

APPENDIX A

APPENDIX B

WHITE PAPER

**Promoting U.S. Interests Through Strategic
Application of Benchmark Rates to Low-Income
Developing Countries**

EXECUTIVE SUMMARY

In 1997 the Federal Communications Commission (“FCC”) adopted the *Benchmarks Order* to limit the rates that U.S. telephone companies can pay to foreign telephone companies for terminating international phone calls. These rates are known in the telecommunications industry as “settlement rates,” and the FCC’s limits are known as “benchmark rates.” The goals of the *Benchmarks Order* are, among other things, to reduce the settlement rates that U.S. telephone companies pay to their foreign counterparts, and to work with other market factors to reduce the prices that U.S. consumers pay for international long distance services.

The goals of the *Benchmarks Order* have largely been achieved, despite the fact that the *Benchmarks Order* will not apply to low-income countries until January 1, 2002 and low-teledensity countries until January 1, 2003. For example, the average settlement rate, weighted by actual traffic, has dropped from 32 cents per minute in 1997 to 19 cents per minute in 2000 – a decline of 43.4 percent. Likewise, net settlement payments by U.S. carriers to foreign carriers have decreased by 17.4 percent, which is particularly remarkable because the total amount of international traffic increased by 47 percent during that same period. Finally, the average price of an international long distance call fell 31 percent from 1997 to 1999. Therefore, the *Benchmarks Order* has successfully achieved the goals outlined by the FCC.

This White Paper shows that it will promote the U.S. national interest to grant strategic exemptions from the “benchmark rates” in limited circumstances where low-income developing countries can demonstrate that they are currently using, and will continue to use, settlement revenues to build their national telecommunications infrastructures and promote Internet connectivity. For those countries, settlement rates should continue to be determined, as they have always been, by commercial negotiations between U.S. and foreign telephone companies without intervention from the FCC.

Strategic benchmark waivers make sense because U.S. interests are served by network expansion and infrastructure investment in low-income developing countries and low-teledensity countries. This investment creates new markets for the U.S. communications and IT industries, which in turn benefits the entire U.S. economy. For example, network expansion and infrastructure investment in low-income developing countries and low-teledensity countries increase (i) equipment sales by U.S. manufacturers to carriers in these countries, (ii) the volume of international traffic between the U.S. and these countries, and (iii) opportunities for e-Commerce in these countries. Further, it is significant that network expansion in Third World countries will benefit immigrants living in the United States, who will have much better opportunities to communicate via telephone and Internet with friends and family in their home countries.

Network expansion and infrastructure investment are also crucial to ensure that developing countries participate fully in the Information Age and that the international digital divide does not grow too large. Expanded Internet access in low-income developing countries and low-teledensity countries will promote global democracy, as well as political and economic stability, which benefits U.S. interests.

Unfortunately, network expansion and infrastructure investment will, in certain circumstances, be inhibited by blanket application of the benchmark rates as scheduled in the *Benchmarks Order* for January 1, 2002 for low-income developing countries (or January 1, 2003 for low-teledensity countries). As a practical matter, benchmark rates will preclude low-income developing countries that use settlement revenues to fund critical network development and infrastructure projects from continuing to fund these projects. For some low-income developing countries, settlement revenues are the only available source of funding for these projects. In such a country, implementing the *Benchmarks Order* will destroy its ability to build the telecommunications infrastructure necessary to promote universal service or to ensure Internet connectivity.

This inadvertent effect of the *Benchmarks Order* can be avoided without undermining the FCC's broader policy objectives by strategically waiving the benchmark rates for those countries which are using, and will continue to use, settlement rates to fund network expansion and infrastructure investment. Specifically, the FCC can achieve the desired results by granting waivers to those low-income developing countries and low-teledensity countries that demonstrate reliance on settlement revenues to fund network expansion and infrastructure investment.

The FCC can ensure that waivers are narrowly targeted to benefit U.S. interests by limiting eligibility only to low-income developing countries and determining on a case-by-case basis whether waiver applicants have demonstrated that settlement revenues are being, and will continue to be, used to fund network expansion and infrastructure investment. This will create incentives for low-income developing countries and low-teledensity countries to continue using (and in some cases to increase the use of) settlement revenues to expand their communications networks and make infrastructure investments.

Targeted waivers could relieve pressure on the U.S. to adopt new charging arrangements for international Internet traffic, which is supported by every member of the Asia Pacific Economic Cooperative ("APEC") forum and the International Telecommunication Union ("ITU") except the United States and Greece.

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1. INTRODUCTION

The United States has experienced an unprecedented period of economic growth over the last decade. Economic output over the past nine years has grown dramatically, with the economy expanding at an average rate of 4.5 percent a year since 1996.

The communications and information technology (“IT”) industries have played a key role in the nation’s economic success, and are linked to one-third of the nation’s real economic growth.¹ The communications and information sectors, coupled with the Internet, now account for approximately 15 percent of the gross domestic product of the United States. According to Federal Reserve Chairman Alan Greenspan, much of the recent productivity growth and deepening of the capital markets in the United States can be attributed to the communications and IT industries.²

The continued success of the communications and IT industries, and thus the U.S. economy, depends in part upon the ability of these industries to expand into new markets. Some of the most promising opportunities for economic expansion in the communications and IT industries can be found in developing countries, many of which have a huge unmet demand for communications and IT services. The United States – as the world’s largest producer of communications and IT equipment and provider of Internet-related services³ – is uniquely positioned to benefit from the expansion of telecommunications networks and the introduction of advanced services in developing countries, particularly those in Latin America, Africa, Asia, the New Independent States, and Central Europe.

The ability of the U.S. communications and IT industries to expand into developing countries depends directly upon the extent to which businesses and consumers in those countries have access to the Internet and advanced telecommunications services. This in turn depends upon access to basic telecommunications services, because the same network infrastructure used to provide basic telecommunications services is also used to provide Internet and advanced telecommunications services. Unfortunately, the majority of the world’s population, most of which is located in low-income developing countries, does not have access even to basic telecommunication services, primarily due to

¹ Council of Economic Advisers, *Economic Report of the President*, H.Doc. 107-2, at 25, January 2001.

² Remarks by Chairman Alan Greenspan, *Technology Innovation and its Economic Impact*, before the National Technology Forum, St. Louis.

³ See *Telecommunications Equipment: U.S. Performance in Selected Major Markets* at v (Staff Research Study 24, USITC publication 3150, December 1998) (“USITC Study”).

lack of network infrastructure.⁴ Additional investment in the network infrastructure of low-income developing countries is therefore key to the creation of new markets for the U.S. communications and IT industries.

One way in which the United States can promote capital investment in the network infrastructure of developing countries is through strategic waivers of the rules of the Federal Communications Commission (“FCC”) on benchmark settlement rates. These rules cap the prices that U.S. carriers are allowed to pay foreign telephone companies to terminate calls from the United States to their countries. The rules have helped to produce great economic benefits for the U.S. with respect to developed countries like France and the United Kingdom. However, strict application of the benchmark rates will stifle infrastructure investment in certain low-income developing countries, because payments from U.S. carriers frequently represent the only significant source of funding for local network expansion. The FCC can mitigate this unintended consequence of its rules by waiving the benchmark rates for low-income developing countries that use payments from U.S. carriers for infrastructure investment and network expansion.

The FCC can ensure that waivers are narrowly targeted to benefit U.S. interests by limiting eligibility only to low-income developing countries and determining on a case-by-case basis whether waiver applicants have demonstrated that settlement revenues will be used to fund network expansion and infrastructure investment. This will create incentives for low-income developing countries and low-teledensity countries that are currently using settlement revenues to expand their communications networks and make infrastructure investments to continue their efforts. This, in turn, will create opportunities for the U.S. communications and IT industries. Moreover, by acting on a case-by-case basis, the FCC can ensure that waivers are limited to situations where the low-income developing country is using, and will continue to use, settlement revenues to promote infrastructure investment; developing countries that plan to use settlement revenues for other purposes will not qualify for a waiver of the benchmark rules.

