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The Information Technology Agreement: Building a Global Information Infrastructure While Avoiding Customs Classification Disputes: A Perspective for the Customs Practitioner

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THE INFORMATION TECHNOLOGY AGREEMENT: BUILDING A GLOBAL INFORMATION INFRASTRUCTURE WHILE AVOIDING CUSTOMS CLASSIFICATION DISPUTES

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I. INTRODUCTION

The Information Technology Agreement (ITA) entered into full force and effect on January 1, 2000.[1] On that date, most of the ITA signatory countries (most but not all of the WTO membership) eliminated their customs tariffs on a wide range of information technology products (computer and telecommunications), including hardware and software, and their parts, components, and semiconductors, as well as most of the equipment used in semiconductor manufacturing.[2]

The ITA's initial implementation has been an unqualified success with early estimates of its worldwide value of tariff

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1. The Information Technology Agreement (ITA) is referred to formally as the "Ministerial Declaration on Trade in Information Technology Products." The basic text, WT/MIN(96)/16, Dec. 13, 1996, can be found at http://www.wto.org/wto/ddf/ep/public.html [hereinafter Singapore Text].

2. Some developing country signatories have extensions for tariff elimination on specific products up to January 1, 2004. *See* discussion *infra* at Part II.

elimination running as high as $5 billion annually.[3] The ITA's success, however, extends beyond its customs duty elimination provisions. Unlike the vast majority of trade agreements, which accept customs classifications as they find them, the ITA takes a different approach. It recognizes, and attempts to account for, two defining qualities of the global information technology marketplace: (1) convergence; and (2) the rapid pace of information technology development. Both qualities make it far more difficult for traditional customs classifications of information technology products to keep pace with market realities. The ITA provides a framework for resolving some of the ambiguities that convergence and rapid development have brought to customs classification in this sector. Indeed, the ITA provides for broad tariff elimination today, and in the future, while *resolving* some of the most troubling classification disputes that arose during its negotiation. In other words, the initial implementation of the ITA can be called an alternative dispute resolution mechanism for a looming series of customs classification disputes between the United States and the European Union; the two largest information technology trading areas in the world.

The ITA has the potential to be equally effective in the future. Mechanisms were created in the agreement's text to help the ITA continue to keep pace with future change.[4] Whether these procedures will prove useful is an open question.

To fully understand how the negotiators were able to accomplish what they did, it is necessary to put the ITA in a broader policy context. The ITA is the first explicit WTO effort to support the development of the rapidly emerging global information infrastructure.[5] The emerging infrastructure has a

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3. In 1996, the American Electronics Association canvassed its members on their potential customs tariff savings and concluded that, based on U.S. company exports to ITA signatory countries, and the volume of customs tariffs paid in 1995 on those exports, annual savings for American companies alone would amount to at least $5 billion. Savings by European, Japanese, and other Asian companies would make the total considerably higher. *See* AMERICAN ELECTRONICS ASSOCIATION, FACT SHEET ON THE INFORMATION TECHNOLOGY AGREEMENT (1996), *cited in* 1999 USTR Annual Report (electronic version, Mar. 2000), *at* http://www.ustr.gov/wto/99ustrrpt/ustr99_ita.htm.

4. *See* Singapore Text, *supra* note 1, at Attachment A, § 1.

5. *See* Director-General Renato Ruggiero, Address at the 9th International Information Industry Congress in Berlin (Sept. 17, 1998), *Building a Framework*

variety of names, including "Cyberspace,"[6] "Information Society" (the term of choice at the European Commission),[7] "Digital Economy,"[8] "Networked World,"[9] "the Internet," and the "World Wide Web."[10]

Whatever the emerging infrastructure is called, the venue for "global electronic commerce is a global, but borderless, environment."[11] While it is misleading to think of the electronic information infrastructure as a "place" in the usual sense, it

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for a Global Electronic Marketplace, available at http://www.wto.org/english/news_e/sprr_e/berli2_e.html (for a review of how the ITA fits into the broader WTO work program). Other WTO initiatives, such as the 1997 agreement on basic telecommunications services, embodied in the Fourth Protocol to the General Agreement on Trade in Service (GATS), are clearly relevant to the development of the information infrastructure. But, the ITA is the first explicit sector-specific initiative to address information technology. *See* Fourth Protocol to the General Agreement on Trade in Service (GATS), *at* http://www.wto.org/wto/services/4-prote.htm (last visited Jan. 12, 2001).

6. The term "Cyberspace" was coined by science fiction author William Gibson, who described it as "[a] consensual hallucination experienced daily by billions . . . in every nation . . . " *See* WILLIAM GIBSON, THE NEUROMANCER 51 (1984). The term has since spread widely in literature and public mind as the name for the emerging information infrastructure. *See, e.g.*, THE GOVERNANCE OF CYBERSPACE (B. Loader ed., 1997); *Special Report, Wireless in Cyberspace*, BUS. WK., May 29, 2000, at 135-144.

7. *See, e.g.*, Information Society Publications, Document Repository home page, on "Europa," *at* http://Europa.eu.int/comm/information_society/publications/docs/index_en.htm (last visited Jan. 12, 2001).

8. DON TAPSCOTT, THE DIGITAL ECONOMY: PROMISE AND PERIL IN THE AGE OF NETWORKED INTELLIGENCE (1996).

9. *See Living in the Networked World* (2000), *at* http://www.cspp.org (last visited Jan. 12, 2001) (a report by the Computer Systems Policy Project, a public policy advocacy group comprised of the Chairmen and CEO's from a select group of information technology companies).

10. No term seems adequate to describe fully the phenomenon. Some terms focus on the social or cultural elements, while others emphasize the economic elements. As a technical matter, the World Wide Web is only a subset of the Internet, but practically speaking, the Web turned the Internet—a text-based research network of supercomputers, universities, and government labs—into what it is today. Still, today's Internet itself represents only a crude approximation, in the estimation of many experts, of what the future holds, with periodic connections to the Internet for specific purposes giving way to continuous "connectedness" (any place and all the time) to a network always available for any desired purpose. "While the Internet has changed the way we think about communication, the Networked World will revolutionize the very fabric of our society—the way we live, work, educate, and govern ourselves." *Living In the Networked World, supra* note 9, at 4.

11. David R. Johnson & David G. Post, *The Rise of Law on the Global Network, in* BORDERS IN CYBERSPACE 3-47 (Brian Kahin et al. ed., 1998). "Cyberspace has no territorially based boundaries . . . ." *Id.* at 6.

has a *physical* infrastructure in the world of territorial borders and customs duties. The ITA was designed to promote the worldwide deployment of that physical infrastructure on a duty free basis. There is broad consensus among government policy makers that the information infrastructure has the potential to benefit the world, in both economic and societal terms. All countries should have the opportunity to participate broadly in those benefits.

Whether the implementation of the ITA will be as successful in the future, as information technology continues to develop rapidly and converge into the encompassing technology of the networked world, depends largely on whether customs practitioners and signatory countries successfully are able to take advantage of its special provisions for resolving customs classification disputes and encouraging the ITA signatories as a group to add products to duty-free coverage.

This article covers the basic provisions of the ITA and the origins of its special design and implementation features. In addition, it highlights the unique provisions for resolving classification disputes and adding products to the ITA through operation of the agreement itself and its multilateral committees. The ITA's special design as a customs classification litigation avoidance tool is especially highlighted. The article also will mention several of the controversies yet to be resolved in ITA implementation. Some suggestions are offered for how the ITA might continue to be used as a customs classification litigation avoidance tool in the future. Finally, the article explores the relationship of the ITA to the broader role of the WTO in the development of the digital economy; as the organization attempts to reorganize its efforts and revitalize its expanded "electronic commerce" work program.

