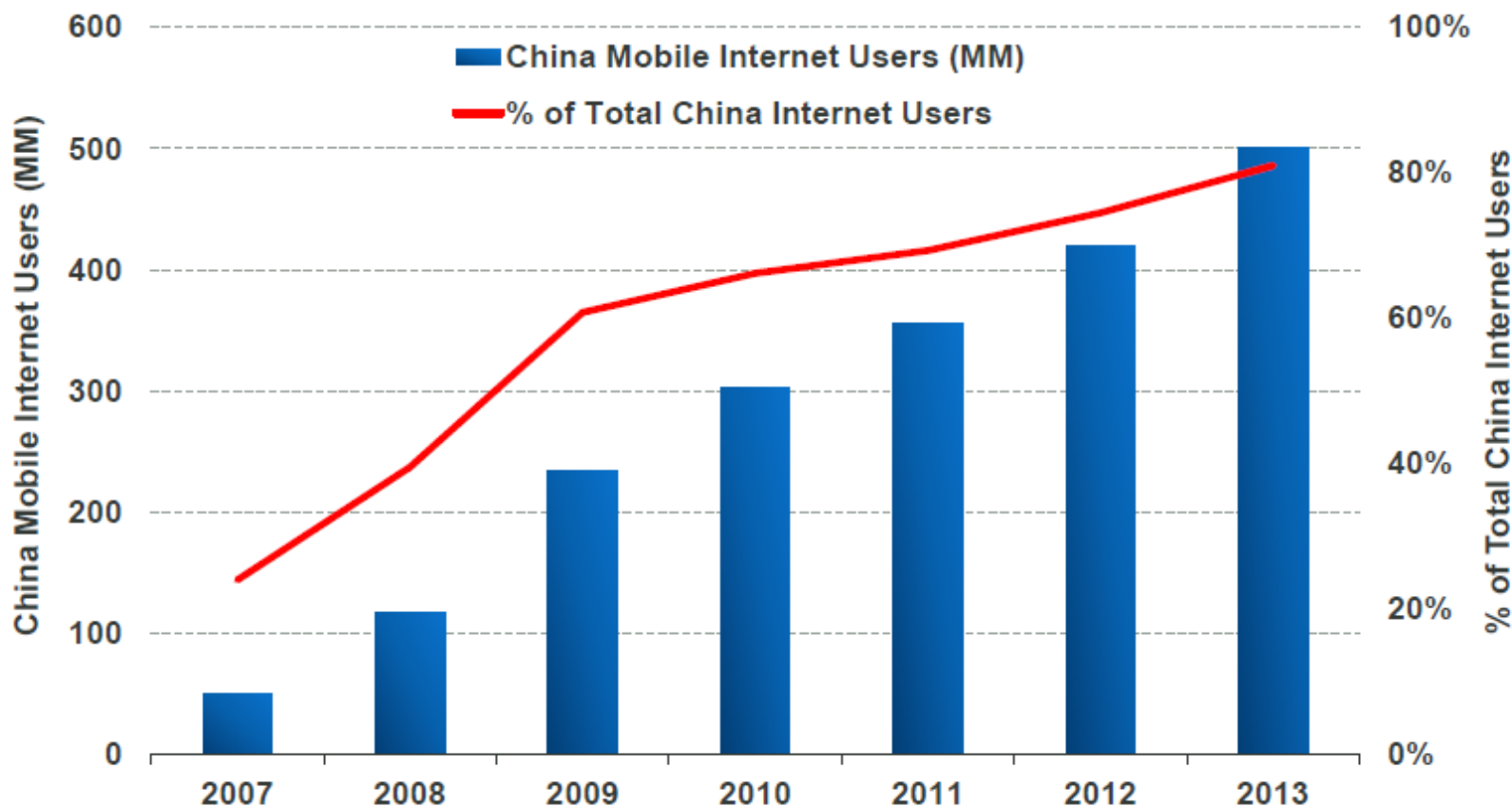
Rank	Country	2013 Internet Users (MMs)	2013 Internet User Growth	2012 Internet User Growth	Population Penetration	Total Population (MMs)
1	China	618	10%	10%	46%	1,350
2	USA	263	2	2	83	316
3	Japan	101	0	1	79	127
4	Brazil	100	12	12	50	201
5	Russia	76	9	14	53	143
6	Germany	68	1	1	84	81
7	United Kingdom	55	1	3	87	63
8	France	55	5	4	83	66
9	Iran	45	16	19	56	80
10	South Korea	41	1	0	84	49
11	Turkey	36	6	9	45	81
12	Italy	36	2	6	58	61
13	Spain	34	7	3	72	47
14	Canada	30	5	4	87	35
15	Poland	25	0	4	65	38
Top 15		1,583	6%	7%	58%	2,739
World		2,609	9%	11%	37%	7,098

Source: KPCB 2014, CNNIC 2014

Mobile Internet Users exceeded 500 Million

Mobile internet is enjoying robust growth, with its users taking up over 80% of all Internet users, one of the highest ratios in the world.

