Connecting the World: The Development of the Global Information Infrastructure

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I. INTRODUCTION

In 1844, the first message was sent over a telegraph line between Washington and Baltimore.[1] By 1855, people communicating over long distances commonly used telegraphy.[2] As a result, international alliances became important means of creating international telecommunications networks.[3] For example, in 1865, twenty European states signed the first International Telegraph Convention establishing a multinational communications network.[4] The International Telecommunication Union ("ITU" or "Union") was created to make subsequent amendments to this initial agreement.[5] Since 1947, the ITU has been a specialized agency of the United Nations.[6] Today, the ITU carries out its mission to support the rapidly changing telecommunications environment.[7] In the past 130 years, the membership of the Union has increased nine-fold, as countries have sought to streamline, coordinate, and regulate telecommunications on an international basis.[8]

Although telecommunications technology has become more advanced, many developing countries still do not have access to basic telephonic services. Consequently, the international telecommunications

1. *See* Int'l Telecomm. Union, *ITU's History*, *at* http://www.itu.int/aboutitu/history/history.html (last visited Jan. 25, 2001) [hereinafter *ITU's History*].

2. *Id.*

3. *Id.* "Telecommunication" is defined as "1. [a]ny transmission, emission, or reception of signs, signals, writing, images and sounds or intelligence [and/or information] of any nature by wire, radio, optical or other electromagnetic systems." Gen. Servs. Admin. Info. Technology Serv., TELECOMMUNICATIONS: GLOSSARY OF TELECOMMUNICATION TERMS, FEDERAL STANDARD 1037C, *at* http://glossary.its.bldrdoc.gov/fs-1037/dir-036/_5348.htm (last visited Jan. 25, 2001) [hereinafter TELECOMMS. GLOSSARY].

4. *ITU's History*, *supra* note 1.

5. *Id.* The ITU originated as the International Telegraph Union. *Id.*

6. *Id*.

7. *Id*.

8. *Id*.

community established the Telecommunications Development Bureau ("BDT"), a division of the ITU[9] designed to further cultivate telecommunications and information technologies available in developing countries.[10] The ITU also seeks to evolve and adapt to the rapidly changing telecommunications environment by establishing committees to deal with technological advances and by partnering with other non-governmental organizations ("NGOs") to achieve its goal of universal telecommunications access.[11]

The ITU established the ITU Regulatory Colloquium in 1993 to utilize the knowledge of the foremost experts in fields such as technological development, economics, and public policy in an effort to achieve universal access.[12] The Regulatory Colloquium seeks the expansion and the optimum level of regulatory oversight of telecommunications services worldwide.[13] By partnering with leading experts in the telecommunications industry, the Regulatory Colloquium strives to develop the best regulatory policies for its member states.[14] As a result, it has enabled the ITU to lead the world's development and implementation of new policies and regulations for universal access.[15] The Colloquium performs its mission by producing "reports, analyses and recommendations on issues common to national regulators around the world."[16] In 1998, the ITU published the *Chairman's Report of the Eighth Regulatory Colloquium*,[17] which focused on the goals of facilitating e-commerce, developing a modern information infrastructure, and achieving universal access.[18] The *Chairman's Report* also reviewed and analyzed the desired means to achieve the goals it set and the roles that the ITU, its member governments, and other NGOs should play to achieve the goals set forth in the report.[19]

Innovation and development provide the foundation for the advancement of a global society. The telecommunications industry has

9. *See ITU's History*, *supra* note 1.

10. *Id*.

11. *Id*.

12. ITU, TELECOMMUNICATIONS REGULATORY ISSUES FOR ELECTRONIC COMMERCE: CHAIRMAN'S REPORT OF THE EIGHTH REGULATORY COLLOQUIUM 5 (1998) (preface by ITU's Secretary-General Yoshio Utsumi), *available at* http://www.itu.int/itudoc/osg/colloq/chai_rep/eigthcol/eightcol.pdf (last visited Jan. 25, 2001) [hereinafter CHAIRMAN'S REPORT].

13. *Id*. at 12-13.

14. *Id*. at 5.

15. *Id*.

16. *Id*.

17. *Id*.

18. *Id*. at 6, 19, 23.

19. *Id*.

always existed at the center of progress because communications technology affects the ability to communicate with one another, as well as the ability to transact business in a more efficient manner. To keep pace with the growing world market, the development of the Global Information Infrastructure ("GII") must occur so that every person in every nation has access to telecommunications services and information technology. The ultimate goal is universal access to basic telephone and Internet services, as well as access to the information superhighway's cyber-market. Only by developing and completing the GII can the global community achieve this goal.

The GII will act as an "information superhighway," connecting every town, city, and locality of every nation in the world.[20] The development of the GII must utilize local, regional, and national computer networks that combine to form a distributed, parallel computer.[21] Because of developing countries' varying levels of existing telecommunications infrastructure, the GII must expand to include satellite and cable technology as necessary elements to its development. If developed correctly, the GII will transform the concept of a global community into a reality.[22]

This Note analyzes and summarizes the *Chairman's Report* and *Briefing Report* of the Eighth Regulatory Colloquium released by the ITU on regulatory issues for e-commerce. The *Chairman's Report* establishes that an organization such as the ITU must develop and maintain uniform laws and standards for the cyber-market. A uniform body of law will promote consistency and predictability when people and businesses engage in transactions via the Internet. This Note attempts to answer several questions: (1) How should regulators and private businesses facilitate e-commerce at the international level? (2) What components are necessary to achieve a truly global information infrastructure? and (3) What global standards should be established to address the need for regulation while allowing free-market forces to work? Part II discusses the international agencies that play roles in the development of the GII. Part III addresses the feasibility of universal access given the number of developing nations currently without basic telecommunications networks. Part IV describes the regulatory issues affecting the development of the GII. Part V discusses possible ways to implement and regulate the GII. Part VI examines the feasibility of the suggested implementation methods, and Part VII

20. Vice President Al Gore, Remarks at the World Telecommunication Development Conference in Buenos Aires (Mar. 21, 1994), *available at* http://www.itu.int/itudoc/itu-d/wtdc/wtdc1994/speech/gore.html.

21. *Id.*

22. *See id.*

concludes by suggesting the ideal way to implement and regulate the GII.

II. INTERNATIONAL AGENCIES INVOLVED IN THE DEVELOPMENT OF THE GII

In addition to the work of the ITU, several other organizations have contributed to the development of the GII. For example, the Organization for Economic Co-operation and Development ("OECD") plays a leading role among international institutions dealing with e-commerce policy development and analysis, as well as the advancement of telecommunications infrastructure in developing countries.[23] The World Trade Organization ("WTO") also plays a significant role in the e-commerce policies of its member states and in the development of the GII.[24]

Other agencies, such as the Federal Communications Commission ("FCC") in the United States, the European Union ("EU"), and the Asia-Pacific Economic Cooperation ("APEC"), as well as several North and South American countries that border the Pacific and trade in that region, also participate in initiatives to review e-commerce in relation to the trade and economic development objectives of their economies.[25] All of the groups concur that the development of a world cyber-market in which e-commerce thrives depends on the existence of the GII.[26] Each organization has its own approach to solving the problem of global connectivity. Although many international organizations have been and continue to be instrumental to the development of the GII, the following sections focus only on what the OECD and WTO are doing to ensure that universal access becomes a reality.

