

2015 Section 1377 Review
On Compliance with
Telecommunications Trade Agreements



Office of the United States Trade Representative

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I. Introduction

The Office of the United States Trade Representative (USTR) annually reviews the operation and effectiveness of U.S. telecommunications trade agreements and the presence or absence of other mutually advantageous market opportunities, pursuant to Section 1377 of the *Omnibus Trade and Competitiveness Act of 1988*.¹ The list of trade agreements containing requirements relevant to telecommunications and technology includes the General Agreement on Tariffs and Trade 1994 (GATT), the General Agreement on Trade in Services (GATS), the Agreement on Technical Barriers to Trade (TBT), the North American Free Trade Agreement (NAFTA) with Canada and Mexico, the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) with Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic, and bilateral free trade agreements (FTAs) with Australia, Bahrain, Chile, Colombia, Israel, Jordan, Korea, Morocco, Oman, Panama, Peru, and Singapore.

The Section 1377 Review (Review) is based on public comments filed by interested parties and information developed from ongoing contact with stakeholders and foreign government representatives in various countries. This year USTR received five comments and one reply comment from the private sector, and one reply comment from a foreign government. All public comments are available at the following web site: www.regulations.gov, docket number USTR-2014-0022.

II. Summary of Findings

The 2015 Review addresses several general themes: Internet enabled trade in services, including cross-border data flows and Voice over Internet Protocol (VoIP) services; independent and effective regulators; limits on foreign investment; competition; international termination rates; satellites and submarine cable systems; telecommunications equipment trade; and local content requirements.

Several of the issues in the 2015 Review have been discussed in past reviews, but USTR considers it appropriate to continue to raise these issues and encourage our trading partners to implement appropriate solutions. The 2015 Review describes practices or measures of U.S. trading partners that USTR will actively monitor throughout the year and with respect to which, if warranted, USTR may take further action.

¹ Codified at 19 U.S.C. §3106 (Review of trade agreement implementation by Trade Representative).

III. Discussion of Key Issues

INTERNET- ENABLED TRADE IN SERVICES

Cross-Border Data Flows

Impediments to cross-border data flows remain a serious and growing concern. The dramatic expansion of data flows and the increasing integration of such data into myriad forms of economic activity make addressing barriers to data flows a key trade priority. The economic benefit of innovative cross-border services, such as cloud services, is diluted when countries impose policies which fragment these services into nation-based solutions lacking the economic benefits of scale, high resource utilization rates and demand aggregation.

While governments may have legitimate public policy reasons to impose certain restrictions on data flows, such as for the protection of privacy, such restrictions can also raise trade concerns where they are overbroad or create a preference for local suppliers. These restrictions can take the form of requirements to store data in-country and regulations that restrict service providers' ability to send, access and manage data across borders. These kinds of restrictions can have an impact on trade obligations relating both to the ability to supply an underlying service and to the ability to access and use of telecommunications networks for covered services.

USTR urges the governments identified below to find less trade-restrictive means to achieve their objects in order to minimize disruptions to cross-border data flows.

Russia

In July 2014, the Russian Duma adopted a law requiring companies to store personal data of Russian citizens on servers located in Russia beginning on September 1, 2015. This requirement may raise concerns regarding the sectors for which Russia made WTO commitments regarding cross-border services. Such sectors include accounting services, data processing, retail and wholesale distribution services, various financial services, and travel and tourism services, all of which are highly dependent on cross-border data flows. The United States will monitor Russia's implementation of this commitment.

Nigeria

On December 3, 2013, Nigeria's National Information Technology Development Agency (NITDA), under the auspices of the Federal Ministry of Communication Technology (MCT), issued the "Guidelines for Nigerian Content Development in the Information and Communications Technology Sector" (the Guidelines). The Guidelines contain problematic provisions that may undermine the ability of U.S. companies to compete in Nigeria's telecommunications sector, as well as other sectors of the economy that rely on telecommunications services. Of particular concern is a requirement to host all subscriber and consumer data in Nigeria, a requirement that could implicate Nigeria's WTO commitments relating to cross-border financial services and travel-related services.

USTR is also concerned with a provision that requires foreign-invested companies to use the networks of Nigerian companies for at least 60 percent of all value-added services (which increases to an 80 percent requirement after three years). This provision raises questions regarding Nigeria's WTO commitment to offer national treatment to foreign suppliers of value-added services. This concern is exacerbated by the vague and overly broad definition of "value-added services" in the Guidelines.

Indonesia

Indonesia has adopted an Electronic Transactions Law and Presidential Regulation that requires providers of a "public service" to establish local data centers and disaster recovery centers in Indonesia (Article 17). Indonesian officials have stated that for purposes of the Electronic Transactions Law and Presidential Regulation, they will use the definition of a "public service" in the 2009 Public Service Law implementing regulations, which define a public service as any activity that provides a service by a public service provider. This broad and vague definition creates uncertainty for service suppliers with respect to the scope of the localization requirement. A local data center requirement could prevent providers from fully leveraging the economies of scale from existing data centers and discourage future investment in Indonesia. Furthermore, such a requirement could inhibit the cross-border data flows that are essential to electronic commerce. This measure raises questions in connection with Indonesia's commitments to permit the cross-border supply of data processing and value-added telecommunications services (*e.g.*, email services).

Voice over Internet Protocol (VoIP)

VoIP is an important alternative to traditional phone service that can often provide innovative new features to consumers. Restrictions on VoIP services, such as prohibiting VoIP services, requiring a VoIP provider to partner with a domestic supplier, or imposing onerous licensing requirements have the effect of restricting legitimate trade or creating a preference for local suppliers, typically former monopoly suppliers.

These restrictions and requirements raise concerns with respect to the obligation in the GATS Telecommunications Annex² to accord to the service suppliers of another Member access to and use of public telecommunications services on reasonable and non-discriminatory terms and conditions.

China

China imposes unreasonably strict limitations on companies that wish to offer VoIP services in China. China requires a supplier to have a value-added service (VAS) license to provide VoIP service, and a basic telecommunications service license in order to interconnect VoIP services with the public switched telecommunications network. Foreign companies may obtain a VAS license only through a joint-venture company, and capitalization requirements for a basic telecommunications license exceed \$100 million. China's requirements for a basic telecommunications service license make little sense for a service that requires no investment in

² See GATS/SC/67/Supl.2/Rev.1.

or control of transmission facilities. Currently, only a few small pilot VoIP projects – involving the incumbent state-owned operators – are allowed to offer public switched telephone network-interconnected VoIP services to Chinese consumers.