II. BASIC PROVISIONS OF THE ITA

The ITA provides for the elimination of all customs duties on defined "information technology" products, both hardware and software, by January 1, 2000.[12] Twenty-seven countries and customs areas,[13] including WTO member states and cus-

12. Singapore Text, *supra* note 1, at para. 2(i).

13. This counts the European Union (EU) as a single entity. For a list of participants, including those joining after the original Singapore Text was signed,

toms territories in the process of WTO accession, currently are signatories committed to tariff elimination. Such elimination was to be accomplished in no more than four cuts, with the first occurring July 1, 1997, followed by successive cuts effective January 1 of 1998, 1999 and 2000.[14] Some developing country-participants have scheduled extensions on specific products to January 1, 2005, but they were generally required to make at least some tariff elimination effective on January 1, 2000.[15]

As a general matter of coverage, the ITA eliminates customs tariffs on all manner of computer hardware (including everything from hand-held computers, personal digital assistants or tablets, to mainframes, high performance "supercomputers" and everything conceivable in between), parts and components, including the almost infinite variety of circuit board assemblies (graphics cards, network cards, modems, memory cards), the printed circuits themselves, and the semiconductors (both integrated circuits and discretes) used to populate the boards.[16] Computer peripherals (and most of their parts), such as monitors,[17] keyboards or separate storage devices, are covered.[18] Also included is the broad range of semiconductor manufacturing equipment. Telecommunications equipment, from telephone handsets and cellular phones, to room size switches or private branch exchanges (PBXs),[19] is also generally covered by the ITA.[20] The Agreement also cov-

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see Final ITA Agreement, *available at* http://www.ustr.gov/agreements/ita/itafinal.pdf (last visited Jan. 3, 2001). According to the USTR, the number of country participants as of Dec. 17, 1999, stood at 57, with more waiting to adopt the ITA as they acceded to the WTO. *See* 1999 USTR Annual Report, *supra* note 3.

14. Participants had the option to act more quickly. The EU, for example, took an early cut on its semiconductor tariffs.

15. Concession schedules of some member countries are posted on the WTO Web site, at http://www.wto.org. However, the organization does not require posting and some countries have not published their concession schedules.

16. *See* Singapore Text, *supra* note 1, at Attachment A.

17. An example of a peripheral component that is *not* covered is the "CRT," or cathode ray tube, used in a computer monitor. CRTs proved too trade sensitive in a number of countries to include in the ITA. In contrast, both flat panel display components (*i.e.*, active and passive matrix LCDs, plasma screens, electroluminescent displays, and other technologies) as well as finished flat panel monitor/displays are covered.

18. *See* Singapore Text, *supra* note 1, at Attachment B.

19. These are the modern versions of telephone switchboards.

20. Communications satellites are the primary exception and are not covered

ers a selection of precision scientific instruments that, in today's information technology intensive world, have become essentially computers with analog inputs for measuring pressure, chemical composition, or the flow of liquids.[21] Chromatographs and spectrometers also are covered.[22] Medical instruments, in contrast, generally are not covered.

In addition to hardware, the ITA grants duty-free treatment to imports of software—an important development that will have greater implications in the future—and that presaged the current WTO interest in a permanent agreement on customs duty-free treatment for "electronic transmissions."[23]

The details of product coverage are laid out in the Singapore Text at "Attachment A, Section 1" (coverage by Harmonized System (HS) classification number); "Attachment A, Section 2" (coverage for semiconductor manufacturing and testing equipment and parts thereof, generally, by HS number, but in some cases, by description regardless of classification); and "Attachment B" (a "positive list of specific products covered by the agreement wherever they are classified in the HS").[24]

This unique way of describing product coverage reflects the effort to take technological convergence and rapid development into account. If there are classification differences among the various customs administrations, the ITA tries to resolve them by relying on descriptions rather than merely the HS classification reached by an ITA participant country. Descriptions rule over conflicting classifications. This fundamental principle will be explored in the next section. It is not, however, the only special feature of the ITA.

III. SPECIAL FEATURES OF THE ITA

The ITA is a sectoral agreement, and is not based on a balance of concessions, either generally or within the sector. This is another fundamental characteristic of the ITA's success. It may never have been concluded had a "balance" of concessions approach been attempted; since customs tariffs among the major trading countries in information technology

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by the ITA.

21. *See* Singapore Text, *supra* note 1, at Attachment A, § 1, HS Code 9026.

22. *See id.* at HS Codes 9027.20 & 9027.30.

23. *See* discussion *infra* Part IX.

24. Singapore Text, *supra* note 1, at Attachment B.

hardware and software[25] were not even roughly the same.[26] Instead, the ITA is founded on the notion that the development of the physical infrastructure of the digital economy is of critical importance worldwide, and should take place at the lowest possible cost; *i.e.*, in a duty-free trade environment. Without a broad consensus that duties should be eliminated in the sector–to support that sector's economic development–agreement on the ITA would not have been reached.

The ITA only came into effect when participant countries could be assured that at least 90 percent of WTO trade in the information technology sector was covered by the Agreement,[27] but it is not an obligation of WTO membership. A number of WTO members are not participants, including Brazil, Chile, Mexico, Venezuela, and much of the rest of Latin America. In fact, in the Western Hemisphere, only Canada, the United States, Costa Rica, and Panama are ITA participants.[28] On the other hand, the ITA is a "WTO Agreement" in the sense that the participants must offer the tariff concessions on a Most Favored Nation (MFN) basis and the rules of WTO dispute settlement apply.

Without a doubt, to customs practitioners, the most interesting feature of the ITA is its dual use of HS classification codes and product descriptions to delineate product coverage. This dual approach, in part, reflects evidence of inconsistent worldwide classifications of some products, despite the intent of the "Harmonized System" nomenclature. A good example is the case of semiconductor manufacturing equipment.[29] The

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25. The United States, Japan, Canada, and the European Union all figured prominently in early ITA negotiations. Agreement among these countries was seen as critical *before* the matter was taken up at the Singapore Ministerial. Other countries were consulted and informed throughout the process, in a largely successful effort to avoid surprises in Singapore.

26. *See* discussion *infra* Part VII. Under a balance-of-concessions approach, trade negotiators tote up the monetary value of an offered concession (historical value of trade times duty rate reduction offered) and seek an equivalent value from the other negotiating parties to reach a "balanced" deal. This was not the ITA approach.

27. *See* Singapore Text, *supra* note 1, at para. 4.

28. China was not a WTO member at the time the ITA was negotiated. It has been asked to accept ITA tariff levels on all ITA products as part of its final WTO-accession package.

29. *See, e.g.*, Singapore Text, *supra* note 1, at Attachment A, § 2 (semiconductor manufacturing and testing equipment). Note a section called "Comments." When it is filled in with the phrase "for Attachment B," a general description

ITA recognizes that, despite the "harmonized system" nomenclature, which uses the same words to identify products for customs classification in most of the world, classifications still can differ because they are based on the interpretations of customs officials reviewing the nomenclature.[30] Despite the best efforts of ITA negotiators to harmonize, it is not a mechanical process and differences can result.[31] Nevertheless, ITA negotiators should be commended for recognizing this issue and dealing with it explicitly.

More than simply recognizing the problems of harmonized classification in a rapidly changing world, the ITA's dual approach of HS classification code and description was a solution to the problems posed by the convergence of computing, telecommunications, and consumer electronics technologies in today's growing information infrastructure. Hardware and software convergence has created and threatened divergent customs classifications for identical goods in different markets, and the ITA has proved to be an effective tool–at least so far–for avoiding the need to litigate those classification differences before national customs authorities and the relevant courts.

"Convergence" is best thought of as a product of the digitization of information. Originally, computer networks, telephone networks, and broadcast networks operated in very different ways, with different hardware and different transmission protocols. Indeed, they were different in almost every way; reflecting a classic case of incompatible technologies. A telephone call could not be made over a computer network, any more than a telephone network could be used by a consumer to receive a radio broadcast. A computer was not a telecommunications device, and would never be confused with a television.

With the advent of digitization, this is no longer the case.

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rules if an ITA signatory classifies some piece of semiconductor manufacturing equipment, as described there, in an HS classification other than that identified in Attachment A. The phrase "for Attachment B" is used quite often in that section.