Targeted waivers will not increase the rates that U.S. businesses and consumers pay for international telephone calls. A waiver would merely maintain the current settlement rate on a few international routes, and therefore it would not result in any upward pressure on U.S. calling rates. Further, less than 12 percent of all traffic originating in the U.S. terminates in low-income developing countries. As a result, selected waivers of the FCC’s benchmark rules would have no effect on the current downward trend in the calling rates paid by U.S. consumers for the 88 percent of international calls going to high- and middle-income countries.

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See Center for Democracy & Technology, “Bridging the Digital Divide: Internet Access in Central and Eastern Europe,” at text accompanying n.2, *available at*: www.cdt.org/international/ceeaccess/report.shtml#2.

In addition to creating significant opportunities for the U.S. communications and IT industries, targeted waivers would further significant U.S. objectives. For example, in adopting the 1996 Act, Congress established a clear national policy to “promote the continued development of the Internet” and “to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services unfettered by Federal or State regulation.”⁵ The FCC would promote the continued development of the Internet by lifting Federal price regulation that interferes with further network expansion and infrastructure investment. Moreover, lifting Federal price regulation would preserve the vibrant and competitive free market by allowing the current settlement rates, which are the product of commercial negotiations, to remain in place unfettered by Federal regulation.

Targeted waivers could relieve pressure on the United States to adopt new charging arrangements for international Internet traffic. The United States has been under increasing pressure from the Asia Pacific Economic Cooperative (“APEC”) forum and the International Telecommunication Union (“ITU”) to consider adopting a new approach to intercarrier compensation for Internet traffic known as International Charging Arrangements for Internet Services (“ICAIS”). The United States has strongly opposed ICAIS by arguing that “there is no need for government intervention into relationships between Internet Service Providers,” and that “cost efficient arrangements for Internet traffic will continue to be worked out most quickly if the market is not hampered by government regulation.” However, these arguments have been undermined by the *Benchmarks Order*, which intervened in commercial relationships between U.S. and foreign telephone companies and, in the case of low-income developing countries, could deprive countries of the revenues they need to build out their Internet infrastructure. Therefore, granting targeted waivers of the benchmark rates could generate additional support for the U.S. position, which is opposed by every ITU member except the United States and Greece.

Targeted waivers would also increase the diversity of information available to U.S. citizens, because it would allow them to communicate with a higher percentage of citizens living in low-income developing countries, as well as enable them to access more Internet content from those countries. “[I]t has long been a basic tenet of national communications policy that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public.”⁶ This national policy to promote the public’s access to a diversity of viewpoints from a multiplicity of sources finds expression in statutory law as well as in previous decisions of the FCC.⁷

⁵ 47 U.S.C. § 230(b)(1)-(2).

⁶ *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 663 (1994) (internal quotation marks omitted).

⁷ *See, e.g.*, 47 U.S.C. § 257(b) (noting that one of the “policies and purposes” of the Communications Act is to “favor[] diversity of media voices”); *id.* § 521 nt.

Finally, targeted waivers will help to narrow the international digital divide and assist the citizens of low-income developing countries. The U.S. Government has adopted a policy of bridging the gap not only between individuals and groups within the U.S., but also across individual economies, so that all countries, advanced and developing alike, can reap the benefits of globalization. This policy is based on the belief that digital inclusion not only advances the good of society, but also the bottom line interest of business.

The Internet allows businesses from low-income developing nations to leap into the developed world because conducting electronic commerce activities over the Internet enables businesses to sell goods and services directly to their customers. Electronic commerce revolutionizes trade in services by lowering transaction costs dramatically and facilitating new types of commercial transactions. Using the Internet allows even the smallest companies to achieve a global presence and to conduct business worldwide. For example, two indigenous women living in a remote village of Guyana revived the ancient art of hand-weaving large hammocks from locally grown cotton, formed the Rupununi Weavers Society and established a web site to sell their products around the world.⁸ In their first year, they sold 17 hammocks around the world for as much as \$1,000 a piece. This profit is remarkable considering that the per capita income in Guyana is less than \$726, and that their village had no phones two years before this undertaking. Therefore, targeted waivers can advance the good of society – both in the United States and in low-income developing countries – and protect the business interests of individual companies.

2. THE *BENCHMARKS ORDER* HAS ALREADY ACHIEVED ITS GOALS, AND IT DOES NOT YET APPLY TO LOW-INCOME DEVELOPING COUNTRIES

2.1 The Goals of the *Benchmarks Order* Are To Reduce Payments From U.S. Carriers to Foreign Carriers, Increase the Volume of International Traffic, and Lower the Price That U.S. Consumers Pay for International Services.

(codifying findings and policy underlying Cable Television Consumer Protection and Competition Act of 1992) (“There is a substantial governmental and First Amendment interest in promoting a diversity of views provided through multiple technology media.”); *AT&T-MediaOne Order*, 15 FCC Rcd at 9818-20 ¶¶ 3-5 (considering proposed merger’s effects on “diversity and competition” in video programming and its effects on “openness and diversity of broadband Internet content”).

⁸ Simon Romero, *Weavers Go Dot-Com, and Elders Move In*, N.Y. TIMES, Mar. 28, 2000, available at: <http://www.nytimes.com/library/tech/00/03/biztech/articles/28weavers.html>.

The FCC adopted the *Benchmarks Order*⁹ in 1997 in response to concerns about the amount that U.S. carriers were paying foreign carriers to terminate international telephone calls. The *Benchmarks Order* established a cap for the rates – known in the industry as “settlement rates” – that U.S. carriers pay foreign carriers to terminate calls from the U.S. The goals of the *Benchmarks Order* are, among other things, (i) to reduce over time the settlement rates that U.S. carriers pay foreign carriers to terminate traffic, thereby reducing U.S. payments to foreign carriers; (ii) to increase the volume of international traffic; and (iii) to lower the price that U.S. consumers pay for international long distance services.

The *Benchmarks Order* established lower benchmark settlement rates for economically developed countries than for less developed countries. The FCC established four categories of countries based on their level of economic development: high-income, upper-middle income, lower-middle income and low-income.¹⁰ At the time the FCC adopted the *Benchmarks Order*, high-income countries had a per capita income of greater than \$8,956, upper-middle income countries had a per capita income of between \$2,896 and \$8,955, lower-middle income countries had a per capita income of between \$726 and \$2,895, and low-income countries had per capita income less than \$726. There is a separate category for countries with a teledensity,¹¹ or penetration rate, of less than one telephone per hundred inhabitants. Appendix A shows specific country classifications.

To ensure a gradual and smooth transition to the benchmark rates, the FCC adopted five transition periods of one-year intervals in which settlement rates should be reduced to the prescribed benchmark rate. Table 2.1 shows the maximum settlement rates established for each category, as well as the effective date for each.

Table 2.1 Benchmark rates

<i>Category</i>	<i>Benchmark Rate</i>	<i>Implementation Date</i>
Upper Income	\$ 0.15	January 1, 1999
Upper-Middle Income	\$ 0.19	January 1, 2000
Lower-Middle Income	\$ 0.19	January 1, 2001
Low Income	\$ 0.23	January 1, 2002
Teledensity < 1	\$ 0.23	January 1, 2003

⁹ International Settlement Rates, *Report and Order*, 12 FCC Rcd. 19806 (1997) (“*Benchmarks Order*”).

¹⁰ The FCC determined economic development by GNP per capita as defined by a World Bank and ITU classification scheme.

¹¹ “Teledensity” is defined as the number of telephone main lines per 100 inhabitants in a particular country.

As Table 2.1 indicates, the target deadlines for the benchmark rates for upper income, upper-middle income, and lower-middle income countries have already passed. Only the benchmark rates for low-income countries and low-teledensity countries remain in transition.

2.2 The Rates That U.S. Carriers Pay Foreign Carriers To Terminate Traffic Have Decreased Since The FCC Adopted The *Benchmarks Order*.

The rates that U.S. carriers pay foreign carriers to terminate traffic are significantly lower today than they were when the FCC adopted the *Benchmarks Order* in 1997. Table 2.2 shows that settlement rates in all economic categories have steadily declined since 1997.