A. The OECD

The OECD provides its thirty member states with a forum to come together and develop policies designed to benefit the world economy through the cross-pollenization of their different ideas and experiences.[27] When governments share ideas, each benefits by gaining the others' perspectives, which leads to more informed decisions about potential policies and regulations to adopt in its own country. In this exchange, a

23. DAVID N. TOWNSEND, BRIEFING REPORT ON TELECOMMUNICATIONS REGULATORY ISSUES FOR ELECTRONIC COMMERCE 45 (1999) [hereinafter BRIEFING REPORT].

24. *Id.* at 47.

25. *Id*. at 45-47.

26. *See id.*

27. OECD, *About OECD: What is OECD, at* http://www.oecd.org/about/general/index.htm (last visited Jan. 25, 2001) [hereinafter *About OECD*].

country can learn from the information and experiences of other countries' governments.[28] Also beneficial is that the OECD encourages the adoption and implementation of public policy in a uniform manner through international treaties, as opposed to all thirty members having different policies with respect to common issues such as telecommunications access and e-commerce.[29] Currently, the OECD's member states produce about two-thirds of the world's goods and services.[30] Moreover, the OECD continues to admit member countries, limited only to nations committed "to a market economy and a pluralistic democracy."[31]

To further its goal of creating a global cyber-market, the OECD has hosted major international telecommunications conferences. The first conference occurred in 1997, in Turku, Finland, and the most recent event was the Ministerial Conference in 1998, in Ottawa, Canada.[32] "The theme of the Turku Conference was 'Dismantling the Barriers to Global Electronic Commerce.'"[33] The participants in the conference addressed such topics as "(1) access to and use of infrastructure; (2) building user and consumer trust; (3) minimizing regulatory uncertainty; and (4) easing logistical problems."[34] The subsequent Ottawa Conference was titled "The Borderless World: Realising the Potential of Global Electronic Commerce."[35] The OECD intended the Ottawa Conference to follow up Turku by setting telecommunications policies and establishing technological benchmarks for its members to strive to achieve in the future.[36]

B. The WTO's Basic Telecom Services Agreement and Declaration on E-Commerce

Like the OECD, the WTO's main goal is an open electronic market where competition can flourish. In 1998, the WTO ratified the Basic Telecom Agreement ("Agreement"), which encompassed "various degrees

28. *Id.*
29. *Id*.
30. *Id*.
31. *Id.* OECD Member States include: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, The Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States. OECD, *About OECD Membership*, *at* http://www.oecd.org/about/general/member-countries.htm (last visited Jan. 25, 2001).
32. BRIEFING REPORT, *supra* note 23, at 45.
33. *Id.*
34. *Id.*
35. *Id.*
36. *Id.*

of liberalized access."[37] The result of the passage of the Agreement was "corporate realignment, multinational expansion, and private international infrastructure investment."[38] The Agreement has been described as a "watershed event," because it resolved the proper regulation of the telecommunications sector, and mandated regulation of the electronic marketplace for the successful implementation of a "modern" information infrastructure.[39]

In March 1998, the WTO Secretariat conducted a study called *Electronic Commerce and the Role of WTO*, in which the WTO found that e-commerce falls under the umbrella "of WTO in terms of (1) access to the Internet; (2) market access issues; (3) trade liberalization under the GATS; (4) trade facilitation; (5) public procurement; (6) intellectual property rights . . . ; and (7) certain regulatory issues."[40] The study emphasized the trade policy aspect of access to infrastructure by stating the importance of efficient, affordable supply of essential raw materials to conduct e-commerce.[41] The study also detailed the progress of the WTO "in opening up and promoting competition in markets for basic telecom services and information technology products."[42]

In May 1998, the WTO took its first e-commerce action, in the form of a ministerial decision by the 132 members, approving a "Declaration on E-Commerce" ("Declaration"), which supported not imposing "custom duties" on electronic transmissions.[43] The Declaration established a program to study the relationship between international trade and e-commerce, as well as the effects of the expansion of e-commerce on developing nations.[44]

In September 1998, another Ministerial Conference took place to

37. Aileen A. Pisciotta, *Regulation of International Communications in the Age of the Internet: Lagging Behind the Future*, 33 INT'L LAW 367, 367 nn.1-2 (1999). The signatories to the Fourth Protocol to the General Agreement on Trade in Services were: "Australia, Austria, Belgium, Germany, Guatemala, Iceland, Italy, Japan, Mexico, The Netherlands, Norway, Philippines, Spain, Sweden, Switzerland, the United Kingdom, and the United States." *Id.* at 367 n.2; *see also* Dr. Pekka Tarjanne, *The changing international telecommunications environment: The view from 2008*, *at* http://www.itu.int/it/papers/Honolulu/ptc98.htm (last visited Jan. 16, 2001); KELLEY, DRYE & WARREN L.L.P., THE WTO AGREEMENT: A COUNTRY-BY-COUNTRY GUIDE TO COMMITMENTS (1998).

38. Pisciotta, *supra* note 37, at 367.

39. *Id.* at 377.

40. BRIEFING REPORT, *supra* note 23, at 47-48.

41. *Id.* at 48.

42. *Id.* "Access to telecommunications is not defined in detail, yet it is clear that provision of data services under reasonable tariffs, interconnection policy and relevant technical aspects are involved." *Id.*

43. *Id.* at 47.

44. *Id.*

review the work of internal WTO councils and to get information from private organizations and other intergovernmental bodies.[45] Today, the WTO continues to play an active role in the development of the GII and the expansion of e-commerce to facilitate the economic growth of its member states. International initiatives, such as those organized by the OECD and WTO, play a vital part in the development of the GII because they bring the resources and technology to their members.

III. GLOBAL UNIVERSAL ACCESS

"Universal access" has been defined as "[a]ll urban households with telephone, all localities with public telephone."[46] To fully describe this type of access, the term "global" should be defined as every city, township, locality, and village in the world, irrespective of the development of the nation in question. As the ITU Executive Summary on Universal Access points out, "a practical definition, based on the socio-economic situation of each country" is necessary to "enforce progress towards universal access."[47] Moreover, the term "global" must include all nations, developed or not, to achieve the goal of a global network. In addition, the term "access to telecommunications services" must relate to the community in which the services are being rendered.

Fortunately, the term "global" actually is being interpreted to mean every nation in the world. For example, in August 1999, former FCC Chairman William E. Kennard addressed the Telecommunications Regulators Association of Southern Africa ("TRASA") about the development of the GII.[48] He stated that the United States recognized that "[it] cannot continue [its] own prosperity if [it does] not lift the level of

45. *Id.*

46. ITU, WORLD TELECOMMUNICATION DEVELOPMENT REPORT 1998: UNIVERSAL ACCESS 15 (4th ed. 1998) [hereinafter DEVELOPMENT REPORT].

