

# Internet Service Provider Survey: 2014

Embargoed until 10:45am – 14 October 2014

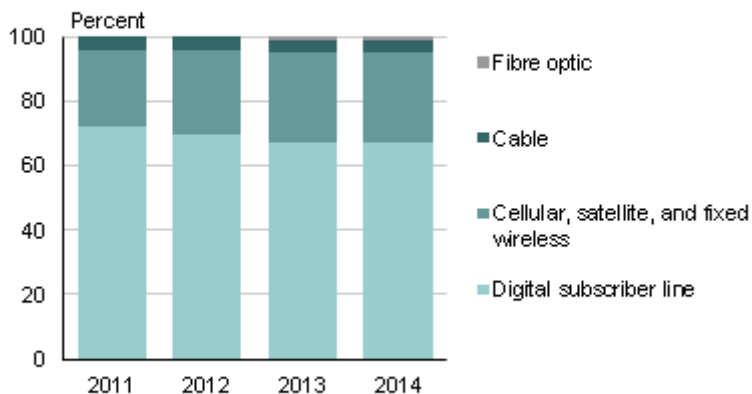
## Key facts

In 2014:

- 53,068 terabytes of data were used through standard Internet connections (excluding mobile phones). This is equivalent to 12GB for each New Zealander.
- Fibre connections in use rose to 46,000, more than three times as much as in 2013.
- Digital subscriber line (copper) connections remain the most common type of home or business Internet connection, at just over 1.3 million connections of a total of 1.98 million.
- 3.7 million Internet-connected mobile phones were active in the three months to June 2014.

### Broadband Internet connections

By technology type  
At 30 June 2011–14



Source: Statistics New Zealand

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## Commentary

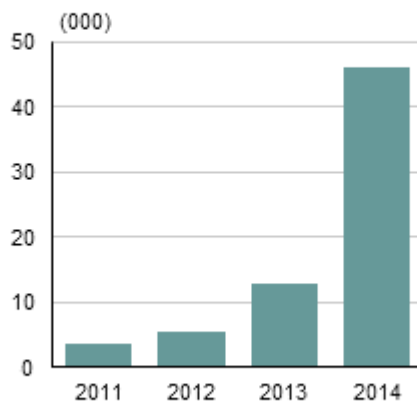
- [Fibre transforming – from roll-out to uptake](#)
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- [Kiwis find Internet in the palm of their hands](#)
- [Sky's the limit for more data users](#)
- [Need for speed more satisfied](#)

### Fibre transforming – from roll-out to uptake

The number of fibre optic Internet connections have continued their rapid growth, with more than three times the connections in 2014 than a year ago. Although still making up only 1 percent of total connections, it has by far the fastest growth rate of all broadband connection types.

In fact, if current growth rates were to continue, fibre connections would exceed digital subscriber line (DSL) connections – currently at just over 1.3 million – within five years.

