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The Internet in Latin America: New Opportunities, Developments and Challenges

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THE INTERNET IN LATIN AMERICA: NEW OPPORTUNITIES,
DEVELOPMENTS & CHALLENGES

Robert M. Kossick*

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I. INTRODUCTION

The evolution of the internet over the course of the last years has forever changed the way the world does business. This is particularly true in Latin America, where favorable internet user demographics, improved

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telecommunications infrastructures, competition oriented trade and investment legislation, cost-effective alternatives to proprietary EDIs, strengthened air and ground delivery systems, relaxed export controls on cryptographic technology, reduced import duties on hardware, increasingly harmonized protocols and standards, and platform convergence have combined to create a multi-billion dollar B2B and B2C potential.¹ Properly channeled, these developments can produce efficiencies beneficial to the environment and consumers, improve the operation of the executive and judicial branches of government, level the playing field in a way that enables small and medium sized companies to compete with large, established companies, generate increased levels of foreign investment,² and contribute to hemispheric integration.

II. A REGULATORY FRAMEWORK EMERGES

It was recognized from the outset that Latin America's traditional, formalistic legal culture, much of which is grounded in codes dating back to the time of independence and earlier, could not be counted on to adequately resolve issues posed by new communications technology and business practices.³ Unlike their brethren in the U.S., Latin America's

1. Giraldo Gutierrez, *Real Electronic Commerce Coming Soon to Latin America*, LATIN FINANCE, Sept. 1, 1998, at 38. Collectively considered, Latin America's potential e-commerce market consists of 100 million people representing approximately 65% of the region's total purchasing power. *Getting Up and Running*, LATIN FINANCE, Sept. 1, 1999, at 31. Latin American internet connectivity rates are amongst the fastest growing in the world. Emily Little, *Virtual Enterprises*, LATIN FINANCE, Sept. 1, 1999, at 35. Revenues from online sales are projected to increase from the 1999 total of \$160 million to in excess of \$8 billion by 2003. *Forward*, LATIN FINANCE, Sept. 1, 1999, at 5. To date, Brazil and Mexico have dominated the internet and e-commerce in Latin America. Brazil alone accounts for an estimated 88% of all online transactions in the region. *Id.* This success has been attributed to the existence of strong consumer protection laws which bolster the confidence of consumers. *Id.* Online transactions in Mexico, according to a study conducted by AMECE, are growing at a rate of approximately 400% per year. Sergio Rodriguez Castillo & Maria Alejandra Lopez-Contreras, *The Legal Challenges Facing Mexico Online*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Nov. 12, 2000). These figures are expected to grow as the number of internet users in Mexico increases from 2.5 million to a projected 10 million by 2003. *Id.*

2. According to a study conducted by the Brazilian Association for Studies on Multinational Companies and Globalization (SOBEET), internet related investment is now estimated to make up 7% of Brazil's total FDI. Juliana Viegas et al., *Investments in Internet in Brazil*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 24, 2000). This figure is expected to increase to 10% this year. *Id.* Another study, again involving Brazil, estimates that telecommunications related investment will exceed \$45 billion over the next four years. Fabio de Sousa, *Investments in Telecommunications Sector*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 24, 2000).

3. It has been observed that "Latin American law, especially that found in its nineteenth century civil and commercial codes, is unfriendly to e-commerce." *Symposium-Responding to the Legal Obstacles to Electronic Commerce in Latin America*, 17 ARIZ. J. INT'L & COMP. L. 5, 11

judiciary does not, absent pressing circumstance, engage in judicial law making. Rather, Latin judges tend to make decisions which remain within the parameters of the black and white terms of codes and decrees. Lacking legislative provisions expressly addressed to data messages, electronic signatures, certifying authorities, certificates, etc., there could be little certainty about the way Latin judges, many of which are not well versed in computers and/or the internet, would receive, evaluate and rule on issues related to the technology and procedures involved in electronic communications and transactions. To the extent parties interested in conducting electronic transactions could be certain of neither the legal effect that would be accorded to their electronically signed and certificate backed data messages nor the security of transmitted information, this situation created a barrier to the future growth of e-commerce by raising the specter of non-compliance, breach of obligations, costly lawsuits, and unpredictable outcomes. Absent an acceptable degree of certainty of contract and security of information, many Latin merchants resist the replacement of paper based forms of doing business, thereby perpetuating traditional inefficient commercial practices.⁴

To remedy this situation, many Latin American governments have begun to introduce legislation designed to bridge the gap between old codes and contemporary commercial practices. Frequently, the provisions of the United Nations' Commission on International Trade Law's (UNCITRAL) Model Law on Electronic Commerce (MLEC),⁵ as well as other initiatives from the United States and European Union, are looked to as sources of legislative inspiration and guidance. At this early stage in the evolution of the internet and e-commerce in Latin America, several salient trends have emerged. These trends, together with a brief consideration of their significance for the future growth of e-commerce in Latin America follow.

(1999). According to Latin practitioners, the region's "legal frameworks were created to deal with physical transactions and may be insufficient to secure the enforcement of electronic contracts and ensure the validity of electronic signatures." *Id.* Consistent with the foregoing, several Mexican practitioners recently described that nation's legal framework as "outdated" with respect to e-commerce. Castillo, *supra* note 1.

4. In addition to contributing to the creation of a digital divide between Latin America and the rest of the world, the non-development of the internet and e-commerce would require regional merchants and individuals to satisfy demand for electronically negotiated and procured goods and services off-shore. This outcome would only exacerbate the effect of financial outflows that have characterized the early development of global electronic commerce. Daniel Pruzin, *Open Telecom Markets Said To Be Key for Developing Nations*, 16 Int'l Trade Rep. (BNA) No. 20, at 844 (May 19, 1999).

5. Model Law on Electronic Commerce with Guide to Enactment, GA. Res. 51/162, U.N. GAOR., 55th Sess., Annex, Agenda Item 148, U.N. Doc. A/51/162 (1996), available at <http://www.un.org.at.uncitral/english/electcom/mlec.html> (last visited Jan. 20, 2000).

A. Regulatory Approaches

Latin America's approach to regulating the internet, at first glance, appears to consist of piecemeal legislation spanning a broad range of issues. In this connection, Latin nations have promulgated and/or enacted legislation regarding the use and validity of electronic signatures and data messages,⁶ the issuance of digital certificates,⁷ cybercrimes,⁸ online financial

6. Latin nations which have undertaken to bring their legislation into line with the reality posed by the internet and e-commerce include Brazil, Mexico, Colombia, Argentina, Chile, Peru, Paraguay, and Ecuador. Scott Weeks, *Experts Meet on Legal Obstacles to E-Commerce* (Latin American Internet Strategies Newsletter, Miami, Fla.) Oct. 1999, at 2. Venezuela recently joined this list with the drafting of e-commerce legislation. Said initiative is currently awaiting approval by the executive power.

7. Mexico's Secretary of Commerce recently signed collaboration agreements with the national notaries and brokers associations for the purpose of regulating the issuance of commercial certificates. Sergio Rodriguez Castillo, *Digital Certificates for Commercial Agreements*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 20, 2000). Said agreements were published in the *Diario Oficial* on Oct. 6, 2000. *Id.*

