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Consultation Draft: Digital Economy Future Directions Paper

Google is pleased to provide this response to the Consultation Draft of the Digital Economy Future Directions Paper. Google congratulates the Government on this commitment to harnessing the benefits of the digital economy for all Australians.

A healthy digital economy, and one which is poised to grow and expand, is essential to the success of a myriad of businesses and entrepreneurs, as well as the social cohesion of Australians.

Google itself was founded, developed and continues to innovate in the digital economy. Equally, Google recognises the importance of ensuring that the correct economic and regulatory environment exists to ensure that new innovative Australian companies - 'the next Google' - can emerge in Australia.

As the Consultation Paper recognises, the ICT industry is an important enabler for other industries, including the mining industry and health services, making them more productive and innovative. However, the ICT industry is also important in and of itself - as a communications tool (see the Prime Minister's YouTube channel[1] and the Department's own blog[2]), a driver of economic activity, an information source and as an emerging and important sector of the Australian and global economies.

In this response, Google sets out its vision for a thriving digital economy and ICT sector in Australia - including what it is characterised by, what regulatory settings are required to ensure success, as well as some of the many benefits of a flourishing digital economy to the environment and other sectors of the economy.

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[1] http://www.youtube.com/user/pmkevinrudd

[2] http://www.dbcde.gov.au/communications_for_business/industry_development/digital_economy/future_directions_blog

This response is set out in 6 parts:

- I - defining success for the Australian digital economy
- II - ensuring appropriate open access to public sector information
- III - enabling Australians to go online with confidence
- IV - developing a skills base to 'future proof' the digital economy
- V - ensuring Australia has the appropriate legal and regulatory environment in place to enable ICT companies to locate and innovate in Australia
- VI - the environmental benefits of a strong digital economy.

I - What does success look like?

The Consultation Paper asks what a successful digital economy will look like - what are the markers of success and how will we know when we have maximised the potential of Australia's participation in the digital economy?

Google believes that the concept of a successful digital economy will always be evolving - the nature of the digital economy is that it does not stand still; it is characterised by constant innovation.

As a result, Google believes that success should be measured not just against a set of economic parameters related to the 'digital economy' itself, but by the very nature of the environment in which the digital economy exists and evolves - the broader regulatory, cultural, economic and education environment in Australia. When this broader environment enables constant innovation, encourages new technological developments and new business models, and ensures that all Australians are able to transact and communicate online, then we will know that we are creating a successful digital economy.

The importance of an environment - social and regulatory - that fosters innovation is central to Google's story. When Google started as a project of two friends from Stanford University, they didn't have to ask anyone's permission to develop an Internet search engine. Rather, they were able to come up with a novel idea, implement it themselves and let users access it. Google's co-founders, Larry Page and Sergey Brin, have noted on countless occasions that their tiny company likely would not have survived had they needed to ask permission first in order to innovate.

Indeed, Google's story is the story of thousands of other companies that have become global brands in a matter of years or even months. For example, Skype went from an Estonian start-up to being a major competitor in international calling. Facebook went from being a small college project to being

a platform used by a vast number of Australians. One key measure of success for the Australian digital economy is whether an Australian start-up has the potential to do the same.

Australia now has the opportunity to foster an environment that may enable the next Google, Skype or Facebook to rise from an Australian start-up to a global brand; an environment that allows and encourages new entrants to develop and make available new technologies, new content, new services and new business models.

Fundamental to this environment is an open, fast, universal and ubiquitous Internet. An 'open' Internet is one that allows any user to create and offer applications or content to all other users, where users themselves are in control of what content and applications they choose to access.

The Internet's architecture – its underlying technical design – gives rise to this openness. As Dr Vint Cerf, Google's Chief Internet Evangelist and one of the architects of the Internet has said:

'The Internet was designed to allow the implementation of applications to reside largely with users at the "edges" of the network, rather than in the core of the network itself. This is precisely the opposite of the traditional telephony and cable networks, where applications and content are managed in the core (in headends and central offices), away from the users at the edge.'

Further, the Internet's key protocols are open to all applications, not favouring one over another. As a result, new applications - from the revolutionary to the merely useful - can be deployed and embraced by millions of individual users worldwide without the need for approval from gatekeepers. With some technological savvy and minimal capital outlays (relative to many other industries), an innovator can make their applications available to the world.

The Internet is not just the story of businesses, but also of individuals and social networks. Cultural groups as well as other communities of shared interest depend on the Internet to communicate. Independent voices that typically could not afford access to traditional mass media platforms can now reach broad audiences. Today 'user-generated content' flourishes online, as individuals increasingly create and share content with one another. For instance, sites like YouTube allow individuals to share their creativity with local, national and global audiences. With access to the most basic of computing tools, users can put a video online and develop an audience of millions.

If an open, innovative and flourishing digital economy is the goal, the critical task is therefore to determine the appropriate legal, regulatory and market mechanisms to ensure this occurs.

