BSA | The Software Alliance

COUNTRY: **SINGAPORE**

SCORE: 79.5 | RANK: 7/24

Singapore has modern digital economy laws in most areas. For example, the Electronic Transactions Act 2010 implements the United Nations Convention on Electronic Contracting, which Singapore has ratified. Singapore also has up-to-date cybercrime laws and intellectual property laws.

Singapore privacy law has now come into force, and provides a balanced approach between protecting personal information and facilitating innovation in cloud computing and the digital economy.

Singapore has some minor Internet censorship in place but generally promotes innovative business practices that are free from tariffs and government intervention. However, in mid-2015, Singapore terminated its membership as a Certificate Consuming Member of the Common Criteria Recognition Agreement (CCRA). This represents a setback in efforts to harmonize international certification arrangements.

Singapore has excellent information (IT) infrastructure and is developing a national network to bring high-speed fiber to the home.

Singapore's score improved slightly, but its ranking fell two places — to 7th — in 2015 as it was overtaken by fast-improving countries. Only one point separates the countries between 4th place and 7th place in the 2015 rankings, so even small changes have an impact.

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
DATA PRIVACY (SCORE: 7.6/10 | RANK: 10/24)		
1. Are there laws or regulations governing the collection, use, or other processing of personal information?	✔	Singapore passed the Personal Data Protection Act in October 2012. This is comprehensive privacy legislation, modelled on the Organization for Economic Cooperation and Development (OECD) Privacy Guidelines.
2. What is the scope and coverage of privacy law?	Comprehensive	The legislation is comprehensive and covers all of the private sector. It does not cover government agencies.
3. Is the privacy law compatible with the Privacy Principles in the EU Data Protection Directive?	✔	The privacy law appears compatible with the European Union (EU) Data Protection Directive.
4. Is the privacy law compatible with the Privacy Principles in the APEC Privacy Framework?	✔	Singapore is a member of Asia-Pacific Economic Cooperation (APEC). The law is compatible with the APEC Privacy Framework.
5. Is an independent private right of action available for breaches of data privacy?	Not available	No private right of action is available for privacy breaches in Singapore.
6. Is there an effective agency (or regulator) tasked with the enforcement of privacy laws?	National regulator	The law established the Personal Data Protection Commission (PDPC) <www.pdpc.gov.sg>.
7. What is the nature of the privacy regulator?	Not applicable	The Personal Data Protection Commission (PDPC) <www.pdpc.gov.sg> is an independent authority, with oversight provided by a new appeals tribunal.
8. Are data controllers free from registration requirements?	✔	There are no registration requirements in Singapore. The law does not include registration requirements.
9. Are cross-border transfers free from registration requirements?	✔	There are no registration requirements in Singapore. The law does include the development of some basic cross-border transfer rules.