30. In general, most of the headings in Attachment B arise from the inconsistent classification practices highlighted in the course of ITA negotiations.

31. The World Customs Organization (WCO) in Brussels, separate from the WTO, is keeper of the nomenclature and tries to eliminate inconsistencies. However, its procedures are extremely time-consuming and do not reflect the fast pace of convergence or technological development in the information technology sector. It should be noted, however, in fairness, that the WCO is working on nomenclature revisions to address this problem.

When information is translated into digital form, that is, when it is converted to binary code data ("ones and zeros"), it becomes less necessary to have separate machines for different kinds of information processing. In other words, it becomes more difficult to distinguish between types of hardware. One box starts to be able to do it all. A computer becomes a communications device, both for voice (now converted to digital signals for transmission) and for data, and a telecommunications network is used to deliver digital data, as well as voice messages, across long distances. Telephone calls are starting to be made over the Internet, and digital cellular telephones are becoming mobile Internet data terminals, without the need to attach to computers. Already, computers can be used to capture radio "broadcasts" made available as "streaming data" over the Internet. Set-top boxes capture the Internet and display it on connected television receivers (a reversion to the old days when the earliest home computers used TV receivers as displays). Internet Service Providers are hoping to add value to television broadcasts,[32] and television broadcasters are reportedly becoming interested in "datacasting" – using broadcast frequencies as a medium for transmitting content from the World Wide Web into homes and offices.[33] Wristwatches connected to the Internet become payment mechanisms for financial transactions at shops and restaurants. Is there any wonder that customs authorities may find it more difficult to parse the differences between the HS classifications for "automatic data processing machines and units thereof," "equipment for line telephony," and even "television."

Much of this is clearer today than it was in 1996. What already was clear then was that the HS categories were beginning to show some strain, and customs authorities around the world, particularly in the EU, were beginning to take action to reclassify generally "low tariff" computing technology into "high tariff" telecommunications and video/broadcasting tech-

32. America Online, Inc., one of the largest Internet Service Providers, has announced plans for an "interactive television service" adding e-mail and Web surfing, among other features, to television. Microsoft already offers a competing service with its WebTV. *See* M. Maynard, *AOL Sets July Interactive TV Debut*, CBS Marketwatch.com (June 19, 2000), *at* http://cbs.marketwatch.com.

33. Jim Davis, *TV Industry Getting Serious About 'Datacasting,'* (Mar. 8, 2000), *at* http://news.cnet.com/news/0-1006-200-1567193.html.

nology categories. While technologies began to converge, classifications remained separate and customs duty rates disparate. This was the environment in which the ITA product coverage was forged.

To understand how the customs practitioner might find all of this of some use, it may be helpful to consider the historical context of the ITA and examine the specific convergence issues that led to its provisions.

IV. HISTORICAL CONTEXT FOR THE INFORMATION TECHNOLOGY AGREEMENT – WHAT FORCES SHAPED THE AGREEMENT?

The offer of the United States to "go to Zero" on all computer related customs tariffs in the Uruguay Round was not accepted.[34] At the end of the staged reductions agreed to in that Round, European Union customs tariffs on computers would remain on average around 4 percent.[35] United States' tariffs on all finished computers (and on motherboards for portable computers) would remain at about 2 percent.[36] While U.S. tariffs on semiconductors and circuit boards had been eliminated since 1986,[37] and EU tariffs on semiconductors had

34. This was known as the "Zero-for-Zero" initiative. Other sectors also were involved in the U.S. offer, but are beyond the scope of this article.

35. The European Union did not offer any concessions on computers or peripherals (keyboards, printers, and the like) as part of its final Uruguay Round tariff package. Hence, duties at the end of the "staged reductions" (generally the year 1999 and, in some cases, 2000) called for by the Round would, in the EU, remain what they had been *prior* to the conclusion of the Round. In the reference year of 1995, EU tariffs on items in HS 8471 (the main heading for "computers" or "automatic data processing machines and systems and units thereof") ranged from 4.4% for computers and 3.9% for units such as keyboards or printers or hard drives. *See* Common Customs Tariff, 1995 O.J. (L 345) 605.

36. A "motherboard" is the main circuit board of many computers, including PCs and many servers. It includes the microprocessor and other critical circuitry, and has been treated by U.S. Customs as equivalent to a finished computer, for purposes of classification, since a 1987 ruling. At the end of the staged reductions under the Uruguay Round, United States tariffs on computers and portable computer motherboards would have dropped from 3.5% in 1995, to 1.9% in 1999 and later years. *See* Proclamation No. 6763, Annex D, 60 Fed. Reg. 1007, 1596 (Jan. 4, 1995). U.S. Customs tariffs on motherboards for other computers (generally, desktop, tower, and larger machines) went to zero immediately (*i.e.* Jan. 1, 1995) under the terms of implementation of the Uruguay Round. *See* Proclamation No. 6763, Annex D, 60 Fed. Reg. 1007, 1278 (Jan. 4, 1995) (amending its subheading 8471.91.00). There was a reason for the disparate treatment of motherboard tariffs for different kinds of computers in the Round, but it has to do with sanctions applied by USTR in 1987 under the U.S.-Japan Arrangement on Trade in Semiconductors, and is not germane to the present discussion.

37. This was the result of a bilateral agreement with Japan that had MFN

been reduced in the Round from their high of 14 percent,[38] EU circuit board tariffs remained at a commercially significant level, and the albeit lower tariffs on semiconductors had been left by the negotiators in a rather confusing state. There were more than five different staged reduction schedules[39] for different kinds of semiconductors. DRAMs[40] were treated differently from SRAMs[41] or microprocessors. This created an administrative nightmare in which customs authorities and commercial enterprises were asked to apply rather different duty rates to products that in many cases looked essentially the same, except perhaps for stamping of part numbers.[42]

In any case, the successful conclusion of the Uruguay Round, while justly welcomed by the business community—including the information technology sector—did not resolve all of the industry's outstanding issues.

Soon after the conclusion of the Uruguay Round implementation legislation, an effort began to finish the job the Round had started. This initial effort involved both industry

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application. See, e.g., HTSUS item numbers for semiconductors at HS 8543 (USITC publication, 1988 edition).

38. The 14% customs tariff rate on semiconductors generally in the European Union is reflected in the rates for items at HS 8542, "Electronic integrated circuits and micro-assemblies; parts thereof . . . ." *Id.* at 626.

39. Some tariffs stayed at 14%; others were phased down to 7% over 5 years; others dropped to 10% in the third year and stayed at that level; others were phased out completely, going from 14% to zero over five years or, in other cases, to zero immediately. Official documents showing these results were circulating among the public sector negotiators and were reviewed by the author and other representatives of the private sector during the consultation process at the conclusion of the Round. However, published copies are not available. This hodge podge of rates was slated for implementation, but was overtaken by the events surrounding the ITA. The European Union's commitment in 1996 to eliminate semiconductor tariffs in the context of the ITA (as the price for accession to the "Global Government Forum" on semiconductor trade) intervened to moot the need for their publication or application. *See* discussion *infra* note 44.

40. DRAMs are "dynamic random access memory" semiconductor devices, used for a variety of purposes, but especially as the semiconductors in a computer's working memory.

41. SRAMs are "static random access memory" semiconductors, which also function as working memory devices in computers. They differ from DRAMs in how binary data is stored and retrieved. It is very hard to tell them apart from DRAMs by visual inspection.

42. While semiconductors differ in size, they all tend to look a lot alike, as little black boxes. They may have tiny "feet;" *i.e.*, the leads for insertion into circuit boards, or they may not, if they are built for "surface mount" on circuit boards. Keeping different kinds—with vastly different duty rates—straight by visual inspection is not an easy task.

and a receptive U.S. government. The United States had retained authority to pursue new "zero-to-zero" initiatives for any customs tariffs that had "been left on the table" during the Round. The initial focus was on altogether eliminating customs tariffs on computer systems and parts in the U.S. and the E.U. (tariffs on computers, parts and semiconductors had been eliminated in Japan since 1986).[43]

The initial thrust was limited to computers and parts; attacking remaining semiconductor tariffs was at first thought by many in U.S. industry and government to be too controversial. However, industry in the high tariff manufacturing zones in Europe, where the domestic semiconductor industry was not sufficient to supply completely the needs of makers of computers and telecommunications equipment, insisted on adding semiconductor tariffs to the mix. They were right to do so.