**Fibre optic Internet connections**  
At 30 June 2011–14



Source: Statistics New Zealand

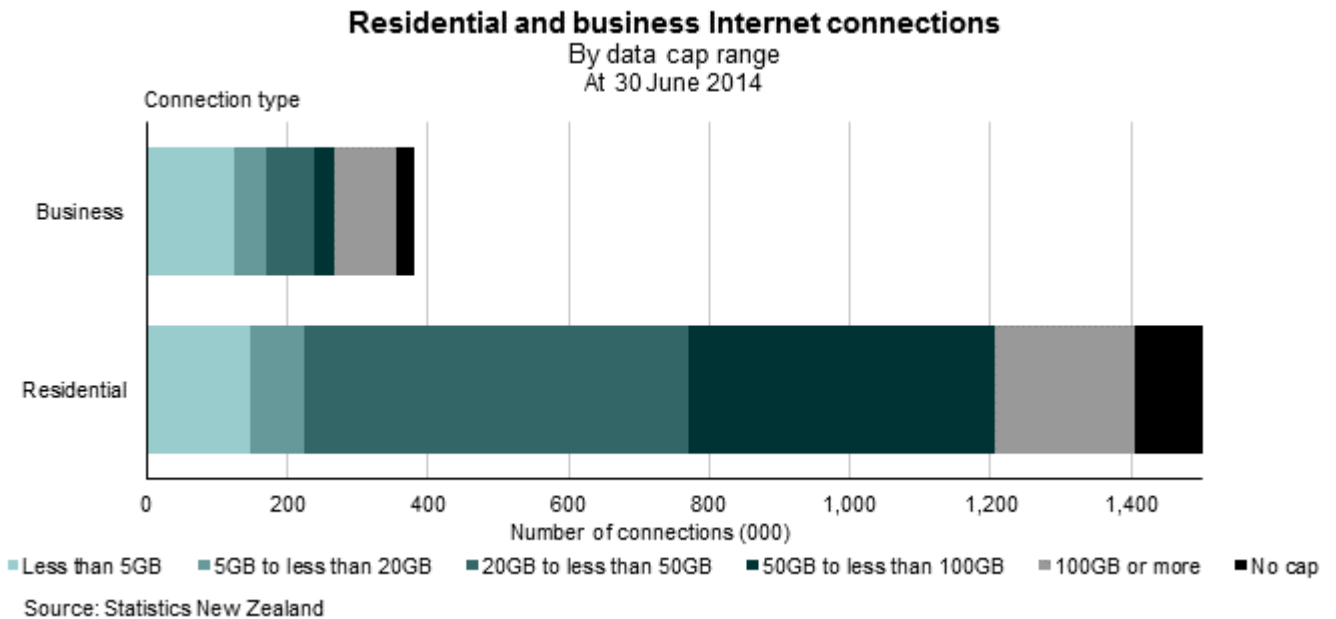
The latest figures still put the number of fibre connections below the 2013 Organisation for Economic Co-operation and Development (OECD) average of 16.65 percent of total Internet connections ([See OECD Key ICT indicators](#)). However, the increase in uptake is still significant.

In 2012, Crown Fibre, the agency in charge of coordinating the fibre infrastructure roll-out in New Zealand, estimated that fibre was available to just 76,000 premises, with only 5,400 connections being used ([Crown Fibre annual report for year ended June 2012](#)). In 2014, fibre was available to 77 percent of businesses, 93 percent of schools, and 32 percent of households that were in scope of the ultra fast broadband (UFB) roll-out ([Crown Fibre annual report for year ended June 2014](#)). Uptake of this option has now resulted in 46,000 fibre connections being used across the country.

The growth figures show that more homes and businesses are now choosing to use fibre optic connections.

## Home Internet connections still growing

The number of home Internet connections continue to grow. Residential connections increased 8 percent to 1.6 million connections in 2014, making up 80 percent of all Internet connections.



Quarterly dwelling and household estimates showed 1.77 million households at 30 June 2014. With 1.6 million residential Internet connections supplied by Internet service providers (ISPs), we have 90 connections for every 100 households, compared with 84 for every 100 in 2013. The latest ratio shows a jump of 6 residential connections per 100 households in just one year.

However, figures from the 2013 Census showed the saturation point has not yet been reached. Internet access at home (excluding mobile phones) in March 2013 was 76.8 percent. This proportion suggests a complex residential market, where up to 7 percent of residences had more than one Internet connection.

Just 1 in 5 connections are to businesses or government. While this ratio reflects a 3 percent annual decrease to 386,000 connections in 2014, the change may not be significant, but could be the result of questionnaire changes providing more accurate data on the 2014 figures.

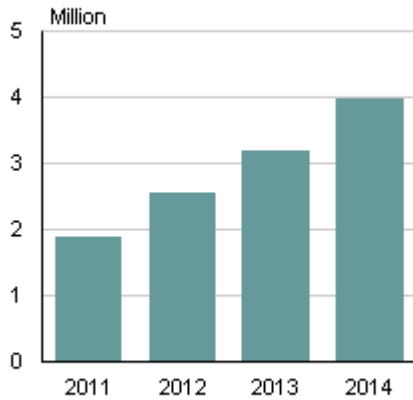
It should be noted that connections exclude Internet-enabled mobile phones.