INDEPENDENT AND EFFECTIVE REGULATOR

The GATS Telecommunications Services Reference Paper (Reference Paper) requires the telecommunications regulatory body to remain “separate, and not accountable to,” any public telecommunications service suppliers, and to be impartial with respect to its decisions and procedures.

China

China’s regulator, the Ministry of Industry and Information Technology (MIIT), has actively worked to consolidate market participants and has often shielded China’s state-owned operators from competition, both domestic and foreign. Assignment of spectrum for new mobile services (*e.g.*, LTE) lacks basic transparency, and has resulted in assignments exclusively to state-owned incumbents. Where it has taken steps to promote competition (*e.g.*, through recent promotion of mobile resale), MIIT has prevented foreign firms from entering the market. Moreover, the Chinese government still owns and controls the three major basic telecommunication operators in the telecommunications industry, and appears to see these entities as important tools in broader industrial policy goals, such as promoting indigenous standards for network equipment.

China’s policies raise concerns with respect to its Reference Paper obligations. USTR urges China to implement reforms that (1) protect the independence of the regulator with respect to both basic and value-added services and in particular from influence from state-controlled basic telecommunications operators and (2) improve the transparency of its procedures for allocating spectrum.

FOREIGN INVESTMENT

China

USTR continues to urge China to lift its foreign equity caps in the telecommunications sector, now 49 percent for basic service licenses and 50 percent for VAS licenses. USTR also urges China to eliminate the requirement that a foreign company must enter into a joint venture with a state-owned company in order to obtain a basic telecommunications service license. Requiring foreign telecommunication service providers to partner with a company that may also be a horizontal competitor of the joint venture is not conducive to competition. China also imposes an unreasonably high capitalization requirement of \$145.9 million as a condition of obtaining a basic telecommunications service license, which could easily be replaced with a narrowly tailored performance bond to address any financial concerns.

These restrictions are compounded by China’s broad interpretation of services requiring a telecommunications license (and thus subject to equity caps) and narrow interpretation of the specific services foreign firms can offer in the telecommunications sector. For example, China

prohibits foreign firms from offering common store-and-forward data services (commonly known as content delivery network services) which appear to fall within the scope of China's existing WTO commitments.

In 2013, MIIT released draft revisions to its *Catalog of Telecommunications Service Categories* (the Catalog). The draft Catalog classifies various information and communications technology (ICT) services, including cloud-computing and anti-virus services, as VAS, which subjects them to equity caps, joint venture requirements, and capitalization minimums. This raises concerns that the draft Catalog may create a conflict with China's Computer and Related Services commitments under the GATS, which we believe should cover cloud computing, where there are no foreign equity limits. USTR urges China to reconsider these classification decisions, so as to provide the market access that trading partners expected to follow from China's WTO commitments.

COMPETITION

The Reference Paper requires WTO Members to maintain appropriate measures to prevent major suppliers from engaging in or continuing anti-competitive practices.

Vietnam

International Roaming

International roaming services in Vietnam are provided by a carrier in the visited market (*i.e.*, a carrier in Vietnam) to the carrier in the home market of the subscriber. This arrangement allows the subscriber to continue to use his or her phone in Vietnam by roaming on a network of a carrier in Vietnam. The price competition among Vietnamese telecommunications suppliers in recent years has lowered the international roaming rate. This has raised concerns from some Vietnamese operators, and VTA officials, that certain suppliers were "dumping" international roaming services.³

In response, in October 2014, the Vietnam Telecommunications Authority (VTA) issued an *Order for Promulgating the Average Tariff and Regulated Rate for Inbound International Roaming Services* (1469/CVT-GCKM) (the Order). The effect of the Order was to set a floor rate for wholesale roaming services for data, messages and voice services, below which an operator was prohibited from offering services to a foreign operator. While VTA officials asserted that the measure was necessary to protect consumers from the ill-effects of "dumping," the only obvious effect was to raise rates for foreign operators, and, likely, their subscribers. Indeed, one operator asserted that the new floor would result in wholesale roaming rate increases ranging from three-fold (messages) to five-fold (voice) to twenty-fold (data). As a result of this Order, at least two U.S. operators have simply dropped offering data services in Vietnam.

³ Contrary to these allegations, one U.S. operator responded that, notwithstanding the competition among Vietnamese companies to serve foreign operators, the rates before the Order was issued were actually significantly above the regional average.

VTA's action raises questions regarding Vietnam's motive for the intervention. In particular, VTA appears to have conceded that the motive for the intervention was to raise rates paid to Vietnamese operators by foreign operators and prevent competitive pressures from pushing them down again.

VTA's action appears biased because a floor rate would benefit the dominant operator with the largest market share (ensuring that it would not have to lower rates to maintain that share). To the extent that a smaller operator sought to expand its share through lower prices, and this order prevented that, VTA would appear to be acting in favor of the dominant operator (*i.e.*, VNPT, which has over 50 percent share of the mobile market), at the expense of the smaller ones. This in turn raises the question of whether the prices resulting from competition could in any way be considered predatory, possibly justifying regulatory intervention.

One benchmark for evaluating the new wholesale roaming rate floor would be to compare these rates to analogous retail rates offered to Vietnamese consumers within Vietnam. Compared with low-volume prepaid rates, which are typically among the highest rates offered in a market, the floor rate set by VTA for all wholesale rates (voice, messaging, and data) significantly exceeds, by several factors, comparable retail rates. Assuming that domestic rates reflected a healthy, sustainable market, it seems unnecessary to set a new floor for roaming rates so much higher. To the extent that the domestic rates were not sustainable, it would not appear appropriate to institute what could be considered a cross-subsidy on the backs of foreign operators.

In addition, the Order also raises questions with respect to Vietnam's compliance with its trade obligations. In particular, Vietnam has an obligation under the GATS Telecommunications Annex to ensure that suppliers of other WTO Members are ensured access to public telecommunications networks in Vietnam *inter alia* on reasonable terms and conditions, and the wholesale roaming rate increase brought about by the Order raises questions as to whether Vietnam is providing foreign suppliers access to its network on reasonable terms. The Order's effect on the competitiveness of Vietnam's market for roaming services is also troubling. USTR will continue to engage with Vietnam as it addresses this issue over the coming year.