Table 2.2: Average Consolidated Settlement Rates of the United States (as of December 1, 2000)

<i>Category</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>
High Income	\$0.35	\$0.28	\$0.16	\$0.15
Upper-Middle	\$0.51	\$0.44	\$0.37	\$0.29
Lower-Middle	\$0.68	\$0.61	\$0.51	\$0.45
Low Income	\$0.76	\$0.68	\$0.57	\$0.50
Teledensity <1	\$0.95	\$0.89	\$0.80	\$0.76

Source: IMTS Accounting Rates of the United States, 1995-2000
available at: www.fcc.gov/ib/td/pf/account.html

Another useful indicator to gauge the success of the *Benchmarks Order* is the amount of minutes that are settled at benchmark rates. According to FCC statistics, as of December 1, 2000, over 77 percent of U.S.-outbound switched traffic was terminated at benchmark rate levels. (See Table 2.2.1)

Table 2.2.1: U.S. Traffic Terminated at Benchmark Rates (based on 1999 Traffic Information)

Category	Minutes Terminated at Benchmark Rates	% of All Minutes Terminated
High Income	13,276,953,190	47.11%
Upper-Middle Income	6,177,248,646	21.92%
Lower-Middle Income	2,296,554,958	8.15%
Low Income	51,921,384	0.18%
Teledensity < 1	0	0.00%
		77.35%
Total-Terminated Minutes for All Countries	28,185,345,934	

Source: 1999 Section 43.61 International Telecommunications Data, December 2000. Industry Analysis Division. Common Carrier Bureau. Federal Communications Commission

Moreover, 88 percent of all U.S.-outbound switched traffic terminates in countries that are in the top three income categories that must be at benchmark rates by January 1, 2001. (See Table 2.2.2)

Table 2.2.2: U.S. Outbound Traffic To Be Terminated at Benchmark Rates as of January 1, 2001 (based on 1999 Traffic)

Category	Minutes	%
High Income	13,284,131,991	47.13%
Upper-Middle Income	6,337,764,313	22.49%
Lower-Middle Income	5,275,975,393	18.72%
		88.34%
Total Terminated Minutes for All Countries	28,185,345,934	

Source: 1999 Section 43.61 International Telecommunications Data, December 2000, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission

As the data show, the vast majority of U.S. outbound traffic is already settled at the FCC's prescribed benchmark rates. By comparison, the total U.S. outbound traffic to low-income developing countries is relatively insignificant, accounting for less than 12 percent of the total U.S. outbound traffic.

Perhaps the most significant indicator of the progress that U.S. carriers have made in negotiating lower settlement rates with foreign carriers is the average level of settlement rates weighted by actual traffic patterns. Table 2.2.3 shows that the average settlement rate, weighted by actual traffic, dropped from 32 cents per minute in 1997 to 18 cents per minute in 2000, which represents a decline of 43.4 percent.

Table 2.2.3: Weighted Average Settlement Rates (as of December 1, 2000)

	1997	1998	1999	2000
Average Settlement Rate	\$0.32	\$0.27	\$0.21	\$0.18
Change from 1997		-15.6%	-34.4%	-43.4%

Source: IMTS Accounting Rates of the United States, 1995-2000
available at: www.fcc.gov/ib/td/pf/account.html

These indicators demonstrate that the *Benchmarks Order* has been tremendously successful, and that the FCC's goal of reducing the settlement rates that U.S. carriers pay foreign carriers to terminate traffic has been largely achieved. As a result, strategic application of the benchmark rates to a few low-income developing countries will not materially interfere with the FCC's goal of reducing the settlement rates that U.S. carriers pay foreign carriers.

2.3 Net Settlement Payments By U.S. Carriers to Foreign Carriers Have Decreased and the Amount of International Traffic Has Increased Since The FCC Adopted The *Benchmarks Order*.

The FCC adopted the *Benchmarks Order* in part because net settlement payments by U.S. carriers to foreign carriers grew during the first half of the 1990s. Since then, net settlement payments by U.S. carriers to foreign carriers have decreased by 17.4 percent. This decrease is particularly remarkable because the total amount of international traffic increased by 47 percent during that same time, as Table 2.3 illustrates.

Table 2.3: Shifts in Settlement Payments and Traffic

<i>Year</i>	<i>U.S. IMTS Settlement Payments</i>	<i>% change from prior year</i>	<i>U.S. Billed Minutes for IMTS</i>	<i>% change from prior year</i>
1990	\$2,806,358,295		8,029,740,000	
1991	\$3,399,886,361	21.15%	8,985,797,000	11.91%
1992	\$3,491,804,274	2.70%	10,156,212,000	13.03%
1993	\$3,800,320,218	8.84%	11,392,816,000	12.18%
1994	\$4,452,708,191	17.17%	13,393,191,000	17.56%
1995	\$5,081,176,918	14.11%	15,837,132,000	18.25%
1996	\$5,765,497,692	13.47%	19,119,052,000	20.72%
1997	\$5,552,083,803	- 3.70%	22,586,407,000	18.14%
1998	\$4,922,824,624	-11.33%	24,081,616,242	6.62%
1999	\$4,757,556,971	- 3.36%	28,185,345,934	17.04%

Strategic waiver of the benchmark rates to low-income developing countries should result in further increases in international traffic because the networks in low-income developing countries will be expanded to provide access to more businesses and consumers.

2.4 The Prices of International Calls Have Decreased Since The FCC Adopted The *Benchmarks Order*.

In the three years since the Commission's implementation of the August 1997 *Benchmarks Order*, the prices of international calls have decreased dramatically. In 1996, the year just prior to the *Benchmarks Order*, the average price of an international long distance call originating from the U.S. was 74 cents per minute. By 1998, the average price fell 26 percent to 55 cents per minute.¹² In 1999, carriers billed 51 cents per minute, on average, a decline of 50 percent since

¹² Federal Communications Commission, International Bureau, "Report on International Telecommunications Markets: 1999 Update," DA 00-87, p. 4, January, 2000.

1980.¹³ For example, the average rate of an international long distance call to the United Kingdom fell from 89¢ per minute in 1996¹⁴ to 10¢ per minute in 2001.¹⁵

Targeted waivers on a few international routes will not increase the rates that U.S. businesses and consumers pay for international telephone calls. A waiver would merely maintain the current settlement rate on a few international routes, and therefore it would not result in any upward pressure on U.S. calling rates for those routes. Further, less than 12 percent of all traffic originating in the U.S. terminates in low-income developing countries. As a result, select waivers of the FCC's benchmark rules would have no effect on the downward trend in the calling rates paid by U.S. consumers for the 88 percent of international calls going to high- and middle-income countries.

3. STRATEGIC APPLICATION OF BENCHMARK RATES TO LOW-INCOME DEVELOPING COUNTRIES WILL PROMOTE U.S. INTERESTS WITHOUT UNDERMINING THE *BENCHMARKS ORDER*.

3.1 Network Expansion and Infrastructure Investment Is Crucial To Ensure That Low-Income Developing Countries Participate Fully in the Information Age.

As the world begins the 21st century, communications and information technologies seem capable of generating a new level of global prosperity, which frequently leads to political stability. The recent economic expansion in the U.S. and other developing countries has been enabled in large part by the exponential growth in value that comes when more people and organizations are connected to the global network. The potential of this global network to facilitate prosperity in all nations is enormous. However, the benefits of an information age will not accrue to countries with an inadequate telephone network infrastructure.

A widening gap has emerged in terms of access to information and development of communications infrastructure. Increasingly, this gap has been characterized as the "digital divide," a term popularized by the 1999 study conducted by the National Telecommunications and Information Agency ("NTIA") of the Department of Commerce. This digital divide exists both within and between

¹³ Federal Communications Commission, Industry Analysis Division, Common Carrier Bureau, "Trends in Telephone Service," p. 1-1, December 2000.

¹⁴ See Federal Communications Commission, "Trends in the International Telecommunications Industry" (Sept. 1999), Table 16, *available at*: <http://www.fcc.gov/ccb/stats>. Rate based on 7-minute direct-dialed call placed by residential customers under TrueWorld (sm) Savings plan. Customers of this plan must pay a fixed charge of \$3.00 per month.

¹⁵ See AT&T International Rate Finder, *available at*: <http://www.shop.att.com>. Rate based on direct-dialed international call placed by residential customer under One Rate[®] International Value Plan. Customers of this plan must pay a fixed charge of \$3.00 per month.

countries, and is particularly acute for low-income developing countries. Many low-income developing countries will remain on the losing side of the digital divide unless they are able to obtain the necessary infrastructure for high-tech growth.