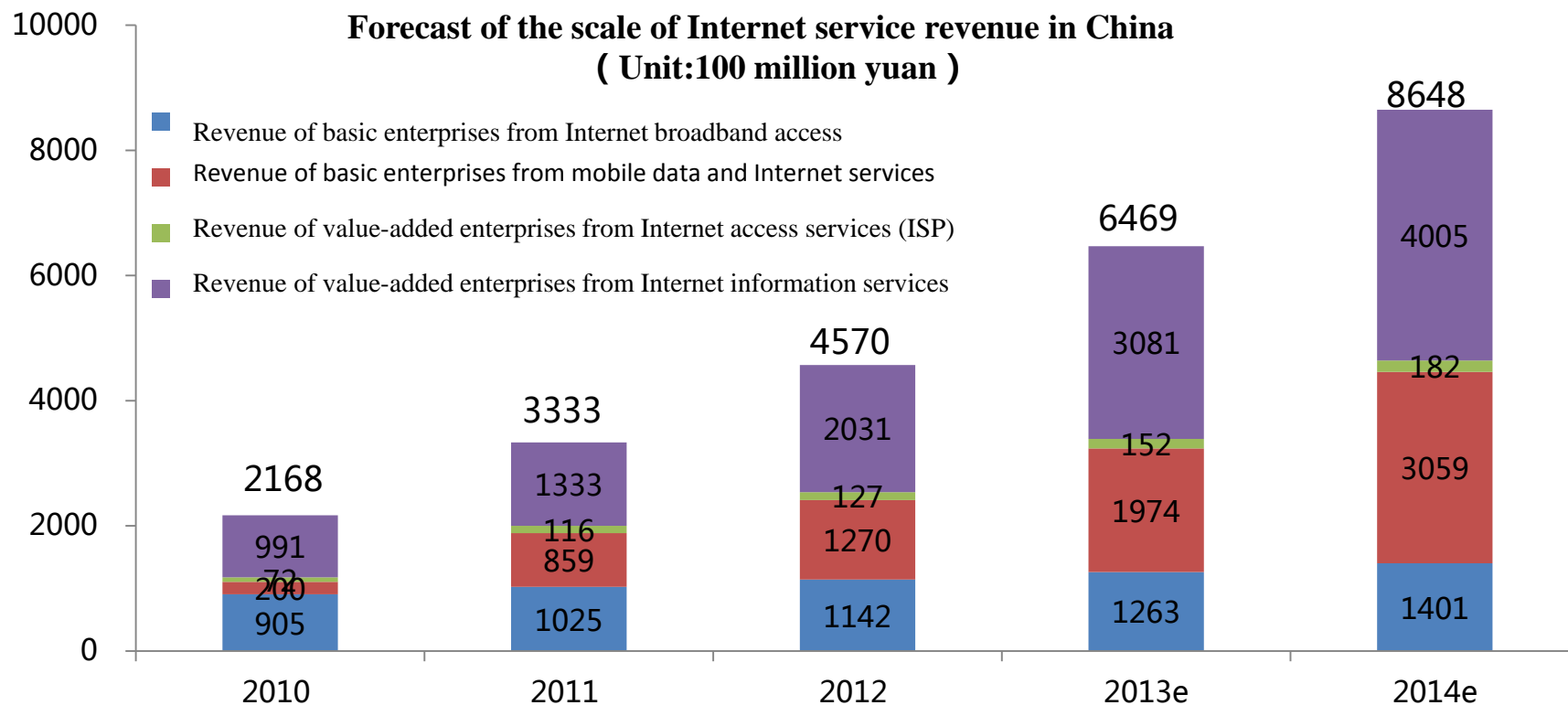
China Mobile Internet Users as % of Total Internet Users, 2007 – 2013



Source: KPCB 2014

Internet services generated a revenue of 647 billion yuan in 2013

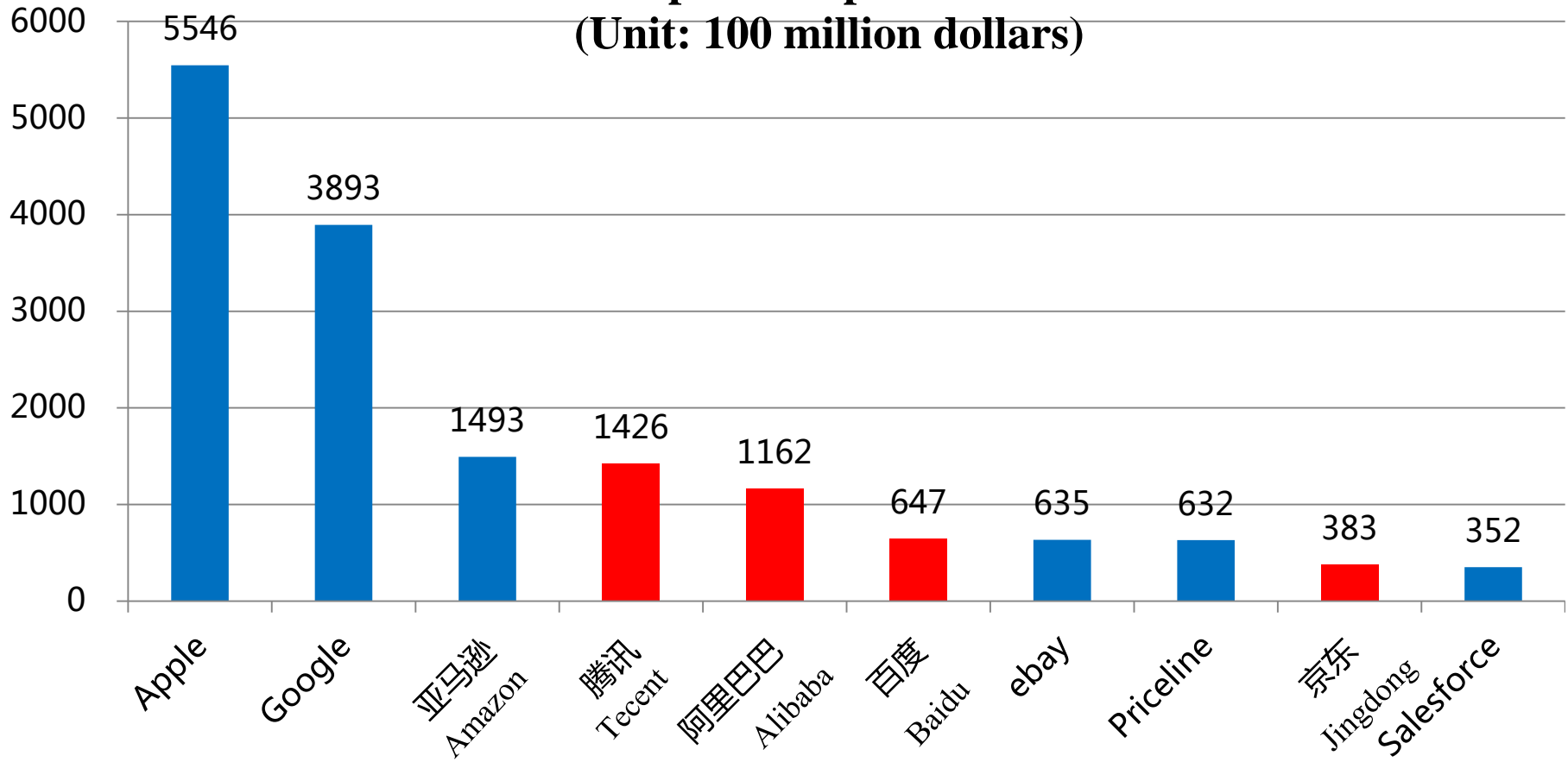
In 2013, Internet service revenue registered a year-on-year growth of 42%. The revenue is estimated to surpass 850 billion in 2014, up by 34% year on year.