Over-The-Top Services

Over-The-Top (OTT) services are Internet-based voice and text services supplied through mobile terrestrial telecommunications and fixed terrestrial telecommunications networks. In October 2014, Vietnam's Ministry of Information and Communications (MIC) released a draft "Circular on Managing the Provision and Use of Internet-based Voice and Text Services" (the Circular) for public comment.

Article 6 of the Circular requires that foreign providers of certain chargeable (*i.e.*, not offered for free) OTT services, in particular voice and messaging services, enter into an undefined commercial relationship with a licensed telecommunications supplier as a condition of supplying the OTT services in Vietnam. Other OTT services (*e.g.*, chargeable services other than voice and messaging services, such as on-line gaming services) face no such requirements. Such a requirement might make sense with respect to interconnection arrangements for traditional, circuit-switched networks and services, which require physical interconnection arrangements, negotiated under contract or set by tariff; however, the nature of OTT services is that they can be

provided over the Internet completely independent of any underlying transmission provider. Requiring a commercial relationship with the underlying transmission service supplier is in most cases superfluous, and undermines the key value of such services: that they can be offered directly to the consumer, with no gatekeeper impeding access. Implicit in this requirement (also addressed in Article 16 of the Circular) is a right of telecommunications suppliers to block consumers' access to the chargeable OTT services if the suppliers of the OTT services do not have an agreement with telecommunications suppliers.

Compelling suppliers of chargeable OTT services to enter into a commercial relationship with a telecommunications supplier as a condition of offering OTT services, bolstered by what appears to be authority to block access to OTT suppliers that fail to enter into such an agreement, raises concerns that the Circular is facilitating anticompetitive conduct. This could implicate Vietnam's WTO Reference Paper commitments to have appropriate measures in place to prevent major suppliers (to the extent a telecommunications supplier engaged in such conduct qualified as such) from "engaging in or continuing anticompetitive practices."

Similarly, the Circular could also implicate Vietnam's commitments pursuant to the GATS Telecommunications Annex, where Vietnam is bound to ensure the service suppliers of other WTO Members are afforded access to its telecommunications network on reasonable and non-discriminatory terms and conditions. In particular, the Circular raises significant questions about whether it is reasonable to condition the provision of chargeable OTT services on suppliers of such services entering into commercial relationships with a telecommunications supplier.

Articles 10 and 15 of the Circular also raise concerns. Article 10 would limit competition in the provision of voice services, by preventing non-chargeable (*i.e.*, free) services from connecting to a consumer in Vietnam through that consumer's phone number. This would eliminate a whole new set of potential competitors in the voice service market. Vietnam included no such limitation in its GATS Schedule of Commitments covering telecommunications services, and it is unclear what the policy basis for instituting such a ban could be. Article 15 conditions the provision of both chargeable and non-chargeable OTT services on suppliers maintaining a server system in Vietnam. Neither of these requirements appear necessary or reasonable. They affect Vietnam's potential for expanding its digital economy, and could implicate Vietnam's commitments covering cross-border telecommunications services.

USTR urges MIC to reconsider the Circular and focus on policies that encourage continued growth of ICT services. USTR is concerned that the proposals set forth in the Circular could implicate Vietnam's existing trade commitments and harm the growth of Vietnam's ICT sector, where competition would deliver broader benefits.

Dominican Republic

Mobile Termination Rates

The Reference Paper includes disciplines designed to ensure that the termination rate (charges for terminating a call on a network of a major supplier) is cost-oriented. It requires termination rates to be set transparently, reasonably, and having due regard to economic feasibility.

There are two dominant carriers in the Dominican Republic mobile market, Compañia Dominicana de Telefonos S.A. (Claro), which is owned by America Movil, and Altice Hispaniola S.A. (Altice), which is owned by Altice S.A. (and is the result of a merger of the former Tricom and Orange Dominicana S.A.). The third operator is Trilogy Dominicana S.A. (Trilogy) (which is owned by American investors). Dominican law requires mobile termination rates to be cost-oriented.

In 2011, the regulator in the Dominican Republic, INDOTEL, amended its regulations and requested that carriers submit new interconnection agreements. Trilogy challenged the new interconnection agreements submitted by the dominant carriers and asserted that the agreements contained rates for mobile termination that were not cost-oriented. In March 2014, INDOTEL, stated that it would begin a process to review interconnection charges. But INDOTEL has made little progress in the past year, and has not yet taken any action to address the Trilogy's initial 2011 petitions. INDOTEL's lack of progress in addressing Trilogy's issues is concerning. Indeed, if the evidence shows that the rates for mobile termination in the Dominican Republic are not related to costs of the major suppliers, the high termination rate would confer an unfair competitive advantage to the other two suppliers to the detriment of Trilogy. INDOTEL's failure to address and resolve these petitions at a minimum creates uncertainty in the market and at worst perpetuates unfair advantages for the major suppliers. USTR will encourage INDOTEL and the government of the Dominican Republic to take appropriate action expeditiously to address and resolve the petitions before it.

Spectrum Allocation

The Reference Paper and CAFTA-DR Article 13.10 require that procedures for the allocation of spectrum "be carried out in an objective, timely, transparent and non-discriminatory manner."

In 2014, INDOTEL held an auction for 900 MHz and 1.7/2.1 GHz bands with notice of less than 18 days. Although INDOTEL describes its action as the resumption of a previously suspended auction, it still appears to have been a very short period of notice provided to potential applicants. We encourage INDOTEL to take steps to ensure that future allocations of spectrum provide sufficient notice to all parties in order to ensure that the allocation is conducted in a manner that is clearly objective, timely, transparent, and non-discriminatory.

Roaming

Many countries, including the United States, require domestic telecommunications suppliers to provide some form of roaming services and consider roaming as a service that is part of the reasonable access to the public telecommunications network. The Dominican Republic does not mandate that Dominican Republic telecommunications suppliers provide domestic roaming services and there do not appear to be any agreements for such services between Trilogy and its larger competitors. USTR encourages INDOTEL to adopt rules that would ensure the availability of domestic roaming services.