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10. Is there a breach notification law?	✖	There are no mandatory data breach notification requirements in Singapore and the privacy law in Singapore is silent on the issue of data breach notification requirements.
		However, on May 8, 2015, the Personal Data Protection Commission (PDPC) <www.pdpc.gov.sg> published the "Guide to Managing Data Breaches" available from <www.pdpc.gov.sg/legislation-and-guidelines/advisory-guidelines/other-guides>. The guide is a useful representation of voluntary best practices.
SECURITY (SCORE: 4/10 | RANK: 18/24)		
1. Is there a law or regulation that gives electronic signatures clear legal weight?	✔	The Electronic Transactions Act 2010 replaces the Electronic Transactions Act 1998. It provides for the recognition of electronic signatures and digital signatures in Singapore. Section 8 provides that where a rule of law requires a signature, an electronic signature satisfies that rule of law, subject to some simple requirements.
2. Are ISPs and content service providers free from mandatory filtering or censoring?	✖	Singapore's Media Development Authority (MDA) <www.mda.gov.sg> maintains license and registration requirements that subject Internet content and service providers to penalties for noncompliance with restrictions on prohibited material. The MDA is charged with ensuring that "nothing is included in the content of any media service which is against public interest or order, or national harmony, or which offends good taste or decency." The core of this framework is a class license scheme stipulated under the Broadcasting Act and by industry policies and regulations issued by the MDA.
		Under the class license scheme, all Internet service providers (ISPs) and those Internet content providers (ICPs) determined to be political parties or persons "engaged in the propagation, promotion or discussion of political or religious issues relating to Singapore" must register with the MDA. As licensees, ISPs and ICPs are also bound by the MDA's Internet Code of Practice. The code defines "prohibited material" broadly, specifying only a few standards for sexual, violent, and intolerant content. Where filtering is not mandated at the ISP level, the code requires that ICPs deny access to material if so directed by the MDA. Licensees that fail to comply with the code may face sanctions, including fines, license suspensions, or terminations.
3. Are there laws or enforceable codes containing general security requirements for digital data hosting and cloud service providers?	Limited coverage in legislation	There are no detailed security requirements that cover cloud services or related infrastructure in Singapore. The privacy legislation contains some very broad security requirements and some sector specific rules are also in place (for example, in the financial services sector).
4. Are there laws or enforceable codes containing specific security audit requirements for digital data hosting and cloud service providers?	Limited coverage in legislation	There is no general security audit requirement that covers all information.
		However, where the retention of electronic records comes under the jurisdiction and supervision of a government agency or statutory organization, it may impose additional requirements to ensure that it can continue to exercise proper supervision over the relevant activities and information that these records capture. For example, to keep electronic records for tax purposes, the prior approval of the Inland Revenue Authority of Singapore (IRAS) is required. Pursuant to the Guide to Keeping of Records in Imaging Systems issued by IRAS, it will approve the storage of business records in a taxpayer's computer system only if such system is an "approved process" under the Evidence Act (Cap. 97).
5. Are there security laws and regulations requiring specific certifications for technology products?	Limited requirements	In mid-2015, Singapore terminated its membership as a Certificate Consuming Member of the Common Criteria Recognition Agreement (CCRA) <www.commoncriteriaportal.org>. This represents a setback in efforts to harmonize international certification arrangements.
		In practice, certification is not required for most government procurement opportunities in Singapore, although it has been included in some national infrastructure projects.

