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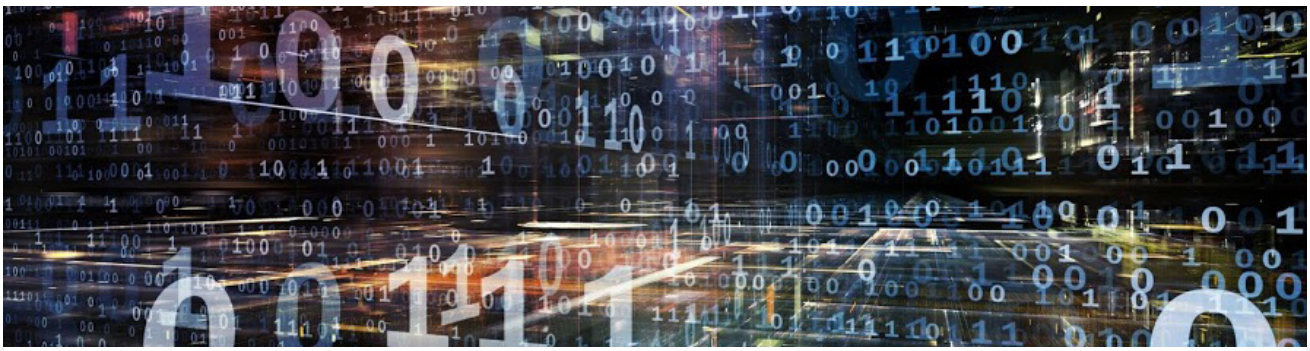

New WTO Trade Rules for Bits and Bytes?

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Think Piece

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ABSTRACT

The major trading nations have been busy with trade agreements—free, preferential, and bilateral—incorporating Trade-Related Aspects of Intellectual Property Rights (TRIPS)-plus and World Intellectual Property Organization (WIPO) Internet Treaty provisions into their respective schedules, impacting the trade in digital intangible products. As communication networks have evolved from real-time, point-to-point dedicated circuit-switched connections over copper cable to complex multipoint, packet-switched connections over distributed fibre optic networks worldwide, the value and speed of communication has expanded exponentially. Now, complex audiovisual media services run over a series of layers in the packet-switched chain. Dominance is not just about control of the physical infrastructure layer but all layers of the Internet protocol stack from application and messaging to content layers where most of the intellectual property resides. But the question is—will such trade agreements take account of these nuanced changes and will they be stepping stones or stumbling blocks to any future multilateral provision on digital trade?

This paper briefly looks at some of the more recent and larger FTAs, although many of the operative provisions for some, such as the Trade in Services Agreement (TiSA), are still not in the public domain. Nevertheless, the wording of provisions in agreements, such as the Korea-United States Free Trade Agreement (KORUS), provides a good overview of what has been achieved. Dispute resolution procedures in FTAs/PTAs are not uniform and there is concern that judgments, perhaps through private arbitration procedures, will create a patchwork of rules for digital trade. Certainly, the World Trade Organization (WTO) could strengthen its role in monitoring the performance and impact of the new PTAs on the horizon, in effect becoming a more significant source of information on these agreements than previously and matching its existing strengths in adjudication and negotiation. Regulation in the communications sector has generally favoured separating content from infrastructure. Nevertheless, when it comes to delivering digital products (whether goods and/or services) over a network, the very nature of the delivery method requires a holistic view to traditionally separate goods and services regulation, content, and infrastructure regulation. This paper points to (a) expanding and deepening existing WTO commitments; (b) encouraging the WTO Secretariat to ensure that amendments to TiSA are made in line with existing General Agreement on Trade in Services (GATS) commitments and/or improving upon current provisions specifically for digital trade; or (c) pursuing a single new instrument for the digital economy.

CONTENTS

LIST OF ABBREVIATIONS

ADR	alternative dispute resolution
AF	Annex on Financial Services
AT	Annex on Telecommunications
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPC	Central Product Classification
CRS	computer and related services
DSB	Dispute Settlement Body
ECIPE	European Centre for International Political Economy
EU	European Union
FTA	free trade agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
HS	Harmonised System
ICT	information and communication technology
IDEA	International Digital Economy Agreement
IP	intellectual property
ISP	Internet service provider
ITA	International Technology Agreement
KORUS FTA	Korea-United States Free Trade Agreement
MFN	most favoured nation
NGN	next generation network
NRA	national regulatory authority
PTA	preferential trade agreement
RP	Reference Paper
SMEs	small and medium enterprises
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TCP/IP	Transmission Control Protocol/Internet Protocol
TiSA	Trade in Services Agreement
TPP	Trans Pacific Partnership
TTIP	Transatlantic Trade and Investment Partnership
UK	United Kingdom
US	United States
USITC	US International Trade Commission
USTR	United States Trade Representative
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

INTRODUCTION

When E. M. Forster began writing *Howards End* before World War I in 1909, could he have imagined that the simple phrase "Only connect" he uses in the work could have resonance for the burgeoning development in digital trade seen today? Naturally, Forster was writing of something entirely different—the need to connect man's internal and external desires. And yet, we see that this phrase is also apt for digital trade—the need for a nation state to ensure an effective communications network not only within its borders, but also to the wider Internet. Also, the transactions and content that flow over such networks are directly correlated with Moore's Law (Gordon Moore, co-founder of Intel), which talks of the density of transistors on an integrated circuit board, but perhaps indirectly of the benefit of network externalities and the power of reaching millions of users through the effective interconnection of networks.

The major trading nations have been busy with free trade agreements (FTAs)/preferential trade agreements (PTAs) and bilateral trade agreements incorporating Trade-Related Aspects of Intellectual Property Rights (TRIPS) plus and World Intellectual Property Organization (WIPO) Internet Treaty provisions into their respective schedules, impacting the trade in digital intangible products. Many agreements talk of the interconnection of networks at both the physical and logical levels. As communication networks have evolved from real-time, point-to-point dedicated circuit-switched connections over copper cable to complex multipoint, packet-switched connections over distributed fibre optic networks worldwide, disassembling and assembling packets in near real time (but importantly not exact real time), the value and speed of communication has expanded exponentially. Now, complex audiovisual media services run over a series of layers in the packet-switched chain. Dominance is not just about control of the physical infrastructure layer but all layers of the Internet protocol stack from application and messaging to content layers where most of the intellectual property resides.[1] But the question is—will such trade agreements take account of these nuanced changes and will they be stepping stones or stumbling blocks to any future multilateral provision on digital trade?

This paper outlines some provisions on FTAs in Section 2 before briefly discussing new rules or ways of interpreting existing rules that impact digital trade, such as localisation (Section 3.1); the Information Technology Agreement (Section 3.2); classification issues (Section 3.3); the Annex on Telecommunications (Section 3.4); and the regulatory Reference Paper (Section 3.5). The paper goes on to briefly look at possible other approaches (Section 3.6), for example, expanding the Trade in Services Agreement (TiSA) or creating a new framework agreement for digital trade, and concludes with further thoughts in Section 4.

