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Telecommunications Regulatory Implications for International EDI Transactions

*Aileen A. Pisciotta**
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I INTRODUCTION

Worldwide efforts to adjust legal and regulatory regimes to cope with the phenomenon of Electronic Data Interchange (EDI) are part of a more general global struggle to keep pace with the enormous advances in information technology.¹ This struggle affects not only legal structures defining commercial practice,² but also the fundamental regulatory

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¹ Professor Boss observes:

With the advent of more sophisticated technology, our globe is in effect, if not in fact, rapidly shrinking. Thus it is not surprising that international trade is increasingly conducted by the electronic transmission of data in all stages of the transaction, from negotiation through contract formation, performance (e.g., shipment), insurance, and payment.

Amelia H. Boss, *The International Commercial Use of Electronic Data Interchange and Electronic Communications Technologies*, 46 BUS. LAW. 1787 (1991); see also Sen. Larry Pressler and Kevin V. Schieffer, *A Proposal for Universal Telecommunications Service*, 40 FED. COMM. L.J. 351, 352 (1988) ("Driven by computer technology and telecommunications capabilities, the creation and distribution of information around the globe has opened new horizons in business, education, government, and a host of other areas. Our 'global village' is indeed becoming smaller and smaller.").

² Much attention has been focused, justifiably, on the numerous, fascinating legal and commercial issues that attend EDI, e.g., how this major move towards paperless transactions affects basic

frameworks of the telecommunications networks, technologies and services through which EDI operations are performed. Telecommunications regulatory issues and EDI service offerings and options will likely have an increasingly direct and profound interrelationship as technology and services continue to evolve, creating an ever greater convergence of telecommunications transmission and information services. The consequences of such a convergence become particularly acute and complex in the international context. It is therefore vital for policymakers who address EDI, as well as EDI providers and users, to be sensitive to the substantive impact on EDI of regulatory requirements and issues applicable to transmission networks, at both domestic and global levels.

This article provides a general introduction to various telecommunications regulatory issues that should be included in the "calculus" of domestic and international EDI transactions. Part II places EDI generally within the broader context of telecommunications "value added" services, introducing the operational relationship between EDI and telecommunications networks, and the manner in which EDI services may be influenced by global telecommunications regulatory schemes. Particular emphasis is placed upon the United States as a "case study," in order to provide a familiar baseline from which to touch upon broader issues attending the international provision of EDI and other value added services.

Part III examines selected fundamental issues that demonstrate the impact of evolving regulatory frameworks on EDI transactions. Part III also identifies different, multiple "levels" at which telecommunications regulatory policies have an impact on EDI, including local, national and international regulations; multilateral initiatives; and bilateral agreements.

In particular, regulatory policies raise issues of service provision involving who may provide EDI services; the parties with whom service providers may interconnect; the terms and conditions under which service may be provided (e.g., pursuant to a license or tariff); and overall, the degree and nature of regulatory oversight required. Such provisioning issues substantially influence the technical and operational configurations of international EDI and data networks. Regulatory policies also set terms for fair competition between EDI providers and entrenched

legal structures with regard to contract formation, the Uniform Commercial Code, authentication of evidence, etc. See, e.g., 6 *COMPUTER L. & PRAC.* 1990 (Special Issue: Electronic Banking); 6 *COMPUTER L. & PRAC.* 1989 (Special Issue: Electronic Data Interchange). Less attention has been paid to the specific connection between the characteristics of EDI and evolving telecommunications policies, or how different regimes can affect opportunities for international transactions.

basic services providers, including opportunities for interconnection with basic networks and options for competitive pricing of services. In addition, regulatory classifications can substantially affect notions of legal responsibility for consequential damages attending the loss of or damage to transmitted information. Finally, telecommunications regulatory institutions have substantial influence over the establishment of technical standards that affect the configurations and operations of data networks.

We conclude that regulatory policies, and the intersection of differing regulatory regimes among countries, can profoundly affect EDI offerings.

II. EDI IN THE TELECOMMUNICATIONS CONTEXT

A. Operational Relationships Between EDI and Telecommunications Systems

Simply put, EDI is the method by which business data may be communicated electronically between computers.³ Perhaps the significant distinguishing characteristic of EDI is that the information being communicated is structured into standardized formats (e.g., purchase orders, shipping notices or remittance advices),⁴ permitting "effective, comprehensible data exchanges irrespective of the particular hardware or software implemented at either end of the transmission by the communicating parties."⁵ The use of EDI has many benefits: it is a faster and more precise means of arranging and documenting business transactions than conventional methods, and it saves costs by eliminating manual labor and reducing errors.⁶

In general, most EDI communications between businesses utilize existing telecommunications facilities.⁷ Although direct point-to-point

³ *The Commercial Use of Electronic Data Interchange — A Report and Model Trading Partner Agreement*, 45 BUS. LAW 1645, 1649 (1990) [hereinafter *Commercial Use*]; see Comment, *Electronic Contracts: Are They Enforceable Under Article 2 of the U.C.C.?*, 4 SOFTWARE L.J. 247, 253 (1991) [hereinafter *Comment*]; Benjamin Wright, *EDI and the American Law: A Practical Guide* xiii (1989). Technically stated, EDI is the transmission, in a standard syntax, of unambiguous information between computers of independent organizations. *Commercial Use, supra*, at 1649 n.1 (citing Accredited Standards Comm. X12, *Information Manual 2* (1989)).

⁴ An EDI format consists of machine-language encoded information which is transmitted from an originating computer and received by another computer that retrieves and interprets the data. *Comment, supra* note 3, at 248 n.5 (citations omitted). Facsimile and electronic mail transmission, on the other hand, are free-form textual communications that can be read by humans. *Id.* (citation omitted).

⁵ *Commercial Use, supra* note 3, at 1650.

⁶ See Wright, *supra* note 3, at xiii.

⁷ See Jeffrey B. Ritter, *Private Trade Data Networks: A Commercial Tapestry in Progress*, 1990 A.B.A. Business Law Section Paper, Aug. 7, 1990, at 10; see also *Commercial Use, supra* note 3, at 1650 n.10 (noting that EDI communications between businesses generally occur over telephone lines).

transmission of EDI communications between trading partners does occur, the more prevalent practice (both domestically and internationally) is communication through third-party networks or service providers.⁸ These providers are able to achieve economies of scale that make their services an attractive alternative to internal capital investment by EDI users in network facilities, even for those who have the economic capability to make such an investment.⁹

EDI users usually enter into a service agreement with a provider. Pursuant to the agreement, the provider essentially functions as an electronic mail processing system, and may either 1) maintain electronic "mailboxes" for trading partners into which EDI communications may be placed, or 2) interconnect with other providers in order to facilitate communication between their respective customers.¹⁰ The providers generally are able to offer these services more cheaply than users can, and often offer a variety of other add-on services.¹¹

A typical EDI arrangement may be illustrated by the following ex-

or satellite networks); Wright, *supra* note 3, at xiii, 37 (EDI users frequently use intermediary networks of one or more service providers); Daniel M. Norris & Elaine Waples, *Control of Electronic Data Interchange Systems*, J. Sys. MGMT. 21 (March 1989) ("Trading partners using EDI have their own systems and communicate over phone lines either directly or through a third-party network.") [hereinafter *EDI Systems*].

⁸ Ritter, *supra* note 7, at 9. There are currently three types of EDI networks, in use. The first type, known as a "distributed" network, is one where communications transpire directly between EDI users. *Comment, supra* note 3, at 254 (citation omitted). The second type, known as "single hub," is usually centered on a large company that has achieved a sufficient level of EDI activity to initiate and control the network operation (essentially matching the function of a third-party provider). Smaller vendor companies seeking to do business with the hub company will usually customize their EDI operation to accommodate the hub company's needs, and the hub company's network will usually extend upstream to suppliers and downstream to customers. *See id.* at n.39 (citations omitted); Ritter, *supra* note 7, at 12 n.13. The third type of EDI network is the "clearinghouse" network, centered on a third-party communication service organization. *Comment, supra* note 3, at 254 (citations omitted). This organization usually serves as a distribution and processing center to a number of subscriber firms who each pay a usage fee to the third-party network. *See id.*

⁹ *See* Ritter, *supra* note 7, at 12; *Commercial Use, supra* note 3, at 1707. Users of EDI services: employ third party or value added EDI networks ('networks' or 'service providers') because they make data communications easier. A network can reduce the complexities of coordinating communication with multiple partners. It can serve as a bridge between partners with incompatible computer systems and the outside world. A network can store and forward data and perform data validation, translation and compliance checking routines. Networks also furnish technical and operational advice.

Wright, *supra* note 3, at 37; *see also EDI Systems, supra* note 7, at 22 ("For many companies, the most practical approach to EDI implementation is the use of a third-party service bureau. This type of network reconciles differences in transaction formats and communication protocols, in addition to performing the receiving, sorting and transmitting functions for the various parties involved.")

¹⁰ *Commercial Use, supra* note 3, at 1707; *see* Wright, *supra* note 3, at xiii.

¹¹ *Commercial Use, supra* note 3, at 1707; *see infra* note 22.

ample:¹² Companies X and Y have a long-standing purchase and sale relationship. Company X, recognizing the economic and administrative advantages of EDI, announces to its vendors, including Y, that it will require the use of EDI in future transactions.¹³ Company X enlists a third-party provider, P, to receive, transmit, and sort X's various EDI transmissions. X then determines which paper-based documents (purchase orders and the like) will be replaced by EDI formats; decides which industry standards will be adopted (around which all transmissions will be structured); and implements certain security procedures for assuring authenticity and integrity of electronic communications.¹⁴ All of this information is communicated to X's vendors, including Y, who must then implement EDI in order to keep X's business.¹⁵

Company X, as buyer, initiates a sales transaction by electronically transmitting a purchase order to Y, which sets forth (in the sequence specified by the chosen standard) the elements of information typically contained in any purchase order, e.g., company name, quantity, price and required date of delivery.¹⁶ This purchase order¹⁷ is initially sent to P, X's provider, who stores and subsequently transmits the order to Y. Upon receipt, Y transmits a message in return (a "functional acknowledgment"), which verifies that the data were complete and in the correct format. Upon reviewing the terms of the purchase order, Y transmits another message confirming acceptance of its terms, e.g., a purchase order acknowledgment or shipping notice. Both of these messages are sent to P, the provider designated by X,¹⁸ which stores and transmits Y's messages to X at pre-arranged times, or permits X to access electronically the appropriate files and have them transferred to X's computer.¹⁹

Following contract formation,²⁰ additional commercial messages may be communicated electronically between X and Y, such as change orders, invoices, and remittance advices.²¹ In general, providers like P in the above example enter into written agreements with X and Y, which

¹² The following example is virtually identical to the one set forth in *Commercial Use*, *supra* note 3, at 1655-57.

¹³ *Commercial Use*, *supra* note 3, at 1655.

¹⁴ *See id.* at 1656.

¹⁵ *See id.*

¹⁶ *Id.*

¹⁷ The purchase order is included in an electronic "envelope" that may contain other messages to Y relating to other transactions. *Id.* at 1656.

¹⁸ Y could also contract with its own provider who, in turn, would exchange transmission with P, X's provider. *Id.* at 1656 n.33.

¹⁹ *Id.*

²⁰ For a more explicit consideration of legal issues attending EDI and contract formation, *see id.* at 1664-79.

²¹ *Id.*

agreements may also specify other services to be provided, in addition to transmission, storage and receipt of EDI documents.²²

B. EDI Within Global Telecommunications Regulatory Schemes

The types of services that comprise EDI in the global market do not fall easily within consistent definitional categories. EDI may be viewed generally as a set of information services because it involves the transmission, structuring, and manipulation of information.²³ As discussed more thoroughly below, there is as yet no worldwide consensus on the definition of "information services," nor is there a consistent terminology. Such services are variously referred to as "information services," "enhanced services" or "value added services." The lack of consistency and indeed the increasing diversity of definitions of such services, are at the very root of the issues discussed herein.

In the United States, the types of services that comprise EDI are identified generally by the Federal Communications Commission (FCC) as "enhanced services,"²⁴ and by the U.S. District Court for the District

²² *Id.* at 1656-67, 1707; see also Blanche Petre, *Network Providers*, 7 COMPUTER L. & PRAC. 8 (1990) ("The function of the network providers [of EDI systems] must be underlined; not only do they provide the means of transmission of the information, but they usually add value to this transmission.").

The typical provider offers its services on a subscription basis; basic communication services are generally performed for a flat rate, with additional per item charges based upon the number of documents, and the length. Ritter, *supra* note 7, at 15. Services other than the basic communication activities are performed for additional fees. *Id.* Such additional services include: conversion of protocols and line speeds, enabling trading partners with different hardware features to communicate; storage, transmission and retrieval in accordance with a trading partner's capability, permitting schedule coordination; format translation, whereby messages received pursuant to one standard may be re-organized in order to be transmitted in another standard; message tracing, delivery notification and integration reports, supporting internal audit functions and requirements; additional record retention, *i.e.*, off-site backup for communication activities; implementation training and consultation; security enhancement, particularly with regard to maintenance of passwords, identifying codes and other identity information; and database development, where providers construct databases using the content of EDI messages passing through their systems. *Id.* at 15-16.

²³ In the broadest sense, the term "information services" encompasses information provided by conventional telecommunications networks, or by other means such as cable television or printed materials. Frederick Matos, *Information Services*, in *NTIA, TELECOM 2000: CHARTING THE COURSE FOR A NEW CENTURY* 409, 426 (Nat'l Telecommunications and Info. Admin., U.S. Dep't of Commerce ed. 1988). Such services include access to a variety of databases and software programs; automated transaction services (such as EDI services) for banking, ordering products and trading securities; interactive instructional courses; and electronic mail. See *id.* at 410-11; see also John Mintz, *Baby Bells, Publishers Clash Over Information Services*, WASH. POST, Feb. 18, 1992, at A1, A6 (listing types of information services that the Bell Operating Companies may unveil soon, *e.g.*, customized news, sports, stock, weather reports; school computer links with scientific databases and textbook outlines; college registration, car registration, dealings with local government, by phone or computer; commands to call home to change thermostat, turn on lights, heat stove).

²⁴ "Enhanced" services are those

of Columbia in its enforcement of the AT&T Modified Final Judgment (the "MFJ") as "information services."²⁵ In other parts of the world, EDI services are known as "value added" services.²⁶ Although there are varying definitions of these terms, the discussion below employs the term "value added" as a generalized reference to the category of services that encompasses EDI. Specifically, as demonstrated in the preceding example, an EDI provider usually supplies business service(s) to its customers by leasing transmission capacity from a telecommunications carrier, and then adding its variety of EDI-related services ("value") to the underlying transmission.

services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information.

47 C.F.R. § 64.702(a) (1991); see *Second Computer Inquiry*, 77 F.C.C.2d 384, 387 (1980) (Final Decision) [hereinafter *Computer II*], *recon.*, 84 F.C.C.2d.50 (1980), *further recon.*, 88 F.C.C.2d 512 (1981), *aff'd sub nom.*, C.C.I.A. v. FCC, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983), *further recon.*, F.C.C. 84-190 (May 4, 1984).

²⁵ See *infra* notes 53-70 and accompanying text. The district court and the MFJ itself defined information services as:

the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing or making available information which may be conveyed via telecommunications, except that such service does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.

