The Trillion Dollar Question: How trade agreements can maximise the economic potential of data in the networked economy and support the Internet as the world’s trading platform

Purpose and scope of this document

Trade negotiators from countries across the world have said they need to understand the networked economy better in order to determine how best to craft provisions that accelerate access and economic benefits it brings. At the same time, many Internet services companies and stakeholders need to understand how trade policy works. This document seeks to create a common understanding for both communities. A subsequent initiative will then present options for how to reconcile the need for effective pro-trade provisions suited to the digital economy in trade agreements and the legacy of GATS1 and previous bilateral and plurilateral trade agreements’ provisions.

This document deals with the first two of three areas at the level of strategy:

1. The publicly-accessible global Internet and managed private networks and their interrelated role as the world’s trading platform2;

2. The data, and services that provide that data across those networks.

This document does not address the interface between electronic and non-electronic commerce and the measures that should relate to it - for example, the customs and duty-related formalities that result when goods purchased online must be delivered from the supplier to the customer across national borders, nor does it address the movement of persons - in trade known as “Mode 4” - between countries where those people have skills that are integral to the operation of the networks, services, and data they involve. It is anticipated that these questions will be dealt with subsequently; they are not of the same ‘horizontal’ nature as the questions this document tackles.

1 ‘GATS’ refers to the ‘General Agreement on Trade in Services,” the part of the WTO treaty system that deals with services trade. You can read more about GATS and its history here: http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm6_e.htm.

2 It is not widely understood that the public Internet's backbone is generally based upon the connectivity, such as undersea cables (in the case of countries with coastline) and land-based fiber and satellite-provided bandwidth that is financed by private companies' need for connectivity that cannot be met by existing capacity or where security concerns require dedicated service. ISPs that serve this market resell excess bandwidth on new physical infrastructure for the provision of public Internet connectivity. As a consequence, trade agreements need to cover both the publicly accessible Internet and privately managed networks.
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A strategic view of the networked economy and what it needs from the trade system

The Networked Economy is the present and the future of all trade

It is widely understood that the Internet is key to global trade. A few facts that illustrate this:

In 2010, the Internet economy amounted to $2.3 trillion or 4.1 percent of GDP across the G20 countries. This number is expected to grow to $4.2 trillion or 5.3 percent of GDP by 2016, when the Internet economy will employ 32 million additional people in those countries.3

In the developing world, growth rates of the Internet economy will be over 18% in the next 5 years - more than twice as fast than those in the developed countries.4

- 75% of the Internet’s economic benefit goes to traditional industries through efficiency gains and expanded markets, and SME5s who heavily utilize the Internet export twice as much as those that don’t.6

- Over 675,000 people get connected to the Internet for the first time every day7 - 3 billion people will use the Internet by 2016, from 2 billion in 20108. That means any business with a product or service that can leverage the Internet can reach an additional billion customers in just the next three years.

- Half of global Services trade is enabled by the networked economy, according to UNCTAD,9 which means the networked economy is increasingly the beating heart of the economy.

- The networked economy is inherently borderless - and so the promotion of economic activity that relies upon it will become more effective as more countries subscribe to common rules.

There is no other area of international trade where liberalisation can meaningfully enhance economic opportunity for one half of the global population. That alone justifies ensuring that the priority in any trade negotiation should be the networked economy.

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4 ibid.

5 Meaning Small and Medium-Sized Enterprises.

6 Internet Matters, supra note 1.


Trade provisions for the networked economy must reflect its nature

The public Internet (and private managed networks that connect to it that are based upon the same technologies)\(^\text{10}\) are not just an invention. They are, as the printing press, the steam engine and electricity before it, a general purpose technology (GPT)\(^\text{11}\) - transforming our societies and economies on all levels. Across industries, the Internet is transforming production and distribution, making markets more transparent, opening markets to new entrants and lowering barriers of entry, transforming entire sectors, and creating entirely new sectors that spring from nothing to global reach and influence, creating enormous global economic activity, all in less time than a traditional trade agreement can even be negotiated.

This rapid pace of change means that provisions that work for the networked economy must be designed to stand the test of time - and that will require different structural approaches than in previous regimes like GATS in some areas, as is noted below.