FREE TRADE AGREEMENTS/ PREFERENTIAL TRADE AGREEMENTS

Bilateral (for example, the Korea-United States [US] agreement, or KORUS) and FTA negotiations include e-commerce chapters (all US and European Union [EU] FTAs) that bypass the stalled Doha Round talks. The Trans Pacific Partnership (TPP), and the US-EU Transatlantic Trade and Investment Partnership (TTIP) as currently proposed would extend the levels of protection for a range of intellectual property (IP) rights.[2]

- Copyright—life of author plus 70 years (Article 18 KORUS; Chapter 18, Article 18.6.3 (b)(i) TPP).

- Contain improved enforcement provisions (KORUS Article 18.10; pre-established damages high enough to deter counterfeiting and piracy and compensate rights holders for loss, including criminal penalties for wilful copyright infringement and trademark counterfeiting). The TPP is expected to boost IP standards and commitments on enforcement (Chapter 18, Articles 18.71-18.75).[3]

- Incorporate the WIPO Internet Treaty provisions for:

    - Liability of Internet intermediaries (also safe harbour for Internet service providers [ISPs] who are unaware of hosting IP infringing content and do not own, initiate, or control distribution of pirated material by including takedown provisions on notice) (TPP Chapter 18, Article 18.82, Annex 18-E and Annex 18-F; KORUS 18.1);

1 For an overview of the different layers of the Internet protocol stack, see https://en.wikipedia.org/wiki/Internet_protocol_suite.

2 TiSA is a "services only" agreement (building on the commitments in the General Agreement on Trade in Services [GATS]) and is not meant to cover IP (although there may be some cross-reference with domain names in any e-commerce chapter to be agreed, but this remains to be confirmed). The text of the TPP was released on the 5th November 2015.See http://www.tpp.mfat.govt.nz/text.

3 The TTIP includes IP as "investment assets" in Chapter Y. There will be a separate IP chapter. The EU's main IP concerns include geographical indications; anti-bad-faith registration of trademarks; and customs enforcement, including counterfeit goods in small consignments. Copyright issues include remuneration rights for broadcasting and communication to the public (public performance) for performers and producers in phonograms; a full right of communication to the public (public performance) for authors in bars, restaurants, and shops; and a resale right for creators of original works of art. See EU negotiating position paper (March 2015) on the TTIP, http://trade.ec.europa.eu/doclib/docs/2015/april/tradoc_153331.7%20IPR%20EU%20position%20paper%2020%20March%202015.pdf.

- Treaty exceptions for copyright (referring specifically to Article 10 of the WIPO Copyright Treaty, that is, the right of a member state to include limitations or exceptions under national law to rights granted to authors. In some FTAs, such as the TTP in Chapter 18, Article 18.66, the exceptions to copyright are quite extensive);[4] and

- Abusive domain-name registration.

At the time of writing, many specific details of the mega FTAs are still not in the public domain. However, it is clear that with the successful incorporation of WIPO Internet Treaty provisions into many of them (at the drafting stage), the question arises as to whether it is now just a short step to folding the WIPO Internet treaties into the TRIPS itself?

FTAs (KORUS Articles 13.5, 13.7) incorporate provisions on cross-border data flows, reflecting World Trade Organization (WTO) commitments on data transfers for financial services (the KORUS expands from the Financial Services Annex where cross-border data flows are required in the ordinary course of business—but no requirement to balance with privacy obligation to protect personal data—though remaining subject to Article XIV of the General Agreement on Trade in Services [GATS] exception on data). The TPP is pursuing nonlocalisation rules for data and data centres as a requirement of investment, and reflected in provisions on the use of public telecommunication systems for the movement of information cross-border (Chapter 13, Article 13.4(3)), and cross-border (Chapter 13, Article 13.4(3), cross-border transfer of information by electronic means for e-commerce and location of computing facilities (Chapter 14, Articles 14.11 and 14.13) (see also TTIP Articles 48, 56; TiSA X3-X6). Most FTAs (KORUS Article 15; TTIP Article 63; TiSA Annex on E-Commerce) incorporate e-commerce chapters that allow parties to use their own authentication of digital signature methods. Some FTAs require authentication to comply with legitimate government objectives. Some FTAs (KORUS Articles 1, and 18; the Korea-Singapore and Chile-Australia bilateral treaties) use a *negative list* approach (asking countries to state what services, activities, or laws are not subject to the FTA rules, allowing for wider capture) as opposed to a *positive list* approach (asking governments to specify exactly which services and sectors will be covered by the rules). Also, some FTAs use standstill provisions (governments will be bound by existing levels of liberalisation and cannot introduce new restrictions) and ratchet provisions (when a government reduces restrictions on foreign firms, those will automatically be bound in and may apply to other FTA countries on a most-favoured nation [MFN] basis).

Some FTAs (KORUS Article 14.7–14.10; TTIP Article 44; TiSA Annex on Telecommunication Services) have incorporated additional rules to the telecommunications regulatory Reference Paper (RP), including commitments on local loop unbundling (LLU, or leasing part of the incumbent's network, reducing costs of interconnection); co-location (sharing of network facilities such as points of interconnection at telehuts or bilateral or multilateral Internet exchange points); and dialling parity. Further, certain bilateral/regional FTAs (US-Japan, US-Korea, and EU-US), the KORUS (Article 18.4), the TiSA (at the time of writing—Article 7 Annex on Electronic Commerce and Articles 5 and 17 Annex on Telecommunication Services), and the TTIP (Article 42) incorporate specific Internet principles on interoperability; free flow of data; and non-discriminatory allocation of spectrum. However, does this go far enough or do we need a new set of rules laid out in a single instrument, or perhaps extend current definitions already in the WTO-covered instruments?

NEW RULES?

LOCALISATION

Multinational companies keen on cross-border data transfers and anti-localisation provisions would also balk at blocks to data transfers by member states keen to keep data local. In a range of FTAs and bilaterals, a number of the more powerful states, including the US, have restricted use of performance requirements by developing countries associated with processing data and to keep data local. Often, those states wishing to promote cross-border data transfers rely on the Annex on Telecommunications (AT) and the Annex on Financial Services (AF) agreements that protect cross-border data flow in the ordinary course of business. But these annexes talk of data transfers over public telecommunications transport services being in *real time*. With complex packet-switched networks, data transfer is not real time—packets are disassembled and transmitted through a series of routers whether by way of private Virtual Private Networks or over the public Internet, mostly through a store and forward mechanism, and reassembled at their points of delivery. This is not exactly real time. Is this a problem? Perhaps not; this is the way Transmission Control Protocol/Internet Protocol (TCP/IP) networks function, and it is merely incidental that transmission is not real time. Also, as mentioned, the AT talks of communication via any protocol of choice.

