

COUNTRY: AUSTRALIA

SCORE: 80.61 | RANK: 5/24

Australia promotes cloud computing through a mix of modern laws, regulations, and standards. For example, Australia has a strong commitment to international cooperation, free trade, and interoperability. Key laws are based on international models, and Australia is an active participant in the development of international standards.

Australia has up-to-date cybercrime laws and ratified the Convention on Cybercrime in 2012. Australia also has comprehensive electronic signature and electronic commerce laws. Australia's data protection legislation is current and is broadly compatible with global frameworks.

Intellectual property laws in Australia provide good protection for cloud computing services and the digital economy. However, Australia provides limited "safe harbor" protections in the Copyright Act 1968, and the level of protection for cloud service providers remains uncertain.

Australian information technology (IT) infrastructure is reasonably well developed. Australia revised its model for the National Broadband Network in 2014. It is forecast to provide 8 million connections at speeds of 25–50 Mbps through fiber to the node (FttN) and hybrid fiber-coaxial (HFC) connections by 2020.

Overall, Australia's Scorecard results were similar to the results reported in 2016. The country's slight improvement in the ranking — from sixth to fifth — is mostly a result of other countries' weaker performance in the areas relevant to cloud computing that are reflected in the Scorecard.

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
DATA PRIVACY (SCORE: 10.5/12.5 RANK: 4/24)		
1. Is a data protection law or regulation in place?	✓	The Privacy Act 1988 (Cth) < www.legislation.gov.au/Details/C2016C00979 > requires government agencies and private-sector organizations to comply either with the Australian Privacy Principles or an industry code formally approved by the regulator in their collection, use, disclosure, and handling of an individual's personal information. In addition, some states and territories have their own privacy legislation covering state government agencies and/or health providers.
2. What is the scope and coverage of the data protection law or regulation?	Comprehensive	The Privacy Act 1988 (Cth) is relatively comprehensive, although it contains exemptions for small businesses and employee records. In addition, some states and territories have their own privacy legislation covering state government agencies and/or healthcare providers.
3. Is a data protection authority in place?	✓	The Privacy Commissioner regulates privacy at the national level. Similar bodies are in place in some states. The Privacy Commissioner is part of the Office of the Australian Information Commissioner (OAIC) < www.oaic.gov.au >.
4. What is the nature of the data protection authority?	Sole commissioner	The commissioner is a sole commissioner within the Office of the Australian Information Commissioner (OAIC) < www.oaic.gov.au >.
5. Is the data protection authority enforcing the data protection law or regulation in an effective and transparent manner?	✓	In recent years the Office of the Australian Information Commissioner (OAIC) < www.oaic.gov.au > has taken a more proactive enforcement role. A broad range of remedies and sanctions are available. In August 2016, OAIC participated in a joint enforcement action with the Canadian regulator in relation to a major privacy breach by the Ashley Madison service. This was a significant example of cross-border enforcement cooperation < www.oaic.gov.au/media-and-speeches/news/ashley-madison-findings >.
6. Is the data protection law or regulation compatible with globally recognized frameworks that facilitate international data transfers?	APEC framework & EU framework	Australian data protection legislation is broadly compatible with global frameworks, including both the EU Data Protection Directive and the APEC Privacy Framework. However, the legislation contains exceptions for employee records and small businesses, which diverge from international best practice. Australia is a member of the Asia Pacific Economic Cooperation (APEC), but is not a formal participant in the APEC Cross-Border Privacy Rules system (CBPRs) < www.cbprs.org >. Australia is considering participation and called for a public consultation for submissions in July 2017 < www.ag.gov.au/Consultations/Pages/APEC-cross-border-privacy-rules-public-consultation.aspx >.