8. Brazil has drafted laws addressing information technology and computer crimes (*inter alia*, Bill Nos. 84/1999, 76/2000, and 1.713/1996). See generally Senado Federal: Sistema de Informacões do Congresso Nacional [Federal Senate: Information System of the National Congress], at <http://www.senado.gov.br/sicon> (last visited Jan. 4, 2001); George Charles Fischer, *E-Commerce in Brazil*, World Internet L. Rep. (BNA), Mar. 2000, at 17-18; Marco Aurelio Rodrigues da Costa, *El Derecho Penal Informatico Vigente en Brasil* [Information Law Crimes in Brazil], REVISTA ELECTRONICA DE DERECHO INFORMATICO [THE ELECTRONIC MAGAZINE OF INFORMATION LAW], at <http://publicaciones.derecho.org/redi> (last visited Jan. 4, 2001). Similarly, there are two cybercrime bills pending in the Argentine National Congress. The bill sponsored by Senator Bauza encompasses the unauthorized access and use of personal data stored in electronic form, the interception of e-mails, online fraud, and internet-related sabotage. See generally Senado de la Nación Republica Argentina [National Senate of the Republic of Argentina], at <http://www.senado.gov.ar/> (last visited Jan. 4, 2001); see also Manuelo Manson, *Legislacion Sobre Delitos Informaticos* [Legislation on Information Crimes], at <http://www.monografias.com> (last visited Dec. 10, 2000). Proposed amendments to Mexico's Criminal Code, in turn, penalize the use of a computer to amend, destroy or cause loss of information; the interception of e-mails; EDI-related fraud; and the marketing of pornography without the required warning. *Inicitiva de Reformas y Adiciones a Diversas Disposiciones del Codigo Penal para el Distrito Federal en Materia del Fuero Comun, y para Toda la Republica en Materia de Fuero Federal (Delitos Informaticos)* [Bill that Reforms and Makes Additions to the Penal Code for the Federal District in Materia del Fuero Comun and for the Republic in Materia del Fuero Federal], presented to the National Congress on Mar. 22, 2000 at <http://sites.netscape.net/rktconsulting> (last visited Dec. 10, 2000)[hereinafter *Inicictiva*]. Last, Chile has had a law addressing information crimes since 1993 (Law No. 19.223). *Ley Relativa a los Delitos Informaticos* [Law Relative to Information Crimes], at <http://www.congreso.cl/biblioteca.html> (last visited Jan. 6, 2001). To this extent this law pre-dates the development of many current online criminal practices, it is of more limited value. Rodolfo Herrera Bravo, *Reflexiones Sobre los Delitos Informaticos Motivadas por los Desaciertos de la Ley Chilena* [Reflections on Information Crime Motivated by the Shortcomings of Chilean Law], at <http://www.ctv.es/USERS/mpq/estrado/estrado009.html> (last visited Dec. 18, 2000).

services,⁹ privacy,¹⁰ taxation, and dispute resolution.

This approach, contrasting as it does with the initial U.S. ideal of self-regulation,¹¹ is not surprising given Latin America's historically strong identification with continental European legal and political philosophy. Notwithstanding this disposition toward centrally promulgated legislation, however, instances of self-regulation can be found. In Brazil, for example, the Brazilian Association of Internet Access Providers (ABRANET) has launched a voluntary campaign against online pedophilia.¹² The same spirit of self-regulation is manifest in the way members of CONAR, Brazil's advertising self-regulatory council, resolve online advertising disputes in accordance with industry promulgated guidelines, as opposed to local courts. Similarly, many Latin companies have voluntarily undertaken to publish privacy policies on their web sites.¹³ This industry practice has

9. The central bank of Brazil recently announced its intent to issue rules regarding investments made over the internet in an attempt to cut back on money laundering. Juliana Viegas et al., *Financial Investments on the Internet*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Aug. 7, 2000).

10. Chile's Law No. 19.628 (Oct. 1999), the first data privacy law to be enacted in Latin America, covers the processing and use of personal, financial, commercial, and banking data in either the public or private sector. The Chilean law was inspired by the European Union's Privacy Directive as well as the OECD Guidelines on the Protection of Privacy and Transborder Data Flows. Pablo Palazzi & David Lorie, *Legislating in the Latin E-Conomy*, LATIN FINANCE, Sept. 1, 2000, at 34. Argentina followed suit, drafting its own E.U. Privacy Directive inspired Data Protection (Law No. 25.326). Said law was sanctioned on October 4, 2000, and partially promulgated on October 30, 2000. Peru's recently drafted Bill No. 5.233 was also inspired by the European regulatory model of creating governmental agencies to police personal data banks. David Banisar, *Privacy & Human Rights 2000: An International Survey of Privacy Laws and Development*, Privacy and Human Rights 2000, at <http://www.privacyinternational.org/survey/phr2000/countrieshp.html#Heading18> (last visited Jan. 5, 2001). Other enacted or pending e-commerce legislation protective of privacy is found in Brazil (proposed Constitutional Article No. 5, Bill No. 61/1996, Bill No. 151, and parts of Bill No. 1.589), Colombia (Law 527), and Mexico (both the *Inicitiva*, *supra* note 8, and the *Decreto*, *infra* note 17, contain provisions protecting individual privacy). The evolution of P3P technology (which allows a user to take steps to protect his or her privacy at the level of the browser) will diminish, but not eradicate, the need for privacy legislation.

11. Early U.S. users of the internet, noting that the design concept of cyberspace is premised on the displacement of an architecture of control, envisioned cyberspace as a place characterized by "freedom without anarchy, control without government, and consensus without power." LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* 39 (1999). Believing the immediate regulation of cyberspace to be imprudent, many industries have attempted to create and foster voluntary adherence to self-regulatory guidelines. *Id.* Manifestations of this type of consumer confidence enhancing self-regulation include TRUSTe, WebTrust, the BBB OnLine, the OPA (Online Privacy Alliance), and RECA (Responsible Electronic Communications Alliance).

12. Juliana Viegas et al., *Brazilian ISPs Against Pedophilia*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 16, 2000).

13. Examples of Latin companies that voluntarily post privacy policies are Patagon.com, StarMedia.com, and Terra.com. Relative to U.S. internet practice and experience, however,

become so important in Brazil that the Polytechnic Engineering School of Sao Paulo recently established a program to issue online privacy certificates to qualified private sector corporations. A final example of Latin self-regulation involves the Brazilian internet steering committee's creation of a voluntary registry for the purpose of disclosing ISP information to consumers.¹⁴

It is clear from the foregoing examples that the issue of Latin American internet regulation is not simply a matter of state sponsored legislation, but extends to private sector initiatives as well. This result is consistent with that reached in the United States, where initially strong preferences for self-regulation ultimately gave way to sector-specific government regulation.¹⁵ As between Latin America and the United States, we are, in essence, witnessing the convergence of what had been diametrically opposed notions of regulation.

B. *A Lack of Harmonized Provisions*

Notwithstanding the expectation that the MLEC would serve as the umbrella under which national legislative initiatives would be able to develop in harmonized fashion, initial e-commerce legislation from Latin America is quite disharmonious with respect to data messages, electronic signatures, and certificates.

manifestations of this type of self-regulation in Latin America are still relatively low.

14. Juliana Viegas et al., *Internet Service Providers Registry*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 4, 2000).

15. Within the last year the U.S. government has enacted legislation in favor of electronic signatures, and intellectual property. The Electronic Signatures in Global and National Commerce Act, 15 U.S.C. § 7001 (2001); The Digital Millennium Copyright Act, 15 U.S.C. § 101 (2001); The Anti-Cybersquatting Act, 15 U.S.C. § 1125(d)(2001). Laws directed at the protection of online privacy are currently being drafted. Luc Hatlestad, *Privacy*, RED HERRING, Jan. 16, 2001, at 48; Elinor Abreu, *Keep Your Hands Off My Data*, THE INDUSTRY STANDARD, May 15, 2000, at 65. Other important e-commerce initiatives have been advanced by the National Conference of Commissioners on Uniform State laws. UNIF. ELECTRONIC TRANSACTIONS ACT §1, 7A U.L.A. 20 (2000) (providing for uniform provisions regarding the use of electronic communications and records in contractual transactions); UNIF. COMPUTER INFORMATION TRANSACTIONS ACT (proposing a framework for transactions involving software, online, and internet commerce in information and licenses involving data, text, images, and other digital content), at <http://www.law.upenn.edu/bll/ulc/ulc.htm#ucita> (last visited May 3, 2001). In an analogous development, it is pointed out that a proposal has been made to modify Mexico's Federal Civil Code to accommodate "*Contratos Informaticos*," or Information Contracts (corresponding to both hardware transactions and software licenses). As proposed, said provisions would become Articles 1792 and 1793 of Mexico's Federal Civil Code. Victor Rodriguez Hernandez, *Derecho e Informatica en Mexico [Rights and Information in Mexico]*, at <http://www.vlex.com.mx> (last visited Dec. 18, 2000).