The principal barrier to high-tech growth in the developing world is the lack of basic telecommunications infrastructure. Teledensity, which is based on the number of telephone main lines per 100 inhabitants, is the most widely used indicator for penetration of telephone services.¹⁶ As illustrated in Table 3.1, teledensity varies widely between developed and developing countries. Although the average teledensity for the world is 15.21, the distribution varies from over 54 phone lines for every 100 persons in high income countries to less than 1 in poor countries. When considering that the poor countries account for over 57 percent of the world's population, the magnitude of the disparity is even more striking.

With respect to Internet access, the disparities between developed countries and low-income developing countries are just as striking. Various statistics are used to measure Internet access. Because dial-up Internet access requires a telephone line and the personal computer ("PC"), telephone penetration and number of personal computers¹⁷ are key components for determining Internet access, and constitute an upper limit for Internet access. Number of *users* per 10,000 inhabitants provides a basic measure of Internet penetration.¹⁸ Table 4.1 shows that people living in many countries of the world, particularly those in low-income developing countries, lag significantly behind the rest of world in terms of Internet access. For example, the ITU has estimated that among low-income developing countries, there is less than 1 personal computer for every 100 persons. By contrast, there are more than 27 personal computers for every 100 persons in high-income countries. The Internet penetration rate shows similar unevenness. In low-income developing countries, the ITU estimates that only 36 people in every ten thousand use the Internet. By contrast, there are over 1,700 users per ten thousand in high-income countries.

The same can be said for Internet development. The most commonly used indicator to compare Internet development between countries is the number of

¹⁶ See International Telecommunication Union, "Telecommunication Indicators Handbook," 6. A main telephone line is a telephone line connecting the subscriber's terminal equipment to the public switched telephone network and which have a dedicated port on the telephone exchange. Subscribers may share the same line or use extensions from a private extension. Thus, one main line could serve several subscribers. The ITU regularly obtains telephone line data from telecommunication regulatory authorities and carriers.

¹⁷ The ITU compiles its data on personal computers by estimating the stock of personal computers from sales or import data.

¹⁸ ITU data on estimated number of personal computers are derived from surveys conducted over the Internet.

Internet host computers,¹⁹ which represents the number of computers in a nation that are connected to the Internet. As illustrated in Table 3.1, low-income developing countries lag far behind the rest of the world in terms of Internet development. Although there are more than 263 hosts per ten thousand people in rich countries, there is less than 1 host per ten thousand people in poor countries.

Table 3.1: Telecommunications Access Indicators

	% of Population	Main Telephone Lines per 100 Inhabitants (<i>Teledensity</i>)	Hosts per 10,000 Inhabitants	Users per 10,000 Inhabitants	Estimated PCs per 100 Inhabitants
High Income	10.07%	54.84	263.49	1728.52	27.52
Upper-Middle	8.33%	19.47	38.72	418.04	6.25
Lower-Middle	19.30%	12.14	6.46	117.72	2.58
Low Income	44.21%	5.67	0.44	43.46	0.81
Teledensity < 1	13.48%	0.48	0.07	6.53	0.28
United States	4.62%	68.18	1925.13	3982.33	51.05

Source: ITU Telecommunications Indicators, 1999, available at http://www.itu.int/tj/industryoverview/at_glance/basic99.pdf

Based on these statistics, certain conclusions can be drawn about Internet access in developing countries:

- The Internet is available, used and growing in all developing countries, but it is not yet widespread. On average, the low-income developing countries lag behind the rest of the world in all measures of Internet access and usage.
- A major barrier to Internet usage is the poor state of the underlying telecommunications infrastructure. Most people, particularly residential users and non-governmental organizations, currently are dependent on telephone dial-up connections to the Internet, and will remain so for the foreseeable future.
- Teledensity rates in low-income developing countries are low, service quality is often poor, and there are long waiting lists for installation of new telephone lines.

Lack of Internet access significantly magnifies economic disparities. A report by the United Nations²⁰ points out that it takes 5 days and costs \$75 to courier a 40-page document from Madagascar to Cote d'Ivoire, but only takes half an hour and

¹⁹ A host is a domain name that has an IP address record associated with it. This would be any computer system connected to the Internet. The best known survey of Internet hosts is carried out twice a year by Network Wizards for the Internet Software Consortium. Surveys are available on the Internet Software Consortium website at <http://www.isc.org/ds/>.

²⁰ United Nations Development Programme, Human Development Report – 1999 (“UNDP Report”) at 58, available at <http://www.undp.org/hdro/report.html>.

costs \$45 for the same document to be faxed from Madagascar to Cote d'Ivoire. However, the same 40-page document can be sent over the Internet to hundreds of other people throughout the world for less than 20 cents and in only 2 minutes. Low-income developing countries with transitional economies, therefore, must be provided the opportunity to take advantage of the Internet as an economic equalizer.

As the statistics demonstrate, low-income developing countries are not benefiting fully from these technologies. The ability to access the Internet and the information technologies it enables is becoming more crucial each day. Basic transmission capacity is the physical foundation necessary for the operation of Internet services and e-commerce applications, and participation in the digital economies and societies that are rising around the world. It is impossible for low-income developing countries to make any significant use of the Internet's potential if their telecommunications infrastructure remains only partially developed. Therefore, expanding connectivity remains a primary goal for low-income developing countries. However, the building of core telecommunications infrastructures that allow users access to the Internet requires significant financial investment.

3.2 Blanket Application of the Benchmark Rates to Low-Income Developing Countries Will Inhibit Network Expansion and Infrastructure Investment.

There is worldwide recognition that a highly developed telecommunications network plays a crucial role in a country's economic and social development. Countries with developed economies often are able to expand and upgrade their telecommunications networks without relying solely upon subsidies from international settlement revenues. However, low-income developing countries differ substantially from developed countries in their ability to fund network expansion and upgrades, due in part to their level of economic development as well as the size of their domestic markets. It is also more expensive to operate, expand and upgrade telecommunications networks in low-income developing countries than in developed countries. The factors that raise the expense of operating, expanding and upgrading telecommunications networks in low-income developing countries include, among other things, the following:

- The cost of network equipment and line installation, which is significantly higher due to a lack of locally manufactured materials;
- The cost of capital, which is significantly higher for projects in low-income developing countries;
- Low penetration rates, traffic density, and traffic volume, all of which prevent carriers from utilizing facilities efficiently and providing service at output levels that enable them to realize economies of scale and lead to higher costs per subscriber; and
- Challenging geographic and climactic conditions in many low-income developing countries, which result in higher costs per subscriber.

Accordingly, the economies of certain low-income developing countries are unable to fund the expansion and upgrade of their telecommunications networks, whether through subsidies from domestic telecommunications services or taxes. Therefore, certain low-income developing countries rely solely or primarily on revenues from international settlement payments to expand and upgrade their national telecommunications infrastructure and to keep local telephone service affordable in their countries.

The United States has a long history of relying on the revenues from long distance service – including international service – to subsidize network expansion and infrastructure investment through its universal service programs. For decades, the high rates paid by U.S. consumers to call foreign countries were used in part to fund infrastructure development and universal service. Telephone companies in certain low-income developing countries use settlement revenues from international calls for precisely the same purposes.

The philosophy of universal service – dialtone anywhere, at any time, for as many subscribers as possible – is the cornerstone upon which the original telephone network in the U.S. was designed and is still managed. This philosophy enabled the extension of basic telephone service to most Americans and gave the U.S. one of the finest communications systems in the world. Universal service funding mechanisms helped increase telephone penetration in U.S. households from 35 percent in 1920 to over 94 percent in 2000.²¹ Even today, people who call the U.S. from foreign locations, or vice versa, pay U.S. carriers rates for the U.S. portion of the call that are above cost.

The United States is not the only country that relies on universal service mechanisms to fund network expansion and infrastructure investment. Recognizing the need to provide basic telephone service to every household, especially to those living in high-cost rural and low-income areas, certain low-income developing countries have followed the lead of the United States by implementing the concept of universal service as a fundamental policy goal. Cross-subsidies, created by above-cost pricing of long distance, international, and business services have been used to compensate telephone companies that supplied telephone service to these targeted areas.