II - Open Access to Public Sector Information

In Google's view, the environment that will best facilitate a thriving digital economy is one in which all publicly funded, non-confidential public sector information (PSI) is openly available for use and reuse by all Australian individuals or businesses.

Openly available PSI would facilitate the development of countless new products, applications and tools and operate as a powerful stimulus for innovation. This potential - for innovative new Australian products and services - translates into immense potential for economic growth.

Google believes that all appropriate PSI should be made available to everyone on the same terms. This creates an equal playing field for the creation of innovative products and services. It means that products compete on their strengths - not on who is backing them. Investment in new products and services would be incentivised.

In addition to increased innovation and productivity, openly available PSI will lead to great social benefits. A vast amount of PSI is relevant and useful - when it is readily available. Relevant and useful PSI leads to a higher level of engagement between the public with their community, and greater participation in social and political activities.

By way of example, Google created an information service for the 2007 Federal election which was made possible through the availability of geospatial data (http://www.google.com.au/election2007/). The website allowed Australian voters to have an intimate look at the parties, candidates and election issues, all in one location. The services enabled voters to easily organise, find and share Australian election information of relevance to them. One of the features was the availability of special Australian election content on Google Maps. The feature enabled users to find their electorate, read the relevant seat's profile, locate a convenient polling booth, see their seat in satellite view, explore marginal seats, view candidates and much more. These tools were developed in the Google Australia offices.

Set out below are some of the data types that Google strongly encourages being made openly available. Possible uses of this data have been illustrated by reference to Google products and services, but it is possible to imagine thousands of other innovative uses for PSI.

- Public transport data - including public transport routes, timetables and stops. Examples of the innovative products that can result include Google Transit™, which combines transit data

with Google Maps for users on their computers, and Google Maps for Mobile for users on their mobile phones. The availability of transit data such as public transport timetables and routes, in conjunction with Google Maps, allows people to easily find a way to get from A to B via public transport. With more and more GPS-enabled devices on the market, being able to ask your phone 'How do I get to a business from where I am, using public transport?' is very compelling. Rather than being a simple timetabling application, public transport directions to any business or location on Google Maps can be displayed. Take a look at www.google.com/transit.

- Cycling data. Google Maps and Google Maps for Mobile combined with cycling data would mean that the public would be able to see cycling tracks on maps as well as information such as whether the path is on a road, encouraging cycling and helping people explore their local area.

- Walking track data. Again, in conjunction with Google Maps and Google Maps for Mobile, the availability of walking track data would allow the public to benefit from better walking directions. The track data could be teamed with further information such as difficulty level, or other health education initiatives.

- Playgrounds and playing fields. Mapping applications such as Google Maps could show parks on maps, enriched with details such as whether the area has a playground for children, requires an entry fee and more.

- School catchment area information. This would allow those looking for real estate to identify whether they are in the catchment area for a particular school.

- Topographic data including coastal data, ski field data and waterways. As an example of the type of data that can be made available on mapping products including Google Maps, we have collaborated with the Great Barrier Reef Marine Park Authority to make Great Barrier Reef map data and satellite imagery of the islands, reefs, cays and rocks available in Google Maps. For example, see http://maps.google.com.au/maps?f=q&hl=en&q=Great+Barrier+Reef&sll=-25.335448,135.745076&sspn=64.718709,135.351563&ie=UTF8&cd=1&geocode=Fez56P4dILnNCA&ll=-16.210719,146.200562&spn=1.123508,2.114868&z=10

- Geospatial data can support the development of innovative products and tools. For example,

geospatial data, such as satellite and aerial imagery, maps and terrain and 3D models of buildings can be combined with Google Earth to provide information tools about population, climate, pollution information, urban development, and planning data - the possibilities are limitless. Examples of the types of information that can be layered into Google Earth include endangered species (see for example the ARKive layer on Google Earth http://www.arkive.org/news/20080411-google-earth-arkive-layer.html), temperature statistics and disease statistics (eg Singapore has tracked Dengue Fever occurrence). For more examples, visit http://earth.google.com/gallery/index.html

Governments are able to use this tool to make their objectives and community statistics clear to the public. The public also benefits through a greater ability to understand and navigate their area, perhaps considering real-estate investments or planning a travel itinerary. It may also be a tool to engage the public in planning land use and zoning, redevelopment and historic preservation. Businesses may benefit through allowing business site location planning and real estate development. Tourism may be boosted through the profiling of landmarks and attractions and communities may benefit through uses such as community event planning. This tool may also be useful for educational institutions wanting to assist current and future students orient themselves.

- Public toilet information. Providing the location of public toilets would be an extremely useful feature to include on mapping services such as Google Maps and could provide significant benefits to the community, in particular groups such as senior citizens and parents of young children.

There is so much scope for new innovative uses of more widely available data of this nature. It is literally impossible to foresee the new businesses, products or services that may emerge if Australian governments were to start from a default position of ensuring that all PSI was made freely and openly available, except in situations where openness is inconsistent with national security, confidentiality obligations or other commercial considerations (such as obtaining patents when commercialisation of research is planned).