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
CYBERCRIME (SCORE: 9/10 | RANK: 7/24)		
1. Are cybercrime laws in place?	✔	The Computer Misuse Act 1993 (Cap. 50A) includes provisions to protect computers, computer programs, and data stored in computers from unauthorized access, modification, interception, and interference. The law intentionally defines "computer" very widely and is not technology specific. It applies to any person, irrespective of physical location, who does any act that relates to any computer, program, or data located within Singapore at the material time. Section 3 of the act states that any person who knowingly causes a computer to perform any function for the purpose of securing access without authority to any program or data held in any computer shall be guilty of an offense. Singapore plans to amend the act to cover a wider range of cybercrime and cybersecurity issues, including attacks on national infrastructure and cyber-bullying. The first of these amendments was introduced to the Singapore Parliament in November 2012.
2. Are cybercrime laws consistent with the Budapest Convention on Cybercrime?	✔	The offenses contained in the Computer Misuse Act are not as specific as the offenses listed in the Convention on Cybercrime, but they do cover the majority of online criminal activity.
3. What access do law enforcement authorities have to encrypted data held or transmitted by data hosting providers, carriers or other service providers?	Access with a warrant	This is covered in the Criminal Procedure Code Act 2010: Section 40 (Power to access decryption information) "(1) For the purposes of investigating an arrestable offence, the public prosecutor may by order authorize a police officer or an authorized person to exercise ... all or any of the powers under this section. (2) The police officer or authorized person referred to in subsection (1) shall be entitled to: (a) access any information, code or technology which has the capability of retransforming or unscrambling encrypted data into readable and comprehensible format or text for the purposes of investigating the arrestable offence; (b) require — (i) any person whom he reasonably suspects of using a computer in connection with an arrestable offence or of having used it in this way; or (ii) any person having charge of, or otherwise concerned with the operation of, such computer, to provide him with such reasonable technical and other assistance as he may require for the purposes of paragraph (a); and (c) require any person whom he reasonably suspects to be in possession of any decryption information to grant him access to such decryption information as may be necessary to decrypt any data required for the purposes of investigating the arrestable offence."
4. How does the law deal with extraterritorial offenses?	Comprehensive coverage	The Computer Misuse Act provides that the law shall have effect, in relation to any person, whatever the nationality or citizenship, outside as well within Singapore. Section 11 (Territorial scope of offenses under this act): "(2) Where an offence under the act is committed by any person in any place outside Singapore, he may be dealt with as if the offence had been committed in Singapore."
INTELLECTUAL PROPERTY RIGHTS (SCORE: 17.4/20 | RANK: 6/24)		
1. Is the country a member of the TRIPS Agreement?	✔	Singapore became a member of the TRIPS Agreement in 1995.
2. Have IP laws been enacted to implement TRIPS?	✔	Singapore has implemented the TRIPS Agreement in local laws.
3. Is the country party to the WIPO Copyright Treaty?	✔	The WIPO Copyright Treaty entered into force in Singapore in 2007.
4. Have laws implementing the WIPO Copyright Treaty been enacted?	✔	Singapore has implemented the key provisions of the treaty.
5. Are civil sanctions available for unauthorized making available (posting) of copyright holders' works on the Internet?	✔	Section 26 of the Copyright Act protects the right of communication to the public.

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
6. Are criminal sanctions available for unauthorized making available (posting) of copyright holders' works on the Internet?	✔	It is likely this is covered by the criminal provisions in Section 136 of the Copyright Act for "significant" breaches: (3A) Where, at any time when copyright subsists in a work — (a) a person does any act that constitutes an infringement of the copyright in a work other than act referred to in subsection (1), (2), (3) or (6); (b) the infringement of the copyright in the work by the person is wilful; and (c) either or both of the following apply: (i) the extent of the infringement is significant; (ii) the person does the act to obtain a commercial advantage, the person shall be guilty of an offence and shall be liable on conviction to a fine not exceeding $20,000 or to imprisonment for a term not exceeding six months or to both and, in the case of a second or subsequent offence, to a fine not exceeding $50,000 or to imprisonment for a term not exceeding three years or to both.
7. Are there laws governing ISP liability for content that infringes copyright?	✔	In 2014, Singapore updated its copyright laws to include new provisions relating to "flagrant" online copyright breaches. These provisions replaced the previous ISP liability regime with a new and unique approach. Under the new regime, a copyright holder must obtain a High Court injunction showing that an online location is "flagrantly" infringing copyright. If successful, they can then have the site taken down by an ISP following a short notice period. The relevant provisions are contained in Part IX A of the Copyright Act 2006, as amended by the Copyright Amendment Act 2014 (Act 22 of 2014), available at <statutes.agc.gov.sg>. The Copyright (Flagrantly Infringing Online Location) Regulations 2014 (S 802 of 2014) were issued in December 2014, requiring mandatory takedown after a period of 14 days if reasonable attempts have been made to issue a notice to the provider of the material, <statutes.agc.gov.sg>. However, these provisions are only triggered by the High Court injunction discussed above.
8. Is there a basis for ISPs to be held liable for content that infringes copyright found on their sites or systems?	✔	Generally under Section 193D of the Copyright Act, ISPs will be held liable only if they receive a financial benefit from the infringing content and they fail to meet a series of "safe harbor" tests. In July 2014, Singapore passed the Copyright (Amendment) Act (Act number 16/2014) <www.mlaw.gov.sg/content/minlaw/en/news/press-releases/amendments-to-the-copyright-act-2014.html>. These amendments provide a direct route to the High Court to seek an injunction blocking sites where the predominant purpose is copyright infringement. The new provisions are contained in Section 193DDA: (1) Where the High Court is satisfied, on an application made by the owner or exclusive licensee of copyright in a material against a network service provider, that (a) the services of the network service provider have been or are being used to access an online location, which is the subject of the application, to commit or facilitate infringement of copyright in that material; and (b) the online location is a flagrantly infringing online location, the High Court may, after having regard to the factors referred to in section 193DB(3), make an order requiring the network service provider to take reasonable steps to disable access to the flagrantly infringing online location. The "factors" in section 193DB(3) may result in a very high threshold for online copyright infringements, depending on their interpretation by the court. They include, for example: (b) the burden that the making of the order will place on the network service provider.
9. What sanctions are available for ISP liability for copyright infringing content found on their site or system?	Civil	The ISP liability regime is civil.
10. Must ISPs take down content that infringes copyright, upon notification by the right holder?	◑	The revised Copyright Act only requires the ISP to remove the copy from the network or disable access to the material on the network after being furnished with notice that a High Court injunction has been obtained by the rights holder.