The ground had been prepared in Europe by the negotiations leading up to the entry of Sweden and Finland into the European Union in 1994. Those two countries had been low semiconductor tariff environments, and their thriving telecommunications equipment industries (*i.e.*, Ericsson and Nokia) were deeply concerned about moving to high semiconductor tariffs with EU membership. These industry concerns led to reductions in some of the EU semiconductor tariffs at the time of accession by Sweden and Finland, and set the stage for the possibility of further reductions in the ITA.[44]

In the end, the ITA covered semiconductors.[45] It is safe to say that it otherwise would not have had nearly the impact it did on world information technology trade.

Regarding telecommunications equipment, the first question was whether the telecommunications equipment industry

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43. This was Japan's commitment regarding the 1986 bilateral agreement with the U.S. identified earlier.

44. In addition, the European Commission wanted access to a new group called the "Global Government Forum," being formed by the United States and Japan, as part of a long term initiative to open Japan's semiconductor market. The United States announced, at the time the forum was established, that membership would be open to all semiconductor producing countries. However, only "countries which eliminated their tariffs" on semiconductors would be eligible to join. The parties eventually agreed that the EU's commitment to eliminate tariffs in the ITA would suffice to make it eligible for membership in the Forum. *See* USTR press release 96-65, *U.S. and Japan Reach Semiconductor Accord, at* http://www.ustr.gov/releases/1996/08/96-65.html (last visited Jan. 12, 2001).

45. *See* Singapore Text, *supra* note 1, at Attachment A, § 2.

would support being included in a new tariff elimination initiative. Telecommunications equipment had been subject to negotiations in the Round, but the talks had been considered in tandem with the talks on the basic telecommunications services agreement, and when the services talks broke down, so did further discussions of tariff elimination. Was there a leverage issue here?

By late 1995, U.S. industry and government were both receptive to the idea of "decoupling" the product issues from the ongoing services talks (if indeed they ever truly had been coupled), and pursuing a customs tariff elimination agenda separately from services liberalization.[46] It also was becoming clear that the telecommunications infrastructure for data transmissions, like the data processing equipment itself, was critical for the growth of the digital economy. This equipment should be covered. Therefore, telecommunications equipment was added to the emerging ITA proposal.

V. THE CONVERGENCE CHALLENGES PRESENTED TO ITA NEGOTIATORS

A. Telecommunications Equipment Compared to Computer Systems

By late 1995, when the ITA negotiations were beginning, a customs classification controversy already was brewing in Europe over whether computer local area networking (LAN) equipment should be classified as "units of automatic data processing machines" at the lower computer rates, or as "electrical apparatus for line telephony;" *i.e.*, telecommunications equipment, at substantially higher duty rates. Was data traveling over local area networks a "data processing" function or a "data transmission" function? Without getting into the merits of that classification controversy,[47] one thing was clear: if both computers and telecommunications gear were covered by a tariff elimination agreement, so that the choice of classification

46. It also may have helped that progress was being made in the services talks themselves, which were concluded with an agreement on basic telecommunications in April, 1997. *See* Fourth Protocol to GATS, *supra* note 5.

47. The arguments tended to get metaphysical, and positions on both sides of the debate were deeply entrenched.

did not create a duty difference, the controversy over classification would tend to disappear.

B. Computer Systems With "Multimedia" Hardware and Software Compared to Consumer Electronics Audio and Video[48]

Classification issues also were raised about the ability of modern computing equipment to process data that creates audio and video. Digital audio or video or graphics or images are all "digital data" and to a computer, data is data. There is no differentiation.[49] The European Union Customs Authority (DG XXI), in contrast, had ruled that a particular kind of CD-ROM drive with its own distinctive operating system (not used in any other computers at the time) should be classified as a "video player" in Chapter 85, not a storage device in HS 8471.[50] This led to discussions with customs officials who suggested that it might be appropriate to classify all CD-ROM drives as "video" equipment in Chapter 85, alongside video cassette recorders. Indeed, for a time, it appeared that British Customs was planning to require that all personal computers with CD-ROM drives be classified not in HS 8471, but in the much higher tariff categories in Chapter 85.[51] On a parallel track, British customs had issued a ruling that a personal computer equipped with a "TV tuner card" enabling it to receive and display television programs as well as performing all the standard computing functions (an early "PCTV"),[52] should

48. The term "multimedia" is in quotes since it is a marketing term, not an accurate technical term for data. As pointed out elsewhere, computers can handle all forms of digital data, and as forms of information such as music or video are digitized, computers can process that data as well as any other data.

49. Computer slang refers to this as a fundamental rule: "bits is bits." It does not matter what the data represent when translated from digital form. Properly programmed computers can handle it all.

50. The device, made by Philips under the brand name CD Interactive (CD-I), was designed for use with a television as its display. Games and information resources, including a version of the Microsoft CD-ROM encyclopedia, "Encarta," were made available in this format. Philips did in fact make software available for personal computers to run CD-I format disks.

51. This essentially would amount to all PCs, given the ubiquity of the CD-ROM drive at the time as a mass data storage medium and distribution platform for software.

52. A TV tuner card functions by receiving an incoming analog television signal and converting it to digital data that can be processed by the computer. Current computer and TV data formats are incompatible. As discussed, *infra*, at

be classified as a television in chapter 85 (again at substantially higher duty rates), rather than an automatic data processing machine in HS 8471.[53] Consideration also was given in Europe to whether "TV tuner cards" themselves should be classified as television equipment in Chapter 85, rather than as units of ADP in Chapter 84. In all cases, television import duties were substantially higher than computer duties.

The global computer industry has operated in a relatively free trade environment since the mid-1980's. In 1995, there were no duties on parts in the U.S. and Singapore (both major production sites at the time), and even European Union duties were around three percent.[54] Lower duty rates on parts than on finished products led many computer companies to maintain final assembly plants in Europe, making it another major production site; at least for the Internal Market. Duties on finished products, however, also were modest, ranging from zero in Singapore to around four percent in the U.S. and the EU.[55] To suddenly face the prospect of 14 percent customs duties on computers and parts aimed at the emerging consumer market was an ominous development. Indeed the industry understood, even if customs authorities had not yet noticed,

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will have the capability to process directly incoming TV signals, like any other incoming digital information, such as a Web page on the Internet.

53. The relevant tariff figures are 14% on televisions and video equipment vs. 3.9% on computers. *See* Proclamation, 60 Fed. Reg. at 1007. Computer makers argued vigorously that adding TV functionality to a computer did not magically transform the computer into a television. In contrast, customs officials argued that TV represented a "specific function" other than data processing, requiring a classification shift. This was another case of entrenched positions.

54. For the United States, see generally, the 1988 edition of the HTSUS, item numbers for unidentified "parts" for computers at HS 8473.30, as well as several larger assemblies of "parts" such as hard drives and other items classified in HS 8471, with the designation "for physical incorporation into an automatic data processing machine." HTSUS (USITC Publication 1988). As for Singapore, it "functions as a free port, and ad valorem or specific duties are levied for revenue pruposes on alcoholic beverages, motor vehicles, tobacco products, and petroleum products only." Export Reference Manual, 1998 Int'l Trade Rep. (BNA) 150, 213. In other words, Singapore became a major center for electronics manufacturing in the late 1980's in part due to the fact it is a "free port" that does not assess customs duties on most goods. European Union duties on computer parts in 1995 can be found, *supra*, note 35.