Concession Renewal

The government of the Dominican Republic has not acted promptly to renew its concession agreement with Trilogy, which has created regulatory uncertainty for the company and its

customers and partners in the Dominican Republic. The government of the Dominican Republic has asserted that it needs to complete work necessary to implement the General Telecommunications Law of 1999 before renewing Trilogy's concession agreement. Given the 16 year period since the passage of this act, this rationale does not appear to justify the inaction of INDOTEL. USTR urges INDOTEL to act promptly with regards to the renewal of its concession agreement with Trilogy.

China

In 2013, MIIT proposed an initiative, Pilot Program for Mobile Communications Resale Business (the Pilot Program), to license resellers of mobile services. MIIT's proposed rules appear to exclude foreign-invested enterprises from participation in the pilot program by limiting participation to Chinese-invested enterprises. USTR has formally expressed concerns to China about this exclusion.

China has commitments for national treatment under the GATS that include the Telecommunication Services sector. Other than equity limitations, China scheduled no other relevant limitations in its GATS Schedule relating to foreign participation in the mobile market. In addition, China's GATS Schedule explicitly recognizes the rights of foreign firms to participate in the market as resellers.

The United States supports China's goal of promoting innovation and competition in its telecommunications services market, particularly through wholly-private operators. To ensure a truly competitive market, however, MIIT should, consistent with China's WTO obligations, provide meaningful opportunities to all enterprises, including foreign-invested enterprises, to enter this sector. To that end, the USTR urges MIIT to modify the draft rules to clearly allow foreign participation, and to clarify that Chinese-foreign joint ventures may apply for and receive approval for any telecommunications services licenses that are required for participation in the Pilot Program.

INTERNATIONAL TERMINATION RATES

One of the main cost components of an international telephone call from the United States to another country is the rate a foreign telecommunications operator charges a U.S. operator to terminate the call on the foreign operator's network and deliver the call to a local consumer. Both U.S. free trade agreements and the Reference Paper include disciplines designed to ensure that the charge for terminating a call on a network of a major supplier is cost-oriented. Termination rates should be set in relationship to the costs of providing termination, as would be reflected in a competitive market. Where competition does not discipline the costs of termination services, government action may be necessary to ensure that the termination rates charged by its operators are cost-oriented. This ensures that a major supplier is not able to gain an unfair competitive advantage from terminating foreign or competitive carriers' calls, and also helps to ensure that U.S. carriers can offer reasonable and competitive international rates to consumers located in the United States.

Unfortunately, various foreign governments took actions that resulted in an increase in the termination rates of calls into their countries. These actions adversely affect the ability of U.S. carriers to provide affordable, quality services to U.S. consumers and may raise questions as to whether those countries' are meeting their obligations to ensure cost-oriented termination rates. Such cost increases also disadvantage enterprises in those foreign markets for whom foreign communications are a key part of their business (*e.g.*, traders, hotels). In some cases, the major supplier benefits from the increased rates; in others, the governments in question uses the revenues to fund universal service programs or programs unrelated to telecommunications, or do not account for the use of the funds adequately, if at all. Even where these measures do not provide additional revenue to the local operators, the result for U.S. operators and consumers is the same – higher costs and, consequently, for both the United States and foreign country, lower calling volumes.

Pakistan

Pakistan is a Member of the WTO with commitments under the GATS Telecommunications Annex requiring, under section 5, the provision of access to telecommunications networks and services in Pakistan on reasonable terms and conditions. The WTO Dispute Settlement Body has found that “access to and use of public telecommunications transport networks and services on ‘reasonable’ terms includes questions of *pricing* of that access and use.”⁴

Between 2012 and 2014, pursuant to a directive from the Ministry of Information and Technology (MIT), all carriers in Pakistan licensed to terminate international traffic assigned their rights to terminate inbound international calls in Pakistan to the incumbent carrier, the Pakistan Telecommunications Company Limited (“PTCL”), such that during that period PTCL had an exclusive right to terminate inbound international calls in Pakistan. Rates charged by PTCL increased 400 percent over rates charged when the market for these services was competitive. As a result, on March 5, 2013, the U.S. Federal Communications Commission (FCC) ordered all U.S. carriers not to pay termination rates to Pakistani carriers in excess of “the rates that were in effect immediately prior to the rate increase on or around October 1, 2012.” On June 17, 2014, MIT withdrew its directive, but a lower court stayed the withdrawal pending the outcome of the litigation. On February 24, 2015, the Supreme Court of Pakistan lifted the lower court’s stay and affirmed the decision of the MIT to withdraw its directive. The Pakistan Telecommunications Authority (PTA) also issued an order directing operators to ensure “fair competition while negotiating with the foreign operators for terminating international traffic.”

USTR had expressed concerns over these issues in its 2013 and 2014 Section 1377 Reports. USTR is cautiously optimistic that Pakistan will now return to a competitive market for the termination of international traffic, but will continue to watch closely developments in this area.

European Union

Several operators in Member States of the European Union, including France, Germany, and the Czech Republic, are charging higher rates for the termination of international traffic originating from outside the EU than for international traffic between sovereign states inside the EU. These

⁴ *Mexico—Measures Affecting Telecommunications Services, Panel Report, WT/DS204/R (Apr. 4, 2004).*

discrepancies in rates do not appear to reflect incremental costs for termination of such traffic. The French regulator, ARCEP, has even proposed allowing French operators to discriminate in favor of countries in the European Economic Area (EEA)⁵ and to discriminate against all countries under a “reciprocity scheme.”

Member States of the EU have commitments under the GATS Telecommunications Annex requiring, under section 5, access to telecommunications networks and services on reasonable terms and conditions. Article II of the GATS Agreement requires Member States to provide to “services and service suppliers of any other member treatment no less favorable than it accords to like services and services suppliers of any other country.”

Requiring, or even allowing, European operators to charge cost-oriented rates for calls from end-users within the EEA, while also authorizing those operators to charge rates higher than cost-oriented levels to terminate calls from end-users outside the EEA, raises concerns with respect to the EU’s adherence to its obligations under GATS Article II and section 5 of the GATS Telecommunications Annex.

