

Appendix 1 Survey Methodology in China

Survey Methodology

(I) Telephone Survey

Survey Population

Chinese permanent residents at the age of 6 or above who have residence fixed-line telephones (including home phones and dormitory telephones) or mobile phones.

Sample Scale

The samples in the survey cover 31 provinces, autonomous regions and municipalities in Chinese mainland, excluding Chinese Hong Kong, Macao and Taiwan.

Division of Survey Population

The survey population can be divided into three categories:

- **Subpopulation A:** Survey subpopulation using residence fixed-line telephones (including residents with home phones, students with dormitory telephones, and other users with dormitory telephones).
- **Subpopulation B:** Survey subpopulation with mobile phones.
- **Subpopulation C:** Survey subpopulation with both residence fixed-line telephones and mobile phones (there is an overlap between subpopulation A and subpopulation B, and the overlapped part is subpopulation C), $C = A \cap B$.

Sampling Method

CNNIC surveys subpopulation A, B and C. Double sampling is adopted for the survey so as to cover as many Internet users as possible. The first sampling frame is subpopulation A, the people with residence fixed-line telephones. The second sampling frame is subpopulation B, the people with mobile phones.

For the survey population with fixed-line telephones, stratified two-stage sampling is adopted. To ensure the sufficient representativeness of samples, the whole country is divided into 31 tiers according to province, autonomous region and municipality directly under the central government and the sampling is made independently at each tier.

The self-weighted sampling method is adopted for each province. The sample sizes for each district, city and prefecture (including the governed districts and counties) are allocated in accordance with the proportion of the people at the age of 6 or above covered by residence fixed-line telephones in the local area compared to the total covered population in the whole province.

Sampling in subpopulation B is similar to that in subpopulation A. The whole country is divided into 31 tiers according to province, autonomous region and municipality directly under the central government, and sampling is made independently in each tier. Samples are allocated in accordance with the proportion of the residents in each district or city, in order to make the sample allocation in each province conform to the self-weighting method.

To ensure the telephones are taken with almost the same probability in each district, city or prefecture, that is, the local bureau number with more telephones will more likely be taken, and to make the phone visit more feasible, the telephone numbers in each district, city and prefecture are taken according to the following procedures:

For mobile phone user groups, all the mobile bureau numbers in each district, city and prefecture are sampled; a certain quantity of 4-digit random numbers are generated according to the valid sample size in each district, city or prefecture, and then combined with the mobile bureau numbers in each district, city or prefecture to form a number library (local bureau number + the random 4-digit number); randomly order the number library; dial and visit the randomly ordered number library. Survey of the subpopulation with fixed-line telephones is similar to that of the subpopulation with mobile phones: a random number is generated and combined with the local bureau number to form a telephone number, and then such number is dialed and visited. To avoid repeated sampling, only residence fixed-line telephones are visited.

According to the latest population attribute structure published by provincial statistical bureaus, we use the method of multi-variable joint weighting to estimate

the size of netizens. The data published by statistical bureaus are annual census data projections or annual population sample survey projections. Such data are used in this report as the basis for adjusting the weights of the semi-annual survey data, ignoring the differences between survey periods.

Sampling Error

Based on the design, analysis and calculation of sampling, 0.66 percentage point is the estimated maximum allowable absolute error of the proportional target quantity (e.g. the Internet penetration rate) among the individual netizen survey results, when the confidence is 95%. From this, we can deduce the error range of estimating other kinds of target quantities, such as the scale of netizens.

Survey Method

The Computer-assisted Telephone Interviewing (CATI) system is adopted for the survey.

Differences between Survey Population and Targeted Population

A study for the subpopulation who are not covered by telephones, conducted by CNNIC at the end of 2005, shows those Internet users are very few in this subpopulation. Currently, the subpopulation is downsizing gradually with the development of China's telecom industry. In this survey, there is an assumption, i.e., Internet users who are not covered by fixed-line telephones or mobile phones are negligible.

(II) Statistical Data Reporting

Number of IP Addresses

The data of IP addresses counted by province come from the IP address databases of Asia-Pacific Network Information Center (APNIC) and CNNIC. Registered data in each database, that can be distinguished by the province which the addresses belong to, can be added respectively by province to generate data of each province. As address allocation is a dynamic process, the statistical data are only for reference. The Ministry of Industry and Information Technology, as the national competent department for IP addresses, also requires IP address

allocation organizations to report the quantity of IP addresses they own semiannually. To ensure the accuracy of IP data, CNNIC will compare and verify APNIC statistical data with the reported data to confirm the final quantity of IP addresses.