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7. Are data controllers free from registration requirements?	✓	There are no registration requirements for private-sector organizations in Australian privacy law.
8. Are there cross-border data transfer requirements in place?	Detailed requirements	The international transfer of personal data is restricted in Australian privacy law to transfers that meet certain requirements. The requirements are set out in detail in Australian Privacy Principle 8 (APP 8). The Office of the Australian Information Commissioner (OAIC) has also published a guideline on complying with APP 8 < www.oaic.gov.au/agencies-and-organisations/app-guidelines/chapter-8-app-8-cross-border-disclosure-of-personal-information >.
9. Are cross-border data transfers free from arbitrary, unjustifiable, or disproportionate restrictions, such as national or sector-specific data or server localization requirements?	✓	The main requirement in Australian Privacy Principle 8 (APP 8) is that the organization should have a reasonable belief that transferred data will be the subject of “substantially similar” protection in the target country, although a range of alternative exceptions can also be used. The provisions are lengthy and complex, but are broadly in line with international practice. They provide a range of flexible options for businesses wishing to transfer data.
10. Is there a personal data breach notification law or regulation?	✓	The Privacy Amendment (Notifiable Data Breaches) Act 2017 < www.legislation.gov.au/Details/C2017A00012 > establishes a Notifiable Data Breaches (NDB) scheme, to ensure that affected individuals are notified about serious data breaches. The NDB scheme applies to all businesses, government agencies, and other organizations covered by the Australian Privacy Act 1988 and will commence in February 2018.
11. Are personal data breach notification requirements transparent, risk-based, and not overly prescriptive?	✓	Australia’s Notifiable Data Breaches (NDB) scheme is new, it appears to be based on international best practice, and the requirements seem to be risk-based and reasonable. Notification must be provided to both the regulator and individuals, but there are useful exceptions for circumstances where the security breach has been remedied and there is no risk of serious harm. The law also allows an organization to publish a general notice of the breach, where it is difficult to contact every affected individual. The Office of the Australian Information Commissioner (OAIC) was due to publish further guidance on the exact obligations under the NDB scheme in late 2017 < www.oaic.gov.au/engage-with-us/consultations/notifiable-data-breaches >.
12. Is an independent private right of action available for breaches of data privacy?	✗	An individual right of action is not available in Australia. The Australian Law Reform Commission < www.alrc.gov.au > recommended the establishment of a broad right of action in reports published in 2005 and 2014, but the recommendations have not been implemented. Some extremely limited provisions (restricted to “revenge porn” cases) are in place at the state and territory level. In Victoria, it is a criminal offense to maliciously distribute intimate images without the person’s consent. A civil right of action related to “revenge porn” was proposed in New South Wales (NSW) in 2016, but has not been implemented.
SECURITY (SCORE: 10.8/12.5 RANK: 2/24)		
1. Is there a national cybersecurity strategy in place?	✓	Australia’s Cybersecurity Strategy was released in April 2016 < cybersecuritystrategy.dpmc.gov.au >.
2. Is the national cybersecurity strategy current, comprehensive, and inclusive?	✓	The Cybersecurity Strategy < cybersecuritystrategy.dpmc.gov.au > is up to date, having been published in 2016. It is a comprehensive strategy that includes both broad policy objectives and a detailed implementation plan (section 7 of the strategy). The strategy is built around five themes: (1) A national cyber partnership; (2) Strong cyber defences; (3) Global responsibility and influence; (4) Growth and innovation; and (5) A cyber smart nation.