United States v. American Tel. & Tel. Co., 552 F. Supp. 131, 179, 229 (D.D.C. 1982), *aff'd sub nom.*, *Maryland v. United States*, 460 U.S. 1001 (1983). Neither the district court nor the FCC has ever determined the exact overlap between their respective definitions of the pertinent terms, although the district court did find the two definitions to be "essentially equivalent." See Matos, *supra* note 23, at 428 n.51; 552 F. Supp. at 178 n.198. There may be potentially important differences between the definitions. In its 1987 review of telecommunications trade issues filed with the district court, for example, NTIA characterized information services broadly into three classes: 1) those generally regarded as logical extensions of telephone service; 2) those that involve access to an interaction with computer databases; and 3) those which resemble mass media offerings. Matos, *supra* note 23, at 428 n.51. Here, however, our perspective is confined simply to addressing EDI services as information services (however the term's boundaries are precisely defined) that presently occur almost exclusively over existing telecommunications facilities, and to pointing out why and how such services potentially could be subject to telecommunications regulation. Therefore, for the sake of simplicity, we consider the definitions of "enhanced," "value-added" and "information" services to be essentially equivalent. Normative questions addressing perceived overlaps between the FCC "enhanced" services definition and the MFJ's or NTIA's "information" services definition, for example, or arguments for a spectrum of information services beyond the realm of "enhanced" services, see, e.g., Robert R. Bruce *et al.*, FROM TELECOMMUNICATIONS TO ELECTRONIC SERVICES 45 (1986), are beyond the scope of this article.

²⁶ The "value-added" services designation may be thought of as encompassing the broadest category of U.S. "enhanced" services, "in which the value-added components are either in the network or in the terminal." NTIA, *International Value Added Services — An Introduction* at 2, U.S. Dep't of Commerce (March 1990) [hereinafter IVANs]. "For delivery, value-added/enhanced services use either public switched network circuits or use leased common carrier circuits, and then add 'value' to these basic circuits, usually through computer processing technology." *Id.*

The central question addressed in this article is how the telecommunications regulatory treatment of such "value-added" services affects certain basic aspects of providing EDI, namely, who may provide EDI, under what terms and conditions, and with what consequences in the event of damage to the transmitted information.

1. *An Example: The U.S. Telecommunications Regulatory Structure*

To see how EDI can be affected by telecommunications regulatory structures in the global context, it is helpful first to place EDI service within the context of our own domestic regulatory scheme.

Some of the most difficult questions in the lengthy evolution of U.S. telecommunications regulation have been basic and definitional. Because the Communications Act of 1934 (the central federal communications legislation) has provided little guidance on how to categorize new services, the FCC has struggled to define, distinguish, and adapt given regulatory categories to new services or activities made possible in part by the merger of computer and communications systems.²⁷

This broad definitional concern underlies two extended proceedings that have been among the most influential and complex in shaping U.S. communication regulation to date: 1) the FCC "Computer Inquiries" (I, II & III), and 2) the court-ordered divestiture of the local Bell Operating Companies (BOCs) from American Telephone & Telegraph (AT&T). Both of these actions have generated numerous rulings that have decisively affected U.S. telecommunications regulation, and have defined the key regulatory classifications which are applicable to EDI.

a. FCC Proceedings

Under the Communications Act of 1934,²⁸ "interstate and foreign" communications provided by "common carriers" are regulated by the FCC.²⁹ Historically, the FCC encouraged and maintained an unregulated environment for the offering of value added services that it deemed

²⁷ See Bruce, *supra* note 25, at 153. This article focuses on U.S. federal regulations and various international levels of telecommunications regulation. We have not attempted a thorough examination of regulatory regimes at individual state levels. Nevertheless, the states do exhibit significant variety in implementing critical telecommunications policies. For a very good discussion of the interrelationship between state and federal policies that affect enhanced services providers in the United States, see Walt Saprnov and William D. Friend, *Regulation of Enhanced Services: The State Wild Card*, COMPUTER LAW, (Jan. 1992).

²⁸ 47 U.S.C. §§ 151-613 (1988).

²⁹ *Id.* at § 152(a). This general grant of power is divided into three regulatory regimes covering common carriers, broadcasters, and (as of November, 1984) cable television operators. See *id.* at subchs. II, III, V-A (1988); Bruce, *supra* note 25, at 156. Intrastate communications are regulated by state utilities and public service commissions. See 47 U.S.C. § 152(b).

to be non-common carrier offerings.³⁰

As technology progressed, however, regulated communications carriers began to incorporate computers and data processing capabilities into their transmission networks, engendering new, sophisticated communications services. The “growing convergence of computers and communications”³¹ forced the FCC to balance its traditional responsibility to regulate communications networks with a conflicting policy of regulatory forbearance intended to promote the competitive development of new information service offerings. The result of the FCC’s sixteen-year grapple with this dilemma was a well-known pair of decisions commonly referred to as the “Computer Inquiries,” or *Computer I*³² and *Computer II*.³³

In *Computer I*, the FCC established a definitional boundary between regulated common carrier communications services on the one hand, and unregulated data processing services on the other. The FCC’s ruling allowed non-AT&T³⁴ common carriers to provide data processing services

³⁰ Matos, *supra* note 23, at 427. Subchapter II of the Communications Act, 47 U.S.C. §§ 201-224, details the FCC’s authority to regulate common carriers. When the statute was passed in 1934, “common carriers” were the monopoly telephone and telegraph operators, and regulating them meant restricting the abuse of market power. Bruce, *supra* note 25, at 156. This job required rate restrictions in order to check excessive profits, and assure that all users would be served. *Id.*; see also *id.* at 157 (FCC’s authority to regulate common carriers was designed to ensure that the FCC could maintain effective regulatory control over AT&T, which in 1934 meant regulating the company’s operation as a monopoly); Richard S. Wyde, *Telecommunications Law and Electronic Fund Transfer Services*, 44 BUS. LAW. 1101, 1104 (1989) (AT&T and monopoly operators were stringently regulated in order to ensure that the carriers were neither overcharging customers nor earning more than their regulated rates of return).

Note that determining precisely who is a “common carrier” has engendered much scholarly debate and frequent litigation, particularly between the FCC and the states (since FCC jurisdictional authority is limited only with respect to intrastate “common carriers,” and not to other types of “non-carrier” service providers). Bruce, *supra* note 25, at 157-58. The Communications Act defines the term circularly as “any person engaged as a common carrier for hire.” 47 U.S.C. § 153(h) (1988). The courts generally have imported common law concepts of common carriage from transportation to define a common carrier as one who holds itself out to the public for hire to transmit communications of the user’s choosing, see *National Ass’n of Regulatory Utility Comm’rs v. FCC*, 525 F.2d 630, 640-42 (D.C. Cir. 1976), *cert. denied*, 425 U.S. 992 (1977), although the definition has become increasingly complicated (and inapplicable) with respect to certain services, e.g., mobile radio services. See Bruce, *supra* note 25, at 158 (and sources cited).

³¹ Regulatory and Policy Problems Presented by the Interdependence of Computer and Communications Services and Facilities, 7 F.C.C.2d 11 (1966) (Notice of Inquiry) [hereinafter *Computer I, Notice of Inquiry*].

³² Regulatory and Policy Problems Presented by the Interdependence of Computer and Communications Services and Facilities, 28 F.C.C.2d 267 (1971) (Final Decision) [hereinafter *Computer I*], *aff’d in part and rev’d in part sub nom.*, *GTE Service Corp. v. FCC*, 474 F.2d 724 (2d Cir. 1973).

³³ *Computer II*, *supra* note 24. See generally Bruce, *supra* note 25, at 197-207; Robert M. Frieden, *The Computer Inquiries: Mapping the Communications/Information Processing Terrain*, 33 FED. COMM. L.J. 55 (1981) [hereinafter Frieden, *Computer Inquiries*].

³⁴ AT&T historically had monopolized telecommunications services and equipment. Because of allegedly illegal activities under its authorized monopoly, AT&T faced several antitrust suits. One of

on an unregulated basis,³⁵ if such services were provided by a structurally separate subsidiary.³⁶ "Hybrid" services, combining both telecommunications and data processing functions,³⁷ were to be regulated according to a case-by-case approach, depending on which function predominated.³⁸

The FCC ultimately determined that its *Computer I* case-by-case approach was unwieldy and stifling to the development and widespread use of new information services.³⁹ It therefore abandoned its communica-

the most significant of these was filed in 1949, where the government alleged that AT&T had, with Western Electric, "monopolized and conspired to restrain trade in the manufacture, distribution, sale, and installation of telephones, telephone apparatus, equipment, materials, and supplies." *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131, 135 (D.D.C. 1982). As a result, in 1956, a consent decree was entered that restrained AT&T from offering services other than common carrier communications services, such as data processing services (although it could develop such services and equipment for internal use). See *infra* note 54 and accompanying text; see also Wyde, *supra* note 30, at 1109; Bruce, *supra* note 25, at 199.

³⁵ Wyde, *supra* note 30, at 1105-06 (footnotes omitted). The FCC's concern here was with: the increased availability and use of computer systems that could provide both data processing and message switching functions. By combining these systems with communications channels linking remote locations, large corporations with excess capacity on their in-house computers could offer the general public, on a time-sharing basis, a panoply of data processing and data base services. At the same time, common carriers were making increasing use of such computers to perform message and circuit switching functions in their communications networks. It was apparent that they, too, would inevitably broaden their service offerings into the data processing field.

Bruce, *supra* note 25, at 198; see *Computer I, Notice of Inquiry*, *supra* note 31, at 12-14.

³⁶ *Computer I*, *supra* note 32, at 270-71; Wyde, *supra* note 30, at 1106. The FCC was concerned that the provision of unregulated data processing services by common carriers might give rise to certain problems, *i.e.*, that common carriers might favor their own data processing activities through cross-subsidization, improper pricing of common carrier services, and related anti-competitive practices, which could result in burdening or impairing the carrier's provision of other, regulated services. *Computer II*, *supra* note 24, at 391. This was the rationale behind the FCC's requirement of "maximum separation" — that communications common carriers had to furnish data processing services through a separate corporate entity. *Id.* (footnote omitted).

³⁷ Technically, the FCC defined "hybrid service" as "[a]n offering of service which combines remote access data processing with message-switching to form a single integrated service." *Computer I*, *supra* note 32, at 277 n.11 (citing Regulatory and Policy Problems Presented by the Interdependence of Computer and Communications Services and Facilities, 28 F.C.C.2d 291, 296 (1970) (Tentative Decision)).

³⁸ Wyde, *supra* note 30, at 1106 (citing *Computer I*, *supra* note 32 at 276). Hence, the thrust of the FCC's definitional approach in *Computer I* was 1) to establish a dichotomy between data processing and message or circuit switching, and then 2) to examine with respect to individual "hybrid" services whether the service offered message-switching "incidental" to a primarily data processing service (causing total regulatory forbearance), or a data processing function "incidental" to a package which was oriented to satisfy communications or message-switching requirements (causing the entire integrated service to be regulated as a communications service). See *Computer II*, *supra* note 24, at 390.

³⁹ See Matos, *supra* note 23, at 427. *Computer I* contemplated a technological environment in which subscribers' remote, "unintelligent" terminals were linked to a central computer that provided data processing services. Bruce, *supra* note 25, at 202. Subsequently, however, rapid advances in large-scale integrated circuitry and microprocessor technology permitted the fabrication of mini-

tions/data processing distinction.

Instead, in *Computer II*, the FCC decided to apply its common carrier regulatory scheme only to those carriers that offered what it termed "basic" telecommunications services. A "basic" service is a carrier offering of "pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer-supplied information".⁴⁰ In other words, the service essentially offers nothing more than information transport.⁴¹ Common carrier offerings of such basic services remain subject to the Communications Act tariff filing and other regulatory requirements.⁴²

computers, micro-computers, and other devices capable of duplicating the data processing functions previously performed by the central computer. *Id.* Thus, it became possible, and cost-beneficial, for users to distribute some of the processing power either to terminals located on the customer's premises or to facilities incorporated within the communications network itself. *Id.*; see *Computer II*, *supra* note 24, at 391.

The *Computer I* communications/data processing distinction failed to address services that utilized the aforementioned distributed processing technologies. Bruce, *supra* note 25, at 202. The FCC was therefore forced to cope with a variety of unanticipated forms of hybrid service, and it became increasingly difficult to determine which service was incidental to which; "these services' growing ubiquity made ad hoc determinations an administrative quagmire." *Id.*; see Second Computer Inquiry, 72 F.C.C.2d 358, 362, 365 (1978) (Tentative Decision); *Computer II*, *supra* note 24, at 391-93. Moreover, terminals and other types of customer premises equipment (CPE) offered by both the regulated carrier sector and the unregulated data processing sector were increasingly capable of performing both communications and information processing functions; this also raised problems of how such offerings should be classified for regulatory purposes. Bruce, *supra* note 25, at 202-03; see 72 F.C.C.2d at 406-12; *Computer II*, *supra* note 24, at 435-36.

⁴⁰ *Computer II*, *supra* note 24, at 420.

⁴¹ A basic service is the offering of a " 'transmission pipeline' in contrast to the myriad services that are dependent upon, but different in kind from the pipeline service." Second Computer Inquiry, 84 F.C.C.2d 50, 54 (1980) (Reconsideration Order).

⁴² Matos, *supra* note 23, at 428. Note that in its *Competitive Carrier* decisions, the FCC reduced the regulatory burdens on competitive carriers without market power — so-called "non-dominant" carriers — by applying streamlined regulation or forbearance. See *Competitive Carrier Rulemaking*, 77 F.C.C.2d 308 (1979) (Notice of Inquiry and Proposed Rulemaking), 85 F.C.C.2d 1 (1980) (First Report and Order), 84 F.C.C.2d 445 (1981) (Further Notice of Proposed Rulemaking), 91 F.C.C.2d 59 (1982) (Second Report and Order), *recon.*, 93 F.C.C.2d 54 (1983), 47 Fed. Reg. 17,308 (1982) (Second Further Notice of Proposed Rulemaking), 48 Fed. Reg. 28,292 (1983) (Third Further Notice of Proposed Rulemaking), 48 Fed. Reg. 46,791 (1983) (Third Report and Order), 95 F.C.C.2d 544 (1983) (Fourth Report and Order), 96 F.C.C.2d 922 (1984) (Fourth Further Notice of Proposed Rulemaking), 98 F.C.C.2d 1191 (1984) (Fifth Report and Order), 99 F.C.C.2d 1020 (1985) (Sixth Report and Order), *vacated and remanded sub nom.*, *MCI Telecomm. Corp. v. FCC*, 765 F.2d 1186 (D.C. Cir. 1985); Mark S. Fowler, et al., "Back to the Future": *A Model for Telecommunications*, 38 FED. COMM. L.J. 145, 157 & n.37 (1986); see also Sutapa Gnosh, *The Future of FCC Dominant Carrier Rate Regulation: The Price Cap Scheme*, 41 FED. COMM. L.J. 401 (1989).

The *Competitive Carrier* dominant/non-dominant regime is also applied, with some modifications, to international services. *International Competitive Carrier Policies*, 102 F.C.C.2d 812 (1985), *recon. den.*, 60 Rad. Reg. (P&F) 2d 1435 (1986). The FCC divided the international market into two categories: IMTS (international message telephone services) and non-IMTS (including telex, telegram, TWX, private line, high and low speed data, videoconferencing and International Business Services offered by Comsat). Most international carriers, except AT&T, are non-dominant for

The FCC recognized a second category of services in *Computer II*. This category it labeled "enhanced" services, which involve the performance of various computer processing applications on transmitted information or subscriber interaction with stored information.⁴³ According to the FCC's definitional scheme, "enhanced" services are not "common carrier" services and are left unregulated under Title II of the Communications Act (although the FCC has argued that they remain within its "ancillary" jurisdiction under Title I of the Act.)⁴⁴

In creating the "enhanced" services category, the FCC required only AT&T and GTE to establish a separate subsidiary to provide competitive, unregulated (enhanced) services, and to sell customer terminal equipment.⁴⁵ The FCC imposed this maximum separation requirement in order to prevent cost shifting between competitive and monopoly-based activities, and thus to eliminate opportunities for unlawful cross-subsidization of the unregulated services via revenues from regulated activities.⁴⁶

IMTS, with other carriers providing international services to non-contiguous international points, e.g., Hawaiian Telephone for Hawaii and Alascom for Alaska, and Comsat for the provision to the Intelsat space segment. All carriers are non-dominant for the provision of non-IMTS.