Number of Domain Names

The numbers of domain names under .CN and .中国, which are registered globally, are derived from CNNIC database, while those under gTLD, New gTLD, .CO, .TV, .CC, .ME, .HK, and .PW are provided by domestic domain name registration units.

Definitions of Terms in the Report

Internet Users or Netizens: Chinese residents at the age of 6 or above who have used the Internet in the past 6 months.

Mobile Internet Users: Internet users who have used mobile phones to access and surf the Internet in the past 6 months.

Computer Internet Users: Internet users who have used computers to access and surf the Internet in the past 6 months.

Rural Internet Users: Internet users who have been living in rural areas of China in the past 6 months.

Urban Internet Users: Internet users who have been living in urban areas of China in the past 6 months.

IP Address: As the basic resource on the Internet, the IP address functions to identify computers, servers and other devices connected to the Internet. Connection with the Internet can be realized only when an IP address (in any form) is acquired.

Website: It refers to a web site with a domain name itself or `WWW.+domain name`. Such domain names include those, which are registered under China's ccTLDs, namely .CN and .中国, or gTLDs, and whose registrants are within the territory of China. For example, the domain name of `CNNIC.CN` has only one website and the corresponding web address is `CNNIC.CN` or `WWW.CNNIC.CN`. Other web addresses with such domain name as the suffix, like `WHOIS.CNNIC.CN` and `MAIL.CNNIC.CN`, are regarded as different channels of the website.

Scope of Survey: Unless otherwise expressly indicated, data in this Report only refer to Chinese mainland, excluding Chinese Hong Kong, Macao and Taiwan.

Deadline of Survey Data: The deadline of the statistical survey data is Dec 31, 2024.

Data Explanation: Most of the data in this Report are approximate values after rounding and retaining significant digits.

Appendix 2 Attached Tables of Basic Internet Resources

Table 1 Number of IPv4 Addresses

Region	Number of Addresses	Equivalence
Chinese mainland	343,162,368	20A+116B+62C
Hong Kong	13,165,824	200B+229C
Macao	337,664	5B+39C
Taiwan	35,720,704	2A+33B+14C

Data sources: APNIC and CNNIC.

Table 2 Allocation of IPv4 Addresses among Organizations

Organization Name	Number of Addresses	Equivalence
China Telecom	125,763,328	7A+126B+255C
China Unicom	69,866,752 ¹	4A+42B+21C
IP Address Allocation Alliance of CNNIC	62,957,312 ²	3A+192B+133C
China Mobile	35,294,208	2A+26B+140C
China Education and Research Network	16,649,984	254B+16C
China Mobile Tietong	15,796,224 ³	241B+8C
Others	16,834,560 ⁴	256B+224C
Total	343,162,368	20A+116B+62C

Data sources: APNIC and CNNIC.

¹ The addresses of China Unicom include the addresses of former China Unicom and former China Netcom. Specifically, the IPv4 addresses 6,316,032 (96B+96C) of former China Unicom are assigned by CNNIC.

² As a national Internet registry (NIR) approved by APNIC and national competent authorities in China, CNNIC has organized ISPs, enterprises and public institutions of certain size in China to set up IP Address Allocation Alliance. So far, the total number of IPv4 addresses held by the members of IP Address Allocation Alliance is 85.07 million, equivalent to 5.1A. The IPv4 addresses of the IP Address Allocation Alliance listed in the above table do not include those IPv4 addresses already assigned to former China Unicom and China Mobile Tietong.

³ The IPv4 addresses of China Mobile Tietong are assigned by CNNIC.

⁴ Others refer to enterprises and institutions that apply for IPv4 addresses directly from APNIC.

⁵ The deadline for the above statistical data is December 2024.

Table 3 Number of IPv6 Addresses (unit: /32¹)

Region	Number of Addresses
Chinese mainland	64,469
Hong Kong	2,056
Macau	9
Taiwan	2,614

Data sources: APNIC and CNNIC.

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

Table 4 Allocation of IPv6 Addresses among Organizations

Organization Name	Number of Addresses
IP Address Allocation Alliance of CNNIC	26,762 ²
China Telecom	16,387
China Education and Research Network	10,258
China Unicom	4,097
China Mobile	4,097
China Mobile Tietong	2,049 ³
Others	819 ⁴
Total	64,469

Data sources: APNIC and CNNIC.