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3. Are there laws or appropriate guidance containing general security requirements for cloud service providers?	✓	<p>Limited requirements are in place regarding security. These are contained in Australian Privacy Principle 11 (Security) in the Privacy Act 1988 <www.oaic.gov.au/agencies-and-organisations/app-guidelines/chapter-11-app-11-security-of-personal-information> and require “active measures” in place to protect personal information, which applies equally to cloud providers.</p> <p>The Australian Signals Directorate (ASD) <www.asd.gov.au> has released “Cloud Computing Security” Guidance <www.asd.gov.au/infosec/cloudsecurity.htm> and included cloud computing in its Australian Government Information Security Manual (ISM) <www.asd.gov.au/infosec/ism>. These consist of recommendations and are not legislated requirements.</p> <p>All Australian Government agencies are required to comply with the Protective Security Policy Framework (PSPF) <www.protectivesecurity.gov.au>, which includes the ISM.</p>
4. Are laws or guidance on security requirements transparent, risk-based, and not overly prescriptive?	✓	<p>Security requirements in Australia are very high level and light touch. The very limited security requirements in Australian Privacy Principle 11 are risk-based <www.oaic.gov.au/agencies-and-organisations/app-guidelines/chapter-11-app-11-security-of-personal-information>.</p>
5. Are there laws or appropriate guidance containing specific security audit requirements for cloud service providers that take account of international practice?	ⓘ	<p>The federal government’s Information Security Manual (ISM) requires that federal agencies must only use cloud services listed on ASD’s Certified Cloud Services List (CCSL) <www.asd.gov.au/infosec/irap/certified_clouds.htm>. Listing on the CCSL requires a bi-annual assessment or audit of the cloud services’ security controls against the requirements of the ISM.</p> <p>The federal government’s Guidance for the Risk Management of Outsourced ICT Arrangements (including cloud) also include some audit requirements. See AS/NZS ISO 31000:2009 Risk Management — Principles and Guidelines and HB 167:2006 Security Risk Management <www.protectivesecurity.gov.au/informationsecurity/Documents/AustralianGovernmentInformationSecurityManagementGuidelines.pdf>.</p>
6. Are international security standards, certification, and testing recognized as meeting local requirements?	✓	<p>There are no laws and few regulations in Australia governing security certifications for technology products. A small number of individual procurement opportunities may express a preference for Common Criteria certification (typically in the defense and intelligence sectors).</p> <p>The use of cloud services in government does require local certification and listing on the Cloud Certified Services List <www.asd.gov.au/infosec/irap/certified_clouds.htm> through the IRAP assessment process.</p> <p>Australia is a Certificate Authorizing Member of the Common Criteria Recognition Agreement (CCRA) <www.commoncriteriaportal.org>. Australia has a strong commitment to adopting and implementing international standards.</p>
CYBERCRIME (SCORE: 11.5/12.5 RANK: 5/24)		
1. Are cybercrime laws or regulations in place?	✓	<p>The Cybercrime Act 2001 (Cth) <www.legislation.gov.au/Details/C2004C01213> made a range of amendments to the Criminal Code in order to update the list of computer offenses. These offenses include a comprehensive range of cybercrimes.</p>
2. Are cybercrime laws or regulations consistent with the Budapest Convention on Cybercrime?	✓	<p>Australia acceded to the Convention on Cybercrime in 2013 and Australian law closely mirrors the convention.</p> <p>The Cybercrime Legislation Amendment Act 2012 <www.legislation.gov.au/Details/C2012A00120> made minor amendments to law enforcement cooperation powers that were designed to facilitate Australia’s accession to the Convention on Cybercrime.</p>
3. Do local laws and policies on law enforcement access to data avoid technology-specific mandates or other barriers to the supply of security products and services?	ⓘ	<p>There are no law enforcement–related laws in Australia that would require specific technology mandates or other barriers to the supply of security products and services.</p> <p>Most access to encrypted data requires a warrant, according to Section 3LA of the Crimes Act 1914 (Cth) <www.legislation.gov.au/Details/C2014C00688>.</p> <p>However, in July 2017, the government announced that it would seek the cooperation of industry in preventing the use of encryption by persons suspected of terrorism offenses and other risks to national security. Few public details are available regarding the proposal, but industry representatives have expressed concern at the potential impact on security products and services.</p>
4. Are arrangements in place for the cross-border exchange of data for law enforcement purposes that are transparent and fair?	✓	<p>Australia has numerous Mutual Legal Assistance Treaties (MLATs) in place, including with most major economies. These agreements include data exchange provisions that are consistent with international practice.</p>