However, the AT as currently drafted does distinguish between data that is *traffic data* —data that does not involve any end-to-end change in its form or content of the customer's information—and other forms of data where additional processing to *content and form* may have taken

4 The TPP was the first US trade agreement that required parties to seek an appropriate balance in their copyright systems in providing copyright exceptions and limitations for purposes such as criticism, comment, news reporting, teaching, scholarship, and research. See press release "USTR Introduces New Copyright Exceptions and Limitations Provision at San Diego TPP Talks," July 2012.

place, for example, from first input of the data to final delivery at a distant point of network presence. Clause 5(c) of the AT (and therefore the AF, which relies on the AT to provide the telecommunications transport services for communication of financial data) supports cross-border transfers. Nevertheless, this provision might only cover the transport of data where there has been no "change in the form of content of the customer's information." Such an interpretation, if correct, could exclude a number of forms of data generated by services *other* than telecommunications and where there has been a change in the customer's information. The implication of this is that states such as China, Russia, Nigeria, and others who enforce full or partial data localisation laws, and consequently who may face potential future requests for dispute resolution by WTO member states for breach of the AT/AF, could argue that the WTO provisions do not cover any customer information data where there has been change and/or amendment in that data, but only 'network traffic' data.

In a report on the costs of data localisation by the European Centre for International Political Economy (ECIPE), ECIPE argues that the economic impact in terms of loss to gross domestic product (GDP) and investment for countries imposing data localisation laws could be considerable and could also have significant knock-on effects on international services, such as cloud (Bauer et al. 2014). States promoting data localisation laws may argue that keeping data local may serve the public interest in that network security and privacy of data are better protected. Telehuts, Internet exchanges, and private and public peering points where networks interconnect and exchange traffic may be better protected locally with better control of the security clearance of network engineers who gain access to such physical infrastructure, but in reality a network can be intercepted anywhere. Like goods, data gathers inputs from all parts of the global value chain. Harmonising provisions on cross-border data flows in all the major trade agreements currently being negotiated would be a step forward, but these provisions should also be reflected in a decision, understanding, or reference paper within the GATS (see Section 3.5 on the RP). In other words, a revised RP to the GATS could include specific additional provisions on ensuring no restrictions to cross-border data flows and minimising localisation requirements reflecting best practice from FTAs/PTAs, but making clear whether *all* forms of data, or only certain categories of data, are captured.

INFORMATION TECHNOLOGY AGREEMENT

We could extend the WTO's International Technology Agreement (ITA), a plurilateral agreement involving 76 WTO members representing 97 percent of worldwide trade in information and communication technologies (ICTs). The ITA calls for a reduction of tariffs to zero on a range of ICT goods. An updated ITA would involve coded key cards to access Internet content such as software, machines for optical fibre for cables, and for semiconductors to drive down the costs of computer and mobile device access to the Internet. In his paper, "Future-proofing World Trade in Technology," Lee-Makiyama (2011) argues that the ITA could be extended by converting it into an International Digital Economy Agreement (IDEA). He says that "while there is no universally agreed definition of ICT services as such, it should at least include computer and related services (CRS) and telecommunication services." Lee-Makiyama holds that there is a strong case for including commitments on CRS in the ITA. Integrating the two would certainly provide for a more holistic approach to digital economy services, which not only require access to telecommunications infrastructure at the physical layer but also to the higher layers, particularly applications, where computer services would be significant. Nevertheless, such a suggestion is likely to be stiffly opposed by the hardware community, which is much better represented in trade policy circles than the services community. Besides including CRS services, he also argues for incorporating specific telecommunication instruments, such as the Telecommunications Annex and the regulatory RP. Finally, Lee-Makiyama contends that the inclusion of GATS Mode 4 (movement of natural persons) is important to an IDEA. Again, there are political difficulties with this, given, for example, restrictions on United States Trade Representative (USTR) commitments unless the US Congress allows for expansion into Mode 4. Nevertheless, there has been support for increasing the number and type of visa classifications as part of the TTIP.

> Digital and technology companies advocate increasing the number of H1-B visas granted each year. Some industry groups also have proposed clarifying, harmonizing, and broadening the definition of business visitors, or creating new visa classifications, as part of the Transatlantic Trade and Investment Partnership (TTIP) (USITC 2014).

CLASSIFICATION

The issue of classification of electronic intangibles has also proved to be a thorny issue in the WTO. Some states, such as the US, argue for a General Agreement on Tariffs and Trade (GATT)-based definition, whereas others, such as the European Communities, argue for a GATS-based definition, mainly to preserve cultural safeguards on the import of audiovisual media products. The approach taken in FTAs and bilaterals appears to avoid the classification issue completely by incorporating specific schedules on e-commerce and where all provisions refer to "digital products" (Wunsch-Vincent 2008).

In the WTO case *China-Audiovisual,* the Appellate Body found that the mode of delivery on hardcopy cinematographic film raised GATT issues, implying that delivering the film online would have excluded the

application of the GATT. The GATS, however, is implied as being technologically neutral (as to means of delivery) for scheduled commitments of services (that is, it applies to online products in the absence of tabled restrictions).

Nevertheless, if the GATT was to apply to the trade in electronic intangibles, should there be a de *minimis* level below which customs duties are not applied? Border measures can increase the costs associated with smaller transactions that can discourage digitally enabled trade. Raising the de minimis levels would be advantageous to small and medium enterprises (SMEs) and technology-enabled small business trade. A report by the US International Trade Commission states:

> One study shows that increasing the US de minimis level to $800 would increase the value of transactions handled by express delivery firms by over 8 percent for 48 different types of merchandise. This point also has been made in connection with the TTIP negotiations, where industry representatives have stated that a higher de minimis level will "enable consumers and businesses on both sides of the Atlantic to take full advantage of the potential of e-commerce". (USITC 2014: 177, footnote 125, FedEx, written comments to the USTR, 10 May 2013, p. 3)

If a de minimis is to apply, should it be for all countries or should it only be available to developing countries and/or least developed countries as a special and differential right? The imposition of customs duties has proven to be a problem for developing countries, for example with the importation of low-value goods.

Further, should the current moratorium on imposing customs duties on e-commerce transmissions continue? The moratorium has gone through several extensions, and following the WTO Bali Ministerial Conference in 2013 was again extended. However, there is no universal consent between WTO member states as to whether the moratorium applies to all electronic intangibles or only to a *specific category* of downloadable content. Some US operators consider that the moratorium applies also to Internet interconnection, and that any access fees on data transmission would be forbidden by the moratorium (USITC 2014). The approach taken in the majority of e-commerce chapters in FTAs is to apply the moratorium on customs duties to all digital products.

