Stats NZ
Tatauranga Aotearoa

Internet Service Provider Survey: 2018

New Zealand Government

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Population

Internet Service Provider Survey Population September 2006 - Current

Internet Service Provider Survey Population September 2006 - Current

All resident New Zealand Internet service providers, where Internet service providers were defined as economically significant businesses that supply permanent or regular Internet connectivity services to individuals, households, businesses and other organisations in New Zealand. A business is considered economically significant if it is found on the Stats NZ Business Frame and meets one or more of the following criteria:

• has greater than $30,000 annual GST expenses or sales
• had more than two employees over the last year
• is in a GST-exempt industry (except for residential property leasing and rental)
• is part of a group of enterprises.
For the purposes of this survey, the population included all resident ISPs, regardless of their RME (rolling mean employee) measurement, found on the Stats NZ Business Frame or other employment measures.

Internet Service Provider 2015

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. 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.

Methodology

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

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 2015 was 89 businesses. This increased from 2014, when 84 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 2015 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.

Non-Response

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

Unit non-response occurs when a business does not return the questionnaire. While weighting is commonly used in other Statistics NZ surveys, it is not applied to the ISP Survey. 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 is not applied to the ISP survey either, for the same reasons as above.

Time Method

Reference period

The survey was posted out in July 2015. The reference period was the last 12 months ended 30 June 2015. This aligns with the reference period used by other OECD member countries and previous iterations of the ISP survey back to 2009.

Spatial Coverage	New Zealand

Internet Service Provider 2016

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. 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 does not need to be surveyed separately.

Methodology

The Internet service provider survey is a postal survey of all businesses that meet the population selection criteria. In 2016, data used by mobile phone Internet connections was collected and published for the first time.

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 2016 was 92 businesses. This increased from 2015, when 89 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 2016 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.

Non-Response

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

Unit non-response occurs when a business does not return the questionnaire. While weighting is commonly used in other Statistics NZ surveys, it is not applied to the ISP Survey. 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 is not applied to the ISP survey either, for the same reasons as above.

Time Method

**Reference period **

The survey was posted out in July 2016. The reference period was the last 12 months ended 30 June 2016. This aligns with the reference period used by other OECD member countries and previous iterations of the ISP survey back to 2009.

Internet Service Provider 2017

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. 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.

Methodology

The Internet service provider survey is a postal survey of all businesses that meet the population selection criteria. Since 2016, data used by mobile phone Internet connections was collected and published.

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 2017 was 83 businesses. This decreased from 2016, when 92 businesses were surveyed. Such changes in the population can be explained by:

• existing businesses merging or ceasing

• businesses being excluded from the population after not reporting ISP activity in the previous survey

This decrease is slightly offset by new business being created. Not all businesses identified in the survey population ultimately report ISP activity.

Population scope

Businesses are included in the population for the ISP survey if they reported activity as an internet service provider in the 2016 ISP survey. Further businesses are considered for addition to the population if their main business activity or main income sources include any of a list of internet related keywords, and their industry sector is one typical for an internet service provider (such as telecommunications). Such businesses will be added to the population if research indicates that they currently provide any internet connection services.

Scope error is possible if a business acts as an ISP, but their reported industry sector is not typical of an ISP. This error is mitigated by subject matter experts manually adding businesses to the population once they are publically renowned.

Response rates

The overall target response rate for ISP 2017 was 85 percent, which was met with a response rate of 91 percent.

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

Non-Response

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

Unit non-response occurs when a business does not return the questionnaire. While weighting is commonly used in other Stats NZ surveys, it is not applied to the ISP Survey. 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 is not applied to the ISP survey either, for the same reasons as above.

Time Method

Reference period

The survey was posted out in July 2017. The reference period was the last 12 months ended 30 June 2017. This aligns with the reference period used by other OECD member countries and previous iterations of the ISP survey back to 2009.

Internet Service Provider 2018

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.

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.

Methodology

The Internet service provider survey was typically a paper survey of all businesses that met the population selection criteria, however in 2018 we have tried a new online mode for the survey. The online survey mode is a new initiative Stats NZ is undertaking to modernise our current collections with today's technology driven environment. The online questionnaire collects the same information as the 2017 paper questionnaire. In 2018, we updated our download and upload speed questions to match the growing capabilities of bandwidth speeds by internet connections. The published tables reflect these changes.