Four principles to protect and promote the networked economy

What follows are the four foundational principles that should guide the development of provisions related to the networked economy in any modern trade agreement such as TISA:

1. **Networks are a trading platform that all sectors depend on and this requires provisions that ensure they remain ‘open for business.’** In this context, it is worth noting that the public Internet and private networks interoperate\(^\text{12}\) to create the greater whole and all the systems and functions which are essential to the operations of both need to be supported.

2. **All commercial activity that takes place online depends upon information and data moving without hindrance or distortion** to respond to real-time access needs internationally. Ensuring the widest possible application of this principle is an absolute necessity in TISA, though issues such as the protection of personal privacy and protection from fraud and abuse, national security, different societal views on public morality and free expression in a globalised medium, and intellectual property will need to be dealt with.

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\(^{10}\) The terms “Internet” and “networks” or “networked economy” refer to both public and private connected networks interchangeably, since at a public policy level in a Services agreement they need identical treatment. It is important to recognise that both exist and are mutually-reinforcing in their economic impact and value. Naturally, any trade agreement shouldn’t address only networks based upon the Internet protocol, but allow for any network based upon a successor technology were it to arise. It is noted that ensuring that sort of technology neutrality is a hallmark of trade agreements generally.


\(^{12}\) ‘interoperability’ refers to the ability of diverse systems and organizations to work together harmoniously.
such that exceptions are transparent, rules-based, and as free from unanticipated side
effects as possible. Simply copying over general exceptions from other agreements like
GATS that were designed before the networked economy was a factor in trade will in many
areas be insufficient, for reasons we will explore later in the document.

3. Creating a level playing field for services in a networked environment requires rules that
respond flexibly to change to a far greater extent than ‘bricks and mortar’ sectors. The
pace of rapid change in entire industries created by the networked economy means that
the ‘positive list’ construct of services commitments is not viable in many areas.

4. Network-based economic activity frequently blurs the line between the different
traditional ‘Modes’ that are the hallmark of services agreements. The TISA needs to
accommodate this reality in a way that lives with the legacy of the past while creating a
bridge to the future.

More detail on each of these follows.

Networks are a trading platform that all sectors depend on and this
requires provisions that ensure they remain ‘open for business.’

Including provisions in any trade deal that recognise the Internet as a trading platform is
actually conceptually congruent with the way the Internet is structured: as a closely integrated
web of hardware and software that is designed to interoperate, involving actors such as:

- ISPs (providing physical network access as well as routers and related software
  services responsible for forwarding traffic between any ‘point A’ to any ‘point B’);
- The processes by which unique identifiers that allow any ‘node’ of the network to
  be identified and reached from any other node are allocated and managed (such as
  Internet Protocol (“IP”) addressing and the domain name system (“DNS”));
- Key trust authentication services - those services that ensure key technologies are
  resistant to misuse by the unscrupulous - for example, the infrastructure that
  supports DNSSec (which provides security for the DNS), or which provide
  authentication of resources like websites through certificate verification (such as
  the ‘secure sockets layer’ (SSL protocol).

It is not widely understood that Internet Protocol (“IP”) based networks are designed to
operate with maximum efficiency, and a continuous process of evolution of standards
responds to the need to deliver greater performance, interoperability, resiliency, and trust and

13 Where a ‘positive list’ of commitments is used, only those services specifically listed are included. The
result is that as new types of services are created in the marketplace these are outside of an agreement
that uses this mechanism. A ‘negative list’ of commitments is the opposite: here, the only areas that are
excluded are those specifically listed. A negative list approach is much more future proof, but, also
means that countries must be comfortable with the idea that over time the commitments to
liberalization they are making will expand automatically.