47. *Id.* at 14-15. The Report sets out goals the ITU hopes to achieve before 2010 for universal access for developing low-income countries, excluding China, and developed nations' penetration rates. *Id.* In countries throughout Africa, the ITU is partnering with other organizations to bring telecommunications services to developing nations. *Integrated Rural Development and Universal Access: Brief Description of ITU's Buenos Aires Plan Programs Nos. 9 & 12*, *at* http://www.itu.int/ITU-D-UniversalAccess/reports/Ppstatus 981016.htm (last visited Jan. 25, 2001) [hereinafter *ITU's Buenos Aires Plan*]. For example, in Uganda, the ITU partnered with international organizations such as UNESCO/DANIDA, the IDRC, British countries, as well as organizations in Uganda. *Id.* The joint venture has resulted in the operation of a "telecommunication link to Nakaseke" and one functioning Multipurpose Community Telecentre ("MCT"). *Id.* The project aims to establish five operational MCTs in Uganda. *Id*.

48. *See* FCC Chairman William E. Kennard, Address Before the Annual Gen. Meeting of the Telecomms. Regulators Ass'n of S. Africa in Gaborone, Botswana, Aug. 11, 1999, *available at* 1999 LEXIS 3862 [hereinafter Kennard Address].

prosperity of the entire world."[49] The ITU's March 1998 Universal Access Executive Summary stated a hope that "by the early part of the next century virtually the whole of mankind should be brought within easy reach of a telephone."[50]

In its *Development Report*, the ITU stated that it is working to make global universal access a reality, and has engaged in joint initiatives to accomplish its goal.[51] Because of the enormous costs of developing a telecommunications infrastructure, few countries have achieved universal access within their own borders.[52] The costs of providing universal access through a telecommunications infrastructure within developing countries, however, can be overcome. For example, on the continent of Africa, an initiative sponsored by private and public entities, as well as international agencies, has worked to offset the huge costs. The initiative in Africa involves the ITU, Nortel Networks, and the Acacia Initiative of the International Development Research Centre of Canada ("Acacia"). Each organization invested $3.6 million to bring universal access and rural connectivity to Africa.[53]

The ITU's Centres of Excellence Program paved the way for the privatization of telecommunications services by preparing the countries' leaders, corporations, and regulators for the management of the new operations that will exist with universal access.[54] The use of Centres of Excellence and Multipurpose Community Telecentres ("MCTs") provides national and multinational networks that will constitute the building blocks of the GII. As national and multinational networks form among developing countries, access to other nations' telecommunications and information networks will cost less to achieve because those nations will already

49. *Id.* at *4.

50. DEVELOPMENT REPORT, *supra* note 46, at 4, revisiting the "Independent Commission for Worldwide Telecommunications Development" commonly known as the "Maitland Report." The report also noted the rapid developments in telecommunications technology and recognized that satellite systems may revolutionize the means of communications even in developing countries through cellular telephony. *See id.* at 5-9. For example, thirty-five percent of the telephone subscribers in the Philippines use cellular telephony as a substitute for main telephone service. *Id.* at 9. More than thirty percent of Lebanon's telephone subscribers use cellular telephony as a substitute for main telephone service. *Id.*

51. Press Release, ITU, Universal Access Becomes a Reality with Dakar and Nairobi's Centres of Excellence (Oct. 12, 1999), *at* http://www.itu.int/newsroom/press/releases/1999/99-16.html [hereinafter ITU Press Release].

52. DEVELOPMENT REPORT, *supra* note 46, at 14.

53. ITU Press Release, *supra* note 51. Hopefully, this initiative will be achieved by building two African Centres of Excellence located in Nairobi, Kenya, and Dakar, Senegal, that will serve all countries in Africa. *Id.*

54. *See id.*

possess the backbone elements of the GII.

Rural connectivity involves installing complex telecommunications equipment in countries that serve a small number of subscribers in remote areas.[55] Hamandoun I. Touré, Director of the ITU's Telecommunication Development Bureau, stated, "Africa [in particular] represents a large market which is still too often hampered by the world's highest costs, critical skills shortages and stymied policies that, together, foil teledensity goals and adequate infrastructure."[56] African policymakers recognize the hurdles they face in achieving universal access.[57] Hence, the Centres of Excellence should give them the guidance they need to build "capacity . . . [that] will allow the use of information [and] communication technologies in order to deliver critical services such as education, health care and e-commerce."[58] Developing nations pose a logistical obstacle to the development of the GII. Joint initiatives, like the one among the ITU, Nortel, and Acacia, are necessary to bring about greater connectivity and make universal access a reality because of the financial resources they are able to provide to developing countries.

Connecting the African continent is merely one hurdle the world community must overcome to achieve global universal access. Many other nations, like those in Africa, will not be able to get connected unless outside investment occurs in their telecommunications infrastructures. All nations must be connected to achieve a true world community. Thus, the most cost-efficient and effective mix of private and public investment is necessary to the build GII infrastructure in developing nations. Developed nations, NGOs, and businesses must continue to enter into strategic alliances and partnerships with developing nations in order to build the GII. Moreover, developed nations cannot sit idly by while other nations develop infrastructures. Theses nations must also continue to research and develop new telecommunications technologies that will improve the productivity of the world economy and enhance their capability to communicate.

IV. REGULATORY ISSUES

To achieve universal access, a telecommunications and information technology framework must exist to support the various services provided

55. *Id.*

56. *Id.* Teledensity is a measure of telecommunications access defined as "the number of main telephone lines per 100 inhabitants." DEVELOPMENT REPORT, *supra* note 46, at 17. "In 1996, teledensity ranged from 0.07 in Cambodia to 99 in Monaco, which indicates the wide range of telecommunication development around the world." *Id.* at 13.

57. ITU Press Release, *supra* note 51.

58. *Id.*

to citizens. In developed nations, universal access describes the availability of existing services to citizens via communications infrastructures, whereas developing nations must first create and develop their communications systems to make universal access attainable. This section will explore the ITU's Eighth Regulatory Colloquium view of "classical" and modern regulatory issues affecting the development of the GII.[59]

A. The ITU's Analysis of Classical Regulatory Issues

The "classical regulatory issues" this Note will discuss include: (1) development of infrastructure; (2) access to infrastructure; (3) local loop access and competition; (4) unbundling; and (5) interconnection.[60] Regulatory issues affect the development of a telecommunications infrastructure in many ways, but this Note will focus on how regulation impacts the GII's contribution to the expansion of international e-commerce.

The GII must be developed to globalize telecommunications and information technology services and to bring global international e-commerce into reality.[61] The OECD has defined e-commerce as referring

> generally to commercial transactions, involving both organisations [sic] and individuals, that are based upon the processing and transmission of digitized data, including text, sound, and visual images and that are carried out over open networks (like the Internet) or closed networks (like AOL or Minitel) that have a gateway onto an open network.[62]

Thus, a global telecommunications infrastructure is necessary for a company located in the United States to conduct business with a consumer in Zimbabwe or Argentina.