Source: CATR, 2014

Chinese Internet Enterprises Grabbed 4 Seats out of the Global Top 10 in terms of Market Value

Global Internet Enterprises Top10 in terms of Market Value (Unit: 100 million dollars)

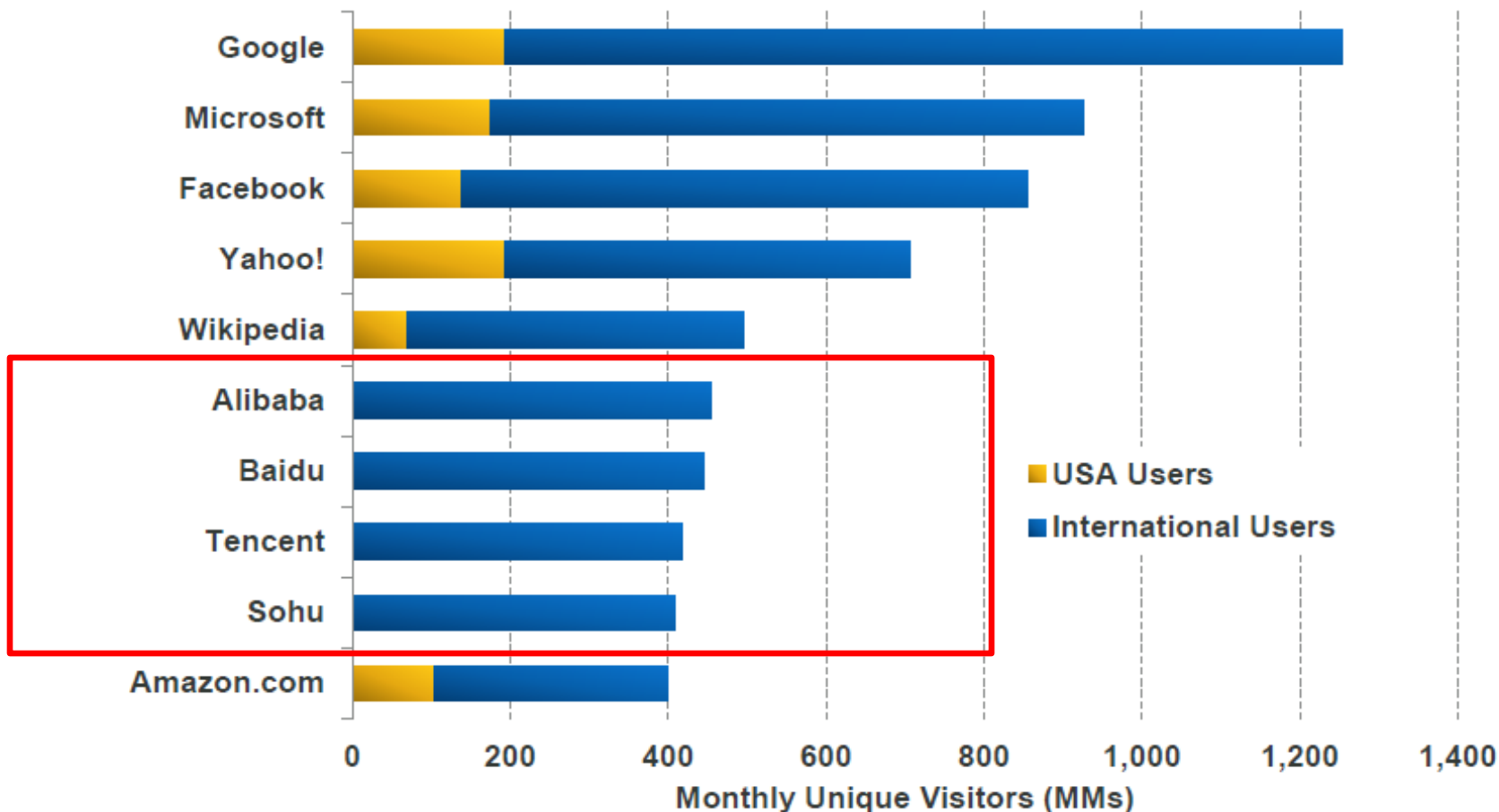


Notes:

- 1) The statistics of market value were collected on June 27th, 2014.
- 2) The statistics of Alibaba come from its self-evaluated market value in the document it submitted to the SEC of America on June 27th, 2014.

Visitor Volumes of Backbone Internet Enterprises also Rank Among the Tops in the World

