

Statistical Report on Internet Development in China

(July 2011)



China Internet Network Information Center

Preface

To achieve an comprehensive understanding about Internet Development Situation in China, China Internet Network Information Center (CNNIC) organized relevant Internet network organizations to jointly carry out a survey on Internet Development Situation upon the decision of the competent department of the State through discussion in 1997, and CNNIC issued the first *Statistical Report on Internet Development in China* in the same year. To normalize and systemize the survey work, CNNIC decided to issue *Statistical Report on Internet Development in China* (hereinafter referred to as the “Report”) in every January and July since 1998. The Report provides constant survey and study on the netizen scale, structural features, network application and the environment of Internet security, and rigorously and objectively reflects the Internet development situation in China, and provides an important basis for governmental departments and enterprises to grasp the development trend of Internet and make decisions. Therefore, it has been emphasized in every circle and quoted widely both home and abroad.

To date, CNNIC has successively issued 27 national statistical reports on Internet development situation, this Report is composed based on the 28th national survey on Internet development. In addition to the contents and style of the previous reports, the 28th report also added the survey on the online consumption security of netizens.

Data collection for this Report achieved great supports from the government, enterprises and all sides of the society. Under the guidance of Ministry of Industry and Information Technology and other State departments, each survey was conducted successfully; with the close cooperation of Internet organizations and websites and medias supporting the survey, etc, collection of basic resource data was completed in time.

Specific institutions include: **Beijing East.net, HiChina, Sinonets Co., Ltd., Beijing Innovative Linkage Technology Co., Ltd. , Beijing Xinnet Digital Information Co., Ltd., CE Dongli Technology Company Limited, Guangdong Todaynic.com International Limited (former Zhuhai Todaynic.com Internet Information Technology Co., Ltd.), Chinasource Internet Service Co., Ltd. , Longtop Online Co., Ltd. (former XiaMen Bizcn Computer & Network Co., Ltd.), Xiamen 35.com Technology Co., Ltd., Beijing BonRee Co., Ltd., China Net Center and ChinaCache Communication Technology Co., Ltd.**

We hereby express our sincerest acknowledgement to them! And meanwhile, express our

gratitude to the netizens that accepted the 28th Statistical Survey on Internet Development !

CNNIC

July, 2011

Contents

PREFACE	1
REPORT SUMMARY	5
CHAPTER I INTRODUCTION TO THE SURVEY	8
I. SURVEY METHOD	8
II. DEFINITION OF TERMS IN THE REPORT	11
CHAPTER II SCALE AND STRUCTURAL FEATURES OF NETIZENS	13
I. SCALE OF NETIZENS	13
(I) Overall scale of netizens	13
(II) Scale of home broadband netizens	14
(III) Scale of mobile phone netizens	15
II. ACCESS MODES	16
(I) Access facilities	16
(II) Access location	17
(III) Online time	17
III. PROPERTIES OF NETIZENS	18
(I) Gender structure	18
(II) Age structure	18
(III) Educational structure	19
(IV) Occupational structure	19
(V) Income structure	20
(VI) Urban-rural structure	21
CHAPTER III BASIC INTERNET RESOURCES	22
I. OVERVIEW	22
II. IP ADDRESS	22
III. DOMAIN NAME	23
IV. WEBSITE	24
V. NETWORK INTERNATIONAL EXPORT BANDWIDTH	25
CHAPTER IV INTERNET APPLICATION OF NETIZENS	26
I. OVERALL CONDITION OF INTERNET APPLICATIONS	26
(I) Acquisition of information	28
(II) Business transaction	30

(III) Communication	32
(IV) Online entertainment	36
II. SITUATION OF MOBILE PHONE NETWORK APPLICATION	38
(I) Mobile phone application universally deepened	38
(II) Mobile phone microblog becomes the highlight of online application of mobile phone ..	39
(III) Mobile phone Internet stills focuses on low-flow application	40
(IV) Proportion of software installed in mobile phone increases constantly	41
CHAPTER V INTERNET SECURITY ENVIRONMENT	43
I. BASIC SECURITY OF INTERNET APPLICATIONS	43
II. ONLINE CONSUMPTION SECURITY ENVIRONMENT	44
APPENDIX 1 TABLE OF BASIC INTERNET RESOURCES	45
APPENDIX 2 SURVEY SUPPORTING ENTITIES	57

Report Summary

I. Basic data

- ◇ As of the end of June 2011, Chinese netizens reached to 485 million, increased 27.70 million compared with those in the same period of 2010; the Internet penetration rate stepped up to 36.2%, increased by 1.9% compared with that at the end of 2010.
- ◇ There are 318 million mobile phone netizens in China with an increase of 14.94 million compared with that at the end of 2010. The proportion of the mobile phone netizens has covered 65.5% of the total netizens.
- ◇ Home computer broadband netizens reached 390 million, covering 98.8% of the home computer netizens with an increase of 8.40 million compared with those at the end of 2010.
- ◇ There are 131 million rural netizens, covering 27.0% of the total netizens with an increase of 4.9% compared with that at the end of 2010.
- ◇ Netizens over 50 years old increased remarkably, and the overall proportion increased from 5.8% at the end of 2010 to 7.2%.
- ◇ Netizens with less education increase continuously, and the proportion of netizens with a junior middle school education and below increased from 41.2% at the end of 2010 to 43.8%.
- ◇ 91.3% netizens access to Internet at home, and proportion of netizens who access to Internet in Internet cafes, offices and public places is 26.7%, 33.0% and 14.8% respectively.
- ◇ 74.0% netizens access to Internet by desktop computer, and 65.5% and 46.2% netizens by mobile phone and notebook computer respectively.
- ◇ Average duration for netizens to surf internet is 18.7 hours per week with an increase of 0.4 hour compared with that at the end of 2010.
- ◇ By the end of June 2011, there were totally 7.86 million domain names in China. There were 1.83 million Chinese websites, i.e. with domain names (including domestic access and overseas access) registered within Chinese territory.

II. Trend and features

The growth of netizens slowed down remarkably

In the first half of 2011, Chinese netizens increased 27.70 million, the half-year growth rate stands at 6.1%, and the absolute number of growth is less than 36 million in the same period of the previous year (the first half of 2010). Since 2010, the growth rate of netizens began to decrease, and the growth now slows down remarkably.

Microblog users increased in an explosive manner

In the first half of 2011, Chinese microblog users increased from 63.11 million to 195 million rapidly, increasing 132 million in half a year, with a growth rate as high as 208.9%, and the utilization ratio among netizens grew from 13.8% to 40.2%. The application of mobile phone microblog has become a highlight, and the proportion of mobile phone users has grown from 15.5% at the end of 2010 to 34.0%.

The proportion of Internet cafe users declined substantially

Netizens surfing at Internet cafe covered 26.7%, dropped by 9% compared with those at the end of 2010. Netizens accessing to Internet at Internet cafe decreased 33.76 million.

Business application remains stable growth

After rapid growth during 2009-2010, business application saw a relatively mild development. At present, most business applications are still increasing, e.g. online shopping application has risen to 35.6%, increased 12.15 million in half a year, and the half-year growth rate was 7.6% for the half of a year; the application of group buying saw drastic development, the users have reached 42.20 million, and the utilization ratio rose from 4.1% to 8.7%, and the half-year growth rate reached 125.0%. Meanwhile, users of online bank and online payment also saw slight growth.

Entertainment application cools down continuously

The entertainment application rate declines continuously. As of the end of June 2011, the users of online games and online music were 311 million and 382 million respectively, and the utilization ratio declined by 2.3% and 0.5% respectively compared with that at the end of 2010.

There are 301 million online video users, with the utilization ratio equivalent to that at the end of 2010.

Stern problem in network security and integrity

In the first half of 2011, 217 million netizens were attacked by viruses or Trojan horses, covering 44.7% of the total netizens. 121 million netizens ever experienced theft of accounts or passwords, covering 24.9%, increased by 3.1% compared with that at the end of 2010. The development of business application also caused online fraud and other problems, 8% netizens encountered frauds during online consumption in the past six months. The scale of such netizens hit 38.80 million.

Chapter I Introduction to the Survey

I. Survey method

(I) Survey on individual netizens

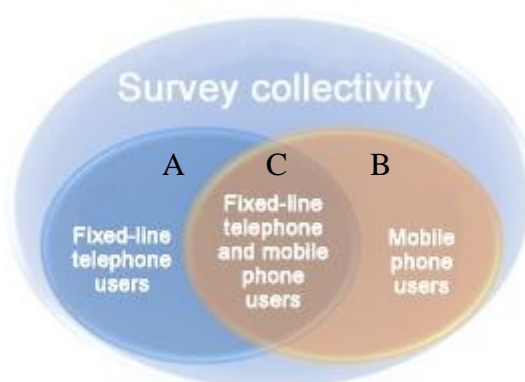
3.1 Survey objectives

Chinese residents, 6 years old or above with residential fixed-line telephones (residential phone, PHS, dormitory telephone) or mobile phones.

3.1.1 Sample scale

Among the overall 30,000 samples for the survey, there are 15,000 residential fixed-line telephone users and mobile phone users respectively, and the samples cover 31 provinces, autonomous regions and municipalities directly under the Central Government in Mainland China.

3.1.2 Breakdown of survey collectivity



The survey collectivity is broken down into the follows:

Sub-collectivity A: Residential fixed-line users [including: residents using residential fixed-line telephone + PHS users + students using dormitory telephone + other dormitory telephone users];

Sub-collectivity B: Mobile phone users;

Sub-collectivity C: Fixed-line telephone and mobile phone users [users using both residential fixed-line telephone and mobile phone], $C=A \cap B$.

3.2 Survey contents

The user survey focuses on understanding the number, structural features, Internet access

conditions, network application, attitude toward Internet application of Chinese netizens and the conditions of non-netizens. The survey contents cover whether the respondents use Internet or not, the background information, online-behaviors of netizens, dependence on Internet, online experiences and other information of the respondents.

3.3 Survey method

The survey is conducted through Computer-Assisted Telephone Interviewing System (CATI).

3.4 Difference between survey collectivity and objective collectivity

CNNIC studied the population that was unable to be covered by telephone at the end of 2005, in which the scale of netizens was very small. With the development of telecommunications in China, the size of such population is reducing gradually (there were 740 million telephone subscribers in China by the end of 2005, and the total number hit 1.1 billion by November 2010, specifically speaking, 1.148628 billion). Therefore, this survey put forward the following presupposition:

For this study, netizens that were unable to be covered by telephone can be ignored in statistics.

(II) Online survey

Online survey focuses on the situation of typical Internet applications. CNNIC carried out an online survey during June 7-30, 2011. The questionnaires were uploaded onto the website of CNNIC, and links to the questionnaires were set up on governmental media websites, larger ICP/ISP websites and each provincial information harbor (website), and netizens fill in the questionnaires actively. After the questionnaires were collected, the validity of questionnaires was verified by technical means to screen invalid ones. 53,749 valid questionnaires were received for this online survey.

(III) Automatic online search and statistical data reporting

Automatic online search mainly includes technical statistics of number of domain names and websites and other indicators such as regional distribution, etc, but the statistical report mainly covers IP addresses and bandwidth of international network exports.

1. Total number of IP addresses

The provincial IP address statistic data is from the IP addresses database of APNIC and CNNIC. The provincial data that has been registered in both two databases and can be used to identify the provinces through addresses is added up on a provincial basis. As address distribution adopts a dynamic process, the statistical data are only for reference. Meanwhile, Ministry of Industry and Information Technology responsible for IP address administration also requires Chinese IP address allocation organizations (e.g. China Telecom, etc) reporting the IP addresses that they own respectively on a half-year basis. To ensure the accuracy of IP data, CNNIC compared the statistical data from APNIC with the reported data and verified them, and finally confirmed the final number of IP addresses.

2. Total number of Chinese domain names and total number of websites

The total number of Chinese domain names and total number of websites are achieved by adding the following two parts of data:

The first part includes the number of domain names and number of websites under .CN, achieved by CNNIC through automatic online searching; the second part includes the number of Chinese gTLDs and websites, provided with the help of each gTLD registration organization. These data include: respective numbers of websites set up under all gTLDs and domain names; respective numbers of gTLDs and websites classified by .COM, .NET and .ORG; and respective numbers of gTLDs and websites classified by provinces where the registration organizations are located.

3. Network international export bandwidth

Ministry of Industry and Information Technology obtains the total number of export bandwidth of Chinese operators' network connected with other countries and regions on a regular basis through the reporting system of telecom enterprises. These reported data are included in *Statistical Report on Internet Development in China*.

II. Definition of terms in the report

◇ Netizens

Chinese residents, 6 years old or above who have been using Internet in the past six months.

◇ Mobile phone netizens

Netizens accessing to and using Internet by mobile phone in the past six months, but not limited to those accessing to Internet only by mobile phone

◇ Computer netizens

Netizens accessing to and using Internet by computer in the past six months, but not limited to those accessing to Internet only by computer

◇ Home computer broadband netizens

Netizens accessing to and using Internet by broadband (xDSL, CABLE MODEM, optical fiber access, power line access, WIFI, etc) among those accessing to Internet by computer at home in the past six months.

◇ Rural netizens

Netizens mainly living in rural areas of China in the past six months.

◇ Urban netizens

Netizens mainly living in urban areas of China in the past six months

◇ Adolescent netizens

Chinese netizens less than 25 years old¹

◇ IP address

IP address is used to identify an online computer, server or other device on the network, it's a basic element on the Internet, you cannot access to Internet without an IP address (regardless of the form).

◇ Domain name

It only refers to English domain name, a string composed only of digits, English letters and hyphens “-” and divided by point “.”, and it's an Internet address identifier with a hierarchical structure corresponding to the IP address. Common domain names are classified into two categories: national or regional top level domain name (ccTLD), e.g. a domain name ended with .CN represents China; and top level category domain name (gTLD), e.g. domain names ended with .COM, .NET and .ORG, etc.

◇ Website

¹ Adolescent is defined as a youth 15~24 years old in Action Programme for World Youths by 2000 and Beyond passed at the 50th Session of the UN General Assembly on Dec 14, 1995, and the group with ages between 6~24 is called adolescent group in this context.