The GII is important to both suppliers and buyers, because suppliers need ways to sell their products and services, and buyers need access to the products and services available.[63] The *Chairman's Report* stated that, rather

59. *See* CHAIRMAN'S REPORT, *supra* note 12, at 19. The results of the Eighth Regulatory Colloquium resulted from the efforts of "telecommunications policy makers and regulators . . . and entrepreneurs and government officials dealing with [e-commerce]." *Id.* at 11.

60. *Id*. at 19-22. The ITU focused on these issues in its *Chairman's Report of the Eighth Regulatory Colloquium.*

61. *See id.* at 24.

62. OECD, *Electronic Commerce*, OECD Policy Brief No. 1-1997, *at* http://www.oecd.org/publications/pol_brief/1997/9701_pol.htm (last visited Jan. 25, 2001) [hereinafter *OECD Electronic Commerce*]. "Network" is defined as "[a]n interconnection of three or more communicating entities. . . . *Note*: A network may be part of a larger circuit." TELECOMMS. GLOSSARY, *supra* note 3, *at* http://glossary.its.bldrdoc.gov/fs-1037/dir-024/_3511.htm.

63. CHAIRMAN'S REPORT, *supra* note 12, at 20.

than accepting the "traditional focus of 'universal service' policies" on "specific architectures or services," developing countries should require that the regulators of the telecommunications sectors "identify *bottlenecks*" that inhibit the construction of telecommunications infrastructures in their countries.[64] Where material "bottlenecks" or roadblocks to access to telecommunications infrastructure appear, the *Chairman's Report* stated that regulators should "help open them up, or at least [] ensure that their control does not translate into unfair or uneconomic leverage in other competitive market segments."[65]

Moreover, the *Chairman's Report* has identified local loop access and competition as the most "immediate bottleneck issue[s] today facing electronic commerce" in both developing and developed nations.[66] "Fixed wireline voice-grade loops are still by far the most common means for the vast majority of end users to connect with the global network, including the Internet, and few users have a choice among multiple local access suppliers."[67] Given the new and developing technological advancements, the *Chairman's Report* stated that regulators should promote competition in markets opening their doors to outside investment in their telecommunications infrastructures.[68] Regulators must also implement "an economically fair framework of policy and regulation [that is] limited to the essential minimum needed to prevent anti-competitive abuses and [to] protect the public interest."[69]

It is important to keep in mind that any regulation may affect not only the accessibility of telecommunications services, but also the price charged for the services.[70] Given the increased demand for telecommunications access and rapid advances in technology, regulators must oversee the prices set for telecommunications and information technology services.[71] They should focus on fostering a competitive marketplace and prohibiting the above-cost prices traditionally charged by monopoly suppliers of

64. *Id.* at 20, 23.

65. *Id.* at 20.

66. *Id.*

67. *Id.*

68. *Id.* at 17-18.

69. *Id.* at 21.

70. *Id.* at 21. Therefore, regulators must use tariffs and other "interconnection regulation" only when necessary to protect the public and ensure competition. *Id.* at 27, 28. "Tariffs" are "[t]he published schedule of rates or charges for a specific unit of equipment, facility, or type of service such as might be provided by the telecommunications common carrier." TELECOMMS. GLOSSARY, *supra* note 3, *at* http://www.its.bldrdoc.gov/projects/t1glossary2000/.

71. CHAIRMAN'S REPORT, *supra* note 12, at 22.

telecommunications services.[72] This poses a major concern for potential private investors, because for an Internet service provider ("ISP") to reach its customers, "[it] often [has] no choice but to purchase local exchange services from monopoly or government-owned telephone companies" at "excessive rates," which in turn are passed on to consumers in the form of higher prices for the services.[73] The regulator will function like the various committees of the ITU; a country will not be bound by the regulating committee's policies and international laws.

Furthermore, the *Chairman's Report* identified mandatory unbundling by "dominant (or all) operators" as "[o]ne of the most potentially effective regulatory mechanisms for dismantling bottlenecks."[74] Mandatory unbundling would "require that competitors be allowed access to signaling, network intelligence, routing databases, and other strategically vital information that might be controlled by an access provider."[75] The *Chairman's Report* warned, however, that regulators must proceed in a cautious manner so as to not hamper the dynamic industry.[76]

Finally, the *Chairman's Report* identified interconnection, "at fair, cost-based prices," as "essential to a competitive market and also indispensable to the growth of e-commerce."[77] Interconnection regulation is central to competition in the industry, as well as the growth of e-commerce.[78] As telecommunications technology advances and Internet access and use increase throughout industrialized nations, ISPs have a more important function in the development of the GII. Because of consumer-protection concerns, ISPs must also be monitored to ensure that end-users are paying competitive prices for clear, fast transmissions on the World

72. *See id.* at 22, 26.

73. President William J. Clinton and Vice President Albert Gore, Jr., *A Framework For Global Electronic Commerce*, 1128 PLI/CORP. 509, 525 (1999).

74. CHAIRMAN'S REPORT, *supra* note 12, at 28. "Unbundling" is defined as "[i]n the context of the FCC's Computer III Inquiry, the process of separating individual tariffed offerings and services that are associated with a specific element in the CEI or ONA tariff from other tariffed basic service offerings. TELECOMMS. GLOSSARY, *supra* note 3, *at* http://www.glossary.its.bldroc.gov/fs_1037/dir/-038/_5679.htm.

75. CHAIRMAN'S REPORT, *supra* note 12, at 21.

76. *See id.* at 21-22.

77. *Id.* at 22.

78. *Id.* at 22-23. "Interconnection" is defined as "1. The linking together of interoperable systems. 2. The linkage used to join two or more communications units, such as systems, networks, links, nodes, equipment, circuits, and devices." TELECOMMS. GLOSSARY, *supra* note 3, *at* http://www.glossary.its.bldroc.gov/fs-1037/dir-019/_2783.htm. Interconnection relates to unbundling in that "online service providers must be able to interconnect with the networks of incumbent telecommunication companies so that information can pass seamlessly between all users of the network." Clinton & Gore, Jr., *supra* note 73, at 525.

Wide Web.[79] The "monitoring of interconnection issues and enforcement of interconnection policies will be important in determining how rapid and sustainable competition will be" in the industry.[80] Ideally, industry self-regulation should displace the need for traditional regulation.[81] If the industry regulates itself, then above-cost rates and network incompatibility can no longer be accepted as factors preventing interconnection. For the GII to become a reality, the industry must implement interconnection policies that foster investment in developing countries, further research and development in developed countries, and establish competitive pricing for the services provided.