55. *See* Proclamation No. 6763, Annex D, 60 Fed. Reg. 1007, 1596 (Jan. 4, 1995) (amending its subheading 8471.91.00). (for 1995 duty rates for computers in the United States (3.5%)). As noted, Singapore functions as a free port without customs duties on most items. *See* discussion *supra* note 54. *See* 1994 O.J. (L 345) 604 (for a EU rates of 4.4%).

that the classification of all kinds of computers, including servers and mainframes, could be affected if audio and video capabilities were the new basis for a line separating computers from other technologies. Large powerful computers are widely used in today's broadcasting, music recording, and motion picture industries to process and store video and audio information. It was not just a problem for PCs.

The United States government, as well as industry, prepared for a vigorous defense of computer classification in Europe. Not only did this lead, eventually, to the filing of a WTO case by the United States;[56] it was also the driving force behind the ITA's effort to cover all computers, including those with so-called "multimedia" capabilities.

Confusion over "multimedia" also extended to software classification and its eventual coverage under the ITA. For some years, efforts had been made to treat software outside the terms of the tariff schedule. It is, after all, just another form of "recording media with a recording thereon" at the level of the 6-digit HS.[57] This treatment, however, has been inconsistent, with some countries trying to put a customs duty on the "value" of the software as well as the value of the recording media.[58] Equally important, there was a problem with the historical definition of "software" used in the early GATT decision on the subject.[59] That decision had held that it was

56. *See* Report, supra note *.

57. At the 6-digit level of the Harmonized System, the level where the "international nomenclature" is found without the additional statistical notes provided by particular countries such as the United States, software is classified in HS 8524 as "records, tapes, and other recorded media for sound or other similarly recorded phenomena;" at HS 8524.31 as "discs for laser reading systems;" at HS 8524.40 as "magnetic tapes for reproducing phenomena other than sound or image;" or at HS 8524.91 as "Other, for reproducing phenomena other than sound or image." Only in the statistical notes will references to "software" be found. *See* HS 8524.31.0030, stating "prepackaged software for automatic data processing machines, of a kind sold at retail." *See* Harmonized Tariff Schedule of the United States, § XVI, at 85-25 (USITC Pub., 2000 ed.), *available at* http://www.customs.gov/download/htsusa.pdf (last visited Jan. 12, 2001) [hereinafter HS].

58. Valuing software is not an easy thing to do. Is it the value of the retail price of packaged software (discounted by retailer and wholesaler markup)? Or the value of the license the computer manufacturer arranged from the vendor for the computer's buyer? Is software a product? Or is it a service? Can it be both? This suggests the complexity and the reasoning behind the conclusion that it is acceptable under the GATT valuation code to ignore the value of software when assessing the value of the import.

59. *See* Valuation of Carrier Media Bearing Software for Data Processing

"GATT consistent" to ignore the value of "software" when valuing the recording medium. "Software" was recognized to be "instructions for a computer," but the GATT decision said that it did not apply to "instructions shall/not be taken to include sound . . . or video recording."[60] In other words, such "instructions" were *not* software.

In 1984, most "software" had not incorporated sound or video. But by 1995, everything from applications to operating systems had plenty of "sound and video" in their alarm bells and animated icons, featured in the new graphic user interfaces. If a personal computer operating system was not software, what was?

VI. THE ITA'S SOLUTIONS TO THE CONVERGENCE PROBLEM

A. Eliminate the Duty Difference between Computers and Telecommunications Equipment

The ITA eliminated the duty on the full range of both computer and telecommunications equipment. The negotiators were able to eliminate the duty difference between these classes of goods, which had driven the classification dispute in Europe. Some critics pointed out that it was not a perfect solution, since several companies already had entered LAN equipment into the EU prior to the effective date of ITA, which was subject to telecommunications equipment duties (the EU did not recede from its position in the classification dispute, even after being outvoted in the World Customs Organization (WCO). Nevertheless, the ITA turned the dispute into a short-term problem with a limited economic impact that was brought to a resolution with duty elimination effective January 1, 2000.[61]

Equipment, Sept. 24, 1984, GATT B.I.S.D. (31st Supp.), at 274 (1985) [hereinafter Val/8].

60. *Id.* at 275.

61. The ITA solution also is limited by the fact that its coverage is not universal, but limited to an identified group of WTO members. Still, they represent the bulk of trade. This highlights the reason why there is a continuing interest in expanding the ITA to cover additional WTO member states. *See* Singapore Text, *supra* note 1.

B. Define Computer and Software as Broadly as Feasible to Include Audio and Video Capabilities

There was too much political opposition in both Europe and the United States to make it possible to eliminate the duty difference between computers and consumer electronics. Instead, the ITA reaffirms the distinctions between the two, while adopting a broad definition for "computers" to be sure that those with so-called "multimedia" capabilities are covered.

Attachment B of the ITA lays out the basic definition of a computer found in the notes to the HS in Chapter 84,[62] and

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62. The "notes" to the Harmonized System provide guidance to assist in classification, and provide a context for the wording of the tariff nomenclature. In this case, the nomenclature uses the phrase "automatic data processing machines and units thereof," to describe the goods properly classified in HS heading 8471. Note 5, to Chapter 84 explains:

> 5.(A) For purposes of heading 8471, the expression "automatic data processing machines" means:
> Digital machines, capable of (1) storing the processing program or programs and at least the data immediately necessary for execution of the program; (2) being freely programmed in accordance with the requirements of the user; (3) performing arithmetical computations specified by the user; and, (4) executing, without human intervention, a processing program which requires them to modify their execution, by logical decision during the processing run;
> Analog machines . . . .
> Hybrid machines . . . .
> Automatic data processing machines may be in the form of systems consisting of a variable number of separate units. Subject to paragraph (E) below, a unit is to be regarded as being a part of a complete system if it meets all the following conditions:
>
> a. It is of a kind solely or principally used in an automatic data processing system;
> b. It is connectable to the central processing unit either directly or through one or more other units; and
> c. It is able to accept or deliver data in a form (codes or signals) which can be used by the system.
> d. Separately presented units of an automatic data processing machine are to be classified in heading 8471.
> e. Printers, keyboards, X-Y coordinate input devices and disk storage units which satisfy the conditions of paragraphs (B)(b) and (B)(c) above, are in all cases to be classified as units of heading 8471.
> f. Machines performing a specific function other than data processing and incorporating or working in conjunction with an automatic data processing machine are to be classified in the headings appropriate to their respective functions or, failing that, in residual headings.

then states:

> The agreement covers such automatic data processing machines whether or not they are able to receive and process with the assistance of central processing unit telephony signals, television signals, or other analogue or digitally processed audio or video signals.[63]

By the same token, questions in 1995 about the applicability of duty-free rules to software with "audio or video elements" led to the ITA's delineation of broad product coverage for software. A recording on a disc or other media is entitled to duty-free ITA treatment as "software" when it is "for reproducing representations of instructions, data, sound, and image, recorded in a machine readable binary form, and capable of being manipulated or providing interactivity to a user, by means of an automatic data processing machine."[64]

Just as distinctions remain between computer hardware and consumer electronics, limitations remain in the definition of "software." While the ITA solution makes clear that software can include sound and image, the definition is limited to include only instructions for an "automatic data processing machine." If the "instructions" are for some other kind of machine, say, a video game console which is not classified in ADP, it seems possible that those instructions might not be considered "software" under the ITA.

Still, as new functionality is added to computer hardware and software in the future, the ITA has built-in tools that should enable its inclusion in the agreement's coverage for duty-free trade.

HS, *supra* note 57. This is an "international note" repeating the words of the Harmonized System Nomenclature in effect throughout the system. The ITA text recites the tests of Note 5(A)(a) as the basic definition of an ADP machine. *See* Singpore Text, *supra* note 1, at Attachment B.

63. Singapore Text, *supra* note 1, Attachment B.

64. According to the Singapore Text at Attachment A, § 1, the entry for HS 8524.39 coverage states that recording media with recordings thereon are covered if the recording is "for reproducing representations of instructions, data, sound, and image, recorded in a machine readable binary form, and capable of being manipulated or providing interactivity to a user, by means of an automatic data processing machine." Singapore Text, *supra* note 1, at Attachment A, § 1. There are separate texts for CD-ROMs, and whatever else might need to be covered. *See* HS, *supra* note 57, at 8524.39, 8524.99.