Web sites with domain name itself or “WWW.+domain name” as website address, including websites under .CN and gTLD, the registrant of such domain name is located within Chinese territory. Take cnic.cn for an example, it’s only one website, and its corresponding website address is cnic.cn or www.cnic.cn, besides, the website addresses such as whois.cnic.cn, mail.cnic.cn..... with such domain name as suffix are only deemed as different channels of the website.

◇ Survey scope

Unless otherwise expressly specified, the data presented in this report are for Mainland China, excluding Hong Kong, Macau and Taiwan.

◇ Closing date

The survey data for the statistics are as of Jun 30, 2011.

Chapter II Scale and Structural Features of Netizens

I. Scale of netizens

(I) Overall scale of netizens

By the end of June 2011, the total number of Chinese netizens has reached 485 million, the Internet penetration rate is 36.2%, increased by 1.9% compared with that at the end of 2010.

The growth rate of netizens slows down remarkably, though it's still growing in size. In the first half of 2011, the growth rate of netizens is 6.1%, the lowest in recent years. Netizens increased 27.70 million, the absolute increase number is less than that (36 million) in the same period of the previous year (the first half of 2010).

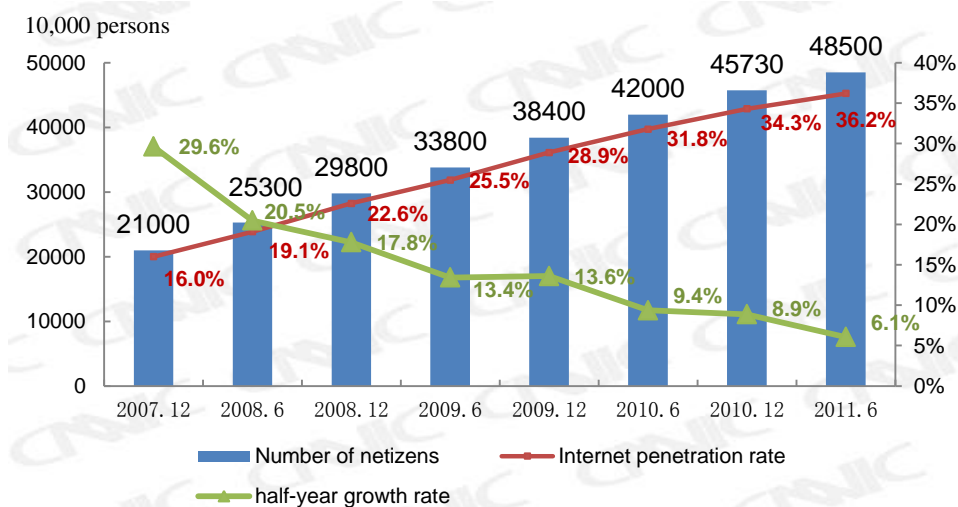


Fig 1 Scale and growth rate of Chinese netizens and popularity rate of Internet

Slowdown of the growth of netizens lies in the popularity of Internet application and lack of new stimulus. In 2009, Internet accessing by 3G mobile phone set off a new upsurge of growth of netizens. With the gradual release of technology and application energy, Internet is gradually penetrating into the population easy to be transformed to netizens, but the difficulty of penetration into non-netizens is currently growing.

Among the 815 million non-netizens, “ignorance of computer/network” is the key reason that they can’t access to Internet, and the influence of this factor is increasing. By the end of 2009,

32.6% non-netizens do not use Internet as they know little about computer/network. The result of survey conducted in June 2011 indicates: 47.9% non-netizens don't use Internet because of lack of network knowledge and skills, and most of them are old people and rural population. But the influence of "little interest" and "expensive Internet fee" and other constraining factors is reducing. Therefore, in addition to further lowering the threshold to access condition and hardware equipment, rudimentary knowledge about computer and network should also be disseminated among old people and rural population to improve their basic network operating skills.

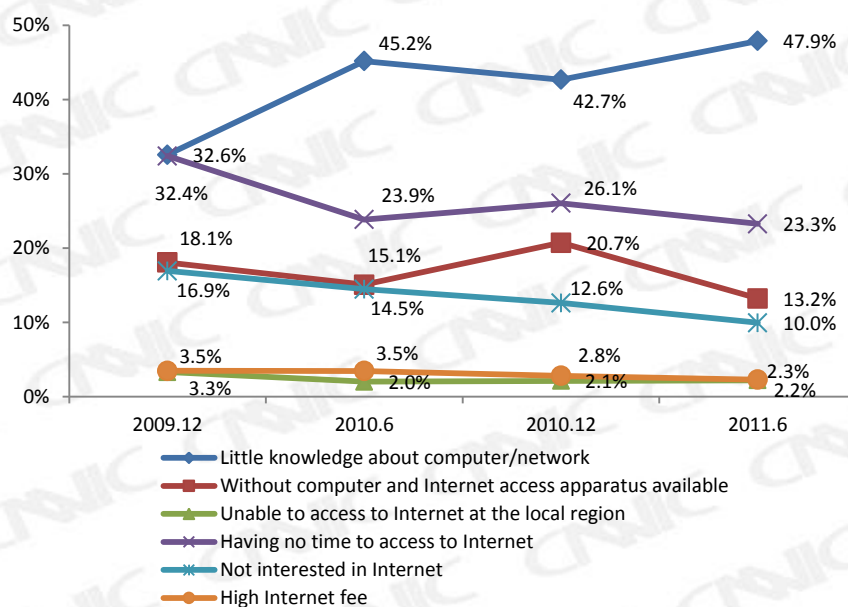


Fig 2 Factors impeding non-citizens to access to Internet

2011 is the fresh year of the "12th Five-Year Plan", the government attaches more importance to the popularity and application of information technology, and will boost the informationization of rural areas, promote mobile Internet, regulate and encourage network retailing and take other measures, and further drive Internet penetration to more extensive population by reinforcing the basic network construction in central and western regions. Under such background, Chinese netizens will further increase in the second half of 2011, and the total number Chinese netizens is expected to exceed 500 million by the end of the year.

(II) Scale of home broadband netizens

By the end of June 2011, the number of netizens using home broadband² for Internet access has reached to 390 million, covering 98.8% of netizens using home computers for Internet access,

² Home broadband netizens refer to those using broadband (xDSL, CABLE MODEM, optical fiber access, power line access, WIFI, etc) to access to Internet.

with an increase of 8.40 million compared with those at the end of 2010.

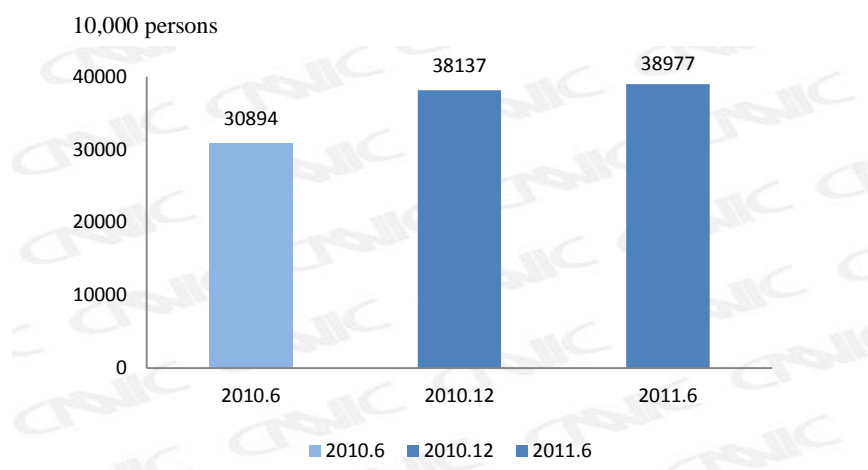


Fig 3 Scale of home broadband netizens

(III) Scale of mobile phone netizens

In the first half of 2011, the scale of mobile phone netizens saw steady increase. By the end of June 2011, the number of Chinese mobile phone netizens³ has reached 318 million, with an increase of 14.95 million compared with that at the end of 2010. The growth slows down eminently though mobile phone netizens remain a growing trend in China.

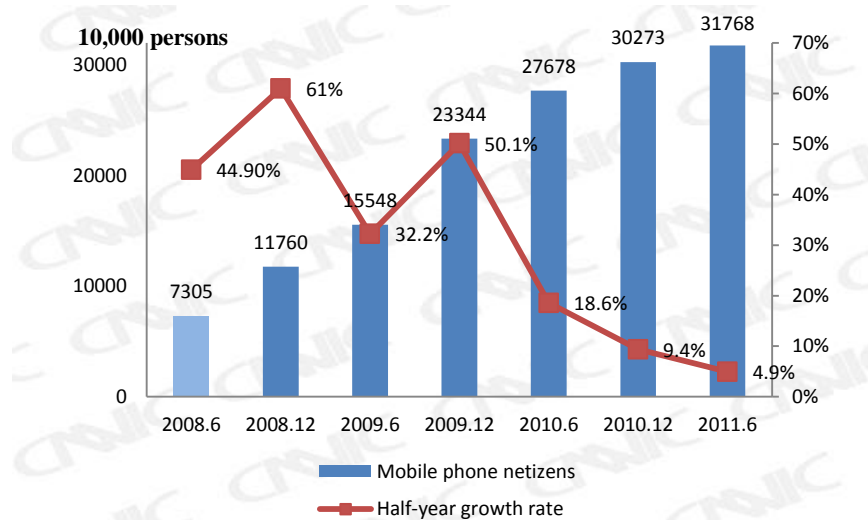


Fig 4 Scale of mobile phone netizens

Chinese mobile phone netizens had witnessed rapid growth during 2008-2010, especially from the second half 2008 to the first half of 2010, the net increase of mobile phone netizens is as

³ Mobile phone netizens: Netizens accessing to Internet by mobile phone in the past six months, but not limited to those accessing to Internet only by mobile phone.

big as 204 million. Since the second half of 2010, the scale development of Chinese mobile phone netizens enters into the flat stage. In the first half of 2011, the scale development of mobile phone netizens remains the trend, keeping at a relatively low growth level.

The S growth curve of “slow-fast-slow” complies with general innovative diffusion model⁴, and it’s an inexorable law of growth of mobile phone netizens. However, growth of mobile phone netizens involves some stages, and each stage forms an S-curve of growth.

At present, the scale development of Chinese mobile phone netizens is currently at the later part of the first stage, i.e. the flat period featuring relatively slow growth. The main reason is that the potential users among the stock mobile phone users of the first stage have basically transformed to actual users. Mobile phone users in the later part of the first stage can only rely on the support of new mobile phone users; however, Chinese mobile phone Internet will enter into the second growth stage with the improvement of user experience, emergence of new applications (especially for rural population and old people), further optimization of network, decreasing of service fees, etc, and a new S growth curve begins.

Generally speaking, the Chinese mobile phone netizen scale will grow steadily at a relatively low speed before the relatively great changes in the aspect of application and service fees, etc.

II. Access modes

(I) Access facilities

In the first half of 2011, 74.0% netizens access to Internet by desktop computer, 65.5% and 46.2% by mobile phone and notebook netizens respectively.

Compared with the end of 2010, netizens accessing to Internet by desktop computer reduced by 4.4%, the proportion of netizens accessing to Internet by mobile phone and notebook computer fluctuated slowly, and that for other equipment rose from 0.5% to 1.0%.

⁴ Rogers, S-curve theory of innovative diffusion

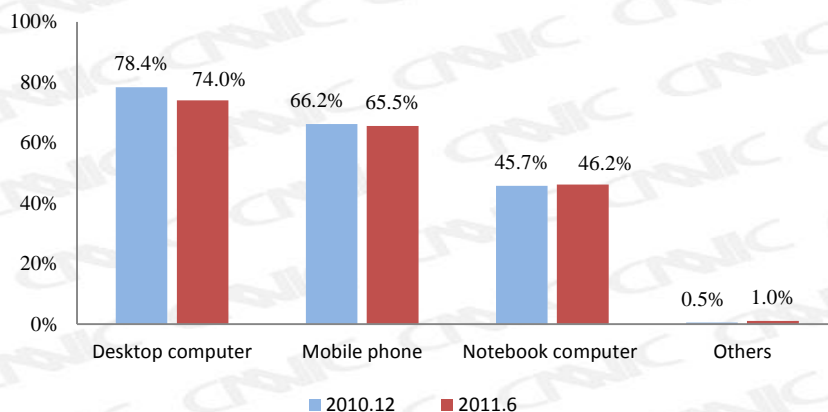


Fig 5 Internet access facilities of netizens

(II) Access location

In the first half of 2011, 91.3% netizens use Internet at home, and 26.7%, 33.0% and 14.8% at Internet café, office and public places respectively.

Compared with those at the end of 2010, netizens using Internet at home increased by 2.1%, netizens using Internet at Internet café reduced from 35.7% to 26.7%, dropped by 9%.

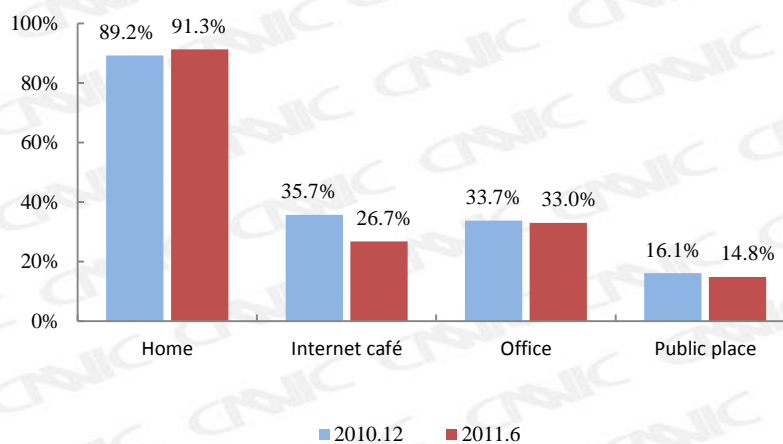


Fig 6 Locations that netizens access to Internet

(III) Online time

In the first half of 2011, the average time of netizens spending on Internet is 18.7h, increased 0.4h compared with that at the end of 2010.