B. Modern Regulatory Issues

As use of the cyber-market increases, the demands for bandwidth and transmission quality become more important.[82] Users also want to know that Web sites are secure so that their private information will be protected as they do business online.[83] As a result, international organizations such as the ITU, OECD, and WTO, as well as individual nations, must enact policies that develop "a broadband digital backbone infrastructure" in various countries, as well as throughout the world, to make a global cyber-market a reality.[84] Uniformity in the policies will enable countries to deal

79. CHAIRMAN'S REPORT, *supra* note 12, at 22. The ITU has stated that "regulatory oversight . . . of the prices, terms, and technical standards of this interconnection are essential to the effective development" of these new services. *Id.* "In addition to traditional telephone carriers, new players such as ISPs require a form of interconnection with the basic network" and services and applications. *Id.*

80. *Id.* Moreover, the industry regulators must discharge their duties knowing that the minimum amount of regulation should be used to effectuate universal access, while promoting competition in the industry within the individual country and protecting the potential end-users of the services being provided. *See id.* at 30-32.

81. *Id.* at 22.

82. *Id.* at 19. "Bandwidth" is defined as "1. The difference between the limiting frequencies within which performance of a device, in respect to some characteristic, falls within specified limits. [] 2. The difference between the limiting frequencies of a continuous frequency band." TELECOMMS. GLOSSARY, *supra* note 3, *at* http://www.glossary.its.bldroc.gov/fs-1037/dir-004/_0532.htm. "Limiting" is defined as "[a]ny process by which a specified characteristic (usually amplitude) of the output of a device is prevented from exceeding a predetermined value." *Id., at* http://glosary.its.bldrdoc.gov/fs_1037/dir-021/_3027.htm. Additionally, "frequency" is defined as "[f]or a periodic function, the number of cycles or events per unit time." *Id., at* http://glossary.its.bldrdoc.gov/fs-1037/dir-016/_2531.htm.

83. CHAIRMAN'S REPORT, *supra* note 12, at 28.

84. *Id.* at 19. "Backbone" is defined as "1. The high-traffic-density connectivity portion of any communications network. [] 2. In packet-switched networks, a primary forward-direction path traced sequentially through two or more major relay or switching stations." TELECOMMS. GLOSSARY, *supra* note 3, *at* http://glossary.its.bldrdoc.gov/fs-1037/dir-004/_0504.htm. "Communications network" is defined as "[a]n organization of stations

with one another on a more informed basis. Thus, private and public organizations will be more likely to invest in other countries when they understand the body of laws governing their dealings with those countries.

The *Chairman's Report* asserted that a competitive open market system provides the optimal environment for the GII to exist.[85] If market power is concentrated, then the one service provider with monopoly power will charge higher prices for "backbone" services than if competition existed for those services.[86] Ultimately, end-users will bear the increased cost, and fewer users will be able to afford the backbone, basic connectivity services.[87] Competition would decrease the cost of services that end-users have to pay and would allow consumers to act as a check on the quality of service they are provided. If consumers are not satisfied with the services and customer support they are receiving, they will have the option of switching to a different service provider.

The *Chairman's Report* also asserted that the "[d]evelopment of ubiquitous, high performance wireless transmission infrastructure will be indispensable in facilitating wide availability of access to broadband networks and services."[88] As a result of the need for new telecommunications services, monopoly power must be eliminated and an environment that invites competition among different network providers must be fostered to develop these new products. In the future, ISPs in the United States should be able to provide services to residents of any country and compete with other service providers from around the world. As for now, the costs associated with these services must not prohibit their availability.

The ITU is not alone in its initiative to develop the GII. Through various initiatives, the United States is actively participating in the development of the GII. Former Chairman Kennard stated that in order to achieve globalization, we must look to Thomas Friedman's criterion for globalization.[89] Kennard noted that Friedman writes that "[t]he challenge for us all is to make globalization work. We must make sure that all nations can upgrade their infrastructure, plug into this network, integrate into the global economy, and bring prosperity to all their people."[90] Friedman

capable of intercommunications but not necessarily on the same channel." *Id., at* http://glossary.its.bldrdoc.gov/fs-1037/dir-008/_1125.htm.

85. CHAIRMAN'S REPORT, *supra* note 12, at 19.

86. *Id.*

87. *Id.*

88. *Id*.

89. Kennard Address, *supra* note 48, at *7 (referring to the best-selling book THE LEXUS AND THE OLIVE TREE by *New York Times* columnist Thomas Friedman).

90. *Id.*

focuses on the need for "capital and investment," and he writes that in order to attract them, "a country needs transparent, non-discriminatory regulatory regimes. It needs to abide by established technical and business standards. It needs to stamp out corruption, by establishing the rule of law."[91]

The proliferation of e-commerce transactions in the cyber-market has increased the demand for global universal access. Neither countries nor corporations want to fall behind in the development of a new market for their goods or in improving their current business practices. For example, "[i]n rural southern Ghana, petrol stations are able to place orders with suppliers by telephone when previously they could only be made by traveling to Accra; in Zimbabwe, one company generated US$ 15 million of business by advertising on the Internet."[92] Former President Clinton and Vice President Gore stated that "[g]lobal electronic commerce depends upon a modern, seamless, global telecommunications network and upon the computers and 'information appliances' that connect to it."[93] There are many obstacles to achieving the necessary infrastructure to support global e-commerce, such as differing telecommunications policies, cost of services, limited bandwidth, and trade barriers. The nonexistence of such services in developing nations poses an even greater obstacle to achieving the GII.[94]

V. IMPLEMENTATION AND REGULATION OF THE GII

To supply telecommunications services to developing countries and to keep developed countries on the cutting edge of technology, a strategic telecommunications and information technology development plan is necessary. The plan must determine how the capital necessary for the actual development and construction of the infrastructure will be supplied. The plan must also determine who will regulate the developments that take place within the global industry. This section will address what a telecommunications infrastructure entails as well as the regulatory concerns associated with the development and regulation of the GII.

A. The Necessary Elements for the GII

Because of the demand for Internet access, governments, businesses, and NGOs must contribute to the development of the GII.[95] The ITU

91. *Id.*
92. DEVELOPMENT REPORT, *supra* note 46, at 2.
93. Clinton & Gore, Jr., *supra* note 73, at 524.
94. *See* DEVELOPMENT REPORT, *supra* note 46.
95. Clinton & Gore, Jr., *supra* note 73, at 513. Whether these contributions are made in

Briefing Report stated that the private sector would be mainly responsible for supplying the elements over which Internet and e-commerce services will be provided.[96] Under this framework, the elements necessary for the GII include: (1) backbone networks; (2) access services; and (3) equipment and services.[97] In addition, the U.S. government has proposed its own approach to further the development of the GII and to promote e-commerce. Funding will be an additional necessity under both schemes.

