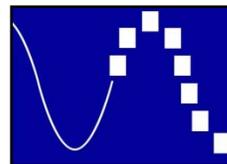


December 21, 2007

Via Electronic Mail to FR0502@ustr.eop.gov



The VON Coalition

Ms. Gloria Blue
Executive Secretary, Trade Policy Staff Committee
ATTN: Section 1377 Comments
Office of the United States Trade Representative
1724 F Street, N.W.
Washington, DC 20508

Dear Ms. Blue:

The VON Coalition appreciates the opportunity to express its member company views regarding the operations and effectiveness of trade agreements that impact the provision of telecommunications products and services. We are especially grateful for the opportunity to speak to VoIP market prohibitions and barriers.

The Voice on the Net or VON Coalition consists of leading VoIP companies, on the cutting edge of developing and delivering voice innovations over Internet. The coalition works to advance regulatory policies that enable consumers and businesses to take advantage of the full promise and potential of Internet voice communications.

This submission references the following agreements:

- World Trade Organization (WTO) Agreement on Basic Telecommunications (BTA) and the associated Reference Paper
- WTO General Agreement on Trade in Services (GATS)

VoIP is Enabling Vast New Benefits:

As the VON Coalition has explained previously, around the globe Internet voice communications are transforming the way consumers and businesses communicate. With the right legal and regulatory framework, VoIP-led innovation has immense potential to extend the power of Internet communications to new corners. Consumers throughout the world will be able to use VoIP to do things never thought possible, businesses may increase efficiency and productivity and transform the way they operate, and broadband enabled communications can help economies to become engines for innovation and the creation of higher-paying Information Age jobs.

In contrast to traditional telephone service, IP voice is an application just like e-mail, streaming audio, streaming video, and web browsing. Internet voice communication can be combined with other IP-based applications over IP-enabled networks, increasing the reliability and robustness of IP applications and services that ride over these next-generation broadband networks. The benefits of IP-enabled services include cost savings for consumers, reduced operational costs for providers, advanced features unavailable with traditional circuit-switched telephony, increased competition, increased infrastructure investment, accelerated broadband deployment, improvements in emergency services, lower cost communications for rural and government users, increased access for persons with disabilities, and increased worker productivity. Today's VoIP services aren't simply a means to having a conversation; they're portals to a world of information that enriches the communications experience and adds new dimensions to the idea of 'conversation'.

With limited governmental action, VoIP can and will continue to create new opportunities for businesses and consumers across the globe. Opening markets to VoIP services around the globe is critical for spurring new competition and opportunity – allowing consumers and businesses to communicate more affordably, more productively, and in entirely new ways not possible with legacy communication systems.

And the best is yet ahead. The next wave of VoIP driven benefits can facilitate transformative improvements in the way we communicate. Soon a voice component can be added to any type of device, application or service that uses a microprocessor or touches the Internet. Already making a call can be just a click away. By disconnecting voice from the underlying infrastructure, voice innovation can now take place at Internet speed, allowing breakthrough advances in the way we communicate, incorporate video, and data.

Yet, as the International Telecommunications Union points out in its “Trends in Telecommunication Reform 2007”:

“Despite obvious benefits, VoIP also challenges traditional telecommunication business models, leading some countries to try to ban or limit VoIP. In many countries, incumbents have resisted offering VoIP services to protect their lucrative long-distance and international call revenues. In the process they have tried to convince regulators and policy-makers to ban or restrict other service providers from doing so. Today, however, the number of countries in which VoIP has been legalized is greater than the number of countries where it is banned.”

Consistent Policies Can Unleash VoIP’s Inherent Advantages

While country regulatory frameworks affecting VoIP vary around the globe, the VON Coalition has outlined a few basic principles which nonetheless should remain constant:

- VoIP is not a new kind of telephone service, but a whole new frontier in communications. VoIP is much more than a substitute for traditional circuit-switched telephone service. VoIP permits the integration of voice, data, and other IP applications enabling a host of breakthrough applications and services not possible with traditional circuit-switched networks.
- VoIP is the test case for the broader regulation of variety of new, emerging, and yet unknown IP-enabled technologies and services (e.g., IPTV). VoIP is the first in a subset of an expansive new class of global applications that run over the Internet. What happens with Internet voice will impact a wide variety of future innovations and services.
- Rather than automatically applying yesterday’s rules, VoIP requires a new forward-looking framework. It should not be governed by rigorous, outdated, or complex regulations controlling traditional circuit-switched telephone service.
- Reflexive application of legacy telecom regulations to VoIP will stifle the growth of cutting edge IP-enabled technologies and services that converge voice and data in entirely new ways, are not possible in legacy phone networks, and can lift economies and lead to vast economic and productivity improvements.
- Unilateral action by broadband providers to stall, stifle, or stop VoIP applications can hamper the Internet’s inherent advantages to provide users and business with new opportunity. Consumers should be allowed to use any device, application, or service on the Internet that they choose. Indeed, the openness of the Internet has been its

defining hallmark, and such openness is critical to unlocking the vast future potential of Internet communications. At the same time, consumers should not be prevented from lawfully using the bandwidth for which they contract and pay.

- To the extent that regulation becomes necessary, VoIP regulation should be limited to VoIP services marketed as replacements for traditional telephone services –*e.g.*, two-way PSTN interconnected VoIP -- and be considered only where markets forces fail to achieve clearly defined public interest objectives.
- The VON Coalition recognizes that there are important social policy obligations like emergency access that have yet to be fulfilled by some types of VoIP services, such as those that substitute for the traditional telephone in a home. Vast progress has been made and policymakers are coming to recognize that Internet-enabled communications often can have inherent advantages in an emergency. However, application of emergency access rules to web sites, click-to-dial services, 1-way PSTN-out interconnected voice services, and other VoIP services that are not a replacement for traditional home/business phone services could actually harm public safety, stifle innovations critical to people with disabilities, stall competition, and limit access to innovative and evolving communication options where there is no expectation of placing an emergency call.

Market Barriers Are Stifling Benefits.

As broadband penetration continues to escalate around the globe, a few countries and companies have taken steps to erect barriers that limit consumers and businesses from taking advantage of the full promise and potential of Internet based services like VoIP. These actions, detailed here, help stifle Internet based voice competition, prevent U.S. troops and business travelers from calling home, and limit investment in new markets. As VoIP technology gets integrated into more types of software and web applications, the barriers to VoIP that are created in one area will inhibit a much wider range of applications, services, and devices in others.

Several countries that have kept entry barriers high for traditional voice services have also applied these same high barriers to Internet technologies, thus restricting VoIP entry. In other cases, ambiguities about VoIP service classification have allowed incumbent phone companies to unilaterally block or restricted the ability of any entity, foreign or domestic, to supply VoIP services over their broadband network. In some cases access to and the cost of telephone number fees can be a significant barrier to market entry, as is the ability to interconnect to the legacy PSTN network. And Incumbent phone companies have been using their might within the telecom infrastructure to hold back the growth of the VOIP market.

In some cases, incumbent telephone carriers who also control the broadband network have unilaterally blocked users from communicating with VoIP over their broadband network. In several of these cases, the regulator has been complicit in efforts to curtail Internet voice communication. It doesn't just impact a call to a loved one or business colleague, it also threatens to disconnect U.S. troops serving overseas from their families, and thwart the kind of communications essential for lifting economies into the information age.

Indeed the state of VoIP regulation is changing quickly. As the ITU points out¹, a growing number of countries have or are about to legalize VoIP, including, Algeria, Ghana, Kenya, Mauritius, Nigeria, Somalia, South Africa, Tanzania and Uganda. Nonetheless, there are

¹ ITU's Trends in Telecommunication Reform 2007, page 18.

significant barriers around the globe that thwart businesses and consumers from taking advantage of new and innovative ways to communicate.

Country Specific VoIP Barriers:

India:

India only legalized VoIP in 2002, and still maintains enormously significant barriers to VoIP market entry by competitive providers, including non-Indian companies. For example, a provider of VoIP interconnected to the PSTN (phone-to-phone) must pay extraordinarily high license fees by international standards which creates a significant market entry barrier. In addition, Telecom Regulatory Authority of India (TRAI) has established stringent rules prohibiting VoIP providers from directly interconnecting to the PSTN to terminate calls, and specifically prohibits any VoIP provider from terminating calls to the Indian PSTN whether to a landline or mobile operator, thereby curbing the growth of VoIP in India and limiting the potential of the technology to expand communications opportunities. This means that competitive VoIP providers cannot offer services that enable users – business or residential -- to connect to the Indian PSTN. Such a barrier makes it significantly more difficult for new providers to enter the Indian market and offer services that compete with incumbent telephone companies, and it makes it harder for India to become the back office for other businesses located around the globe.