## Kiwis find Internet in the palm of their hands

Mobile phone Internet connections increased 16 percent from 3.2 million connections in 2013 to 3.7 million in 2014. Due to the large number of devices, apps, and networks available, more people have access to a wider range of goods and services through the Internet while on the go.

## Mobile phone Internet connections

At 30 June 2011–14



Source: Statistics New Zealand

When comparing mobile Internet use across countries, New Zealand is just above the OECD average for number of mobile subscriptions – 109 per 100 inhabitants for New Zealand compared with 108 per 100 in the OECD (*OECD Communications Outlook, 2013*). These figures show some people have multiple phones, which may allow them to separate their personal communications from work.

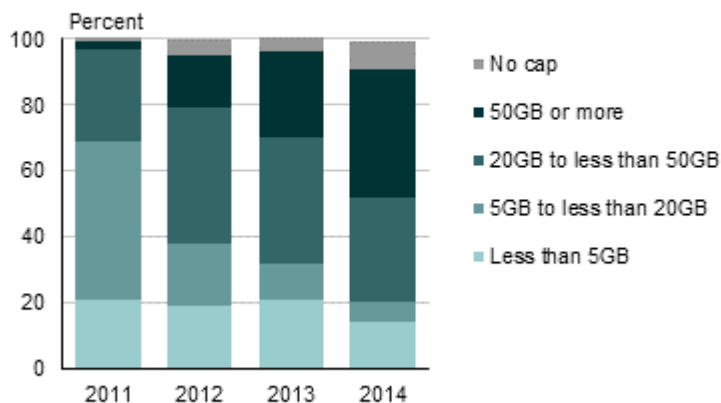
## Sky's the limit for more data users

Broadband Internet users have moved to higher data caps, and in a number of cases, no cap at all. Just under half of all connections now have either no data cap, or have access to 50 gigabytes (GB) or more per month. Three years ago these types of connections accounted for just 4 percent of all broadband connections.

Connections with no limit on how much data can be used increased 87 percent (from 82,000 in 2013 to 155,000 in 2014), while those with smaller data caps continue to decrease.

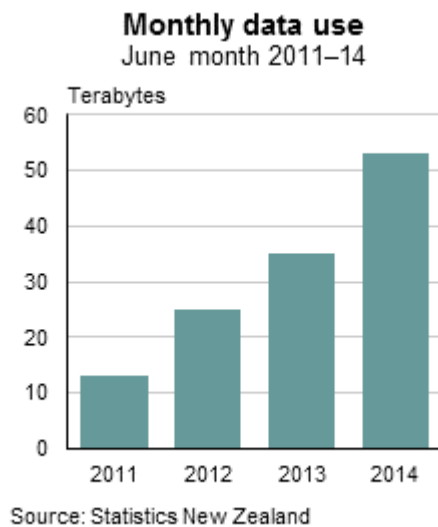
## Broadband Internet connections

By data cap  
At 30 June 2011–14



Source: Statistics New Zealand

This trend for higher data caps reflects an increase in the amount of total data used. In 2014, the amount of data used was 53,068 terabytes, compared with 34,651 terabytes in 2013. This increase alone equals about 4 million high-definition movies. The total amount of data used by businesses and households in 2014 was the equivalent of 13GB per person (or around 60 hour-long TV episodes).



Businesses have also started to increase their data caps. In 2012, only 4 percent of business connections had large data access plans (100GB or more), but this proportion jumped to 30 percent in 2014 – a ten-fold increase. Residential connections on these plans have also increased, though not as dramatically – from 14 percent in 2012 to 21 percent in 2014.

Several factors may be contributing to these movements. These include the falling costs of broadband plans, businesses using multiple connections, the ability to access bigger data sets, and the ability to do more business online.