Top 10 Internet Properties by Global Monthly Unique Visitors, 3/14



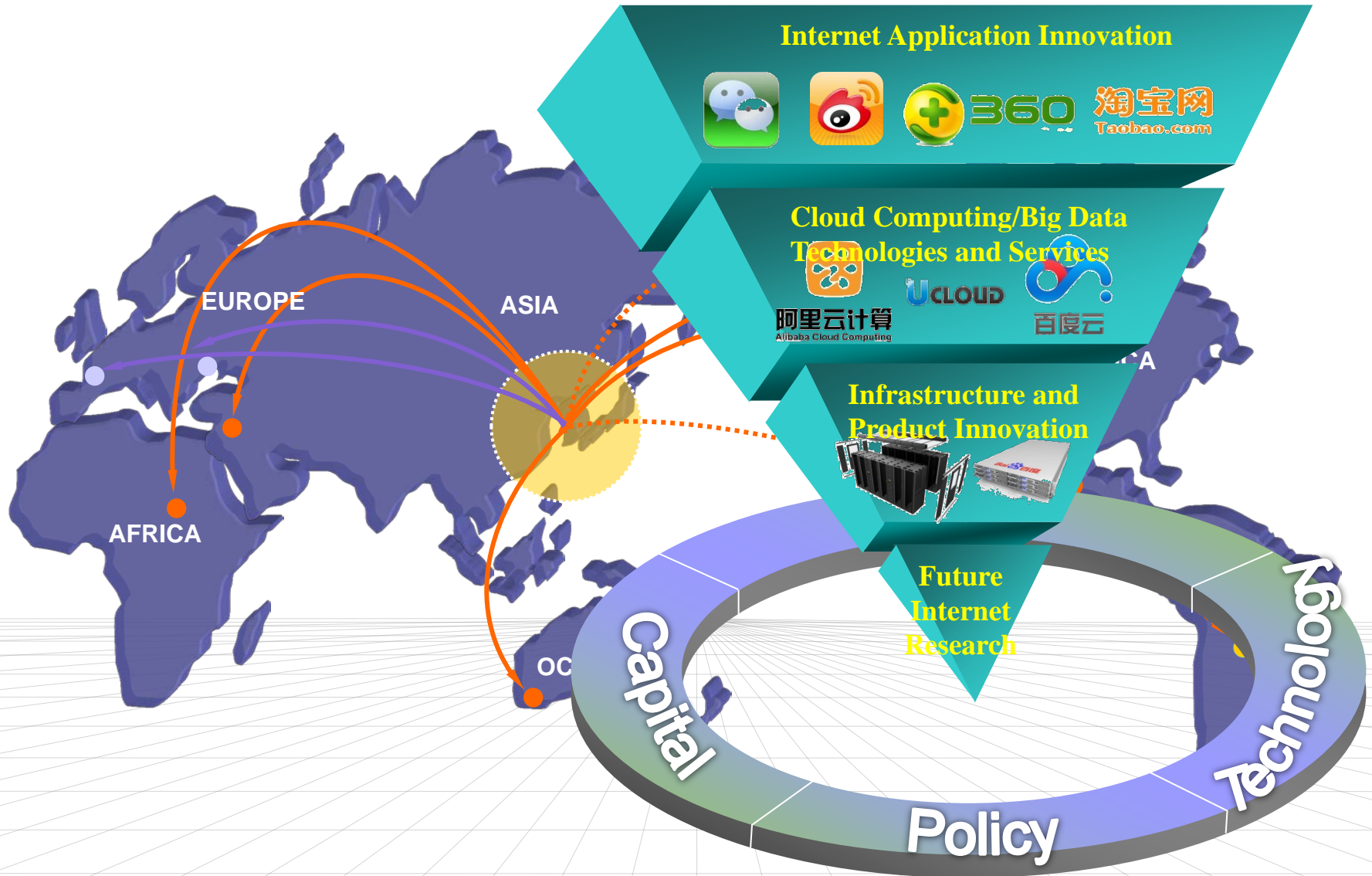
Source: KPCB, 2014, data from com Score March, 2014

Three Phases of Internet Innovation and Development in China

Innovation is the fundamental driver behind the development of Internet in China. In China, Internet innovation went from simple **C2C (copy to China)** to **local model innovation**. Starting from 2010, with growing industrial strength, the new revolution initiated by mobile technology and cloud computing, China's Internet industry is embracing a new phase of **technological and model innovation**.

Phase	1996~2005 Copy to China	2005~2010 Model Innovation	2010~ Model+ Technological Innovation
Feature	Portal Era Language translation (into Chinese), function localization	Web2.0 Era Centering on the innovation of business model	Mobile and Cloud Era Innovation all over cloud platforms, smart pipe, and terminals
Cases in point	Sina portal, Baidu Search, QQ	QQ's flourishing, 360's free antivirus software, Alipay credit mechanism	Data center, Baidu Brain, Xiaomi Phone, WeChat

An Open Internet Innovation Pattern Is Taking Shape



Internet Application: “Micro Innovation” Enabled New User Experience

After integrated with **payment instruments, public accounts, third-party applications, etc.**, WeChat changed from a social app to a new mobile Internet portal that combines multi functions including social contact, payment, media and open platform.



Financial /Investment Management

Integrated with dianping.com that provides dining recommendations



Integrated with Didi Taxi that accepts WeChat Payment

Integrated with other habitual payment and daily life choices



WhatsApp maintains its positioning as a pure social app. Although a paid app, it is far less commercialized than WeChat.



Internet Business Model: New Thinking Ushered in a New Phase

360's Free Antivirus Software Model

- ❑ In 2006, 360 released its free antivirus software; in 2008, 360 announced that its antivirus software products shall be permanently free.
- ❑ Free antivirus software fueled the popularization of Internet security products. The penetration rate of security software rocketed from 53.9% to 97.5%. Antivirus software became a free Internet service, just as search service, social networking service and consulting service.



Xiaomi's "Fan Base Marketing" Model

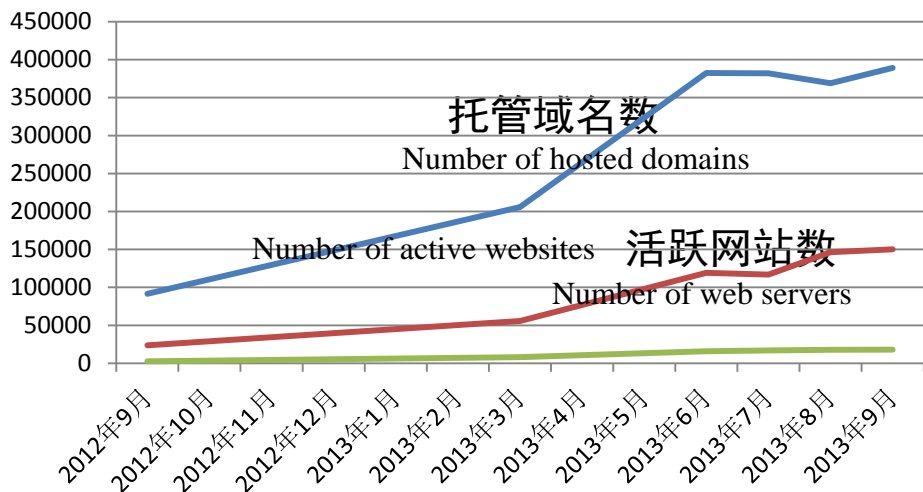
- ❑ Use Weibo, WeChat and BBS as major marketing platforms, and attract fans through event marketing and paid review.
- ❑ Create "fans' sense of participation": invite fans to involve deeply into the design and R&D process of products instead of merely providing problem feedbacks, so as to build mutual trust between the company and fans.
- ❑ Hunger marketing



Cloud Computing Became the “Infrastructure” Support Internet Innovation

Cloud computing is both the technical basis for Internet giants to provide myriad services, and a powerful weapon facilitating the rise of small and medium-sized Internet start-ups.

Traffic Growth in Alibaba's Cloud



Source: Netcraft

Cloud computing has become the basic platform for Internet innovation and startup.