In May of 2007, TRAI released a recommendation for a major functional and structural revamp of Internet Services including proposals to reduce limitations on ISPs who offer VoIP services². While an important first step, not all of TRAI's recommendations were adopted by the India Department of Telecom (DOT). For example, ISP licensees who offer VoIP services still are still prohibited from originating and terminating calls to the Indian PSTN. Thus, the Indian government needs to take further steps to enable competitive ISPs to offer Indian consumers with VoIP services that can make and receive calls to the PSTN.

India also has taken steps to allow non-Indian companies to obtain Universal Access Service Licenses (UASL), a flexible license that enables them to offer fixed, mobile, and Internet/broadband services in a technology-neutral fashion.³ However, due to the recent controversy on spectrum allocations for mobile services, there is a current freeze on even accepting new UASL applications. As of now, some 30 odd applicants are waiting for approximately 500 licenses. So, the Indian government should be encouraged to expeditiously granting these pending UASL licenses.

² See <http://www.trai.gov.in/trai/upload/Pressreleases/460/pr10may07no45.pdf>. Some of the proposals included:

- Restrictive Provision regarding usage of PC to make Internet telephony calls has been done away with."
- "All ISPs have been permitted to provide Internet telephony without any additional license."
- "The restrictions presently imposed for provision of the Internet telephony have been removed. Now any device or adopter conforming to the Standards of International Agencies can be used to make Internet telephony calls within India as well as abroad"
- "Provision of Unified Messaging Service (UMS) has been permitted to ISP licensees"
- In addition, customers are given ability to access the content of their choice on the Net (net neutrality).

³A UASL applicant must be a company registered in India, however, it can have up to a maximum of 74% Foreign Investment (direct plus indirect).

There is still more work to be done, however, and the VON Coalition urges TRAI and DOT to eliminate the ISP restriction on originating/terminating calls to the PSTN, promptly grant UASL license applications, ensure that Internet based applications provided globally over the Internet are exempted from domestic regulation, and continue to adopt policies that enhance competition by enabling other categories of service providers to offer VoIP services that directly interconnect to the PSTN.

China:

According to industry experts, with broadband subscribers expected to reach 144 million by 2011, the opportunity for Chinese businesses and consumers to benefit from VoIP is immense. Yet, the imposition of strict criteria on licensing and belated market entry at home is delaying VoIP's benefits and harming competition. Industry experts predict swift VoIP growth and vast consumer benefits, if China eases its restrictions on VoIP termination to the public switched telephone network (PSTN).⁴ Yet, strict licensing criteria and delayed market entry have reduced the likelihood of being able to provide robust VOIP services in markets for several years. The question is whether China will allow entry sooner and gain from its advantages or further delay entry and lose out on enormous economic benefits.

China employs a licensing system which requires approval by the Ministry of Information Industry (MII) or its local offices in each province to operate within both the basic telecom service market and the value-added service market. MII has controlled the VoIP market's growth by granting VoIP licenses only to China Netcom and China Telecom, the two major fixed carriers. The U.S. Department of Commerce's Foreign Commercial Service⁵ has said that it believes that there will be difficulties for VOIP service providers to enter the web phone service market in China before: 1) the existing web phone service trials are proven successful (two incumbents were authorized to run trial services in September 2005), 2) web phone service is allowed countrywide, and 3) other basic telecom carriers in China also launch their own web phone service.

The following VoIP restrictions still exist in the Chinese marketplace and have not changed since the USTR's last report:

- **Class 5 VoIP Services (i.e., local calls):**

1. PC-to-PC calls are not regulated today (although not officially licensed either), however there have been openly-known efforts by Chinese carriers to block the TCP/IP ports used for such calls, or artificially introduce delays and jitters to degrade the voice quality.
2. PC-to-Phone calls are officially prohibited, as when a call is terminated on the PSTN, it is considered a basic telecom service. Although in reality, there exists a grey market for PC-to-phone calls offered through resellers of tier-2/3 carriers.
3. Phone-to-Phone calls via an Integrated Access Device (IAD) or SIP phones that connect through a broadband network are officially prohibited.