There are two essential differences between domestic and international *Computer II* policies. First, non-dominant international carriers are not subject to forbearance, but rather only to streamlined regulation, and thus must still keep tariffs on file with the FCC. Second, a "foreign-owned carrier" (defined as any "U.S. carrier over 15% directly or indirectly owned by a foreign telecommunications entity or on whose board of directors an employee, agent or representative of a telecommunications entity sits," 102 F.C.C.2d at 842 n.74), is treated as dominant. Foreign owned carriers are also subject to special reporting requirements imposed by the FCC as a consequence of reciprocity concerns. Regulatory Policies and International Telecommunications, FCC 88-71, released March 25, 1988; *recon.* 4 FCC Rcd 323 (1989); *further recon.* 7 FCC Rcd 1715 (1992). The FCC is currently considering a modification to this latter rule which would eliminate the 15% threshold measure and apply dominant carrier regulation to companies affiliated with (*i.e.*, controlling, controlled by, or under common ownership or control with) a foreign telecommunications entity. Dominant regulation would apply only on those routes where the foreign affiliate has the ability to discriminate against non-affiliated U.S. international carriers through control of bottleneck facilities and services. International Common Carrier Services, 7 FCC Rcd 577 (1992) (Notice of Proposed Rulemaking).

⁴³ See *supra* note 24.

⁴⁴ See Matos, *supra* note 23, at 428; see *Computer and Communications Indus. Ass'n v. F.C.C.*, 693 F.2d 198, 213 (D.C. Cir. 1982).

⁴⁵ *Computer II*, *supra* note 24, at 389; Wyde, *supra* note 30, at 1107-08; see Matos, *supra* note 23, at 428. GTE was subsequently exempted from structural separation upon reconsideration. See 84 F.C.C.2d at 72-73.

⁴⁶ Wyde, *supra* note 30, at 1108. Such cross-subsidies could lead to understatement of costs for the dominant carrier's competitive activities. Structural separation also prevented the dominant carrier from utilizing customer proprietary network information (CPNI) to gain an unfair competitive advantage. When the BOCS were later divested from AT&T (see below), the FCC ruled that its *Computer II* separate subsidiary requirements would also apply to the divested Bell companies. Matos, *supra* note 23, at 428 (citing *Bell Operating Cos.*, 95 F.C.C.2d 1117 (1983) (Separation Order), *recon. denied*, F.C.C. 84-252, *aff'd sub nom.*, *Illinois Bell Tel. Co. v. FCC*, 740 F.2d 465 (7th Cir. 1984)).

To date, the FCC's *Computer II* "basic/enhanced" distinction remains intact in the United States.⁴⁷ However, in its "Third Computer Inquiry" proceeding (*Computer III*),⁴⁸ the FCC revisited the structural separation requirements for the enhanced service operations of AT&T and the BOCs. The FCC confronted arguments that its structural separation rules were not cost-effective, and in certain instances, prohibited the BOCs from introducing innovative service offerings to the public.⁴⁹ In response, the FCC replaced the separate subsidiary requirement governing AT&T's and the BOCs' participation in "enhanced service" markets with "nonstructural" safeguards.⁵⁰

These safeguards included, among other things, additional cost allocation controls, and network access requirements for competitors in the form of "Comparably Efficient Interconnection" (CEI)⁵¹ and "Open Network Architecture" (ONA),⁵² and protections against abuse of cus-

⁴⁷ The FCC first confronted the issue of the applicability of its *Computer II* policies to international services when GTE-Telenet Communications Corp. and Tymnet, Inc. proposed the provision of international packet switched data networks on a common carrier basis. The Commission confirmed that such international services are classified as non-common carrier enhanced services and must therefore be offered on a non-tariffed basis. GTE Telenet Communications Corp., File No. I-T-C-81-274, FCC 85-29, Mimeo No. 35448 (released Feb. 22, 1985). Note that the uncertainties that such enhanced services providers might face in arranging interconnections with foreign PTTs without some official U.S. authorization prompted the FCC to examine entitlement of enhanced services providers to status as international "recognized private operating agencies" (RPOAs). See *infra* notes 119-132 and accompanying text.

⁴⁸ Third Computer Inquiry, 104 F.C.C.2d 958 (1986) (Final Decision) [hereinafter *Computer III*], *rev'd sub. nom.*, California v. FCC, 905 F.2d 1217 (9th Cir. 1990).

⁴⁹ Matos, *supra* note 23, at 428. See *Computer III*, *supra* note 48, at 987-93.

⁵⁰ See *Computer III*, *supra* note 48, at 964-66; Matos, *supra* note 23, at 428; Robert M. Frieden, *The Third Computer Inquiry: A Deregulatory Dilemma*, 38 FED COMM. L.J. 383, 386 (1987).

On June 6, 1990, the Ninth Circuit reversed *Computer III*, holding that the FCC 1) did not adequately articulate its reasons for substituting nonstructural safeguards for the federal structural separation requirements to which the BOCs were previously subject; and 2) failed to carry its burden of showing why it needed to preempt state regulation of intrastate enhanced services. See California v. FCC, 905 F.2d 1217, 1246 (9th Cir. 1990); Robert M. Frieden, *Open Telecommunications Policies for Europe: Promises and Pitfalls*, 31 JURIMETRICS J. 319, 320 n.4 (1991) [hereinafter Frieden, *Europe*]; see also *infra* note 52.

⁵¹ The purpose of CEI is to assure that equal network access is guaranteed to all parties in the event that regulated carriers like AT&T or the BOCs offer a specific information service. Matos, *supra* note 23, at 428. See generally *Computer III*, *supra* note 48, at 1021-59 (discussing CEI). The CEI requirements contemplated the filing of CEI plans which would be reviewed and approved by the FCC prior to the carrier offering the enhanced service. *Id.* at 1054-55.

⁵² "ONA is a more long range and non-service specific plan to foster the growth of the enhanced or information services industry." Matos, *supra* note 23, at 428-29; see *Computer III*, *supra* note 48, at 1059-1068. ONA requires the BOCs to unbundle their basic network service offerings and make the underlying basic service elements available to their information service competitors on a tariffed basis. Matos, *supra* note 23, at 429.

The FCC established ONA in an attempt to reduce regulation while ensuring that providers of domestic or international "enhanced services," like Value Added Networks (VANs), achieve equal

tomers proprietary network information.⁵³

b. Antitrust Litigation: AT&T, Divestiture & the Modified Final Judgment (MFJ)

In 1949, AT&T and Western Electric were subject to an antitrust suit that resulted in the entry of a 1956 consent decree which prohibited AT&T from engaging "in any business other than the furnishing of common carrier communications services."⁵⁴ In 1974, the Justice Department filed a separate suit against AT&T, Western Electric, and Bell Telephone Laboratories, alleging that these companies had illegally sought to monopolize various telecommunications service and equipment markets.⁵⁵ Judge Harold H. Greene approved settlement of this suit in 1982. The settlement, commonly referred to as the Modified Final Judgment (MFJ),⁵⁶ concluded more than thirty years of litigation between AT&T and the government. The decree continues to affect the restructuring of the telecommunications marketplace, and its provisions contain many rules by which the market's "key players" (AT&T and the now independent BOCs) must abide.⁵⁷

and cost-based access to essential local exchange facilities of the BOCs. Frieden, *Europe, supra* note 50, at 320. ONA:

purports to achieve a 'level competitive playing field' between all enhanced service providers, including affiliates of the Bell Operating Companies, who can select access functions reduced to the least common denominator. In effect, enhanced service providers select network facilities and features on an à la carte basis so that they can tailor service by blending what is needed from the Bell Operating Company with their own information processing functions.

Id.

Following the reversal of *Computer III*, the FCC moved quickly to reinstate its ONA requirement. See *Third Computer Inquiry*, 5 F.C.C.Rcd. 7719 (1990) (Remand Proceedings) (requiring the BOCs to proceed with implementation of ONA plans irrespective of the agency's ultimate decision on the future of structural separation). In addition, the FCC granted the BOCs waivers of the applicable *Computer II* structural separation requirements, pending another comprehensive assessment of its policies. See *Bell Operating Companies' Joint Petition for Waiver of Computer II Rules*, 5 F.C.C.Rcd. 4714, *waiver extended and clarified*, 6 F.C.C.Rcd. 174 (1990); Frieden, *Europe, supra* note 50, at 320 n.4.

⁵³ See *Computer III, supra* note 48, at 1086-92.

⁵⁴ *United States v. Western Elec. Co.*, 1956 Trade Cas. (CCH) ¶ 68,246, at 71,138 (D.N.J. 1956).

⁵⁵ *United States v. American Tel. & Tel. Co.*, No. 74-1698, (D.D.C. Nov. 20, 1974). The government indicated that it brought its 1974 suit because in its judgment the 1956 consent decree, see 1956 Trade Cas. (CCH) ¶ 68, 246, was not adequate to prevent activities that unreasonably restrained competition in telecommunications equipment markets, and did not protect against antitrust violations in the intercity telecommunications field. *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131, 139 n.18 (D.D.C. 1982).

⁵⁶ Jurisdiction over the older 1949 antitrust action and 1956 consent decree ultimately was transferred from the U.S. District Court of New Jersey to the U.S. District Court for the District of Columbia. The 1949 and 1974 suits were then consolidated. The proposed settlement was to be treated as a modification of the final judgment in the original 1949 suit; when approved, it would dissolve the 1956 consent decree. Hence, the settlement is referred to as the "MFI."

⁵⁷ See *Bruce, supra* note 25, at 177.

The MFJ's central requirement was that AT&T divest itself from the twenty-two wholly-owned BOCs. The latter were subsequently combined into seven regional holding companies (RHCs). Judge Greene approved the divestiture because a substantial amount of evidence had suggested that AT&T's anticompetitive behavior was based upon its control over local telephone exchange facilities and equipment.⁵⁸ He concluded that "[a]bsent such control, AT&T will not have the ability to disadvantage competitors in the interexchange and equipment markets."⁵⁹

One aspect of the MFJ particularly relevant to the provision of EDI services involves the so-called "line of business" restrictions imposed upon AT&T and, to a greater extent, the RHCs. Essentially, the MFJ prevented both AT&T and the RHCs from entering into certain markets where manipulation of their monopoly power would enable the companies to engage in anti-competitive behavior.⁶⁰ For AT&T, this concern applied to only one area⁶¹ — electronic publishing services, defined as those services in which AT&T "would control, or have a financial interest, in the content of the information being transmitted."⁶²

In contrast to AT&T's relative freedom to explore new markets, however, the RHCs were subjected to a number of "line of business restrictions."⁶³ In general, these rules prevented the RHCs from engaging in any other service that might unfairly benefit from the RHCs' monopoly control over access.⁶⁴ Three "core" restrictions were imposed upon the RHCs. Under these restrictions, the RHCs were not permitted to 1) provide interexchange services of any kind;⁶⁵ 2) provide "information services";⁶⁶ or 3) manufacture telecommunications equipment and cus-

⁵⁸ See 552 F. Supp. at 160-63.

⁵⁹ *Id.* at 165.

⁶⁰ See Wyde, *supra* note 30, at 1109.

⁶¹ AT&T had been limited by the 1956 consent decree to providing only common carrier communications services; the 1982 decree proposed dissolving this restriction and allowing AT&T to compete in all lines of business. Because Judge Greene concluded that AT&T, after divesting from the BOCs, would not have the power to exert an anticompetitive influence on other unregulated businesses, he approved the removal of all business restrictions on the company save the one on electronic publishing services. See 552 F. Supp. at 179-181.

⁶² 552 F. Supp. at 180.

⁶³ See 552 F. Supp. at 186-195 (addressing "Restrictions on the Divested Operating Companies").

⁶⁴ Thus, the MFJ's central restriction on the RHCs prohibits them from providing "any product or service that is not a natural monopoly service actually regulated by tariff." 552 F. Supp. at 186; see Bruce, *supra* note 25, at 180.

⁶⁵ 552 F. Supp. at 188-89.

⁶⁶ *Id.* at 189-90. As indicated, the "information services" definition is quite similar to the FCC's definition of "enhanced services," and the possible differences in overlap are not relevant to this article. See *supra* note 25.

tomers terminals.⁶⁷

In his 1987 "triennial review" of the continuing need for the restrictions imposed by the MFJ, Judge Greene saw no basis for removing the decree's three core restrictions.⁶⁸ On appeal, the D.C. Circuit affirmed the decision on various issues, but reversed and remanded with regard to the restriction on "information services."⁶⁹ In accordance with the appellate court's mandate, Judge Greene reluctantly⁷⁰ ordered that the "information services" restriction on the RHCs be removed.⁷¹

⁶⁷ 552 F.Supp. 190-91. In general, these restrictions were "based upon the kinds of anticompetitive activities that the local companies had engaged in while they were still a part of the Bell System, or were likely to engage in because of the ability and the incentive therefor were present." *United States v. Western Elec. Co.*, 767 F. Supp. 308, 310 (D.D.C. 1991).

⁶⁸ 767 F. Supp. at 310. See generally *United States v. Western Elec. Co.*, 673 F. Supp. 525 (D.D.C. 1987) (the "triennial review"). Judge Greene's rationale for keeping the core restrictions intact focused on the RHCs' retention of their monopoly control of the local telephone switches and wires; this fact meant that competitors of these companies in the markets affected by the restrictions could reach their ultimate customers only at the RHCs' sufferance. 767 F. Supp. at 311. The RHCs would be in the same position as their predecessor in the Bell System, and could discriminate against competitors by practices such as "delaying interconnections, providing inferior connections, charging exorbitant prices, or refusing to attach competitors' products altogether"; they could also subsidize their competitive products with funds "syphoned off from the monies paid by ratepayers." *Id.* (citing 673 F. Supp. at 600).

Although continuing the restriction on information services, Judge Greene did subsequently modify his position a bit. The court ruled that the RHCs could offer electronic white (but not yellow) pages, as well as "information transmission," or transmission gateways, by which others can provide information services to the public. See 673 F. Supp. at 596, 603. In another round of line of business waivers, the court ruled that the RHCs could offer electronic mail and voice messaging services, in order to promote the development of a mass market in these areas. Matos, *supra* note 23, at 432. Other than expanding the RHCs' services as information "conduits," however, the court continued to restrict any generation or manipulation of content. *Id.*

⁶⁹ *United States v. Western Elec. Co.*, 900 F.2d 283 (D.C. Cir.), cert. denied *sub nom.*, *MCI Comm. Corp. v. United States*, 111 S.Ct. 283 (1990). The D.C. Circuit held that the MFJ court had applied the wrong section of the consent decree, and consequently the incorrect standard of review. See *id.* at 309. Because the appellate court could not be sure that the trial court's findings were not "infected" by its legal error regarding the proper standard of review, the appellate court remanded the decision for further consideration of whether removal of the information-services restriction as applied to generation of information could be competitive under present market conditions. *Id.*

⁷⁰ In the opinion on remand, Judge Greene stated that if the court were free to exercise its own judgment, "it would conclude without hesitation that removal of the information services restriction is incompatible with the decree and the public interest." *United States v. Western Elec. Co.*, 767 F. Supp. 308, 327 (D.D.C. 1991). The court concluded, however, that several rulings in the D.C. Circuit's opinion left "it no choice but to remove the restriction," which it did with "considerable reluctance." *Id.*

⁷¹ Judge Greene also, however, stayed the effect of his decision pending the completion of appellate review, and subsequently denied reconsideration of that ruling. *United States v. Western Elec. Co.*, 774 F. Supp. 11 (D.D.C. 1991). One commentator opined that Judge Greene did not really lift the restriction on information services at all, but instead wrote the story with two endings and "invited the Court of Appeals to pick." Peter Kenney, Jr., *A Busy Signal from the Judge*, LEGAL TIMES (Aug. 5, 1991) at 28, 31. On October 7, 1991, the D.C. Circuit vacated Judge Greene's stay, and its one paragraph order found the record to contain no "sufficient evidence of probability that the order

2. International Issues

As mentioned, EDI providers — who customarily offer storage, data base access, validation, authentication, security, and other information services — fall within the U.S. regulatory classification of “enhanced” services providers. As such, they generally are not subject to regulation by the FCC as common carriers under Title II of the Communications Act.⁷² Consequently, the importance of telecommunications regulatory issues to EDI providers relative to other commercial or legal issues is easily overlooked. However, as developed further below, especially in the international context, the present telecommunications regulatory classification of EDI is not the end of the story, but rather is only the beginning.