1. Writings

This lack of harmonization is evident in Latin legislation which determines the conditions under which an electronic data message can satisfy traditional requirements that certain transactions be memorialized by a "writing" (that is, using pen and paper). Article 6 of Colombia's Law 527,¹⁶ for example, tracks the MLEC's functional equivalent approach exactly, establishing that data messages satisfy writing requirements provided that the information contained therein is available for subsequent reference. Mexico's e-commerce reforms,¹⁷ in turn, provide that that data messages and electronic means can, respectively, satisfy commercial and civil code writing requirements, but only upon the condition that the data message or electronic means is (1) attributable to the obligated person and (2) accessible for subsequent reference. This standard is plainly more rigorous than Colombia's. Argentine¹⁸ and Brazilian¹⁹ draft legislation, in contrast, contains no provision expressly establishing the legal interchangeability of data messages and traditional paper-based writings. Lacking the clear legislative guidance available to Colombian and Mexican Judges on the issue of whether electronically generated data messages satisfy writing requirements for the purpose of contract formation, parties to

16. *Ley 527, Por Medio de la Cual se Define y Regula el Acceso y Uso de los Mensajes de Datos, del Comercio Electronico y de las Firmas Digitales, y se Establecen las Entidades de Certificacion y se Dictan Otras Disposiciones* [By Which Means, Access and Use of Data Messages, E-Commerce and Digital Signatures are Defined and Regulated and Certification Entities are Established and Other Dispositions are Dictated], D.O., Aug. 21, 1999, at <http://www.natlaw.com/colombia/topical/ec/stoec/stoec1.htm> (last visited Mar. 14, 2000) [hereinafter Law 527].

17. *Decreto por el que se Reforman y Adicionan Diversas Disposiciones delCodigo Civil para el Distrito Federal en Materia Comun y para Toda la Republica en Materia Federal, delCodigo Federal de Procedimientos Civiles, DelCodigo de Comercio, y de la Ley Federal de Proteccion al Consumidor* [Decree by Which Diverse Dispositions of the Civil Code for the Common Material of the Federal District and the Federal Material of the Republic, of the Federal Code of Civil Procedure, of the Commerce Code, and of the Federal Law Protecting the Consumer are Reformed and Supplemented], approved by the *Comision de Comercio de la Camara de Diputados*, Apr. 6, 2000, approved by the *Pleno de la LVII Legislatura de la Camara de Diputados*, Apr. 26, 2000, approved by the Mexican Senate, May 3, 2000, at <http://www.natlaw.com/ecommerce/docs/e-commerce-iniciative-mexico.htm> (last visited May 12, 2000) [hereinafter Decreto].

18. *Anteproyecto de Ley de Firma Digital* [Draft Digital Signature Law], set forth by the *Comision Redactora del Anteproyecto de Ley de Firma Digital* [Digital Signature Law Drafting Commission], Aug. 18, 1999, at <http://www.cnv.gov.ar/FirmsDig> (last visited Jan. 3, 2001) [hereinafter Anteproyecto].

19. *Anteprojeto de Lei No. 1.589/1999 de 31 de agosto de 1999* [Bill Number 1.589/1999 of Aug. 31, 1999], at <http://www.natlaw.com/ecommerce/docs/e-commercebill-brazil.htm> (last visited Mar. 6, 2000) [hereinafter Projeto].

electronic transactions in Argentina and Brazil can not be certain of the legal effect a judge will give to the electronic documents upon which the transaction is based.

2. Electronic Signatures

A similar lack of harmonization has emerged with respect to electronic signatures. Ideally, an electronic signature provision should (1) assure that electronically generated expressions of assent are accorded the same legal weight and validity as manual signatures made with pen and paper (that is, non-discrimination), (2) be phrased in a way that is technology neutral (that is, it is not linked to a specific signature technology), and (3) recognize the right of parties to make their own agreements with respect to the use and recognition of electronic signatures (that is, party autonomy).

a. Non-Discrimination

With respect to the first attribute noted, *supra*, the terms of Colombia's Law 527 align almost perfectly with MLEC Article 7, establishing non-discrimination for electronic signatures provided (1) a method is used to identify a person and indicate his or her approval, and (2) the method is reliable as appropriate for the purpose for which the data message was generated or communicated, in light of all relevant circumstances.²⁰ Mexico's e-commerce reforms depart from the MLEC's suggested terms by not linking the legal acceptability of electronic signatures to methodology, identity, approval, and/or reliability requirements. Rather, as was the case with writings, Mexico's minimalist legislation establishes that data messages and electronic means can satisfy, respectively, commercial and civil code signature requirements provided that the signature is (1) attributable to the obligated person and (2) available for subsequent reference.²¹ Brazil's draft e-signature legislation can again be distinguished from Colombia and Mexico's insofar as it contains no provision expressly assuring non-discrimination with respect to electronic signatures.²²

b. Technology Neutral

Initial and forthcoming Latin e-commerce legislation also demonstrates little uniformity on the issue of technological neutrality. While the signature provisions of Colombia's Law 527 and Brazil's draft law are phrased in a

20. Law 527, *supra* note 16, art. 7.

21. Decreto, *supra* note 17.

22. This deficiency aside, it is abundantly clear that when utilized in accordance with regulations pertaining to party identity and approval, electronic signatures can be used in electronic transactions. Projeto, *supra* note 19, arts. 14 and 15.

technologically neutral way,²³ only documents digitally signed will be accorded the same force and effect as a manual signature²⁴ or considered "originals."²⁵ Argentina's draft signature law, on the other hand, is technology biased in that it recognizes digital signatures, to the exclusion of all other methods of expressing assent.²⁶ Only Mexico's e-commerce legislative reforms accomplish true technological neutrality by declining to set forth regulations regarding one specific type of electronic signature. The emergence of non-harmonized signature provisions poses a problem for the realization of international transactions in that different jurisdictions may or may not recognize an electronic signature for reasons based solely on the technology by which the signature was generated.

c. Party Autonomy

Finally, no Latin e-commerce legislation currently authorizes private parties to determine for themselves what constitutes an acceptable signature method. Although not contemplated by the MLEC, the grant of such party autonomy has been incorporated into the UNCITRAL's pending Draft Uniform Rules on Electronic Signatures (DURES).²⁷ It is possible that Latin nations may, in the interest of creating the writing and signature flexibility necessary for the growth of e-commerce, amend existing legislation so as to provide for party autonomy consistent with the terms of the forthcoming DURES. This type of amendment would help overcome the obstacle to e-commerce posed by Latin legislation which either expressly or constructively declines to recognize electronic data messages and non-digital signatures.

3. Certificates

Latin legislation addressed to certificates demonstrates little substantive or procedural uniformity. Said lack of uniformity constitutes a drag on the growth of international e-commerce by increasing transactions costs and legal uncertainty.

23. That is, under both Colombian and Brazilian law, it is possible to use non-digital signatures.

24. Law 527, *supra* note 15, art. 28.

25. Projeto, *supra* note 19, art. 14.

26. Anteproyecto, *supra* note 18, art. 2.

27. Art. 5 of the Draft Uniform Rules on Electronic Signatures permits derogation or variance by agreement of parties, unless otherwise provided in the rules or in the law of the enacting state. UNCITRAL Draft Uniform Rules on Electronic Signatures, Thirty-Sixth Session, UNCITRAL Working Group on Electronic Commerce, Feb. 2000, at <http://www.uncitral.org/en-index.htm> (last visited Dec. 15, 2000)[hereinafter DURES].

a. Certification Authorities

While most initial Latin internet legislation provides for the creation of public key infrastructures involving trusted third parties (that is, certification authorities, or “CAs”), the exact way in which this is accomplished varies. Some nations — for example, Argentina and Brazil — provide for the operation of both licensed and unlicensed CAs.²⁸ To the extent that unlicensed CAs are able to keep certificate costs down by not being encumbered with onerous financial, technical, and background standards, this approach is compatible with those trading agreements which depend on the use of cheap certificates.²⁹ Colombia’s Law 527, in sharp contrast, mandates that CAs comply with strict financial, technological, and personal background criteria.³⁰ The cost of complying with these requirements is passed along to subscribers in the form of higher certificate costs, to the detriment of trading arrangements premised on the use cheap certificates. Significantly, Colombia’s law contains no “savings clause” exempting established trading partner relationships from mandatory submission to its elaborate public key infrastructure provisions. Mexico’s e-commerce reforms, in keeping with their technology neutral orientation, are altogether silent on the issue of trusted third parties and public key infrastructures.³¹

28. *Anteproyecto*, *supra* note 18, art. 12; *Projeto*, *supra* note 19, arts. 24–25.