Ensuring openly available PSI is consistent with the objectives outlined in the *Seoul Declaration For the Future of the Internet Economy*, including to 'foster creativity in the development, use and application of the Internet, through policies that ... make public sector information and content, including scientific data, and works of cultural heritage more widely accessible in digital format.'

It is also consistent with the recommendations of the Innovation Report *Venturous Australia: building strength in innovation,* including in particular:

'*Recommendation 7.7*

Australia should establish a National Information Strategy to optimise the flow of information in the Australian economy. The fundamental aim of a National Information Strategy should be to … maximise the flow of government generated information, research and content for the benefit of users (including private sector resellers of information).'

Google strongly submits that openly available PSI is critical to the strength of Australia's future digital economy and innovation strategies.

Google's own commitment to making PSI openly available is demonstrated by its development of the Sitemap Protocol, which provides governments with an optional avenue for making non-confidential information more available to search engines like Google. This in turn makes Government websites and non-confidential information easier for the public to find. Research has shown that as many as four of five Internet users reach Government and other public sector websites by using Google and other search engines.[3]

The Sitemap Protocol works by allowing information stored on a website, including in a database application, to be indexed by a search engine. It is an open technical standard developed by Google and widely supported in the search engine industry. It provides a mechanism for producing a list or map of all the webpages on a website and automatically communicating this 'sitemap' to search engines. These Sitemaps provide a comprehensive list of pages on a website for search engine crawlers, not simply a directory to help a user navigate a website.[4]

[3] ComScore, July 2006, internal research
[4] For more information see http://www.google.com/publicsector

III - Digital Confidence

Online Safety

Google believes in building and maintaining confidence in safety online through:

- empowering users (including parents) with the technological tools that allow them to make their own choices about their and their families' online activities;
- protecting users, including children, online through partnerships with law enforcement and industry;
- educating users, including children, about how to stay safe online.

Google is committed to protecting children on the Internet and providing all of our users with a safe experience.

Empowering users with technological tools

When designing products and services, user safety is considered from the beginning of the design cycle. It is a core principle in product design. We have a network of child safety experts who advise on the best ways to promote safety and combat abuse in Google's products.

We make sure that we build in tools to allow users to safely engage online. Google has a range of safety tools, across all of its applications, including search, content and networking.

For example, the SafeSearch tool allows users to filter unwanted content from their search results. Google has developed its own SafeSearch filter, which uses advanced technology to block pornographic and explicit content from search results. Users can customise their SafeSearch settings by clicking on the "Preferences" link to the right of the search box on Google.com.au.

Further, Google products allow users to hide personal information such as name, age & location. They also allow users to block specific users from interacting with them or choose to allow only their 'friends' to communicate with them. For example, YouTube's Help and Safety Tool gives users granular control over their YouTube channel (like blocking comments from specific users) as well as the ability to quickly report concerns.

Protecting users through partnerships

We actively support law enforcement efforts to keep kids safe online. We:

- have a specialised legal team dedicated to working with law enforcement officials, available 24 hours a day, 7 days a week.

- cooperate directly with child safety investigations by responding to law enforcement requests for assistance and subpoenas.
- quickly remove and report child pornography to appropriate law enforcement authorities when we discover or are made aware of it.
- routinely use databases from designated organisations which include websites suspected of containing child sexual abuse images in order to remove illegal URLs from our search results.

We also provide training and technical assistance to law enforcement officials investigating online crimes against children through forums such as the Internet Crimes Against Children (ICAC) National Conference and the Virtual Global Taskforce (VGT).

In addition, Google is working with coalitions of financial and technology companies and NCMEC to develop new solutions aimed at eradicating child pornography on the Internet.

Educating users about how to stay safe online

There are a number of avenues through which Google educates its users about how to stay safe online. These include:

- the online safety centre: Just this week, to coincide with Safer Internet Day (10 February 2009), Google Australia launched a dedicated Australian page containing online safety and security tips (http://www.google.com.au/landing/familysafety/).
- our product Help Centres, through which we provide our users with tips and articles for staying safe and protecting their privacy while using Google products like Gmail and YouTube. We also ask our users to tell us about illegal content or abuse they encounter on the web or in our products through our Help Centres.
- also coinciding with Internet Safety Day 2009, we launched a new Australian Safety Centre on YouTube, containing straightforward online safety tips and resources from experts and prominent Australian safety organisations (http://help.youtube.com/support/youtube/bin/request.py?contact_type=abuse&hl=en-US).

  We worked with Bravehearts, Reach Out, Kids Helpline, NetAlert.gov.au and Cybersmart Kids Online to launch the YouTube Safety Centre and have also included information on how to report concerns to the Australian Federal Police.

The YouTube Safety Centre includes information about a range of issues including YouTube community guidelines violations, cyber citizenship, teen safety, hateful content, harassment and cyberbullying. It also makes it easier for users to access YouTube's Help and Safety Tool, which gives users granular control over their YouTube channel (like blocking comments from specific users) as well as the ability to quickly report concerns.