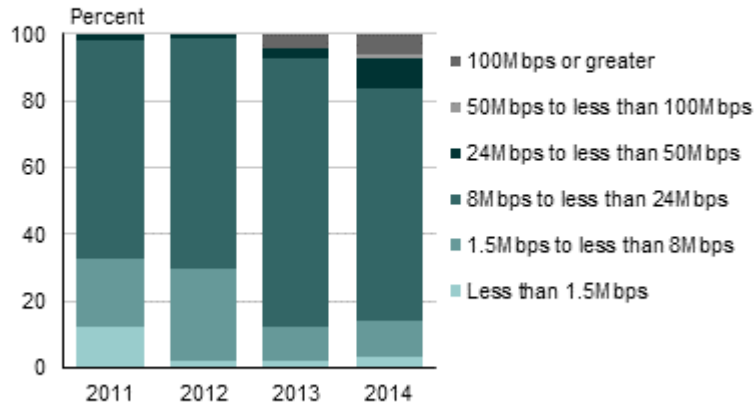
## Need for speed more satisfied

Download and upload speeds continued to improve. Although over two-thirds of connections are still in the mid-range (8–24 megabits per second (Mbps)) speed category, the proportion of faster speed connections (24+Mbps) has increased from 7 to 16 percent (130,000 connections) since 2013.

The biggest jump is in the 24–50Mbps category, while fibre and other ultra-fast options drove the smaller increases in the 100+Mbps group. In addition, connections with upload speeds of 10Mbps or greater went up 15 percentage points, and have now surpassed 300,000.

## Broadband Internet connections

By download speeds  
At 30 June 2011–14



Source: Statistics New Zealand

For more detailed data from the ISP Survey, see the Excel tables in the 'Downloads' box.

## Definitions

### About the Internet Service Provider Survey

The Internet Service Provider (ISP) Survey collects information on businesses that provide Internet access to individuals, households, businesses, and other organisations in New Zealand. This information allows us to measure the global connectivity of New Zealanders, which is an important factor in economic growth and social well-being. Measuring New Zealand's global connectivity will help individuals, communities, businesses, and government understand the role of information and communication technology in the economy and society.

### Further definitions

**Active connection:** connection that has been used to connect to the Internet within the last 90 days.

**ANZSIC06:** Australian and New Zealand Standard Industrial Classification 2006, the system used to classify and categorise all businesses on the Statistics NZ Business Frame. See [data quality](#) for the specific codes used to classify Internet Service Provider Survey data.

**Botnets:** collection of compromised computers that, although their owners are unaware of it, have been set up to forward transmissions (including spam or viruses) to other computers on the Internet.

**Broadband:** technologies that provide an 'always on' service. These include digital subscriber line (DSL), cable, fibre optic, satellite, cellular, and fixed wireless.

**Business Register:** a register of all economically significant businesses operating in New Zealand.

**Connection:** connection provided through an Internet service provider enabling access to the Internet. Active connections are those that were used to access the Internet within the last 90 days. Under this definition, the following inclusions and exclusions are made.

Includes:

- all connections providing access to the Internet through an ISP
- all dial-up and broadband connections
- free or discounted connections offered for staff
- free or discounted connections offered for customers.

Excludes:

- web-hosting-only subscribers
- email-only subscribers.

Note: Customers, residential or business, may have more than one Internet or mobile phone connection.

**Data cap:** method employed by ISPs to limit the volume of data downloaded and/or uploaded by subscribers during a fixed period, normally a month. Once subscribers reach the cap, lower speed or extra access charges may apply. Also referred to as a data allowance.

**Data card:** card that contains data or that is used for data operations (eg Vodafone 3G card or Telecom Aircard).

**Dial-up connection:** connection to the Internet via a dial-up modem that uses the public switched telephone network (PSTN). Includes integrated services digital network (ISDN) and analogue connections.