⁴ VoIP subscribership could grow to 70 million by 2011 if China eases its restrictions on VoIP termination to the public switched telephone network (PSTN)http://findarticles.com/p/articles/mi_m0EIN/is_2007_Jan_16/ai_n17117006

⁵ http://www.buyusainfo.net/docs/x_5717215.pdf

4. PC-to-PC calls are not regulated today (although not officially licensed either), however there have been openly-known efforts by Chinese carriers to block the TCP/IP ports used for such calls, or artificially introduce delays and jitters to degrade the voice quality.
5. The “web phone” service (or Soft Client/PC Client as it is referred to in China) trials were conducted by China Telecom and China Netcom in limited regions – *e.g.*, for PC-to-Phone services. However, these trials have been limited, and it is not clear that non-Chinese companies have been invited to participate.

- **Class 4 and Class 2 VoIP Services (Local tandem and long-distance calls):**

1. All fixed-line carriers offer these VoIP services today (*e.g.*, the VoIP Long Distance calling cards), although in reality, many of the calls are still routed via the traditional circuit-switching network. . . this is just one way for the operators to offer reduced LD tariff without having to get approval from MII.
2. Other than interconnection for international long-distance calls, foreign entities have no freedom to compete in this market, as it is again part of the basic telecom service category. Furthermore, only domestic carriers own the network infrastructure for the class 4 and class 2 services.

Therefore, to foster competition in China’s VoIP marketplace, the Chinese government needs to eliminate the restrictions noted above and open the marketplace to non-Chinese companies, as well as provide for an independent Chinese telecom regulator separate from its role as operator of China Telecom its largest telecom operator.

For now, U.S. firms can only partner with local ISPs that have good business relationship with the incumbent telecom carriers to provide services to corporate users and act as resellers of the long-distance calling services of the telecom carriers. However, even when partnered with a local provider, barriers have been erected.

Therefore, the VON Coalition urges Chinese government to immediately take action to:

- (1) Allow class 5 VoIP service providers to offer VoIP services that interconnect with the PSTN – *e.g.*, PC-to-phone, phone-to-phone, and phone-to-PC. Additionally, clarify that PC-to-PC phone services are permitted and not licensed.
- (2) Allow non-Chinese companies to offer class 2, 4, and 5 VoIP services within China and eliminate the requirement that a Chinese national own more the 50% of the license-holder.
- (3) Ultimately, the Chinese government should eliminate the burdensome, expensive, and time consuming VoIP licensing regime altogether and instead allow VoIP providers, whether Chinese or foreign-based, to sell services within China provided they meet minimal conditions for service established by the regulator (similar to the European Union’s telecom framework).

Kuwait:

The VON Coalition is concerned that in Kuwait there are reports that VoIP providers have been harassed, raided, and subject to physical assaults.⁶ Apparently, four government bodies including the Ministry of Interior, Ministry of Communications, Kuwait Municipality and General Customs Department have launched an effort to thwart Internet calling by raiding all suspected houses and shops utilizing VoIP and to arrest all those involved in the trade including providers, employees, and consumers.⁷ In addition, a number of websites offering Internet enabled voice services have been blocked by Internet Service Providers (ISPs) upon instructions from the Ministry of Communications (MoC) – including U.S. VoIP based web sites.⁸ This is especially troubling for the approximately 15,000 US troops stationed in Kuwait and their ability to call home. VoIP services are especially popular with US troops serving overseas.⁹ It is precisely for these reasons that Congress last year passed the Call Home Act of 2006 (S. 2653) – to ensure that armed forces personnel serving overseas are able to affordably call home including through the “deployment of new technology such as voice over internet protocol” and by seeking “agreements with foreign governments to reduce international surcharges on such telephone calls.”

The VON Coalition urges Kuwait to act immediately to stop the harassment of VoIP businesses and consumers, to prevent the blocking of Internet calling, and adopt basic Internet freedoms to ensure that consumers are allowed to use any device, application, or service on the Internet¹⁰. Further, Kuwait should move swiftly to adopt an open and competitive VoIP policy framework.