1. The ITU *Briefing Report* Framework

The international high-speed data networks that constitute the Internet backbone are essentially not regulated. Within many countries, however, national operators have established domestic backbones, which become the primary or exclusive pathways by which domestic ISPs, and ultimately end-users, connect with the Internet. "[R]egulators should be prepared to assure that backbone transmission networks are available wherever connectivity is required, and that they provide the degree of quality, reliability, and security necessary to support optimum use of Internet services for commercial purposes."[98]

The ITU *Briefing Report* stated that "basic communications access infrastructure" affects the potential of e-commerce in three respects—its availability, capacity, and quality and flexibility.[99] First, the availability of telecommunications services to end-users is integral to the growth of the cyber-market and universal access because users must have access to the telecommunications network to transact business over the Internet.[100] Second, network capacity plays an important role in both developed and developing nations. Countries that have universally available telecommunications services are now being burdened by the decreased capacity of their networks because certain uses—like e-commerce—require a greater amount of "transmission capacity of basic telephone networks, especially in the local loop."[101]

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the form of financial capital, human capital, or technical assistance, such contributions are essential to the success of a GII.

96. *See* BRIEFING REPORT, *supra* note 23, at 14-16.

97. *Id.*

98. *Id.* at 14-15; *see, e.g.*, *Information Superhighway*, *at* http://www.dwinfoserver.com/otto/highway.shtml (last visited Jan. 16, 2001) This Web site "directly links at least 53 countries' Internet Backbones, Telecommunications and government infrastructure policies." The countries represented range in size from Estonia and Slovenia to Turkey, the United States, and the United Kingdom. *Id.*

99. BRIEFING REPORT, *supra* note 23, at 29.

100. *Id.*

101. *Id*.

Third, the quality of the transmission and the flexibility of the uses of the existing networks also play an integral role in the development of e-commerce.[102] Users and suppliers of telecommunications services and products are concerned with staying abreast of the latest technology in the industry.[103] These end-users and suppliers want "mobile access to digital data transmission, multichannel services (again, such as ISDN), dynamic bandwidth allocation, and integration of software and transmission requirements."[104] Suppliers of basic telephony have adapted to meet the demands of their customers, "but the basic [PSTN] remains relatively inflexible to advanced commercial applications" demanded by their customers.[105]

Even if universal access is available, the viability of an international cyber-market demands high-quality, usable transmissions. Without these elements, the global cyber-market cannot exist. Suppliers of access services must remain flexible and continue to meet the ever-changing needs of their end-users.The ITU *Briefing Report* stated that both private and public sectors are interested in supplying the equipment and services necessary to develop a telecommunications and information technology infrastructure.[106] The *Briefing Report* warned, however, that "interventionist infrastructure policies" should be used only when the free market has failed to provide the necessary information, equipment, and services to the development of an information infrastructure.[107] Again, the *Briefing Report* stated that "[i]n the case of electronic commerce, new types of equipment and services have been introduced so rapidly that there appears to be little reason why regulators should consider a need to try to direct these developments."[108] Thus, regulators and public entities should not try not to hinder the expansion of the industries in their respective nations, and should regulate only to the extent necessary to maximize competition in the industry and to protect the public welfare.

2. The United States's Approach to the Development of the GII

Former Vice President Gore enumerated the principles that the U.S. government believes are necessary for the development of the GII:

> 1. encouraging private sector investment by privatizing government-controlled telecommunications companies;

102. *Id*.
103. *Id*.
104. *Id*.
105. *Id*.
106. *Id*.
107. *Id*.
108. *Id*. at 16

> 2. promoting and preserving competition by introducing competition to monopoly phone markets, ensuring interconnection at fair prices, opening markets to foreign investment, and enforcing anti-trust safeguards;
>
> 3. guaranteeing open access to networks on a non-discriminatory basis, so that GII users have access to the broadest range of information and services; and
>
> 4. implementing, by an independent regulator, pro-competitive and flexible regulation that keeps pace with technological development.[109]

Overall, the U.S. approach is consistent with the framework set out by the ITU. Both seek to foster a competitive telecommunications industry while recognizing the importance of strategic partnering between the public and private sectors. Moreover, the U.S. approach also notes the importance of universal access in making the GII a reality.

3. Funding for the GII

The absence of necessary elements for the development of the GII does not pose the main obstacle to its development. Without investment from both the public and private sectors, the dream of a global cyber-market cannot be achieved because of the enormous costs involved in the implementation of the telecommunications infrastructure. Every nation faces the question of how to finance improvements to its telecommunications and information technology infrastructure: Does the government borrow the money, seek international aid, partner with other nations, raise taxes to pay for the improvement, spend appropriated funds, or use its available budget surplus?

These problems are even greater in underdeveloped and developing nations because they may lack the tax bases of some developed nations. Developing nations also face overwhelming social concerns, such as poverty, hunger, and water treatment problems that require immediate attention. Fortunately, private and foreign investments can enable developing nations to build their own telecommunications infrastructures. Consequently, group initiatives that involve governmental agencies, NGOs, and private entities investing in the telecommunications infrastructure of a developing nation seem to be the most viable mechanisms for raising the necessary capital.

B. To Regulate or Not to Regulate

Every country should prioritize the development of the GII and the growth of e-commerce. Each country must determine for itself the most

109. Clinton & Gore, Jr., *supra* note 73, at 524 (citation omitted).

rapid and cost-efficient manner to achieve this goal given its economic and social issues. Countries face the decision whether to let the free market control their telecommunications industries, e-commerce, and cyber-space. These countries must also decide the necessary level of regulations to maintain competition in telecommunications and transactions in the cyber-market. If a country decides to regulate the industry, then it must also decide who is going to be the regulator.[110] Moreover, those countries whose governments have historically controlled telecommunications may decide to privatize the industry to provide telecommunications and information technology services to their citizens in a more cost-efficient manner. This section will describe the United States's perspective on how to regulate the ever-growing cyber-market, discuss various regulatory schemes, and address the ITU's perception of the most appropriate form of regulation.

1. Former President Clinton and Former Vice President Gore's Approach

President Clinton and Vice President Gore stated in *Framework for Global Electronic Commerce* that the private sector should lead, because innovation resulting in expanded services and broader participation will result.[111] In a market-driven economy, as a result of the increased competition in the telecommunications industry, the prices of the services offered will be lower than in a regulated industry.[112] President Clinton and Vice President Gore favored industry self-regulation and the use of private funds to advance the availability of information technology and access to the Internet.[113] They also maintained that private entities should be involved in the policymaking process and the development of standards for the industry.[114] President Clinton and Vice President Gore also stated that "[g]overnments should avoid undue restrictions on electronic commerce."[115]

Buyers and sellers should be able to transact business on the Internet without being unduly regulated by the government.[116] Needless regulation

110. The country may decide to allow an independent agency to regulate the industry, to allow the industry to regulate itself, to impose no regulation on the industry, or to allow government regulation. *See* Llewellyn Joseph Gibbons, *No Regulation, Government Regulation, or Self-Regulation: Social Enforcement or Social Contracting for Governance in Cyberspace*, 6 CORNELL J.L. & PUB. POL'Y 475, 485 (1997).

111. Clinton & Gore, Jr., *supra* note 73, at 513.

112. *Id*.

113. *Id*.

114. *Id*.

115. *Id*.