² At present, the number of IPv6 addresses held by the members of IP Address Allocation Alliance of CNNIC is 28,811 /32. The IPv6 addresses held by the members of IP Address Allocation Alliance listed in the above table do not include those IPv6 addresses already assigned to China Mobile Tietong.

³ The IPv6 addresses of China Mobile Tietong are assigned by CNNIC.

⁴ Others refer to enterprises and institutions that apply for IPv6 addresses directly from APNIC.

⁵ The deadline for the above statistical data is December 2024.

Table 5 Proportion of IPv4 Addresses in Each Province / Autonomous Region / Municipality Directly under the Central Government

Province / Autonomous Region / Municipality Directly under the Central Government	Proportion
Beijing	25.19%
Guangdong	9.43%
Zhejiang	6.39%
Shandong	4.83%
Jiangsu	4.70%
Shanghai	4.47%
Liaoning	3.29%
Hebei	2.81%
Sichuan	2.74%
Henan	2.60%
Hubei	2.37%
Hunan	2.33%
Fujian	1.92%
Jiangxi	1.71%
Chongqing	1.66%
Anhui	1.63%
Shaanxi	1.61%
Guangxi	1.36%
Shanxi	1.26%

Jilin	1.20%
Heilongjiang	1.19%
Tianjin	1.04%
Yunan	0.96%
Inner Mongolia	0.77%
Xinjiang	0.60%
Gansu	0.47%
Hainan	0.47%
Guizhou	0.44%
Ningxia	0.27%
Qinghai	0.17%
Tibet	0.13%
Others	10.00%
Total	100.00%

Data sources: APNIC and CNNIC.

¹ The above statistics are made on the basis of the location of the IP address owners.

² Others refer to countries or regions other than the Chinese mainland.

³ The deadline for the above statistical data is December 2024.

Table 6 Number of Domain Names in Each Province / Autonomous Region / Municipality Directly under the Central Government

Province / Autonomous Region / Municipality Directly under the Central Government	Total Domain Names (Number)	.CN Domain Names (Number)	.中国 Domain Names (Number)
Guangdong	5,867,925	3,811,083	12,709
Beijing	5,628,085	4,293,391	22,284
Jiangsu	2,554,092	1,672,943	7,096
Shandong	2,115,087	1,492,433	26,906
Guizhou	1,835,476	1,701,178	3,142

Shanghai	1,400,422	708,818	5,961
Zhejiang	1,289,777	479,433	6,287
Fujian	1,191,971	506,890	6,273
Sichuan	1,167,824	574,405	10,259
Henan	1,142,273	677,941	3,798
Hunan	945,607	477,990	2,412
Hubei	873,554	500,445	2,708
Hebei	796,968	437,929	4,866
Jiangxi	752,260	334,631	1,300
Anhui	709,502	353,319	3,145
Guangxi	693,258	399,520	1,353
Liaoning	505,556	318,462	5,300
Shaanxi	501,494	217,763	7,343
Chongqing	477,795	258,553	4,425
Shanxi	420,700	288,710	1,789
Yunnan	349,017	177,579	4,037
Heilongjiang	271,589	173,416	1,778
Tianjin	206,216	65,836	1,080
Hainan	198,655	118,135	783
Gansu	195,650	144,402	1,299
Jilin	193,027	110,571	1,314
Inner Mongolia	140,849	87,154	1,364
Xinjiang	72,745	37,933	844
Ningxia	59,918	41,286	495
Qinghai	20,868	13,119	447
Tibet	9,981	3,211	558
Others	431,764	344,558	11,910
Total	33,019,905	20,823,037	165,265

Data sources: CNNIC.

¹ Others refer to countries or regions other than the Chinese mainland, or the location of domain name registrants can not be identified.

² The deadline for the above statistical data is December 2024.

Table 7 Web Pages by Suffix Format

Suffix Format	Proportion
html	52.16%
/	23.51%
php	6.26%
htm	4.17%
shtml	3.52%
aspx	2.08%
asp	1.19%
jsp	0.33%
others	6.78%
total	100.00%

Data sources: Baidu Online Network Technology (Beijing) Co., Ltd.

¹ The deadline for the above statistical data is December 2024.