- Through our Google Grants program for non-profit organisations, we provide child safety organisations with free advertising for their Internet safety education sites.

Consumer privacy

Education to ensure greater understanding of the many technical tools that are available to Australians to manage their privacy online is of utmost importance. Many new technologies in fact improve privacy – for example, the ability to control access to material placed online and the constant improvements in security technologies for financial transactions.

Google is very committed to protecting the personal information of our users. Google recognises that its continued success is based on earning and keeping our users' trust. We know that consumers have a number of choices and that competing online services are only ever one click away.

We believe that notice, transparency and choice are the foundations of privacy. Our privacy policies are clear and easily accessible to our users. We provide strong notice when users sign up for products that may collect personally identifiable information and offer users choices about what information we collect and how that information is used.

Our search engine can be used without providing any personally identifying information at all. We have also adopted strong standards for data retention. Google will anonymise our server logs after a 9 month period by, among other things, removing a portion of the IP address associated with each log entry, to add an extra layer of privacy protection to the data.

Google's privacy commitment is that we let our users know what information we collect when they use our products and services, why we collect it, and how we safeguard it.

The Google Privacy Centre (linked to from the Google home page or available at http://www.google.com.au/intl/en/privacy.html) contains a wealth of information about Google's privacy policies, including for individual products.

The Centre also contains educational videos that provide privacy tips and other information about privacy for Google users. Google also maintains a YouTube channel dedicated to privacy education (http://www.youtube.com/user/googleprivacy).

Our industry leading privacy policies, videos and product designs aim to make Google's privacy policies clear so that users can make informed choices about which products to use and how to use them.

Key privacy points are that:

- We build privacy protections into our products from the ground up;
- None of our products use any personal data unless fully disclosed in a privacy policy;
- We always ask people actively to opt-in to services that use sensitive data;
- We write our privacy policies in simple clear language so that users can easily understand them;
- We allow people to use most of our services anonymously.

All industries have important privacy considerations in relation to interactions with customers and service users. For example credit card companies, banks and insurance companies all rely on user trust in their privacy management practices in order to operate. In the online environment, Google recognises that secure products are instrumental in maintaining user trust and we strive to create innovative products that serve users' needs and operate in their best interest. Google goes to great lengths to protect clients' data. Google's facilities are protected around the clock and we have a dedicated security operations team who focuses specifically on maintaining the security of our environment.

IV - Developing Australia's Knowledge and Skills Base

Ensuring that Australia has a relevant knowledge and skills base to ensure ongoing innovation, research and development is critical. Google is committed to supporting the development of this knowledge and skills base.

We employ local software engineers to work on projects of local and global significance. The Google Australia engineering centre, which launched in May 2005, contributes to the development of Google products and services in Australia and around the world, and we are committed to growing our Australian research and development capability.

Google has many initiatives that demonstrate this commitment - some of which are outlined below. In terms of supporting Australia's next generation of IT professionals, Google engages in the following intiatives:

- Helping educational institutions to find new ways to reach students with new technologies. For example, we have worked with the University of New South Wales to launch a branded YouTube channel that features lecture content. This particular initiative highlights an important point - not just for universities, but for all levels of education. Google believes that, in approaching the question of how to develop the digital and media literacy of Australians, it is important to not only ask how Australians can be equipped with the necessary and useful skills to engage in the digital economy, but to also ask - how can technology enhance learning, how can Web 2.0 and Wed 3.0 be employed to ensure that education has the greatest possible impact?

- The Australian and New Zealand Anita Borg scholarship. Dr. Anita Borg (1949-2003) devoted her adult life to revolutionising the way we think about technology and dismantling barriers that keep women and minorities from entering computing and technology fields. Her combination of technical expertise and fearless vision continues to inspire and motivate countless women to become active participants and leaders in creating technology. As part of Google's ongoing commitment to furthering Anita's vision, Google runs the Anita Borg scholarship program through which we aim to encourage women to excel in computing and technology, and become active role models and leaders.

- Google offers various internships for university students with intake numbers growing rapidly. Google also offers opportunities for young Australian and New Zealand programmers and developers to put their ideas into practice. For example, The Google Summer of Code (http://code.google.com/soc/2008/) and Code Jam (http://code.google.com/codejam/).

- Google sponsors university programs and prizes and is closely involved with university IT and engineering departments. For example, Google is committing more than $46,000 to help one University create a computer-based curriculum with a focus on problem-solving skills. And another will also benefit from a $58,000 Google Research Award to develop a novel technique for automatically recognising objects in video.

- Google supports teaching and learning by conducting technical talks by Google engineers

(on-campus, online: over 200+ online to date).

- Google is involved in curriculum enhancement, for example by partnering with universities to offer new courses in current technologies and to develop Creative Commons-licensed educational resources for computer science educators and motivated students.

Google also works to build longer term awareness of, and interest in, ICT professions by encouraging more high-school students to study maths, science and computer science by supporting a number of initiatives including:

- the National Computer Science School, which is run by volunteers at the University of Sydney.