In the context of domestic U.S. policy, significant changes to the market landscape for EDI and similar services will occur through the inevitable, continued evolution of regulatory classifications and other legal constraints. The development of the “basic”/“enhanced” distinction in *Computer II* represented the best effort of the FCC at the time to address the failure of the *Computer I* “communications”/“data processing” dichotomy to establish a reasonable bright line between services that should be regulated and those that should not. Nevertheless, the subsequent *Computer III* proceeding expressed frustration with the “relative inflexibility” of the *Computer II* regulatory framework,⁷³ and included a

[lifting the information services ban] will be reversed.” See *United States v. Western Elec. Co.*, 1991-2 Trade Cas. (CCH) ¶ 69,610, at 66,711 (D.C. Cir. 1991); *Bell Companies May Offer Information Services Immediately; Appeals Court Decision Spurs Legislative Efforts*, COMPUTER LAW., Nov. 1991, at 39 [hereinafter *Bell Companies*].

Parallel to the activity in the federal courts, controversy surrounding the development of new information services continues to mount in the legislature, where the RHCs have quite recently squared off against the publishing industry in a burgeoning congressional battle over information services. See Mintz, *supra* note 23, at A1, A6; *Bell Companies, supra*, at 39. Also, battle lines on the reintroduction of limitations on BOC provision of information services are now being drawn in the context of legislative initiatives to replace the MFJ with statutory directives. For example, the pending “Telecommunications Act of 1991” would establish a series of detailed restrictions on BOC entry into the information services market, effectively overruling substantial portions of judicial decisions permitting such entry. See H.R. 3515, 102d Cong., 1st Sess. (1991); see also The “Information Services Diversity Act of 1991,” S. 2112, 102d Cong. 1st Sess. 1991 (companion bill to H.R. 3515). Similarly, House Judiciary Committee Chairman Brooks (D-Tex) has recently introduced his version of the “Antitrust Reform Act of 1992,” H.R. 5096, 102d Cong., 2d Sess. (1992), which would roll back gains that the RHCs have made in courts, notably the lifting of the information services barrier, as well as create new rules for the RHCs’ participation in long distance service and telecommunications equipment manufacturing. See Claudia MacLachlan, *Baby Bell Battle in Congress*, NAT’L L.J., May 25, 1992, at 1, 16; *Brooks Offers Comprehensive MFJ Legislation*, COMM. DAILY, May 7, 1992, at 8.

⁷² See *supra* note 30.

⁷³ See *Computer III, supra* note 48, at 1018.

comprehensive review of the basic/enhanced distinction, along with the consideration of a vastly different set of regulatory classifications.⁷⁴ Although the basic/enhanced definitional approach was reaffirmed, continued analysis of how the division applies to new technologies and services evidences a growing fuzziness to the line.⁷⁵

More dramatically, the applicability of the U.S. common carrier/non-common carrier and basic/enhanced distinctions is becoming increasingly attenuated in the global context. The U.S. system of regulatory classifications is extremely complex, and reflects the manifest awkwardness of adapting a statutory scheme conceived in 1934 to the unforeseen space-age technologies and global market interplays of today. As other countries adopt more simplified schemes, and as multinational user needs for convenient communications across time zones and date lines press for more intelligence in "basic" networks, more fundamental

⁷⁴ Soon after the *Computer II* structural separation rules were applied to the BOCs, the FCC published its Third Computer Inquiry, 50 Fed. Reg. 33,581 (1985) (Notice of Proposed Rulemaking), in which it proposed to dismantle or modify its existing regulatory framework, including the basic/enhanced distinction. The FCC "sought to tailor more directly the extent of [its] regulation to the degree of competition in particular markets, in order to permit the public to realize the full benefits of competition where competition can function." *Computer III*, *supra* note 48, at 963 (footnote omitted).

The FCC proposed several possible frameworks. One framework involved a three-part distinction between basic communications services, which would be regulated directly; non-communications services, which would be completely unregulated; and services "ancillary to communications." See 50 Fed. Reg. at 33,589-90; Steven M. Spaeth, Comment, *A Comparative Study of the Regulatory Treatment of Enhanced Services in the United States and the European Community*, 9 Nw. J. INT'L L. & BUS. 415, 425-26 (1988) [hereinafter Spaeth, *Comparative*]. In the "ancillary" category, the FCC would examine the structure of the market for that service, and would regulate the service if it could be provided with unlimited economies of scale and/or scope such that there would be no multiple vendors of the service; on the other hand, if the carrier wanted to offer the service with limited economies of scale and scope, regulation would turn on whether the carrier was "dominant," or had control of "bottleneck" facilities. *Computer III Notice*, 50 Fed. Reg. at 33,589; Spaeth, *Comparative*, *supra*, at 426 (footnotes omitted). If so, some sort of separation would be appropriate to prevent anticompetitive conduct.

The FCC ultimately "declined to adopt the proposal . . . for a regulatory framework based upon the market for specific services," opting instead to maintain the basic/enhanced distinction, abolish structural separation, and impose CEI and ONA requirements. *Computer III*, *supra* note 48, at 964.

⁷⁵ In the *Computer III Notice of Proposed Rulemaking*, the FCC cited protocol processing as an example that highlighted the "ambiguous" definition of "enhanced service":

The first principal clause of the definition addresses 'computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information.' Many experts on standardization of protocols, however, would probably include action on the 'format' and 'code' within processing of the 'protocol.' A change in the speed of a subscriber's transmission might well be viewed as a change in protocol, yet because we ruled in *Computer II* that intermediate network storage not under the control of the subscriber does not invoke the definition of 'enhanced service[.]' we have treated a speed change as an element of basic service.

50 Fed. Reg. at 33,583.

changes to the U.S. regulatory structure undoubtedly will continue to occur.

Thus, at some point in the future, the line between regulated and unregulated services most likely will again be redrawn in the United States. How such a change will affect EDI providers is impossible to predict. At a minimum, the reworking of regulatory distinctions will affect the nature of the market; specifically, it will affect the types of entities that can provide EDI and similar services, as well as the terms and conditions under which such services can be provided.

Even without dramatic changes in regulatory classifications, the market for unregulated provision of EDI and similar services in the United States rests upon shifting sands. One palpable example of this is embodied in the changes to rules governing the participation of the RHCs in information services markets. Until very recently, the MFJ imposed "line of business" restrictions that prevented the RHCs from entering the market for the types of information service offerings that include EDI services. Now that such restrictions have been removed, it may be that the RHCs will vigorously enter the market for information services, and alter the competitive environment for EDI providers in a significant manner.⁷⁶

In the international arena, circumstances are even more dynamic. As telecommunications markets become more diverse, and as user requirements press for liberalization of state-run monopoly regimes, many foreign countries struggle to craft workable distinctions between regulated basic monopoly services and less-regulated competitive market services. Such variety across world regulatory schemes introduces subtle complications to the establishment of international value added networks. Adding to the complexities of domestic regimes are international rules and recommendations on service restrictions, as well as regulatory

⁷⁶ As one commentator has noted, "information services" (of which EDI is a part) will be viewed:

as a leading area of economic growth for many years to come. The vital infrastructure which connects the elements of modern information networks is, for many purposes, still a telephone company monopoly. Moreover, the lines which carry these transmissions are connected and controlled by powerful computer switches capable of performing countless functions in addition to their traditional telephonic roles. This makes the local telephone companies both an indispensable link in many information services and formidable potential competitors in any such market which they choose — or are permitted — to enter.

Danny E. Adams, *Bell Telephone Company Information Services: Another Chapter Begins*, COMPUTER LAW., Nov. 1990, at 25. It may also be the case, of course, that the RHCs will be slow to enter the market for the provision of EDI services. Although they can now offer information services immediately, recall that in the wake of the reversal of *Computer III*, competitive RHC businesses still must be provided via a separate subsidiary, subject to a variety of structural, transactional, and accounting safeguards, as well as FCC implementation and waiver procedures. *Bell Companies*, *supra* note 71, at 39.

requirements and understandings that are established by convention, multilateral initiative or bilateral agreement. These differing "levels" of emerging telecommunications policies can have substantial implications for international value added services, including EDI.

III. REGULATORY IMPLICATIONS FOR EDI

A. Service Provisioning

A fundamental set of issues for EDI customers and service providers in the international market concerns who may provide the EDI service and under what terms and conditions. Specifically, may the service be offered by a third-party provider or must it be offered by the PTT? If it can be offered by an independent EDI provider, must it be licensed, and to what extent will it be regulated? Domestic telecommunications regulatory schemes in each of the originating and terminating countries on the international network will largely dictate the answers to these questions. However, multilateral initiatives and international conventions and agreements may also have considerable influence on the interpretation of ambiguous domestic provisions or the establishment of policies in new and developing areas.

1 Domestic Regulatory Frameworks: A Comparison

As discussed above, in the United States, enhanced services are open to competitive provision and generally are not regulated. Opportunities for independent provisioning of EDI or other value added services are often much different in other countries, and may alter significantly the options for end-to-end configuration of international networks.

The following hypothetical illustrates the import of foreign domestic telecommunications policy issues that arise in the international context of EDI. Suppose that P, a third-party EDI provider, is located overseas in Country 1. Company X, located in the United States, seeks to transmit its EDI message to P abroad, who will then store and re-transmit the message at a later date to Company Y, located overseas in Country 3. While various efforts are underway to formulate EDI interchange or trading partner agreements at the international level,⁷⁷ such agreements between private parties "do not and cannot alter the legal framework in which they operate. Thus, to the extent legal barriers to the use of electronic communications technologies in commercial practice exist in laws and regulations, those barriers remain."⁷⁸

⁷⁷ See generally Boss, *supra* note 1.

⁷⁸ *Id.* at 1802.

Such barriers to EDI transmission are potentially present in Country 1's method of regulating the telecommunications technology upon which EDI depends. Does a "basic"/"value added" service distinction exist in Country 1?⁷⁹ If so, are P's EDI services considered to be "value added" services in Country 1? If P is deemed to offer "value added" services, does the same consequence follow as in the United States, *i.e.*, is the service regulated? Indeed, is the definition of "value-added" service the same among the three countries? And what if one country's telecommunications regime is not yet substantially privatized or liberalized, such that the government-sponsored monopoly provider of telecommunications service has reserved the provision of value-added services (including EDI) to the monopoly, prohibiting the entry of P into the scenario altogether?⁸⁰

Thus, in considering EDI in the international context, the domestic regime in the service provider's home country is only part of the picture. For an international EDI transmission to occur, Company X must take into account the network interconnection requirements at the other end of the transmission. Unfortunately, such requirements will likely vary with each country's regulatory structure, and the problem is exacerbated by the rapid flux that currently characterizes world telecommunications regulatory regimes.⁸¹

⁷⁹ In Japan, for example, the 1984 Telecommunications Business Law created a much different regulatory framework originally intended to avoid what were viewed as unworkable technologically-based distinctions between "basic" and "enhanced" services. *See* Bruce, *supra* note 25, at 40. The regulatory structure is based upon two different categories of service providers — "Type I" and "Type II" carriers — based upon ownership of the underlying transmission facilities. Type I carriers, the facilities-based providers, are closely scrutinized and regulated, including the degree of foreign company ownership. Type II carriers are essentially resale providers (*i.e.*, do not establish their own circuit facilities), are not subject to restrictions on foreign ownership, and are subdivided further into "special" and "general" categories. "Special" Type II providers include all international resale service providers as well as certain large-scale domestic services designed for "many and unspecific persons"; they must register with the Ministry of Posts and Telecommunications (MPT) and provide notifications to the MPT of their service rates and terms. "General" Type II carriers are those that do not qualify as "special," and in practice provide domestic service to specific users or to discrete business groups within an industry. Takeo Miura & Robert J. Aamoth, *International Telecommunications Services in Japan*, in *International Communications Practice Handbook*, Federal Communications Bar Association International Practice Committee 261 (1991) (unpublished paper); *see* Steven M. Spaeth, *Telephone Systems in the United States and Japan: Differing Regulatory Regimes, Differing Societies*, 27 CAL. W.L. REV. 121, 125-26 (1990).

⁸⁰ For example, Latin America is one of the latest global regions engaged in the rush towards privatization and liberalized telecommunications. Until quite recently, however, many Latin American countries were controlled by military governments, and to the extent that value added services were offered at all, they were exclusive offerings of the state-owned monopoly. *See generally* William M. Berenson, *Developing the Regulatory Footprint for Newly Privatized Telecommunications Providers in Latin America*, 38 FED. BAR & NEWS J. 400 (Sept. 1991).

⁸¹ As the NTIA has observed:

Germany, for example, has a very different system from the United States.⁸² In the German system, there are three categories of services: 1) services reserved to the monopoly provider;⁸³ 2) certain mandatory services, which must be offered by the monopoly provider but also may be competitively provided;⁸⁴ and 3) competitive services, which are not regulated. "Value-added" services, such as EDI, fall within the last category. Thus, an international EDI provider could offer EDI services at both the German and U.S. ends of the transmission, without regulatory oversight.

The German regime reflects the attempt to avoid a distinction between "basic" and "value-added" services. There is no requirement that competitive providers "add value," so long as the service offered is not a "monopoly" service. Moreover, the monopoly provider, DBP Telekom, is permitted to provide all forms of value added services in competition

[t]he interrelationship between the monopoly controlling a nation's basic telecommunications transport network has become a major issue in all countries. Each country has attempted to deal with this issue in different ways, with national regulatory structures permitting various degrees of competitive service provision. The regulatory regimes in each country have evolved separately, creating an array of sometimes parallel and often conflicting concepts and rules. These regimes affect the provision of newly developed telecommunications services, as well as the existing telecommunications network structure, which in most countries is owned by government monopolies.

IVANs, *supra* note 26, at 1.

⁸² In Germany, the telecommunications operating entity is Deutsche Bundespost Telekom (DBP Telekom), which is 100% government-owned and is under the regulatory authority of the Ministry of Posts and Telecommunications (MPTT). DPB Telekom has a legal and financial relationship to the postal service operating entity (DPB Postdienst) and the banking services operating entity (DPB Postbank). Each of the DPB operating entities has its own management and supervisory boards, however, cross-subsidies between the operating entities are possible.

Until mid-1989, operations and regulatory responsibilities were vested in a single entity; pursuant to recent regulatory reform, operations currently are conducted by DPB Telekom while regulatory functions are conducted by MPTT. Although MPTT and DPB Telekom are legally distinct entities, complete separation of operations and regulatory authority has not occurred. MPTT is responsible for appointing the supervisory board of DPB Telekom, setting DPB's long-term goals and approving DPB's annual budget. Ronald Hopkinson and Karen Brinkmann *Regulatory Models: Germany*, unpublished presentation paper for "Latin American Telecommunications Reforms: A Workshop on New Industry Structure and Regulatory Frameworks," presented jointly by the Organization of American States and Latham & Watkins (Apr. 1991); see Peter H. Ziemons, *Telecommunications in the Federal Republic of Germany*, U.S. Embassy Bonn, Economic Section Report (November 1989).