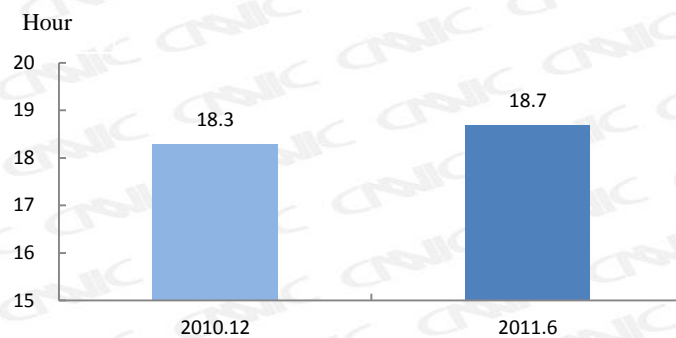


Fig 7 Average weekly online time of netizens

III. Properties of netizens

(I) Gender structure

As of the end of June 2011, the ratio of Chinese male netizens and female netizens is 55.1:44.9, the proportion of male netizens declined slightly, but still 10.2% higher than that of female netizens.

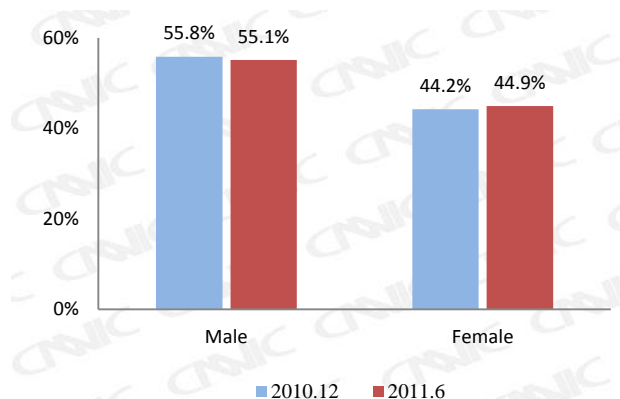


Fig 8 Gender structure of netizens during Dec 2010 and June 2011

(II) Age structure

The center of netizen age distribution inclines continuously to middle-old age. Besides constant growth of the netizens aged 20-29, the increase of netizens with the various ages above 50 is also remarkable, the overall proportion has climbed from 5.8% at the end of 2010 to 7.2%. However, netizens aged 10-19 have decreased from 27.3% to 26.0%.

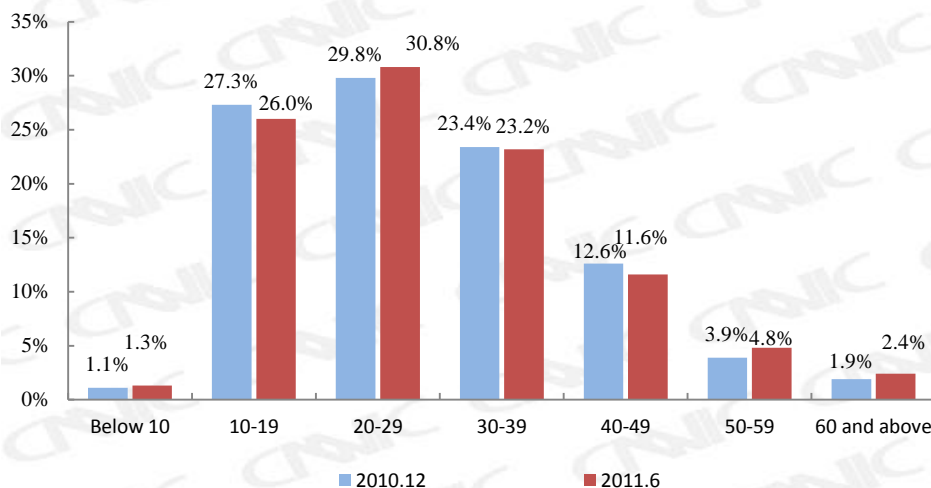


Fig 1 Age structure of netizens during Dec 2010 and Jun 2011

(III) Educational structure

Internet continues to penetrate to poorly educated population. In the first half of 2011, Chinese netizens with middle-low educational degree had been increasing continuously, the proportion of netizens with junior high school education and below rose from 41.2% at the end of 2010 to 43.8%. Whereas, netizens with education above senior high school reduced from 58.9% to 56.1%.

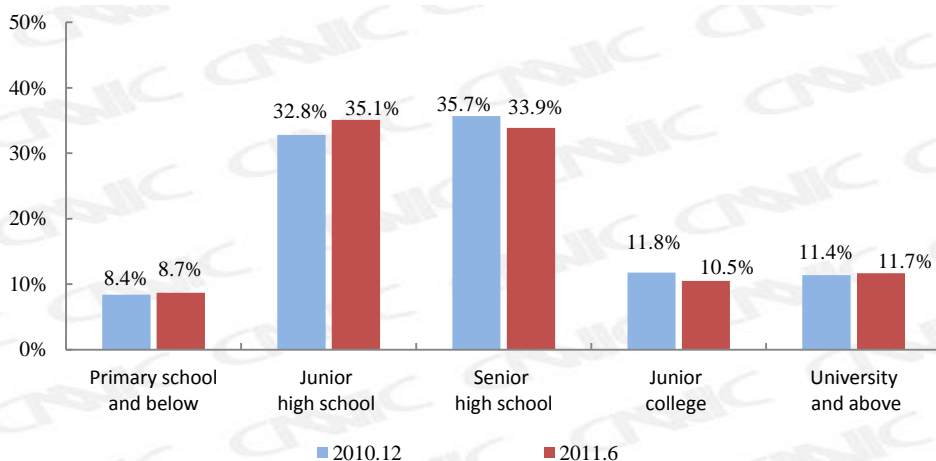


Fig 2 Educational structure of netizens during Dec 2010 and June 2011

(IV) Occupational structure

Middle school students cover the largest proportion among the netizens, as high as 29.9%. In the agencies of the Party and government, leaders cover 1.7% of the overall netizens, and ordinary

clerks cover 2.4%. In enterprises/companies, senior managers cover 0.8% of the overall netizens, medium managers cover 4%, and ordinary clerks cover 10.9%. Furthermore, professional technicians cover 8.7%; workers of manufacturing/productive enterprises and employees of commerce/service industry cover 4.8% and 3.6% respectively; peasants cover 5.3%; and self-employed/free-lancers cover 14.6%.

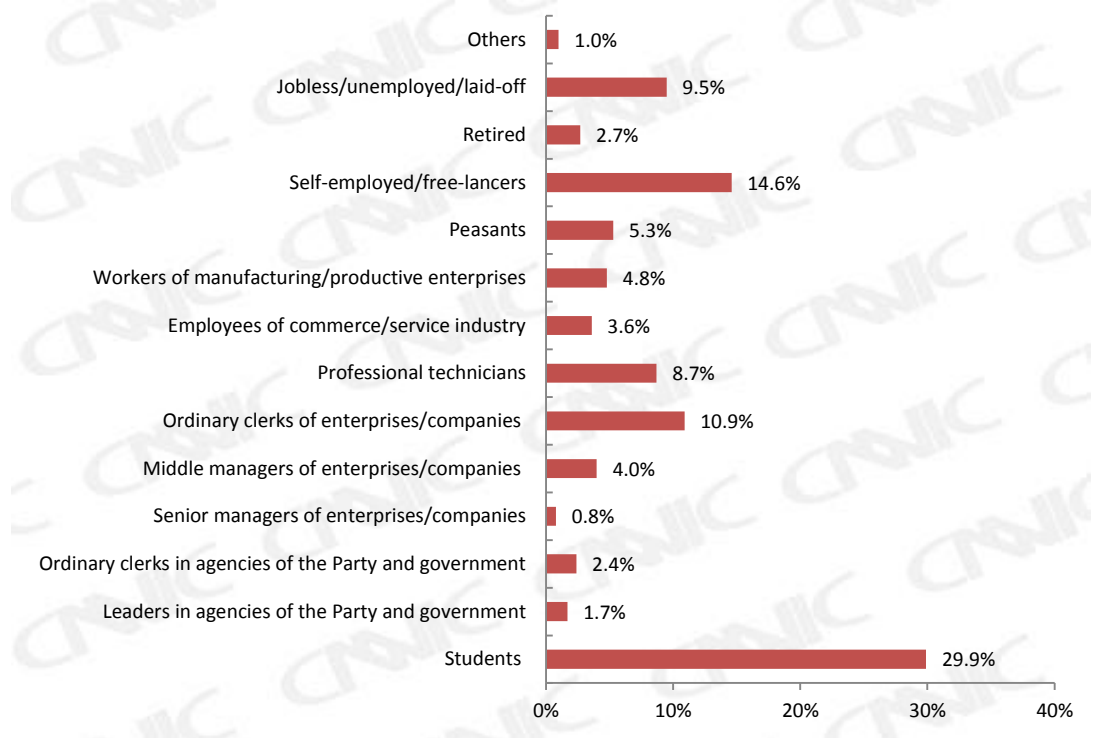


Fig 11 Occupational structure of netizens

(V) Income structure

Distribution structure of netizens' income continues expanding toward both ends. Compared with that at the end of 2010, the proportion of netizens without income increased from 4.6% to 7.7%, and that for netizens with monthly income above RMB 2001 increased from 33.3% to 37.1%.

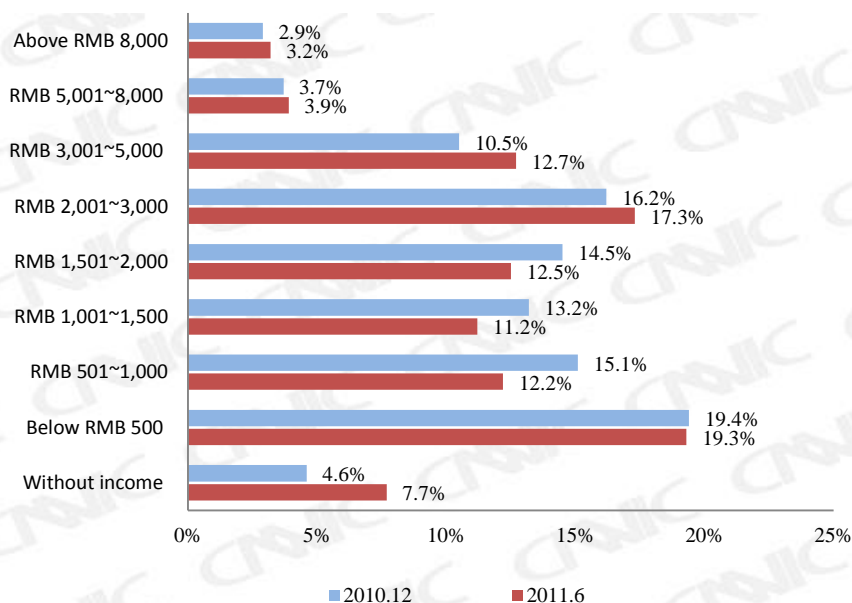


Fig 12 Individual monthly income structure of netizens during Dec 2010 and Jun 2011

(VI) Urban-rural structure

As of the end of Jun 2011, the number of Chinese rural netizens reached 131 million, covering 27% of the overall netizens, grew by 4.9% compared with that at the end of 2010. With the continuous improvement of Internet access condition and the network hardware in rural areas, rural netizens were growing constantly. However, the growth of rural netizens was relatively inconspicuous due to massive migration of rural population into urban areas with the acceleration of urbanization in China.

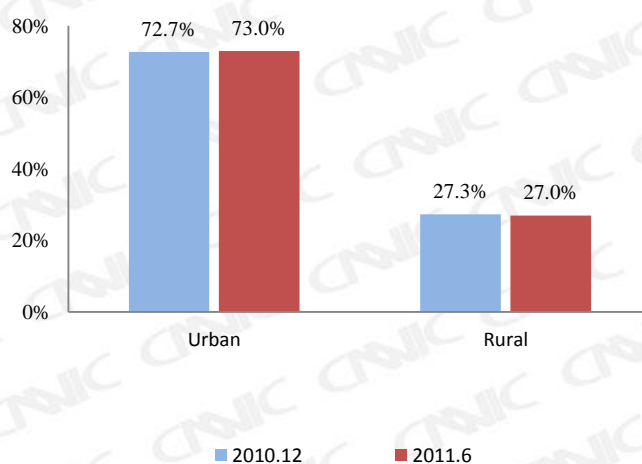


Fig 13 Urban-rural structure of netizens during Dec 2010 and Jun 2011

Chapter III Basic Internet Resources

I. Overview

By the end of Jun 2011, the number of IPv4 addresses had reached 332 million in China, increased by 19.4% compared with that at the end of 2010. China has 429 blocks/32 IPv6 addresses, ranking the 15th place in the world.

There are totally 7.86 million domain names in China, including 3.50 million .CN domain names in total, covering 44.6%. There are 1.83 million websites in total.

International export bandwidth reached 1,182,261.45 Mbps, half-year growth rate: 7.6%.

Table 1 Comparison of basic Internet resources of China during Dec 2010 and Jun 2011

	Dec 2010	Jun 2011	Half-year growth	Half-year growth rate
IPv4	277,636,864	331,626,752	53,989,888	19.4%
Domain names (number)	8,656,525	7,861,400	-795,125	-9.2%
CN domain names (number)	4,349,524	3,502,288	-847,236	-19.5%
Websites (number)	1,908,122	1,830,100	-78,022	-4.1%
Websites under CN (number)	1,134,379	931,869	-202,510	-17.9%
International export bandwidth (Mbps)	1,098,957	1,182,261	83,305	7.6%

II. IP address

By the end of Jun 2011, there were 332 million IPv4 addresses in China, grew by 19.4% compared with those at the end of 2010. In Feb 2011, IANA allocated the last 5 'A's to the five major RIRs, indicating the global IPv4 address database has been exhausted. In Apr. 2011, APNIC declared the IPv4 addresses of Asia and Pacific Region have also been allocated, and the last 'A' will only be used in IPv6 transition. The sub-address databases of the five major RIRs will be exhausted successively during 2011-2015, and the global IPv4 addresses will be exhausted in the true sense.

