

Report to Congress

**Electronic Signatures in Global and National
Commerce Act**

Section 105(a)

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Department of Commerce

National Telecommunications and Information Administration



Electronic Signatures in Global and National Commerce Act

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Department of Commerce

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EXECUTIVE SUMMARY

Section 105(a) of the Electronic Signatures in Global and National Commerce Act (“ESIGN Act”) directs the Department of Commerce (“Department”) to conduct an inquiry and report to Congress on the effectiveness of electronic mail in the delivery of records, as compared with the delivery of records via the United States Postal Service and private express mail services.

While the term “effectiveness” is not defined in the ESIGN Act or its legislative history, the Department’s analysis of public comments reveals specific distinctions between electronic and traditional mail delivery systems that impact the delivery of records. These distinguishing factors highlight four issues: universal access, reliability, authentication, and privacy and security.

Traditional document delivery is distinguished by universal access in that a written record can be read without cost to the recipient, while access to electronic mail requires a computer, mobile phone, or other telecommunications equipment. The reliability of written mail is demonstrated by the fact that a paper writing mailed to a person generally remains in the mailbox or the post office indefinitely until it is picked up by the recipient (or a designated agent) and will be forwarded to a recipient’s new address. In contrast, an electronic record e-mailed to a person may disappear from the Internet Service Provider (ISP) or the server at any time before actually being read by the recipient, and generally will not be forwarded to the recipient if the Internet address has changed or the recipient has moved. Unlike paper transactions, electronic transactions also present the issue of authentication and require a determination of the identities of both the sender and recipient, particularly where the parties do not have a pre-existing business relationship and do not meet face-to-face. Privacy and security concerns, including potential interception, rerouting, or alteration of the message, may be less of a concern for messages delivered by the postal service than for e-mail messages because of physical limitations on those with potential access to postal mail.

Based on our analysis at this time, the Department concludes that both methods of transmission are essential to a fully developed economy. There are extensive benefits associated with both electronic mail and traditional mail, and each method is chosen by consumers and businesses for different reasons. Nevertheless, certain factors play a significant role in whether a consumer or business chooses to use electronic delivery versus traditional delivery methods. For example, while electronic mail may not be universally accessible, it may offer a more cost-effective delivery system for certain documents. Conversely, while traditional mail may be more costly, it may offer a more secure environment for some transactions.

Despite these factors, both electronic mail delivery and traditional mail delivery are, and will continue to remain, an effective method of communicating for consumers and businesses. While the ESIGN Act promotes the use of electronic delivery by authorizing the use of electronic signatures, continued policies to foster greater access to the Internet, as well as on-line privacy and security, will continue to enhance the role of electronic delivery. In the meantime, the Department does not expect that electronic mail will replace traditional mail delivery in the foreseeable future.

I. BACKGROUND

On June 30, 2000, Congress passed the Electronic Signatures in Global and National Commerce Act (“ESIGN Act”).¹ The ESIGN Act is intended to promote electronic commerce by providing a consistent national framework for electronic signatures and transactions, and by eliminating legal barriers to the use of electronic technology to form and sign contracts, collect and store documents, and send and receive notices and disclosures. Section 105(a) of the Act, directs:

Within 12 months after the date of enactment of this Act, the Secretary of Commerce shall conduct an inquiry regarding the effectiveness of delivery of electronic records to consumers using electronic mail as compared with the delivery of written records via the United States Postal Service and private express mail services. The Secretary shall submit a report to Congress regarding the results of such inquiry by the conclusion of such 12-month period²

The National Telecommunications and Information Administration (“NTIA”), an agency of the U.S. Department of Commerce (“Department”), conducted this study on behalf of the Secretary. NTIA is the principal executive branch agency responsible for telecommunications and information policy issues, and advises the President and Secretary of Commerce on issues as they affect the Nation’s technological and economic advancement.³

In conducting this inquiry into the effectiveness of electronic versus traditional mail delivery, NTIA sought input from the general public, as well as the United States Postal Service (“Postal Service” or “USPS”), the United Parcel Service (“UPS”), and the Federal Express Corporation (“FedEx”). On February 26, 2001, NTIA issued a Federal Register Notice requesting comments on Section 105(a) of the ESIGN Act.⁴ This Notice outlined questions regarding issues surrounding the effectiveness of electronic mail (“e-mail”) delivery versus traditional mail delivery. Commenters included various consumer advocacy organizations, the Postal Service, private express mail delivery companies, financial institutions, and other interested parties.⁵

NTIA also collected information by: 1) convening meetings with consumer advocates, nonprofit organizations, and businesses; 2) reviewing websites of government and business entities; and 3) conducting research regarding electronic mail delivery and traditional mail delivery.