⁸³ Under new telecommunications reform, DBP Telekom will retain monopoly control over the network transmission facility (except satellite and mobile), as well as monopoly control over basic telegraph, telex, and voice transmission service over the public switched network (the storage of voice and conversion of voice signals is not a monopoly service). Hopkinson & Brinkman, *supra* note 82, at 3.

⁸⁴ Mandatory services are undefined, but determined on a case-by-case basis to include services with an overriding importance for development of the network infrastructure. Although such services presumably can be competitively provided, the reason for the category is to provide the government with a mechanism to offer essential services in case the competitive marketplace is not offering them. See Ziemons, *supra* note 82, at 13.

with private providers (although MPTT exercises some control over cross-subsidization of competitive services by supervising internal cost allocation).

The United Kingdom model is closer to the U.S. model in terms of value added service definition and regulatory classification. Specifically, the United Kingdom has adopted "basic"/"value added" functional definitions for services.⁸⁵ However, the definitions yield slightly different regulatory consequences than in the United States. In the United Kingdom, value added services are "regulated" through the application of a general, or "blanket," license. Any provider that offers a service that conforms to the characteristics specified in, and meets the requirements of, the license may offer the service.⁸⁶ However value added service providers remain regulated to the extent that they must register with the U.K. regulatory authority, OFTEL (and may be required to comply with informational reporting or other regulatory requirements).

The Japanese system is a further contrast to the U.S., German, and U.K. value added service regulatory models. Like the German regime, the Japanese system also eschews the basic/value added dichotomy. Japan instead has instituted a unique system that distinguishes between facilities-based (Type I) and non-facilities-based (*i.e.*, resale) (Type II) carriers.⁸⁷ Because value-added services essentially involve the resale of underlying capacity, EDI and other value-added services generally fall within the Type II category. The provision of Type II services, however, is regulated, and requires the administrative approval of a comprehensive service application. Thus, enhanced services in Japan can be independently provided, but remain subject to regulatory scrutiny.

South Korea is an example of a country that until quite recently⁸⁸

⁸⁵ See *supra* note 26. The U.K. Department of Trade and Industry (DTI) defines "value added service" as a "Relevant Service where, in respect of each Message conveyed by the Applicable System where there is provided a service additional to Basic Conveyance, together with any conveyance of Messages which is necessarily ancillary or incidental to that service." IVANs, *supra* note 26, at Attachment D (citing United Kingdom of Trade and Industry, "Class License For The Running Of Telecommunications Systems Providing Value-Added And Data Services Granted By The Secretary of State Under Section 7 Of The Telecommunication Act of 1984," 30 April 1987, Condition 4.8).

⁸⁶ "The VADS Licence is what we call a 'Class Licence' which means that the generality of service providers are automatically classed under it and need take no action to ensure that they are licensed." UK Letter to Parker E. Borg, U.S. Dep't of State (Oct. 7, 1988), cited in IVANs, *supra* note 26, at Attachment D.

⁸⁷ See *supra* note 79.

⁸⁸ South Korea passed a bill last summer to amend its telecommunications regime to create a distinction between "basic" service providers and "value added" telecommunications service providers, and to permit foreigners limited access in both categories. See Doo-Sik Kim and Jan Kang, *Telecommunications Industry Liberalization in Korea*, 13 EAST ASIAN EXEC. REP. 8 (Sept. 15, 1991). More recently, on February 17, 1992, the United States and Korea concluded the last of a

had not liberalized its markets to permit competitive provision of value-added (or any other) services. Therefore, in order to service customers in South Korea, an international EDI provider would have had to interconnect its network with, and hand off the South Korean portion of the service to, the South Korean PTT.

Such examples illustrate the potential impact of differing domestic regimes on the availability of international EDI services. An EDI network connecting the United States, Germany, the United Kingdom, Japan and South Korea could encounter different regulatory classifications in each country, along with different licensing and regulatory requirements and restrictions.⁸⁹

2. *International Regulations and Definitional Issues*

a. International Classification of EDI

There are no internationally accepted definitions of "enhanced," "information" or "value added" services, and thus no consensus on how EDI should be characterized with respect to any such international classification. Nonetheless, there is a general international acknowledgement of a category of services offered by "International Value Added Networks" or "IVANs." IVANs generally are viewed as enhancing the utility of basic communications through protocol conversions, conditioning and maintenance, and packet switching techniques.⁹⁰ Thus, IVAN ser-

series agreements to improve access for U.S. firms to the Korean market for telecommunications goods and services; South Korean concessions include liberalization of value added services domestically and internationally, streamlined registration requirements and elimination of investment restrictions by 1994, as well as improved access to the standards-setting process and the opening of its government market including Korea Telecom. Henrik Hansen (with contributions from the law firm of Lee and Li in Taipei), *U.S., Korea Reach Telecom Agreement*, 14 EAST ASIAN EXEC. REP. 6 (March 15, 1992). The agreement provides further illustration of how bilateral agreements can affect substantially the provision of international value added services, including EDI. *See generally infra* notes 176-186 and accompanying text.

⁸⁹ Moreover, it is not clear whether an EDI service provider operating across another country's national border will be treated differently within the recipient country than would a domestic national or a domestically established provider, *i.e.*, does the foreign country permit both local and cross-border provision of service? This issue has been raised in both the Services Negotiations Uruguay Round of the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA), but is currently unresolved. *See* Patricia J. Paoletta, *GATT Negotiations*, in *International Communications Practice Handbook*, Federal Communications Bar Association International Practice Committee 143 (1991) (unpublished paper); George Kleinfeld, *Telecommunications Services & the NAFTA*, in *The North American Free Trade Agreement: Issues, Options, Implications*, American Bar Association Section of International Law and Practice, International Trade Committee Publication 195 (1992) (unpublished paper).

⁹⁰ IVANs, *supra* note 26, at 5. Examples of IVAN services often offered competitively through private firms include EDI, protocol processing, database access, remote computer data processing, electronic funds transfer, electronic mail, and voice messaging and retrieval. *See id.*

vice may be said to embody one or more of the following features of international service: 1) protocol processing⁹¹; 2) data base access (*i.e.*, electronic access to stored data); 3) remote computer data processing⁹²; and 4) value-added communications.⁹³

IVAN service providers may offer a variety of services; the facilities used to deliver the services are usually provided over circuits leased from a public carrier (rather than owned by the service provider).⁹⁴ IVAN services are provided over both public and private networks; in some regulatory regimes, private networks can be interconnected with public networks.⁹⁵

b. International Telecommunications Union (ITU) Recommendations and Regulations

The International Telecommunication Union (ITU) was founded in 1865 as the "International Telegraph Union," and is the world's oldest international, intergovernmental organization.⁹⁶ The ITU currently includes 164 countries (including the United States). Government representatives of each of these States meet periodically at conferences to draw up, by mutual agreement, regulations for the operation of telecommunication services, and recommendations concerning the standardization of telecommunication equipment, operation and services.⁹⁷

⁹¹ This term refers to changes in code, format, or protocol of transmitted information, which allows computers on either end of the transmission to communicate with each other. *See id.* at 6.

⁹² This category includes performing mathematical steps, and data sorting, collating, storing, erasing, or printing. *Id.*

⁹³ This category may include electronic mail, file transfer, voice messaging, and other communications-type services. *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *See In the Matter of Draft International Telecommunications Regulations to be Considered by the World Administrative Telegraph and Telephone Conference (WATTC-88)*, F.C.C. 88-55, May 24, 1988, at 2 [hereinafter *Draft Regs.*]. The ITU, first established in 1865 with twenty members, became "recognized" at the 1947 Atlantic City Conference as the United Nations' specialized agency responsible for international telecommunications matters. *Id.* at 2 n.1 (citing International Telecommunication Union Convention (Nairobi, 1982)). The ITU has charged a number of subsidiary bodies with carrying out particular aspects of the ITU's responsibilities. These subsidiaries include the International Radio Consultative Committee (CCIR), and the International Telephone and Telegraph Consultative Committee (CCITT). Such committees develop technical and service regulations and recommend standards applicable to their respective areas of responsibility. At the last Plenipotentiary Conference in Nice, France (1989), the ITU established a new Telecommunications Development Bureau (BDT) to focus on telecommunications development in developing countries.

⁹⁷ *Telecommunications Development Worldwide: the Telecommunications Bureau at Your Service*, ITU publication (1991) at 3. As defined in the Nice Constitution, the purposes of the ITU are to promote the improvement and rational use of telecommunications of all kinds; to promote and offer technical assistance to developing countries in the field of telecommunications; to promote the development of technical facilities and their most efficient operation; to promote the use of telecom-

The actions of the ITU are of tremendous significance in assuring the continued competitive provision and proliferation of IVAN services, including international EDI. In this regard, there are three areas of ITU authority of particular relevance. These are: 1) the International Telecommunications Regulations adopted by the ITU World Administrative Telegraph and Telephone Conferences (WATTC); 2) the bestowing of "RPOA" status to service providers for many IVAN services; and 3) the International Telegraph and Telephone Consultative Committee (CCITT) D Series Recommendations.⁹⁸ The first two areas of authority are addressed with respect to EDI service provisioning later in this section. The D Series Recommendations are discussed in relation to international tariff principles in section B.3., below.

(1) *WATTC-88 Efforts to Harmonize Regulatory Frameworks*

How services are defined in ITU International Regulations also can affect conditions for the provision of international EDI or other value added services in individual countries. The International Telecommunications Regulations are promulgated pursuant to the International Telecommunications Convention, and are binding on all signatories to the Convention. The Regulations are periodically reviewed and revised at World Administrative Telegraph and Telephone Conferences (WATTCs) of the ITU.⁹⁹ In 1988, in response to new telecommunications services that had been and would continue to be introduced as a result of recent technological innovations, WATTC-88 was convened in Melbourne, Australia, "to consider proposals for a new regulatory framework to cater for [sic] the new situation in the field of new telecommunication services."¹⁰⁰

WATTC-88 is illustrative of both the perceived need to harmonize

munication services with the objective of facilitating peaceful relations; and to harmonize the actions of member nations in attaining those ends. *See id.*; International Telecommunications Constitution, Article 4, Nice (1989); IVANs, *supra* note 26, at 6 n.13; *see also* International Telecommunications Convention, Article 4, Nairobi (1982).

⁹⁸ *See* IVANs, *supra* note 26, at 6.

⁹⁹ *See* IVANs, *supra* note 26, at 12.

¹⁰⁰ IVANs, *supra* note 26, at 13 (citing International Telecommunication Convention, Nairobi, 1982, Resolution 10). Resolution No. 10 of the 1982 Nairobi Conference had noted that the Telegraph Regulations and Telephone Regulations produced at the 1973 WATTC in Geneva, Switzerland, only dealt with international telephone and telegraph service. Resolution 10 stated that as a result of the recent development of technology, new telecommunications services have been and will continue to be introduced, and that it would be advisable "to establish, to the extent necessary, a broad regulatory framework for all existing and foreseen new telecommunications service." It therefore resolved that a WATTC would be convened immediately after the CCITT Plenary Assembly in 1988 to consider proposals "for a new regulatory framework." *See Draft Regs*, F.C.C. No. 88-55, at 3-4.

international telecommunications regulatory regimes, and the formidable difficulties that attend such a process. Before the conference was actually held, there was a basic disagreement between liberal and conservative administrations regarding the appropriate amount of international telecommunications regulation.¹⁰¹ The United States was among those nations favoring maximum liberalization of telecommunications, and the development of a competitive environment.¹⁰² Other nations, while favoring some degree of liberalization, felt that international telecommunications should be subject to a number of universally applicable regulations.¹⁰³

Because of these fundamentally conflicting positions, the final text of the International Telecommunications Regulations is "a somewhat vague and ambiguous compromise, and could be subject to varying interpretation."¹⁰⁴ The conservative or liberal interpretation of certain regulations could form the justification for either restrictive or liberal domestic regulation concerning the development of value added services in some countries.¹⁰⁵

For example, differing viewpoints evidently were painfully apparent in debates where many ITU members pressed to define the international telecommunications services that can be offered to the public.¹⁰⁶ One debate ultimately focused on the proposed language of Article 1.2, and the definition of the term "public" used therein. Article 1.2 of the Regulations reads: In these Regulations, "the public" is used in the sense of the population, including governmental and legal bodies.¹⁰⁷ Article 1.1.1 attempts to clarify certain terms mentioned in connection with the "public" in Article 1.2: "The population" means people or individuals; "governmental bodies" means an agency or department that contracts as a customer for a telecommunications service; and "legal bodies" means entities recognized in law such as a company, a corporation, a partnership,

¹⁰¹ IVANs, *supra* note 26, at 13. See Final Report of Preparatory Committee for WATTC, CCITT Circular No. 67 (Nov. 9, 1987); *Draft Regs*, Notice of Inquiry, No. 88-55 (Feb. 9, 1988) (summary published in 53 F.R. 5434, Feb. 24, 1988).

¹⁰² The United States statement concerning the draft international regulations stressed the need for "flexibility," such that the regulations would account for differing national regimes; would not mandate particular domestic consequences, or foreclose domestic choices of Member nations; and which would account for "how technological change will affect the services generally available to the public." U.S. Statement, CCITT Circular No. 67 (Nov. 9, 1987); *Draft Regs*, F.C.C. No. 88-55, at 7 n.18; see IVANs, *supra* note 26, at 13.

¹⁰³ See *Draft Regs*, F.C.C. No. 88-55, at 7; IVANs, *supra* note 26, at 13.

¹⁰⁴ IVANs, *supra* note 26, at 13.

¹⁰⁵ *Id.*

¹⁰⁶ See *id.*

¹⁰⁷ *Final Acts of WATTC-88*, Melbourne, 1988, Article 1.2; see IVANs, *supra* note 26, at 13; *Proposed Regs*, F.C.C. No. 88-55 at 18 ¶ 20.

etc., that contract for telecommunications service as customers.¹⁰⁸ “Thus, one interpretation of Article 1.2 is that the Regulations apply to an all inclusive list of customers.”¹⁰⁹

This encompassing interpretation conflicts with that of the United States, which, although favoring a regulatory framework for international telecommunications services offered to the public by Administrations¹¹⁰ and other public correspondents, “does not favor defining the term ‘public’ in a manner that can be interpreted to include operators of private networks or closed user groups.”¹¹¹ Such an interpretation would obviously expand the scope of regulation applicable to value-added service providers, possibly including EDI providers.¹¹²

A similar concern centers on Article 1.7a of the International Regulations, which recognizes the right of any ITU member country, “subject to national law and should it decide to do so, to require that administrations (and RPOAs [see *infra*]) and private operating agencies, which operate in its territory and provide an international telecommunications service to the public, be authorized by that Member.”¹¹³ This provision too is subject to varying degrees of interpretation. Some regimes could attempt to apply this provision broadly in order to subject a greater number of services to regulation.¹¹⁴ The United States, however, construes the phrase “telecommunication service to the public” to exclude from its coverage non-telecommunication services, such as information services, or those services provided by operators of private circuits or non-public networks.¹¹⁵ WATTC-88 did not specify precisely which services are subject to the new regulations.¹¹⁶

Because the scope of the international regulations remains vague, ITU member nations can take alternatively liberal or conservative approaches to regulation of EDI and enhanced service providers, and still

¹⁰⁸ IVANS, *supra* note 26, at 13-14.

¹⁰⁹ *Id.* at 14.