- By September this year, the number of web servers operating in Alibaba's cloud reached 18 thousand, up by 500% from the previous year. Its growth rate is 60 times of national average. The number of domains hosted increased from 90 thousand to 390 thousand, the number of active websites from 20 thousand to 150 thousand.

The flexibility of cloud computing supports Internet e-commerce.

- During Taobao's "Double 11" campaign in 2012, only 20% of the transactions were done in the Cloud, but the figure jumped to 75% in 2013

- The purchase-sell-stock management system used by over 80% of the shops on Taobao



are based on a cloud service
me + Jushita (cloud.tmall.com).



On May 21st, 2014, "DOTA Legend" developed by a start-up company-Lilith Games topped the App Store Bestseller List for the first time, beating all the products of big companies like Tencent. The monthly active users of this game exceed 5 million.

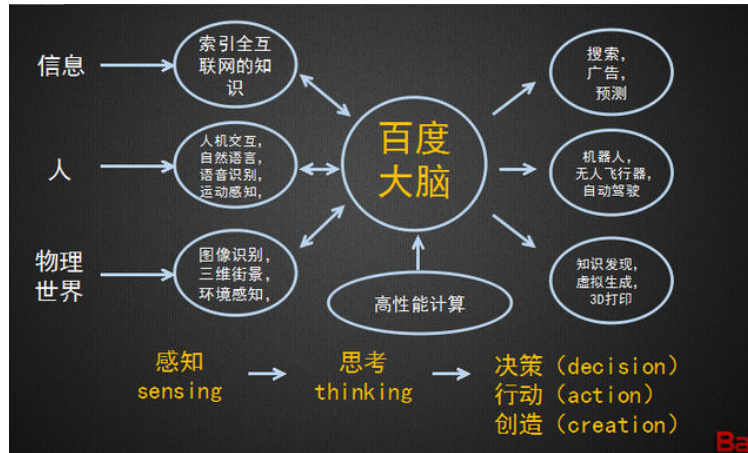
A monthly more than 100 additional servers. 100% increase in users requires.

Quick server expansion can be realized within minutes using the custom image of UCloud's Uhost.

Big Data Became an Important “Tool” Supporting Internet Innovation

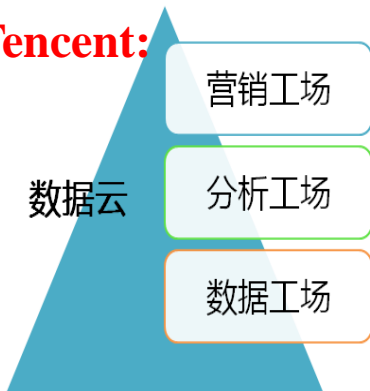
Internet giants like Baidu, Tencent and Alibaba are vigorously pushing forward big data application. **A single cluster could boast 10 thousand servers, with 1000PB of data management capacity and 100PB of daily processing capacity.** Big data services will be launched gradually.

Baidu:



更智慧的营销决策平台

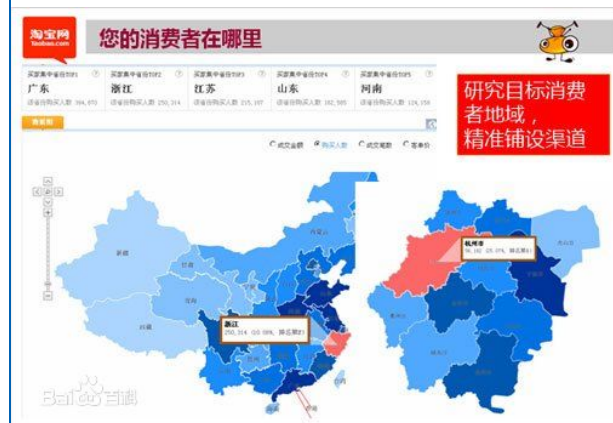
Tencent:



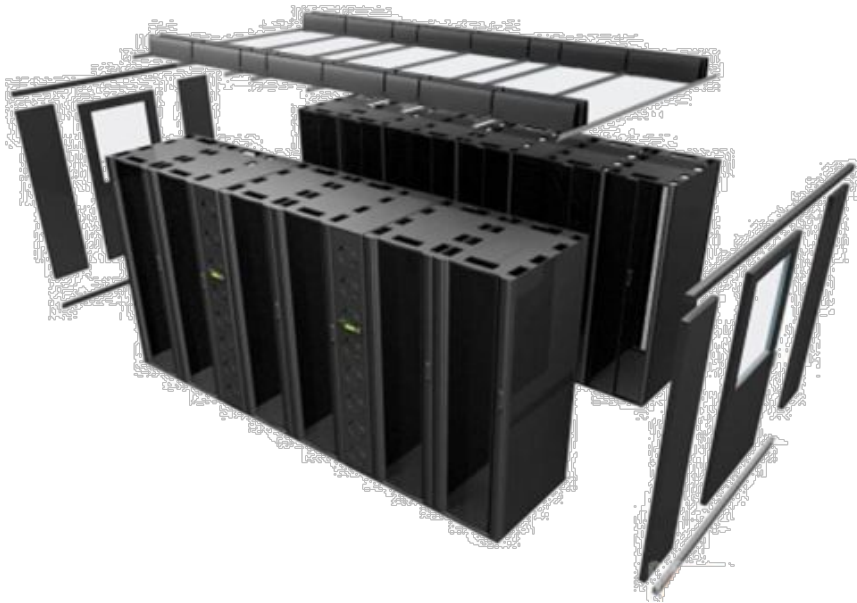
- 移动推送
- 精准推荐
- 移动腾讯分析
- 自定义分析
- KPI监测展现
- 自助报表
- 数据计算
- 元数据管理
- 数据存储
- 数据接入

Alibaba:

- **Solve the financing problem for small and micro businesses,** establish a credit and risk management mechanism; supply chain management;
- **Yu'E Bao** unleashed the vitality of personal financial management market;
- **CSRC** uses big data to crack down on **“rat trading”**;
- **Traditional banks** are flocking into the Internet financial market.