29. An important example of a system that uses cheap certificates is the SET online payment standard. Commercial banks also use cheap certificates in providing online banking services. It should be realized however, that the cost of a certificate obtained through an unlicensed CA may not be the only thing that is reduced. Such certificates, depending on the practices followed by that CA, may also have a diminished attestational and legal value.

30. Law 527, *supra* note 16, art. 29.

31. Various aspects of Mexico’s e-commerce reforms, including the absence of PKI provisions, have come under heavy criticism by the National Chamber of the Mexican Electronics, Telecommunications, and Computer Services Industry as well as the Mexican Association of Insurers and Sureties. Sergio Rodriguez Castillo, *Mexican Insurance Sales Held Back by Absurd E-Commerce Rules*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Dec. 18, 2000). In this connection, some Mexican practitioners have observed that it is “doubtful” that the “absurd” internet reforms will survive as written. Representing what might be the first of more changes to come, SECOFI (*Secretaria de Comercio y Fomento Industrial*) recently entered into collaboration agreements with the Mexican Notary Association and the National Association of Brokers for the purpose of establishing rules for the issuance of commercial digital certificates. Sergio Rodriguez Castillo, *supra* note 7. These agreements, in addition to solidly securing the CA business for Mexico’s Notaries and *Corredores*, indicate that SECOFI might assume the role of root certificate.

b. Binding Procedures

The procedures to be followed by Latin CAs in “binding” the real world identity of subscribers with online certificates are also characterized by little harmonization. Brazil’s draft law sets forth specific requirements involving formal solicitations and a personal appearance, thereby assuring a high degree of attestational value for certificates issued by licensed CAs.³² Alternatively, Colombia’s Law 527 merely obligates CAs to elaborate the rules that define their relationship with subscribers, without setting out any specific guidance on how this is to be accomplished.³³ At the other end of the potential regulatory continuum, Mexico’s e-commerce reforms are totally silent with respect to this fundamental component of transacting business online.

c. Cross-Jurisdictional Recognition of Certificates

The final example of legislative disharmony considered involves the cross-jurisdictional recognition of certificates. Since the commercial advent of the internet, legislative approaches to this issue have ranged from highly restrictive³⁴ to “open” or “minimalist.”³⁵ As a general proposition, open systems are more desirable in that they conduce to greater trading and commercial opportunities.

Reflecting this general diversity, the legislative approaches adopted by the nations of Latin America demonstrate little, if any uniformity. Characterized as “reciprocal certifications,” article 43 of Colombia’s Law 527 establishes that certificates issued by foreign CAs may be recognized under the same terms and conditions demanded of national CAs, provided the foreign certificate is recognized by an authorized foreign CA whose issuance procedures are on par with Colombia’s.³⁶ While not extreme in the sense of either of the possible approaches identified, *supra*, Colombia’s policy may hinder international e-commerce to the extent that certificates relied on by commercial parties in nations with more liberal certificate issuance rules and procedures will not be accepted in Colombia.³⁷

32. It will be noted that there are no equivalent requirements for unlicensed CAs.

33. Law 527, *supra* note 16, art. 32.

34. Under such systems, a state recognizes only digital signatures backed by valid certificates issued by locally licensed certification authorities.

35. Open or minimalist systems liberally accept certificates from foreign CAs.

36. Law 527, *supra* note 16, art. 43.

37. This requirement will have a negative impact on U.S.-Colombian commerce insofar as U.S. certificates are largely left to the discretion of private sector CAs and subscribers. The commercial effect of this limitation is additionally compounded by the fact that the cross-jurisdictional certificate recognition provision of Law 527 applies exclusively to digital signatures. This disposition precludes recognition of certificates or other *indicia* of reliability associated with

Brazil's draft e-commerce law is similarly restrictive with respect to foreign certificates, although its specific requirements have little in common with Colombia's law. Under Article 50 of Brazil's draft law, certificates issued by foreign CAs will have the same juridical value as those issued by a national certifying entity, provided that the nation of the foreign CA and Brazil are signatories to the same international accord relative to the judicial recognition of certificates.³⁸ The names of foreign CAs that meet this requirement will be published by the Ministry of Science of Technology. Irrespective of the article's clear expression of intent, its execution is problematic given the non-existence of the referenced accord. This fact neutralizes the impact of Brazil's draft law, leaving parties uncertain as to the way foreign certificates will actually be received. Considering the lengthy periods of time usually required to draft, approve, and ratify treaties, it is unlikely this situation will be clarified in the immediate future.³⁹

Argentina's Draft Digital Signature Law establishes that certificates issued by licensed CAs in other countries will be recognized as juridical equivalents of certificates issued by licensed Argentine CAs provided (1) the foreign CA complies with requisites analogous to those contained in the Argentine draft law and has been licensed within the framework of a voluntary licensing system established by the national government of a MERCOSUR member, (2) a CA operating within a MERCOSUR member nation that complies with certification requirements analogous to those contained within the Argentine draft law guarantees the certificate in the same measure as occurs in Argentina, or (3) the certificate or CA are recognized under either a bi-lateral or multilateral accord between Argentina or MERCOSUR and third party nations or international organizations.⁴⁰

Mexico's "open" and "minimalist"⁴¹ approach to the subject of cross-jurisdictional recognition of certificates stands in sharp contrast to the approaches of Colombia, Brazil, and Argentina. Having not articulated a technology specific signature standard, Mexican e-commerce transactions

both contemporary and future non-digital signature methods.

38. Projeto, *supra* note 19, art. 50.

39. Another shortcoming of Brazil's cross-jurisdictional certificate recognition policy involves draft article 50's non-technological neutrality. Even though Brazil's draft law does not prohibit the use of non-digital signatures, article 50's exclusive application to digital signatures will, like Colombia's Law 527, not accommodate contemporary and future non-digital signatures alternatives. This internal inconsistency in the draft law may, in time, become an obstacle to international parties seeking to utilize non-digital signatures in Brazilian electronic commerce transactions.

40. This approach, like those of Colombia and Brazil, is technologically and geographically restrictive.

41. Mexico's e-commerce legislation is open and minimalist in the sense that it is silent as to recognition requirements for foreign certificates.

should proceed without certificate-related obstacles. Pending the finalization of the collaboration agreements between the Secretaría de Comercio y Fomento Industrial (SECOFI) and Mexico's notary and brokers associations, this approach presents a problem for Mexican parties which wish to engage in electronic transactions with business partners in countries that impose reciprocal certificate standards on international transactions (for example, Colombia and Argentina).