116. *Id*.

will inhibit the growth of e-commerce and negatively affect the supply and demand of goods traded on the cyber-market.[117] President Clinton and Vice President Gore stated that a government's participation in the regulation of e-commerce should occur only when absolutely necessary[118] and any governmental regulation should be used only "to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce" and the widespread use of telecommunications and information technology.[119] Such regulation should be "based on a decentralized, contractual model of law rather than one based on top-down regulation."[120]

2. Other Regulatory Schemes

Some scholars have hypothesized that "regulation of cyberspace may take one of three forms[:] . . . government regulated, self-regulated, or even unregulated," and may supplant or supplement existing laws.[121] Government regulation receives criticism because the telecommunications industry and cyberspace would require a new body of law, added to the existing laws not only of the individual nation, but also the treaties and laws of international organizations.[122] "Two rules should be considered when evaluating the propriety of new laws for cyberspace. [E]xamine existing law and determine whether it fits into the paradigm of cyberspace [and] . . . examine whether the purposes and policies behind the existing law efficiently effectuate the same purposes and policies in cyberspace."[123]

The cyber-marketplace demands regulation because it is not a purely free market; to the contrary, it is hindered by the laws governing it.[124] The ITU *Briefing Report* stresses the fact that "universal telecommunications doesn't necessarily equate simply with universal electronic commerce."[125] Therefore, "[c]ommercial uses of technologies should be integrated with socially beneficial applications, in education, health care, government services and cultural expression."[126] "[T]he unique nature of cyberspace requires [that] a uniform global system of regulation [that bars] nation-

117. *Id*.
118. *Id*.
119. *Id*.
120. *Id*.
121. Gibbons, *supra* note 110, at 499.
122. *Id*. at 501-02.
123. *Id*. at 499-500 (citing I. Trotter Hardy, *The Proper Legal Regime for "Cyberspace,"* 55 U. PITT. L. REV. 993, 996 (1994)).
124. *Id*. at 501 (describing the nature of the Internet, given FTC monitoring, decency laws, and intellectual property regulations that impose restrictions on it).
125. BRIEFING REPORT, *supra* note 23, at 22.
126. *Id*.

states from enacting inconsistent national legislation" should prevail.[127] Ultimately, nations must make this choice; first, however, they must weigh the consequences of the decision.

The question remains: What is the best form of regulation for the dynamic telecommunications industry and cyberspace? The ITU *Briefing Report* stated that there needs to be "a thin dividing line between the infrastructure deployment choices that will be made based solely upon private operators' incentives, and the socially and economically 'ideal' infrastructure that an omniscient regulator would require."[128] The ITU *Briefing Report* warned its members, however, that despite the "externality benefits of communications networks," some consumers do not receive their fair shares of the benefits derived.[129] Government must intervene in such cases and regulate the public sector, remembering the importance of not stifling the industry with excessive regulation.[130]

Today, the ITU has partnered with other NGOs, governments, and corporations to develop a telecommunications and information technology infrastructure to increase access to telecommunications technology and to develop the cyber-marketplace.[131] The result of these partnerships has been "something of a global laboratory of experiments, pilot projects and policy directives, as the new economics of universal communications begins to take hold."[132] Because there would be one main coordinator of development efforts, the existence of an international strategic alliance would facilitate the development of the GII more efficiently than current efforts.

3. The Proper Amount of Regulation

A lack of regulation of the global information superhighway would leave its governance to the invisible hand of the free market. In some instances, however, the free market cannot go totally unchecked. For example, the United States has implemented regulatory agencies to oversee such industries as pharmaceutical sales, securities brokerage and

127. Gibbons, *supra* note 110, at 502.

128. BRIEFING REPORT, *supra* note 23, at 17.

129. *Id*.

130. *See id.*

131. *See id.* at 22.

132. *Id*. For example, MCT seminars were held around the world in 1999 to continue the expansion of this telecommunications service in central European countries, Africa, the Arab states, the Americas, Asia, and the Pacific. *ITU's Buenos Aires Plan*, *supra* note 47. This update also gives the status of ITU projects around the world and lists its international partners and the duration of the projects. *Id.*

telemarketing.[133] The market requires at least a minimal amount of regulation to ensure that no one manipulates its results. Regulation should lead to the most efficient and competitive operation of the cyber-market while still protecting the public welfare. Given the dynamic nature of the telecommunications industry, it must maintain some independence to adapt to the new market conditions it faces.

An independent international organization, comprised of national governments, should be formed under the ITU's umbrella. In a treaty, the member states would declare their commitment to uniform standards to govern the telecommunications industry and the cyber-marketplace. The treaty would provide basic telephony services and Internet access to all member nations, who, like members of the OECD, commit themselves to a free-market economy.[134] This organization, acting as a regulatory branch of the ITU, would monitor the availability of access to telecommunications services and information technology and impose necessary regulation for the general functioning of the cyber-marketplace.

With the ITU or a like organization overseeing the regulation of the telecommunications industry, global uniform standards could be passed and implemented without the fear of inconsistent national legislation. Each nation could maintain a voice through representation on the regulating committee. The committee would operate in the same manner as the U.S. Congress with legislation passed by majority vote, or like the Parliament of the EU with larger countries receiving greater representation. Giving the committee regulatory authority over the cyber-market would allow member countries to sign one treaty governing international telecommunications, as opposed to multiple treaties sponsored by the ITU, OECD, and WTO. Moreover, such a scheme would result in consistency, stability, and predictability for its members and those parties dealing with signatories to the treaties. Centralizing authority in one body could ensure that the regulator would mainly have an oversight function and would only enact legislation during market failure. If the reality of a global community can be achieved through telecommunications technology, there must be global order with regard to the development of the cyber-marketplace. An international NGO could provide the necessary leadership through a world representative democracy.

133. *See* FDA, Protecting Consumers, *Protecting Public Health, at* http://www.fda.gov/oc/opacom/fda101/fda101text.html (last visited Jan. 30, 2001); SEC, *The Investor's Advocate: How the SEC Protects Investors and Maintains Market Integrity, at* http://www.sec.gov/asec/ wwwsec.htm (last visited Jan. 30, 2001); FTC, *Statutes Relating to Consumer Protection Mission, at* http://www.ftc.gov/ogc/stat3.htm (last visited Jan. 30, 2001).

134. *See About OECD*, *supra* note 27.

VI. THE FEASIBILITY OF IMPLEMENTING THE SUGGESTED PRINCIPLES

Development of the cyber-marketplace requires the existence of the GII. Nations must not be ethnocentric when developing their telecommunications and information technology infrastructures. Every nation must be included in the development initiatives to ensure global prosperity. To properly analyze the principles that have been set forth in this Note, one must consider state sovereignty and current e-commerce issues, because they ultimately will affect cyber-market regulation.

A. State Sovereignty Issues

The development of uniform global rules proposed by an international organization or ITU committee to oversee the cyber-market makes maintaining national identity and sovereignty difficult. As foreign entities invest money in the development of the GII, a developing nation may have to act in a manner inconsistent with its traditional approach to governance. For example, a company may invest in a nation's infrastructure or enter into a joint venture with a locally owned telecommunications company, especially where governments have privatized their telecommunications industries to lower the cost of services.[135] Foreign direct investments are unlikely to occur, unless the investing company thinks that the target country has a stable government and that the potential for profitable investment is strong.