Infrastructure and Product Innovation behind Internet



Tencent Micro-module Data Center (TMDC)

- ❑ Decoupling between infrastructure development and IT deployment and simplified building design of equipment rooms, which see CAPEX down by 6%.
- ❑ Conduct industrialized and standardized module production and the system deployment cycle reduced from former 1 year to 3 months
- ❑ Improve energy efficiency by cutting energy consumption at 20% on traditional data centers

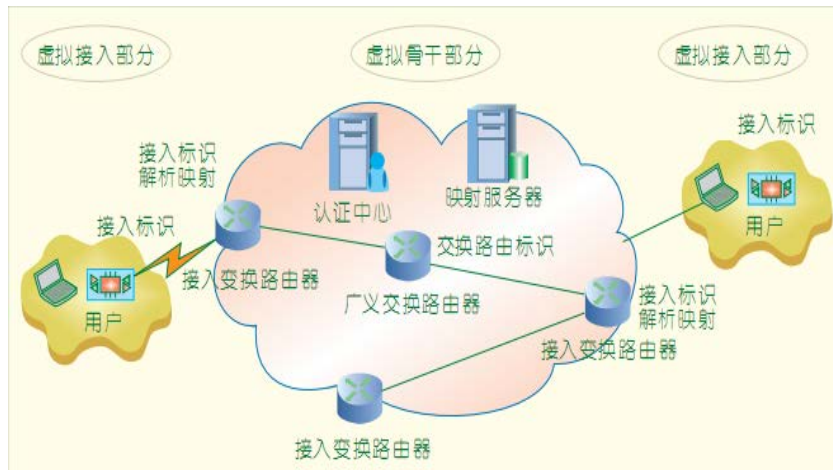
Baidu's ARM Server

- ❑ the first global data center using ARM servers
- ❑ 25%以上 In the use of ARM server, the single computing unit will consume over 25% less of power than X86 in CPU.
- ❑ Power saving, lower heat-generating, and high density with one 2U server case accommodating 6 computing nodes, which will improve the storage density by 70% and whose total power consumption is only 300 watt.



Future-oriented LTE Internet Technological Innovation

China's Internet has the problems with IPv4 address depletion, network security, service quality and business application hard to regulate. Chinese enterprises and research institutes actively promote IPv6 evolution and future Internet technical study.



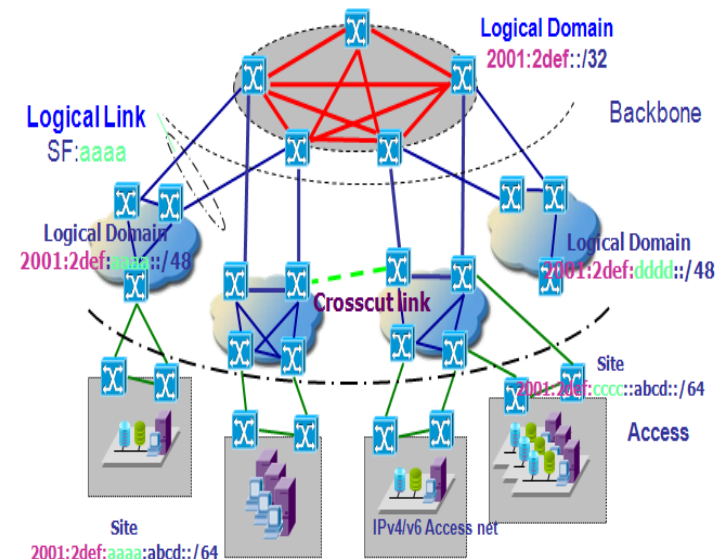
Northern Jiaotong University: Integrated Network and Universal Service

- ❑ Use exchange routing to solve the problem with location administration and exchange routing.
- ❑ Use access identifier for access to communications terminals

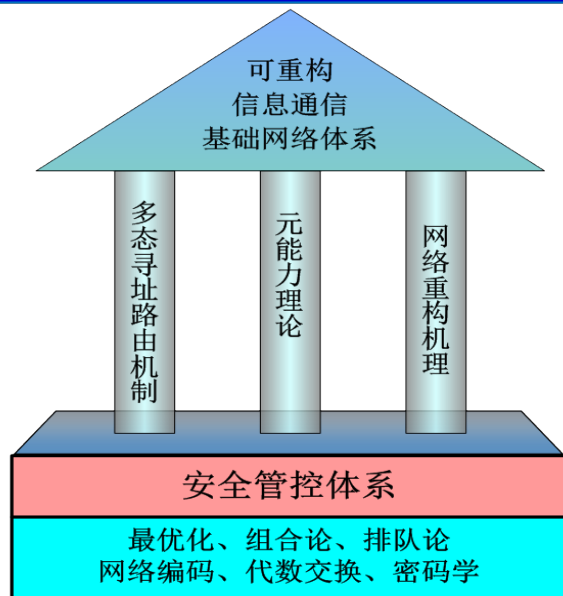
Separate identification from location and core from marginal

CAS: Hierarchical Exchange Network

- ❑ Redefine IPv6 address structure and realize hierarchical address structure
- ❑ Achieve separation of management plan from data plan through planning of the post-64 bit address



Future-oriented LTE Internet Technological Innovation



PLA Information Engineering University : Reconfigurable Network

- ❑ a system that on a physical network and can support various business models and network technologies
- ❑ The reconfiguration mechanism can self-adjust network functions and structure.
- ❑ Network dynamic routing and addressing can be achieved through polymorphic addressing to support various business models

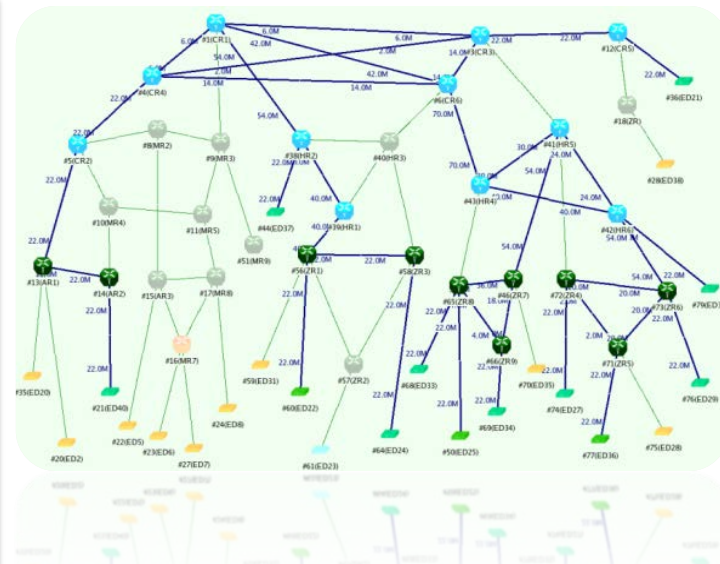
Various technologies/business systems can be supported by virtual layering of network