Certain low-income developing countries that currently rely on settlement revenues to fund network expansion and infrastructure investment will no longer be able to do so after the benchmark rate becomes effective on January 1, 2002. This move away from existing settlement rates will significantly harm the telecommunications markets in these low-income developing countries. The FCC

²¹

See Federal Communications Commission, Common Carrier Bureau, Industry Analysis Division, *Trends in Telephone Service*, 17-5, 17-6, December 2000.

has also recognized the negative effect that benchmark rates can have on low-income developing countries, explaining in the *Benchmarks Order* that:

A negative impact on a country's overall economic welfare from implementation of the benchmark settlement rates can create an indirect, but substantial, effect on a country's telecommunications network.²² [Moreover] a rapid shift to more cost-based rates could also have a short-term impact on telecommunications network development in those limited cases where settlement revenues are a major source of funding for network development. We believe that it is in the best interest of U.S. carriers and consumers to avoid undue disruption of foreign carriers' operations. A well-developed global telecommunications network provides the telecommunications infrastructure necessary to support international commerce and trade.²³

The results of implementing benchmark rates may include, among other things, the following:

- lower quality of service levels, including reduced call completion ratios, which directly affect calls originated by citizens of the United States;
- extension of telephone lines to fewer new subscribers, which limits the number of potential recipients of calls from the United States;
- loss of existing subscribers due to increases in the calling rates in foreign countries necessitated by the end of subsidization, which again affects the ability of U.S. citizens to contact businesses or individuals in the low-income developing country;
- lower traffic volumes from foreign countries into the U.S. as foreign subscribers drop off the network and those who remain on the network call less often, and for shorter periods, due to higher calling rates;
- less investment in telecommunications infrastructure, which reduces the potential calling options for both U.S. and foreign users; and
- less capital available for the purchase of plant, equipment and other materials needed by carriers in low-income developing countries, which negatively impacts U.S. vendors and manufacturers

A rapid shift to benchmark rates will also drastically reduce the hard currency that low-income developing countries receive from international settlement payments, which certain countries need to purchase equipment for network infrastructure expansion. Revenues from domestic services are insufficient to fund equipment purchases and network infrastructure expansion, both because domestic call

²² *Benchmarks Order* at ¶106.

²³ *Id.* at ¶166.

volume is too low and payments for these calls are not made in convertible currency.

In addition to providing hard currently, settlement revenues provide collateral that certain low-income developing countries use to obtain access to capital. This is particularly critical in today's markets where capital is more difficult to obtain on reasonable terms than anytime in the past ten years. Any immediate reduction in settlement revenues will negatively affect the ability of carriers in certain low-income developing countries to obtain the funds necessary to complete infrastructure projects underway or to initiate new projects. Consequently, the loss in settlement revenues that will result from blanket application of the benchmark rates will make it increasingly difficult for carriers in these low-income developing countries to expand and upgrade their telecommunications networks.

3.3 Strategic Application of the Benchmark Rates Will Foster Network Expansion and Infrastructure Investment in Low-Income Developing Countries.

It is both necessary and appropriate for the FCC to grant targeted waivers of the benchmark rates for low-income developing countries because blanket imposition on January 1, 2002 would, among other things, delay the expansion of the network infrastructure and foreclose significant economic opportunities for many U.S. interests, particularly U.S. telecommunications equipment manufacturers. The FCC itself has recognized that waivers of its policies and rules are appropriate in certain circumstances. Generally, FCC rules and policies may be waived for good cause shown,²⁴ and particularly where the facts make strict compliance inconsistent with the public interest.²⁵ Additionally, the FCC may take into account hardship, equity, or more effective implementation of overall policy on an individual basis.²⁶

With respect to the *Benchmarks Order*, the FCC has explained that the implementation of benchmark rates must take into account the impact on lower income countries of moving to more cost-based settlement rates.²⁷ For this reason, the FCC adopted an extended transition period for countries with a significant reliance on net settlement payments like low-income developing countries. However, the FCC also recognized the need to permit specific low-income developing countries and foreign carriers to seek relief from the benchmark rates despite the extended transition plan.

²⁴ See 47 C.F.R. § 1.3.

²⁵ See *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990).

²⁶ See *WAIT Radio*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

²⁷ *Benchmarks Order* at ¶105.

In this case, the policy objectives of the *Benchmarks Order* would not be materially undermined if the FCC refrains from imposing the benchmark rates on a few low-income developing countries on January 1, 2002. Indeed, as explained above, the policy objectives of the *Benchmarks Order* already have been largely achieved. Thus, the substantial benefits that will result from a few targeted waivers of the *Benchmarks Order*, as explained in more detail below, outweigh any potential detriments.

The FCC can ensure that waivers are narrowly targeted to benefit U.S. interests by limiting eligibility only to low-income developing countries and determining on a case-by-case basis whether waiver applicants have demonstrated that they currently use, and will continue to use, settlement revenues to fund network expansion and infrastructure investment. This will create incentives for low-income developing countries and low-teledensity countries to continue using (and in some cases to increase the use of) settlement revenues to expand their communications networks and make infrastructure investments.

Finally, it should be noted that the total commitment, in terms of financial impact, in granting targeted waivers of benchmark rates for certain low-income developing countries would not be burdensome. As an illustrative comparison, the total amount of U.S. net settlement payments made in 1998 to all low-income countries was less than the amount of money paid out in federal universal service fund payments in the U.S. for the same year, which does not include any of the money paid out in state universal fund payments for that year.²⁸

3.4 Network Expansion and Infrastructure Investment in Low-Income Developing Countries Will Create New Markets for the U.S. Communications and IT Industries, Which Benefits the U.S. Economy.

As explained in more detail below, network expansion and infrastructure investment in developing countries will provide enormous direct benefits to the United States, including:

- Increased exports of U.S. manufactured telecommunications equipment and services to supply telephone network infrastructure expansion in low-income developing countries, which directly benefits U.S. manufacturers of telecommunications equipment or providers of telecommunication-related services;
- Increased exports of U.S. manufactured information technology equipment and services to supply Internet expansion in low-income developing countries,

²⁸ In 1998, total U.S. net settlement payments to all of the low-income countries was \$1.114 million. By comparison, the total amount of federal U.S. universal service fund payments in 1998 was \$1.712 million, which does not include state universal service fund payments. See Trends in Telephone Service, December 2000, Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission, *available at*: <http://www.fcc.gov/ccb/stats>.

which directly benefits U.S. manufacturers of IT equipment and providers of IT-related services;

- Increased volume of international calls, which directly benefits U.S. carriers who originate or terminate international calls;
- Increased opportunities for e-commerce, which provide opportunities for U.S. businesses involved in Internet-related technologies and services;
- Increased political and economic stability in the developing countries, which benefits U.S. interests;
- Support for U.S. opposition to Internet charging arrangements; and
- Increased calling options for immigrant populations residing in the United States.

These benefits more than justify targeted waivers of the benchmark rates for low-income developing countries that have either increased their penetration rate or their total infrastructure investment by five percent or more in the previous year.

3.4.1 *Carriers in Developing Countries Will Purchase Equipment Manufactured in the United States as They Expand Their Networks*

The U.S. telecommunications equipment industry has played a critical role in the overall success of the U.S. economy in recent years.²⁹ U.S. production of telecommunications equipment is concentrated in high-technology switching and transmission equipment.³⁰ Computer-telephony integration, the interconnection of computers via the telecommunications network, is one of the fastest growing segments of the telecommunications equipment industry. U.S. companies such as Cisco, Lucent, Nortel Networks and 3Com, which produce information technology and telecommunications equipment, are global leaders in products related to this sector.

Analysis of growth patterns shows the importance of this industry to the U.S. economy. U.S. exports of telecommunications equipment at the end of the third quarter 2000 totaled more than \$20.4 billion, a 23 percent increase over the same period the previous year.³¹ These results were consistent with the first half of 2000 where exports of telecommunications equipment totaled \$13 billion, up 23 percent over the same period in 1999.³² In 1999, total exports of U.S. manufactured telecommunications equipment were \$23 billion, up 11 percent over 1998.³³

²⁹ *USITC Study* at 1-3.