¹¹⁰ Although the United States communications and information services markets include private, for-profit common carriers and enhanced service providers, most of the world is still served by government-owned communications entities referred to under the ITU Convention, regulations and recommendations as “Administrations.” International Communications Policies Governing Designation of Recognized Operating Agencies, Grants of IRUs in International Facilities and Assignment of Data Identification Codes, 104 F.C.C.2d 208, 214 n.18 (1986) [hereinafter *RPOA Order*].

¹¹¹ IVANS, *supra* note 26, at 14.

¹¹² *See id.*

¹¹³ *Id.* (citing Final acts of WATTC-88, Melbourne, 1988, Article 1.7a).

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.*

claim that they are endorsing the spirit of the regulations.¹¹⁷ Thus, international definitional questions — *e.g.*, whether the ITU definition of “public” applies to closed- or intra-corporate EDI user groups, or whether EDI services are included as telecommunications services — will determine the degree to which EDI is regulated within and between different countries’ telecommunications regimes.

By the time the International Telecommunications Regulations come up for another periodic review in 1994, regulatory regimes around the world will undoubtedly be vastly different than they were in 1988. Moreover, user requirements coinciding with the expansion of EDI and other value-added networks should produce even greater pressures for harmonization. Therefore, the regulations, which now lend themselves to varying interpretations, could in the future actually provide a more direct impact on classification of services for competitive provision. This could substantially affect domestic accommodations regarding the provision of EDI.

(2) *International Recognition of Value-Added Networks: RPOA Status*

When networks require interconnection with a foreign PTT for the provision of service, international regulations come into play. The pertinent regulations, issued by the ITU, concern the designation of “Recognized Private Operating Agency” (RPOA) status to service providers for the delivery of most telecommunications services.¹¹⁸

RPOA status is a mechanism to facilitate operation of the ITU by regularizing relations between those member nations who place responsibility for communications matters in the hands of governmental entities such as the PTTs and government-owned broadcasting services, and those (such as the United States) who place their communications and broadcasting services in the hands of private, non-governmental corporations. RPOA status gives such private entities an official status in the ITU, which is primarily an organization of governments, and allows such entities to contribute to the work of the ITU while reassuring the governmental members that the private entities will abide by the international regulations. The ITU, thus, uses the RPOA concept to facilitate international cooperation in resolving communications issues and to avoid destructive interference.¹¹⁹

¹¹⁷ *See id.*

¹¹⁸ *See id.* at 7.

¹¹⁹ *RPOA Order*, 95 F.C.C.2d 627, 635 (1983) (Notice of Inquiry); *see RPOA Order*, 2 F.C.C.R. 7375, 7380 n.6 (1987) (Order on Reconsideration) (“The purpose of the RPOA concept is to assure members of the ITU that private communications entities that are not themselves parties to the

An RPOA is defined by the ITU Convention as:

[a]ny private operating agency which operates a public correspondence or broadcasting service, and upon which the obligations provided for in Article 44 of the Convention are imposed by the Member in whose territory the head office of the agency is situated, or by the Member which has authorized this operating agency to establish and operate a telecommunications service on its territory.¹²⁰

The ITU Convention defines "public correspondence" service as "[a]ny telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission."¹²¹

The benefit of RPOA status is that it confers an imprimatur of official recognition and approval on the subject entity, and reassures foreign administrations with which the entity wishes to interconnect.¹²² However, RPOAs must undertake to meet the obligations of Article 44 of the Convention, which require submission to regulation.¹²³

In most ITU member countries, although not in the United States, firms that provide international "public correspondence" services are classified as RPOAs.¹²⁴ Thus, "firms which provide public international telecommunications services, such as message telephone, real-time telex, telegraph, and private leased circuit services are usually RPOAs."¹²⁵

The language of the ITU definition of "public correspondence" appears to suggest "some concept of service to the public."¹²⁶ In the United States, however, the FCC has emphasized that this term is not a synonym for the U.S. notion of "common carriage" as the term is used in the Communications Act.¹²⁷

Instead, the FCC has "interpreted the ITU definition of public correspondence to refer to a 'transport service' (as distinguished from data processing or data base access) of the type traditionally offered by administrations, in which the service provider conveys information unchanged

Convention will nonetheless be required to observe the rights of other member states under the treaty.").

¹²⁰ ITU Convention, Nairobi, at 149; IVANS, *supra* note 26, at 7-8. The grant of RPOA status "confers upon an entity a class of membership in the ITU and its working subgroups which is second only to that afforded governmental administrations"; "RPOAs are full participants in the work of the ITU and can contribute their views in the development of new ITU standards." *RPOA Order*, 95 F.C.C.2d at 641 (Notice of Inquiry).

¹²¹ ITU Convention, Nairobi (1982), Annex 2 at 148; *see IVANS, supra* note 26, at 7; *RPOA Order*, 104 F.C.C.2d at 215 n.21 (final order).

¹²² *See RPOA Order*, 104 F.C.C.2d at 214 (Final Order).

¹²³ *Id.* at 246. Article 44 of the Convention obligates the RPOA to obey the mandatory provisions of the Convention and regulations duly promulgated thereunder.

¹²⁴ IVANS, *supra* note 26, at 7.

¹²⁵ *Id.*

¹²⁶ *RPOA Order*, 104 F.C.C.2d at 247 (Final Order); *see IVANS, supra* note 26, at 7.

¹²⁷ *See RPOA Order*, 104 F.C.C.2d at 215, 247 (Final Order).

from sender to a non-related recipient.”¹²⁸ Public correspondence includes both basic services and enhanced services, such as protocol processing and packet switching, that act on the form but not the content of the communication. In contrast, providers of enhanced services such as remote-access data processing, which acts on the content of communications, are not deemed to engage in public correspondence.¹²⁹ Such service providers are not eligible for RPOA status. Thus, all U.S. providers of basic service, as well as providers of those enhanced services which are considered by the U.S. to be “public correspondence,” are eligible on a voluntary basis to be RPOAs.¹³⁰

On the basis of the above definitions, most IVAN service providers, and most international EDI providers, which engage in some manipulation or modification of the content of the messages transmitted, are not eligible for RPOA status. This fact may narrow opportunities for interconnection. However, it also ensures that EDI providers are not directly subject to ITU regulations, and it may help protect EDI providers from being subject to foreign domestic regulations.¹³¹

It is apparent that EDI provisioning is affected by policies at all policy levels, including national and international regulations and conventional practices. The successful establishment of an international EDI network therefore will depend upon the configuration of facilities and services in a manner that properly complies with regulations in each country and that fits within the established international framework.

B. Competitive Conditions

A second area of telecommunications policy that fundamentally af-

¹²⁸ *RPOA Order*, 2 F.C.C.R. at 7380 n.5 (Order on Reconsideration).

¹²⁹ *RPOA Order*, 2 F.C.C.R., at 7380 n.5 (Order on Reconsideration). The FCC has interpreted “public correspondence” to be synonymous with the term “telecommunications,” such that it describes “the kinds of communications that were offered by administrations at the time the definition was added to the Convention — *i.e.*, those offered to third parties (the public)”:

As such, we believe it is intended to distinguish such third-party or message services, where the service provider transmits the sender’s information without change in content, from the more recent phenomenon of “data processing,” where the provider uses a computer to manipulate and alter the content of the customer’s information . . . service providers who offer pure data processing do not offer public correspondence and, thus, . . . are not eligible for designation as RPOAs. It is only those U.S. enhanced-service providers who offer a service which acts upon the form but not the content of the customer’s communication, which we in the United States call enhanced but which other nations consider telecommunications, that would qualify for designation as an RPOA.

RPOA Order, 104 F.C.C.2d at 248 (Final Order) (footnotes omitted).

¹³⁰ IVANs, *supra* note 26, at 7.

¹³¹ In the absence of RPOA status, or in cases where assurance of interconnection with the PTT is critical, inter-governmental bilateral agreements sometimes provide alternate bases for interconnection. See *infra* notes 176-180 and accompanying text.

fects the provision of EDI services is focused on guaranteeing fair competition between EDI providers and basic services carriers. In the United States and abroad, EDI and other value added service providers increasingly must compete directly with the underlying carriers from which they obtain transmission capacity.¹³² In particular, the terms and conditions upon which value added service providers and underlying carriers can obtain transmission capacity substantially affect their relative competitive posture with regard to the nature and price of services that can be offered to customers. In many countries, telecommunications regulators have begun to establish policies designed to curtail incentives and reduce opportunities for underlying transmission services carriers to unfairly disadvantage competitors.¹³³ In addition, although domestic policies play a major role in ensuring fair competition, multilateral (or regional) and international initiatives also exert strong influences.

There are two fundamental considerations attending the establishment of fair competitive conditions for EDI and value added services generally. The first consideration involves the terms that govern value added service suppliers' access to the public switched network.¹³⁴ Such terms include the prices and conditions of access to local exchange distribution facilities, as well as prices and conditions for access to basic network features and functions that permit efficient interconnection to the network. The second consideration concerns prices for underlying transmission capacity, and the conditions affecting "resale" of the underlying capacity as part of the provision of value added services. An EDI or other value added service supplier subject to discriminatory treatment in these areas of access to network interconnection and resale of underlying

¹³² This process may be accelerated dramatically in the United States by the recent lifting of the RHC "information services" restriction by Judge Greene. See *supra* note 71 and accompanying text.

¹³³ In the United States, for example, "[o]nly a communications common carrier has both computerization and its own transmission capacity at its disposal." Frieden, *Computer Inquiries, supra* note 33, at 63. This "renders consumers, as well as new information processing firms, vulnerable to the likelihood of more expansive communications common carrier marketplace abuses." *Id.* A primary danger is cross-subsidization. "The telephone company's ability to favor one service category over others by accepting a lower rate of return on the favored category can transcend monopoly and competitive market boundaries. The favored category can be a competitive market traditionally not subject to public utility regulation." *Id.* Thus, both the FCC and MFJ court have attempted to insure that carriers' zeal for entering new information processing/"value-added" service markets does not allow them to abuse their ability to access their own transmission capacity. See *id.*

¹³⁴ Not all value added services require interconnection with the public switched network, particularly if connection to the value added service supplier's mode is made by leased or dedicated line obtained on a private basis and not pursuant to a public tariff. However such interconnection is certainly required when value added service can be accessed through public network switched or private line services. EDI services are generally available on either a dedicated line or "dial-up" basis, using public network facilities.

transmission capacity may be seriously disadvantaged in the market vis-a-vis the value added operations of the basic services carrier.

1. Non-Discriminatory Network Interconnection: U.S. Competitive Safeguards and Access Charges

As a basis for comparison, the United States has taken the lead in attempting to ensure that value added services like EDI are competitively provided, experimenting with both "structural" and "non-structural" safeguards.

In the United States, basic services carriers with substantial market power are perceived to have the incentive and ability to use their control of "bottleneck" facilities to create barriers to entry and network access for competitive value added services. It was this concern that motivated the FCC in *Computer II* to impose the requirement of structural separation on dominant carriers' enhanced services activities.¹³⁵ Structural separation was not without its disadvantages, however, including inefficiencies from duplication of facilities and personnel and stifled development of network-based value added services.¹³⁶

In *Computer III*, the FCC turned to non-structural safeguards which included special rules for allocation of costs jointly incurred for monopoly and competitive services, special rules on handling of CPNI, and the ONA network access provisioning and pricing regime.¹³⁷ ONA is intended to ensure that all enhanced services, whether they are provided competitively or by the monopoly carrier, can gain access to network facilities and functions at the same prices and on the same terms and conditions.¹³⁸

¹³⁵ The *Computer II* structural separation requirements affected only the RHCs because of their substantial market power. See *supra* notes 50-56 and accompanying text. The MFJ also constitutes a structural approach to the problem of prevention of abuse of market power. However, because this discussion focuses on regulatory policies and approaches, we have omitted discussions of the implementation in the U.S. of antitrust remedies through the MFJ.

¹³⁶ See Frieden, *Europe, supra* note 50, at 321 (the FCC subsequently "decided that the costs of the separate subsidiary requirements in terms of lost innovation, inefficiency, customer inconvenience and delay outweighed the benefits in preventing cross-subsidization and discrimination"). For a detailed treatment of the costs and benefits attending structural separation, see *Computer III, supra* note 48, at 998-1012.

¹³⁷ See *supra* note 48.

¹³⁸ The FCC's *Computer III* decision authorized AT&T and the RHCs to provide value-added services on an unseparated basis, provided that they complied with FCC-prescribed "non-structural" safeguards aimed at "preventing preferential treatment of affiliates in terms of installation, maintenance, quality of access, and disclosure of proprietary information about users' basic network consumption"; the FCC also devised the ONA plan, that in essence called upon AT&T to unbundle their network services into individual service elements and provisioning arrangements. Frieden, *Europe, supra* note 50, at 321. *Computer III* was reversed, rehabilitating the *Computer II* structural separation regime. The FCC re-implemented ONA, however, in a subsequent proceeding. See *supra*

Another feature of the U.S. regime for ensuring fair competition is a system of access charges. This system provides compensation to local telephone companies for utilization of local exchange facilities for the origination and termination of long distance (including international) calls.¹³⁹ The access charge system is intended to promote fair competition in basic interexchange message services. The access charges are designed mainly to recover the non-traffic sensitive (NTS) costs of "local loop" facilities.¹⁴⁰ These NTS costs, which relate to the facilities required to connect individual subscribers to the network, are incurred regardless of volume of calling or of the types of calls made. The NTS costs are recovered through flat fees charged to end users as well as usage sensitive charges paid to local exchange companies by interconnecting long distance carriers.¹⁴¹

After some debate,¹⁴² the FCC has reaffirmed its position that value added, or enhanced services such as EDI, should be exempt from the usage-based access charges that must be paid by interexchange basic services carriers.¹⁴³ The rationale is that enhanced services incorporate basic transmission services, and that the required contribution to recovery of local exchange costs is made by the carrier providing such underlying transmission services.¹⁴⁴ The reach of the exemption obviously

note 52. ONA constitutes the FCC's "grand blueprint for reducing complex telecommunications facilities to a menu of individual tariffed functions available for selection by users and enhanced services providers." Frieden, *Europe, supra* note 50, at 321.

¹³⁹ The FCC first adopted a comprehensive "access charge" plan for recovery by local exchange carriers of the costs associated with origination and termination of interstate calls in 1983. *See MTS/WATS Market Structure*, 97 F.C.C.2d 682 (1983) (Memorandum Opinion and Order); *see also* In the Matter of Petitions for Waiver of Various Sections of Part 69 of the Commission Rules, filed by the Mountain States Telephone and Telegraph Co., Northwestern Bell Telephone Co., Pacific Northwest Bell Telephone Co., the Bell Atlantic Telephone Cos., Pacific Bell, New England Telephone and Telegraph Co., and BellSouth Corp., 104 F.C.C.2d 1132, 1135-39 (1986) (providing background).

¹⁴⁰ Some traffic sensitive costs are also recovered by access charges. A detailed description of the many facets of the access charge plan is beyond the scope of this article.

¹⁴¹ We refer here to the system of *interstate* access charges administered by the FCC. These charges cover NTS local loop costs allocated to the interstate jurisdiction. NTS costs allocated to intrastate jurisdiction are recovered under pricing plans administered by the applicable state regulatory authority.

¹⁴² *See* Amendment of Part 69 of the Commission's Rules Relating to Enhanced Service Providers, 2 F.C.C. Rcd. 4305 (1987) (Notice of Proposed Rulemaking).

¹⁴³ *See* In the Matter of Amendments of Part 69 of the Commission's Rules Relating to Enhanced Service Providers, 3 F.C.C. Rcd. 2631 (1988).