Uganda

Uganda enacted legislation in 2013 imposing a tax of \$ 0.09 on inbound international calls. USTR continues to be concerned that the tax substantially increases international termination rates without any demonstration of increased costs and calls into question Uganda’s commitment under the Reference Paper and the GATS Telecommunications Annex to ensure reasonable terms for access and use of its telecommunications network.

Others

USTR continues to monitor the policies and actions of the governments and major suppliers in Tonga and Fiji. Artificially high rates depress calling volume on these routes and increase costs for consumers in the United States. USTR will continue to work with these countries to ensure compliance with their commitments under the GATS Telecommunications Annex and the Reference Paper that termination rates are cost-oriented and reasonable.

- Tonga Communications Corporation (TCC) refuses to negotiate a cost-oriented and reasonable rate for the termination of international traffic in Tonga, and the government of Tonga has failed to take appropriate steps to ensure that TCC offers such rates. On April 7, 2014, the Federal Communications Commission upheld its 2009 order which directed all U.S. carriers that were authorized to provide facilities-based international switched voice services on the U.S.-Tonga route to suspend all U.S. carrier payments for termination services to TCC. U.S. traffic to Tonga has declined from 5, 657, 972 minutes in 2010 to 2,627,205 minutes in 2012.
- The Fijian government has required Fiji International (Fintel), the major supplier of telecommunications services, to charge U.S. carriers above-benchmark settlement rates

⁵ The EEA includes countries of the European Union and countries of the European Free Trade Association (EFTA).

since 2011. On March 7, 2013, the International Bureau of the FCC released an order prohibiting U.S. carriers from paying Fintel rates for U.S.-Fiji traffic in excess of the \$0.19 per minute benchmark rate. U.S. traffic to Fiji has declined from 14,139,729 minutes in 2010 to 12,888,171 minutes in 2012.

SATELLITES

As in previous years, commenters note problems regarding U.S. operators' ability to offer satellite capacity to customers in China and India. Commenters continue to point to a lack of transparency in the rules governing the provision of satellite capacity in these countries and note that the requirement to sell capacity only through government-owned satellite operators is problematic. USTR will continue to raise concerns regarding the barriers to supplying satellite services in China and India and will encourage these countries to consider changes to their respective frameworks.

China

Since 2009, there has been only one authorized domestic satellite service provider in China – China Satellite Communications Co. Ltd. (China Satcom), a fully-owned subsidiary of the China Aerospace Science and Technology Corporation (CASC). There are only two other international companies allowed to provide satellite services directly to end-users in China: Asia Satellite Telecommunications Company Limited (AsiaSat) and APT Satellite Company Limited (APT), both of which are partially owned by the Chinese Government and are based in Hong Kong. No other companies have been granted a license to provide services directly to end-users in China. China requires foreign satellite operators without such a license to offer their services through China Satcom, adding to their cost of doing business and forcing them to rely on a company that will often be their competitor.

These requirements raise concerns with respect to China's GATS commitments concerning domestic private leased circuit services. USTR urges China to allow end-users in China to contract directly with any satellite operator that has the ability to service China (subject to appropriate non-discretionary licensing requirements).

India

India's Ministry of Information and Broadcasting (MIB) has issued guidelines that establish a preference for Indian satellites to provide capacity for delivery of Direct-to-Home (DTH) subscription television services. In practice, authorized DTH licensees have not been permitted to contract directly with foreign operators and have encountered procedural and contracting delays when they have sought to do so. Rather, DTH licensees must procure any foreign satellite capacity through the Indian Space Research Organization (ISRO) which, in turn, only permits such procurements if it does not have available capacity on its own system. This issue is compounded by a lack of visibility into ISRO's plans for future transponder capacity. If ISRO does permit the use of foreign satellite capacity, the foreign satellite operator must sell the capacity to ISRO, which then resells the capacity to the end-user after adding a surcharge.

Foreign suppliers are thus prevented from developing direct relationships with DTH licensees, which is of concern to USTR, as it puts U.S. suppliers at a competitive disadvantage and prevents DTH licensees from offering a fuller range of services.

MIB's guidelines and the ISRO's practices raise concerns with respect to Indian obligations under Article 4 of the Reference Paper to be transparent with respect to its licensing requirements.

For satellite infrastructure, the United States and many WTO Members have adopted policies permitting users of satellite services to work directly with any satellite operator that has the ability to serve them, without government constraints on their choice of operator. USTR will continue to encourage India to adopt such an "open skies" satellite policy to allow consumers the flexibility to select the satellite capacity provider that best suits their business requirements and to promote market access for foreign satellite service providers.

TELECOMMUNICATIONS EQUIPMENT

Telecommunications equipment, and related supply of services, are potentially subject to a range of WTO disciplines, including obligations contained in the GATT, GATS, the WTO Agreement on Trade Related Investment Measures (TRIMS), and the WTO Agreement on Technical Barriers to Trade (TBT). The TBT, in particular, imposes obligations with respect to how technical regulations, technical standards and conformity assessment procedures are developed and applied. The TBT requires Members to notify technical regulations and conformity assessment procedures and to take other steps to ensure transparency, and requires that technical regulations do not discriminate or burden trade more than necessary.

China

China Banking/ICT Measures

On September 3, 2014, the China Banking Regulatory Commission (CBRC), China's banking regulator, issued the *Guiding Opinions Regarding Application of Secure and Controllable Information Technologies to Strengthen Network Security and Information of the Banking Sector* ("Banking Opinions"). The Banking Opinions called for 75 percent of ICT products, services, and technologies used by financial institutions in China to be "secure and controllable" by 2019.

On December 26, 2014, CBRC issued the *Guidelines for Promoting the Application of Secure and Controllable Information Technology in Banking Sector* ("Guidelines") and the *Classification Catalogue of Banking Information Technology Assets and Indexes of Security and Controllability* ("Catalogue"), which implement the Banking Opinions by providing further detail on what "secure and controllable" requires with respect to ICT products, services, and technologies used by financial institutions in China.

In particular, the Guidelines and Catalogue appear to require with respect to certain ICT products that: (1) suppliers disclose to Chinese authorities the source code for such products; (2) the

intellectual property rights (IPR) attached to such products be “indigenous IPR” (*i.e.*, owned or controlled by a Chinese person or entity); (3) suppliers source from “controllable” supply chains (which may mean greater localization of vendors); and (4) suppliers establish their own service centers in China and conduct R&D in China. The Catalogue appears to define “secure and controllable” for more than 70 specific products, services and technologies, including routers, Wi-Fi equipment, computers, anti-virus equipment, virtual private networks (VPNs), operating systems, and ATM machines. With regard to specific ICT products, the Guidelines also appear to impose new technical regulations, product standards, or conformity assessment procedures.