14 For a user-friendly overview of the Internet and the ‘network of networks’ that it is comprised of the
Internet Society’s “An Introduction to Internet Interconnection Concepts and Actors” is excellent:
security as networks develop. The result is that these networks can, if left to themselves and the web of stakeholders who operate and maintain them:

- Automatically find the optimal (which is not necessarily the most direct) route between any two points at any given time;
- Deliver data between any two points in a way that optimizes bandwidth used;
- Ensure that anyone may extend the public Internet simply by connecting a device called a router\(^{15}\) to the ‘edge’ of the network and applying for a unique address for that router, which are ultimately provided by ‘regional internet registries’ (‘RIRs’);\(^{16}\)
- Ensure that users of globally popular services access the copy of the information sought that is closest to the user on the network (which may or may not be closest in geographic terms), which both minimises the cost to the service and maximises the performance the user experiences.

However, legal regimes often act to distort or frustrate these functions, even where that is not the intention. For this reason TISA must have provisions that:

1. **Oblige signatories to avoid actions that impede or distort basic functions such as addressing and traffic routing.** Where a signatory state needs to remove a ‘node’ from the network or prevent access to certain information that the network carries for whatever reason, it must do so in a way that does not affect the network’s operations. There are many different mechanisms that can be used in pursuit of national social and security priorities with respect to data on the network that do not affect network operations.

2. **Oblige signatories not to take actions that affect the choices of commercial actors in physical provision of hardware, software, or services that would impact network performance, resiliency, security, and/or costs of deployment or operations.** Many countries are tempted to require that certain types of hardware or software integral to the operation of the network be physically sited within their national boundaries. There are many reasons why these choices are made but the reality is that mandates of this kind generally have unanticipated negative consequences, frustrating choices which are otherwise designed to ensure the best performance for the largest number of users at the lowest cost. This is not in the long-term interests of any country - and there are better and more sustainable ways to encourage local investment in the ICT sector than through these kinds of mandates.\(^{17}\)

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\(^{15}\) A router is a device which ‘talks’ to other such devices to figure out how to forward requests from any device connected to it to any other part of the network; the standards used ensure that this can happen automatically and as the network topology changes in real-time, these changes are ‘learnt’ by those devices which need to know about them. Pretty much every business and residence has a router, generally provided by their Internet service provider.

\(^{16}\) These organisations are responsible for managing the key forms of addressing on the Internet - which are akin to the various types of addresses in the worldwide postal system in the functions they perform; all of them are ultimately linked to IANA, the Internet Assigned Numbers Authority, managed by ICANN. IANA, and the RIRs, work together; more information is available at [http://www.iana.org/numbers](http://www.iana.org/numbers).

\(^{17}\) There is much scholarly literature on the subject. The 2009 WEF report, “ICT for Economic Growth: A Dynamic Ecosystem Driving The Global Recovery” is simultaneously comprehensive, accessible, and at 11 pages, short. It can be found here: [https://members.weforum.org/pdf/ict/ICT%20for%20Growth.pdf](https://members.weforum.org/pdf/ict/ICT%20for%20Growth.pdf).
It is important to emphasise that all of the provisions discussed above do not cover or relate in any way to any data created by, or perceivable by, a person in any manner or form: the provisions which relate to data as mere traffic or bitstreams should be kept separate for reasons that will become clear.

It is also important to note that there are other kinds of barriers related to lack of competition in the provision of physical connectivity within or between countries and the often arbitrary nature of various kinds of fees (in trade parlance “non-tariff barriers”) that are frequently applied to the landing of new undersea cables to increase available network bandwidth - or the charges to provide network connectivity between land-locked and non-landlocked countries.  

**All commercial activity that takes place online depends upon information and data moving without hindrance or distortion**

It is certainly the case that the networked economy depends upon data flowing freely without impediment - and it is also the case that this critical need can (and more and more frequently is) undermined in pursuit of other public policy priorities.

Networked economy-based services should also receive the benefit of national treatment, which at present is often not the case. Some countries, for example, have alleged foreign search sites to be purveyors of pornography, even though domestic services allow users to link to similar adult content. Numerous other Internet services, including social networks, blogging and photo sharing sites, have over time been blocked or severely restricted by the some governments, while domestic versions of the same services are permitted to operate, even though they contain similar levels of “offensive” content. The economic consequences of such treatment can be substantial. There is also very little transparency about what material is removed from online services, when, for what purpose, and at whose instruction. Some companies have unilaterally began publishing information about this but that’s not a replacement for a rules-based regime, with a disclosure process for at least a basic minimum