By contrast, if the GATS were to apply to electronic intangibles, would existing members' scheduled commitments cover access to Internet services? During the discussion of the Work Programme on E-Commerce, some GATS members argued that the GATS obligations and commitments undertaken in 1994 could not apply to services transmitted by a technology that was not yet envisioned at the time of the negotiations (namely, the Internet). In ongoing negotiations, WTO members could opt for combinations of a positive and negative list approach for scheduling service trade commitments, that is entering broad commitments at the two-digit Central Product Classification (CPC) level, while carefully listing certain exemptions using full CPC codes (See Wunsch-Vincent 2006). The *US-Gambling* case confirms that GATS Mode 1 applies to all cross-border Internet transactions (as opposed to Mode 2: consumption abroad). Also, US-Gambling confirms that scheduled commitments should be made under WS 120/CPC and that members will by default use the W/120 or an equally precise classification system in future negotiations and follow the GATS Scheduling Guidelines, or state clearly if they move away from these accepted definitions.[5]

The question is whether existing GATS classification codes take account of *convergence* in services. One could question whether the old-world GATS distinction between basic and enhanced (value-added services) is as relevant anymore in the light of complex services that run over packet-switched data networks. Is there a need to distinguish between basic Internet connectivity on the one hand (packet-switched data transmission services) and code and protocol conversion, or online information and database retrieval given that they could all function seamlessly on the same network but at different layers? We could envisage revised Schedules of Specific Commitments combining both, but also new commitments drawn together in clusters of network-based services. Given that many intangible goods, such as e-books, are made up of services inputs, a clustered approach to network-based services in drafting commitments could give a clearer picture on market access in the digital economy by member states. In this way, trade negotiators could see at a glance what offers are being made in the digital economy. Further, as states' domestic regulatory frameworks become more complex to handle such services, we are likely to see increasing friction from domestic regulation raising barriers to trade under Article VI of the GATS. The suggestion would be to review the WS 120/CPC scheduling guidelines to update for new converged services and perhaps to fill any gaps in "interpretation" by way of collective decisions made by the WTO Ministerial Council and/or the General Council under Art IX:2 of the WTO General Agreement, although this could be unwieldy.

ANNEX ON TELECOMMUNICATIONS

For telecommunications, so crucial for digital economy services to flourish, the US has been particularly critical of WTO member state commitments in the sector. The USITC paper "Digital Trade in the US and Global Economies" cites a view from a senior AT&T executive.

5 The Appellate Body in *US-Gambling* (AB-2005-1, April 2005) makes clear at para 203: "The Scheduling Guidelines thus underline the importance of using a common format and terminology in scheduling, and express a clear preference for parties to use W/120 and the CPC classifications in their Schedules. At the same time, the Guidelines make clear that parties wanting to use their own sub-sectoral classification or definitions—that is, to disaggregate in a way that diverges from W/120 and/or the CPC—were to do so in a "sufficiently detailed" way "to avoid any ambiguity as to the scope of the commitment".

> Mr. Loeb noted that many countries have opened their telecommunications markets due to their adoption of the WTO Basic Telecommunications Services Agreement and are now receiving significant economic benefits. Mr. Loeb also noted that a significant number of WTO members have made only limited commitments in basic telecommunications sector. He said that countries should be encouraged to allow full market access for all basic telecommunications services, with no restrictions on foreign capital investment, and adhere to the regulatory principles of basic telecommunications services listed in the WTO Reference Paper. (USITC 2014)

Despite these criticisms, there are provisions in the WTO instruments that have been underutilised. For example, the WTO Annex on Telecoms talks of using *any protocol of choice* in the delivery of services over public telecommunication networks and scheduled in a member's schedule of specific commitments. This is an incredibly powerful and far-sighted provision dropped by the early drafters into the Annex and reflected now in some telecommunications schedules of the new trade agreements (KORUS Article 14.2; TiSA Annex on Telecommunications Article 10). The early GATS drafters could not have envisaged the wide array of applications, for example, Java, HTTP, FTP that we see today. And yet potentially all of these applications are covered by this simple wording. The WTO Annex on Telecommunications is an insurance policy for providers of services requiring access to a basic telecommunications network to deliver enhanced or value-added services, whether financial, distribution, legal, and so on. Interpreting the Annex in a new way by the WTO Trade in Services Committee issuing further guidelines on its operating provisions (for example, in clarifying terms such as "protocol of choice") might help bring further certainty as to the extent to which new Internet services are already covered. Alternatively, the issue could be tested through dispute resolution.

REFERENCE PAPER

By contrast, the Basic Agreement on Telecommunications covers basic telephony services and incorporates further commitments on telecommunications services post the Uruguay Round. Also, there is the additional commitment in the form of the regulatory RP (a combination of competition safeguards, including provisions on abuse by a major supplier and cross-subsidisation; licensing; access to spectrum; and universal service, among others). According to the WTO:

> A total of 108 WTO members have made commitments to facilitate trade in telecommunications services. This includes the establishment of new telecoms companies; foreign direct investment in existing companies; and cross-border transmission of telecoms services. Out of this total, 99 members have committed to extend competition in basic telecommunications (e.g. fixed and mobile telephony, real-time data transmission, and the sale of leased-circuit capacity). In addition, 82 WTO members have committed to the regulatory principles spelled out in the "Reference Paper", a blueprint for sector reform that largely reflects "best practice" in telecoms regulation.[6]

Certainly more states have made commitments in basic services than in value-added services, but importantly 94–95 states have committed in data transmission services and 97 in mobile cellular services, both significant to the predicted and rapid growth in services over the mobile Internet. Mobile Internet penetration is expected to reach 71 percent by 2019 (Enders and Porges 2015).

There is no doubt that the success of these commitments has led to the massive growth of telecommunication services around the world. However despite that success, is the RP fit for the purpose of digital trade? Can it capture the sophistication of mergers and joint ventures that result in the most complex combination of services operating at multiple points of the Internet protocol stack as provided by Google, Facebook, Microsoft or Virgin Media? Not really; it is meant to cover basic services. The RP talks of super-dominance and access to and control of an 'essential facility'. This is more about control of infrastructure and less about control over the access gateways of the Internet, both physical and logical. We need something more nuanced that is able to cover complex packet-switched networks. Otherwise, we may have to leave to dispute resolution to resolve interpretation conflicts in much the same way as the panel in *US-Telmex* passed judgment on the meaning of cost-orientation for telecommunications carrier traffic, simultaneously blowing away the gentleman's agreement on accounting rates for cross-border interconnection of public telecommunication networks between member-state national carriers.