**Dongle:** device connected to a computer to allow access to wireless broadband or use of protected software.

**DSL:** technology that allows high-speed transmission of data, audio, and video over standard telephone lines; a form of broadband transmission. This can include the following types:

- **ADSL:** asymmetric digital subscriber line is a type of DSL technology for transmitting digital information at a high bandwidth on existing copper telephone lines. It simultaneously accommodates analogue information on the same line so voice calls can be made while using the Internet. It is asymmetric in the sense that it uses most of the channel to transmit downstream to the user and only a small part to receive information from the user.
- **ADSL2+:** an extension to ADSL broadband technology that provides subscribers with significantly faster download speeds when compared with traditional ADSL connections.
- **SHDSL:** single-pair (symmetrical) high-speed DSL is a form of DSL designed to transport data across a single copper pair. SHDSL technology can transport data symmetrically so users can get the same rate of transmission for both upstream and downstream data.
- **VDSL:** very-high bit-rate DSL is the fastest available form of DSL. It is an improved version of ADSL which was developed to support the high bandwidth requirements of HDTV, media streaming, and VoIP connections.

**Economically significant enterprises:** enterprises that produce goods and services in New Zealand. They must meet at least one of the following criteria:

- has greater than \$30,000 annual GST expenses or sales
- 12-month rolling mean employee count of greater than three
- is part of a group of enterprises
- is registered for GST and involved in agriculture or forestry
- over \$40,000 of income recorded in the IR10 annual tax return (this includes some businesses in residential property leasing and rental).

**Enterprise:** a business operating in New Zealand. It can be a company, partnership, trust, estate, incorporated society, producer board, local or central government, voluntary organisation, or self-employed individual.

**Gigabyte (GB):** a measure of the volume of data. Gigabyte represents a data unit of one billion bytes.

**Internet protocol (IP):** system for assigning a unique identifier to all devices connected to the Internet. Each device is assigned, and can be identified by, a unique address. This address is made up of a series of numbers (similar to a phone number).



**Internet Protocol version 6 (IPv6):** the next generation Internet Protocol, which greatly expands the IP number space and is the approved standard to replace IPv4.

**Internet Service Providers (ISPs):** businesses that supply Internet connections to individuals, households, businesses, and other organisations. We breakdown the results of the Internet Service Providers Survey by size of provider. There are five sizes based on the number of connections:

- very small: 1–100 Internet connections
- small: 101–1,000 Internet connections
- medium: 1,001–10,000 Internet connections
- large: 10,001–100,000 Internet connections
- very large: 100,001 or more Internet connections.

**Mbps and kbps:** measures of download and upload speed. Mbps stands for megabits per second (1,000,000 bits per second) and kbps stands for kilobits per second (1,000 bits per second).

**Mobile phone connection:** Internet connection via a mobile phone. For pre-paid plans with no monthly subscription, the connection is active if it was used to connect to the Internet within the last 90 days. Connections with recurring fees for services including data are included as active, regardless of actual use.

**Pharming:** hacker's attack aiming to redirect a website's traffic to another, bogus website. Pharming can be conducted either by changing the host's file on a victim's computer or by exploitation of a vulnerability in DNS server software.

**Phishing:** way of attempting to acquire sensitive information such as usernames, passwords, and credit card details by masquerading as a trustworthy entity in an electronic communication, such as fraudulent emails.

**Rolling mean employment (RME):** 12-month moving average of the monthly employee count (EC) figure. The EC is obtained from taxation data.

**Terabyte (TB):** multiple of the unit byte for digital information. Terabyte represents a data unit of 1,024 gigabytes or 1 trillion bytes.

**Theoretical maximum speed:** also referred to as the 'design speed'. The maximum possible upload and download speeds an ISP allows on a connection in ideal conditions.

**Trojans:** software that appears to perform a desirable function for the user before running or installing, but (perhaps in addition to the expected function) steals information or harms the system.

**USB modem:** Universal serial bus modem. A small portable device that functions as a modem and plugs into a laptop or desktop computer allowing Internet connectivity.

## **Related links**

### **Upcoming releases**

*Internet Service Provider Survey: 2015* will be released in October 2015.

Information and Communication Technology Supply Survey is released every two years and measures the sale of goods and services from businesses associated with Information and Communication Technology (ICT) industries. This will be released in 2015.