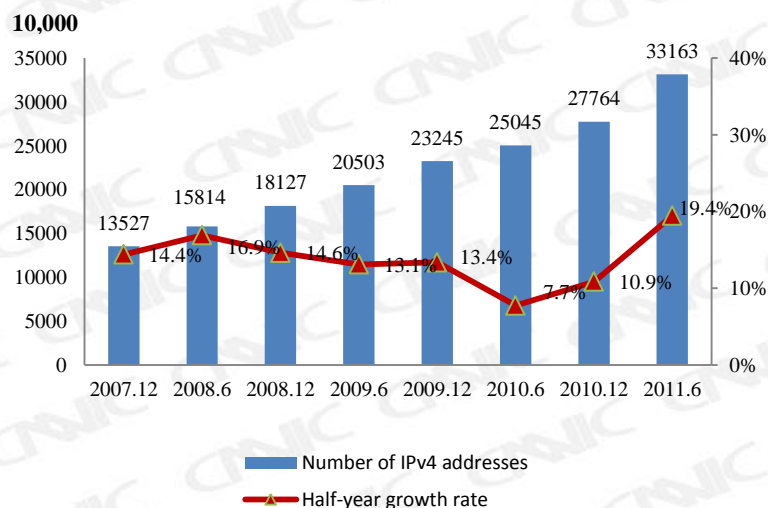


Fig 14 Variation of IPv4 address resource in China

By the end of Jun 2011, there were 429 blocks/32 IPv6 addresses in China. As the development of China's IPv6 is relatively late, and its IPv6 address resource is lagged far behind Brazil, the USA, Japan, German and some other countries, it's currently ranking the 15th place in the world.

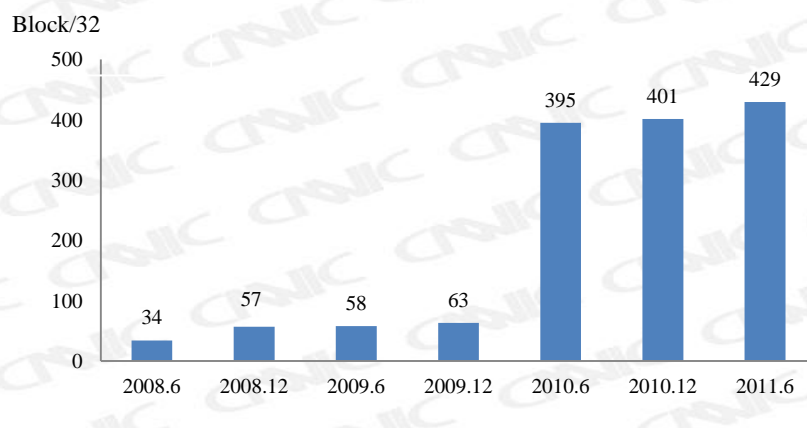


Fig 15 Variation of IPv6 address resource in China

III. Domain name

By the end of Jun 2011, the total number of domain names reached 7.86 million in China, including 3.70 million .COM domain names, covering 47.1% of total number of China's domain names, and including 3.50 million .CN domain names, covering 44.6%.

Table 2 Number of classified domain names in China

	Number	Proportion
COM	3,703,538	47.1%
CN	3,502,288	44.6%
NET	518,062	6.6%
ORG	120,479	1.5%
Others	17,033	0.2%
Total	7,861,400	100%

Among the current CN domain names, second level domain names (SLD) with suffix .CN cover the largest proportion, about 61.1% of the total .CN domain names, and .COM.CN domain names follow the second, covering 30.5%.

Table 3 Number of classified CN domain names in China

	Number	Proportion
cn	2,139,063	61.1%
com.cn	1,067,759	30.5%
net.cn	133,838	3.8%
gov.cn	51,865	1.5%
adm.cn	51,784	1.5%
org.cn	51,077	1.5%
edu.cn	3,863	0.1%
ac.cn	3,018	0.1%
mil.cn	21	0.0%
Total	3,502,288	100%

IV. Website

As of the end of Jun 2011, China has 1.83 million websites, i.e. websites owned by domain name registrants within Chinese territory (including both domestic access and overseas access).

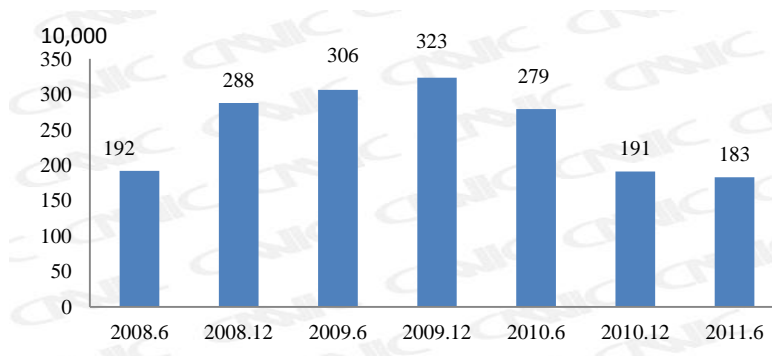


Fig 16 Variation in the number of websites in China
The 28th Statistical Report on Internet Development in China
Page 24/ 58

Note: Websites under .EDU.CN are not covered in the data.

V. Network international export bandwidth

International export bandwidth of China has seen constant development, and reached 1,182,261.45 Mbps by the end of Jun 2011, with the half-year growth rate standing at 7.6%.

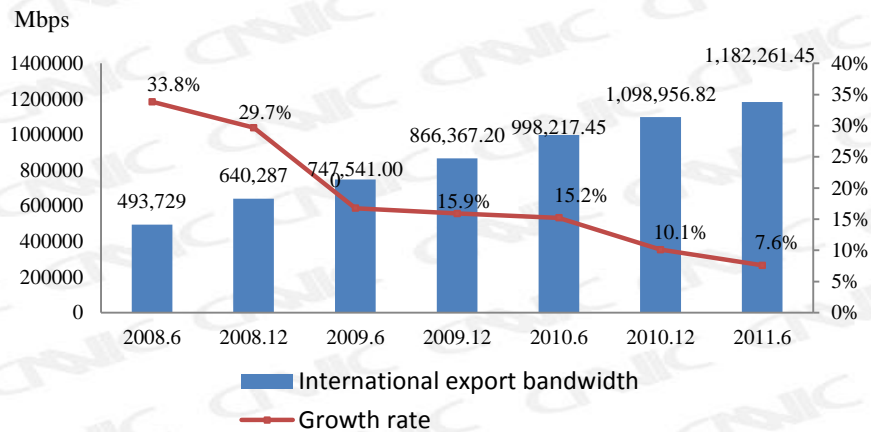


Fig 17 Variation of international export bandwidth of China

Table 4 International export bandwidth of backbone networks

	International export bandwidth (Mbps)
China Telecom	678,898.45
China Unicom	399,207
China Mobile	72,869
China Science & Technology Network	19,630
China Education and Research Network	11,655
China International Economy and Trade Net (CIETnet)	2
Total	1,182,261.45

Chapter IV Internet Application of Netizens

I. Overall condition of Internet applications

In the first half of 2011, the first five network applications with the most audience are search engine (79.6%), instant messaging (79.4%), online music (78.7%), online news (74.7%) and blog/personal space (65.5%) respectively. The top three applications growing the rapidest are blog (208.9%), group buying (125.0%) and online payment (11.7%). Seen from the data, the current Internet applications among Chinese netizens mainly show the following features:

Utilization ratio of instant messaging increased to the second largest application

At present, instant messaging users have reached 385 million, utilization ratio of applications has stepped up from 77.1% at the end of 2010 to 79.4%, with the half-year growth rate standing at 9.2%. Instant messaging has grown into the second most popular application, subordinate only to search engine which has 386 million users.

Blog application swells, and the growth rate of subscribers exceeds 200%

In the first half of 2011, the number of Chinese blog users soared from 63.11 million to 195 million, increasing 132 million in half a year, with a growth rate as high as 208.9%, and the utilization ratio among netizens hiked from 13.8% to 40.2%. The application of mobile phone blog also became a spotlight, the proportion of mobile phone netizens using blogs has risen from 15.5% at the end of 2010 to 34.0%.

Business application sees steady development, and the application of group buying grows rapidly

After the rapid growth during 2009-2010, business application has been undergoing a relatively flat development period. The utilization ratios of most business applications have been increasing, for instance, the utilization ratio of online shopping increased to 35.6%, achieved 12.15 million new users in half a year, with a growth rate as high as 7.6%; the application of group buying sees a rapid development trend, the users hit 42.20 million, the utilization ratio increased from 4.1% to 8.7%, with the growth rate as high as 125.0%. The utilization ratios of both online bank and online payment also see slight increase, online payment users have reached 153 million,

increased by 11.7% in half a year.

Entertainment application cools down, but still with a large user scale

The utilization ratio of entertainment application remains at a flat or sliding state. In the first half of 2011, users of online games and online music were 311 million and 382 million respectively, with utilization ratios dropped by 2.3% and 0.5% respectively compared with those at the end of 2010. There are currently 301 million online video users, approximately equal to those at the end of previous year. Relative “decline” of entertainment application and the steady “rise” of business application indicate the elevation of netizens’ network application level.

Table 5 Utilization ratios of various network applications during Dec 2010 and Jun 2011

Application	Jun 2011		Dec 2010		Half-year growth rate
	Users (10,000)	Utilization ratio	Users (10,000)	Utilization ratio	
Search engine	38,606	79.6%	37,453	81.9%	3.1%
Instant messaging	38,509	79.4%	35,258	77.1%	9.2%
Online music	38,170	78.7%	36,218	79.2%	5.4%
Online news	36,230	74.7%	35,304	77.2%	2.6%
Blog/personal space	31,768	65.5%	29,450	64.4%	7.9%
Online games	31,137	64.2%	30,410	66.5%	2.4%
Online video	30,119	62.1%	28,398	62.1%	6.1%
E-mail	25,172	51.9%	24,969	54.6%	0.8%
Social networking website	22,989	47.4%	23,505	51.4%	-2.2%
Online literature	19,497	40.2%	19,481	42.6%	0.1%
Microblog	19,497	40.2%	6,311	13.8%	208.9%
Online shopping	17,266	35.6%	16,051	35.1%	7.6%
Online payment	15,326	31.6%	13,719	30.0%	11.7%
Online bank	15,035	31.0%	13,948	30.5%	7.8%
Forum/BBS	14,405	29.7%	14,817	32.4%	-2.8%
Online stock	5,626	11.6%	7,088	15.5%	-20.6%
Group buying	4,220	8.7%	1,875	4.1%	125.0%
Travel booking	3,686	7.6%	3,613	7.9%	2.0%

(I) Acquisition of information

1. Search engine

As of the end of Jun 2011, search engine users had grown to 386 million, increased 11.53 million compared with those at the end of 2010, half-year growth rate: 3.1%, and utilization ratio: 79.6%.

At the user level, search engine continues its steady growth since it replaced online music and became the most popular Internet service in 2010. The growth of search engine users attributes to: firstly, there is huge volume of information on Internet and it keeps rapid growth, netizens need an effective tool to achieve information; secondly, music search, video search, location search and other services are introduced to search engine, and the utilization ratio and utilization adhesiveness are largely elevated; and finally, search engine isn't merely an information searching tool, it has become an Internet portal application similar to traditional portal websites since the introduction of news, blogs, SNS and other services and the opening-up of platforms.

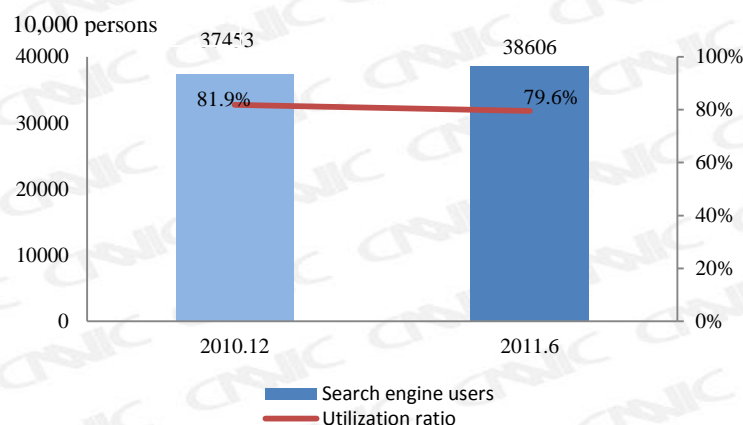


Fig 18 Number of users and utilization ratio of search engine during Dec 2010 – Jun 2011

2. Online news

By the end of Jun 2011, online news users have reached 362 million, utilization ratio: 74.7%, decreased by 2.5% compared with that at the end of 2010. The users increased 9.26 million in the past six months, with the growth rate standing at 2.6%.

Online news has a huge size of users, but its utilization ratio declines. As one of the basic applications of netizens, online news may grow with the increase of netizens. In addition, online news excels traditional medias in timeliness, interaction, etc, moreover, the introduction of video and other contents further strengthened its advantages and attracted more audience. Meanwhile, there are some problems in the increase of online news utilization ratio: first, microblog and other emerging information dissemination channels have certain influence on the utilization of traditional online news; secondly, Chinese Internet is gradually penetrating into the population with low educational level and old age, who have less needs on online news, and as a result, it's difficult to increase the overall penetration rate of online news.

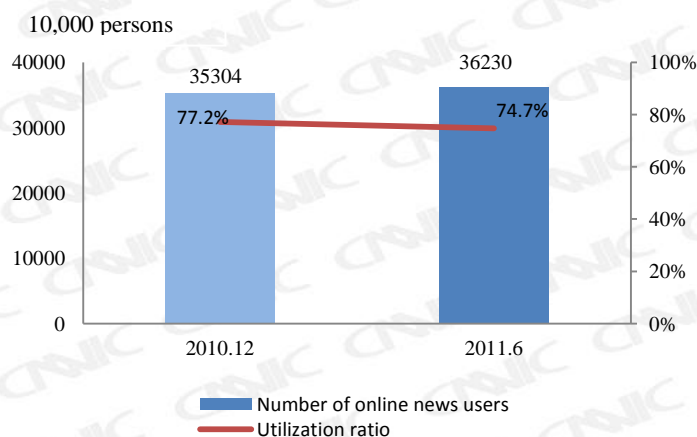


Fig 19 Number of users and utilization ratio of online news during Dec 2010 – Jun 2011

(II) Business transaction

1. Online shopping

By the end of Jun 2011, online shopping users had reached 173 million, the utilization ratio risen to 35.6%, half-year increase of users grown by 7.6%, but the growth is now slowing down.