A number of WTO member states, including the US, have inscribed packet-switched data services as a basic service in their schedules of specific commitments. All it takes is a further case brought to the WTO's Dispute Settlement Body (DSB) challenging the meaning of such a commitment. If true, and classed as a basic service under the regulatory capture of the RP, would this mean that those international operators, predominantly US-based, who control the international backbone networks for Internet traffic would have to negotiate on cost-orientated rates requiring renegotiation of their confidential transit agreements and effectively requiring them to interconnect on cost-based rates? This would be a game changer for cash-strapped Internet operators in the developing world.

One way forward could be to model a new RP on Internet principles specifically for digital trade and ask members who have already accepted the current RP to consider accepting a

6 See WTO website, https://www.wto.org/english/tratop_e/serv_e/telecom_e/telecom_e.htm.

revised version as a form of additional commitment (Article XVIII of the GATS) to their current schedules of specific commitments (or revised schedules). For example, a group of like-minded states could extend such provisions on an MFN basis.

Also, members could agree opening up the RP to apply to both basic and value-added services, or continue the current restriction of the RP to "basic public telecommunication services" only but with additional guidelines,[7] for example, that the revised RP would apply to all "publicly available" networks and services. This would mean any system whose telephone numbers (or IP addresses) are listed in a publicly available numbering plan. As such, all Internet networks that list IP addresses in a publicly available "national" numbering plan (available by way of the member-state regulator) will be "public systems" and therefore under the capture of the RP.

A revised RP could include extra telecom provisions (now part of some FTAs), such as commitments on local loop unbundling, co-location, and dialling parity discussed above. A revised RP could also include new specific rules on network neutrality and media concentration. It could include rules for an open Internet, using developing global standards that encourage interoperability of devices and content across networks (see, for example, the Organisation for Economic Co-operation and Development recommendations on interoperability—not an "international standard" as per the WTO Agreement on Technical Barriers to Trade). As part of new interoperability provisions, a revised RP could incorporate provisions on mandated access to networks[8] (in the event of an access bottleneck) even when a network operator is not a "major supplier" (this could also appear as an interconnection obligation and within the powers of a national regulatory authority). As mentioned, some FTAs (US-Japan, the KORUS, and EU-US) already incorporate Internet principles on interoperability; free flow of data; and non-discriminatory allocation of spectrum, all of which could be incorporated into a revised RP.

The competition provisions of the RP could also be greatly enhanced. The current RP in its reference to major suppliers talks of "super-dominance" and "access to and control of an essential facility." However, we need something more nuanced to cover packet-switched data communications and applications running across several layers of the TCP/IP stack. In an earlier work, the author proposed a layered approach to network/services competition (Kariyawasam 2012). This would be "blue-skies" thinking and would take a radically different approach to the regulation of competition for network-based services as seen in the current form of the RP. However, change is needed as two of the most current important developments in Internet architecture (and they will have significant implications for digital trade) are the migration of legacy Internet networks to a new breed of next-generation networks (NGNs), and the exhaustion of legacy Internet IPv4 addresses.

The single most important driver of change is the convergence of the network, with an integrated IP-based NGN delivering a combination of data, voice, and video. This migration to NGNs makes it possible for different underlying platforms (for example, fixed telecommunications and cable television) to offer equivalent services that have the potential to benefit competition, but simultaneously enable offers of multiple services to the end user, which could give rise to new anti-competitive concerns. Certainly, a major development will be the fact that the majority of the world's population will gain access to broadband services through the mobile Internet and not fixed-line infrastructure. Operators of mobile networks may not necessarily be dominant by themselves, but could exercise oligopolistic market power with two or more operators controlling a market. To address these concerns, the author has developed a Layering Theory to more accurately define a relevant market in the Internet sector (Kariyawasam 2012: Chapter 5).

Accurate market definition is central to any competition investigation and the theory will assist regulators in assessing NGNs. The Layering Theory reinterprets the existing test of dominance and presents a revised version:

> An undertaking shall be deemed to have Significant Market Power [dominance] if either individually or jointly with others, it enjoys a position equivalent to dominance for the relevant Component Part in a particular Layer (as set out in Schedule 1) in the supplier's relevant geographic market, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers.

This new test is a marked and novel departure from the current test established by the European Court of Justice in the case of *United Brands*.[9] Currently, the test of dominance is a cornerstone of the European Commission's policy of delivering effective competition in Internet markets in Europe. The reinterpretation of the dominance test given above could be central to achieving higher standards in ensuring the neutrality of the Internet, privacy for end users, and lower consumer prices through effective competition.[10] The upside of the more flexible structure of NGNs is that

7 Services commonly known as "basic" telecommunications are formally referred to in the Annex on Telecommunications as "public telecommunications transport networks and services" (PTTNS) and are defined therein.

8 And perhaps a mandate not to obstruct or otherwise impede or interfere with transiting traffic (thanks to Nick-Ashton Hart for this suggestion).

9 *United Brands Company and United Brands Continental BV v. Commission of the European Communities,* Case 27/76, ECR 1978, 207, para. 38.

10 The author has recently completed a two year research project funded as part of a British Academy fellowship looking at the application of the Layering Theory to network neutrality, privacy and market competition, and where he interviewed a range of telecommunication operators, ISPs and regulators.

they will allow operators to provide a wide spectrum of services and networks within one or simultaneously several layers. The downside is the creation of a much more complex market environment where an operator may have market power in one layer, but not another, or the possibility to leverage its market power from one "downstream" to several "upstream" layers. This creates a potential problem for maintaining the neutrality of the Net with discrimination and the shaping of data traffic across networks, and a potential regulatory quagmire for national regulatory authorities (NRAs) who, faced with the task of having to define a relevant market to check for abuse of market power for competition purposes, have to "unpick services" that interconnect and access simultaneously at different layers of the service stack. A number of states around the world have already introduced net neutrality laws with mixed effect. In March 2015, the Federal Communications Commission in the US adopted an Open Internet Order to provide for Net neutrality by reclassifying broadband Internet access as a regulated telecommunications service.[11] However, concerns still remain as to whether this will be effective in addressing access bottleneck issues to the Internet broadband market in the US, and particularly for smaller ISPs and SMEs.[12]

Also, the Internet's distributed network architecture powered by an exclusive number of Internet giants' web of peering and transit agreements creates an ideal model for two-sided competition platforms "where platform leaders can leverage higher margins to invest more in R&D or lower their prices, driving out weaker rivals."[13] Two-sided markets (or two-sided networks), are economic platforms having two distinct user groups that provide each other with network benefits.[14] They work particularly well in markets with network externalities, such as the Internet. Examples include social media; marketplaces; search engines; communication networks; credit cards; patients and doctors; advertisers and consumers; and video game consoles (gamers and developers), to name just a few. Consequently, mature two-sided network industries can be dominated by small numbers of large platforms (for example, the credit card industry). In extreme situations, such as personal computer operating systems, a single company can emerge as a winner. As the Layering Theory test is based on assessing dominance in a single layer or multiple layers, it can capture the dominance effects of single or oligopoly dominance presented by two-sided markets.