United Arab Emirates (UAE)

UAE is thwarting its other efforts to open up its markets by closing off all VoIP communication options. In 2001, the UAE successfully prosecuted people who attempted to bypass Etisalat's exclusive telecommunications access. Two people who set up a voice-over Internet protocol (VoIP) router were sentenced to three months in jail plus a substantial fine.¹¹

UAE now is blocking access to a variety of VoIP services.¹² This outrageous and unpopular effort to block valuable new Internet based services can thwart UAE's efforts to become a gateway for trade and communication. While consumers and businesses have lost an important communication option, the only beneficiary has been Etisalat's profits which jumped following the VoIP ban to \$403 million, 30 percent more than the same period the previous year and leaped further in the forth quarter by 41 percent.¹³

⁶ <http://www.arabtimesonline.com/arabtimes/kuwait/Viewdet.asp?ID=9788&cat=a>

⁷ <http://intlpatr.wordpress.com/2007/08/07/stealing-kuwait-telephone-resources/>

⁸ <http://www.arabtimesonline.com/arabtimes/kuwait/Viewdet.asp?ID=9870&cat=a>

⁹ <http://www.vonplus.org/benefits/Benefits%20webpage/Military%20Families.pdf>

¹⁰ The FCC has adopted four principles for preserving and promoting the open and interconnected nature of the public Internet, at:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260435A1.pdf

¹¹ Eman Abdullah & Joanna Langley, *Firm To Appeal in Internet Phone Call Case*, Gulf News, June 25, 2001.

¹²

See TRA FAQ on regulatory aspects of VoIP in the UAE at

http://www.tra.ae/pdf/policies_regulations/FAQVoIPFinal.pdf

¹³

http://www.miami.com/mld/mercurynews/business/15827063.htm?source=rss&channel=mercurynews_business

According to press reports, the director general of the UAE Telecommunications Regulatory Authority (TRA), Mohamed Al Ghanim has stated categorically that the UAE market will not be opened up to VoIP services, and that voice services will remain the exclusive domain of the country's two licensed integrated operators: Etisalat and du.¹⁴ And while work may be underway on a framework to legalize VoIP, no timetable has been given.¹⁵

The UAE's Telecommunications Regulatory Authority (TRA) has now gone so far as to ban and block Virtual Private Network (VPN) services that allow users to communicate by comparing them to banned pornography.¹⁶

The VON Coalition urges the UAE to act immediately to prevent the blocking of Internet calling and adopt basic Internet freedoms to ensure that consumers are allowed to use any device, application, or service on the Internet¹⁷. Further, the UAE should move swiftly to adopt an open and competitive VoIP policy framework.

Africa

Within Africa, there are currently eight countries where VoIP is more or less legal. 36 out of 54 countries and territories in Africa forbid the use of VoIP by regulation or by law.¹⁸ Of these 36 countries, 30 have only one international gateway. Where it has been legalized, there has been an uptake in broadband adoption and the availability of "triple play" services. Throughout Africa, the VON Coalition encourages increased efforts to open and liberalize markets and help consumers and businesses leapfrog into the digital communications realm.

Armenia

Armentel (the monopoly telephone provider) has successfully taken action against VoIP providers to prevent them from originating or terminating international voice calls on its network, on the basis of this being a breach of the exclusive rights awarded via its license.¹⁹ Previously, Armentel had abused its monopoly power. The company had cut-off the telephone lines of some Internet Service Providers (ISP) without prior notification, suspecting them of providing VoIP service in Armenia.²⁰ Then in January of 2007, hundreds of owners and employees of Armenian firms providing VoIP rallied in the streets of Yerevan in protest against a Public Services Regulatory Commission (PSRC) ruling on January 8 upholding the operator's monopoly over VoIP and allowing ArmenTel to restrict or even block altogether competitors' access to VoIP.

Further in May Armentel submitted a formal request to the PSRC asking for permission to raise VoIP tariffs -- a near doubling of the current amount it charges customers per month on

¹⁴ "TRA: VoIP will not be liberalised in UAE",
<http://www.itp.net/news/details.php?id=22831&category=>
¹⁵

http://www.khaleejtimes.com/DisplayArticleNew.asp?xfile=data/business/2006/November/business_November603.xml§ion=business

¹⁶ <http://www.itp.net/news/503631-tra-outlines-illegality-of-voip-unblocking-site>

¹⁷ The FCC has adopted four principles for preserving and promoting the open and interconnected nature of the public Internet, at:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260435A1.pdf

¹⁸ According to "Balancing Act's African VoIP Markets", February 2007

¹⁹

http://ec.europa.eu/information_society/activities/internationalrel/docs/pi_study_rus_ukr_arm_azerb_bel_geor_kaz_mold/4_armenia.pdf

²⁰ <http://siteresources.worldbank.org/INTARMENIA/Resources/ArmeniaCEMVol2-Chapt04.pdf>

a call plan giving them up to six hours worth of inclusive local calls. In addition VoIP providers do not currently have any rights to national numbering resources (whether geographic or non-geographic numbers) which limits competition and stalls consumer benefits.