After rapid growth of online shopping users during 2009-2010, Chinese online shopping market is currently undergoing the transition from unorderedly country fair model toward the age of brand and quality. In the first half of 2011, in addition to the expansion of comprehensive B2C shopping websites, some vertical and personalized boutique shopping websites are also embracing a new development opportunity; some service providers continue to expand market for some new products, and the market capacity is still increasing. However, the consumer confidence is declining due to the increasing frauds and security problems in online shopping market which are also the main obstacles (besides payment, logistics and other problems) impeding the rapid development of online shopping market.

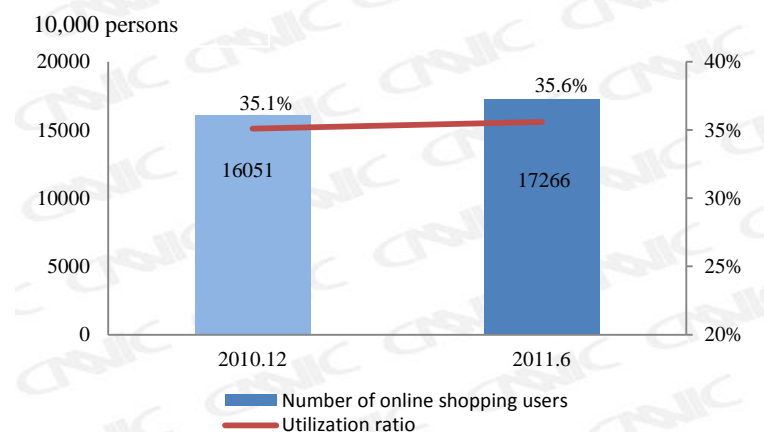


Fig 20 Number of users and utilization ratio of online shopping during Dec 2010 – Jun 2011

2. Group buying

In the first half of 2011, Chinese users of group buying grew from 18.75 million at the end of 2010 to 42.20 million in middle 2011, with the half-year growth rate as high as 125.0%.

Since the debut of group buying since 2010, the service websites have witnessed rapid growth. Although it's unorderedly and criticized by people, group buying meets the service demands of netizens, and it fills a blank in the market. It's predictable that online group buying will become a normal composing part in netizens' life.

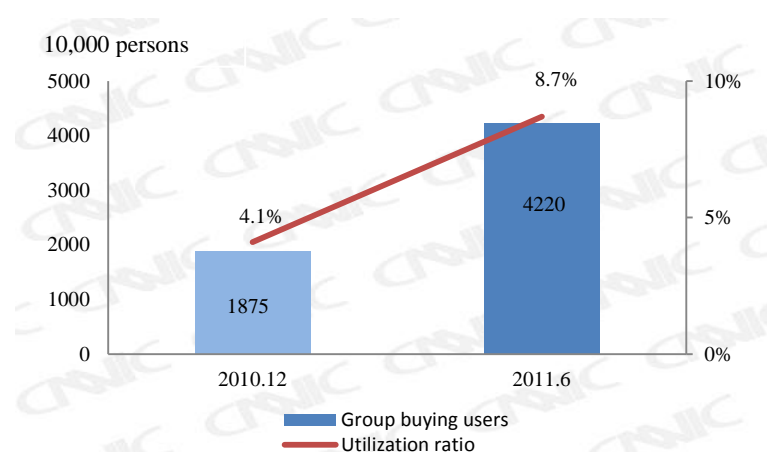


Fig 21 Number of users and utilization ratio of group buying during Dec 2010 – Jun 2011

3. Online payment

In the first half of 2011, Chinese users of online payment grew from 137 million at the end of 2010 to 153 million, increased by 11.7%, about 16.07 million.

With the rapid development of e-business in China, online payment, one of the key pillars of e-business, also achieved relatively rapid growth, and it's currently at a steady development stage. With the active participation of various financial institutions and the improvement of online payment related regulatory system, online payment will be further popularized among netizens. There are 900 million mobile phone SIM numbers and 318 million mobile phone netizens. With the establishment of relevant standards and policy for mobile phone payment, operators, banks and other institutions are having an overall arrangement on mobile phone payment, mobile phone payment is also expected to realize a leap.

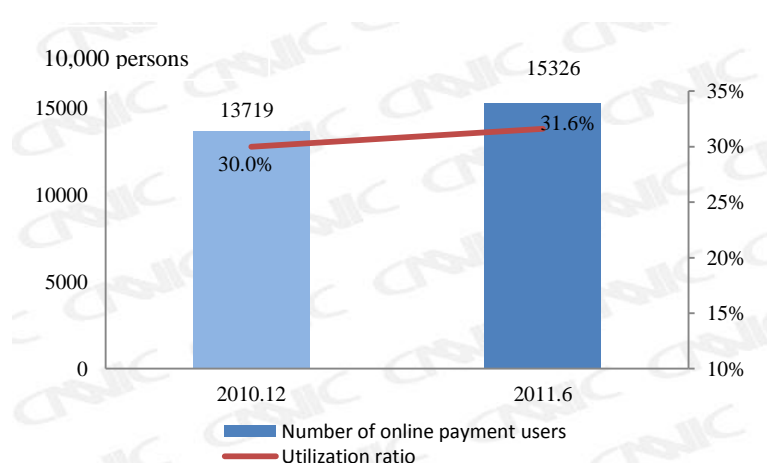


Fig 22 Number of users and utilization ratio of online payment during Dec 2010 – Jun 2011

4. Travel booking

By the end of Jun 2011, Chinese users of travel booking increased to 36.86 million, The 28th Statistical Report on Internet Development in China

utilization ratio: 7.6%. The users increased 730,000 compared with those at the end of 2010, half-year growth rate: 2%.

In 2011, the tourism market embraced a good opportunity. With the per-capita GDP exceeding USD 3,000 (a key point) in China, the consumption structure of residents was upgraded, people's tourism demands was stimulated, and the concept of recreation and tourism was enhanced. Meanwhile, with the coming of high-speed railway age, traffic condition was further improved, and restricting factor of distance was further weakened. However, China has a relatively complete offline booking service, the recognition of online booking is relatively low, there isn't strong impetus driving users to use travel booking, as a result, the users of travel booking service are relatively stable, and the increase of new users is relatively slow. Seen from the development of market, agent websites and service providers' websites saw rapid development in the first half of 2011, the status of vertical tourism search rose to some extent, and group buying of tourism became a hotspot in the group buying market. The mode of group buying plays an effective role in shutting tourists based on the situations of hotels and tourism routes, and such service mode has been extensively applied on key tourism agent websites, portals and BBS. This helps cultivate users' habit of booking and facilitate daily tourism consumption, accelerating the normalization of travel consumption.

With people's growth of travel demands, especially the increase of the proportion of recreative DIY travel and as well as the publicity and guidance of service providers, users may use more online travel booking service. Travel booking service is expected to have a relatively big space of growth in the future.

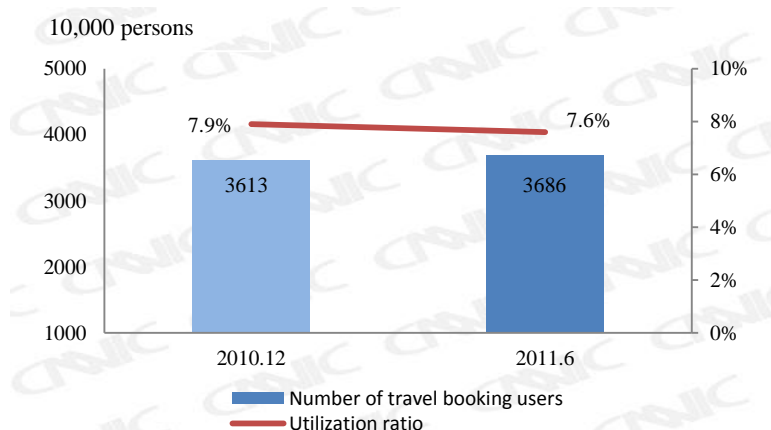


Fig 3 Number of users and utilization ratio of travel booking during Dec 2010 – Jun 2011

(III) Communication

1. Instant messaging

As of the end of Jun 2011, there were 385 million instant messaging users in China, increased 32.51 million, growth rate: 9.2%. The utilization ratio of instant messaging rebounded to 79.4%.

Thanks to the development of mobile Internet, the utilization ratio of instant messaging began to rise again in recent two years after a period of sliding, and mobile phone is currently the most frequently used mobile Internet application. This field has become a cut-in point for many manufacturers, and a variety of mobile phone instant messaging tools were launched onto the market in 2011, not only including traditional mobile phones edition for instant messaging; mobile terminal manufacturers, mobile service operators, software developers and other enterprises started to expend their business into this field, attempting to providing portal products in the Internet age. In the traditional Internet field featuring relatively centralized instant market and relatively stable situation, some enterprises began to adjust their respective development strategy, many instant messaging products launched account interconnection service, and support users to use third-party applications directly by customer interface, and platform and opening-up became an important trend.

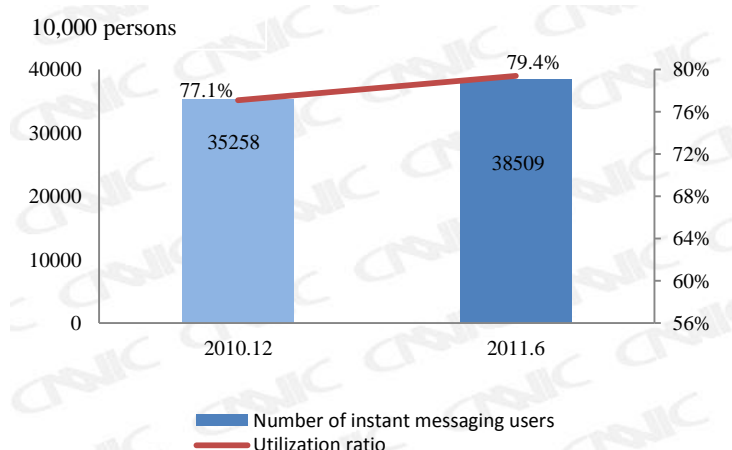


Fig 24 Number of users and utilization ratio of instant messaging during Dec 2010 – Jun 2011

2. Blog/personal space

As of the end of Jun 2011, there were 318 million users of blog and personal space, increased 23.18 million compared with those at the end of 2010, growth rate: 7.9%. The utilization ratio of blog and personal space was 65.5%, 1.1% slightly higher than that at the end of the previous year.

Blog/personal space has become a basic component of many network applications. Although the living space of pure blog websites is squeezed, its social networking capacity is greatly enhanced owing to the introduction of instant messaging and SNS into blog and personal space, and this is the main impetus driving the constant rise of blog and personal space: although traditional blog allows users producing contents, but its limited openness and connectivity

constrain the dissemination of contents, however, IM product remedied such defect after integrating personal space, and built up a content promoting and sharing mechanism based on the social relations of users. Recently, the concept of “light blogging” became popular, it overcame the disadvantages of high threshold and poor sociability of blog and fragmentation of microblog, and became another spotlight in the sector. As we can see, blog, the earliest web2.0 application is changing its form constantly with the innovation of Internet application.

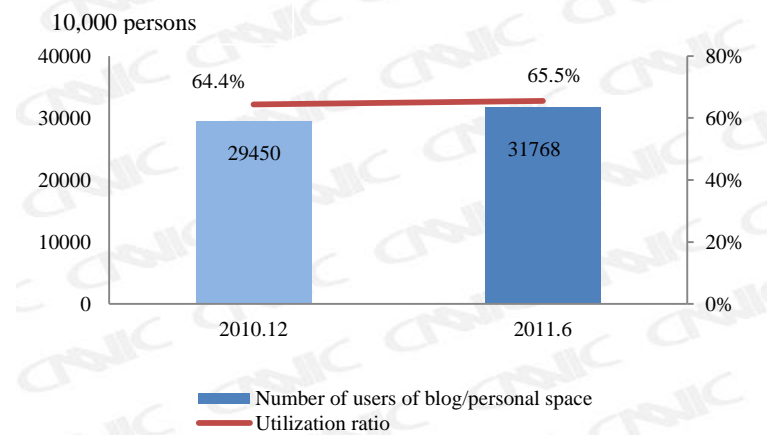


Fig 25 Number of users and utilization ratio of blog/personal space during Dec 2010 – Jun 2011

3. Microblog

In the first half of 2011, the scale of microblog users remained a trend of soaring growth. By the end of Jun 2011, the number of Chinese microblog users hit 195 million, doubled in six months, growth rate: 208.9%. Its utilization ratio grew from 13.8% to 40.2%, and it became an Internet application with the fastest growth.

Diversified features of microblog attracted myriads of users immediately: firstly, microblog is brief in form, strong in function, and supports texts, graphs, videos and other multimedia information which give users good experience; secondly, the two-way relations between microblog users enable users to establish a network on which strong relations and weak relations coexist, as a result, the demands of multi-level social contact can be satisfied; thirdly, seeing that microblog may become a main platform for information dissemination and a new portal of Internet, many portal websites devote a great deal of energy to develop microblog business, and successfully attract a myriad of users by advertising, celebrity effect and other strategies; finally, due to concerning and being concerned, the users form a huge dissemination network through microblogs, as a result, information can be disseminated rapidly like virus. That’s why microblog immediately became a very influential media featuring high timeliness, and this also brought popularity to the microblog, and boosted the increase of users.

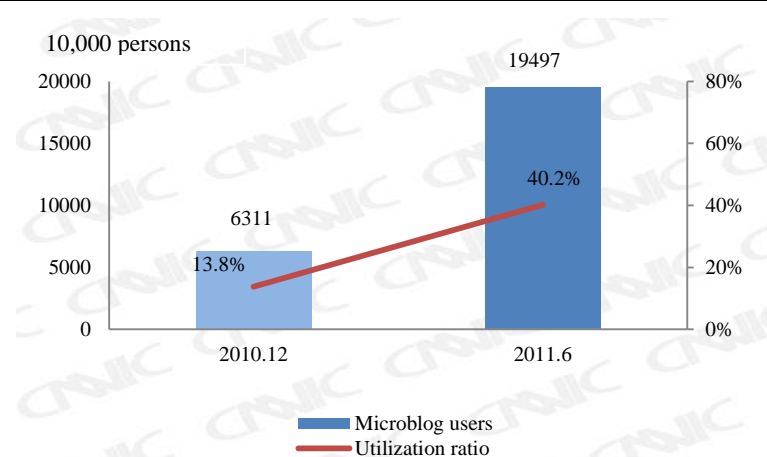


Fig 4 Number of users and utilization ratio of microblog during Dec 2010 – Jun 2011

4. Social networking website

As of the end of Jun 2011, Chinese users of social networking websites reached 230 million, reduced by 2.2%, about 5.16 million, compared with those at the end of 2010, and the utilization ratio also dropped from 51.4% at the end of the previous year to 47.4%. The development of Chinese social networking websites are encountered with a bottleneck, and the size of users is shrinking.