III. CONCLUSION

The internet presents one of Latin America's most important developmental opportunities. At no other point in the region's history have technology, economic policy, social thinking, and politics coalesced to create such a strong potential for definitively replacing past commercial inefficiencies and isolationist attitudes with competitive, integrated, transparent, secure, and forward-looking practices. The path to this potential is not, however, free of obstacles. In order to realize its substantial promise, Latin America's private and public sectors must address and/or resolve the following issues:

A. Strengthen Infrastructure

The liberalization of foreign investment regulations in Latin America resulted in the opening of the region's telecommunications, cable, cellular, and satellite markets and the creation of an initial internet infrastructure.⁴² While this infrastructure has been able to accommodate the current volume of internet traffic, it is uncertain whether it has the capacity to accommodate an expanding number of users, the growth in demand for more data-bit intensive content, and the introduction of increasingly sophisticated protocols and online software delivery practices.⁴³ To guard

42. The deregulation of Latin telecommunications markets resulted in significant infrastructure expansions. The privatization of Telmex produced, *inter alia*, enormous quantities of foreign investment, increased numbers of land lines, the T1msn joint venture with Microsoft, as well as a state of the art digital network. The fruit of this investment will be evident when Telmex launches Mexico's first Asymmetric Digital Subscriber Line (ADSL) in the Spring of 2001. Matthew Gowler, *Top 10 Strategies*, BUSINESS MEXICO, Jan. 2001, at 45. Similarly, since the privatization of Brazil's telecommunications sector, the number of fixed lines have increased from 20.3 million to 32.4 million, while the number of mobile phones has shot up from 7.2 million to 16.5 million. Juliana Viegas et al., *Telephony Sector After Privatization*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited July 24, 2000). Finally, Argentina deregulated its phone system through the issuance of Decree No. 764 of September 2000. Gabriela Lopez Cremaschi, *Increased Competition in the Telecommunications Industry*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Apr. 3, 2000). As a result, the per capita quantity of phone lines in the country is estimated to have risen from 10.66/100 to 23/100. *Id.*

43. Consider, in this connection, the fifteen-fold increase in internet traffic that is estimated

against this looming capacity problem, it is essential that fiber optic, DSL (ADSL, SDSL, HDSL, and VDSL), cable, and satellite networks be expanded and/or implemented throughout the region.⁴⁴ The establishment of additional Network Access Points (NAPs) will also help relieve future congestion related problems. The realization of said networks and exchanges depend, in turn, on the continued openness of regional telecommunications (and related media) markets to foreign investment,⁴⁵ the granting of strategic investment incentives,⁴⁶ and the maintenance of pro-competitive policies.⁴⁷

to have occurred between 1995 and 2000. *Yellow Flags for E-Commerce*, BUSINESSWEEK, at <<http://www.businessweek.com/1998/25/b3583030.htm>> (last modified Jun. 11, 1998).

44. The development of alternative and converging means of accessing the web is positive in that it alleviates pressure on existing fixed line networks, sidesteps the access problem posed by low PC penetration rates, exploits Latin America's historically high cable and mobile phone subscription rates, and contributes to the critical mass of users necessary for the profitable operation of online companies. Notwithstanding justified criticism regarding the limited content and transmission capabilities of the "small screen" (i.e., handheld internet platforms such as cell phones, PDAs, etc.), recent studies indicate a steadily increasing demand in Latin America for broadband services (either through fiber optic, DSL, cable modem, or satellite). Chris Hussey et al., *Media: Pay TV in Brazil* (Goldman Sachs Equity Research, New York, N.Y.), June 30, 2000, at 22; Gowler, *supra* note 42, at 45.

45. Brazil has recently begun to consider a constitutional amendment that will open up specific segments of the media market (television, radio, and journalism) to foreign investment (up to 30% of the value of a Brazilian media company). Juliana Viegas et al., *Foreign Ownership, in Brazilian Media*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Jun. 19, 2000).

46. Bill No. 49/99, the Information Technology Law recently approved by the Brazilian Senate, grants incentives on the federal excise tax (the "IPI") to companies that develop new technologies and research projects. Juliana Viegas et al., *New Brazilian Information Technology Law*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Mar. 6, 2000).

47. Both Brazil and Mexico have attempted to construct telephone and cable networks which build intelligence in end applications (the so-called E2E, or end-to-end approach to network architecture), thereby fostering competition. By not allowing the privatized subsidiaries of Telebras to offer ISP services, the Brazilian government created a robust and dynamic market of private sector ISPs. More recently, ANATEL, the agency which regulates cable TV services in Brazil, has been tasked with the responsibility of up-holding an "open-access" law requiring cable companies to allow any ISP to use their network. Mexico's commitment to the E2E network design principle is, on the other hand, more theoretical. Technically considered, Mexico's ISP market is open to competition. The fact of the matter is, however, Telmex's dominant position leaves the market highly concentrated and unattractive to start up service providers. International telecommunications companies in Mexico also continue to struggle with Telmex over the tariff it charges to connect to its networks. Just recently, Telmex obtained an injunction to preserve these tariffs. This action compounds the difficulty international telecommunications companies already encounter in their attempts to access the Mexican market. As for access to Mexico's cable market, COFETEL and the SCT have announced their intent to promulgate competition-oriented regulations. Catherine Craddock, *COFETEL Head Gives His Take On Telephony Wars*, BUSINESS MEXICO, Nov. 1, 2000, at 10. As residential internet access in Latin America is increasingly

A related consideration involves the state of Latin America's physical delivery infrastructure. If the region's nations are to realize the benefits of e-commerce, local regulatory frameworks (that is, customs, insurance, security, etc.), port facilities, and internal arteries must be strengthened in such a way as to enable transport companies and carriers to go the "last mile" with minimal difficulty. The continued opening of this field to foreign service providers, coupled with the formation of new local delivery services and improved tracking capabilities (for example, using GPS and other handheld wireless computing devices), suggests that Latin America will ultimately succeed in removing this de facto barrier to e-commerce.

B. *Encourage Efficient Consolidation*

As was the case in the U.S., 2000 ended up being a difficult year for internet companies in Latin America. While many regional internet companies may not actually be experiencing the same scarcity of capital problem as their U.S. and European counterparts,⁴⁸ the chances for exiting investments by way of an IPO have contracted significantly.⁴⁹ This element of illiquidity should not, however, be seen as a requiem for either the punto-com or the so called "New Economy." Rather, it should be viewed as the right time for consolidating the industry by way of merger, acquisition, or strategic alliance.⁵⁰ Prudently conducted, the process of consolidation can result in more efficient allocations of developmental and/or operating

accomplished by way of cable modem, it is likely that the region's ISPs will evolve into ASPs dedicated to providing the corporate sector with real-time, "on-net" computing services and solutions, as opposed to mere access.

48. Funding for Latin internet companies remains strong due to the fact that many are backed by well capitalized media and telecommunications companies. Moreover, advertising revenue continues to be a reliable source of capital, in spite of the slow rollout of e-commerce. This situation is attributable to the fact that many Latin advertisers are currently more interested in building brand awareness than selling products.

49. This situation stems from the volatile ride internet stocks had during 2000, as well as the fact that investors are wary of purchasing the consumer spending-dependent stocks of media and internet companies at a time when the economy appear to be on the verge of a major slowdown.

50. Aggressive M&A and strategic alliance activity has resulted from traditional "brick and mortar" companies looking to establish a foothold in the online world (consider, for example, the AOL-Time Warner merger). Examples of recent Latin M&A transactions include the proposed merger of El Sitio and Ibero-American Partners and Salutia's acquisition of Netsaude. Examples of recent strategic alliances involving Latin internet companies include AOL and Abrenuncio, S.A. (provision of content), Motorola, Inc. and Cablevision, S.A. (agreement for digital set top boxes), and ZDNet and Globo, Patagon, StarMedia, and TerraLycos (provision of technology related content). Chris Hussey, et al., *Latin America Surfer: Media/Internet* (Goldman Sachs Equity Research, New York, N.Y.), Nov. 1, 2000, at 41. This activity is expected to intensify in the short term. Roger Siboni, *The New Deals*, THE INDUSTRY STANDARD, June 12, 2000, at 88.

capital, stronger management and engineering teams, access to new markets, and expanded product lines.

To take full advantage of the opportunities presented in the undervalued state of the Latin American internet market, the region's governments should encourage increased levels of private equity financing by streamlining anti-trust regulatory approval procedures and strengthening the rights of shareholders.⁵¹ With respect to those newly launched internet companies which might nonetheless want to list in anticipation of an eventual market exit, regional governments should assure the further easing of reporting and disclosure standards, as well as the creation and/or strengthening of small cap markets.⁵²

This initiative need not, moreover, fall on the shoulders of government. Private sector companies — particularly those with powerful resources and/or a natural interest in seeing an increased volume of internet transactions — can also advance the consolidation process by either starting or backing entities dedicated to investing in internet companies.⁵³

Finally, internet companies themselves can facilitate the consolidation process by making themselves as attractive as possible to potential investors or purchasers. To this end, internet companies should diligently maintain all corporate records in an orderly and transparent fashion,⁵⁴ avoid incurring non-essential liabilities, and actively mitigate their burn rates in order to remain as profitable as possible.