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21 For example, in 2007 China blocked U.S. based search engines and redirected users to the leading Chinese search engine, Baidu. Google's policy of redirecting Chinese users to the site’s uncensored Hong Kong page led the Chinese government to filter all Google search results through its “Great Wall” monitoring system. As a result, Google's market share fell to 30.9 percent in the first quarter of 2010, down from 35.6 percent in the fourth quarter of 2009; Baidu, China’s largest domestic search engine, saw its market share increase from 58.4 percent to 64 percent over the same period. As a result of its loss in search market share, Google experienced a drop in advertising revenue in China as advertisers shifted their business to Baidu, allowing Baidu to charge higher rates for advertising. See Mark Lee, *Google Wins China Permit Renewal, Defusing Standoff*, BUSINESSWEEK, July 9, 2010, [http://www.businessweek.com/news/2010-07-09/google-wins-china-permit-renewal-defusing-standoff.html](http://www.businessweek.com/news/2010-07-09/google-wins-china-permit-renewal-defusing-standoff.html)

22 Perhaps the most granular such reporting is provided by Google’s Transparency Report, available here: [http://www.google.com/transparencyreport/](http://www.google.com/transparencyreport/). An example of a cross-Internet industry initiative to promote disclosure of such requests (in this instance in connection with free expression and personal privacy) is the Global Network Initiative, online at [http://www.globalnetworkinitiative.org/](http://www.globalnetworkinitiative.org/).
of information on the conditions under which information may be removed from digital services. The WTO notifications process embodies such an approach; TISA should ensure that it builds upon this legacy, as an increase in transparency and legal certainty would build confidence and competitiveness in the TISA economies vis-à-vis non-participating markets.

Trade agreements normally allow signatories to override normal treaty operations in order to deal with key policy priorities\textsuperscript{23} however, the general exceptions of GATS by themselves are likely to prove inadequate as a way to fully address issues like personal privacy and end-user security in the networked economy. In the case of privacy, this is because information associated with individuals is frequently (and in some cases almost routinely) subject to movement across borders as an integral part of services that generate them; this is especially true of services that include content generated by users themselves. Moreover, the simple act of tracking who visits a website\textsuperscript{24} can reveal who that visitor is, at least to the level of an IP address.\textsuperscript{25} This differs considerably from the offline world where the commercial use of personal information is very much the exception in most sectors, and the exception for private information was drafted before online data privacy was an issue.\textsuperscript{26}

It is also the case that measures taken to protect national security in the online environment can very easily create substantial barriers to efficient network operation and introduce legal uncertainty that in both cases is unnecessarily damaging to commerce.\textsuperscript{27} A good example of this is the US Patriot Act\textsuperscript{28}, certain provisions of this act have resulted in reluctance by other countries to allow their nationals’ data to be stored within the USA.\textsuperscript{29} While the routing decisions of major Internet service and backbone providers are not generally disclosed, it is understood that there have been instances where non-US-based commercial operators have chosen to try and route traffic such that it does not transit the USA if the source or destination does not otherwise require it.

These issues will require real innovation in the structure of the agreement, as most (if not all) countries in TISA are in the throes of national debates about key questions that have huge impacts on the networked economy, such as:

\begin{itemize}
\item \textsuperscript{23} Contained in Article XIV and available here: \url{https://www.wto.org/english/docs_e/legal_e/26-gats_01_e.htm#articleXIV}
\item \textsuperscript{24} Website usage tracking tools (“web analytics”) are used by a large number of all public websites as they help web designers understand how the site is used and who by. More information on Wikipedia is to be found here: \url{http://en.wikipedia.org/wiki/Web_analytics}
\item \textsuperscript{25} In some jurisdictions it is an open question as to whether an IP address alone is considered personal information.
\item \textsuperscript{26} While the volume of literature on the subject is considerable, for those in the trade community we recommend the February 2013 WEF report “Unlocking the Value of Personal Data: From Collection to Usage”; available at \url{http://www.weforum.org/issues/rethinking-personal-data}. Another WEF report from May 2012, “Rethinking Personal Data: Strengthening Trust” is also worth reviewing; available at \url{http://www3.weforum.org/docs/WEF_IT_RethinkingPersonalData_Report_2012.pdf}.
\item \textsuperscript{27} Cloud services are particularly susceptible to this problem: for an example of the harms see “Dutch government to ban U.S. providers over Patriot Act concerns,” Zdnet, 19th September 2011, at \url{http://www.zdnet.com/blog/btl/dutch-government-to-ban-u-s-providers-over-patriot-act-concerns/58342}. This decision was subsequently reversed but it clearly illustrates the issues of unintended consequences of national legislation related to networked activity.
\item \textsuperscript{28} An accessible summary of the Act and subsequent amendments may be found at Wikipedia here: \url{http://en.wikipedia.org/wiki/Section_summary_of_the_Patriot_Act_Title_II}.
\item \textsuperscript{29} Perhaps the most well-known being Canada. See Clement, Andrew and Obar, Jonathan A.,\textit{ Internet Boomerang Routing: Surveillance, Privacy and Network Sovereignty in a North American Context} (March 31, 2013). Available at \url{http://ssrn.com/abstract=2242593}.
\end{itemize}
What is the balance between the privacy of individuals in the networked environment and the commercial or government use of information about them?

How do we (each country being a different ‘we’) ensure that key information needed for regulators - such as that related to financial transactions and institutions - is protected when it leaves national boundaries?

How do we create rules to protect users against online fraud and abuse and use of public networks for criminal activity without harming the fundamental freedoms of our nationals?

Where is the dividing line between national security issues and everyday commercial and end-user security?

The reality is that the global nature of data flows in the networked economy raises issues that will be the subject of debate at the national level for some time and laws made nationally in response will continue to evolve. However, the answers of each country to these value questions have undisputed commercial implications especially with respect to services trade - yet trade negotiators will quite naturally be wary of agreeing to binding international obligations where national discussions are not mature.

A way to deal with the need for legal certainty in an environment where that certainty is a moving target may be found in a different structure of agreement increasingly used in other areas of international treaty making: the framework convention.

The basic conception is that TISA would create a process whereby the minimum obligations parties have with respect to specific key areas would evolve over the course of time through a collaboration with the relevant trade and other government officials meeting periodically to define (and refine) them. For example, with respect to protection of data associated with individuals, the process might be as follows:

- TISA would provide that the parties had an obligation to permit the free flow of information subject to specific provisions limiting the use of data which is related to a natural person, where the definition of the scope of coverage (what information related to natural persons) as well as the minimum standards to be applied to usage of that information in trade would be created and modified over the course of time through a meeting of the parties established specifically for that purpose.

- That body would be made up of designated individuals from each contracting state’s relevant ministry (or ministries) responsible for data protection alongside the contracting state’s trade ministry. They would collectively meet regularly to redefine what the TISA obligations are, again specifically as they relate to commercial application of the information in question.

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30 An excellent resume of framework conventions, why they are used and the various areas of law they’ve been used in may be found in “Framework Conventions as a Regulatory Tool”, Goettingen Journal of International Law 1 (2009) 3, 439-458, N Matz-Luck, at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1535892

31 The framework convention that inspired the approach used here is CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) - where the obligations parties have to protect Threatened and Endangered animal species are embodied in the main agreement, while the actual species that are to be protected under each category are decided upon through regular meetings
The points of contact for each country in respect of the obligations settled upon could be the object of a notification procedure to ensure that other parties and stakeholders were clear on whom to contact.

These bodies would not be a replacement for national debate and action on this area nor should national debates simply transfer to them. What would have value is for the parties to bring the results of their national consensus and legal evolution to the new forum in order to create a consensus on the minimum obligations of all countries, which would naturally evolve over time.

A framework convention should not become a way of ‘kicking the can down the road’ – deferring dealing with a complex area of policy through process. These issues and the uncertainty that the changing legal landscape in these areas has involves a real economic impact that will only grow as services become more sophisticated.

Creating openness for services in a networked environment requires rules that respond flexibly to changes to a far greater extent than in ‘bricks and mortar’ sectors.