Since 2010, SNS heat recedes gradually. As it had been placing too much weight on games application, it failed to maintain the attractiveness to users, and this leads to declining utilization adhesiveness and loss of users. In response to the situation, key domestic social networking websites are accelerating the pace of adjustment this year, trying to enhance users' social networking experience and mobile experience by improving a series of functions, continue to further open up platforms, integrate with e-business and expand profitable channels, for the purpose of establishing their websites into platforms integrating the social networking, e-business and other behaviors in the daily life of users, rather than merely for the purpose of entertainment. However, they're faced with multiple challenges, and unable to retrieve the situation of customer loss. At present, constant update of games application is still the main strategy of domestic SNS. Among others, the challenge from microblog is particularly remarkable, its users increased over two times compared with those in the first half of 2011, grabbed a lot of user resources and their online time.

Although the increase of specialized SNS website users turns stagnated, the concept of SNS is well accepted in the industry. Many domestic enterprises expanded their business into this field, key microblog, e-business and other enterprises attempt to integrate SNS gene into their existing products, achieving the SNSization of the products. Domestic Internet enterprises are unremittingly exploring the way to correct the deviation of excessive entertainment during the

SNS development process in China, so as to give full play to the practical and instrumental features of SNS, which becomes the constantly exploring direction of the domestic internet industry.

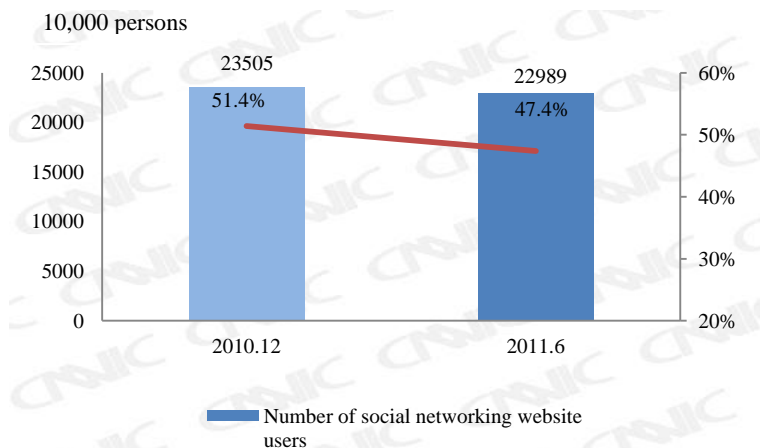


Fig 27 Number of users and utilization ratio of social networking websites during Dec 2010 – Jun 2011

(IV) Online entertainment

1. Online games

As of the end of Jun 2011, there were 311 million online games users, increased by only 2.4% compared with those at the end of 2010, about 7.27 million. Meanwhile, the utilization ratio of users also declined to 64.2% from 66.5% at the end of 2010.

Since 2010, the growth of Chinese network games users has entered into a flat period: firstly, online games has undergone long-term development, and it's difficult to realize essential transformation in either contents or form; in addition, long-term use makes users tired of existing games products, and finally leads to loss of users; on the other hand, online games have a huge user base, and the growth of users is relatively slow if there aren't new games available. Under the impact of the above two points, the overall growth of Chinese online games users slows down. In the future, the breakdown of Chinese online games will become more and more important; to operators, more attention should be attached to transformation of users among different types of games, and finding the product demands of different customers; meanwhile, the development of mobile Internet also created certain market space for the development of mobile phone games.

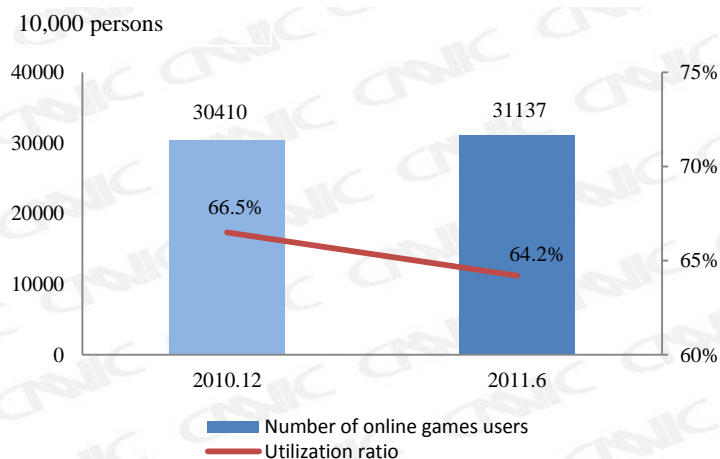


Fig 28 Number of users and utilization ratio of online games during Dec 2010 – Jun 2011

2. Online literature

As of the end of Jun 2011, there were 195 million online literature users in China, basically equal to those at the end of 2010, the penetration rate dropped slightly to 40.2% from 42.6% in Dec 2010.

Since 2008, the growth of online literature users has slowed down gradually owing to the impact of netizens structure, contents of online literature and other factors. Online literature users are mainly young people, but the proportion of young netizens has been shrinking in recent years, and this reduced the overall utilization ratio of online literature to a certain extent. Besides, homogeneity of literature contents in the online literature market is also a key reason for the declination of utilization ratio of online literature. Typed and pipelined creation of literature for meeting readers' preference may also lead to excessive monotonic literature products, and therefore affect the readers' reading experience and willingness. This also reminds literature websites and authors to take a long view on the online literature market, and achieve sustainable development by innovation.

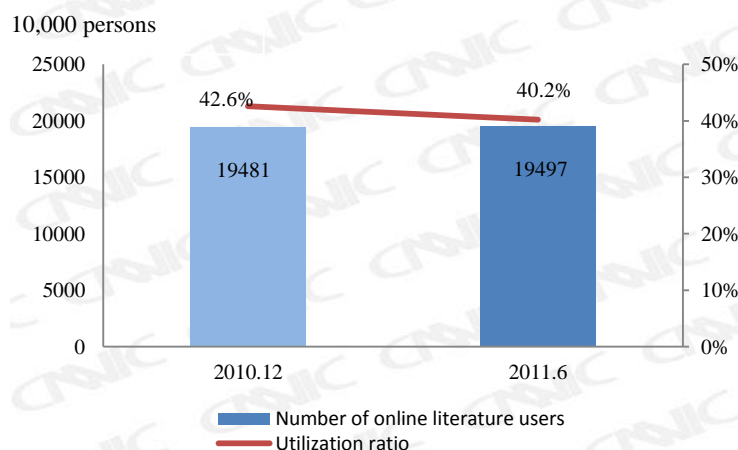


Fig 29 Number of users and utilization ratio of online literature during Dec 2010 – Jun 2011

3. Online video

Online video remained steady growth, Chinese users reached 301 million in Jun 2011, the utilization ratio was as high as 62.1%, identical with that at the end of 2010, the users increased by 6.1% in six months.

Online video industry entered into a flat period after rapid development. As an Internet service the most similar to offline TV, online video service is one of the most popular services, but it's also faced with the challenge of profit winning capability, e.g. the costs on copy rights and broadband are relatively high, whereas the video advertisement price is relatively low and the pay mode can hardly take shape, and these are currently main obstacles against video websites.

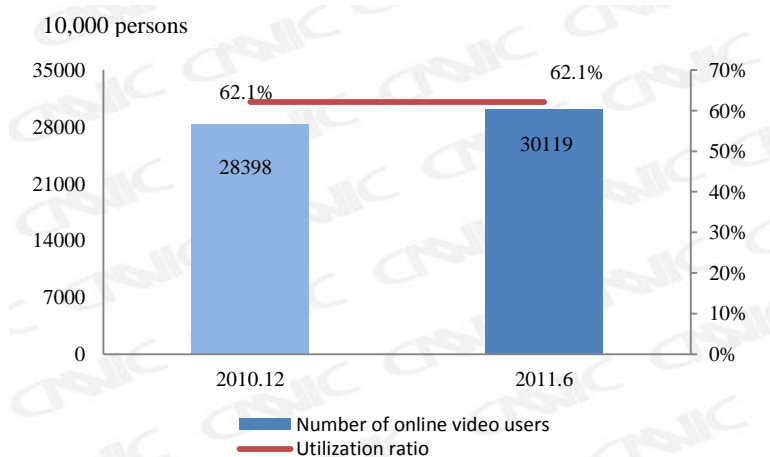


Fig 30 Number of users and utilization ratio of online video during Dec 2010 – Jun 2011

II. Situation of mobile phone Internet application

(I) Mobile phone Internet application universally deepened

In the first half of 2011, the online application by mobile phone was further deepened among mobile phone netizens, and the utilization ratio of each application rose to a certain extent. The rankings of various online applications by mobile phone haven't any remarkable changes, the top three are identical with those in the second half of 2010.

In the first half of 2011, instant messaging was still the most popular application among online applications, with utilization ratio as high as 71.8%, increased slightly based on 67.7% at the end of 2010. Large user group, high pre-installation rate of instant messaging software and other factors strongly guaranteed the popularity of instant messaging application of mobile phone.

Secondly, utilization ratio of online news ranks the 2nd place among the online applications by mobile phone, reached 62.6%, increased slightly compared with that at the end of 2010. As mobile phones are always with users and convenient in communication, online information acquisition among the mobile phone internet application is relatively popular.

Utilization ratio of searching ranks the 1st place among overall online applications of netizens, but it only ranks the 3rd place in online applications of mobile phone, about 59.5%, slightly increased compared with that at the end of 2010. Such difference results from the difference between the Internet access methods of mobile phone and PC. PC has better presentation effect and Internet surfing based on browser is relatively popular; but the disadvantages of mobile phone lie in input and presentation, as a result, the customer-end model gradually encroaches the Internet access mode of webpage browsing, whereas, the foundation of mobile phone search is the Internet access mode of webpage browsing. Therefore, search engine doesn't have the highest utilization ratio in Internet access by mobile phone.

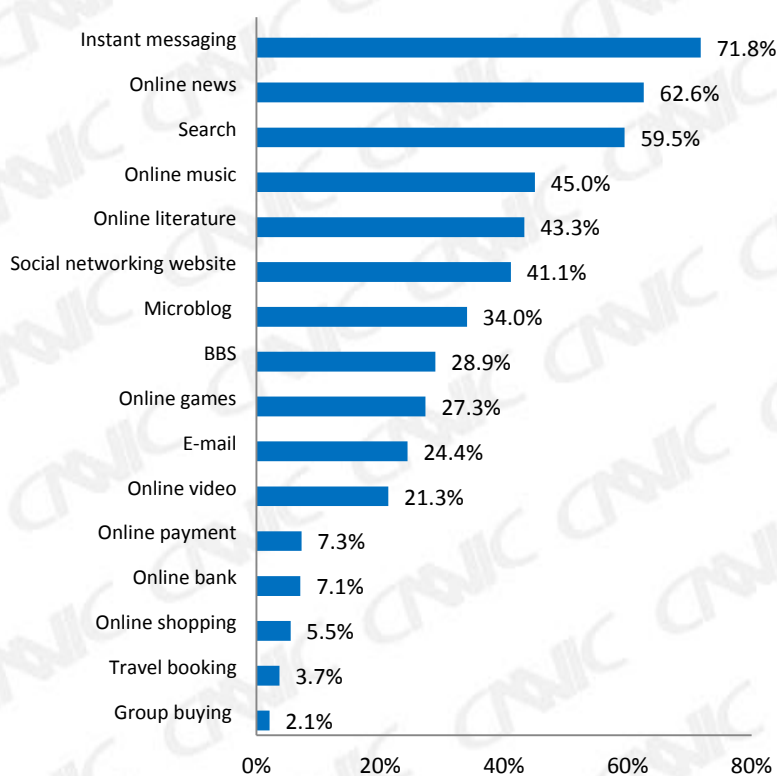


Fig 31 Network application of mobile phone netizens

(II) Mobile phone microblog becomes the highlight of online application of mobile phone

Mobile phone microblog was the mobile phone application boasting the rapidest growth in

the first half of 2011. Although mobile phone microblog doesn't have a high utilization ratio, it's growing at an amazing pace. In the first half, the utilization ratio of mobile phone microblog among mobile phone netizens hit 34.0%, increased 18.5% from 15.5% at the second half of 2010. The rapid development of mobile phone microblog has two contributors: firstly, the rapid development of microblog in 2011 laid a solid foundation of mobile phone microblog users; secondly, microblog is an application that can give full play of its advantages in Internet access, and this will increase the utilization ratio of mobile phone microblog service.

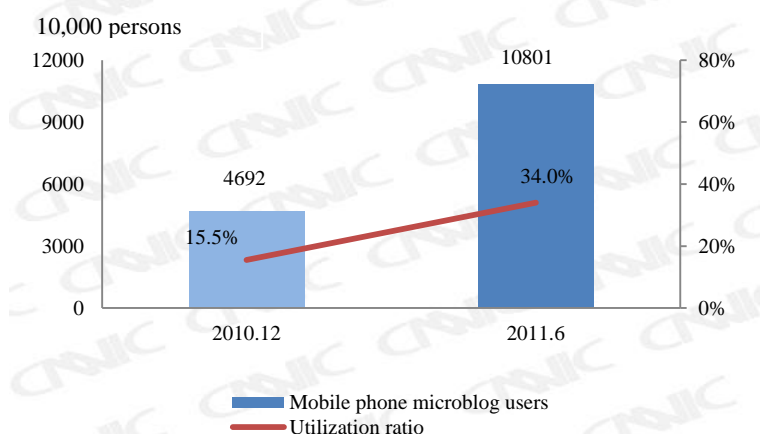


Fig 32 Development of mobile phone microblog users

(III) Mobile phone Internet still focuses on low-flow application

In the first half of 2011, 3G service started rapid development, but there were still not so many 3G users in general. The data of Ministry of Industry and Information Technology indicate that Chinese 3G users have reached 73.76 million (including partial 3G modems, 3G fixed-line telephones) by the end of May 2011, but the total mobile phone users reached 910 million, thus, 3G users cover a small proportion among mobile phone users. Therefore, most mobile phone users still access to Internet by 2G narrow-band, and cannot smoothly use online videos and other Internet applications.