C. *Implement Smarter Internet Strategies*

The internet presents commercial users with an unprecedented opportunity to improve productivity and efficiency by searching inventory, placing orders, transacting sales, and servicing customers online. Unfortunately, many Latin companies have, to date, squandered this potential by not expanding beyond simple marketing and internal communications practices.⁵⁵

51. This type of financing is particularly appropriate for Latin America given the generally prohibitive cost of bank financing presently encountered throughout the region.

52. In order to encourage small to medium sized internet companies to list and offer shares on its exchanges, Mexico created the M-MEX small cap market and advanced rules which reduce the number of years of financial reporting required in connection with the listing of companies and the issuing of shares.

53. Mexico's Cemex has undertaken such an endeavor. Cemex's initiative is driven largely by its desire to create a larger pool of companies with which it can trade on its Latinexus B2B exchange. Josh Tuynman, *Big B2B Dreams*, MB, Dec. 2000, at 29.

54. Where practical, internet companies should strive to adopt the most rigorous, globally recognized accounting standards.

55. In this connection, a recent study by FIPE — Brazil's Institute of Economics Research — concluded that only a small portion of Brazilian industry uses the internet for business purposes. Juliana Viegas et al., *Brazilian Industry does not Use Internet*, Baker & McKenzie,

Although there have been recent indications of stepped up involvement on the part of Latin America's larger, more technologically advanced companies in the ever expanding universe of B2B exchanges,⁵⁶ the region's small to medium sized merchants are frequently unable to participate on an equal footing due to their lack of technological and financial resources.⁵⁷ This differential access is problematic to the extent that merchant to merchant business is increasingly conducted on such exchanges.⁵⁸ Going forward, Latin companies and individuals must shift away from practices which underutilize the internet's potential and focus on (1) developing trustworthy, industry specific, and access-friendly B2B exchanges (either proprietary VANs or web-based VPIs) and trading partner arrangements; (2) establishing forward and reverse auction facilities; (3) maximizing the efficiency of internal operations through the use of intranets; (4) developing email advertising campaigns targeted to specific demographic segments; (5) expanding the range of customer service and technical support offered; and (6) implementing online payment systems which are viable in light of the region's low rates of credit card penetration.⁵⁹

Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 23, 2000).

56. B2B exchanges have been inaugurated by Mexico's Gripo Alfa, Cifra, and Cemex. Tuynman, *supra* note 53, at 29. Examples of South American B2B exchanges include Argentina's Disco and Brazil's Globex and Grupo Acucar.

57. A similar has been noted in the United States where studies estimate that EDI trading arrangements are beyond the financial capability of 98% of American companies. Jay Palmer, *Net Change: Though the Internet Has Disappointed Many an Investor, It's About to Take Off*, BARRONS, July 7, 1997, at 25.

58. It is estimated that between 500 and 1000 third party, consortia, and/or proprietary exchanges have been launched as of April 2000. The number of exchanges in operation by 2003 is expected to rise to over 4000. *Changing B2B Exchanges*, BUSINESS 2.0, at <http://www.business2.com/content/research/members/2000/06/27/13494> (last visited Nov. 3, 2000).

59. The barrier to e-commerce posed by Latin America's low credit card penetration rates may be overcome by the adoption of the Secure Electronic Transaction (SET) standard for the instantaneous and secure resolution of online purchases or leapfrogged through the use of electronic cash. The latter source of online payment includes smart card based tokens of value and/or digital tokens of value. A. Michael Froomkin, *The Unintended Consequences of E-Cash*, at <http://www.law.miami.edu/~froomkin/articles/cfp97.htm> (Mar. 12, 1997) (last visited Jan. 19, 2000). Some industry professionals are skeptical, however, about the immediate utility of e-cash, noting that until e-cash can offer the same degree of legal protection as that associated with credit and debit cards, such payment media will be used primarily for small or micro payments. *Id.* Other alternatives include bank issued "internet only" cards (for example, Brazilian bank Unibanco's virtual MasterCard and virtual Visa), COD shipments, and inter-bank wire transfers. Scott Weeks & Onelia Collazo, *E-Merchants Turn to Online Payment Alternatives* (Latin American Internet Strategies Newsletter, Miami, Fla.), July 6, 2000, at 2.

D. Increase Internet Training and Support

Increased internet training and support is essential if Latin companies are to successfully implement smarter internet strategies. Without such training, the region will not see the emergence of a hybrid class of business technology managers capable of establishing and overseeing the sophisticated applications, networks, and interfaces central to the growth of e-commerce.

Underscoring the importance of such training and support, Latin governments, universities, and corporations have, either independently or in union, begun to address this issue. The government of Argentina recently announced its intent to connect its 52,000 national schools to the internet over the next four years, effectively creating a pool of 12 million new users.⁶⁰ Brazil's Ministry of Education similarly announced a plan to create information technology labs in all public schools (involving the purchase of 33,000 computers).⁶¹ Mexico's COFETEL (*Comision Federal de Telecomunicaciones*) has also unveiled a plan to increase computers and connectivity, while the SEP (*Secretaria de Educacion Publica*) has created a development fund Fondo De Investigaciones y Desarrollo Para La Modernización (FIDETEC) to provide low interest financing and matching grants to high-tech start ups. A further expression of importance the Mexican government places on the internet's development is the Fox Administration's desire to create a new cabinet level "E-Czar." Last, the Chilean government, in conjunction with Sonda, a private sector entity, recently inaugurated its plan to provide computers and internet access to 10,000 small businesses and professors.⁶²

Building on these foundations, universities throughout the hemisphere have introduced "Information Technology" programs. In Mexico, for example, both the Tecnológico de Monterrey and the Instituto Tecnológico Autónomo de México (ITAM) have established graduate level training programs focusing on the legal, business, and technological issues of e-commerce.⁶³ In the same vein, Chile's *Centro de Formacion Tecnica* (CFT) recently instituted a new program of professional study geared toward e-

60. Avelino Rolon et al., *Launching of National Education Portal*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Apr. 17, 2000).

61. Juliana Viegas et al., *Internet Connection to Public Schools*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Oct. 23, 2000).

62. SONDA se Adjudico la Provision de 10 Mil Computadores [SONDA to Award 10,000 computers], at <http://www.sonda.cl/prensa/noticias/032.asp> (last visited Jan. 10, 2001).

63. Sam Quinones, *E-Commerce Clicks*, MB, May 20, 2000, at 30. Similar programs have been started in U.S. business and law schools, including, for example, the University of Miami. Carla Buckley, *MBAs Shun Dot Bombs but Smart Students Still Clicking Heels Over Dot Coms*, MIAMI HERALD, Dec. 2, 2000, at 1.

commerce.⁶⁴ Another positive development in this regard involves the agreement made between the U.S., Argentina, Brazil, Peru, Paraguay, Ecuador, and Bolivia to eliminate regulatory barriers on the flow of educational communications by voice, data, and/or video transmission.

Government and university information technology training programs are increasingly being supplemented by the initiatives of corporations and other private sector organizations. In Brazil, for example, corporations, universities, and the Ministry of Science and Technology have joined forces to integrate information systems (the PROISI project) and create a research, development, and training center akin to "Silicon Valley."⁶⁵ Similarly, Mexican entities such as Miebach Logistica, Telmex, and Grupo Posadas have stepped up efforts to provide employees with the high-tech training that will permit them to make more efficient use of intranets and B2B exchanges.⁶⁶ As for other private sector sources of training, the experienced members of not-for-profit organizations such as the U.S. based "Geekcorps" are helping to sharpen the internet skills of entrepreneurs in developing nations.⁶⁷

While the primary thrust of these training and support initiatives is rightfully directed toward the government employees and merchants that will regularly use the acquired skills in the course of their jobs, the importance of information technology training for Latin America's judiciary can not be underestimated. The inevitability of this conclusion has already been realized in the US, where a growing number of high-tech cases on court dockets, coupled with technology's rapid rate of change, has led some state bars to provide basic information technology training to members of the bench.⁶⁸ If Latin users and consumers are to have any meaningful confidence in e-commerce conducted online, it is imperative that members of Latin America's judiciary obtain training with respect to basic internet technology, terminology, procedures, and issues.