Table 1 Number of Pages in Each Province / Autonomous Region / Municipality Directly under the Central Government

Province / Autonomous Region / Municipality Directly under the Central Government	Total Number of Pages after De-duplication	Static Pages	Dynamic Pages	Static to Dynamic Ratio
Beijing	147,908,977,298	94,914,065,504	52,994,911,794	1.79
Guangdong	50,913,227,535	34,858,277,666	16,054,949,869	2.17
Zhejiang	47,902,592,373	34,512,446,177	13,390,146,196	2.58
Shanghai	28,046,456,310	20,662,636,816	7,383,819,494	2.80

Henan	23,208,462,769	18,373,491,889	4,834,970,880	3.80
Jiangsu	17,519,637,809	10,876,401,751	6,643,236,058	1.64
Hebei	15,455,212,497	11,597,358,079	3,857,854,418	3.01
Fujian	12,508,342,811	9,752,938,031	2,755,404,780	3.54
Shandong	7,839,479,604	5,300,637,435	2,538,842,169	2.09
Sichuan	6,722,771,657	4,610,464,822	2,112,306,835	2.18
Tianjin	6,571,555,177	4,337,223,139	2,234,332,038	1.94
Shanxi	4,517,093,474	3,470,526,690	1,046,566,784	3.32
Liaoning	3,684,777,564	2,750,011,295	934,766,269	2.94
Hubei	3,433,809,970	2,212,718,061	1,221,091,909	1.81
Anhui	3,272,982,552	2,522,144,915	750,837,637	3.36
Jiangxi	3,062,693,480	2,507,347,267	555,346,213	4.51
Guangxi	2,868,504,531	2,175,279,364	693,225,167	3.14
Hunan	2,315,759,604	1,663,134,557	652,625,047	2.55
Heilongjiang	2,153,714,684	1,771,585,454	382,129,230	4.64
Jilin	2,138,190,189	1,510,694,358	627,495,831	2.41
Shaanxi	2,084,023,878	1,234,180,473	849,843,405	1.45
Hainan	1,918,699,860	1,546,434,341	372,265,519	4.15
Yunnan	1,887,272,314	1,300,450,693	586,821,621	2.22
Chongqing	635,055,567	404,311,368	230,744,199	1.75
Inner Mongolia	255,866,336	132,060,097	123,806,239	1.07
Gansu	217,002,872	111,989,842	105,013,030	1.07
Guizhou	152,070,877	105,833,655	46,237,222	2.29
Xinjiang	100,142,165	54,429,452	45,712,713	1.19
Qinghai	37,992,853	26,778,691	11,214,162	2.39
Ningxia	22,772,919	17,744,310	5,028,609	3.53
Tibet	9,487,255	8,128,707	1,358,548	5.98
China	399,364,628,784	275,321,724,899	124,042,903,885	2.22

Data sources: Baidu Online Network Technology (Beijing) Co., Ltd.

¹ The deadline for the above statistical data is December 2024.

Table 2 Number of Web Page Bytes in Each Province / Autonomous Region / Municipality Directly under the Central Government

Province / Autonomous Region / Municipality Directly under the Central Government	Total Web Page Size	Average Web Page Size (KB)
Beijing	14,351,318,593,813	97.03
Zhejiang	4,072,607,676,483	85.02
Guangdong	3,905,733,479,873	76.71
Shanghai	3,115,361,937,546	111.08
Henan	1,689,507,982,040	72.80
Hebei	1,567,312,446,223	101.41
Jiangsu	1,253,125,101,881	71.53
Shanxi	947,616,313,130	209.78
Fujian	836,938,197,459	66.91
Shandong	599,681,193,984	76.50
Tianjin	482,056,382,301	73.35
Sichuan	359,761,604,994	53.51
Hubei	194,625,885,610	56.68
Liaoning	180,000,497,725	48.85
Heilongjiang	168,992,976,471	78.47
Anhui	163,334,543,236	49.90
Guangxi	157,800,400,891	55.01
Jiangxi	154,446,686,842	50.43
Hunan	153,225,445,886	66.17
Shaanxi	116,881,643,115	56.08
Yunnan	96,572,361,216	51.17
Jilin	90,364,974,497	42.26

Hainan	69,201,329,040	36.07
Chongqing	43,569,527,693	68.61
Gansu	19,117,965,821	88.10
Inner Mongolia	16,843,034,885	65.83
Guizhou	7,385,089,403	48.56
Xinjiang	4,846,413,914	48.40
Qinghai	3,343,252,775	88.00
Ningxia	804,212,472	35.31
Tibet	289,857,370	30.55
China	34,822,667,008,589	87.20

Data sources: Baidu Online Network Technology (Beijing) Co., Ltd.

¹ The deadline for the above statistical data is December 2024.