On the other hand, mobile phone Internet fee is still high, the mainstream mobile phone Internet service package is still below 100MB, this also restricted the application of mobile phone Internet.

Restricted by the above two factors, broadband mobile service hasn't yet become the mainstream of mobile phone Internet, and the ranking of mobile phone Internet is lagged behind some high-traffic Internet applications such as online music, online video, online games, etc.

(IV) Proportion of software installed in mobile phone increases constantly

With the popularity of smart phones, the proportion of mobile phone netizens installing software in mobile phones will increase further to reach 46.8%. With the continuous increase of popularity of software installed in mobile phones, application services based on customer ends will gradually exceed the browsing service based on webpage, and become a mainstream of mobile phone Internet application.

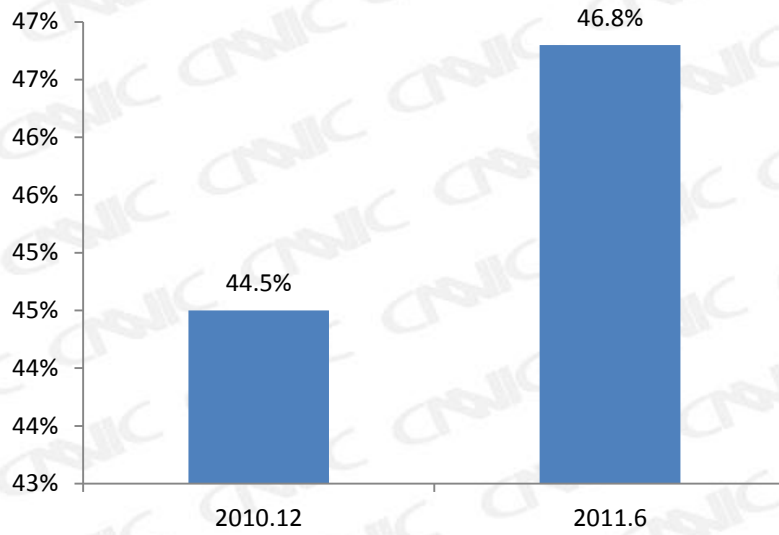


Fig 33 Proportion of mobile phone netizens installing mobile phone software

Chapter V Internet Security

Environment

I. Basic security of Internet applications

Network security is the precondition for the development of Internet applications. In the first half of 2011, 217 million netizens were infected by virus or attached by Trojan Horse, covering 44.7%, declined by 1.1% compared with that at the end of 2010, but netizens that encountered virus and Trojan Horse attack increased 7.35 million, reached 217 million.

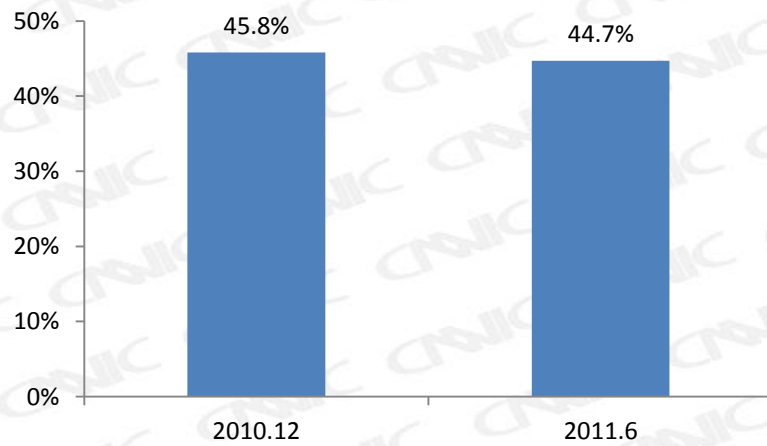


Fig 34 Proportion of netizens encountered with virus or Trojan Horse attack in half a year

In the first half of 2011, 121 million netizens experienced theft of account number or password, increased 21.07 million in half a year, covering 24.9% of the total number of netizens, increased 3.1% compared with that at the end of 2010.

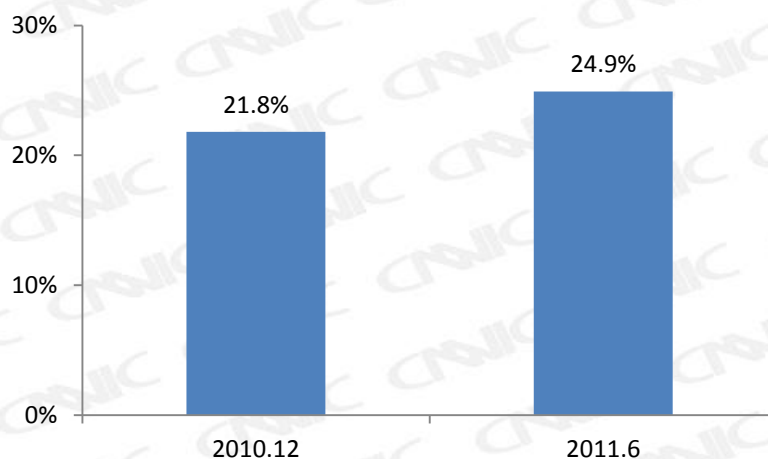


Fig 35 Proportion of netizens encountered with theft of account number or password in half a year

II. Online consumption security environment

Rapid development of commercial applications gave rise to frauds and crimes and other problems during online transaction. A secure online consumption environment is not only an important factor improving the existing frequency of use and attracting new users, but also an important guarantee for the sound development of the industry and the orderly operation of enterprises.

In the first half of 2011, 8% netizens were encountered with frauds during online consumption. Such frauds aroused the worries and resistance to commercial applications of Internet, and hindered the sustainable development of commercial applications. To boost the deepening of commercial application among netizens, the administrative agencies need to improve relevant laws, regulations and regulatory system as soon as possible, and jointly maintain a green, healthy online consumption environment by involving the participation of the government, enterprises, trade associations and users.

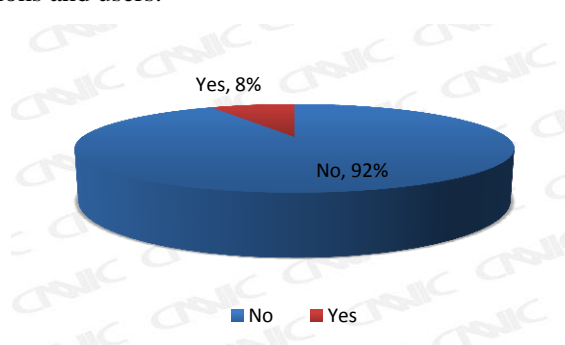


Fig 36 Whether encountered with fraud during online consumption in half a year

Appendix 1 Table of Basic Internet Resources

Table 1 Number of IPv4 addresses in each region of China

Region	Number of addresses	Equivalent number
Mainland China	331,626,752	19A+196B+57C
Taiwan	35,375,360	2A+27B+201C
Hong Kong Special Administration Region	10,280,704	156B+223C
Macau Special Administration Region	324,864	4B+245C

Source: APNIC and CNNIC

Table 2 Allocation of IPv4 addresses among the organizations in Mainland China

Organization name	Number of addresses	Equivalent number
China Telecommunications Corporation	125727488	7A+126B+115C
China United Network Communications Corporation	69732608	4A+40B+9C
China Mobile Communications Corporation	49905664	2A+249B+128C
China Education and Research Network	16649728	254B+14C
China Tietong Telecom	15795200	241B+4C
State Information Center	4194304	64B
Great Wall Broadband Network Service Co., Ltd.	2146304	32B+192C
Beijing Education Information Network Service Center Co., Ltd.	2097152	32B
Beijing Teletron Telecom Engineering Co., Ltd.	1725440	26B+84C
Oriental Cable Network Co., Ltd. (OCN)	1662976	25B+96C
HiChina Zhicheng Technology Ltd.	1261568	19B+64C
China Cable Television Network Co., Ltd.	1187840	18B+32C
China Great Wall Telecommunication Technology Development Center	1056768	16B+32C
Beijing Chengyi Times Network Technology Engineering Co., Ltd.	1048576	16B
CECT-CHINACOMM COMMUNICATIONS Co.,Ltd.	1011712	15B+112C
Beijing Gehua CATV Network Co., LTD.	999424	15B+64C
China Science & Technology Network	927744	14B+40C
21 Viatnet Group, Inc.	903168	13B+200C

Beijing Bitong United Network Technology Service Co., Ltd.	786432	12B
Beijing Weishi Chuangjie Technology Development Co., Ltd.	720896	11B
Shenzhen Topway Video Communication Co., Ltd.	720896	11B
Beijing Founder Broadband Network Service Co., Ltd.	663552	10B+32C
Beijing Xinbilin Telecom Technology Co., Ltd.	589824	9B
Beijing Kuandaitong Telecom Technology Co., Ltd.	557056	8B+128C
CNCBB	557056	8B+128C
Huabei Oil Communication Corporation Information Center	557056	8B+128C
Beijing Kuancom Network Technology Co., Ltd.	524288	8B
WASU	524288	8B
CITIC Networks	524288	8B
Shaanxi Broadcast & TV Network Intermediary (Group) Co., Ltd.	503808	7B+176C
SOIDC	479232	7B+80C
Beijing Shidai Hongyuan Telecom Technology Co., Ltd.	458752	7B
JiNan TianDi Network Tech Corp.	458752	7B
Daqing Zhongji Petroleum Telecommunication Construction Co., Ltd.	438272	6B+176C
FibrLINK Communications Co., Ltd.	407552	6B+56C
SRIT NETeck Co., Ltd.	385024	5B+224C
Jiangxi Broadcast & TV Network Transmission Co., Ltd.	327680	5B
Guangzhou Digital Media	327680	5B
ChinaCach	294912	4B+128C
Foshan Ruijiang Technology Co., Ltd.	278528	4B+64C
Jinan Broadcast & TV Jiahe Broadband Network Co., Ltd.	270336	4B+32C
Shanghai Atm Network Technology Co., Ltd.	262144	4B
ChinaFIC	262144	4B
Hubei Chutian Shitong Network Co., Ltd.	262144	4B
Guangdong CATV Network Co., Ltd.	262144	4B
Shenzhen Zhongtian Network Technology Co., Ltd.	262144	4B
Chongqing CATV Network Co., Ltd.	262144	4B
263 Network Communications Co., Ltd.	259072	3B+244C
Shanghai Aorong Information Technology Service	229376	3B+128C

Co., Ltd.		
Alibaba Cloud Computing Co., Ltd.	204800	3B+32C
China Motion Telecom	204800	3B+32C
Beijing Xirang Media Co., Ltd.	198656	3B+8C
Shanghai Yovole Cloud Computing Network Co., Ltd.	196608	3B
Beijing SINNET Technology Co., Ltd.	189440	2B+228C
Hangzhou Silk Road Telecommunication (SRT)	163840	2B+128C
Pacnet Business Solutions (Shenzhen) Limited	163840	2B+128C
Beijing Alibaba Information Technology Co., Ltd.	147456	2B+64C
Tianjin Broadcast & TV Network Co., Ltd.	144384	2B+52C
Tianjin Ruiding Digital Technology Co., Ltd.	131072	2B
Shenzhen Tencent Computer System Co., Ltd.	131072	2B
SVA Information Industry Co., Ltd.	131072	2B
HSKW	131072	2B
Beijing Dongfang Youchuang Network Technology Co., Ltd.	131072	2B
Henan Xinfei Jinxin Computer Co., Ltd.	131072	2B
Shenzhen Wotong Network Development Co., Ltd.	131072	2B
Shanghai DMT Information Network Co., Ltd.	126976	1B+240C
Beijing Hengchuan Jianye Technology Co., Ltd.	122880	1B+224C
CNISP	122880	1B+224C
Gold-bridge Netcom Telecommunication Co., Ltd.	122880	1B+224C
China Entercom	98304	1B+128C
Langfang Development Zone Huarui Xintong Network Technology Co., Ltd.	82944	1B+68C
Beijing CBD Telecom Co., Ltd.	73728	1B+32C
Coca-Cola Enterprise Management (Shanghai) Co., Ltd.	73728	1B+32C
Beijing Guanghuan Xuntong Digital Technology Co., Ltd.	73728	1B+32C
Beijing Baidu Netcom Science and Technology Co., Ltd.	69632	1B+16C
Shanghai BENALONG Network Technology Co., Ltd.	67584	1B+8C
Hebei TV Network Group Co., Ltd.	66560	1B+4C
Beijing Qianjing Shiji Telecom Technology Co., Ltd.	65536	1B
China International Electronic Commerce Center	65536	1B
GWtel	65536	1B
NETEON	65536	1B
Beijing Channelshare Network Technology (Beijing) Co., Ltd.	65536	1B

Shanghai HPT	65536	1B
Shanxi Datong Coal Mine Group Communication Co., Ltd.	65536	1B
China Network Communication (Chongqing) Co., Ltd.	65536	1B
Beijing Jinfeng Weiye Technology Co., Ltd.	65536	1B
Daqing Oilfield Communication Co., Ltd.	65536	1B
CAPNET	65536	1B
Shenyang Sujiatun District Media Network Co., Ltd.	65536	1B
Beijing Zhirui Zongheng Technology Development Co., Ltd.	65536	1B
China Digital Harbor Technology Co., Ltd.	65536	1B
Liaoning Oriental Star Broadband Co., Ltd.	65536	1B
Sichuan Broadcast & TV Network Co., Ltd.	65536	1B
TravelSky Holding & TravelSky Technology Limited	65536	1B
Beijing Xinnet Digital Information Technology Co., Ltd.	65536	1B
Anhui Provincial Education and Scientific Research Computer Network Center	65536	1B
Shanghai Highway Information Technology Co., Ltd.	65536	1B
Kunshan Wanyu Data Service Co., Ltd.	65536	1B
Pingdingshan Information Communication Technology Co., Ltd. of Zhong Ping Energy Chemical Group	65536	1B
Guangdong Broadcast & TV Network (Zhuhai) Co., Ltd.	65536	1B
Xiamen Broadcast & TV Network Co., Ltd.	65536	1B
Shanghai ViaCloud	65536	1B
Guangdong Takewin Infomation Technology Development Co.,Ltd.	65536	1B
CCTV	65536	1B
Beijing Shanxun Wanglian Telecom Technology Co., Ltd.	65536	1B
Beijing SINA Internet Information Service Co. Ltd.	65536	1B
Zhongguang Cable Information Network (Wenzhou) Co., Ltd.	65536	1B
Airway Communication Group Co., Ltd.	65536	1B
Beijing Yingtong Tiandi Information Consulting Co., Ltd.	65536	1B

Shenzhen NOVA Technology Development Co. Ltd.	65536	1B
Tianjin Xinbei Broadband Digital Network Co., Ltd.	65536	1B
Beijing CNLink Networks Limited	65536	1B
SNDA Computer (Shanghai) Co., Ltd.	65536	1B
Subtotal	317443584	18A+235B+206C
Others	14183168	216B+107C
Total	331626752	19A+196B+57C

Source: APNIC and CNNIC

Note 1: As a NIR certified by APNIC and approved by Ministry of Industry and Information Technology, CNNIC organized ISPs with certain scale and influence to build up an IP address allocation federation. At present, CNNIC Allocation Federation totally has 276 members, holding 74,651,904 IPv4 addresses, about 4.45A. Most of the above listed are members of CNNIC Allocation Federation;

Note 2: Only the organizations with number of IPv4 addresses greater than 1B are listed in the IPv4 address allocation table.