E. Harmonize Key E-Commerce Regulations

Notwithstanding the fact that the developmental trajectory and use of the internet are fragmented on a global level, the creation of a uniform regulatory framework is crucial to the future growth of e-commerce. This is not to say that there must be a comprehensive body of internet

64. *Imparten Primera Carrera de Comercio Electronico del Pais* [The Country's First Career in E-Commerce is Established], at <http://www.chiltech.com/news/generales/generales.htm> (last visited Jan. 2, 2001).

65. Juliana Viegas et al., *Silicon Brazil*, Baker & McKenzie, Global E-Law Alert, at <http://www.bakernet.com/elaw/> (last visited Apr. 12, 1999).

66. Gowler, *supra* note 42, at 45.

67. Stefan Heuer, *A New Lease on Work*, THE INDUSTRY STANDARD, Dec. 11, 2000, at 234.

68. Debra Baker, *Learning High.Tech @ the Bench*, 86-NOV A.B.A. J. 52 (2000).

regulations.⁶⁹ Invariably nations will reserve the right to promulgate legislation responsive to political, economic, legal, and/or social issues considered to be of great local significance.⁷⁰ What is suggested, rather, is the harmonization of a core set of regulatory standards capable of overcoming the impediments posed to e-commerce by traditional contracting formalities such as the requirement of a writing and/or a manual, pen and ink signature.

With these goal in mind, e-commerce regulations should be harmonized to assure, in a minimalist manner, (1) the principle of non-discrimination with respect to the recognition of data messages as writings; (2) technology neutral recognition of signatures;⁷¹ (3) flexible, commercially responsive, and uniform public key infrastructure provisions with respect to CA qualifications, binding procedures, certificate lifespans, certificate revocation lists, cross-jurisdictional certificate recognition standards,⁷² and

69. Given the relatively nascent state of the internet's development, it is important that nations not regulate so much that they kill the technological, financial, and legal creativity and ingenuity necessary for the its future development. As a general proposition, any regulatory activity realized at this point should strive to strike an appropriate balance between heavy handed over-regulation, on the one hand, and the promulgation of predictable terms that inspire the trust and confidence necessary for the growth of e-commerce.

70. The immediate relevance of this observation is evident in the way a French court, citing the need to protect French citizens from ideology declared contrary to all principle of human rights and dignity, recently ordered Yahoo! to end online auctions of Nazi paraphernalia in France. See *LICRA et UEJF v. Yahoo!Inc. et Yahoo France, T.G.I.*, May 22, 2000, at <http://www.gyoza.com/lapres/html/yahen.html> (May 22, 2000)(last visited Jan. 14, 2001).

71. As is evident from the discussion, many nations have drafted and/or enacted technology biased digital signature legislation in spite of the MLEC's technology neutral approach. This situation may change going forward if Latin nations, perceiving broad support for the recently completed DURES, adopt its more diversified and technology neutral electronic signature provisions.

72. In order to overcome the obstacle to international e-commerce posed by today's variable cross-jurisdictional certificate recognition practices, it would be beneficial to establish a root CA either on a global or regional basis. At the global level, the U.N. or the UPU might serve as the root CA. Regionally, the function could be performed by a body such as the O.A.S., E.U., FTAA, etc. The establishment of such a supra-governmental or regional CA may, indirectly, help resolve the controversy which has arisen in civil law nations over the performance of an attestation function by non-notaries (Colombia's *Colegio Colombiano de Notarios* brought an action of unconstitutionality against that provision of Colombia's e-commerce law permitting either public or private parties to issue certificates) by delegating this function to an independent organization. See *Accion Publica de Inconstitucionalidad de la Ley 527 de 1999* [Public Action of Unconstitutionality against Law 527 of 1999], filed Oct. 28, 1999, in the *Corte Constitucional* (on file with author). Another means of overcoming this obstacle may be found in the future adoption of the DURES. This model law, in addition to containing a broad range of e-signature provisions, sets forth a provision regarding the recognition of foreign certificates. Under said provision, foreign certificates issued in accordance with practices that provide a level of reliability at least equivalent to that required in the recipient jurisdiction are to be accorded legal recognition. The DURES also helps enacting or borrowing states assess the notion of "equivalent reliability" by

the privacy related duties and liabilities of CAs and subscribers; and (4) party freedom to establish transaction specific agreements regarding, *inter alia*, writings, signatures, and certificates.

Outside of aforementioned core contracting issues, the harmonization — either on a global, regional, or trading block level — of regulations pertaining to the jurisdiction of courts over internet or e-commerce disputes,⁷³ the collection of taxes and customs duties arising from online transactions, the protection of individual privacy rights, the identification and prosecution of cybercrimes, and the resolution of domain name registration disputes⁷⁴ would strengthen merchant and consumer confidence

providing a non-exhaustive list of factors. Importantly, this provision recognizes the freedom of parties to make certificate recognition agreements between themselves for the purpose of a specific transaction. DURES, *supra* note 27, art. 13.

73. The issue of jurisdiction will become increasingly important as the number of international internet transactions rises. That fact that an internet company's web site is accessible in another country has not, to date, constituted contact sufficient for the purpose of asserting jurisdiction over the internet company. Under this view, jurisdiction can only be established when access to the internet company's web site is combined with some other conduct that specifically targets and/or effects a country and its citizens. See *McDonough v. Fallon McElligott Inc.*, 40 U.S.P.Q. 2d 1826, 1826 (S.D. Cal. 1996); *Bensusan Restaurant Corp. v. King*, 937 F. Supp. 295, 295 (S.D.N.Y. 1996); *but see Panavision Int'l., L.P. v. Toeppen*, 938 F. Supp. 616, 616 (C.D. Cal. 1996) (operation of a web site to promote business is sufficient to confer jurisdiction in dispute arising out of domain name used on that site). The European Union's recent approval of rules permitting consumers to sue in their own country an online retailer in another country (without requiring stronger or more purposeful contacts), significantly reduces the threshold for establishing jurisdiction. Paul Meller, *Online Buyers Gain Ability to Sue*, N. Y. TIMES, Dec. 1, 2000, at W1. This regulation is unfair to smaller companies with operations in only one country in that they do not, unlike larger companies with extensive operations and legal support, have the resources to defend themselves in multiple and distant fora. Looking forward, however, it should be noted that the continuing shift from central servers to dispersed networks (i.e., the "peer to peer" model upon which Gnutella is based) may ultimately make the simple clarity of the jurisdictional standard articulated in the European regulation obsolete.

74. One of the unanticipated consequences of the commercialization of the internet has been the cybersquatting phenomenon. While the Uniform Domain Name Dispute Resolution Policy (UDRP) was created to provide a mechanism for resolving disputes arising in connection with domain names, it has only been adopted in 14 out of the 240 nations with ccTLDs. Karla Lemanski-Valente & Tim Majka, *International Internet Domain Registrations*, 17 E-COM. L. & STRATEGY 1 (2000). This presents a problem to the extent that non-adopting countries either (1) do not provide domain name dispute resolution services, or (2) provide domain name dispute resolution services pursuant to rules and procedures different from the UDRP, thereby encouraging forum shopping by parties that engage in bad faith name domain name registrations. Representative of this situation are domain name dispute resolution policies in Latin America. Venezuela has adopted the UDRP *in toto*, whereas the failure of Brazil and Argentina to do so creates lacunae with respect to the resolution of domain name disputes. Mexico and Chile, on the other hand, have taken intermediate positions. Chile resolves domain name disputes via a rudimentary, non-UDRP mediation-arbitration procedure. Mexico's new policy, alternatively, resembles the UDRP in some, but not all ways. Notwithstanding the fact that a dispute can be submitted to a WIPO panel, NIC-Mexico reserves the right to submit disputes to dispute

in the certainty and security of electronically realized transactions.