- The Google Highly Open Participation Contest – a Google Summer of Code opportunity for high school students to learn about all aspects of developing (open source) software (http://code.google.com/opensource/ghop/2007-8/).

Google also supports the Australian IT sector and broader community through initiatives including:

- Sponsorship and support of Australian and NZ engineering, computer programming and open source communities.

- Active membership of local industry bodies.

- Making our numerous APIs and open source code freely available to enable Australian developers to create exciting mashups and websites.

- G'day Google, a series of overseas events, designed to show expat Australians the exciting career opportunities available in Australia. For example, at a recent G'Day Google event at Google UK in London, the many attendees enjoyed plenty of food and beverages - Australian style - as well as a welcome from the Honorable Richard Alston, Australian High Commissioner to the United Kingdom and a short presentation highlighting the engineering intiatives in the Google Australia offices by Google Australia's Engineering Director, Alan Noble.

- Google Developer Day, a worldwide event for developers regularly held in Sydney.

- Doodle 4 Google, an exciting schools initiative to encourage students to express what it

means to be Australian.

- The Online Marketing Challenge, which helps University business students learn about online advertising.

Digital and media literacy and ICT skills are important for all Australians, including those with vision and/or hearing impairments. Google's mission is to ensure that the world's information is universally accessible and useful. As part of this mission, Google is working hard to find technical solutions to the challenges of universal accessibility for the vision and hearing impaired, including through supporting education and other policy initiatives. We refer to our submission in response to the Australian Government's discussion paper on access to electronic media by people with a hearing or vision impairment.

V - Ensuring Australia's regulatory framework enables the digital economy

In examining the regulatory environment necessary to enable a fully functioning digital economy as described above, Google submits that the Government should consider two key questions:

1. Is it possible for international companies such as Google, Yahoo, Facebook, Bebo and others to fully operate in Australia (including storing data in country) in the current regulatory environment?

2. Would it be possible for new Australian start-ups to develop innovative businesses and online products with certainty in the current regulatory environment?

Google submits that sadly, the answer to both of these questions is currently 'no'. This situation must be addressed as a matter of urgency if the Australian Government is serious about its desire for a flourishing, world class digital economy.

Copyright Safe Harbours

The *Copyright Act 1968* (Cth) contains a 'safe harbour' scheme applicable to certain types of online service providers. The scheme represents a 'three way balance' between the rights of copyright owners, internet users and service providers, which provides:

- copyright holders with a streamlined process to address potential infringements of their copyright online;
- internet users with an ability to challenge any claim of infringement (for example, on the basis

that the content in question is a fair dealing); and

- service providers with protection from financial penalties if they comply with the procedural steps set out in the safe harbour scheme.

Google submits that, in general, the safe harbour scheme represents an appropriate balance between these three sets of interests and provides service providers with certainty in the provision of online services to the public.

Australia's current safe harbour scheme has its genesis in the *Australia United States Free Trade Agreement* (AUSFTA). However, as part of the implementation of Australia's AUSFTA obligations, only a subset of the service providers that were envisaged by the AUSFTA to be covered by the safe harbour are in fact covered by the Australian safe harbour scheme.

In Australia, only 'carriage service providers' (CSPs) are covered by the safe harbour scheme. CSPs are defined in the *Telecommunications Act 1997 (Cth)* and comprise a narrow set of providers. Primarily, a CSP in this context will be an Internet service provider.

Google strongly supports the broadening of the existing copyright safe harbour scheme for carriage service providers to include a broader set of online service providers.

Many online service providers, other than Internet service providers, will *not* be CSPs and therefore are not be able to use the safe harbours. Those providers include providers of online search facilities (such as Google, Yahoo and nineMSN), providers of online repositories of information (such as universities and schools) and providers of online user generated content platforms (such as Blogger, MySpace, Facebook, Bebo, Flickr, Twitter and Wikipedia). Instead, these types of online service providers must rely on alternative defences, the operation of which is often less certain.

In contrast, these same online service providers *would* be covered by the scheme were it to apply to the service providers which the AUSFTA contemplates. Being covered by the scheme would provide benefits to both online service providers and to copyright owners, by ensuring legal certainty for providers and a streamlined ability to deal with copyright complaints for rights holders.

The AUSFTA, and the equivalent United States legislation, provide that the safe harbor scheme may apply to 'service providers'. In practice, this is a broad range of online service providers. The following table sets out a comparison between the categories of providers contemplated by the AUSFTA and the respective categories protected in Australian and United States' copyright laws:

Service providers to which the safe harbor scheme applies:

Activity	**United States service providers**	**AUSFTA service providers**	**Australian service providers**
Transmitting, routing, or providing connections	A provider of transmission, routing, or connections for digital online communications (eg an ISP such as Telstra or Optus, or the provider of a local area network such as an education department)	A provider of transmission, routing, or connections for digital online communications (eg an ISP such as Telstra or Optus, or the provider of a local area network such as an education department)	'Carriage Service Providers' as defined in the *Telecommunications Act 1997 (Cth)* (eg an ISP such as Telstra or Optus)
Caching; storage; referring or linking users to an online location	A provider or operator of facilities for online services or network access (eg an ISP such as Telstra or Optus, a hosting company such as Web Central, the provider of a local area network such as an education department, the provider of an online search service such as Google or Yahoo, the provider of a service for users to post content such as Blogger or Wikipedia)	A provider or operator of facilities for online services or network access (eg an ISP such as Telstra or Optus, a hosting company such as Web Central, the provider of a local area network such as an education department, the provider of an online search service such as Google or Yahoo, the provider of a service for users to post content such as Blogger or Wikipedia)	'Carriage Service Providers' as defined in the *Telecommunications Act 1997 (Cth)* (eg an ISP such as Telstra or Optus)

This table highlights that Australian copyright laws do not cover the range of service providers operating in the digital environment which were contemplated by AUSFTA.

This situation is also inconsistent with key trading partners such as New Zealand (see recent

amendments to the New Zealand *Copyright Act 1994*, in particular sections 2, 92B and 92C, together with further provisions due to come into effect in the near future). Section 2 of the New Zealand *Copyright Act 1994* defines internet service provider broadly, as meaning:

"a person who does either or both of the following things:

(a) offers the transmission, routing, or providing of connections for digital online communications, between or among points specified by a user, of material of the user's choosing:

(b) hosts material on websites or other electronic retrieval systems that can be accessed by a user."

The lack of a safe harbour for the range of service providers contemplated by the AUSFTA is a serious impediment to the growth of Australia's digital economy. Common activities - transmitting data, caching, hosting and referring users to an online location - where service providers do not 'control, initiate or direct'[5] their users' online activities, are not covered by the scheme. Providers of these services do not have the benefit of the same safe harbour that applies to their equivalents overseas, and that applies to Australian Internet service providers (CSPs). This is despite CSPs and online service providers having virtually the same inability to directly 'control, initiate or direct' their users' online activities.

This discrepancy means that an online service provider in Australia is put in a position where it must assess whether it can carry out all of its online operations in Australia, whether it can rely on legal arguments/defences to justify its activities and whether it can operate under the uncertain rights resolution processes that providers outside the safe harbour must attempt to manage. As a result, online service providers (as well as other operators of large networks such as schools and universities) are exposed to a greater level of uncertainty and risk than CSPs, which operates as a direct disincentive to the development of a digital economy in Australia.

It is a necessary part of any business case analysis for any company contemplating establishing services in Australia (whether as a start-up deciding whether to commence operations or an established company deciding whether to expand operations) to evaluate the potential legal risks and operational uncertainties of doing business in-country. Google submits that the lack of a safe harbour will be highlighted as a serious potential risk factor - potentially making Australia a less attractive venue to set up business. This is a serious impediment to the future of Australia's digital economy.

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5 http://www.ag.gov.au/www/agd/agd.nsf/Page/Publications_Limitationsonremediesforcopyrightinfringementagainstcarriageserviceproviders-Factsheet-March2005

Appropriate Flexibility for Digital Technologies

The Consultation Paper poses the question:

'Does Australia's copyright law unreasonably inhibit the operation of basic and important internet services? If so, what are the nature of such problems and practical consequences? How should these be overcome?'

Put simply, the answer to the first part of this question is 'yes'. Google submits however, that some or all of these restrictions can be overcome in a manner which is consistent with Australia's underlying copyright principles.

Search companies and web 2.0 hosts are required to engage in a number of technical operations in order to offer their services to the public - these technical operations include web searching (crawling and indexing) and caching. The legal treatment for these types of technical operations is unclear and uncertain. In contrast, there are other jurisdictions, including the United States and Israel, in which these activities *can* be done with certainty, that immediately become more attractive venues for setting up business.

Web searching (crawling)

Web searching, or crawling, is what enables the indexing relied on by search engines such as Google, Yahoo!, Live Search, Alta Vista, Baidu and hundreds more[6] to operate at optimal levels.

Webopedia explains it as follows:[7]

"Crawler-based search engines are those that use automated software agents (called crawlers) that visit a Web site, read the information on the actual site, read the site's meta tags and also follow the links that the site connects to performing indexing on all linked Web sites as well. The crawler returns all that information back to a central depository, where the data is indexed. The crawler will periodically return to the sites to check for any information that has changed. The frequency with which this happens is determined by the administrators of the search engine."

A search engine engages in two distinct activities for the purpose of making search results available to users. First, web pages are crawled, allowing the search engine to retrieve the content in the web page. The crawled content is then indexed, allowing information within the pages to be found by

[6] see http://en.wikipedia.org/wiki/List_of_search-engines
[7] http://www.webopedia.com/DidYouKnow/Internet/2003/HowWebSearchEnginesWork.asp

users.

When the crawler visits websites with the intention of retrieving information for indexing, it will follow the instructions contained in the web page code or website ("robots.txt"). This means that a website operator can instruct the crawler not to access the content on the webpage/website. Website operators may include this instruction for any reason they wish, but it commonly occurs where information is of a private or confidential nature.