Although the Layering Theory is based on a test of dominance derived from European case law (*United Brands*), the test itself is based on concepts of market dominance and relevant market measurement that are used in the US and the EU. With BRIC countries, such as China and India, also adopting similar concepts of relevant market definition in their anti-monopoly law and competition acts respectively,[15] the likelihood of regulatory convergence in both northern and southern countries around use of the Layering Theory in defining a new "major supplier" in a revised RP remains high.

Further, the Layering Theory test for Significant Market Power is a form of competition regulation that could be based on *dynamic performance standards* and that could help deliver on network neutrality. For example, E-Bay and Paypal are calling for a new mechanism for regulation in the electronic payments market that will be more flexible and dynamic. Dynamic performance standards are "regulatory policies that measure results; that iterate based upon new data and new insights arrived at through a collaborative process."[16] The critical issue is in ensuring that regulators have access to real-time data points that generate a set of Big Data. This is now being achieved with some regulatory agencies, such as Ofcom in the United Kingdom (UK) and ARCEP in France, piloting network probes that collect data at designated network access points. As the E-Bay/Paypal report makes clear:

> Introducing the data analytics element to regulation will greatly enhance the ability to measure and analyze performance standards. Creating a system where the regulated entities are subject to real-time measurement and algorithms that adapt to better achieve regulatory goals will ensure that the classical problems that performance standards had with monitoring and measurement are overcome. (p. 17)

By adopting a "critical mass" approach as seen in the regulatory process for negotiations around the WTO's basic telecommunications agreement (fourth protocol), negotiations around a revised RP for Digital Trade could see any national regulatory authority worldwide providing effective competition in the delivery of publicly available networks and services.

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11 See full text of the FCC Open Internet Order, https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf.

12 See for example the *Competify* coalition of operators, ISPs, and end users arguing for a more competitive internet access market in the US, http://trycompetify.com/. See also the article by Nick Ashton-Hart on the significance of the SME market to the digital economy as opposed to a small number of multinationals, "Why (Almost) Everything You Hear About the Digital Economy is Wrong", http://blogs.cfr.org/cyber/2015/08/12/why-almost-everything-you-hear-about-the-digital-economy-is-wrong/.

13 For a general overview see "Two-sided Market Competition in Two-sided Networks,", https://en.wikipedia.org/wiki/Two-sided_market#Competition_in_Two-Sided_Networks.

14 See note 14, Introduction.

15 Interestingly, the US, as well as China (Article 17, Anti-Monopoly Law, People's Republic of China) and India (Chapter 2, Section 4, Indian Competition Act 2002—amended in 2007 and 2009) have adopted similar concepts of dominance to the test established in the European case of *United Brands*.

16 E-Bay/Paypal policy report on "21st Century Regulation: Putting Innovation at the Heart of Payments Regulation," http://www.ebaymainstreet.com/sites/default/files/PayPal-Payment-Regulations-Booklet_US.pdf, p. 2. The author is grateful to Usman Ahmed for highlighting this paper, which provides very valuable information on how current regulatory techniques based on "old-world" design standards should change to cope with dynamic industries.

There may be concerns in adopting a revised RP with enhanced competition provisions. For example, those states, such as China and India, with a high level of protection for state-owned telecommunication incumbents might consider that such competition provisions could erode their incumbents' market share with a knock-on effect of reducing monopoly rents to their respective treasuries. There is ample evidence worldwide that increased liberalisation leads to not only increased foreign direct investment and increased productivity (particularly from the SME sector which is advantaged by more competitive and lower costs for access to network-based services), but also that improving the competitive environment for interconnection between networks increases licensing fees to the national regulator and end-user subscriber growth. States can phase the effect of increased liberalisation through adopting a revised RP, such as protecting national telecommunication incumbents' service sectors that are services of a special and general economic interest. Such protections can be built into domestic law in advance of adopting a revised RP (Kariyawasam 2008). Also, with the rise of transnational corporations investing in product manufacture through global value chains and SMEs generating much of the trade in the digital economy, telecommunication operators who are keen to supply their national clients with services abroad will find themselves an incumbent in their own markets, but new entrants in overseas markets. Companies such as Deutsche Telekom, dominant in Germany, would be just as keen to rely on a revised RP in entering China, as China Telecom would be in entering Germany.

The author has attached a revised version of the RP that incorporates the Layering Theory (Annex 1), which does not include other recommendations for change to the RP highlighted above but only the competition issues. The RP as it currently stands does not regulate the interconnection of Internet networks.[17] This is a significant weakness in WTO policy for the telecommunications sector. IP traffic already exceeds conventional voice traffic in terms of volume. As mentioned, most of the developed world will also soon be moving away from the use of IPv4 to IPv6, which will allow for a greater number of available IP addresses and enhanced service functionality. It is hard to imagine the sheer volume of data that will be generated by a plethora of new IPv6 devices (the *Internet of Things)*. At some point in the future, if WTO law is to keep pace with changing technology, the RP will also have to change. By amending the rules on interconnection in Section 2 of the RP to make it applicable to NGNs (in a technologically neutral way), ISPs will be in a much better position to command non-discriminatory and transparent interconnection at public and private Internet exchange points in the developed world and with one another in the developing world. This will enhance effective competition in world digital markets, which will, in turn, bring down end-user costs for access to the Internet and addressing digital divide issues (see Kariyawasam 2010). By ensuring a technologically neutral approach, as the underlying technology to networks change, the law retains its power to regulate for abuse of dominance.

OTHER ROUTES?

Another option would be to take the plurilateral approach by expanding the scope of the TiSA, for example, given that the agreement already involves negotiations between 25 WTO negotiating parties representing at least 70 percent of the world trade in services.[18] Perhaps the position has not been helped with the high level of confidentiality surrounding the TiSA negotiations making transparency an issue for some of the smaller states who are net importers of IP.[19] Also, negotiations around the free flow of data across borders have been contentious (as they are in other FTAs currently being negotiated). The draft E-Commerce chapter appears to favour relevant domestic law on consumer protection for online transactions/e-commerce (Article 3) and personal information protection (Article 4). Interestingly, in Article 14 TiSA (as currently drafted), the US proposes that there should be no restrictions on any party taking any action to prevent a breach of "essential security interests," although these interests remain undefined. At the time of writing, the provisions on interoperability (Article 7) are insufficient and lack precision, and although Article 8 on open network access allows for a wide provision for consumers to use services and devices within the law, the right of service suppliers to use "any protocol of choice" is missing from the text (contrast this with the wording of the GATS Telecommunications Annex mentioned in Section 3.4). Given that the TiSA is to be modelled on the GATS for future multilateralisation, this is an unfortunate omission. What is provided for is "interoperability of services and technologies where appropriate," and which is not as wide as the GATS Telecommunications Annex provision. Under Article 9 (localisation provisions), there are naturally mixed views. There appears to be general consensus on mutual recognition of electronic signatures under Article 10 although some states will still require authentification procedures to comply with an individual party's law for a "certain category of transactions" (not defined). In this respect, the TTIP negotiations appear to provide for better regulatory convergence in setting proportionate norms and standards in developing-technology sectors, such as cloud and smart

17 This point is a contentious one. There is an argument that existing WTO commitments can cover Internet services unless specifically excluded. The argument centres on the definition given to a public telecommunications transport network or service, a full discussion of which is outside the scope of this paper. For further details, see Kariyawasam (2008: Chapter 3).