In trade lingo, the flow of information across borders is not a scheduling issue or a sectoral issue where a negative list or a positive list construction is relevant.

In other words, just creating an ‘ecommerce chapter’ in the agreement or a ‘schedule of commitments’32 that is vertical (meaning applicable only within that chapter or only applying to specific named services) will not work: all sectors rely upon the networked economy for often-critical elements of their operations. Provisions that relate to the flow of information or data must therefore be ‘horizontal’ or applicable across all sectors TISA covers.33

Network-based economic activity frequently blurs the line between the different traditional ‘Modes’ which are the hallmark of services agreements

The overall lack of consistency and successes in digital trade liberalisation even in preferential agreements is partly due to the heritage of GATS, especially the mode-based negotiations34 – services are not delivered according to the theoretical modes of delivery of GATS and FTA of the parties. CITES is a very successful international agreement, currently with 178 countries, one of the most widely adhered to of all agreements. CITES may be found online here: http://www.cites.org/

32 A ‘schedule of commitments is how countries agree what they will be bound to do in relation to trading partners. The WTO has a good explanation of how schedules work and are constructed here: http://www.wto.org/english/tratop_e/serv_e/guide1_e.htm.

33 Two examples of many just in relation to the value of the Internet in supply chains: 1) The European Union has two projects to enable SMEs to participate in global supply chains relating to the automotive industry, see http://ec.europa.eu/enterprise/magazine/articles/innovation/article_11049_en.htm and 2) Pfizer, the global pharmaceutical giant, recently announced that it had moved its entire supply chain, vendor and customer management processes into a cloud based application; see “Pfizer moves supply chain to cloud,” Financial Times, 11th September 2012, at http://www.ft.com/cms/s/0/1608e5d6-fc59-11e1-ac0f-00144feabdc0.html.

34 Trade agreements addressing services that follow the WTO GATS model are divided into four ‘modes’ of supply – a demarcation that is difficult to manage in the networked economy where activities span across modes. For more information on modes, see here: http://en.wikipedia.org/wiki/General_Agreement_on_Trade_in_Services#Four_Modes_of_Supply.
schedules. They are exported to foreign markets in the form of competences (consultants and experts flown in to perform a task), intellectual property (by transferring franchise licences, copyright or patents), plain investments, or as data. Unlike business mobility, IP and investments that are now established chapters of all modern trade agreements and the WTO, free movement of data is yet uncovered.\textsuperscript{35}

Trade negotiations often bring up this issue of categorisation - and perhaps the best option with respect to data is not to try: simply treat data itself as an entity that is neither product nor service. This is factually true: data, once it is encapsulated digitally for transmission in a network, is simply bits that must be reassembled upon reception. Upon reassembly, data may be part of a product - for example, a digital download of a licensed copy of software. Other data is associated with a service - such as the results of an online search or email being delivered. The common element is that it is data which is integral to delivery of the product or service, but the data is not itself either of those things.

\textbf{What is the service, then?}

To continue this demarcation, the service can be defined (continuing the examples above) for software as the the software vendor’s online shop or a third-party authorized vendor of that software; in the case of search, the search service and its associated logic that assembles raw information into a relevant search result could be classified as an advertising service (since search engines generate revenue based upon advertising in various ways). In general, where an online service (or product, for that matter) is an analogue to one offline, barring some special circumstance the two should be treated the same.

\textbf{In Conclusion}

We hope that this document provides a useful point of departure for stakeholders and the trade community generally to consider how to integrate the networked economy into the Trade in Services Agreement. IDEA welcomes comments and contributions by email or post to comments@internet-economy.org or at the address details below.

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We would also like to acknowledge the influence of the following, in no particular order:

\textsuperscript{35} This paragraph taken from Hosuk Lee-Makiyama’s 2013 statement to the US ITC entitled “Digital Trade in the US and Global Economies.” The full text may be found here: \url{http://www.ecipe.org/media/external_publication_pdfs/USITC_speech.pdf}. 

● Submission of the Computer & Communications Industry Association to the Office of the United States Trade Representative (1st March 2013) at http://www.regulations.gov/contentStreamer?objectId=090000648120a833&disposition=attachment&contentType=pdf.