³⁰ *Id.* at v.

³¹ Telecommunications Industry Association, Press Release, January 23, 2001, available at http://www.tiaonline.org/press_releases/.

³² *Id.*

³³ See 1999 TIA Annual Report: *Telecommunications Industry Report*, available at: www.tiaonline.org/pubs/annual_report/tel_ind_rep.cfm.

Expansion of telecommunications networks and demand for information technology in low-income developing countries is necessary to fuel continued growth in this sector. A big factor in the economy's stall during 2000 was a significant drop in business investment.³⁴ It is possible if not likely that over the next few years many U.S. carriers will purchase significantly less telecommunications equipment than they had budgeted due to factors such as retrenching capital markets, scaled-back business plans, difficult market entry, competition for limited resources, and overcapacity in the U.S. market.

Although it is difficult to calculate exactly the extent of overcapacity in the U.S. telecommunications market, the wholesale spot price of bandwidth – which is the price businesses pay to transmit a unit of voice or data across a mile of fiber – has fallen 20 percent since December 2000. Experts predict that the wholesale spot price of bandwidth is likely to fall 50 percent by the end of 2001.³⁵ In part due to this overcapacity, a number of start-up telecommunications firms have experienced difficulties or gone bankrupt, which has made it difficult for even the strongest players to raise additional capital. Experts estimate that large telecommunications carriers, which boosted equipment spending 26 percent in 2000, now expect their equipment budgets to remain unchanged during 2001 and 2002.

The overcapacity in the U.S. telecommunications market and the slowdown in business investment has shocked U.S. telecommunications equipment manufacturers, whose stock prices and business plans were all predicated upon annual growth rates of 25 percent or more.³⁶ In February 2001, Cisco Systems Inc. reported that its sales of Internet hardware and software would fall during the first quarter of 2001, which is the first time since it went public.³⁷ Also in February 2001, Nortel Networks Corp. announced that it was eliminating 10,000 jobs because it expected its sales growth to be zero in the first quarter and 15 percent for the year overall.³⁸

In an effort to counteract the effects of the economic slowdown in the U.S. market, U.S. telecommunications equipment manufacturers like Cisco are searching the world for markets where sales of Internet and telecommunications

³⁴ See Steven Pearlstein, *Drop in Business Investment Big Factor in Economy's Stall*, Wash. Post, February 20, 2001, at A1.

³⁵ *Id.* at A16.

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.*

hardware are expected to remain stable or rise.³⁹ For example, Cisco predicts that Europe will leap across the digital divide over the next five years, buying billions of dollars worth of the Internet equipment that Cisco manufactures.⁴⁰ For companies like Cisco, whose stock fell from about \$80 a share to about \$30 in early 2001, finding the next booming market is vital to restoring its stock to the high values.⁴¹ Therefore, bridging the digital divide around the world, which creates demand for telecommunications and Internet equipment, is crucial to U.S. equipment manufacturers. As the chief executive of Cisco, John Chambers, explained during a conversation at the 2001 World Economic Forum in Davos, Switzerland: “Government leaders now realize that bridging the digital divide, whether we are talking about India, China or Europe, is essential to improving the lives of their people. If you want to double living standards in 15 years instead of 100 years, you need to act fast or the window of opportunity will close very quickly.”⁴²

As the world’s largest producer of telecommunications equipment,⁴³ the U.S. is uniquely positioned to gain from the expansion of telecommunications networks in developing countries. Specific opportunities for U.S. companies include making direct sales to carriers in developing countries seeking:

- Networking equipment, including central office switching and transmission equipment, routers, copper wire and fiber optic cable, and carrier equipment;⁴⁴
- Internet-related technologies and services;
- Security-related technologies;
- Electronic commerce solutions;
- Business applications software;
- Value-added telecommunications services, such as billing systems and call centers; and
- Partnerships with U.S. companies.

³⁹ See William Drozdiak, *Cisco Looks Across the Pond for Profits: Many U.S. firms Expect Europe to Invest Heavily in Internet Hardware*, Wash. Post, February 20, 2001, at E1.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.* at E4.

⁴³ See *Telecommunications Equipment: U.S. Performance in Selected Major Markets* at v (Staff Research Study 24, USITC publication 3150, December 1998) (“*USITC Study*”).

⁴⁴ The central office switch is the telephone company facility where subscribers’ lines are terminated and joined to other switching equipment, enabling local and long distance connections. Transmission equipment is used to transport a signal. Switching equipment selects the path or circuit that the signal will take. Routers are the central office switches of the Internet.

The demand for new technologies resulting from the expansion of telecommunications network infrastructures in these countries also will provide additional opportunities for U.S. companies in the telecommunications equipment and services, and information technologies markets.

3.4.2 *Network Expansion in Developing Countries Will Generate More Communications Traffic to and from the United States*

U.S. carriers generate revenues from international traffic regardless whether the call originates or terminates in the United States. When a call originates in the United States, the U.S. carrier collects payment for the call from its own customer. When a call terminates in the United States, the U.S. carrier collects payment for the call from the foreign carrier, who in turn receives payment from its customer. Thus, any increase in international traffic benefits U.S. carriers.

One way to increase the volume of international traffic on routes to low-income developing countries is to expand the network infrastructure in those low-income developing countries. Expanding networks and increasing infrastructure investment in low-income developing countries is a more effective strategy to increase international traffic volume to those countries than lowering settlement rates. Lowering settlement rates can prevent network expansion without increasing the quantity of callers who can initiate or receive phone calls in the low-income developing country. Further, if lower settlement rates result in an increase in calls to the foreign country, the result may be lower call completion ratios as the foreign telephone network will not be expanded to match demand and many customers will receive fast-busy signals as their calls fail to be completed. By contrast, expanding networks and increasing infrastructure investment increases the quantity of callers who can initiate or receive phone calls in the low-income developing country. Table 3.4.2 illustrates how network infrastructure expansion in low-income developing countries will increase international traffic.

Table 3.4.2: Impact of Infrastructure Expansion on International Traffic

Country	<i>Teledensity</i>			<i>Minutes</i>		
	1998	1999	% change	1998	1999	% change
Egypt	6.02	6.97	15.78%	111,272,589	169,092,091	51.96%
Gambia	2.08	2.30	10.58%	7,624,114	9,366,890	22.86%
Georgia	11.55	12.31	6.58%	4,721,431	8,328,666	76.40%
Guyana	7.05	7.43	6.24%	46,627,724	56,700,095	21.60%
Honduras	3.99	4.42	10.78%	141,603,565	168,054,550	18.68%
India	2.20	2.66	20.91%	749,696,041	960,125,187	28.07%
Sri Lanka	2.84	3.64	28.17%	20,755,094	28,855,457	39.03%

The U.S. should facilitate network expansion and infrastructure investment in low-income developing countries in order to increase international traffic volume, and thus the revenues of U.S. international carriers.

3.4.3 *Network Expansion in Low-Income Developing Countries Will Lead To Increased Opportunities for e-Commerce*

There can be no doubt that the Internet is transforming the way the world's economies function and facilitating the participation of low-income developing countries in the global economy. Electronic commerce is a major contributor to economic development, trade and growth for developing as well as developed countries alike.

The Internet allows businesses from low-income developing nations to leap into the developed world because conducting electronic commerce activities over the Internet enables businesses to sell goods and services directly to their customers. Electronic commerce revolutionizes trade in services by lowering transaction costs dramatically and facilitating new types of commercial transactions. Using the Internet allows even the smallest companies to achieve a global presence and to conduct business worldwide. For example, two indigenous women living in a remote village of Guyana revived the ancient art of hand-weaving large hammocks from locally grown cotton, formed the Rupununi Weavers Society and established a web site to sell their products around the world.⁴⁵ In their first year, they sold 17 hammocks around the world for as much as \$1,000 a piece. This profit is remarkable considering that the per capita income in Guyana is less than \$726, and that their village had no phones two years before this undertaking.

In 1991, the Internet had less than 3 million users around the world and its application to e-commerce was non-existent. By 1999, an estimated 250 million users accessed the Internet and approximately one quarter of them made purchases online from electronic commerce sites, worth approximately \$110 billion.⁴⁶

In the next few years, a growing share of the world population will become customers or suppliers of any firm or individual who can connect to modern information infrastructures and benefit from modern technology-facilitated international trade. At this time, however, approximately 90 percent of Internet users are in high income countries, which account for just under 15 percent of the world population. Therefore, almost 85 percent of the world's population represents an untapped market that cannot be served at this time using e-commerce techniques.