Where a crawler has been permitted to access a webpage and is retrieving information from the website, copies of parts of webpages may be made for the purpose of indexing them. It is unclear whether crawling which is carried out by a locally hosted search operation would be regarded as amounting to the reproduction of copyright works. If this was the case, then a local search operation could be faced with assertions that their essential activities amount to copyright infringement.

The practical problem with this situation is that Australia is less attractive as a venue for search operations, which are a fundamental part of navigating the World Wide Web. Instead, this type of activity typically happens in other jurisdictions, where this activity is protected by law, and Australia misses the opportunity to be a hub of the global digital economy.

Caching

Search companies, web 2.0 hosts and other web operators employ caching technology in order to offer their services to the public for two main reasons:[8]

- To reduce latency — Because the request is satisfied from the cache (which is closer to the client) instead of the origin server, it takes less time for it to get the representation and display it. This makes the Web seem more responsive.

- To reduce network traffic — Because representations are reused, it reduces the amount of bandwidth used by a client. This saves money if the client is paying for traffic, and keeps their bandwidth requirements lower and more manageable.

Caching is done purely for technical purposes, for the benefits of consumers and the Internet as a whole. Caching speeds up a user's Internet experience and relieves network loads.

A cache has a finite storage space and as it fills up, older items are replaced. Website operators are

[8] As explained in www.mnot.net *Caching tutorial for Web Authors and Webmasters*

able to modify the coding of a website to control what may be cached (if anything) and at what intervals cached content should be refreshed.

Caching is ubiquitous. It is done by almost all businesses, organisations and educational institutions. Yet it is unclear in Australia's copyright law whether caching is a permissible act. Whilst this is usually assumed given that caching ensures business efficacy and does not endanger core principles of copyright policy, Australian copyright law does not currently provide this certainty to online operators.

There is a great need for Australia's copyright law to make it clear that copyright acts done for the purpose of operating these types of caches in Australia will not amount to technical infringements of copyright. Google would be pleased to provide the Department with further comments on the technical and legal issues underpinning these remarks if required.

Transformative uses

In addition to the lack of clarity about the legal protection for these basic and important internet services in Australia's current legislation, there is also a critical need for Australia to develop an environment in which innovative new uses of materials, transformative uses, are supported and encouraged.

Major innovations are often iterative processes whereby developers and start ups may create something entirely new, or envisage new uses of existing data (often widely available public sector data) to provide new innovative services to others. This may be done through the establishment of an entirely new 'standalone' business or service, or by developing a new application for an existing service (such as an iGoogle gadget or MySpace or Facebook application).

These types of activities are often highly inventive and creative. Google submits that this is exactly the sort of initiative which a thriving digital economy should encourage. However Australia's legal regime currently either creates uncertainty for innovators or potentially requires innovators to follow complex - and costly - permission processes that would not be required in jurisdictions such as the United States or Israel

The ability for individuals and business - where appropriate, and when not causing economic harm to the copyright owner - to harness existing information to stimulate new investment and innovation is critical to the future development of the Australian digital economy. Ensuring greater flexibility in the copyright regime that encourages such innovation in a manner that is consistent with Australian

copyright traditions is a key measure by which the Government could ensure that the answers to the questions posed above are changed from 'no' to 'yes'.

A copyright exception that allowed new fair, transformative uses of copyright materials would:

- recognise the ubiquitous nature of the technical operations of search and web 2.0 products and services;
- promote Internet-based innovation, support research, entrepreneurship and business transformation;
- encourage new collaborative Internet-based models and social networks for the creation, distribution and use of digital content; and
- create a market-friendly environment for convergence that encourages infrastructure investment, higher levels of connectivity and innovative services and applications,

all of which are objectives consistent with the *The Seoul Declaration for the Future of the Internet Economy*.

How should this issue be overcome?

Google's position on these important matters is founded in a fundamental belief in the importance of appropriately protecting and compensating copyright owners, encouraging the creation of new material, while also allowing consumers and businesses to appropriately use, re-purpose or otherwise innovate with those same copyright materials in manners that do not pose harm to copyright owners or their works.

Google believes that either:

- the fair dealing exceptions currently in Australia's copyright law should be made more flexible, being illustrative of the innovative uses that may be made of copyright materials and new technologies, rather than exhaustive;

or, as a secondary option,

- further fair dealing exceptions should be introduced, to allow the operation of basic and important internet services such as those identified in this submission.

Google submits that the Government should consider which of these models is most consistent with creating an environment in which Australia's digital economy can flourish and innovate. In Google's view, while both options would represent a significant step towards ensuring the international competitiveness of Australia's digital economy, option one is preferable.

Google strongly believes that adopting the first option would put Australia's copyright law in a position to respond to the evolving Internet economy. It would also create a legal framework that encourages innovation.

Google submits that the second option suffers the disadvantage that while it would address known issues, it would not allow the flexibility for future innovations and developments in Australia's digital economy.