C. Leave Full Convergence with Consumer Electronics for Another Day

If the ITA does not provide perfect solutions, it should be recognized that it does the best job that could be done, given the political realities in which it was negotiated. Simply put, television is different. The convergence in the marketplace among computing, telecommunications, and *broadcasting/consumer electronics* has yet to take place in a comprehensive way. By the same token, coverage under the ITA largely has been left to another day.

The most prominent example of this omitted coverage is the exclusion of High Definition Television (HDTV). The ITA specifically covers computers with the capability of displaying audio and video signals.[65] At the same time, coverage is specifically denied to televisions, including HDTV.[66] Television receivers and components, in many markets including both the United States and Europe, have long been "trade sensitive" items.[67] While the negotiators found it politically possible to cover a computer with TV tuner capabilities, it was not feasible (because it was not politically desirable to some of the signatory countries) to cover television, or other consumer electronics items.

Basic analog televisions generally are poor displays for computer text and graphics. Set-top Internet terminals, like WebTV, process the incoming Internet signals to improve the image shown on the TV monitor. While the distinction between computers and televisions still can be made on such objective grounds,[68] those days are numbered. As television becomes "high definition," the analog signal gives way to digital transmissions and data processing functionality. Television–from

65. *See* Singapore Text, *supra* note 1.

66. "The agreement does not, therefore, cover televisions, including high definition televisions." Singapore Text, *supra* note 1, at Attachment B (definition of "monitors").

67. For example, Europe maintains a major domestic television manufacturing industry behind fourteen percent import tariffs. United States customs duties are only about 3.5% today, but the U.S. trading picture is strongly influenced by a carefully conceived set of antidumping duty orders from the 1980's (covering both finished televisions and chassis) and special rules to encourage NAFTA production of TV receivers inside the trading area.

68. Performance characteristics such as the "dot pitch" of displays and the presence of freely programmable computer logic and circuitry in one, but not the other, still are different enough to justify different classifications.

the display itself to the electronic circuitry–will start having more in common with computers than it will have detectable differences.[69] This is a problem that will have to be faced in the future, under the auspices of the procedures established by the ITA to deal with continuing technological convergence and emerging new categories of information technology products.[70]

VII. PRACTICAL IMPLICATIONS OF THE ITA

How does the ITA classification/description dichotomy work in practice? Consider the example of the device referred to in the industry as a "set top box."

A "set-top box," is a device that attaches to a television set and, through a modem attached to a telecommunications network, enables the TV to display World Wide Web content drawn off the Internet through the telecom link. The box allows the user to compose and receive e-mail and do many of the other things usually associated with "Web surfing." Such boxes exist, of course, under brand names like "WebTV."

Such a box arguably can be classified as an "Internet terminal," a unit of ADP that connects to the Internet,[71] and uses the TV set as a monitor. If it is classified in HS 8471, it clearly is covered by the ITA.[72] But what if a customs authority decides that this box is an "accessory to television" somewhere in HS 8528?[73] The ITA does not have any HS classifi-

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69. To test this conclusion, consider the analogy provided today by radio. Broadcast radio signals originating anywhere in the world are now available anywhere else in the world over the Internet. A Nairobi radio station is available in Chicago, via "streaming audio," a form of digital data, delivered over the Network to a computer's speakers through its "sound card." The day when broadcast television from a local station in, say, Kansas, is available in London, is not tomorrow, but it is not that far off.

70. The problem already is apparent today in a few instances. For example, the ITA covers a "DVD-ROM" drive for a computer. *See* Singapore Text, *supra* note 1, at Attachment B. However, it does not cover a DVD movie player that attaches to a television set. DVD-ROM drives, however, are capable of showing DVD movies on computer monitors, and several personal computers with DVD-ROM drives targeted at the consumer market have the required output jacks to connect the computer's DVD-ROM drive directly to a television set, eliminating the need for a separate movie player.

71. The Internet, after all, is a network of networks, including both computers and telecommunications devices. Things that connect directly to the Internet, through an Internet Service Provider, easily should be classified as computer peripherals. It is just another form of "network computer."

72. *See* Singapore Text, *supra* note 1, at Attachment A, § 1, HS Code 8471.

73. HS 8528 covers "Reception apparatus for television, whether or not incor-

cations in HS 8528 included in its scope of coverage in its Attachment A. But if the set top box described above meets this definition in Attachment B, it is covered by the ITA wherever it is classified:

> Set top boxes which have a communications function: a microprocessor-based device incorporating a modem for gaining access to the Internet, and having a function of interactive information exchange.[74]

In other words, it is entitled to duty-free entry regardless of classification, if it meets the ITA's descriptive coverage. The description rules.

Can a new classification subheading be added to meet the requirements of ITA's Attachment B? In the case of set-top boxes in the United States, that is exactly what happened. U.S. Customs ruled, after the ITA negotiations were concluded, that set-top boxes should be classified in HS 8528, as television reception apparatus. An annotation was added to the subheadings of HS 8528, at HS 8528.1292, with an accompanying duty rate of zero, to comply with the U.S. obligations to grant duty free treatment under the ITA's Attachment B.

This can be confirmed by reference to the documents that cross-index the ITA's Attachment B and the tariff schedules. Every ITA participant has been required, by the terms of the Singapore Text, to provide an "annex to its [tariff] Schedule including all products in Attachment B, which is to specify the detailed HS headings for those products at the national tariff line level of the HS 6-digit level."[75] This produces a document that goes *from* attachment B *to* the classifications of the HS, and shows where things described should be classified. There is often more than one HS classification. In the case of set-top boxes, identified in Attachment B, the U.S. identified potential classifications at HS 8517.5010; 8525.1010; and 8528.1292.[76] After the U.S. Customs ruling, the "proper" classification was

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porating radio broadcast receivers or sound or video recording or reproducing apparatus; video monitors and video projectors." *See* HS, *supra* note 57, § XVI, at 85-35. There are no direct references to coverage of any items classified in HS 8528 in the Singapore Text of the ITA.

74. *Id.*

75. Singapore Text, *supra* note 1, at para. 2(ii).

76. *See generally* U.S. Part B Tax schedule, *at* http://www.ustr.gov/agreements/ita/uspartb.pdf (last visited Apr. 2, 1999).

settled as HS 8528.1292, but that did not interfere with ITA coverage.[77]

This is how the process should work in the future. It would be naive to think, however, that the process would work like clockwork without involvement by counsel for the international trading community as well as the governments involved. At the very least, it will be necessary to bring issues to the attention of the trade negotiators. More likely, it will be essential to conduct a campaign like any other to demonstrate that a particular problem deserves a high priority.

Consider another example, one that might actually arise in the next year or two. For lack of a snappy commercial name for the goods, one might call them "wrist-mounted mobile Internet terminals." The goods themselves are extremely compact. As a matter of physical dimensions, the terminals are thin cylinders, approximately two inches in diameter and one-half inch thick. Inside their casings are the electronics needed to access the Internet remotely, including the computing software (a browser-on-a-chip, in addition to a simple operating system) and the telecommunications hardware needed to make a wireless connection to an Internet service provider on the network (radio transmitter/receiver, encryption software-on-silicon, etc.). The terminals have tiny keyboards with limited keys, an input jack for a full size keyboard (which can be carried in a pocket in case of need), and an active-matrix liquid crystal display (LCD). They can be used to download information from the Internet, send information to others, communicate as a digital cellular phone, and be used to pay for financial transactions at shops and restaurants, transferring funds from the user's to the vendor's account on command. They come with a wrist band, and, like all other computers and telecommunications equipment, they also have a clock, which displays the time, rather like a digital wrist watch.[78]

If these goods are classified in HS 8471 or HS 8517–the core ITA classifications for computers and telecommunications equipment–coverage is assured.[79] But what if a customs au-

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77. Each participant country has supplied such a schedule to the WTO. Unfortunately, not all of these are readily available to the public.