¹⁴⁴ In addition, the FCC observed that the enhanced services industry is in the midst of a "volatile" and "unique period of rapid and substantial change," citing both the implementation of ONA and the MFJ's relaxation of information service restrictions on the BOCs. *Id.* at 2631-33. The FCC decided that in light of such developments and their potential effects on the provision of enhanced services to the public, "this is not an appropriate time to assess interstate access charges on providers of enhanced services." *Id.* at 2633. In order to continue to provide "predictability and stability for

depends upon the definition of enhanced services.

The access charge system has been pioneered in the United States. Few other countries have yet instituted as open a market for basic long distance services as the United States; hence, there are few countries that have had occasion to develop a similar system.¹⁴⁵ However, it is inevitable that, as privatization and liberalization continue, long distance competition will become more common. Other countries will then face the question of how local loop costs should be recovered, and whether any or all value added services providers will be required to contribute a share.

2. *Multilateral or Regional Approaches: EC Initiatives*

Other sources of telecommunications regulatory activity that can greatly affect the international environment for EDI are various multilateral or regional initiatives to reach consensus on international telecommunications issues.¹⁴⁶ The efforts of the European Commission (EC),

the enhanced services industry during the transition to ONA," 4 F.C.C. Rcd. at 3987, the FCC has continued to "retain the current enhanced service provider (ESP) exemption in its current form." In the Matter of Amendments of Part 69 of the Commission's Rules relating to the Creation of Access Charge Subelements for Open Network Architecture, 6 F.C.C. Rcd. 4524, 4537 (1991).

The Commission's commitment on this point appears to be wavering, however. In its July 1991 decision on ONA pricing, the FCC conditioned availability of ONA provisioning for enhanced services providers on acceptance of usage sensitive access charges. See Amendments of Part 69 of the Commission's Rules Relating to the Creation of Access Charge Subelements for Open Network Architecture, 6 FCC Rcd 4524, 4535 (1991). Note that this is an issue of critical concern to Congress, as it has a potentially significant and detrimental financial consequence for the enhanced services industry. See *House Telecom Subcommittee Hits FCC Decision in ONA Docket*, COMM. DAILY, May 1, 1992.

¹⁴⁵ New Zealand last year privatized its state-owned telephone company and, in the process, established policies promoting free market entry. However, New Zealand chose to forego establishment of an administrative regulatory authority, and instead to rely upon competition law to govern relations between companies. There is no system of access charges in place there. The U.K. also recently opened domestic markets, both local and long distance, to competition. However, the U.K. is attempting to encourage competition in local exchange markets and has not instituted a system of access charges.

¹⁴⁶ Although not mentioned in depth here, another significant regional effort with implications for EDI is the Asia-Pacific Economic Cooperative (APEC) Working Group on Telecommunications. APEC itself is an international forum seeking closer economic cooperation among countries on the Pacific Rim, and is currently comprised of fifteen member countries, including the United States. The organization is representative of a global incentive to identify and compile data on member governments' telecommunications regulatory systems, and to work "together in supporting the development of practical applications for the development of telecommunications" in order to achieve broader goals of economic growth, trade stimulation, and mutual cooperation. APEC Telecommunications Working Group, *The State of Telecommunications Infrastructure and Regulatory Environment of APEC Economies*, (November 1991) [hereinafter *APEC Economies*]. In keeping with such objectives, APEC has established telecommunications as a high priority, and has initiated a long-term project to study the practical application of EDI. See *id.* at 313-15, 334, 338, 344-46.

In addition, NAFTA is also an emerging regional agreement likely to have a substantial impact on EDI. See *supra* note 89.

which serves as the executive organ for the European Economic Community (EEC), are a prime example of an ambitious and difficult multilateral drive to remove regulatory and structural impediments to free trade within the EEC in telecommunications markets, including EDI.¹⁴⁷

In June, 1985, the EC published a *White Paper* entitled "Completing the International Market,"¹⁴⁸ which "was intended to serve as a manifesto for dismantling existing technical, fiscal, and legal barriers among member states of the EEC."¹⁴⁹ In June, 1987, the EC published its famous *Green Paper*,¹⁵⁰ articulating the EC's "blueprint" for the EEC's 1992 telecommunications marketplace.¹⁵¹

There are at least two EC actions following from the above that are important in the context of competitive conditions for EDI. The first, written pursuant to the *White Paper*, is the EC's July 26, 1988 decision to

¹⁴⁷ Presently, there is no European telecommunications system; instead:

there are the often disparate networks of the member states of the EC. Not only are there technical differences between the various jurisdictions of the PTTs [postal, telephone and telegraph administrations], but there is great diversity in the degree of competition allowed with the PTT, in the extent and nature of access of competitors to the network, and in the extent to which restrictive procurement policies are restricted. Great regulatory and structural impediments therefore exist to free trade in telecommunications markets, whether voice telephone, computerized telecommunications or procurement of equipment.

John A.K. Huntley, *Recent Developments in European Telecommunications Law*, 7 *COMPUTER L. & PRAC.* 49 (Nov.-Dec. 1990).

¹⁴⁸ Commission of the European Communities, *Completing the International Market* (Com. No. 310) (June 1985) (Final White Paper).

¹⁴⁹ Frieden, *Europe*, *supra* note 50, at 322. The *White Paper* contained approximately three hundred proposals for legislation affecting a wide variety of economic activities, with a view toward harmonization of laws of member states and mutual recognition of authorizations and licenses granted by member states. *Id.* (footnotes omitted).

¹⁵⁰ Commission of the European Communities, *Towards a Dynamic European Economy: Green Paper on the Development of the Common Market for Telecommunications Services and Equipment* (Com. No. 290) (June 30, 1987).

¹⁵¹ Frieden, *Europe*, *supra* note 50, at 322; see Reinhard Schulte-Braucks, *Telecommunications Law and Policy in the European Community*, 13 *FORDHAM INT'L L.J.* 234 (1989-90) (discussing *Green Paper* proposals and implementation of its principles with regard to the provision of telecommunications services and equipment throughout the EC). Along with the *EEC Commission Report*, the *Green Paper* called for the deregulation of the terminal equipment market with procedures to ensure unrestricted provision and interconnection of CPE; liberalization of value-added services; separation of regulatory and operational responsibilities of telecommunications administrations; tariffing on a cost-of-service basis; harmonization of standards to maintain or create network interoperability, while promoting innovation; deregulation of satellite receive-only antennas that do not access the public switched telephone network; the requirement of open procurement of equipment by postal, telegraph, and telephone administrations; the prohibition of cross-subsidies on carriers' services subject to competition; and the creation of the European telecommunications Standards Institute (ETSI) to promulgate nondiscriminatory network operating standards, particularly for future digital networks and ONP. Frieden, *Europe*, *supra* note 50, at 322-323; see Commission of the European Communities, *Towards a Competitive Community-Wide Telecommunications Market in 1992, Implementing the Green Paper on the Development of the Common Market for Telecommunications Services and Equipment* (Com. No. 48) (Feb. 9, 1988).

set up a competitive information services market.¹⁵² The stated purposes of the *Information Decision* were to set up an internal information services market by the end of 1992; to stimulate and reinforce the competitive capability of European suppliers of information services; to promote the use of advanced information services in the EC in a world market context; and to reinforce joint efforts to achieve cohesive EC policies.¹⁵³

The *Information Decision* is significant because its breadth "suggests the potential for numerous policy directives based upon the information generated under its various programs," e.g., on EDI and standardization issues, that could have far reaching effects on EDI providers doing business within the EEC.¹⁵⁴ Unfortunately, the decision lacks adequate working definitions of "information services" and "information services market," a theme seemingly common to many regulatory attempts to deal with such services; vigilance is therefore required since the EC's information policies addressing services like EDI may "overlap with issues falling under other Community measures."¹⁵⁵

Second, although 1992 will not see the complete harmonization of telecommunications contemplated by the *Green Paper*,¹⁵⁶ one of the latest significant steps towards this goal is embodied in the EC's *ONP Directive*.¹⁵⁷ The *ONP Directive* "contemplates open and efficient access to public telecommunications networks and services within and between member states," and establishes a number of "basic principles" which apply to a number of telecommunications services.¹⁵⁸ The EC's concept

¹⁵² See Council Decision Concerning the Establishment of a Plan of Action for Setting Up an Information Services Market, OJ No L 288, 21. 10. 1988 at 39 (88/524/EEC) [hereinafter *Information Decision*]; see Report of the Working Group on Telecommunications, Information Technology and Broadcasting to the ABA Special Task Force on EC 1992 [hereinafter *ABA EC Report*].

¹⁵³ *Information Decision*, OJ No L 288, 21. 10. 1988, at art. 1. To achieve these goals, the decision set forth a plan of action primarily establishing programs to gather information on the dynamics of the market; investigate and devise methods for overcoming technical, administrative and legal barriers; improve the "synergy" between the public and private information sectors; launch pilot or demonstration projects to demonstrate "innovative applications of technology," promote the use of European information services; and prepare a project to interconnect libraries in the European Community. *ABA EC Report*, *supra* note 152, at 6-9.

¹⁵⁴ See *ABA EC Report*, *supra* note 152, at 6.

¹⁵⁵ See *id.*

¹⁵⁶ Frieden, *Europe*, *supra* note 50, at 323 ("Given the ambitiousness of the *Green Paper* and subsequent documents, preliminary timetables will not be met, nor will the necessary degree of consensus be achieved.") (citing Baur, *Telecommunications and the Unified European Market*, 24 TELECOMMUNICATIONS 33 (Jan. 1990)).

¹⁵⁷ The Council of the European Communities, *Common Position Adopted by the Council of February 5, 1990 with a View To Adopting A Directive on the Establishment of the Internal market for Telecommunications Services Through Implementation of Open Network Provision*, Council Directive No. 4078/90 [hereinafter *ONP Directive*].

¹⁵⁸ Frieden, *Europe*, *supra* note 50, at 323 (footnotes omitted). These services include telephone, data, leased lines, and digital networks. *Id.*

of Open Network Provision (ONP) is much influenced by the FCC's concept of ONA.¹⁵⁹ The key feature of ONP is the creation of a level playing field for telecommunications competitors through standardization of all network features.¹⁶⁰

3. *Pricing of Transmission Capacity: The Issue of International Private Line Resale*

Restrictions on international resale are other major potential impediments to the development of IVAN and EDI services that may severely constrain IVAN service providers' options for configuring and pricing EDI services. For IVANs that have significant network traffic, aggregation of such traffic on high capacity international facilities (and subsequent "resale," with added value, of portions of the capacity to individual customers) can involve significant economies.¹⁶¹ However, ITU international recommendations have historically frowned on this practice and most country administrations have prohibited value added service providers and other resellers from engaging in it.¹⁶² In contrast, telephone administrations are not prevented from enjoying such economies.

a. CCITT Recommendations

The CCITT (International Telegraph and Telephone Consultative Committee) is a standing committee of the ITU. Its duties are "to study and issue Recommendations on technical questions and tariff principles relating to telecommunications services."¹⁶³ As the principal international telecommunications standards organization in the world, CCITT issues Recommendations for such standards. These Recommendations

¹⁵⁹ See *supra* note 52. The goals of ONA and ONP are quite similar, and both address "the need to reconfigure the telecommunications infrastructure to achieve transparent and efficient access." As one commentator has noted, however, ONP "has a much more fundamental and challenging mandate" than ONA:

to harmonize network access terms, conditions, interfaces, and features within the twelve nations of the EEC for all telecommunications services provided by incumbent carriers — usually government postal, telegraph, and telephone administrations. This vision concentrates on harmonizing a patchwork of regulations and standardizing infrastructures varying in degrees of sophistication and accessibility. It also embodies an underlying procompetitive philosophy, but does not expect incumbent carriers to relinquish their monopolies in essential, core services.

Frieden, *Europe, supra* note 50, at 320.

¹⁶⁰ Huntley, *supra* note 147, at 51.

¹⁶¹ For example, an IVAN theoretically could lease an international T-1 circuit (1.544 Mbps of capacity) and provide each of several different customers with a 64 kbps circuit. This would afford a significant savings over the rates for individual international 64 kbps circuits.

¹⁶² The restrictions apply generally to resale, and are not limited to the provision of value added circuits.

¹⁶³ IVANs, *supra* note 26, at 8.

are intended to provide the common bases for countries seeking international telecommunications interconnectivity and interoperability.¹⁶⁴ Compliance with the Recommendations, as the designation implies, is voluntary, although the Recommendations' substance is often adopted as the basis for domestic public network policies by foreign administrations.¹⁶⁵

The recommendations that most affect the provision of international EDI and other IVAN services are the CCITT D Series Recommendations, focused on the use of private leased circuits.¹⁶⁶ The D Series Recommendations "deal with the general principles and conditions applicable to the use of all international private leased circuits, including those necessary for the provision of value-added services."¹⁶⁷

Until recently, under CCITT Recommendation D.1, an international telecommunications private leased circuit consisted of "making one or more international telecommunication circuits available to a customer for his dedicated use on the terms and conditions which may be set out in a lease agreement between the customer and the Administration of the company at each terminal or circuit."¹⁶⁸ Thus, a company in the United States could:

obtain an international private leased circuit from a U.S. carrier and its foreign correspondent (each providing one-half of the circuit) to transact business according to the agreed-on terms and conditions of the lease agreement for the private leased circuit connecting the firm's locations in the United States to one or more company locations in the foreign country.¹⁶⁹

The circuit could be used for any voice, data, or other service desired by the company and covered by the agreement.¹⁷⁰

However, Recommendation D.1 also contained a restriction that companies should not resell or share the private leased circuit with other customers or individuals, *i.e.*, third parties, unless authorized by their

¹⁶⁴ *Id.*

¹⁶⁵ *Id.* (footnote omitted). "Because of the tendency on the part of some foreign administrations to accept CCITT Recommendations as mandatory standards in their countries, the Recommendations usually serve as a point of departure in any international discussion of telecommunications service with foreign administrations." *Id.* The United States has emphasized that it considers all CCITT recommendations to be non-binding. *See id.* at 8; *see also RPOA Order*, 2 F.C.C.R. at 7380 n.6.

¹⁶⁶ IVANs, *supra* note 26, at 8 (citing CCITT Blue Book Volume II-Fascicle II.1, General Tariff Principles — Charging and Accounting in International Telecommunications Services, Series D Recommendations, Geneva, 1989).

¹⁶⁷ *Id.*

¹⁶⁸ *Id.* at 9 (citing Recommendation D.1, § 1.1, pg. 9).

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

administrations.¹⁷¹ Since service to third parties is usually necessary for the provision of IVAN and EDI services, this restriction greatly curtailed the international development of such services.¹⁷²

The CCITT very recently approved a new version of Recommendation D.1 that dramatically departs from the former restrictive recommendations on international private networks.¹⁷³ The new Recommendation D.1 calls upon countries to allow users to freely subdivide international circuits into multiple channels and link them to other private lines; encourages countries to let users resell network services via international private lines, provided they do not infringe upon carrier monopolies; encourages countries to let users interconnect one or both ends of international private lines to public networks; urges countries to require carriers to base international private-line tariffs on provisioning costs, to charge users generally flat-rate tariffs, and to prohibit carriers from levying tariffs that discriminate against groups of users or vendors.¹⁷⁴

In short, the greatly revised Recommendation D.1 lifts virtually all explicit restrictions on the use of international private leased telecommunications circuits, leaving any decisions on restrictions to national authorities, which may, for example, require operating agreements on competitive switched services.¹⁷⁵

Despite the change in the D Series Recommendations, individual countries must still affirmatively modify existing restrictive policies based upon the old D Series Recommendations. Thus, resale restrictions will likely persist among many jurisdictions for some time. Nonetheless, the revised D Series Recommendations represent a major step for the IVAN

¹⁷¹ *Id.* (citing Recommendation D.1 §§ 1.7, 1.8, pg. 10).