⁴⁵ Simon Romero, *Weavers Go Dot-Com, and Elders Move In*, N.Y. TIMES, Mar. 28, 2000, available at: <http://www.nytimes.com/library/tech/00/03/biztech/articles/28weavers.html>.

⁴⁶ Organization for Economic Co-operation and Development, "E-Commerce: Impacts and Policy Challenges" at 3, Economics Department Working Papers No. 252, June 2000.

As one of the world's largest providers of e-commerce related services, the U.S. is uniquely positioned to gain from the expansion of telecommunications networks in low-income developing countries. U.S. companies will benefit from providing advice and services to merchants located in low-income developing countries who want to exploit e-commerce opportunities. Likewise, U.S. merchants using e-commerce techniques will benefit from selling to consumers located in low-income developing countries who can now purchase goods over the Internet.

3.5 Network Expansion and Infrastructure Investment in Low-Income Developing Countries Will Further Significant U.S. Policies, Including Promoting the Development of the Internet.

In addition to creating significant opportunities for the U.S. communications and IT industries, targeted waivers would further significant U.S. objectives. For example, in adopting the 1996 Act, Congress established a clear national policy to "promote the continued development of the Internet" and "to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services unfettered by Federal or State regulation."⁴⁷ The FCC would promote the continued development of the Internet by lifting Federal price regulation that interferes with further network expansion and infrastructure investment.

3.5.1 *Expanded Internet Access in Developing Countries Will Promote Political and Economic Stability*

The Internet is dramatically reshaping world economies and societies. It has enormous potential to promote economic growth, social development and expand democratic values. The Internet offers the promise of an information society in which the patterns of civil society are redrawn and borders are rendered meaningless as people build virtual communities for work, learning and socializing across traditional boundaries of time and place. In short, the Internet provides a way to level the playing field and reduce the traditional disadvantages of the developing world by improving economic productivity, education, health care, entertainment and awareness of the world.

The Internet presents numerous opportunities to increase the efficiency and equity of government services and to improve the lives of the poorest. The Internet also facilitates the delivery of basic services, such as health and education, which are unevenly distributed at present. Developing nations are well aware that meeting basic human needs, such as health and education, is not only essential to the well-being of their population, but also a prerequisite to any economic development effort. Education and training are primary determinants of a country's prospect for economic and human development and international competitiveness. In fact, level of education is one of the single most important factors to explain high

⁴⁷ 47 U.S.C. § 230(b)(1)-(2).

economic growth. The Internet can make it easier to deliver education, skills training and lifelong learning to a broader segment of the population.

The Internet is far from achieving its potential reach and impact, and there are concerns that the digital divide is growing as the pace of change accelerates. Without adequate infrastructure, access to the Internet is impossible. A shortage of infrastructure, notably telephone lines, is a huge obstacle to increasing Internet access in developing countries.

If the Internet is available to only a few, its democratizing and user empowerment potential will never be achieved. Policymakers, both at the national and international levels, together with service providers and other entities operating the Internet have a shared obligation to seek ways to achieve the widespread use of the Internet. Those who support the Internet's power as a medium uniquely suited to building open societies must ensure that Internet access is widely available.

3.5.2 *Grant of Limited Waivers Demonstrates Support for U.S. Position Against Internet Charging Arrangements for Internet Services ("ICAIS")*

Unlike the public switched telephone network, the Internet is an amorphous collection of small and large networks—a “network of networks”—based upon a common set of protocols. Internet Service Providers (“ISPs”) from across the globe must connect to the Internet's major network access points (“NAPs”), most of which are in the U.S.

In sharp contrast to the settlement regime for telecommunications services, the settlement regime that has emerged for Internet services is for larger backbone carriers to “peer” among themselves: to exchange traffic without charge as long as their traffic volumes are comparable. A peer-to-peer bilateral arrangement is a sender-keep-all system with an expectation of rough traffic symmetry, where the backbone carriers have the same size, experience, technology and customer base.

As Internet usage exploded, market forces transformed the open peering policy that existed among backbone providers into a regime of private interconnection agreements and pricing systems based on such factors as traffic volume, number of interconnection points accessible to an ISP and bandwidth used by the ISP. These interconnection arrangements created a hierarchy among backbone carriers. Top level providers with Internet backbone facilities, otherwise known as Tier-1 carriers, have been selective in choosing partners with whom they are peering.

In the international arena, true peering between foreign and U.S. backbone carriers no longer exists. Rather than utilizing a cost-sharing approach similar to the “half-circuit” concept that is used for traditional telephone traffic carried over international public switched telephone network facilities, U.S. carriers require foreign carriers to connect at NAPs in the U.S. As a result, foreign carriers must

bear the cost of the whole international circuit to the interconnection point in the U.S. The rationale behind this regime is that since most Internet subscribers seek access to web sites that are U.S.-based, the carrier that provides such access should bear the full cost. This system, which reflects the allocation of all costs to the foreign carriers, underlies the current debate in several different international bodies over Internet charging arrangements.

The allocation of costs for Internet traffic has increasingly become the focus of examination before several international organizations, including the Asia Pacific Economic Cooperative (“APEC”) and the ITU, because some carriers have failed to secure what they consider suitable resolution in the context of commercial negotiations between carriers. These organizations have established working groups to study the issue and to propose that certain conditions be imposed on charging arrangements to address perceived inequities.

As a general matter, non-U.S. carriers and governments support the adoption of internationally regulated charging arrangements, claiming that the current Internet pricing scheme is in principle unfair. They argue that some portion of the cost of the international lines should be borne by U.S. carriers, and in turn, U.S. Internet users.

The U.S. government and U.S. carriers, along with Greece, claim that the Internet works according to free market principles, *i.e.*, commercially negotiated private contracts, and that the situation complained about results from natural advantages and the absence of anti-competitive behavior. Further, government imposed conditions on Internet charging arrangements is potentially detrimental to the growth and functioning of the Internet. Since the current international Internet is operating in a competitive market, unhampered by governmental regulation, there is no basis for government intervention at this time. Any required changes to these commercial arrangements will be worked out most quickly and efficiently if the Internet is left unhampered by government regulation.

Foreign governments and carriers have been critical of the U.S. government for these arguments. For example, they point out that the *Benchmarks Order* itself interferes with market forces, and its application will deprive many countries of the revenues they need to build out their Internet infrastructure.

During the past year, the position of the foreign governments and carriers has gained momentum before international organizations, and proposals for internationally regulated charging arrangements are now widely supported. At this time, only the U.S. and Greece stand firmly opposed to internationally regulated charging arrangements. The most immediate and direct result from the imposition of internationally imposed conditions on charging arrangements would be increased cost, perhaps substantially, to U.S. consumers and businesses for Internet access.

Adopting a flexible approach when imposing benchmark rates on low-income countries is clear evidence that the U.S. supports expansion of the Internet in low-income countries and that methods other than settlement type regimes can be used to promote the expansion and development of the Internet throughout the world. Granting targeted waivers of the benchmark rates could generate additional support for the U.S. position against ICAIS.

3.5.3 *Network Expansion in Low-Income Developing Countries Will Benefit Immigrants Living in the United States*

Targeted waivers would provide benefits to certain immigrant populations residing in the United States. Many people have left their home countries to seek work or education in the United States. Substantial numbers of immigrants reside in the United States from developing countries, including India, Vietnam, and Guyana. The influence of family ties on the calling patterns of these people should be anticipated.

According to INS statistics, the top ten states with immigrant populations are: California, New York, Texas, Florida, New Jersey, Illinois, Massachusetts, Virginia, Maryland and Washington.⁴⁸ These populations have the money and willingness to call friends and relatives in their home countries, but are limited by the infrastructure in the foreign country. These people can be expected to generate significant volumes of calling traffic. The waiver approach would allow these callers, many of whom are now U.S. citizens, to keep in touch with their home country.