Table 3 Status of Internet Access

Index	June 2024 (%)	December 2024 (%)
Proportion of Individuals Using the Internet	91.5	92.0 ¹
Proportion of Households Having Internet Access	100	100
Percentage of Individuals Owning a Mobile Phone	99.2	99.1 ²

¹ Individuals Using the Internet is one of the important indicators used by the International Telecommunication Union (ITU) to measure the development of informatization in various countries and regions. Considering the common practice of countries in filing this indicator, and taking into account China's personal Internet usage, this data is calculated based on the proportion of individuals using the Internet in China.

² Measured by the inference coefficient of market share of each operator and the number of de-duplicated natural users of Unicom.

³ The deadline for the above statistical data is December 2024.

Appendix 3 Supporting Organizations

We would like to express our heartfelt thanks to the following organizations that have supported the collection of data in this report. (Not listed in any particular order)

- Ministry of Industry and Information Technology
- Cyberspace Administration of China
- National Bureau of Statistics
- Central Committee of the Communist Young League
- China Organizational Name Administration Center
- China Academy of Information and Communications Technology
- Computer Network Information Center of Chinese Academy of Sciences
- Network Center of China Education and Research Network
- China Economic Information Service
- China Mobile
- China Telecom
- China Unicom
- Beijing Ucap Information Technology Co., Ltd.
- Baidu Online Network Technology (Beijing) Co., Ltd.
- Tencent Cloud Computing (Beijing) Co., Ltd.
- Beijing Micro Dream Network Technology Co., Ltd. (Micro-blog)
- Beijing ByteDance Technology Co., Ltd.
- Alibaba Cloud Computing (Beijing) Co., Ltd.
- Alibaba Cloud Computing Co., Ltd.
- Bangning Shuzi Technology Co., Ltd.
- Beijing Oriental Wangjing Information Technology Co., Ltd.
- Beijing Guoke Cloud Computing Technology Co., Ltd.
- Beijing Guoxu Network Technology Co., Ltd.
- Beijing Huaruidns Technology Co., Ltd.
- Beijing Wanweitonggang Technology Co., Ltd.
- Beijing Wangzun Technology Co., Ltd.
- Beijing Xinnet.com Co., Ltd.
- Beijing ZW.cn Co., Ltd.
- Beijing BrandCloud.cn Co., Ltd.
- Beijing Zhuoyueshengming Technology Co., Ltd.

- Beijing Zihai Technology Co., Ltd.
- Chengdu Feishu Technology Co., Ltd.
- Chengdu 51web.com Co., Ltd.
- Chengdu West Digital Technology Co., Ltd.
- Daqing dqzc.com Co., Ltd.
- Doumai (Shanghai) Network Technology Co., Ltd.
- Foshan Yidong Network Co., Ltd.
- Fuzhou Zhongxu Network Technology Co., Ltd.
- Guangdong HUYI Internet & IP Services Co., Ltd.
- Guangdong Jinwanbang Technology Investment Co., Ltd.
- Guangdong Now.cn Co., Ltd.
- Guangzhou Mingyang Information Technology Co., Ltd.
- Guangzhou DNSpod Information Technology Co., Ltd.
- Guizhou Zhongyuzhike Network Technology Co., Ltd.
- Hangzhou 22.cn Network Co., Ltd.
- Hangzhou E-commerce Connection Technology Co., Ltd.
- Hefei Juming Network Technology Co., Ltd.
- Hefei Xunyun Network Technology Co., Ltd.
- ZDNS Beijing Co., Ltd.
- Trademark Domain Technology Co., Ltd.
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- Xiamen Zhong.Top Network Technology Co., Ltd.
- Shangzhong Online Technology Co., Ltd.
- Shanghai Oray Co., Ltd.
- Shanghai Fuhu Information Technology Co., Ltd.

- Shanghai CNDNS.com Co., Ltd.
- Shanghai Yovole Network Co., Ltd.
- Shenzhen Vanguard of Interconnection Co., Ltd.
- Shenzhen Webnet.com Technology Co., Ltd.
- Shenzhen EIMS Information Technology Co., Ltd.
- Sichuan Yuqu Network Technology Co., Ltd.
- Tianjin Zhuiqi Technology Development Co., Ltd.
- Vantage of Convergence (Chengdu) Co., Ltd.
- WangJu Brands Management Co., Ltd.
- Xi'an Qianxinet Technology Co., Ltd.
- Yantai DNSpod Network Technology Co., Ltd.
- Yunan Landui Cloud Computing Co., Ltd.
- Zhejiang 22net Inc.
- Zhengzhou Shanglv Technology Co., Ltd.
- Zhengzhou Shijichuanglian E-Technology Co., Ltd.
- Grow Force Technology Co., Ltd.
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