Business Operations Survey (BOS): Business Operations Survey (BOS) – Business Use of Information and Communication Technology provides information on the current state of ICT use by businesses as well as considerations, activities, and outcomes. Every second year a Business Use of ICT module is included in the annual Business Operations Survey. This will be released in 2015.

The release calendar lists all our upcoming information releases by date of release.

Subscribe to information releases, including this one, by completing the online subscription form.

### **Past releases**

Internet Service Provider Survey – information releases has links to past releases.

Household Use of Information and Communication Technology–information releases has links to past releases.

### **Related information**

Government Use of Information and Communication Technology was a one-off release that looked at government computer and Internet use, website features, and expenditure on ICT.

The Commerce Commission collects data as part of their regulatory work on the telecommunications industry, and publish annual monitoring reports.

## Data quality

### Period-specific information

This section has information about data that has changed since the last release.

- [Population size](#)
- [Response rates](#)
- [Consistency with other periods or datasets](#)

### General information

This section contains information about data that has not changed between releases.

- [Accuracy of the data](#)
- [Consistency of terms and variables](#)
- [More information](#)

## Period-specific information

### Population size

The Internet Service Provider (ISP) Survey is a survey sent to all New Zealand-based Internet service providers. The target population for the ISP Survey in 2014 was 84 businesses. This increased from 2013, when 74 businesses were surveyed. Such changes in the population can be explained by:

- new businesses being created
- existing businesses merging or ceasing
- improved selection method.

Not all businesses identified in the survey population ultimately report ISP activity.

### Response rates

The overall target response rate for ISP 2014 was 85 percent which was achieved.

Some businesses were identified as key units if their total number of connections made significant contributions to the previous ISP survey. The target response rate for key businesses was 100 percent, and this target was achieved.

### Consistency with other periods and datasets

### Questionnaire changes

We made some minor changes to the 2014 ISP questionnaire. Many of the percentage-based questions were changed to count-based to reduce respondent burden and improve accuracy. We also added a new question about Voice over Internet Protocol, which will be reflected in the count of business activities. We plan to publish this information in more detail in the future. As a result of these changes, where breakdowns are not given, some table totals may not equal other table totals. We also changed some wording and formatting in order to make questions clearer for our respondents and improve the accuracy of the information gathered.

## Reference period

The survey was posted out in July 2014. The reference period was the last financial year, and all respondents had a 30 June 2014 balance date. This aligns with the reference period used by other OECD member countries and previous iterations of the ISP survey back to 2009.

Before 2009, data was collected in March and September each year. As a result of the change to the June reference date, there was a 15-month gap between the 2008 and 2009 ISP surveys.

## General information

### Accuracy of the data

### Target population

The target population is 'all resident New Zealand Internet service providers'. Internet service providers (ISPs) are defined as economically significant businesses that supply Internet connectivity services to individuals, households, businesses, and other organisations in New Zealand. See [definitions](#) for more on economically significant businesses.

Internet connections via mobile phones were included for the first time in 2011. Mobile phones are used to access the Internet, and for the ISP Survey to cover all businesses that supply Internet connectivity, this change was required.

Businesses that provided other Internet services, such as web and domain hosting, but that did not provide ISP services, were excluded from the population. This is because the primary activity of an ISP is providing a connection to the Internet. Web-hosting units do not meet this condition, but rather, provide Internet-based services.

Businesses that provide only occasional or unmetered access (including Internet cafes, kiosks, libraries, and universities) are also excluded. The activity of this group is covered by the ISP each business subscribes to, and so do not need to be surveyed separately.