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
INTELLECTUAL PROPERTY RIGHTS (SCORE: 10/12.5 RANK: 8/24)		
1. Are copyright laws or regulations in place that are consistent with international standards to protect cloud service providers?	🔵	The Copyright Act 1968 (Cth) < www.legislation.gov.au/Details/C2017C00094 > has been regularly updated and applies to cloud services. Australian copyright law is based on international standards. Australia does have some limited "safe harbor" protections available in the Copyright Act 1968, but the provisions are very restricted. They only apply to Internet Service Providers and they are drafted so narrowly that the protection is unlikely to extend to most cloud services. These provisions were going to be expanded in the proposed amendment of copyright legislation in 2017, but the proposals were dropped in early 2017. As such the level of protection for cloud service providers remains uncertain.
2. Are copyright laws or regulations effectively enforced and implemented?	🔵	Australia has a strong enforcement culture in relation to Intellectual property and civil enforcement is common. However, intellectual property "safe harbor" provisions have not been effectively implemented for cloud service providers.
3. Is there clear legal protection against misappropriation of trade secrets?	✅	Australia does not have specific trade secrets legislation, but the concept of trade secrets is included in Australian law on "breach of confidence." This requires three elements: (a) the information must have the necessary quality of confidence; (b) the information must have been imparted in circumstances importing an obligation of confidence (usually employment or contract); and (c) there must have been an unauthorized use of the information to the detriment of the original party.
4. Is the law or regulation on trade secrets effectively enforced?	✅	Injunctions and damages are both available in Australia for trade secrets enforcement action. However, litigation on this issue is expensive and cases are rare.
5. Is there clear legal protection against the circumvention of Technological Protection Measures?	✅	Section 132APC of the Australian Copyright Act 1968 (Cth) < www.legislation.gov.au/Details/C2017C00094 > states that it is an offense for a person to engage in conduct that results in the circumvention of a technological protection measure "with the intention of obtaining a commercial advantage or profit."
6. Are laws or regulations on the circumvention of Technological Protection Measures effectively enforced?	✅	Australia has an excellent record of enforcement on all aspects of intellectual property. However, litigation costs can be very high and the number of cases is diminishing.
7. Are there clear legal protections in place for software-implemented inventions?	✅	Patents for computer-related inventions are available in Australia, but are the subject of strict rules set out in case law. The leading Australian case is Commissioner of Patents v. RPL Central Pty. Ltd. [2015] FCAFC 177, which provides guidance on the difference between "technological" innovations (which are patentable) and "business" innovations (which are not) < www.austlii.edu.au/cgi-bin/sinodisp/au/cases/cth/FCAFC/2015/177.html >.
8. Are laws or regulations on the protection of software-implemented inventions effectively implemented?	✅	The Australian Patent Office publishes a manual that includes rules on software-implemented inventions. The manual is available at < manuals.ipaaustralia.gov.au/patents/Patent_Examiners_Manual.htm >. There are no significant obstacles to obtaining a patent for a software-implemented inventions in Australia.
STANDARDS AND INTERNATIONAL HARMONIZATION (SCORE: 12.5/12.5 RANK: 1/24)		
1. Is there a regulatory body responsible for standards development for the country?	✅	Standards Australia < www.standards.org.au > is an independent non-profit company, not a government agency. However, a Memorandum of Understanding between Standards Australia and the Commonwealth Government is in place. This memorandum states that no Australian standard will contravene the World Trade Organization's (WTO) requirements that national standards should not be used as non-tariff barriers to free trade. It also states that no new Australian standard will be developed where an acceptable international standard already exists.
2. Are international standards favored over domestic standards?	✅	Australia has committed to WTO and ISO best practice regarding the prioritization of international standards.
3. Does the government participate in international standards setting process?	✅	Australia is an active participant in the International Standards Organization (ISO) and other standards-setting initiatives. Australia is a full member of the ISO and is a participant in the top-level ICT standards committee (JTC-1) < www.iso.org/isoiec-jtc-1.html >.