It appears that China may have developed and adopted these rules without adhering to its 2008 and 2011 Strategic and Economic Dialogue (S&ED) commitments to provide adequate opportunity for public comment on draft measures and to publish final measures. The United States also requested that China, to the extent required under the TBT Agreement, notify the rules to the TBT Committee. In addition, the rules may raise substantive concerns with respect to China’s obligations under the TBT Agreement, GATT, GATS or TRIMs, including concerning commitments to accord national treatment.

In early 2015, the United States, at senior levels, pressed China to suspend application of the Banking Opinions, the Guidelines, and the Catalogue. USTR will continue to press for suspension of these measures.

Proposed Counterterrorism Law /ICT Measures

On November 3, 2014, China released a draft counterterrorism law. The provisions of this draft law relating to ICT appear to impose onerous encryption approval and in-country data-storage requirements. Specifically, the draft law: (1) imposes in-country data storage requirements on “all telecom and internet businesses” in China; (2) requires telecommunication and Internet service providers to pre-install cryptographic solutions in ICT equipment with Chinese encryption algorithms and to undergo related conformity assessment procedures for all such equipment; and, (3) requires information security testing of “new internet apps,” which could impact a wide range of U.S. businesses in China in any sectors where business is conducted over the Internet. The scope of the draft law seems to extend from telecommunications providers and Internet service providers to any supplier using ICT to provide Internet or telecommunication-based services—in short, to a large swath of the global ICT industry and their commercial customers.

The draft counterterrorism law has generated serious concerns among U.S. stakeholders and may raise questions with respect to China’s obligations under the TBT Agreement.

In early 2015, the United States, at senior levels, urged China to suspend consideration of this draft law. USTR will continue to urge China not to act on this draft law.

4G Telecommunications ZUC Encryption Algorithm Standard

At the end of 2011 and into 2012, China released a Chinese government-developed 4G Long-Term Evolution (LTE) encryption algorithm known as the ZUC standard. The European

Telecommunication Standards Institute (ETSI) 3rd Generation Partnership Project (3GPP) had approved ZUC as a voluntary LTE encryption standard in September 2011. According to U.S. industry reports, MIIT, in concert with the State Encryption Management Bureau (SEMB), informally announced in early 2012 that only domestically developed encryption algorithms, such as ZUC, would be allowed for the network equipment and mobile devices comprising 4G TD-LTE networks in China. It also appeared that the MIIT and the SEMB may require burdensome and invasive testing procedures, such as requirements to divulge source code and sensitive design information that could threaten companies' sensitive intellectual property.

In response to U.S. industry concerns, USTR urged China not to mandate any particular encryption standard for 4G LTE telecommunications equipment, in line with its bilateral commitments and the global practice of allowing commercial telecommunications services providers to work with equipment vendors to determine which security standards to incorporate into their networks. Any mandate of a particular encryption standard such as ZUC would contravene a Notice that China issued in 2000 after trading partners expressed serious concerns about China's encryption policies. That Notice clarified that foreign encryption standards were permitted in the broad commercial marketplace and that strict "Chinese-only" encryption requirements would only be imposed on specialized IT products whose "core function" is encryption. Additionally, a ZUC mandate would contravene China's 2010 Joint Commission on Commerce and Trade (JCCT) commitment on technology neutrality, in which China had agreed to take an open and transparent approach with regard to operators' choices and not to provide preferential treatment based on the standard or technology used in 3G or successor networks, so that operators could choose freely among whatever existing or new technologies might emerge to provide upgraded or advanced services.

The United States pressed China on this issue throughout the run-up to the December 2012 JCCT meeting. At that meeting, China agreed that it will not mandate any particular encryption standard for commercial 4G LTE telecommunications equipment. It is unclear whether China's MIIT fulfilled this commitment, because Chinese state-owned telecom providers have required vendors to install ZUC as a commercial requirement.

In 2013, the United States worked to ensure that MIIT's voluntary testing and approval process for the ZUC 4G telecom equipment standard fully protects applicants' intellectual property by not requiring source code or other sensitive business confidential information to be provided during the approval process. At the December 2013 JCCT meeting, China committed that it will not require applicants to divulge source code or other sensitive business information in order to comply with the ZUC provisions in the MIIT application process for 4G devices. Since that agreement, U.S. stakeholders have not indicated concerns about this aspect of the telecommunications testing process at MIIT. In 2015, the United States will closely monitor developments in this area.

India

License Amendments Affecting Importation of Telecommunications Equipment

Beginning in December 2009, India issued a series of requirements for telecommunications service providers (TSP) and equipment vendors, which India claimed were designed to maintain the security of India's commercial networks. In response to concerns regarding the requirements raised by industry and trading partners, including the United States, in May 2011, India amended the licenses required for telecommunications service providers. Although these amendments eliminated many of the most concerning aspects of the previous proposed license amendments, they still contain provisions of concern to the U.S. government.

In particular, the amended requirements, which have not been notified to the WTO: (1) require telecommunications equipment vendors to test all imported ICT equipment in laboratories in India, beginning in April 2015; (2) telecommunications equipment vendors to allow, for the duration of a contract to supply equipment to the telecommunications service provider, the telecommunications service provider and certain Indian government agencies to inspect the vendor's manufacturing facilities and supply chain and to perform security checks; and (3) impose on vendors, without a right of appeal or other due process guarantees, strict liability, and possible "blacklist[ing] for doing business in the country," for taking "inadequate" precautionary security measures.

In September 2013, India obtained Common Criteria (CC) "authorizing nation" status for ICT product testing. As a result, Indian testing will be recognized by other CC countries as long as Indian testing labs adhere to specified standards. However, India has not revoked the domestic testing requirement for imported ICT equipment, which is scheduled to take effect in April 2015; nor has India consulted stakeholders on a number of issues critical to industry's compliance with this requirement, including how implementation can take place without adequate testing facilities in India. In 2014, USTR, bilaterally and during meetings of the WTO's Committee on Technical Barriers to Trade, raised concerns about India's planned telecommunications security testing requirements. In these meetings, USTR requested that India continue discussions with telecommunications equipment suppliers to develop procedures, reflecting international practice, for India to accept foreign test results as a basis for any certification to be issued in India by appointed certification bodies. In 2015, USTR will continue to engage India to seek ways to ensure that U.S. telecommunications companies can continue to participate meaningfully in the Indian market, while also respecting the security concerns of the Indian government.