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11. Are ISPs required to inform subscribers upon receiving a notification that the subscriber is using the ISP's service to distribute content that infringes copyright?	◑	Under Section 193DDA of the revised Copyright Act, notification need only be provided following the receipt of a notice that a High Court injunction has been obtained by the rights holder.
12. Is there clear legal protection against misappropriation of cloud computing services, including effective enforcement?	Comprehensive protection	Although there are no specific references to cloud computing, Singapore law still provides a strong level of protection for cloud computing services through a combination of comprehensive cybercrime, privacy and Internet protocol (IP) legislation.
SUPPORT FOR INDUSTRY LED STANDARDS & INTERNATIONAL HARMONIZATION OF RULES (SCORE: 9.4/10 | RANK: 11/24)		
1. Are there laws, regulations or policies that establish a standards setting framework for interoperability and portability of data?	✔	Singapore is committed to adopting international standards that promote interoperability. This is documented in Singapore's Intelligent Nation 2015 (iN2015) Steering Committee Report on Innovation, Integration and Internationalisation, 2014, <www.ida.gov.sg/~/media/Files/Infocomm%20Landscape/iN2015/Reports/01_iN2015_Main_Report.pdf> (at page 50).
2. Is there a regulatory body responsible for standards development for the country?	✔	The Standards, Productivity and Innovation Board (SPRING) <www.spring.gov.sg> establishes and publishes Singapore standards, by notification in the Government Gazette. It is commonly known as SPRING Singapore and also acts as the enterprise development agency responsible for helping Singapore enterprises grow. SPRING is a statutory board under the Ministry of Trade and Industry.
3. Are e-commerce laws in place?	✔	Singapore has a comprehensive Electronic Transactions Act 2010.
4. What international instruments are the e-commerce laws based on?	UN Convention on E-Contracting	Singapore has repealed the earlier Electronic Transactions Act 1998 and replaced it with the Electronic Transactions Act 2010 to more closely match provisions of the UN Convention on Electronic Contracting, a convention that Singapore has both signed and ratified. The Convention came into force in March 2013.
5. Is the downloading of applications or digital data from foreign cloud service providers free from tariff or other trade barriers?	✔	There are currently no government tariffs or other trade barriers imposed on the foreign sources whose software or applications are downloaded in Singapore.
6. Are international standards favored over domestic standards?	✔	Singapore has signed the World Trade Organization (WTO) Technical Barriers to Trade Code of Good Practice for the Preparation, Adoption and Application of Standards <www.wto.org/english/docs_e/legal_e/17-tbt_e.htm#annexIII> and therefore considers international standards carefully. In addition, Singapore is committed to adopting international standards throughout the IT and security sectors. This is documented in the Intelligent Nation 2015 (iN2015) Steering Committee Report on Innovation, Integration and Internationalisation, 2014, <www.ida.gov.sg/~/media/Files/Infocomm%20Landscape/iN2015/Reports/01_iN2015_Main_Report.pdf>.
7. Does the government participate in international standards setting process?	✔	Singapore participates in relevant International Standards Organization (ISO) and International Electrotechnical Commission (IEC) standard-setting processes and is a full member of the ISO.
PROMOTING FREE TRADE (SCORE: 8.6/10 | RANK: 7/24)		
1. Are there any laws or policies in place that implement technology neutrality in government?	✔	The Intelligent Nation 2015 (iN2015) <www.ida.gov.sg/Tech-Scene-News/iN2015-Masterplan> (described as a 10-year master plan with the vision to build Singapore into an Intelligent Nation) includes a commitment to technology neutrality.
2. Are cloud computing services able to operate free from laws or policies that mandate the use of certain products (including, but not limited to types of software), services, standards or technologies?	✔	There are no mandatory product requirements in Singapore.
3. Are cloud computing services able to operate free from laws or policies that establish preferences for certain products (including, but not limited to types of software), services, standards or technologies?	✔	There are no product preferences in Singapore.