78. Similar goods are pictured and described in *Wireless in Cyberspace*, *supra* note 6.

79. *See* Singapore Text, *supra* note 1, at Attachment A, § 1, HS Codes 8417,

thority in an ITA country decides that the "essential character" of the goods is as a wrist watch, and classifies the goods in that HS classification? There are two cases to consider.

First, assume that the goods can fit into the ITA Attachment B description for computers and units of computer systems. There is a strong argument for inclusion in this description, even if the goods are classified elsewhere.[80] How does the ITA duty-free rate get associated with an annotation in the wrist watch tariff classification?

Second, assume that the goods cannot fit into the existing descriptions in Attachment B of the ITA. It seems clear enough that these goods are information technology goods that should be included in the ITA, given the principle that the agreement should be adequately comprehensive to provide the benefits of expanding the infrastructure at the lowest possible cost. What recourse is there to add the goods to ITA coverage?

From the practitioner's perspective, in the first case it is difficult to assess in the abstract whether it would be better to use a protest to the customs collector and then proceed to the relevant judicial body, or seek assistance directly from the trade negotiators involved in ongoing implementation of the ITA. The likely course is to take both steps simultaneously.

The protest/judicial proceeding route would seem to have some problems, since it is not clear that individual importers have any rights that they can enforce under the ITA. Still, it may be required to file appropriate protest or judicial process to preserve possible remedies. The customs collector may agree that the goods, while properly classified outside Attachment A, meet the definition of coverage under Attachment B, and yet refuse to create the remedy needed to implement a binding duty free category in the other classification. The collector may claim it lacks authority to implement such a remedy, leaving an importer to its remedies in court.

Another scenario seems more likely. The importing country's customs authority declines to find that the goods are classified within either the HS classifications of Attachment A or the descriptions of Attachment B. In this case, there is

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8517.

80. Just as the set-top box fits the language of Attachment B, even though classified elsewhere. In the interest of space, the argument will not be laid out here. For present purposes it can be accepted as a given. *See id.* at Attachment B.

clearly a judicial avenue through the protest process, but it is likely to be a more effective remedy, at least for future imports, if the importer can engage the exporting government's assistance in taking the controversy to the ITA working groups which meet in Geneva. If the exporting country's government agrees with the importer,[81] the ITA provides a process for addressing this problem. The ITA text provides:

> Participants shall meet as often as necessary . . . to consider any divergence among them in classifying information technology products, beginning with the products specified in Attachment B. Participants agree on the common objective of achieving where appropriate, a common classification for these products within existing HS nomenclature, giving consideration to interpretations and rulings of the Customs Cooperation Council (also known as the World Customs Organization, or "WCO"). In any instance in which a divergence in classification remains, participants will consider whether a joint suggestion could be made to the WCO with regard to updating existing HS nomenclature or resolving divergence in the interpretation of the HS nomenclature.[82]

This provision makes it possible for governments to attempt to resolve coverage issues like the one set forth above, in response to problems pointed out by the international trading community.

The ITA also has provisions to address the second case, in which the goods are held not to fall within either the classifications of Attachment A, or the descriptions of Attachment B. The Agreement's language, while as flexible as it could be expected at the time it was drafted, cannot be expected to cover every new product that may come along in the rapidly developing, converging information technology sector. In such a case, judicial remedies would seem to be limited, with the primary, if not sole recourse in government-to-government negotiation. The ITA provides a mechanism for this, as well:

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81. If the importer and exporter are not the same entity, the exporter will have to be engaged to seek assistance from its government. Presumably, to protect its export flow, it will be more than willing to get involved. However, this cannot be taken for granted.

82. Singapore Text, *supra* note 1, at para. 5.

> Participants shall meet periodically under the auspices of the Council on Trade in Goods to review the product coverage specified in the Attachments, with a view to agreeing, by consensus, whether in the light of technological developments, experience in applying the tariff concessions, or changes to the HS nomenclature, the Attachments should be modified to incorporate additional products . . . .[83]

Between this provision and the one quoted earlier,[84] there is ample authority for governments to act to cover "information appliances" like the wrist-watch Internet terminal. The ITA can be expanded, whether to clarify coverage for goods that seem to fall within the Attachment B descriptions but have not been accommodated with classifications at ITA duty-free rates, or to add new products outside the scope of the current ITA.

Effective use of the available procedures remains the challenge for the future. The ITA signatory countries began an extensive set of negotiations over three years ago seeking to add product coverage. Those negotiations have yet to be concluded. Some reasonable conclusion to these talks needs to be found so that the signatories can move on to the issues that are likely to arise in the coming years.

As the information technology sector moves deeper into network access through so-called "information appliances," goods that have limited functionality for accessing the global networks may raise new questions about their own proper classification as computers or telecommunications equipment. There is no doubt that they are information technology goods that should be covered by the ITA. The ITA working groups need to be ready to take on these issues as they arise.

VIII. THE ITA REMAINS A WORK-IN-PROGRESS

The ITA represents substantial completion of the task of tariff elimination in the Information Technology sector; a job left unfinished at the end of the Uruguay Round. By encouraging the worldwide development of an affordable infrastructure for electronic commerce, the ITA encourages governments to build the economies of their countries through investment, rather than continuing to realize income from customs duties.

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83. *Id.* at para. 3.
84. *Id.*

The ITA working groups need to be prepared to address new convergence challenges that may be posed by mobile Internet terminals and information appliances, as well as the final convergence with consumer electronics.

Meanwhile, the WTO is taking up a more ambitious electronic commerce agenda. ITA implementation nevertheless must remain a continuing agenda item. The tariff elimination commitments of several participants among the developing countries need to be accelerated, and the remaining countries outside the agreement, mostly in Latin America, but also in Africa and the Middle East, need to be recruited as members. In addition, a work program focusing on the elimination of trade-restrictive standards, testing and certification, and other non-tariff measures under the auspices of the ITA, is beginning to take shape.[85] The job is not yet finished.

IX. HOW THE ITA FITS INTO THE BROAD E-COMMERCE AGENDA AT THE WTO: DUTIES ON "ELECTRONIC TRANSMISSIONS"

ITA signatories agreed that trade in "software" shall be duty free when it is imported as a recording on a recording medium (tape, diskette, optical disk, etc.). That is an important first step, but it is only a beginning. To examine this issue more thoroughly, it is necessary to remember, first, that "software" is something that can be electronically transmitted over telecommunications lines (*e.g.*, the Internet), as well as imported as a "recording." The ITA states the principle of duty free treatment, but it does not cover electronic transmissions. That should not be surprising, since such transmissions today generally are not subject to import duties in the first place.

Second, "software" is a technically limiting term, not a broad catch-all for describing any digital data. The encyclopedia defines software simply as "instructions for the computer."[86] While that covers a lot of territory in today's world, it is

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85. The ITA calls for the participants to meet periodically to, among other things, "consult on non-tariff barriers to trade in information technology products." Singapore Text, *supra* note 1, at para. 3.

86. A. FREEDMAN, THE COMPUTER DESKTOP ENCYCLOPEDIA 790 (American Management Association 1996). "A series of instructions that performs a particular task is called a program. The two major categories are system software and applications software. System software is made up of control programs, including the operating system, communications software and database manager. *Application*

hardly all inclusive. As noted earlier, some argue that if the "instructions" are for something other than a "computer" as defined by the Harmonized System in the notes to Chapter 84, then the instructions are not "software" for some purposes, such as ITA coverage for duty-free customs entry.[87] In addition, it is clear that "software" and "data" are not synonymous. In fact, they are opposites. The sources are all emphatic that "software" is *not* "data."[88] What is the status of imports of other forms of digital data or their electronic transmissions?