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4. Are e-commerce laws or regulations in place?	✓	The Electronic Transactions Act 1999 (Cth) < www.legislation.gov.au/Details/C2011C00445 > (updated in 2011) sets out broad rules for the recognition of electronic records, electronic signatures, and electronic contracts. Similar laws are in place at the state level.
5. What international instruments are the e-commerce laws or regulations based on?	UN Convention on E-Contracting	Australian ecommerce laws (each jurisdiction has separate but uniform legislation) were initially based on the Model Law on E-Commerce, but during the 2012–2015 period, these laws were updated to comply with the UN Convention on the Use of Electronic Communications in International Contracts 2005. Australia has not yet signed the Convention, but the issue is still officially under consideration. Progress can be monitored at < www.ag.gov.au/RightsAndProtections/ECommerce/Pages/UNConventionElectronictransactionsininternationalcontracts.aspx >.
6. Is there a law or regulation that gives electronic signatures clear legal weight?	✓	The federal Electronic Transactions Act 1999 (Cth) recognizes and enforces electronic signatures. Similar laws are in place at the state level. The act was amended by the Electronic Transactions Amendment Act 2011 in order to align the electronic signature requirements with the UN Convention on the Use of Electronic Communications in International Contracts 2005.
7. Are cloud service providers free from mandatory filtering or censoring?	✓	As of June 2017, there is no comprehensive law in place for Internet filtering or censorship. However, the Australian Communications and Media Authority (ACMA) < www.acma.gov.au > can issue take-down notices for certain websites (chiefly child pornography) hosted in Australia. The effect of these provisions on cloud service providers is minimal.
PROMOTING FREE TRADE (SCORE: 9.3/12.5 RANK: 9/24)		
1. Is a national strategy or platform in place to promote the development of cloud services and products?	✓	The Australian Government Cloud Computing Policy Version 3.0 (October 2014) included both broad policy objectives and detailed implementation steps for the promotion of cloud services in Australia. Responsibility for the policy has been transferred from one agency to another and the policy is expected to be updated in late 2017 or early 2018.
2. Are there any laws or policies in place that implement technology neutrality in government?	📌	There was a high-level Commonwealth commitment to technology neutrality in the Australian Government Cloud Computing Policy Version 3.0 (October 2014). However, as of June 2017, the 2014 Policy has expired. A new policy is expected in late 2017 or early 2018. The 2014 Policy stated that there is a “mandatory obligation on entities to consider existing government or commercial off-the-shelf ICT solutions, such as cloud services.” There was no further specific or detailed guidance on technology neutrality. The 2014 Policy is still being followed while a new policy is being developed.
3. Are cloud computing services able to operate free from laws or policies that either mandate or give preference to the use of certain products, services, standards, or technologies?	✓	There are no mandatory product requirements or product preferences in Australian law and policy.
4. Are cloud computing services able to operate free from laws, procurement policies, or licensing rules that discriminate based on the nationality of the vendor, developer, or service provider?	📌	Cloud computing services may be subject to government and agency procurement policies that encourage the involvement of local small- and medium-size enterprises (SMEs) (e.g., the State of Victoria requires a 40% local component in some strategic project tenders, and the State of New South Wales applies a 20% price preference margin to local suppliers for some government projects).
5. Has the country signed and implemented international agreements that ensure the procurement of cloud services is free from discrimination?	✗	Australia is an observer, but not a full member, of the WTO plurilateral Agreement on Government Procurement < www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm >.
6. Are services delivered by cloud providers free from tariffs and other trade barriers?	✓	There are no relevant tariffs or trade barriers in Australia.
7. Are cloud computing services able to operate free from laws or policies that impose data localization requirements?	📌	Australia does not have any general data localization requirements. However, some sector specific data localization requirements are in place. The most significant restriction is that electronic health record data cannot be transferred outside Australia. (My Health Records Act 2012 < www.legislation.gov.au/Details/C2016C01104 >). Other restrictions apply to national security related applications. Some minor restrictions apply at the state and territory level, although these relate to very specific data sets (e.g., driver license data held in one state) and these restrictions are unlikely to have an effect on cloud services.