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
4. Are cloud computing services able to operate free from laws that discriminate based on the nationality of the vendor, developer or service provider?	✔	Singapore joined the updated WTO plurilateral Agreement on Government Procurement in April 2014, which includes rules guaranteeing fair and nondiscriminatory conditions of international competition. These rules cover most large contracts. In practice, many government procurement opportunities require a joint venture with a local firm or the establishment of a local agency arrangement. Singapore provides additional market access concessions to its trading partners under its bilateral free trade agreements.
IT READINESS, BROADBAND DEPLOYMENT (SCORE: 23.5/30 | RANK: 2/24)		
1. Is there a national broadband plan?	• By 2015, the Next-Generation National Broadband Network (Next-Gen NBN) to deliver 1 Gbps downstream and 500 Mbps upstream broadband access to every home, office and school.	Singapore has required the provision of FttH, with customers able to select from a range of suppliers and speeds of access. Singapore, partly due to its compact size and high urbanization, is one of the few countries that has mandated a very high-speed broadband connection to every home. Singapore's successful implementation of its national broadband plan is near completion. In 2008, the Singapore Infocomm Development Authority (IDA) <www.ida.gov.sg> announced (as a project under Intelligent Nation 2015) the allocation of US $750 million to support the building and operation of a national optical fiber-based network as part the Next Generation National Infocomm Infrastructure (Next-Gen NII) <www.ida.gov.sg/Tech-Scene-News/Infrastructure>. The strategy also included a wireless network. One of the programs under Next-Gen NII is the Next-Gen NBN with the following target: • By 2015, the Next-Gen NBN to deliver 1 Gbps downstream and 500 Mbps upstream broadband access to every home, office and school. The Singapore government has established an industry structure with three layers (network, operations/wholesale, and retail) with structural separation requirements on the Next-Gen NBN Network Company (NetCo) and operational separation requirements on the Next-Gen NBN Operating Company (OpCo).

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2. Are there laws or policies that regulate the establishment of different service levels for data transmission based on the nature of data transmitted?	Limited regulation and limited public debate	There are no net neutrality regulations, and ISPs are able to apply differential charging and/or block different types of traffic over their networks. Singapore's Infocomm Development Authority (IDA) Policy Framework for Net Neutrality <www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licensees/Competition-Management/Telecom-Competition-Code.aspx> does, however, forbid the blocking of "legitimate" content and ensures that ISP services meet the minimum broadband quality of service standards.

A specific telecommunications license is required to provide voice over IP services in Singapore. Licensees must comply with regulations on provision of directory and emergency services, calls to and from other telecommunication networks, quality standards, number portability, and other technical requirements.