### Survey population

The population is defined in terms of the ANZSIC06 classification system. No changes were made to the population selection process this year. It specifically included businesses in four ANZSIC06 codes:

- **ANZSIC J591000:** this code classifies Internet service providers and web search portals. It includes businesses mainly engaged in providing Internet access services. Also included are businesses which provide web search portals used to search the Internet.
- **ANZSIC J580100:** classifies wired telecommunications network operation. It includes businesses mainly engaged in operating, maintaining, or providing access to facilities for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Businesses primarily operate fixed (wired) telecommunications infrastructure, but may also use other technologies to deliver services.
- **ANZSIC J580200:** classifies other telecommunications network operations. It includes businesses mainly engaged in operating and maintaining switching and transmission facilities that provide omni-directional or point-to-point communications via wireless telecommunications networks. Transmission facilities may be based on a single

technology or a combination of technologies, including communications via airwaves and through satellite systems.

- **ANZSIC M70000:** classifies computer system design and related services. It includes businesses mainly engaged in providing expertise in the field of information technologies such as writing, modifying, testing, or supporting software to meet the needs of a particular consumer; or planning and designing computer systems that integrate computer hardware, software, and communication technologies.

These ANZSIC codes are used in conjunction with previous ISP survey populations, and filtered by a key word search.

From 2005–09, lists of ISPs obtained from NetGuide and Internet NZ were used to select the population. Since 2010, the population has been sourced from the Statistics NZ Business Frame.

### **Data collection**

The Internet service provider survey is a postal survey of all businesses that meet the population selection criteria.

### **Sampling error**

The ISP Survey is a census; therefore the data is not subject to sample error.

### **Non-sampling error**

Non-sampling errors include mistakes by respondents when completing questionnaires, variation in the respondents' interpretation of the questions asked, and errors made during the processing of the data. Statistics NZ has extensive procedures to minimise this type of error, but they may still occur and are not quantifiable.

### **Unit non-response**

Unit non-response occurs where a business does not return the questionnaire. While weighting is commonly used in other Statistics NZ surveys, it is not applied to ISP. This is because there are no external (non-survey) variables that allow us to group businesses in a way that they are likely to provide similar survey responses, and therefore be representative of one another. To minimise the impact of unit non-response on the outputs, key respondents are targeted with 100 percent response rate targets. Therefore, we do not expect overall figures to be significantly affected by unit non-response. Data for businesses that did not respond to the survey was not imputed.

### **Item non-response**

Item non-response occurs where a returned questionnaire is incomplete. Where data was missing or required clarification, respondents were contacted in the first instance. If a response could not be obtained, missing data for individual questions were imputed based on historical data collected, or from related information within the questionnaire.

### **Consistency of terms and variables**

Terms and variables can differ between datasets and over time and as a result may not be directly comparable. See [definitions](#) for the terms and variables used in this release.

## More information

More information about the [Internet Service Provider Survey](#) is available on our website.

Statistics in this release have been produced in accordance with the [Official Statistics System principles and protocols for producers of Tier 1 statistics for quality](#). They conform to the [Statistics NZ Methodological Standard for Reporting of Data Quality](#).

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## **Revisions**

We revised 2013 figures in some tables due to businesses revising their previous response. The revisions represent an improvement in the quality of 2013 data after ongoing conversations between analysts and respondents.

The revised figures will be identified with an 'R'. To access the tables, open or download the Excel files in the 'Downloads' box.

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## Tables

The following tables are available in Excel format from the 'Downloads' box. If you have problems viewing the files, see [opening files and PDFs](#).

1. Dial-up and broadband Internet connections, at 30 June 2011–14
2. Residential and business Internet connections, at 30 June 2011–14
3. Broadband Internet connections, by type of technology
4. Broadband Internet download and upload speeds, at 30 June 2011–14
5. Broadband Internet data caps, at 30 June 2011–14
6. Broadband Internet data caps, by residential and business connections
7. Monthly broadband data use, June month 2011–14
8. Size of Internet service providers, at 30 June 2011–14
9. Other business activities of Internet service providers, year ended June 2011–14
10. Mobile phone Internet connections, at 30 June 2011–14
11. Availability of Internet Protocol version 6, at 30 June 2011–14
12. Barriers to installing Internet Protocol version 6, at 30 June 2011–14
13. Internet security monitoring activities of Internet service providers, at 30 June 2011–14