Note 3: The data statistics are as of Jun 30, 2011.

Table 3 Number of IPv6 addresses in China

Region	Number of IPv6 addresses (/32)
Mainland China	429 blocks/32
Taiwan	2326 blocks/32
Hong Kong SAR	70 blocks/32
Macau SAR	2 blocks/32

Table 4 IPv6 address allocation in China

Organization name	Number of IPv6 addresses (/32)
China Telecom	258
China Science & Technology Network	17
BII Group Holding Ltd.	16
China Education and Research Network	16
China Great Wall Telecommunication Technology Development Center	8
China United Network Communications Corporation	2
China Mobile Communications Corporation	2
China Southern Power Grid Co., Ltd.	2
CNNIC	1
China International Electronic Commerce Center	1
Beijing Teletron Telecom Engineering Co., Ltd.	1
China Network Communication (Chongqing) Co., Ltd.	1

TISSON Ruida Communication Technology Company Dongguan Bolu Branch	1
HiChina Zhicheng Technology Ltd.	1
Beijing Software and Information Promotion Center	1
Management Information Department of CITIC Group	1
Oriental Cable Network Co., Ltd. (OCN)	1
Beijing Guxiang Information Technology Co., Ltd.	1
Great Wall Broadband Network Service Co., Ltd.	1
Hangzhou Silk Road Telecommunication (SRT)	1
Pingdingshan Coal Mine Group Communication Technology Development Co., Ltd.	1
Xinhua News Agency	1
Beijing Founder Broadband Network Service Co., Ltd.	1
China Organizational Name Administration Center	1
FibrLINK Communications Co., Ltd.	1
Hangzhou Ali Information Service Co., Ltd.	1
ChinaFIC	1
Hangzhou Koubei Network Technology Co., Ltd.	1
CITIC Networks	1
Shanghai SMARTEL Network Technology Co., Ltd.	1
Shanghai HPT	1
China Satellite Navigation and Communication Co., Ltd.	1
Guangdong Jinwanbang Technology Investment Co.,Ltd.	1
Communication Science And Technology Co., Ltd. Of Changchun FAW	1
Computer Center of NBS	1
Airway Communication Group Co., Ltd.	1
CNISP	1
SVA Information Industry Co., Ltd.	1
Unihub Global Network	1
Communication Department of Zhongyuan Petroleum Exploration Bureau of Sinopec	1
Shanghai Information Network Co., Ltd.	1
Sunway Internet Co., Ltd.	1
Liaohe Oilfield Communication Co., Ltd.	1
Shanghai DMT Information Network Co., Ltd.	1
Beijing Xinnet Technology Development Co., Ltd.	1
Beijing Gao Hua Secuties Co., Ltd.	1
Union Life Co., Ltd.	1
Zhejiang Alibaba E-business Co., Ltd.	1
USTC Network Information Center	1
Shanghai BENALONG Network Technology Co., Ltd.	1
Zhongguancun Software Park Development Co., Ltd.	1
Gold-bridge Netcom Telecommunication Co., Ltd.	1
Chengdu Information Harbor Co., Ltd.	1

China Motion Telecom	1
Beijing Heju Digital Technology Co., Ltd.	1
Beijing Baidu Netcom Science and Technology Co., Ltd.	1
Zhongguang Cable Information Network (Wenzhou) Co., Ltd.	1
Shenzhen Topway Video Communication Co., Ltd.	1
Daqing Zhongji Petroleum Telecommunication Construction Co., Ltd.	1
Guangzhou Etrunk Telecom Network Communication Co., Ltd.	1
Yilong County Broadcast and TV Network Co., Ltd., Sichuan	1
Anhui Provincial Education and Scientific Research Computer Network Center	1
Zhanjiang Wantong Telecom Co., Ltd.	1
Pacnet Business Solutions (Shenzhen) Limited	1
Hangzhou Alibaba Advertisement Co., Ltd.	1
Huabei Oil Communication Corporation Information Center	1
Pingan Technology (Shenzhen) Co., Ltd.	1
Chongqing CATV Network Co., Ltd.	1
China Huadian Corporation	1
Shanghai Chenyu Network Technology Co., Ltd.	1
Shenzhen NOVA Technology Development Co. Ltd.	1
Guangdong Eastern Fibernet Investment Co., Ltd.	1
NETEON	1
Shanghai HPT	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Tianjin Broadcast & TV Network Co., Ltd.	1
WASU	1
Beijing WINTIMES Communication Technology Co., Ltd.	1
Institute of High Energy Physics CAS	1
Shanghai New Vision Information Technology Co., Ltd.	1
Beijing Anlai Information Communication Technology Co., Ltd.	1
Shandong Information Center	1
Hubei Chutian Shitong Network Co., Ltd.	1
Shanghai Yitong Communication Technology Co., Ltd.	1
Shenzhen Tencent Computer System Co., Ltd.	1
Beijing Xirang Media Co., Ltd.	1
Beijing Topnew Information Technology Co., Ltd.	1
Beijing Chengyi Times Network Technology Engineering Co., Ltd.	1
China Relic Information Consultation Center	1
Guangdong CATV Network Co., Ltd.	1
263 Network Communications Co., Ltd.	1

China Cable Television Network Co., Ltd.	1
Beijing CIBONet Technology Co., Ltd. (Guangzhou Branch)	1
Kingdom Union Technology (Beijing) Co., Ltd.	1
Guangdong Broadcast & TV Network (Zhuhai) Co., Ltd.	1
Coca-Cola Enterprise Management (Shanghai) Co., Ltd.	1
Shanghai Data Solution Information Technology Co., Ltd.	1
21 Viatnet Group, Inc.	1
CAPNET	1
CECT-CHINACOMM COMMUNICATIONS Co.,Ltd.	1
Shenzhen HRY Technology Co., Ltd.	1
Beijing Jinfeng Weiye Technology Co., Ltd.	1
Hebei TV Network Group Co., Ltd.	1
CCTV International Network Co., Ltd.	1
Beijing Yingtong Tiandi Information Consulting Co., Ltd.	1
Beijing BTM	1
Beijing Shanxun Wanglian Telecom Technology Co., Ltd.	1
Qingdao CATV Network Co., Ltd.	1
CCTV	1
Qinhuangdao CHINYO Electronics Co., Ltd.	1
Dalian Hutong Technology Development Co., Ltd	1
SNDA Computer (Shanghai) Co., Ltd.	1
Easynet China	1
Total	429

Source: APNIC and CNNIC

Note 1: /32 as shown in the IPv6 address allocation table is a method to present IPv6 addresses, the corresponding number of addresses is $2^{(128-32)} = 2^{96}$.

Note 2: The above data is as of Jun 30, 2011.

Province	Proportion
Beijing	25.5%
Guangdong	9.6%
Zhejiang	5.3%
Shandong	4.9%
Jiangsu	4.8%
Shanghai	4.5%
Liaoning	3.4%
Hebei	2.9%
Sichuan	2.8%
Henan	2.7%
Hubei	2.4%
Hunan	2.4%
Fujian	2.0%

Jiangxi	1.8%
Chongqing	1.7%
Anhui	1.7%
Shaanxi	1.7%
Guangxi	1.4%
Shanxi	1.3%
Jilin	1.2%
Heilongjiang	1.2%
Tianjin	1.1%
Yunnan	1.0%
Inner Mongolia	0.8%
Xinjiang	0.6%
Hainan	0.5%
Gansu	0.5%
Guizhou	0.4%
Ningxia	0.2%
Qinghai	0.2%
Tibet	0.1%
Others	9.7%
Total	100%

Source: APNIC and CNNIC

Note 1: The above IP address statistics are for the provinces where the IP address owners are located.

Note 2: The above data statistics are as of Jun 30, 2011.

Table 6 Number of provincial domain names and number of provincial CN domain names

Province	Domain name		Including: CN domain names	
	Number	Proportion	Number	Proportions
Beijing	1,280,851	16.3%	685,708	19.6%
Guangdong	1,217,017	15.5%	568,224	16.2%
Zhejiang	881,697	11.2%	571,768	16.3%
Shanghai	719,800	9.2%	239,507	6.8%
Fujian	580,612	7.4%	162,126	4.6%
Jiangsu	407,071	5.2%	147,811	4.2%
Shandong	394,951	5.0%	106,877	3.1%
Sichuan	251,198	3.2%	50,851	1.5%
Hebei	234,595	3.0%	54,804	1.6%
Henan	209,726	2.7%	55,348	1.6%
Liaoning	149,970	1.9%	53,922	1.5%
Hubei	146,908	1.9%	64,368	1.8%
Hunan	120,118	1.5%	52,801	1.5%
Chongqing	100,188	1.3%	37,408	1.1%
Shaanxi	92,572	1.2%	29,827	0.9%
Anhui	91,606	1.2%	35,985	1.0%
Tianjin	88,967	1.1%	30,617	0.9%
Heilongjiang	79,700	1.0%	45,929	1.3%
Jiangxi	66,891	0.9%	25,362	0.7%
Shanxi	57,907	0.7%	17,450	0.5%
Jilin	52,517	0.7%	15,469	0.4%
Guangxi	49,281	0.6%	21,271	0.6%
Yunnan	42,425	0.5%	18,133	0.5%
Hainan	37,415	0.5%	10,053	0.3%
Inner Mongolia	32,911	0.4%	12,722	0.4%
Guizhou	26,985	0.3%	10,832	0.3%
Xinjiang	25,812	0.3%	9,430	0.3%
Gansu	18,051	0.2%	7,698	0.2%
Ningxia	17,876	0.2%	9,082	0.3%
Qinghai	12,390	0.2%	2,741	0.1%
Xizang	5,960	0.1%	2,852	0.1%
Others	363,569	4.6%	341,449	9.8%
Total	7,857,537	100%	3,498,425	100%

Note: The number of provincial domains doesn't cover .EDU.CN.

Table 7 Number of provincial websites

	Number	Proportion
Beijing	298,162	16.3%
Guangdong	288,272	15.8%
Zhejiang	193,555	10.6%
Shanghai	187,787	10.3%
Jiangsu	109,984	6.0%
Fujian	101,073	5.5%
Shandong	88,871	4.9%
Sichuan	57,411	3.1%
Henan	54,585	3.0%
Hebei	51,769	2.8%
Hubei	41,766	2.3%
Liaoning	37,862	2.1%
Hunan	33,051	1.8%
Heilongjiang	32,154	1.8%
Chongqing	28,950	1.6%
Shaanxi	24,141	1.3%
Anhui	22,209	1.2%
Tianjin	22,083	1.2%
Jiangxi	14,900	0.8%
Shanxi	13,746	0.8%
Jilin	12,542	0.7%
Guangxi	11,978	0.7%
Yunnan	9,209	0.5%
Inner Mongolia	8,465	0.5%
Hainan	7,877	0.4%
Guizhou	5,741	0.3%
Gansu	4,336	0.2%
Xinjiang	4,239	0.2%
Ningxia	3,079	0.2%
Qinghai	1,681	0.1%
Tibet	1,057	0.1%
Others	57,565	3.1%
Total	1,830,100	100%

Note: The number of provincial websites doesn't cover those under .EDU.CN.

Table 8 Number of websites under .CN

	Number	Proportion
cn	579,519	62.2%
com.cn	269,942	29.0%
net.cn	30,333	3.3%
gov.cn	28,876	3.1%
org.cn	14,412	1.5%
adm.cn	7,957	0.9%
ac.cn	827	0.1%
mil.cn	3	0.0%
Total	931,869	100%

Note: The number of websites under CN doesn't cover those under .EDU.CN.

Appendix 2 Survey Supporting Organizations

(I) Websites supporting the survey (not listed in particular order)

CNTV	Chinadaily.com.cn
Gmw.cn	Eastday.com

(II) Portal websites for survey (listed in the sequence of provision of survey connection)

NetEase	Sina.com.cn	gw.com.cn
funshion.com	tudou.com	w010w.com.cn
Sohu.com	yninfo.com	onlinedown.net
eastmoney.com	it.com.cn	51.com
kaixin001.com	24k99.com	fx168.com
99qh.com	ifeng.com	youku.com
dahe.cn	sznews.com	jrj.com.cn
soufun.com		

(III) Organizations supporting the survey (not listed in particular order)

China Telecom
China United Network Communications Limited
China Mobile
China Education and Research Network
China Science & Technology Network Center
ChinaSat
China International Electronic Commerce Center
CGW
SFN
Chongqing Zhijia Infotech Co., Ltd. (CQHOT)

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