The following is the full Policy Framework for Net Neutrality. It was released by the IDA in June 2011, following a public consultation period:
• No blocking of legitimate Internet content
• ISPs and telecom network operators are prohibited from blocking legitimate Internet content.
• ISPs and telecom network operators cannot impose discriminatory practices, restrictions, charges or other measures which, while not outright blocking, will render any legitimate Internet content effectively inaccessible or unusable.
• Comply with competition and interconnection rules
• ISPs and telecom network operators must comply with IDA's competition and interconnection rules in the Telecom Competition Code (TCC) <www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licensees/Competition-Management/Telecom-Competition-Code.aspx>.
• Provide information transparency
• ISPs and telecom network operators must comply with IDA's information transparency requirement and disclose to end-users their network management practices and typical Internet broadband download speeds.
• Meet minimum quality of service (QoS) standards
• ISPs must meet the minimum broadband QoS standards to ensure a reasonable broadband Internet experience for end-users.
• Reasonable network management practices are allowed, provided that the minimum Internet broadband QoS requirements are adhered to, and that such practices will not render any legitimate Internet content effectively inaccessible or unusable.
• Niche or differentiated Internet services allowed
• ISPs and telecom network operators are allowed to offer niche or differentiated Internet service offerings that meet IDA's information transparency, minimum QoS and fair competition (including on interconnection) requirements. |
| 3. Base Indicators | | |
| 3.1. Population (millions) (2014) | 5 | In 2014, the population of Singapore increased by 2%.

[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>] |
| 3.2. Urban Population (%) (2014) | 100% | [World Bank, Data Catalog, Indicators, Urban Population (2015) <data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>] |
| 3.3. Number of Households (millions) (2014) | 1 | In 2014, the number of households in Singapore increased by 1.9%.

[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>] |
| 3.4. Population Density (people per square km) (2014) | 7,736 | [World Bank, Data Catalog, Indicators, Population Density (2015) <data.worldbank.org/indicator/EN.POP.DNST>] |
| 3.5. Per Capita GDP (US$ 2014) | $56,287 | In 2014, the per capita gross domestic product (GDP) for Singapore increased by 2.9% to US $56,287.

[World Bank, Data Catalog, Indicators: GDP per capita, current US$ (2015) <data.worldbank.org/indicator/NY.GDP.PCAP.CD> and GDP growth, annual % (2015) <data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>] |
| 3.6. IT Service Exports (2014) (billions of US$) | 38.09 | In 2014, the value of IT service exports for Singapore increased by 2.2% to US $38.09 billion. The five-year compound annual growth rate (CAGR) from 2009-2014 was 13.3%.

[World Bank, Data Catalog, Indicators: ICT Service Exports US$ (Dec 2015) <data.worldbank.org/indicator/BX.GSR.CCIS.CD>] |