¹⁷² *See id.*

¹⁷³ The revision of the D.1 Recommendation on "General Principles for the Lease of International Private Telecommunications Circuits and Networks" became effective as of mid-July, 1991. *See Toward Greater Competition in Telecommunications: Basic Services and Network Infrastructure*, International Chamber of Commerce, Position Paper No. 17, at 32 (adopted 3-4 Dec. 1991) [hereinafter *Network Infrastructure*].

¹⁷⁴ *See* Barton Crockett, *CCITT to Vote on Plan for Private Net Liberalization*, *Network World*, Apr. 1, 1991, at 24; *see also* *CCITT Study Group III Clears Leased Line Liberalization Text for Accelerated Approval*, *Telecommunications Reports* (March 18, 1991); Barton Crockett, *CCITT To Advocate Global Net Freedom; Proposal Would Encourage Resale of International Private Lines and Bring Pricing in Line With Service Costs*, *Network World*, Dec. 31, 1990- Jan. 7, 1991, at 27; *Members of U.S. Delegation Say Draft Leased Line Guidelines OK'd by CCITT Study Group Met All U.S. Objectives, Note Reservations Must Be Overcome Through Quick Implementation*, *Telecommunications Reports*, Dec. 17, 1990 at 17-19; *CCITT Study Group III Plenary Session Agrees on Draft Revision of D.1. Recommendation on Private Line Use, Charges; U.S. Official Says Changes Recognize 'Market Realities'*, *Telecommunications Reports* Nov. 26, 1990, at 20-21.

¹⁷⁵ *Network Infrastructure*, *supra* note 173, at 32.

services towards adoption of a liberal regulatory system for international private networks. As global implementation of Recommendation D.1 progresses, evolution of VAN/EDI services offered internationally should accelerate dramatically.

b. Bilateral Agreements

Bilateral arrangements between particular countries will also affect international resale arrangements. Representatives of the U.S. government have held bilateral discussions on resale and other international issues with representatives of foreign telecommunications administrations and other foreign government agencies since the mid-1980s.¹⁷⁶ These negotiations "were conducted with the expectation of greater liberalization of regulations and policies in both foreign domestic and international telecommunications and information."¹⁷⁷

In the course of such negotiations, the United States has entered into several special arrangements with other countries that affect the provision of IVAN (and EDI) service.¹⁷⁸ These bilateral "agreements" usually are neither formal conventions nor treaties. Instead, they consist of correspondence between countries that convey and memorialize understandings that can have significant consequences in the telecommunications area. As such, they represent a flexible method of resolving ambiguities in international or domestic telecommunications regulations.

An example of such a bilateral agreement affecting international resale is the understanding recently reached between the United States and the United Kingdom.

The arrangement, which concerns "Value-Added and Data Services" (VADS), essentially permits the use of international leased circuits in accordance with the national laws of both countries covering the domestic use of private leased service. The present policies of both the United States and the United Kingdom favor permission of international private line resale.¹⁷⁹ In the words of the U.K. letter soliciting the agree-

¹⁷⁶ IVANS, *supra* note 26, at 16.

¹⁷⁷ *Id.*

¹⁷⁸ Arrangements currently exist with the U.K., Japan, and Hong Kong.

¹⁷⁹ See IVANS, *supra* note 26, at 17. The United States permits the unlimited resale and shared use of domestic private leased circuits. The U.S. has also long promoted the elimination of restrictions on international private line resale. See, e.g., In the Matter of International Accounting Rates, 7 F.C.C. Rcd 559, 560 (1991) ("The Commission remains convinced that the extension of unlimited resale into the international telecommunications market would yield the same public benefits [as unlimited domestic resale].") The U.K. Value-Added and Data Service (VADS) license permits domestic resale of leased capacity within the United Kingdom for all telecommunications services except simple resale, basic voice or basic telex, land mobile radio, and cable television. IVANS, *supra* note 26, at 17. In 1991, OFTEL also released a decision following review of its so-called

ment, “[s]uch an arrangement would have the effect of encouraging the development and use of telecommunications dependent information technologies that utilize private leased circuits between the United Kingdom and the United States,” *i.e.*, technologies such as EDI.¹⁸⁰

C. Responsibility for Underlying Data

One of the most important emerging issues arising from the specific relationship between EDI and private network providers concerns liability for any loss of or damage to the content of the material transmitted.¹⁸¹ In general, an EDI network provider is responsible for 1) conveying the EDI message in a timely manner 2) unaltered and uncorrupted 3) to the receiver 4) without any leakage.¹⁸² Thus, the question arises regarding the extent to which a provider is liable when, for example, an interruption in the underlying telecommunications transmission or a malfunction of value added features causes the loss, delay or destruction of transmitted data. The regulatory classification of both the provider and the service itself in international regimes, and the incidents of regulation that apply, may have significant consequences in determining an EDI provider's potential liability.

For example, in the United States, the notion of “common carriage” has historically been relied upon to allocate risk between the carrier and its customer for consequential damages flowing from transmission problems. It is well-established that, absent gross negligence, the liability of entities traditionally classified under the U.S. regime as “common carriers” for the loss of service suffered by a customer is reasonably limited to credits for circuit rental for the duration of the outage or interrup-

“Duopoly Policy” indicating the intention to permit international private line resale on circuits to countries with similarly liberal policies. *See also*, International Accounting Rates, 7 F.C.C. Rcd at 559-60 (observing that the British Embassy filed comments in the proceeding indicating the U.K.'s hope that its “willingness to license international resale would lead other countries to adopt similar policies”). It should be noted, however, that the U.K. has not conceded that U.S. policies are sufficiently liberal to warrant removal of private line resale restrictions between the two countries because of U.S. policies relating to the classification of foreign-owned carriers as “dominant.” *See supra* note 42.

¹⁸⁰ Letter from R.J. Priddle to Parker E. Borg (Oct. 7, 1988), *in* IVANs, *supra* note 26, at Attachment D.

¹⁸¹ *See* Jeffrey B. Ritter, Some Commercial Realities of Transborder Data Flow, Commercial Attributes of Data Communication Networks, ABA Annual Meeting, at 3 (Aug. 12, 1991) [hereinafter Ritter, *Realities*]; *see also* Russell P. Austin, *Electronic Data Interchange: The International Environment for Electronic Contracting*, ABA Section of International Law and Practice Monograph Series, at 8 n.10 (March 1991) (noting that the “liability of third party network operators is an emerging issue of international concern”) (citing TEDIS PROGRAMME 1988-1989 Activity Report published by the Commission of the European Communities on July 25, 1990 (COM (90) 361 in Annex E)).

¹⁸² Petre, *supra* note 22, at 11.

tion.¹⁸³ Except in the case of gross negligence, a carrier normally may not be held liable for the value of the information lost or for any other consequential damages. Value-added/enhanced service providers, however, are not considered “common carriers” in the United States, and therefore may be vulnerable to liability for damages resulting from defaults in the service unless service contracts provide for adequate protection.¹⁸⁴

The regulatory demarcation between common carriers on the one hand and value added or enhanced service providers on the other, is significant in this context. The demarcation indicates those activities (common carriage) for which doctrine and case law provide a safe harbor for exclusion of liability.¹⁸⁵ The activities comprising the value added component of the service must be specifically and expressly excluded from liability by contract. The standard for determining behavior still subject to liability (*i.e.*, wilful misconduct, gross negligence or mere negligence) also may be influenced by the common carrier doctrine.

Other countries may not have the common carrier doctrine, but most of them recognize the impracticality of exposing basic services carriers to liability for damages beyond outage credits for loss or damage to transmitted information.¹⁸⁶ Nonetheless, contractual requirements for

¹⁸³ See *Halpert & Co. v. New York Tel. Co.*, 6 F.C.C. Rcd. 2548, 2549 n.9 (1991)(citing cases). Both the FCC and the courts have reviewed and found reasonable “tariff provisions which limit a carrier’s liability to its customers for service disruptions except in cases involving gross negligence or willful misconduct.” *Id.* (footnote omitted).

¹⁸⁴ Limitation of liability for third-party EDI providers is normally treated as a contractual matter. See Chris Reed, *EDI — Contractual and Liability Issues*, 6 COMPUTER L.J. 36 (1989); see also Ritter, *Realities*, *supra* note 181, at 3 (because of potential accountability of network service providers, “a customer’s contractual responsibilities to its network for its data emerges from the passage of current events as a feature of the service contract with new commercial significance”); Petre, *supra* note 22, at 12 (noting that private network providers usually limit their liability contractually).

¹⁸⁵ Exclusion of liability still must be expressly stated in tariffs or customer contracts.

¹⁸⁶ For example, it is not unusual for public carriers operating under a state monopoly in many countries to limit or exempt their liability by law. See Petre, *supra* note 22, at 12. In Belgium the PTT incurs no liability whatsoever with respect to services provided, and similar complete exclusions exist in Greece, Ireland and Denmark. *Id.* at n.14. In Germany and the Netherlands, the PTT is held liable in specific circumstances, such as when damages are caused deliberately, and liability of the public carrier is often limited to price paid for failed circuits, provided the circuit is out of order for more than sixty minutes. *Id.* at n.15.

Such exemptions, however, are becoming increasingly difficult to justify as public carriers move from basic offerings to enter the “value-added” services market; in 1988, an Italian Constitutional Court ruled that a total exemption from liability was unconstitutional, and that service providers, such as the PTT, should operate as an enterprise and thus be liable for negligence. *Id.* at 12 (citing Judgement of March 17, 1988, Corte cost., 1988 Giurisprudenza Italiana I, No. 303, at col. 1443, and Judgement of December 20, 1988, Corte cost., No. 1104).

Thus, in some cases, the liability of “value-added”/EDI service providers varies between regimes depending upon whether the services utilized are offered by the PTT, and if so, the degree to which the PTT is permitted to restrict its liability. The extent to which a monopoly carrier may do

exclusion of liability could vary significantly from country to country, depending upon how underlying transmission services are defined and classified.

D. Technical Standards

Certain technical standards determine specifications for the uniform electronic interchange of business data.¹⁸⁷ Other standards guide certain operating procedures.¹⁸⁸ Telecommunications standards and/or technical standards affect interconnection of EDI systems with transmissions networks worldwide. Increasingly complex world transactions may well require interconnection of EDI services and networks with a number of different basic service networks.¹⁸⁹

It is impossible here to examine technical standards issues with any real particularity. However, telecommunication technical standards issues undoubtedly will attain increasing importance as the expanding variety of world networks accompanying privatization and liberalization ultimately increases pressure to form clearly defined interface and end-to-end performance standards. In this regard, the activities of telecommunications standards organizations and such organizations' relationship to telecommunications regulatory institutions should significantly affect the provisioning of EDI services.¹⁹⁰ Thus, EDI providers and users should carefully monitor the activities of individual domestic and foreign standards organizations. Bilateral agreements between countries can also significantly influence technical standards.

this, in turn, may be dictated by the existence of provider categories, e.g., "common carrier," or by the way a regime defines its "basic" network services.

¹⁸⁷ *Commercial Use*, *supra* note 3, at 1703. Standards include provisions for the structure and formation of data into "transaction sets" (which define the type of data which the specified transmission must contain and the format in which the data must appear), as well as the transmission of formatted data. *Id.* at 1703 n.233.

¹⁸⁸ *Id.* at 1703-04.

¹⁸⁹ Interconnection raises increasingly complex issues. FCC Chairman Sikes, for one, has begun to refer to the phenomenon of "networks of networks." Development of multimedia technologies and customer demand for ever more flexibility and specialization of telecommunications offerings will most likely lead to requirements for multiple and modifiable interfaces and alignments among networks. See, e.g., *'Caretakers, Not Risk Takers'; FCC Tells NCTA That Cable Has Edge Over Telcos*, COMM. DAILY, May 6, 1992.

¹⁹⁰ In the United States, such organizations include Standards Committee T1 Communications (Committee T1), the American National Standards Institute (ANSI), and U.S. Study Groups or Technical Advisory Groups for international bodies. See *The NTIA Infrastructure Report: Telecommunications in the Age of Information*, U.S. Department of Commerce, National Telecommunications and Information Administration, 132-138 (1991). Foreign standards organizations include the European Telecommunications Standards Institute (ETSI) (although note that each EC member state has regulatory authority to set its own standards) and the Telecommunication Technology Committee of Japan (TTC).

IV. CONCLUSION

For policymakers world-wide, the telecommunications regulatory process has been rendered increasingly difficult by a broader phenomenon of which EDI is but one manifestation. Communications and computer technologies have converged, and have become the infrastructure for a variety of financial and business services like EDI.¹⁹¹ Indeed, new technologies have generated mounting pressure to add value to what we in the United States would term "basic" transmissions. Regulatory regimes have been forced to reassess rapidly eroding definitional distinctions between services, and to cope with increasingly untenable divisions among several interrelated industry sectors — telecommunications, data processing, information, and other electronic services.¹⁹²

This struggle has both short-term and long-term consequences for EDI and other information services that have great potential to revolutionize the conduct of domestic and international business transactions. While the proliferation of information services has been a decisive element in a global shift towards liberalization of telecommunications regimes, it has not generated any uniform answers across these regimes as to how much liberalization should occur, and as to how different services should be defined or regulated.

In the near term, international telecommunications, with burgeoning privatization and liberalization will engender revision of regulatory structures at an accelerating pace. A great potential exists for increased diversity of definitions and treatment of information services like EDI — a diversity that could inhibit interconnectivity and hinder global business transactions. Moreover, the problem is exacerbated by the lack of a common model. No one nation's regulatory approach stands out as ideally suited to address the potential advances in information technology.

Nevertheless, EDI services provide an outstanding example of the ultimate, long-term pressure that such developing technologies will continue to place on governments to harmonize their regulatory approaches. EDI should continue to be emblematic of the manner in which the flow of telecommunications and information-services across boundaries be-

¹⁹¹ See Bruce, *supra* note 25, at 4.

¹⁹² The convergence of communications technologies not only is increasingly evident, but is becoming a business in and of itself. See, e.g., Interaction Video and Data Services, F.C.C. 92-22 (released February 13, 1992) (granting radio frequency allocations for new interactive video data service pioneered by TV Answer, Inc.) See also Joanne Kelley, "IBM's Foray into Cable TV Would Speed New Multimedia Age," *The Reuters Business Report*, May 11, 1992 (reporting on a plan by IBM to invest in cable television for provision of services based on integration of cable, computer and communications technologies).

comes more critical to national and international economies, fusing telecommunications and trade policy.¹⁹³

EDI will continue to develop as a major force in facilitating international business transactions, as countries continue to raise mutual awareness of EDI's benefits.¹⁹⁴ This spread of transaction-oriented EDI services that rely in large part on international telecommunications networks places pressure on countries to 1) develop a flexible set of international tariff and regulatory principles and 2) ensure that telecommunications regulation designed to address technical standards and interconnect arrangements does not unnecessarily constrain the provision of new electronic financial, business or brokerage services.¹⁹⁵

It is true that, given the present layers of telecommunications regulation, a snapshot of the world today reflects regulatory regimes in the throes of drastic change. Nevertheless, international efforts mentioned above — of world organizations like the ITU, of multilateral initiatives like those of the European Commission, of bi-lateral agreements between countries — suggest that the world is becoming increasingly committed to dialogue and action that facilitate these goals.

¹⁹³ See *id.* at 15.

¹⁹⁴ For example, at the recent meeting of the Fourth APEC Working Group on Telecommunications in Jakarta, Indonesia, the EDI group identified two main objectives: 1) to implement an EDI education and awareness program for all APEC members to assist them in reaching a high level of understanding of EDI projects; and 2) to support and contribute to the development of an overall strategy project specifically to expand the scope of EDI and attain total electronic information exchange related to trade throughout the APEC region. *Apec Economies*, *supra* note 146, at 344.

¹⁹⁵ See Bruce, *supra* note 25, at 15.