Notwithstanding the present non-existence of a uniform regulatory framework for fundamental (as well as non-fundamental) e-commerce issues, a diverse body of national jurisprudence has slowly begun to emerge with respect to questions of online contract formation, the issuance of certificates, content and intellectual property, privacy, and consumer protection.⁷⁵ Looking forward, the successful creation of a harmonized framework of key e-commerce regulations would serve as an important benchmark for the formation of a unified body of jurisprudence.

F. Increase Self-Regulation

As noted, *supra*, a positive trend within the Latin American internet community has been the inception of a sense of self-regulation in the spirit of WebTrust, the BBB OnLine, TRUSTe, the OPA, and RECA. The amplification of this trend will strengthen the development of the internet throughout the region, at the same time it helps to revolutionize the way Latin industries and businesses perceive and interface with local regulatory environments. To this end, Latin industries and corporations should strive to associate themselves with already established self-regulatory organizations, or, where appropriate, establish home grown equivalents.

resolution providers of its own choice, contrary to UDRP policy. Furthermore, Mexico's new policy does not expressly contemplate the resolution of situations involving reverse domain name hijacking. The establishment of a truly uniform domain name dispute resolution policy is an issue that will become increasingly important given the recent expansion of the field gTLDs. This development is likely to alleviate the pressure on ".com" space at the same time it opens up cybersquatting opportunities in the new gTLDs. The implementation of a universally functional domain name dispute resolution policy is additionally desirable in that it will encourage the continued formation of online entities, thereby driving up levels of internet related investment. In this connection, countries which impose local presence restrictions on the registration of online companies (for example, Brazil) should consider changing such policies in the interest of facilitating multiple domain name registrations and maximizing the potential of international e-commerce.

75. Controversies in Argentina and Brazil, for example, have resulted in take down orders and domain name transfers. Mexican courts have, alternatively, rendered decisions protecting the privacy rights of individuals. Angeles Jareno Leal & Antonio Doval Pais, *Revelacion de Datos Personales, Intimidación, e Informatica, [Revelation of Personal Data Intimacy and Information]*, ABZ: INFORMACION Y ANALISIS JURIDICO, Dec. 2000, at 38. Additionally, the WIPO has amassed a substantial body of domain name dispute precedents, several of which involve Brazil (Banco do Brasil, Redeglobo, Embratel) and Mexico (Banorte.com).

TABLE I
INTERNET AND E-COMMERCE LEGISLATION IN LATIN AMERICA

COUNTRY	E-COMMERCE, E-SIGNATURES, AND PKI
Argentina	Anteproyecto de Ley de Firma Digital http://www.cnv.gov.ar/FirmasDig
Brazil	Anteprojeto de Lei No. 1.589/1999 http://www.natlaw.com/ecommerce/docs/e-commercebill-brazil.htm
Chile	Mocion Proyecto de Ley Sobre Documentos Electronicos http://www.sitiosempresa.cl/docs/juridica/proyectoleyfirmaelectronica.html
Colombia	Law 527, Por Medio de la Cual se Define y Regula el Acceso y Uso de los Mensajes de Datos, del Comercio Electronico y de las Firmas Digitales, y se Establecen las Entidades de Certificacion y se Dictan Otras Disposiciones http://www.natlaw.com/colombia/topical/ec/stcoec/stcoec1.htm
Mexico	Decreto por el que se Reforman y Adicionan Diversas Disposiciones delCodigo Civil para el Distrito Federal en Materia Comun y para Toda la Republica en Materia Federal, delCodigo Federal de procedimientos Civiles, DelCodigo de Comercio, y de la Ley federal de Proteccion al Consumidor http://www.natlaw.com/ecommerce/docs/e-commerce-iniciative-mexico.htm
Peru	Dictamen de la Comision de Reforma deCodigo Recaido Sobre el Proyecto de Ley 5050-99 CR que Regula las Firmas Electronicas, Suscrito por el Congresionista Jorge Muniz Ziches http://www.natlaw.com/ecommerce/docs/e-commerce-peru-firmaycert.htm Proyecto de Ley que Regula la Contratacion Electronica http://www.natlaw.com/ecommerce/docs/e-commerce-peru-contr.htm
Venezuela	Proyecto de Ley Sobre Mensajes de Datos y Firmas Electronicas http://www.cavecom-e.org.ve

COUNTRY	CYBERCRIMES
Argentina	<p>Proyecto de Ley 815/2000, Regimen de Propiedad Intelectual de las Obras de Informatica y Regimen Penal http://www.senado.gov.ar</p> <p>Proyecto de Ley 2.620/1997, Ley Penal de Proteccion de la Informatica http://www.senado.gov.ar</p> <p>Proyecto de Ley 51/1999, Regimen Penal del Uso Indebido de la Computacion http://www.senado.gov.ar</p>
Brazil	<p>Anteproyeto de Lei No. 84/1999, Dispoe Sobre os Crimes Cometidos na Area de Informatica, suas Penalidades, e da Outras Providencias http://www.senado.gov.br/sicon</p> <p>Anteproyeto de Lei No. 76/2000 Define e Tipifica os Delitos Informaticos, e da Outras Providencias http://wwwsenado.gov.br/sicon</p> <p>See also Anteproyeto de Lei adding a Nueva Parte Especial delCodigo Penal, including a chapter on information crimes (Ministerio de Justicia al Congreso Nacional); Anteproyeto de Lei No. 75/1989, protecting individual privacy rights (subsequently absorbed by Senate Anteproyeto de Lei No. 137/1989); and Anteproyeto de Lei No. 4.597/1990, penalizing the intererence with information systems (Diputados, subsequently absorbed by Anteproyeto de Lei No. 597/1991)</p>
Chile	<p>Ley 19.223, Ley Relativa a los Delitos Informaticos http://www.congreso.cl/biblioteca/leyes/delito.htm</p>
Colombia	None
Mexico	<p>Inicitiva de Reformas y Adiciones a Diversas Disposiciones delCodigo Penal para el Distrito Federal en Materia del Fuero Comun, y para Toda la Republica en Material de Fuero Federal http://sites.netscape.net/rktconsulting/DI/pan220300.htm</p>
Peru	<p>Proyecto de Ley de Delitos Informaticos, introduced by Member of Congress Jorge Muniz Ziches on August 18, 1999 http://www.natlaw.com/ecommerce/docs/e-commerce-peru-delitos.htm</p>
Venezuela	None

COUNTRY	PRIVACY
Argentina	Law No. 25.326, <i>Ley de Proteccion de los Datos Personales</i> http://infoleg.mecon.gov.ar/txtnorma/ley2536.htm
Brazil	Anteprojeto de Lei No. 61/1996 http://www.privacyexchange.org/legal/ppl/nat/brazilpending.html Anteprojeto de Lei No. 151 http://www.senado.gov.br/sicon
Chile	Ley No. 19.628 <i>Sobre la Proteccion de la Vida Privada</i> , published in the Official Journal on August 28, 1999
Colombia	None
Mexico	Inicitiva de Reformas y Adiciones a Diversas Disposiciones delCodigo Penal para el Distrito Federal en Materia del Fuero Comun, y para Toda la Republica en Material de Fuero Federal http://sites.netscape.net/rktconsulting/DI/pan220300.htm
Peru	Proyecto de Ley No. 5.233 <i>Sobre la Prividad de los Datos Informaticos y la Creacion del Comisionado para la Proteccion de la Prividad</i> , presented in October 1999 by the Partido Popular Cristiano
Venezuela	None

COUNTRY	RESOLUTION OF DOMAIN NAME DISPUTES
Argentina	Nic-Argentina http://www.nic.ar
Brazil	Registro.Br (FAPESP) http://registro.br
Chile	Nic-Chile http://www.nic.cl
Colombia	Nic-Colombia http://nic.uniandes.edu
Mexico	Nic-Mx http://www.nic.mx
Peru	Pe-Nic http://www.nic.pe
Venezuela	Nic-Ve http://www.nic.ve http://arbiter.wipo.int/domain/cctld/rules/index.html