Telecommunications Tariffs

As part of the 2014-2015 Union Budget, the government of India issued Customs Notification 11/2014. This notification increased tariffs from 0 percent to 10 percent on four broad categories of telecommunications equipment and technologies, including switches, Voice over Internet Protocol equipment and phones, and certain networking equipment. The notification also specifies that products using certain technologies, such as Multiple Input / Multiple Output and Long Term Evolution, would be subject to duties. In 2014, the United States urged India to eliminate the new 10 percent duty on these products to ensure India's compliance with its international trade obligations, including its commitments under the Information Technology Agreement to eliminate duties on certain ICT products. USTR will continue these efforts in 2015.

General Concerns with Conformity Assessment Requirements

U.S. industry continues to identify conformity assessment procedures relating to ICT equipment as a significant barrier to trade, focusing in particular on certain electromagnetic compatibility (EMC) testing and certification requirements. Mandatory certification requirements maintained by China, Costa Rica, India, and Brazil and requirements maintained by Brazil, China, and India that equipment be tested domestically are areas of concern. Requirements that telecommunications and information technology equipment be tested domestically can lead to redundant testing, particularly where a product is required to undergo testing to the same standard in both the exporting and importing country (e.g., for EMC).

Brazil

Pursuant to Resolution 323 of November 2002, the Brazilian National Telecommunications Agency (ANATEL) requires local testing of telecommunications products and equipment by designated testing facilities in Brazil, rather than allowing testing by accredited foreign laboratories. The only exception is in cases where the equipment is too large or too costly to transport. As a result of these requirements, U.S. manufacturers and exporters must present virtually all of their information technology and telecommunications equipment for testing at laboratories located in Brazil before that equipment can be placed on the Brazilian market, causing redundant testing, higher costs, and delayed time to market.

USTR has urged Brazil to implement, with respect to the United States, the Inter-American Telecommunication Commission (CITEL) Mutual Recognition Agreement (MRA). Under the CITEL MRA, two or more CITEL participants may agree to provide for the mutual recognition of conformity assessment bodies and the mutual acceptance of the results of testing and equipment certification procedures undertaken by those bodies in assessing the conformity of telecommunications equipment with the importing country's technical regulations. The United States and Brazil are both participants in CITEL. If Brazil implemented the CITEL MRA with respect to the United States, it would benefit U.S. suppliers seeking to sell telecommunications equipment in the Brazilian market by enabling them to have their products tested in the United States to Brazil's technical requirements, eliminating the need for such testing at laboratories in Brazil. USTR will continue to encourage Brazil to implement the CITEL MRA with respect to the United States.

China

U.S. industry has identified several specific redundant testing requirements that China imposes with respect to mobile phones, as well as a lack of transparency in China's testing and certification procedures for mobile phones. China's three main approval processes for mobile phones—the Network Access License (NAL), the Radio Type Approval (RTA), and the China Compulsory Certification (CCC) mark—often overlap. For example, the NAL and RTA processes both require electromagnetic interference tests, and the NAL and the CCC both require EMC testing and product safety tests. In addition to redundancy, China does not consistently publish its requirements for mobile phones. For example, the requirement that mobile phones be

enabled with the Chinese standard WLAN Authentication and Privacy Infrastructure (WAPI) is unpublished.

Those requirements that are published are often unclear and subject to change without written notification or adequate time for companies to adjust. In some cases, testing requirements for products can change on an almost monthly basis. The United States and China have discussed these issues bilaterally, including in working group meetings held under the auspices of the JCCT. At the JCCT Plenary in November 2011, China announced its plan to build on its earlier 2010 JCCT commitment to develop streamlined procedures for telecommunications NALs and RTAs by agreeing to publish such procedures by the end of 2011.

In December 2011, MIIT announced the implementation of its December 2010 JCCT commitment through the establishment of a single application window for both RTA and NAL testing and certification. In February 2012, such a window became operational on MIIT's website, with MIIT's Telecommunications Equipment Certification Center appointed to process applications for both testing and certification processes. Based on industry's experience to date, however, it does not appear that MIIT's new approach is meaningful in terms of streamlining the MIIT processes.

USTR remains concerned that the new mechanism does not actually eliminate any redundancies or unnecessary elements of the testing and certification processes. It also does not appear to address a fundamental concern that unnecessary functionality testing results in burdensome processes. In addition, the lack of transparency in the NAL testing and certification process remains a concern, as NAL requirements are not readily available to the public. As described earlier, USTR has made progress on specific elements of the NAL testing and certification process, i.e., the ZUC encryption algorithm requirement, but it will monitor developments in this area closely and continue to pursue progress in enhancing transparency and streamlining China's telecommunications testing and certification requirements throughout 2015.

India

India implemented the "Electronics and Information Technology Goods (Requirements for Compulsory Registration) Order, 2012," on January 3, 2014. The list of products covered and applicable standards are identified in the Schedule attached to the Compulsory Registration Order (CRO). The CRO requires, with respect to covered ICT products placed on the Indian market that: (1) each "manufacturing unit" of a product (rather than the company that designs the product) register with the Bureau of Indian Standards (BIS); (2) manufacturers (or importers, upon authorization from manufacturers) submit product samples from each "manufacturing unit" for testing by one of four "BIS recognized laboratories" located in India; and (3) each product placed on the Indian market contain a "self-declaration mark" confirming conformity with the relevant Indian standard(s) for that product (assuming successful testing of the samples).

On November 7, 2014, the Indian Department of Electronics and Information (DEITY) issued an interim expansion of the CRO. In addition to the 15 categories of products included in the original 2012 Order, this expansion, planned to be implemented in May 2015, extended the compulsory registration scheme to 15 additional products, including mobile phones. India

asserts that the CRO is intended to ensure that a wide range of information and communication technology (ICT) products meet Indian product safety standards. However, the list of covered products includes non-consumer ICT products (e.g., computer servers).