The best legislators in the world cannot anticipate future innovative uses of copyright material. In Google's view, it would be sub-optimal to continue with a situation where the legislature is required to keep returning to copyright reform at every new development in technology, or face the prospect that its copyright laws are lagging behind technological advancement and other countries with the ultimate effect of stifling innovation and disincentivising investment.

Non-copyright legislation that creates uncertainty or barriers

Google believes that legislation and regulation should be crafted in a way that is certain as well as being both technology neutral and business model neutral. This includes neutrality in respect of user generated content websites where content is uploaded by users without human intervention or intermediation by the content host, but rather is shared spontaneously, becoming immediately globally available.

The characteristics of these sites that may need special consideration to ensure that legislation and regulation affects them in the same way as other technologies and business models, include:

- there is a vast volume of content that is uploaded to these sites every minute;
- there is no human moderation of content that is uploaded, in fact such moderation would be impossible due to the volume of uploads;
- viewers of these sites are not generally required to log in or register to access the content; and
- there is an enormous number of viewers of these sites at any one time.

An example of legislation and accompanying regulation which does not operate in a technology neutral way with respect to user generated content websites, is *Schedule 7 to the Broadcasting Services Act (1992)* which regulates content hosted in Australia and delivered over the Internet and over mobile phones.

These regulations disadvantages Australian based providers of user generated content vis a vis providers of:

- mobile premium content; and
- websites that contain provider compiled or generated content, whether freely available or available on subscription,

in that rules which despite being 'on their face' technology neutral, do not operate equally in practice for all types of content providers.

This disadvantage operates as a disincentive to user generated content website providers setting up business in Australia. It follows that this inhibits the growth of Australia's digital economy. This is disadvantageous both for Australia's digital economy and for the Australian public who may be deprived of the opportunity to enjoy new services, or even develop and deploy new services themselves.

VI - Digital economy and the environment

As the Consultation Paper identifies, developments in the digital economy can play an important part in solving some of the environment challenges currently faced by the planet.

Google is committed to helping to build a clean energy future. We are taking an array of steps to make sure we implement innovative and responsible environmental practices.[9]

In 2008 our philanthropic arm, Google.org, invested $45 million in breakthrough clean energy technologies. Information about our clean energy initiatives is available at http://www.google.com/corporate/green/clean-energy.html

In terms of Google's own carbon footprint, as a business with hundreds of millions of users, it takes extensive computer infrastructure to keep our tools and services running. We are working to produce electricity using renewable energy resources that don't add to the production of greenhouse gas emissions.

We are also working as efficiently and innovatively as possible. From our very first servers to our latest-generation data centers, extracting maximum performance per watt of consumed power has

[9] For more information see http://www.google.com/corporate/green/index.html

allowed the scale and scope of our services to grow exponentially. It's good for the environment and good for business, too.

Today we are operating what we believe to be the world's most efficient data centres.[10] This means that the energy used per Google search is minimal. In fact, in the time it takes to do a Google search, a user's own personal computer will use more energy than Google uses to answer the query. In terms of greenhouse gases, one Google search is equivalent to about 0.2 grams of CO2. The current EU standard for tailpipe emissions calls for 140 grams of CO2 per kilometer driven, but most cars don't reach that level yet. Thus, the average car driven for one kilometer (0.6 miles for those in the U.S.) produces as many greenhouse gases as a thousand Google searches.

In addition to "greening" our own business, we're also cooperating with members of the tech community to improve efficiency on a broader scale. In 2007, we teamed with Intel and other industry partners to form the Climate Savers Computing Initiative,[11] a group which advocates the design and adoption of more efficient computing infrastructure. This non-profit consortium is committed to cutting the energy consumed by computers in half by 2010

Google continues to innovate. Over the last several months, engineers at Google have been developing a software tool called Google PowerMeter, which will show consumers their home energy information almost in real-time, right on their computer. Google PowerMeter is not yet available to the public since we're testing it out with Google employees first. But we're building partnerships with utilities and independent device manufacturers to gradually roll this out in pilot programs. This is another example of the importance of ensuring an environment that enables this kind of 'day to day' innovation to flourish.

Conclusion

Australia is already a country with a proud history of innovation, research and development. The digital economy is developing and strong. However there is so much more to do.

Google hopes that the suggestions in this submission will assist the Government in ensuring that the correct economic, social, legal and regulatory settings are in place to ensure that Australia's digital economy is world leading.

Google looks forward to working with the Government to set the future directions for a digital

[10] http://www.google.com/corporate/green/datacenters/
[11] http://www.climatesaverscomputing.org/

economy where greater innovation is occurring and more and more Australian businesses and households are availing themselves of the full economic, social and environmental opportunities afforded by the Australian digital economy.

Google would be pleased to discuss any of these points further, and to respond to any queries the Department may have. Thank you for the opportunity to provide these comments. Google is excited to be engaging in this essential debate.

Yours sincerely

Carolyn Dalton

Head of Public Policy and Government Affairs

Google Australia & New Zealand