The VON Coalition urges the PSRC to continue in its efforts to eliminate Armentel's monopoly over telecommunications and VoIP, and to open its market to exciting and innovative Internet communication options.

Bangladesh

In November 2007, the Bangladesh Telecommunication Regulatory Commission (BTRC) fined a VoIP operator \$18 million calling VoIP and illegal call termination business and indicating that international call termination to Bangladesh is a licensed service and is currently reserved only for the state-owned telephone operator Bangladesh Telegraph and Telephone Board (BTTB).²¹

Consumers and businesses in Bangladesh are missing out on the power and potential that VoIP has to offer. The VON Coalition urges the BTRC to act immediately to open its market to Internet communication, to prevent the blocking of Internet calling, and adopt basic Internet freedoms to ensure that consumers are allowed to use any device, application, or service on the Internet. Further, Bangladesh should move swiftly to adopt an open and competitive VoIP policy framework.

Oman

Last year the VON Coalition reported to USTR that Omantel (both the phone company and the only ISP in Oman) has been blocking all VOIP services. Oman has attempted to block VoIP services in several ways: by blocking DNS servers, blocking ports, deep packet inspection, and banning VoIP software. By blocking these services, VOIP incoming and outgoing traffic has been blocked to and from the country.

This year, Oman's Telecommunications Regulatory Authority (TRA) has taken additional steps to ban VoIP in cyber cafés. A statement issued on March read: "The TRA noticed lately that a number of internet cyber cafés offer basic voice service through the internet provided by foreign companies that are not licensed to provide telecoms in the Sultanate." Only the incumbent Omantel is currently licensed to offer VoIP, and the TRA warned that punishments for violating Royal Decree No. 30/2002 (providing voice services without a license) ranged from a fine of up to OMR50,000 (USD130,000) to two years in prison.

The VON Coalition believes consumers should be allowed to use any device, application, or service on the Internet that they choose using the bandwidth for which they pay. The Coalition urges regulators in Oman to immediately open up its market to the vast benefits that VoIP can deliver.

Saudi Arabia

The VON Coalition continues to have concerns about market barriers in Saudi Arabia. Saudi Arabia is working to be an IP technology leader²² which is helping the country move toward its goal of being a "connected kingdom." However, the VON Coalition is deeply troubled that

²¹ <http://www.thedailystar.net/story.php?nid=11319>

²² Cisco Saudi Arabia is the fastest growing region in the world
<http://www.tmcnet.com/usubmit/2006/11/12/2069223.htm>

Saudi Telecoms continues to use IP tracking technology to block VoIP calls.²³ Such blocking can inhibit the flow of ideas, economic progress, tourists, and business leaders from calling home.

While it is now legal to use VoIP in and among Saudi government agencies²⁴, the public is prohibited from utilizing VoIP until an appropriate data license is granted. The VON Coalition commends Saudi leaders for moves to become a high-tech leader, and encourages swift action to open up its market to VoIP. Specifically, regulators must act to prevent Saudi Telecoms from blocking its user's ability to use the application, service or device of their choice using the broadband networks for which they pay.

Conclusion

Around the globe, forward-thinking countries that have sought to maximize the benefits of VoIP through liberalization and the opening of markets and are now enjoying vast benefits. However, some markets still have significant entry barriers to competitive VoIP providers. The VON Coalition and its members believe that it is important that the United States continue its efforts, both bilaterally and multilaterally, to bring about a fully competitive global market for telecommunications services, broadband, and VoIP services in all its forms. This can be accomplished through proactive enforcement of existing trade agreements, as well as the inclusion of basic internet freedoms in future trade agreements.

²³ <http://www.narus.com/press/2005/0418.html>

²⁴ <http://www.gitextimes.com/features/details.php?id=4192&category=>