In 2014, USTR raised concerns, bilaterally and during meetings of the WTO's Committee on Technical Barriers to Trade, about India's implementation and expansion of the CRO. In these meetings, USTR noted that the issuance of test reports by BIS-approved labs, which are only located in India, adds an unnecessary stage to the compulsory registration process. Further, it is not clear why products covered by the CRO must be tested to the relevant Indian standard, when manufacturers already test their IT products to the international standard (IEC 60950). In 2015, USTR will continue to monitor India's implementation of the CRO and engage India to seek ways to ensure that U.S. ICT suppliers can continue to participate meaningfully in the Indian market.

Mutual Recognition Agreements

Mutual Recognition Agreements (MRAs) can help address restrictions countries maintain on equipment testing and certification outside their territories, and eventually can lead to countries permitting equipment sold in their markets to be tested and certified in the United States. In May 2011 the United States and Mexico signed a bilateral telecommunications equipment MRA, fulfilling a long outstanding NAFTA obligation. This agreement has not yet entered into force. Although the agreement allowed for an 18-month confidence-building period, work remains to ensure Mexico has the necessary system in place to accept test results from U.S. labs. USTR is committed to working with Mexico to ensure the agreement enters into force as soon as possible.

LOCAL CONTENT REQUIREMENTS

Various countries have proposed or adopted policies that require the use of local content in their telecommunications sector infrastructure. Governments often pursue such policies as a way to boost their respective domestic manufacturing sectors, despite the fact that these policies undermine that long-term objective. Building a globally competitive and sustainable manufacturing sector, and ensuring world-class service suppliers in telecommunications and in sectors that use such services, are key goals of most countries, including the United States. International experience demonstrates that, to achieve these goals, countries should adopt open, market-oriented policies that encourage the establishment of manufacturing facilities that can be incorporated into global supply chains. Policies that discriminate against imported products, in contrast, discourage firms from establishing new manufacturing facilities, because such facilities would be cut off from global supply chains.

Policies requiring the use of local content also raise serious questions of consistency with multilateral and bilateral trade rules, including provisions of the GATT and the WTO Agreement on Trade-Related Investment Measures (TRIMs) and U.S. FTAs that prohibit affording less favorable treatment to imported products than to like domestic products. USTR will continue to engage with the countries that have proposed or adopted local content requirements to explore ways of achieving their manufacturing goals without recourse to discriminatory, trade distorting

policies that hamper competition and limit the growth potential and the competitiveness of their telecommunications sectors. The United States will also continue to raise this as a serious issue for ongoing consideration by WTO Members in the WTO TRIMs Committee and to explore additional mechanisms, including in APEC, for addressing these concerns.

Specific policies of concern include:

Brazil 450 MHz, 2.5 GHz and 700 MHz Spectrum Auction

As a condition of participation in the June 2012 auction for the 2.5 GHz and 450 MHz spectrum bands, ANATEL required wireless carriers to meet specific milestones for ensuring local content of the infrastructure, including software, installed to supply the licensed service. Specifically, wireless carriers were required to ensure 60 percent local content in 2012, 65 percent in 2015, and 70 percent after 2017. ANATEL also required wireless carriers to use a minimum percentage of technology developed in Brazil, starting with 10 percent in 2012, 15 percent in 2015, and 20 percent after 2017. ANATEL extended these requirements to the 700 MHz spectrum in an auction of that frequency in September 2014. Additionally, ANATEL imposed a condition that 50 percent of deployed technology must meet the requirements of the Basic Production Process (PPB), which provides benefits on the production and development of goods that incorporate a certain minimum amount of local content.

Indonesia Domestic Manufacturing Requirements

Indonesia has been working on implementing domestic content requirements for licensed telecommunication services suppliers since at least 2006. In 2009, Indonesia's Ministry of Communications and Information Technology (KOMINFO) issued two new measures outlining requirements. In January 2009, Decree 07/PER/M.KOMINFO/01/2009 imposed local content requirements of 30 to 40 percent in the wireless broadband services, increasing to 50 percent in five years. Regulation 19/PER/M.KOMINFO/09/2011, issued in September 2011, contains the same provisions for wireless broadband services in the 2.3 GHz radio frequency band. In October 2009, Decree 41/PER/M.KOMINFO/10/2009 required Indonesian telecommunication operators to expend a minimum of 50 percent of their total capital expenditures for network development on locally-sourced components or services. Decree 41 also requires companies annually to report the percentage of capital expenditures for network development actually spent on local components or services. Further, Decree 41 provides that such information will be "authenticated" by the government or by a survey institute appointed by the government. In early 2015, KOMINFO issued draft regulations to establish local content requirements and the calculation methodology for 4G LTE mobile devices, building on a similar 2014 Ministry of Industry regulation (60/2014). According to the draft, Indonesia would require 40 percent local content by January 1, 2017 for such mobile devices sold on the Indonesian market. USTR remains concerned about these requirements and will continue to raise these issues bilaterally and at the relevant WTO committees.

Nigeria Guidelines for Content Development

In December 2013, Nigeria issued “Guidelines for Nigerian Content Development in Information and Communications Technology.” The Guidelines contain measures that require use of local content on hardware, software, and services in the ICT sector. Specific requirements include: local storage of government, subscriber, and consumer data; 50 percent use of locally manufactured original equipment; 60 percent use of Nigerian companies in all value-added services on networks; use of only locally manufactured SIM cards; and minimum percentages of Nigerian content for mobile telephony infrastructure. The Guidelines’ ostensible goal is to promote development of domestic production of ICT products and services for the Nigerian and global markets, but the Guidelines pose impediments and risks to foreign investment and to U.S. companies by interrupting the global supply chain, increasing costs, disrupting the global flow of data, and stifling innovative products and services. A further problem with the Guidelines’ local content requirements is that Nigeria does not currently have the capacity to produce ICT products.

Despite U.S. ICT companies’ continued inquiries, the government of Nigeria has not clarified the level of sanctions U.S. companies would face for not complying with the Guidelines. Further, there are concerns as to whether the Guidelines would be implemented in a consistent and transparent way towards domestic and foreign firms. USTR will continue to engage with the government of Nigeria to advocate against imposition of any local content requirements, seek clarification on scope and application of the Guidelines, and closely monitor their implementation.

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