18 Negotiating WTO members include Australia, Canada, Chile, Chinese Taipei, Colombia, Costa Rica, the EU, Hong Kong China, Iceland, Israel, Japan, Korea, Liechtenstein, Mauritius, Mexico, New Zealand, Norway, Pakistan, Panama, Paraguay, Peru, Switzerland, Turkey, the United States, and Uruguay. China has expressed interest in joining and this request has the support of the EU. See http://ec.europa.eu/trade/policy/in-focus/tisa/.

19 The European Commission agreed to publish the negotiating mandate for the TiSA in March 2015. For the text of the mandate, see http://data.consilium.europa.eu/doc/document/ST-6891-2013-ADD-1-DCL-1/en/pdf. Also, several of the TiSA chapters have been released on Wikileaks.

cities, which could yield efficiency-saving costs for business and provide best-practice examples in other trade deals. Article 11 provides that customs duties will not apply to electronic transmissions, but that states reserve the right to impose internal taxes on transmissions as state domestic law requires.

Despite the current differing positions on a number of important issues relevant to digital trade, the TiSA remains a viable option for progressing further commitments in this area. Based closely around the structure of the GATS, existing schedules of new rules in electronic commerce and telecommunications could be presented as additional commitments under Article XVIII of the GATS either as reference papers and/or as new understandings on commitments. Horizontal provisions (on domestic regulation) that cover all services could be included as a new Annex to the GATS. Subject to a critical mass being reached in TiSA membership, it could then be folded into the GATS.

Alternatively, we could move away from the current GATS-/GATT-/TRIPS- and FTA-based models and adopt a new *Framework Convention on Digital Trade* together with separate protocols for services, goods, and IP.[20] Some would argue that this is simply replacing one set of umbrella and subsidiary agreements (the WTO framework and covered instruments) with another, but the advantage of decoupling ancillary and contentious trade-related matters, such as agriculture, subsidies, and so on, and focusing purely on digital trade may be a good way forward. As Matz Luck argues in her paper "Framework Conventions as a Regulatory Tool" (Matz Luck 2009), "The regulation of international issues by framework conventions is a relatively recent regulatory technique in international law and has mainly been employed in the field of international environmental law." She does not discuss framework conventions in the context of digital trade, but does set out some examples where this form of treaty structure has been used (Framework Convention on the Ozone Layer; Convention on Climate Change; and Convention on Biological Diversity, to name a few). Framework agreements are usually associated with a "framework convention and protocol approach" by which parties agree on a more general treaty, the framework convention, and more specific protocols to complete the detail missing from the higher umbrella legal framework. The framework agreement is a broad treaty whereas the protocols are more specific and detailed treaties (Matz Luck 2009: 452). Significantly, only parties to the framework agreement can become members of the corresponding protocol(s).. How might this look?

A Framework Convention on Digital Trade could include horizontal (non-exhaustive) provisions on competition (cartels, abuse of dominance and collusive agreements, and so on); payments; security (that is, encryption); privacy norms (processing of data in the ordinary course of business, cross-border data transfer); authentication (electronic signatures); and dispute resolution. As regards dispute resolution, it would be the role of the WTO to either modify existing provisions on dispute settlement to take account of small value transactions or encourage member-state commitments on alternative dispute resolution (ADR), and requiring member states to cooperate on enforcement of outcomes. The framework convention could be negotiated in parallel or separately with a Digital Services Protocol that could include terms incorporating the framework convention; terms for a legal definition of services incorporating relevant guidelines on use of CPC, WS120 classification codes; and an annex of participating countries. Similarly, a Digital Goods Protocol could include terms incorporating the framework convention; terms for a legal definition of goods incorporating Harmonised System (HS) classification guidelines; and an annex of participating countries. Finally, an IP Protocol would include similar provisions to the Services and Goods protocols, but also would incorporate the terms of the WIPO Internet treaties; provisions on counterfeit trade; exhaustion; enforcement; and so on, drawn from best practice FTA/PTA agreements; fair use to copyright exceptions; and an Annex of participating countries. The advantage of a framework/protocol treaty approach would be that for those countries that wish to categorise the same intangible differently (for example, audiovisual media), this would allow for such flexibility, but still apply a degree of uniformity with regard to acceptance by all parties of the "horizontal" provisions in the mother framework convention.

The significant issue is whether the framework convention should be negotiated within or outside of the WTO. There are merits and demerits to both approaches. Negotiating as a plurilateral outside the WTO would allow for decoupling of other contentious trade issues, as mentioned above, but would perhaps narrow the remit of participating countries to those like-minded states favouring stronger IP protection and no customs duties on electronic transmissions or localisation requirements. It would be difficult to see the appeal of such a convention to a range of developing countries who, with take up of the mobile Internet, are the next emerging markets for digital economy services. Negotiating within the WTO would allow for a plurilateral start with the prospect of faster multilateralisation. The special and differential rights found within existing WTO jurisprudence could be more readily applied to a framework convention on digital trade, and there are better enforcement prospects through the WTO's DSB mechanism, although as highlighted earlier in this paper, the use of the DSB will not be practical for small-value transactions and other forms of ADR will be required.

20 The Internet and Digital Ecosystem Alliance/International Digital Economy Alliance (IDEA) suggests use of a Framework Convention where there is legal uncertainty, for example, where states have not been able to reach agreement on important issues, such as on cross-border data flows, perhaps because the legal position in the TiSA remains unconfirmed. The IDEA refers to a successful example of a framework convention, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in "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."

CONCLUSION

There is no doubt that with the failure to progress effectively through the Doha Round, the Quad countries (US, EU, Canada, and Japan) have pursued their interests in digital trade through a series of PTAs. These developments have no longer remained the preserve of the Quad but have expanded to other nation states interested in the export of IP. This paper has briefly looked at some of the more recent and larger FTAs, although many of the operative provisions for some, such as the TiSA, are still not in the public domain. Nevertheless, the wording of provisions in agreements, such as the KORUS, provides a good overview of what has been achieved. Other writers, such as Wunsch-Vincent (2008), have argued that what needs to happen now is for the wording of some of these provisions to be used to progress commitments through the multilateral process in the WTO. There is much to be said for this approach in creating a more harmonised regulatory environment where the costs for doing business and generating trade are not escalated by fragmented regulatory processes created by a complex web of international treaties and domestic law, and where it may not necessarily be clear to contracting states as to what obligations apply both for international investors and home states keen on attracting such investment. Also, such states will be wary of opening up markets to foreign competition when domestic providers remain uncompetitive. Dispute resolution procedures in FTAs/PTAs are not uniform and there is concern that judgments, perhaps through private arbitration procedures, will create a patchwork of rules for digital trade. Certainly, the WTO could strengthen its role in monitoring the performance and impact of the new PTAs on the horizon, in effect becoming a more significant source of information on these agreements than previously and matching its existing strengths in adjudication (dispute settlement) and negotiation (namely, the ITA).