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
IT READINESS, BROADBAND DEPLOYMENT (SCORE: 16.1/25 RANK: 10/24)		
1. Is there a National Broadband Plan?	By 2020: • The National Broadband Network (NBN) is forecast to provide 8 million connections at speeds of 25–50 Mbps	Australia revised its model for the National Broadband Network in 2014. It is forecast to provide 8 million connections at speeds of 25–50 Mbps through fiber to the node (FttN) and hybrid fiber-coaxial (HFC) connections by 2020.
2. Is the National Broadband Plan being effectively implemented?	1	The network is being rolled out by a federal government-owned operator, NBN Co. < www.nbnco.com.au >. NBN Co. is 25% complete on its target of 8 million connections and forecasts reaching 50% by mid-2017.
3. Are there laws or policies that regulate “net neutrality”?	No regulation	There is no formal policy, law, or regulation on net neutrality in Australia. Although there has been some general media and industry discussion and debate regarding net neutrality, there have been no formal policy discussions or proposals.
4. Base Indicators		
4.1. Population (millions) (2015) • Total for all countries in this scorecard: 4,700 million	24	In 2015, the population of Australia increased by 1.2%. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
4.2. Urban Population (%) (2015) • Average for all countries in this scorecard: 73%	89%	In 2015, the urban population of Australia increased by 0.2%. [World Bank, Data Catalog, Indicators, Urban Population (Jan. 2017) < data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS >]
4.3. Number of Households (millions) (2015) • Total for all countries in this scorecard: 1,249 million	9	In 2015, the number of households in Australia increased by 1.2%. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
4.4. Population Density (people per square km) (2015) • Average for all countries in this scorecard: 471	3	In 2015, the population density of Australia increased by 1.4%. [World Bank, Data Catalog, Indicators, Population Density (Jan. 2017) < data.worldbank.org/indicator/EN.POP.DNST >]
4.5. Per Capita GDP (US\$ 2015) • Average for all countries in this scorecard: US\$ 22,649	\$56,311	In 2015, the per capita GDP for Australia increased by 2.2% to US\$ 56,311. This was above the five-year compound annual growth rate (CAGR) from 2010–2015 of 1.7%. This ranks Australia 1st for value of per capita GDP and 10th for growth (CAGR) for this indicator in this scorecard. [World Bank, Data Catalog, Indicators: GDP Per Capita, Current US\$ (Jan. 2017) < data.worldbank.org/indicator/NY.GDP.PCAP.CD > and GDP Growth, Annual % (Jan. 2017) < data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG >]
4.6. ICT Service Exports (billions of US\$) (2015) • Total for all countries in this scorecard: US\$ 978 billion	\$9	In 2015, the value of ICT service exports for Australia decreased by 6.6% to US\$ 9.47 billion. This was below the five-year compound annual growth rate (CAGR) from 2010–2015 of 2.8%. This ranks Australia 16th for value of ICT service exports and 10th for growth (CAGR) for this indicator in this scorecard. [World Bank, Data Catalog, Indicators: ICT Service Exports US\$ (Jan. 2017) < data.worldbank.org/indicator/BX.GSR.CCIS.CD >]
4.7. Personal Computers (% of households) (2015) • Average for all countries in this scorecard: 63%	83%	In 2015, 83% of households in Australia had personal computers. This is an increase of 2.1% since 2014 and ranks Australia 26th out of 236 countries surveyed. The growth from 2014 is above the five-year compound annual growth rate (CAGR) from 2010–2015 of 0.5%. This ranks Australia 6th for the number of personal computers (as a % of households) and 22nd for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]