Today, generally it is true that electronic transmissions of data across a telecommunications network, such as the Internet, are not subject to customs duties when the sender is in one country and the recipient is in another country. But the legal status of an "exemption" is not as clear as it should be, in a world of emerging electronic commerce. In the United States, the exemption *is* clear. The Harmonized Tariff Schedule of the United States (HTSUS), in its general notes, states that telecommunications transmissions are not goods subject to the provisions of the tariff schedule.[89] This exemption from dutiable status, however, appears to be only a United States note,[90] not an international note. Thus, it will not be found in all of the tariff schedules of the countries subscribing to the Harmonized System. Adding it to the International notes and implementing it across the WTO membership would be a positive step. Although the pace of implementing an international note through the WCO could be so glacial as to render it a small step.

In an effort to maintain the status quo, WTO Ministers agreed in May 1998 to "continue their current practice of not imposing customs duties on electronic transmissions."[91] The

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software is any program that processes data for the user (inventory, payroll, spreadsheet, word processor, etc.)." *Id.* (emphasis added)

87. This can lead to absurd results. As noted earlier, Microsoft's encyclopedia database software, Encarta, is available in several formats, including one for the CD-Interactive system, which European customs authorities decided was a video player, not an automatic data processing machine. *See* discussion *supra* note 50. Encarta, of course, also is available for personal computers running Microsoft Windows operating systems or Apple operating systems.

88. "A common misconception is that software is also data. It is not. Software tells the hardware how to process the data." FREEDMAN, *supra* note 86.

89. *See* HS, *supra* note 57, at General Notes 1, 16(b).

90. *See id.*

91. "Declaration on Global Electronic Commerce," WT/MIN(98)/DCE/2, *at*

real problem is that while duties generally are not assessed on electronic transmissions today, there is nothing–other than the current WTO interim agreement–to stop countries (other than the United States) from starting to assess duties. A possibly growing number of countries appear prepared to start, if they just can figure out how to establish a collection mechanism.[92] According to press reports, Argentina recently enacted a law authorizing customs tariffs on "intellectual property" in the form of either recordings or digital transmissions, when entering the country. After consultations with concerned businesses, the law is not being enforced.[93] Pakistan reportedly led a group of WTO member countries that almost succeeded in the Spring of 1998 in stopping the WTO trade ministers from accepting the current "interim" agreement not to impose duties.

Countries may say they fear the loss of customs duty revenue as commerce converts from the physical world to the "electronic" one. Those fears, however genuine they may appear on the surface, seem to be misplaced. More likely, growing electronic commerce is seen as a potential new source of customs revenues, one that is not "bound" to low and declining rates, as are duties in WTO member countries on most physical imports.

Fears of revenue loss are misplaced for several reasons. First, while some countries, especially in the developing world, levy customs duties on physical imports of software recordings, the trend is against doing so, and the ITA takes a strong stand against such duties. Software transmissions over the Internet do not pose a threat to any country's current customs revenues.

Second, consider the customs treatment of physical imports of data. Books are imported free of duty if they are covered by one or more conventions on the duty free movement of literary works.[94] In the U.S., at least, movies imported on film

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http://www.wto.ord/wto/ddf/ep/public.html (last visited Jan. 12, 2001).

92. This would not be easy, but anyone who follows the current debate over taxation of Internet transactions knows that it may not be impossible. Just because it does not make good sense to attempt customs duty collection on electronic transmissions does not mean some country might not try.

93. *See* John Burgess, *An E-Common Market Puts Borders to the Test*, WASH. POST, Nov. 7, 1999, at H1, H4.

94. Under the Florence Convention, for example, books and other documents, including magazines and newspapers (when these latter consist of less than 70 percent advertising) are entitled to duty-free customs treatment. *See* Agreement on

are subject to very low if not non-existent duties. Digital data forms of movies, music, or other "intellectual property" imported as recordings on CD, DVD, or other media, are duty-free or subject to negligible duties.

Moreover, a wide variety (if not all kinds) of business data are freely imported without declaration as exempt from treatment as goods under the tariff schedules. As the General Notes to the Harmonized System point out:

> Records, diagrams and other data with regard to any business, engineering or exploration operation whether on paper, cards, photographs, blueprints, tapes or other media . . . are not goods subject to the provisions of the tariff schedules.[95]

This exemption is international language that should be found in all WTO member tariff schedules that adhere to the Harmonized System.[96] It is the language which allows business documents of all kinds to move freely in international commerce without the need to meet customs entry requirements. It is the language which largely has enabled the growth of the global overnight courier business for documents (by confirming that time-consuming customs entry procedures are not required). Moving such information to electronic transmission over the Internet does not threaten the customs revenues of any country.

Third, when electronic commerce involves electronic ordering and physical delivery, the physical goods (*e.g.*, a sweater, a power tool, etc.), cross the territorial border and are subject to

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the Importation of Educational, Scientific and Cultural Materials, Nov. 22, 1950, 17 U.S.T. 1835, 131 U.N.T.S. 25 (also known as the Florence Convention). The United States signed the Convention in 1959, and it was implemented in United States' law by the Educational, Scientific and Cultural Materials Importation Act of 1966, Pub. L. No. 89-651, 80 Stat. 897. Indeed, the Florence Convention provides for duty-free trade for a variety of information likely to be represented on the Internet, including: music manuscripts, travel posters and brochures (from state agencies, not commercial entities), geographical and astronomical maps and charts, and even catalogues of books offered for sale by sellers outside the identified countries. If Amazon.com can publish a paper catalogue and send it to another country duty-free under this Convention, it would seem rather absurd to attempt to assess a customs duty against its online "catalogue" embodied in its Web site.

95. HS, *supra* note 57, at General Notes 1.

96. *See id.*

whatever duties may apply. To the extent that ordering shifts from local retail to the Internet, that does not change the fact that a physical import of the delivered item is subject to customs duties. Again, there is no reason to fear the loss of customs revenue.

It is important, in the course of analyzing this issue, not to fall into a trap by simply concluding that everything moving in electronic commerce is a "service" and should be treated as such under existing WTO rules for services trade. Rather than addressing the question of customs revenue loss directly, some commentators suggest that customs duties on electronic transmissions are inappropriate simply because all such transmissions are "services," not "goods." But, calling everything on the Internet a "service" has problems of its own, and forces the growing world of electronic commerce to conform with the intricate rules and "bilateral request and offer" negotiations characteristic of the GATS. It is difficult enough to use the GATS framework to determine the rights of basic telephone service providers to enter each of 61 different countries under the terms of 47 different schedules of concessions, at different times and under different circumstances.[97] Is it really advisable to ask an Internet retailer of digital music downloads to do the same whenever a customer orders a download?[98] That would seem to be impractical if not impossible. GATS is not a good framework to impose on the explosive growth of electronic commerce.

Instead of falling into the services trap, the WTO should recognize that goods, as well as services, can be delivered electronically in the new global marketplace.

X. CONCLUSION

The ITA promotes the development of the physical infrastructure of the networked world at the lowest possible cost. As the evolution of the information infrastructure continues, the

97. See the various schedules for telecommunications services market entry, by country, at http://www.wto.org (last visited Jan. 4, 2001).

98. Where is the vendor located? Where is the customer located? What concessions has the country of the customer made in terms of the service sought to be provided? These and other questions demonstrate the absurd level of complexity that could be required for electronic commerce transactions if the services model applies to electronic retailing.

ITA continues to be a valuable component of international information trade policy, and needs to be extended to other countries, expanded when necessary to cover emerging products and confirmed as a critical element of electronic commerce policy.

Although it was not part of the original plan, the ITA has developed into a very useful tool for avoiding customs classification litigation, as computing and telecommunications technologies have converged. The customs classification system should not be expected to catch up with the continuing convergence and pace of change in the information technology sector. The ITA provides an invaluable service by minimizing the conflicts that otherwise would arise.

The ITA also provides a solid policy foundation as the WTO moves beyond trade in hardware to a more comprehensive agenda for electronic commerce trade liberalization. The free-trade principles of the ITA should be extended into the realm of electronic commerce, to keep it duty-free.