CATR of MIIT: PTDN

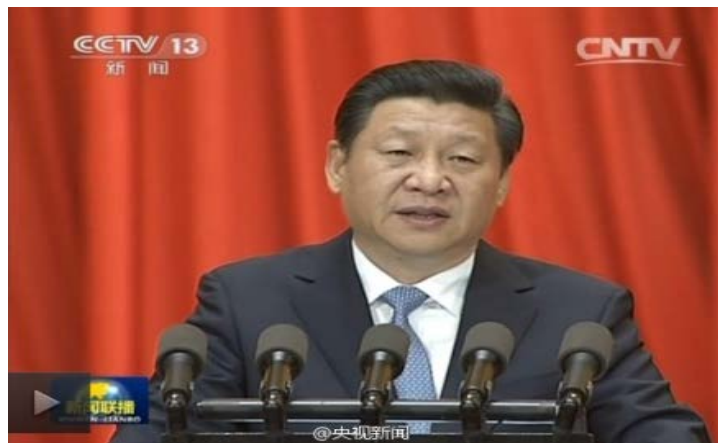
- ❑ Realize hierarchical address space to solve extensibility of address and routes
- ❑ Realize network virtualized technology to solve segregation and extensibility of multiple businesses
- ❑ Realize segregation technology of data plans to solve service quality administration and security control
- ❑ Realize smart administration of network to solve end-to-end sensing of resources and business traceability

Compatible IP technology can be also compatible to future non-IP network protocols

Currently, four ITU-T proposals have been developed.



Policies push forward Internet innovation



On June 9, 2014, Conference of CAS and CAE Academicians : “Implement the strategy of innovation-driven development” , “The development direction of China’s science and technology is innovation, innovation and innovation”

In August, 2013, the State Council printed and circulated *“Broadband China” Strategy and Implementation Plan* , to speed up Internet infrastructure.

In August, 2013, the State Council issued *Opinions about Promoting Information Consumption to Boost Domestic Demand* , so as to motivate Internet application.

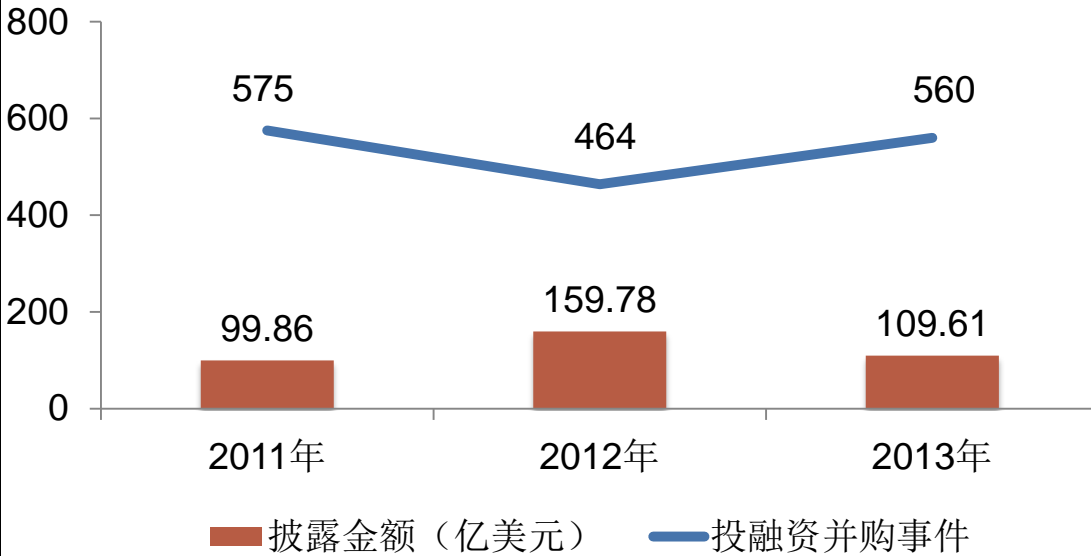
“宽带中国” 发展目标与发展时间表

时间	2013 年	2015 年	2020 年
固定宽带接入用户 /3G、LTE 用户 (亿户)	2.1/3.3	2.7/4.5	4.0/12
固定宽带家庭普及率 /3G、LTE 用户普及率	40%/25%	50%/32.5%	70%/85%
城市宽带 / 农村宽带 接入能力 (Mbps)	20/4	20/4	50/12
网民数量 (亿人)	7.0	8.5	11.0

1. Accelerate evolution and upgrading of information infrastructure
2. Strengthen supply capability of information products
3. Foster needs for information consumption
4. Enhance ICT level of public service
5. Create a better environment for information consumption
6. Improve supporting policies

Capital input creates new atmosphere

Active Internet Investment & Funding



Innovation incubators system is much improved



By 2013, there had been 560 cases of investment & funding event in China's Internet, with the capital disclosed at \$ 11 billion.



The open ecology of giant enterprises promotes innovation

The open ecology is the foundation to Internet innovation.

The giant enterprises strive to seize the “steering wheel” of Internet innovation by establishing open ecology.