Regulation in the communications sector has generally favoured separating content from infrastructure and there are great merits to this approach. Regulation of content, such as defamation, indecency, laws on financial services, advertising, and so on, are best left to the preserve of domestic and/or regional law. Nevertheless, when it comes to delivering digital products (whether goods and/or services) over a network, the very nature of the delivery method requires a holistic view to traditionally separate goods and services regulation, content, and infrastructure regulation. This paper points to (a) expanding and deepening existing WTO commitments; (b) encouraging the WTO Secretariat to ensure that amendments to the TiSA are made in line with existing GATS commitments and/or improving upon current provisions specifically for digital trade; or (c) pursuing a single new instrument for the digital economy.

A specific summary of reforms would include the following.

- Incorporating best-practice provisions from FTAs/PTAS on exceptions to copyright, and particularly fair-use provisions that would apply in the digital domain.

- Incorporating higher IP standards and enforcement, and particularly criminal sanctions for commercial counterfeit trade.

- A Revised Reference Paper to the GATS could include specific additional provisions on ensuring no restrictions to cross-border data flows and minimising localisation requirements (reflecting best practice from FTAs/PTAs), but making clear whether all forms of data, or only certain categories of data, are captured.

- Reviewing the distinction between "basic" and "enhanced" classification of telecommunication services—should the distinction be eliminated in the light of delivery of services over NGN networks and the Internet of Things?
- Revising the schedules of specific commitments in the area of the digital economy so that they are presented in clusters of network-based services;

- Raising and harmonising the de minimis level for customs border tariffs to US$800;

- Clarifying interpretation of the Annex on Telecoms with respect to protocol of choice and meaning of real-time data and data without amendment to content and form;

- Expanding the regulatory reference paper to cover:

    - both basic and enhanced telecommunication services (eliminating the distinction between basic and enhanced);

    - provisions on network neutrality, mandated access, and interoperability; and

    - enhanced provisions on interconnection and competition to capture NGNs; and the use of dynamic performance standards in competition tests for networks with high levels of network externalities (the reinterpretation of the definition of a "major supplier" in the Reference Paper to cover a new test of "dominance").

- Deepening commitments in TiSA negotiations for digital trade and ensuring conformity with existing GATS obligations (for example, the Annex on Telecommunications and Reference Paper);

- The use of a Framework Convention for Digital Trade as a separate PTA within the remit of the WTO.

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ANNEX 1
REVISED FORM OF THE REGULATORY REFERENCE PAPER (COMPETITION AND INTERCONNECTION PROVISIONS ONLY)

DEFINITIONS

Users means electronic communications network and service consumers and electronic communications network and service suppliers.

Major Supplier means "a supplier who either individually or jointly with others enjoys a position equivalent to dominance for the relevant Component Part in a particular Layer (as set out in Schedule 1) in the supplier's relevant geographic market", meaning, a position of economic strength granting it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers.

Electronic Communications Networks means "transmission systems, including switching or routing equipment integral to maintenance of interconnection, addressing and other resources, that together make possible connection between two or more points in a network over any of the Layers as defined in Schedule I irrespective of the type of information conveyed".

Electronic Communications Service means "a service normally provided for remuneration for which the conveyance of signals over electronic communications networks is integral to the Service, and whose Component Part(s) fall into any of the Layers as defined in Schedule I, but excluding services providing, or exercising editorial control over, content transmitted using electronic communications networks and services. An Electronic Communications Service may consist of one or several Component Parts."

Component Part means "a physical or logical part of an Electronic Communications Service and which is logically associated with one [or more] of the Layers as defined in Schedule I".

Access means "the making available of facilities and/or services, to another undertaking, under defined [agreed] conditions, on any basis for the purpose of providing electronic communications services".

Interconnection means "the physical and logical linking of public electronic communications networks used by one or more undertakings to facilitate the users of an undertaking to communicate with other users of the same or another undertaking, or to access electronic communications services provided by another undertaking. Electronic communications services may be provided by the parties involved or other parties who have access to the network. Interconnection is a specific type of access implemented between public network operators."

1. Competitive safeguards

1.1. Prevention of anti-competitive practices in telecommunications

Appropriate measures shall be maintained for the purpose of preventing suppliers, who alone or together are a major supplier, from engaging in or continuing anti-competitive practices.

1.2. Safeguards

The anti-competitive practices referred to above shall include in particular:

(a) engaging in anti-competitive cross-subsidisation;

(b) using information obtained from competitors with anti-competitive results; and

(c) not making available to other services suppliers on a timely basis technical information on electronic communications networks and services and commercially relevant information which are necessary for them to provide electronic communications services.

2. Interconnection

2.1. This section applies to linking with suppliers providing public electronic communications networks and services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.

2.2. Interconnection and access to be ensured

2.2.1. Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided:

(a) under non-discriminatory terms, conditions (including technical standards and specifications), and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates;

(b) in a timely fashion, on terms, conditions (including technical standards and specifications), and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and

(c) upon request, at points in addition to the network termination points offered to the majority of users, subject to charges that reflect the cost of construction of necessary additional facilities.

2.2.2. Access with a major supplier will be ensured at any technically feasible point in the network. A major supplier must meet all reasonable requests for access.

2.3. Public availability of the procedures for interconnection and/or access negotiations

The procedures applicable for interconnection and/or access to a major supplier will be made publicly available.

2.4. Transparency of interconnection arrangements

It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.

2.5. Interconnection and access: dispute settlement

A service supplier requesting interconnection and/or with a major supplier will have recourse, either:

(a) at any time or

(b) after a reasonable period of time which has been made publicly known

to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below, to resolve disputes regarding appropriate terms, conditions and rates for interconnection and/or access within a reasonable period of time, to the extent that these have not been established previously ...

Schedule 1

LAYER 4 CONTENT

LAYER 3 APPLICATIONS

LAYER 2 TRANSPORT

LAYER 1 ACCESS

Implemented jointly by ICTSD and the World Economic Forum, the E15Initiative convenes world-class experts and institutions to generate strategic analysis and recommendations for government, business, and civil society geared towards strengthening the global trade and investment system for sustainable development.

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