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
3.7. Personal Computers (2014) (% of households)	88%	In 2014, 88% of households in Singapore had personal computers. This is an increase of 1.1% since 2013, and ranks Singapore 14 out of 183 countries surveyed. The growth from 2013 is above the five-year CAGR from 2009 to 2014 of 1.1%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
4. IT and Network Readiness Indicators		
4.1. ITU ICT Development Index (IDI) (2015) (Score is out of 10 and covers 167 countries)	8.08	Singapore's ITU ICT Development Index (IDI) for 2015 is 8.08 (out of 10), resulting in a rank of 19 (out of 167 countries). The 2015 IDI for Singapore increased by 2.3%, and the IDI ranking declined by three places from a rank of 16 since 2013. [International Telecommunication Union (ITU), Measuring the Information Society (Dec 2015) <www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2015.aspx>]
4.2. World Economic Forum Networked Readiness Index (NRI) (2015) (Score is out of 7 and covers 143 countries)	6.02	Singapore has a Networked Readiness Index (NRI) score of 6.02 (out of 7), resulting in a rank of 1 (out of 143 countries) and a rank of 1 out of 19 in the high income: non-OECD grouping of economies. The 2015 NRI for Singapore increased by 0.9% and improved from a rank of 2 since 2014. [World Economic Forum, Global Information Technology Report (2015) <reports.weforum.org/global-information-technology-report-2015>]
4.3. International Connectivity Score (2014) (Score is out of 10 and covers 52 countries)	5.47	Singapore has an International Connectivity Score of 5.47 (out of 10), resulting in a rank of 5 (out of 26) in the innovation-driven grouping of countries. [International Connectivity Scorecard (2013) <www.connectivityscorecard.org>]
5. Internet Users and International Bandwidth		
5.1. Internet Users (millions) (2014)	4	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]
5.2. Internet Users as Percentage of Population (2014)	73%	In 2014, 73% of the population in Singapore used the Internet, resulting in a ranking of 41 out of 199 countries surveyed. This represents an increase of 1.4% since 2013. The growth from 2013 is above the five-year CAGR from 2009-2014 of 1.1%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>] Note: There may be some variations as to how countries calculate this. Some countries base this upon all or part of the population, such as between 16 and 72 years of age.
5.3. International Internet Bandwidth (2014) (bits per second per Internet user)	616,531	The International Internet Bandwidth (per Internet user) of Singapore has increased by 18% since 2013. The growth from 2013 is below the five-year CAGR from 2009-2014 of 39.9%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]
5.4. International Internet Bandwidth (2014) (total gigabits per second [Gbps] per country)	2,789	Singapore has increased its International Internet Bandwidth by 22% since 2013 to 2,789 Gbps and is ranked 17 out of 215 countries surveyed. The growth from 2013 is below the five-year CAGR from 2008-2013 of 47.9%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]
6. Fixed Broadband		
6.1. Fixed Broadband Subscriptions (millions) (2014)	1	Singapore has increased the number of fixed broadband subscribers by 4% since 2013 to 1 million, and is ranked 53 out of 215 countries surveyed. The growth from 2013 is below the five-year CAGR from 2009-2014 of 6.6%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]
6.2. Fixed Broadband Subscriptions as % of households (2014)	114%	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>] Note: This may be skewed by business usage in some countries.
6.3. Fixed Broadband Subscriptions as % of population (2014)	27%	Singapore has decreased its fixed broadband subscriptions (as a % of the population) by -3.2% since 2013, which is below the five-year CAGR from 2009-2014 of 1.5%. This ranks Singapore 41 out of 215 countries surveyed. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]
6.4. Fixed Broadband Subscriptions as % of Internet users (2014)	36%	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (June 2014) <www.itu.int/ITU-D/ict/publications/world/world.html>]

Q SINGAPORE	RESPONSE	EXPLANATORY TEXT
7. Mobile Broadband		
7.1. Mobile Cellular Subscriptions (millions) (2014)	8	In 2014, Singapore decreased the number of mobile cellular subscriptions by -4% and is ranked 94 out of 215 countries surveyed. The number of subscriptions account for 150% of the population. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>] Note: This figure may be inflated due to multiple subscriptions per head of population, but excludes dedicated mobile broadband devices (such as 3G data cards, tablets, etc.).
7.2. Active Mobile Broadband Subscriptions per 100 inhabitants (2014)	142	Singapore has decreased the number of active mobile-broadband subscriptions (as a % of the population) by -5% since 2013. This ranks Singapore 2 out of 215 countries surveyed. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>] Note: This refers to the sum of standard mobile-broadband and dedicated mobile-broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets.
7.3. Number of Active Mobile Broadband Subscriptions (millions) (2014)	8	In 2014, Singapore decreased the number of active mobile-broadband subscriptions by -3% and is ranked 46 out of 215. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec 2015) <www.itu.int/ITU-D/ict/publications/world/world.html>]