Tencent established the open platform in 2011

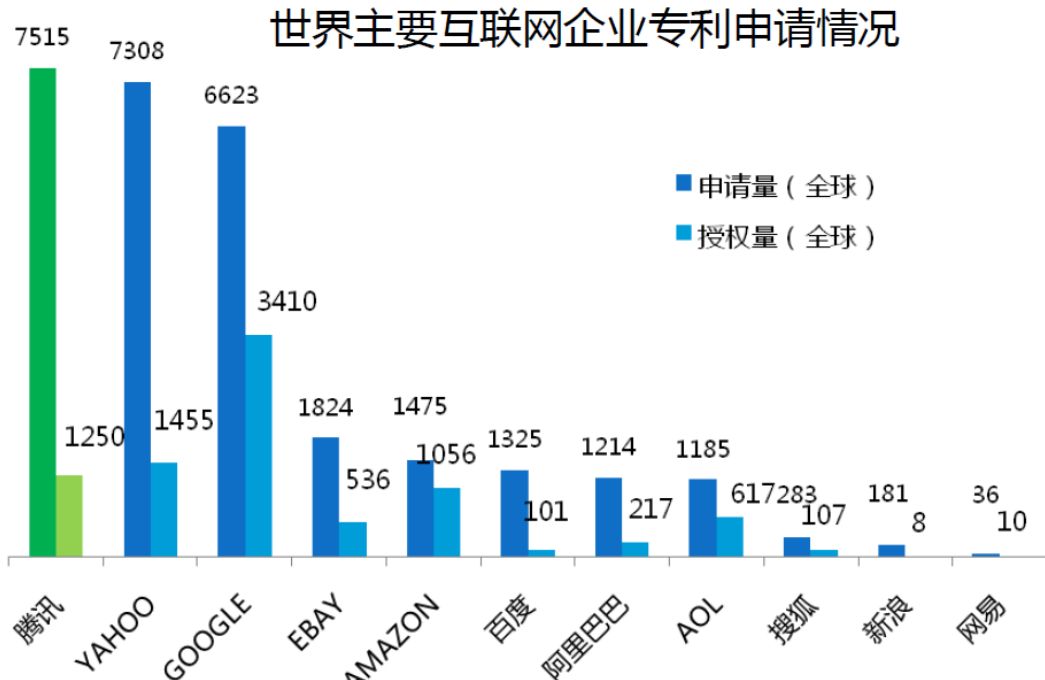
□ Tencent's open platform has over 300 million app users, which bring benefits of over RMB 2 billion to developers. There are over 350,000 registered apps and over 800,000 registered developers. The highest paid developer can pocket over RMB 20 million per month. Nearly 2 million jobs are created.



华为开发者联盟
developer.huawei.com

Technology arises as innovation impetus

Chinese Internet enterprises and related manufacturers have become the group of most patent applications globally.



Source: Tencent, December, 2013, by Sep., 2013

In 2013, WIPO PTC patents

- 1 Panasonic 2881 pieces
- 2 ZTE 2309 pieces
- 3 Huawei 2094 pieces

GitHub

Search

Repositories	151
Code	106,999
Issues	698
Users	67

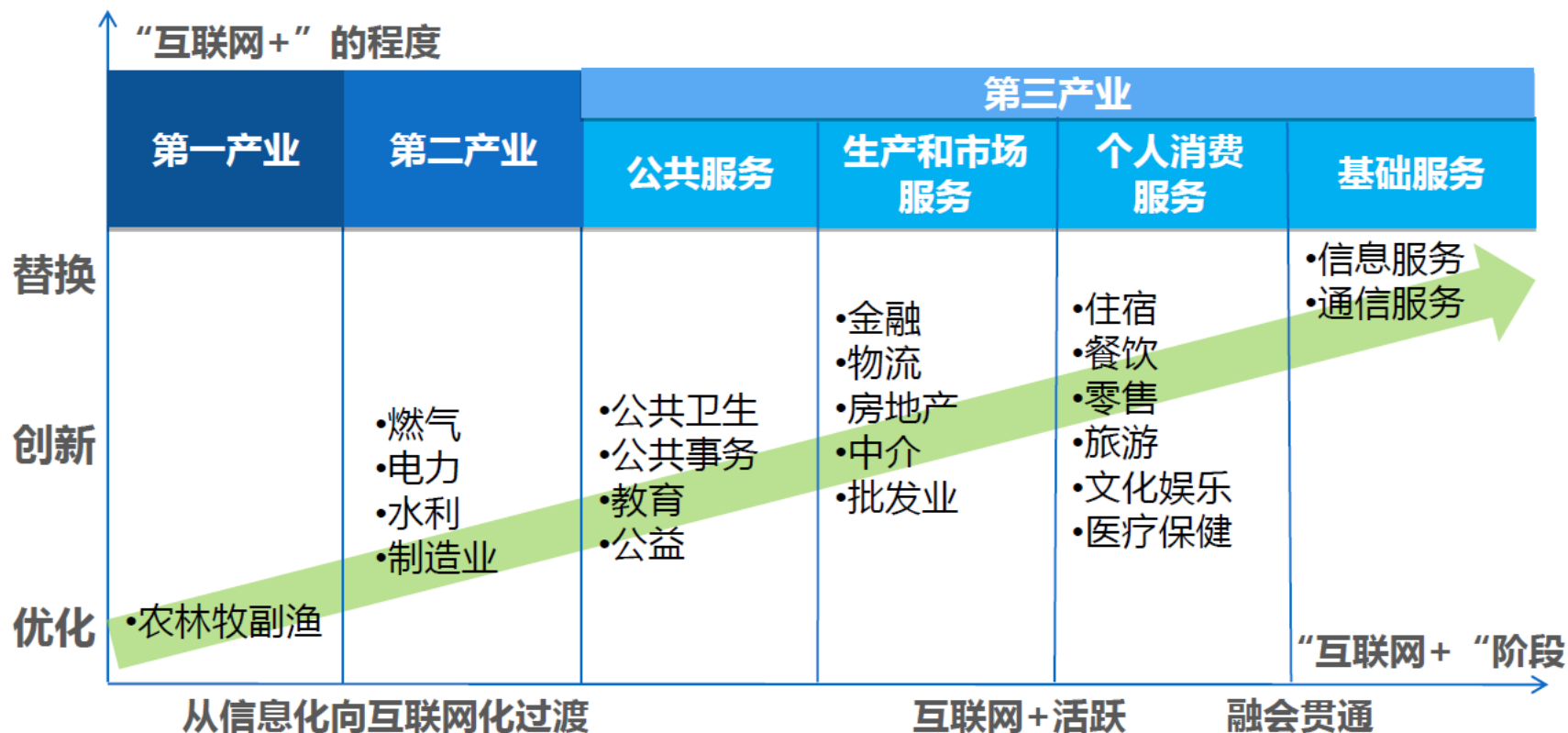
Alibaba's open-source projects at GitHub

Actively participate in the open-source communities of international Internet

At GitHub, Alibaba has 151 open-source projects

Huawei ranks quite high in the Hadoop community in terms of contribution and has become OpenStack Gold member.

Embark on the era of "Internet+"



Source: Tencent, Dec., 2013

Internet is in-depth converging with the traditional industries and there is a long way ahead for Internet innovation

Standards——lead China's Internet innovation into the World



Thanks for listening !