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5. IT and Network Readiness Indicators		
5.1. ITU ICT Development Index (IDI) (2016) (score is out of 10 and covers 175 countries) • Average for all countries in this scorecard: 6.58	8.19	Australia's ITU ICT Development Index (IDI) for 2016 is 8.19 (out of 10), resulting in a rank of 14th (out of 175 economies). The 2016 IDI for Australia increased by 0.1%, and the IDI ranking declined by 2 from a rank of 12th since 2015. This ranks Australia 5th in the ITU ICT Development Index and 21st for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), Measuring the Information Society (Dec. 2016) < www.itu.int/net4/ITU-D/idi/2016 >]
5.2. World Economic Forum Networked Readiness Index (NRI) (2016) (score is out of 7 and covers 139 countries) • Average for all countries in this scorecard: 4.77	5.49	Australia has a Networked Readiness Index (NRI) score of 5.49 (out of 7), resulting in a rank of 18th (out of 139 economies) and a rank of 16th (out of 32) in the High income: OECD grouping of economies. The 2016 NRI for Australia increased by 0.2% and declined by 2 places from a rank of 16th since 2015. This ranks Australia 8th in the ITU ICT Development Index and 17th for growth (CAGR) for this indicator in this scorecard. [World Economic Forum, Global Information Technology Report (2016) < reports.weforum.org/global-information-technology-report-2016 >]
6. Internet Users and International Bandwidth		
6.1. Internet Users (millions) (2015) • Total for all countries in this scorecard: 2,330 million	20	[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
6.2. Internet Users (% of population) (2015) • Average for all countries in this scorecard: 67%	85%	In 2015, 85% of the population in Australia used the Internet, resulting in a ranking of 29th out of 236 countries surveyed by the ITU. This is an increase of 0.7% since 2014 and is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 2.2%. This ranks Australia 7th in the proportion of the population using the Internet and 17th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < 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.
6.3. International Internet Bandwidth (total gigabits per second (Gbps) per country) (2015) • Total for all countries in this scorecard: 117,736 Gbps	1,650	Australia has increased its international Internet bandwidth by 10% since 2014 to 1,650 Gbps and is ranked 30 out of 236 countries surveyed by the ITU. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2009–2014 of 18.7%. This ranks Australia 19th for total international Internet bandwidth and 19th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
6.4. International Internet Bandwidth (bits per second (bps) per Internet user) (2015) • Average for all countries in this scorecard: 97,747 bps	81,564	The international Internet bandwidth (per Internet user) of Australia has increased by 8% since 2014. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 14.7%. This ranks Australia 10th for international Internet bandwidth per user and 16th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
7. Fixed Broadband		
7.1. Fixed Broadband Subscriptions (millions) (2015) • Total for all countries in this scorecard: 697 million	7	Australia has increased the number of fixed broadband subscribers by 4% since 2014 to 6.83 million, and is ranked 21st out of 236 countries surveyed by the ITU. The growth from 2014 is close to the five-year compound annual growth rate (CAGR) from 2010–2015 of 4.4%. This ranks Australia 19th for the number of fixed broadband subscriptions and 16th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
7.2. Fixed Broadband Subscriptions (% of households) (2015) • Average for all countries in this scorecard: 63%	75%	[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] Note: This may be skewed by business usage in some countries.
7.3. Fixed Broadband Subscriptions (% of population) (2015) • Average for all countries in this scorecard: 21%	29%	Australia has increased its fixed broadband subscriptions (as a % of the population) by 3.2% since 2014, which is above the five-year compound annual growth rate (CAGR) from 2010–2015 of 3%. This ranks Australia 40th out of 236 countries surveyed by the ITU. This ranks Australia 9th for the number of fixed broadband subscriptions (as a % of the population) and 17th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] The Organisation for Economic Co-operation and Development (OECD) figures below present a breakdown of the type of fixed broadband connections in Australia as of June 2016. In the OECD, Australia was ranked 20th (out of 35) for fixed broadband subscribers as a percentage of population [OECD Broadband Subscribers (Feb. 2017) < www.oecd.org/sti/broadband >] • DSL: 20.9% • Cable: 4.3% • Fiber/LAN: 4.0% • Satellite: 0.3% • Fixed wireless: 0.3% Total: 29.8% (7.2 million subscriptions), which is the OECD average. This reflects a decrease in DSL subscriptions and consequential increase in cable and fiber connections. The fixed broadband growth for the June 2015–2016 period was 2.43% (ranked 26 out of 35 for growth), below the OECD average growth of 3.42%. In Australia, fiber makes up 13.4% of fixed broadband subscriptions (ranked 22 out of 35), below the OECD average of 20.1%. The growth in fiber subscriptions for the June 2015–2016 period was 128.6% (ranking Australia 1 out of 35 for growth) and significantly above the OECD average of 15.94%. Note: From July 2015 OECD adjusted its definitions of fixed and mobile broadband by transferring the categories Satellite and Fixed Wireless from Mobile to Fixed Broadband. Note: Fiber subscriptions data includes FttH, FttP, and FttB, and excludes FTTC. Note: There may be minor variations in the ITU and OECD subscriber totals due to definition or timing differences.
7.4. Fixed Broadband Subscriptions (% of Internet users) (2015) • Average for all countries in this scorecard: 29%	34%	[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
7.5. Average Broadband Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017) • Average for all countries in this scorecard: 12 Mbps • Average peak for all countries in this scorecard: 70 Mbps	11	In Australia the Q1 2017 average broadband data connection speed was 11.06 Mbps and is ranked 58th out of 239 countries measured by Akamai. This ranks Australia 12th for average broadband data connection speed in this scorecard. Additional connection metrics for Q1 2017 in Australia include: • Average peak broadband connection speed: 55.65 Mbps (ranked 73rd globally and 15th in this scorecard) • Above 4 Mbps: 81% (ranked 72nd globally and 14th in this scorecard) • Above 10 Mbps: 35% (ranked 64th globally and 13th in this scorecard) • Above 15 Mbps: 19% (ranked 60th globally and 12th in this scorecard) • Above 25 Mbps: 7% (ranked 48th globally and 12th in this scorecard) [Akamai, The State of the Internet (1st Quarter, 2017) < www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/ >]