1. Outside Investors

Several factors will likely play a role in the investment decision. First, uniform global intellectual property right laws must be ratified by nations seeking access to the GII, because private companies will not invest millions of dollars in a country if the end-products of their research and development remain unprotected.[136] Second, the status of the target country as a signatory to the various international telecommunications agreements will bear on the decision.[137] Third, the degree of company control over the development and distribution of its services in the newly developed industry will influence the investment decision as well.[138] Companies will more likely choose to invest in nations where they will not be burdened by

135. Keith E. Maskus, *The Role of Intellectual Property Rights in Encouraging Foreign Direct Investment and Technology Transfer*, 9 DUKE J. COMP. & INT'L L. 109, 128 (1998).

136. *See id.*

137. For example, the status of the country as a signatory to the WTO Telecommunications Agreement or as a member of the ITU might factor into this analysis.

138. *See* Maskus, *supra* note 135, at 128.

bureaucratic oversight and paperwork. Finally, the stability of the government in the nation in which the private entity seeks to invest plays a significant role in the determination to invest. An entity choosing to invest anywhere will likely want assurances of investment security. In addition, the entity likely will require assurances that the government will not seize control of the fruits of its investment once operational. Consequently, the nation receiving the investment may have to make concessions to appear more attractive to foreign investors.

2. International Participation

International regulation poses two potential hazards to state sovereignty. First, local customs, traditions, and ideals may give way to the new practices of the foreign direct investor and the cyber-marketplace. Second, not all people in the new market will benefit equally. The ITU *Briefing Report*'s concept of "regulation at the margin"[139] ensures that government intervenes to correct distributional disparities in the external benefits derived from the new infrastructure. The U.S. position in developing its own framework—where private industry leads—seems to suggest the most efficient way to facilitate the growth of the cyber-market.[140] Developed and developing nations whose economies are not as strong as that of the United States need more oversight, however, to prevent further stratification of society.[141]

An international independent organization or committee should be charged with the duty of oversight to alleviate concerns of overreaching or corruption by foreign investors.[142] An international organization or committee designated to regulate the industry would be able to maintain uniform standards in quality, service, and costs. As a result, countries would not have to constantly develop new laws that fit into the scheme of the ever-changing international cyber-market.

A country could continue, however, to enact its own laws and to ratify the laws proposed by the independent agency, just as many countries do now. The independent organization or committee would serve as a depository of information to produce more cost-efficient methods of development and technological advancement as the nation's economy requires.[143] While uniform standards imposed by an independent regulator

139. BRIEFING REPORT, *supra* note 23, at 22.

140. Clinton & Gore, Jr., *supra* note 73, at 513.

141. *See id.*

142. The ITU's Development Organization provides an example of one such governing body.

143. Some countries might oppose an independent international organization regulating

would likely infringe upon state sovereignty, the benefits to the nation and its people would outweigh the costs.

B. Current Electronic Commerce Activities

The ITU *Briefing Report* recognized that "[e]lectronic commerce is a new term for old activities being done in new ways. . . . The rapid integration of Internet and other telecommunications-based functions into nearly every sphere of business is what has given rise to the recent international focus on the new world of [e-commerce]."[144] Everything from voice communications to electronic banking can now be done on the Internet.[145] The OECD sees the vast potential of e-commerce because it "dramatically reduces the economic distance between producers and consumer[s]," enabling multi-leveled distribution networks to be bypassed.[146]

Moreover, the development of the GII will take e-commerce to the next level. Buyers and sellers worldwide will transact business on a daily basis. No longer will such efficiency be the luxury of trans- and multi-national corporations, but the benefits will extend to all people as long as they have access to telecommunications services. This new market will be especially important to developing nations, because the cyber-market "presents important new opportunities to achieve a more level playing field vis-à-vis larger, more developed economies, as it diminishes in-place advantages of cost, communication, and information, and creates huge new markets for indigenous products and services."[147]

VII. CONCLUSION

To achieve the next level of e-commerce, "[the] system needs to

the industry. It is important to understand that if this organization would function like the WTO or OECD, countries would be given the choice to ratify any treaties or laws proposed by the organization. Thus, the organization would not infringe on the sovereignty of any nation without the consent of that country.

144. BRIEFING REPORT, *supra* note 23, at ES1.

145. *Id.* The ITU *Briefing Report* lists the following as the most common electronic activities:

> (1) Subscription and usage-based telephony, online, and Internet access services; . . . (2) Subscription or transaction-based information services and software sales; . . . (3) Consumer retail sales; . . . (4) Business-to-business wholesale and retail services and sales; . . . (5) Advertising and marketing services; . . . (6) Financial services and transactions; . . . (7) Government services and information; . . . [and] (8) Ancillary functions contributing to business/commercial activities.

Id.

146. *OECD Electronic Commerce*, *supra* note 62.

147. BRIEFING REPORT, *supra* note 23, at ES1.

evolve."[148] As electronic transactions increase, just as in typical businesses, economies of scale will continue to decrease transaction costs. As more people start traveling in cyberspace, however, crowding will result unless continued advancements in technology occur.[149] Developed countries such as the United States must maintain a cyber-market in which the private sector has an incentive to continue investment in information technology and infrastructure to improve its customer service and to decrease its costs of distribution.

While competitive advantage has been a very important concept in the today's free market, developing nations will benefit from the advancements in technology through joint initiatives with developed nations.[150] Former FCC Chairman Kennard stated, "[the United States] cannot continue [its] own prosperity if [it] does not lift the level of prosperity of the entire world."[151] Nor can any other developed nation continue its own prosperity while ignoring the needs of developing nations or the opportunities that lie within its own borders.

The development of the GII will help achieve the goal of universal access. It has the potential to enable developing nations to advance and seize the opportunities of the western world. Such prosperity, however, does not come without a cost. To achieve the GII, developed nations, private entities, and independent international agencies have been called upon to work together to build the backbone on top of which the GII will grow. Developing nations that want to conduct business in the cyber-market may need to make major changes. Undoubtedly, without the GII, a truly global cyber-market cannot exist. Furthermore, developed nations, private entities, and independent international agencies must continue their research and development efforts so that the demand for goods in the cyber-market will not exceed the capacity of the network. The future is now, and the ITU should be regarded as the "International Internet Union."[152] Evolution of every nation's telecommunications and information technology infrastructure must take place to make the GII a reality.

148. *OECD Electronic Commerce*, *supra* note 62. "At present, most customers connect to communication networks via a standard telephone line and local telephone tariffs currently account for more than 60 per cent [sic] of the cost of Internet access." *Id.*

149. *See id.*

150. As previously discussed, some countries have decided to supplant traditional phone lines with satellite technology. *See supra* note 50 and accompanying text.

151. Kennard Address, *supra* note 48, at *4.

152. Tarjanne, *supra* note 37.