4. CONCLUSION

The goals of the *Benchmarks Order* have already been achieved. Blanket application of benchmark rates to low-income developing countries will not result in furthering these goals, but rather may actually undermine the *Benchmarks Order* in specific cases. Strategic application of the benchmark rates through targeted waivers will promote U.S. interests by fostering network expansion and infrastructure investment. The FCC can ensure that waivers are narrowly targeted to benefit U.S. interests by limiting eligibility only to low-income developing countries that can meet specific criteria to show that they are using, and will continue to use, settlement revenues for infrastructure investment. This will create incentives for developing countries to expand their communications networks and make infrastructure investments, which will create opportunities for the U.S. communications and IT industries.

⁴⁸

See Immigration and Naturalization website at:
<http://www.ins.usdoj.gov/graphics/aboutins/statistics/310.htm>.

Appendix A: FCC Classification of Countries

<i>High Income</i> > \$8,956	<i>Upper-Middle Income</i> \$2,896-\$8,955	<i>Lower-Middle Income</i> \$726-\$2,895	<i>Low Income</i> < \$726	<i>Teledensity <1</i>
Andorra	Antigua & Barbuda	Algeria	Albania	Afghanistan
Aruba	Argentina	Belarus	Armenia	Angola
Australia	Bahrain	Belize	Azerbaijan	Bangladesh
Austria	Barbados	Bolivia	Bosnia	Benin
Bahamas	Brazil	Botswana	China	Bhutan
Belgium	Chile	Bulgaria	Egypt	Burkina Faso
Bermuda	Czech Republic	Cape Verde	Gambia	Burundi
Brunei	French Guiana	Columbia	Georgia	Cambodia
Canada	Gabon	Costa Rica	Guyana	Cameroon
Cayman Islands	Greece	Croatia	Honduras	Central African Rep.
Channel Islands	Guadeloupe	Cuba	India	Chad
Cyprus	Hungary	Djibouti	Krygyz Republic	Comoros
Denmark	Isle of Man	Dominica	Mongolia	Congo, Dem. Rep.
Faroe Islands	Korea, Republic	Dominican Republic	Nicaragua	Congo, Rep.
Finland	Libya	Ecuador	Pakistan	Cote d'Ivoire
France	Malaysia	El Salvador	Sao Tome & Principia	Equatorial Guinea
French Polynesia	Malta	Estonia	Sri Lanka	Eritrea
Germany	Martinique	Fiji	Tajikistan	Ethiopia
Greenland	Mauritius	Grenada	Vietnam	Ghana
Hong Kong	Mayotte	Guatemala	Yemen	Guinea
Iceland	Mexico	Indonesia	Zimbabwe	Guinea-Bissau
Ireland	New Caledonia	Iran		Haiti
Israel	Oman	Iraq		Kenya
Italy	Reunion	Jamaica		Laos
Japan	Saudi Arabia	Jordan		Lesotho
Jersey	Seychelles	Kazakstan		Liberia
Kuwait	Slovenia	Kiribati		Madagascar
Liechtenstein	South Africa	Korea, DPR		Malawi
Luxembourg	St. Kitts & Nevis	Latvia		Mali
Macao	St. Lucia	Lebanon		Mauritania
Monaco	Trinidad & Tobago	Lithuania		Mozambique
Neth. Antilles	Uruguay	Macedonia, FYR		Myanmar
Netherlands		Maldives		Nepal
New Zealand		Micronesia		Niger
Norway		Moldova		Nigeria
Portugal		Morocco		Rwanda
Qatar		Namibia		Senegal
Singapore		Panama		Sierra Leone
Spain		Papua New Guinea		Somalia
Sweden		Paraguay		Sudan
Switzerland		Peru		Tanzania
Taiwan		Philippines		Togo
United Arab Emirates		Poland		Uganda
United Kingdom		Romania		Zambia
		Russian Federation		
		Slovak Republic		
		St. Vincent		
		Suriname		
		Swaziland		
		Syria		
		Thailand		
		Tonga		
		Tunisia		
		Turkey		
		Turkmenistan		
		Ukraine		
		Uzbekistan		
		Vanuatu		
		Venezuela		
		West Bank & Gaza		
		Western Samoa		
		Yugoslavia		

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
International Settlement Rates)	IB Docket No. 96-261
)	
To The Commission:		

AFFIDAVIT OF CORNELIUS B. PRIOR, JR.

1. My name is Cornelius B. Prior, Jr. I am Chairman, Chief Executive Officer and Secretary of Atlantic Tele-Network, Inc. ("ATN"), with offices at #19 Estate Thomas, Havensight, St. Thomas, VI 00802. ATN is a Delaware corporation with a majority ownership interest in several entities providing telecommunications services in the Caribbean. Among those entities is Guyana Telephone & Telegraph Ltd. ("GT&T"), which terminates international telephone calls from the United States to Guyana. I am Chairman of GT&T.

2. To date, GT&T has invested more than \$US140 million to expand and improve the Guyanese telecommunications network. GT&T has purchased new telecommunications equipment primarily from U.S. equipment manufacturers.

3. GT&T is heavily dependent upon settlement payment revenues to fund telecommunications infrastructure development and to provide universal service in Guyana. For the first eight years of GT&T's existence, GT&T paid no dividends because 100 percent of GT&T's earnings were reinvested to expand and improve the Guyanese telecommunications network.

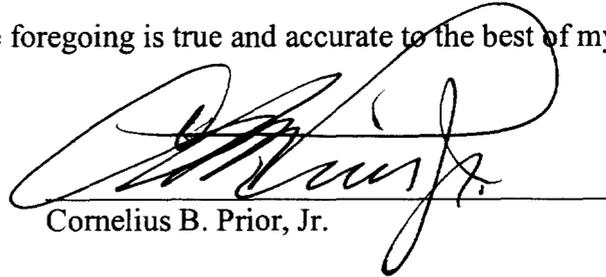
4. GT&T's business plan calls for the continued use of revenues from settlement payments as a major funding source to expand and upgrade the telecommunications network and to provide universal service. Over the past decade, GT&T has used revenues from settlement payments to increase teledensity from under two in 1991, when Guyana was considered to be one of the countries with the worst telecommunications infrastructures in the Caribbean and Latin America, to slightly over 10 today. Although GT&T has accomplished much in ten years, much more remains to be completed before Guyana reaches a teledensity of 23, which is the average teledensity figure for the Caribbean region. GT&T must continue to rely on revenues from settlement payments in order to move forward with its universal service and network expansion plans.

5. The rapid shift from the current commercially negotiated settlement rate to the benchmark rate of \$0.23 per minute would cause significant harm to telecommunications network development in Guyana. Such harm would include the denial of telecommunications access to significant numbers of new subscribers, lower quality of service levels, and less capital available for the purchase of plant, equipment and other materials. Harm to Guyana's telecommunications market would make Guyana less able to participate in international commerce and trade.

6. GT&T estimates that it would lose upwards from US\$30 million in settlement revenues per year if the FCC imposes the proposed settlement rate benchmark upon the U.S.-Guyana route. In order to recoup those lost revenues, GT&T would have to increase domestic rates by at least 1,000 percent.

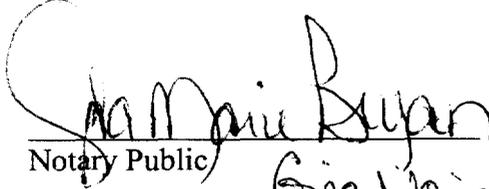
7. I have read the attached "Petition for Waiver of the Benchmark Settlement Rates for Guyana" and declare that the facts and statements contained therein are true and accurate to the best of my knowledge and belief.

I declare under penalty of perjury that the foregoing is true and accurate to the best of my knowledge and belief.



Cornelius B. Prior, Jr.

Dated: July 5, 2001



Gina Marie Bryan

Notary Public

Gina Marie Bryan
My Commission Expires 6/24/05
NP-062-01

CERTIFICATE OF SERVICE

I, Theresa A. Baum, hereby certify that on this 6th day of July 2001, I served
copies of the foregoing by hand-delivery upon the following:

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Rebecca Arbogast, Chief
Telecommunications Division
International Bureau
Federal Communications Commission
445 12th Street, SW
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Kathryn O'Brien, Deputy Chief
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Theresa A. Baum

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