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 2018 was 92 businesses. 7 businesses identified in the survey population ultimately did not report ISP activity and were deemed out of scope. The target population has increased since 2017, when 83 businesses were surveyed. These minor changes in the population can be explained by:

• birth of new businesses that are selected for reporting their main business activity as Internet Service Provision

• businesses that previously were consolidated together answering individually for their subsidiaries

Population scope

Businesses are included in the population for the ISP survey if they reported activity as an internet service provider in the 2017 ISP survey. Further businesses are considered for addition to the population if their main business activity or main income sources include any of a list of internet related keywords, and their industry sector is one typical for an internet service provider (such as telecommunications). Such businesses will be added to the population if research indicates that they currently provide any internet connection services.

Scope error is possible if a business acts as an ISP, but their reported industry sector is not typical of an ISP. This error is mitigated by subject matter experts manually adding businesses to the population once they are publicly renowned.

Response rates

The overall target response rate for ISP 2018 was 85 percent. The achieved response rate was 86 percent for the in-scope businesses.

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

Non-Response

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

Unit non-response occurs when a business does not return the questionnaire. While weighting is commonly used in other Stats NZ surveys, it is not applied to the ISP Survey. 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. Imputation for unit non-response was not applied for similar reasons.
Item non-response is not applied to the ISP survey either, as above.

Time Method

Reference period

The survey was posted out in July 2018. The reference period was the last 12 months ended 30 June 2018. This aligns with the reference period used by other OECD member countries and previous iterations of the ISP survey back to 2009.

Variables

Concepts

Internet Service Provider concepts

Name	Description
Active subscriber/connection	A connection that has been used to connect to the Internet within the last 90 days. *Note:* The term ' connection' replaced the term 'subscriber' from 2014.
ANZSIC06	Australia and New Zealand Standard Industrial Classification 2006 codes. These are the codes used to classify and categorise all businesses on the Stats NZ Business Frame.
Botnets	A botnet is a 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. This includes digital subscriber line (DSL), cable, fibre optic, satellite, cellular, and fixed wireless.
Business Register/Frame	A register of all economically significant businesses operating in New Zealand. Name change from Frame to Register in 2013.
Connection	A connection provided through an Internet Service Provider enabling access to the Internet. Active connections are those that have been 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 subscribers only - email only subscribers
Data cap	A 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	A card which contains data or which is used for data operations (examples: Vodafone 3G card or Telecom Aircard).
Dial-up connection	A 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	A device that is connected to a computer to allow access to wireless broadband or use of protected software.

Digital Subscriber Line (DSL)	A technology that allows high-speed transmission of data, audio, and video over standard telephone lines; a form of broadband transmission. 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	E nterprises 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)	A 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: - Very small: Providers with between 1 and 100 subscribers - Small: Providers with between 101 and 1,000 subscribers - Medium: Providers with between 1,001 and 10,000 subscribers - Large: Providers with between 10,001 and 100,000 subscribers - Very large: Providers with 100,001 or more subscribers.
Mbps and kbps	Mbps and kbps are 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 handset 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	Pharming is a hacker's attack aiming to redirect a website's traffic to another, bogus website. Pharming can be conducted either by changing the hosts file on a victim's computer or by exploitation of a vulnerability in DNS server software.
Phishing	A 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)	A 12-month moving average of the monthly employee count (EC) figure. The EC is obtained from taxation data.
Trojans	A Trojan horse, or Trojan, is software that appears to perform a desirable function for the user prior to run or install, 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.
Voice over Internet Protocol (VoIP)	**Voice over Internet Protocol (VoIP)** A group of technologies for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet.
Unmetered and uncharged Data	**Unmetered and uncharged Data** Data which does not count against the total capped and charged usage enabled by the Internet Provider. This is often linked to specific arrangements between ISPs and content providers, which allow customers unlimited data access to a particular content provider.
Terabyte (TB)	**Terabyte (TB)** Multiple of the unit byte for digital information. Terabyte represents a data unit of 1,000 gigabytes or 1 trillion bytes.
Theoretical maximum speed	**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.