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
8. Fiber-to-the-home/building (FttX)		
8.1. Fiber-to-the-home/building (FttX) Internet Subscriptions (millions) (2015) • Total for all countries in this scorecard: 258 million	0.6	Australia has increased the number of FttX subscribers by 218% since 2014 to 0.645 million, and is ranked 28th out of 236 countries surveyed by the ITU. This ranks Australia 16th for the number of FttX subscriptions and 2nd for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
8.2. Proportion of Fiber-to-the-home/building (FttX) Internet Subscriptions (% of households) (2015) • Average for all countries in this scorecard: 18%	7.1%	Australia has increased the proportion of FttX subscribers to households by 218% (since 2014) to 7.11%. This ranks Australia 11th for the proportion of FttX subscriptions to households and 2nd for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] Note: This may be skewed by business usage in some countries.
8.3. Proportion of Fiber-to-the-home/building (FttX) Internet Subscriptions (% of fixed broadband subscriptions) (2015) • Average for all countries in this scorecard: 23%	9.4%	Australia has increased the proportion of FttX subscribers to fixed broadband subscribers by 218% (since 2014) to 9.45%. This ranks Australia 13th for the proportion of FttX subscriptions to fixed broadband subscriptions and 2nd for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
9. Mobile Broadband		
9.1. Mobile Cellular Subscriptions (millions) (2015) • Total for all countries in this scorecard: 4,823 million	32	In 2015, Australia increased the number of mobile cellular subscriptions by 2.5% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 7.1%. Australia is ranked 41st out of 236 countries surveyed by the ITU. The number of subscriptions account for 133% of the population. This ranks Australia 22nd for the number of mobile cellular subscriptions and 5th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] 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.).
9.2. Number of Active Mobile Broadband Subscriptions (millions) (2015) • Total for all countries in this scorecard: 2,506 million	27	In 2015, Australia has increased the number of active mobile broadband subscriptions by 2%, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 16.8%. Australia is ranked 25th out of 236 countries surveyed by the ITU. This ranks Australia 21st for the number of active mobile broadband subscriptions and 16th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]

# AUSTRALIA	RESPONSE	EXPLANATORY TEXT
<p>9.3. Active Mobile Broadband Subscriptions (% of population) (2015)</p> <ul style="list-style-type: none"> Average for all countries in this scorecard: 77% 	113%	<p>Australia has increased the number of active mobile broadband subscriptions (as a % of the population) by 1% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 15.3%. Australia is ranked 14th out of 236 countries surveyed by the ITU.</p> <p>This ranks Australia 4th for the number of active mobile broadband subscriptions (as a % of the population) and 18th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p> <p>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.</p> <p>The OECD figures below present a breakdown of the type of mobile broadband connections in Australia as of June 2016.</p> <p>In the OECD, Australia was ranked 7th (out of 35) for mobile wireless broadband subscribers as a percentage of population [OECD Broadband Subscribers (Feb. 2017) <www.oecd.org/sti/broadband>]</p> <ul style="list-style-type: none"> Standard mobile broadband subscriptions: 91.3% Dedicated mobile data subscriptions: 25.1% <p>Total: 116.4% (28 million subscriptions), which is above the OECD June 2016 average of 95.1%.</p> <p>Mobile broadband growth in Australia for the June 2015–2016 period was 2.0% (ranked 33 out of 35 for growth), below the OECD average growth of 10.7%.</p> <p>Note: From July 2015 OECD adjusted its definitions of fixed and mobile broadband by transferring the categories Satellite and Fixed Wireless from Mobile to Fixed Broadband.</p> <p>Note: The OECD wireless broadband figure includes both data and voice subscriptions (referred to as Standard Mobile Broadband) and data-only subscriptions (referred to as Dedicated Mobile Data).</p> <p>Note: The OECD figures include mobile data subscriptions, which are not as consistently reported in the ITU indicators.</p>
<p>9.4. Average Mobile Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017)</p> <ul style="list-style-type: none"> Average for all countries in this scorecard: 11 Mbps 	16	<p>In Australia the Q1 2017 average mobile data connection speed was 15.7 Mbps and is ranked 11th out of 70 countries measured by Akamai.</p> <p>This ranks Australia 4th for average mobile data connection speed in this scorecard.</p> <p>[Akamai, The State of the Internet (1st Quarter, 2017) <www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/>]</p>