NTIA’s analysis was affected primarily by two distinguishing factors:

¹ Pub. L. No. 106-229, 114 Stat. 464 (2001).

² *Id.*

³ Telecommunications Authorization Act, Pub. L. No. 102-538, 106 Stat. 3533 (1992).

⁴ 66 Fed. Reg. 13048 (March 2, 2001). A copy of the Notice is attached to this Report as Appendix A.

⁵ All comments are available on the National Telecommunications and Information Administration website at: <http://www.ntia.doc.gov/ntiahome/ntiageneral/esign/comments/index.html>. A list of commenters and the acronym used to refer to each commenter in this Report is attached as Appendix B. The first reference to each comment will include the full name of the organization, its acronym, and the page number. Subsequent references will be cited as “[Acronym] at [page].”

1) The mission and purpose of the two media - electronic mail and traditional mail - are distinct and not directly comparable. Throughout traditional mail delivery's evolution from foot, to stagecoach, to other transportation modes, it has had a mandate for universal delivery to every household in the United States.⁶ Electronic mail delivery does not have the same mandate. Electronic mail is offered primarily through private organizations, utilizes computers or other telecommunications equipment for transmission and delivery, and is not universally mandated.

2) The term "effectiveness" is not defined in the ESIGN Act or its legislative history.⁷ We note, however, that "effectiveness" is commonly defined as "something brought about by a cause, result, the power or capacity to obtain a desired result, influence, or the way in which something acts on an object."⁸ The study of the effectiveness of electronic mail in comparison to traditional mail delivery focused on the following four issues raised by the commenters: 1) universal access; 2) reliability; 3) authentication; and 4) privacy and security.

In this report, we have identified and analyzed these critical issues raised by the commenters that are likely to impact the relative success of electronic mail delivery versus traditional mail delivery.

The ensuing discussion provides the following: a) background on the emerging Internet economy that will impact the effectiveness of electronic mail delivery; b) an analysis of the growing use of electronic mail; and c) conclusions of the Department on the effectiveness of electronic mail delivery versus non-electronic mail delivery based on comments filed in this proceeding and independent research.

II. ELECTRONIC MAIL VERSUS TRADITIONAL MAIL: A SNAPSHOT OF THE EVOLVING LANDSCAPE

A. The Internet Economy

Less than a decade ago, it was impossible to forecast how advances in electronic commerce ("e-commerce") industries would alter the manner in which business was conducted. In the year 2000, e-commerce sales totaled \$25.8 billion, accounting for 0.8 percent of total retail sales.⁹ The growth of e-commerce transactions has been accompanied by an increase in the number of complex and sophisticated transactions conducted on-line. According to Census estimates for 1999 (the most recent year available), e-commerce revenue was \$3.8 billion for the securities brokerage industry, and \$1 billion for the online information services industry.¹⁰ As a result of the heightened sophistication of transactions conducted on-line, there is an increased need to give legal effect to such transactions.

⁶ *History of United States Postal Service* (visited June 8, 2000) <<http://www.usps.gov/history/his1.htm>>.

⁷ Pub. L. No. 106-229, 114 Stat. 464 (2001).

⁸ Webster's II New Riverside University Dictionary 418 (2001).

⁹ Estimated U.S. retail e-commerce sales for the first quarter of 2001 are from the U.S. Census Bureau, Economics and Statistics Administration, U.S. Department of Commerce release CB01-83, May 16, 2001.

¹⁰ Estimated e-commerce revenues for selected services sectors for 1999 are from E-Stats, Mar. 7, 2001, Table 3, U.S. Census Bureau, Economic and Statistics Administration, and are based on the North American Industry Classification System.

In June 2000, Congress sought to address this issue by passing the E-SIGN Act. Section 101(a) of the Act places electronic records and signatures on a legal par with their paper and ink counterparts.¹¹ It provides that records and signatures relating to transactions in or affecting interstate or foreign commerce may not be denied legal effect, validity, or enforceability solely because they are in electronic form or because an electronic signature or electronic record is used in their formation.¹²

Although both the use and acceptance of electronic records and signatures are voluntary under the E-SIGN Act, increasing consumer access to, reliance on, acceptance of, and confidence in electronic transactions remains a vital part of the development of electronic commerce in the United States.¹³ While consumer confidence in electronic transactions is increasing, traditional mail delivery continues to be the delivery method of choice.

B. Growing Reliance on Electronic Mail

The term “mail,” which commonly denotes material handled by the post office, is a survivor of the days when letters and dispatches that were exchanged were carried by the horsemen in their traveling bags.¹⁴ The USPS is the world’s largest postal organization, handling more than 500 million pieces of mail every day.¹⁵ Although it demonstrates a long-standing history of universal service and a high level of consumer satisfaction,¹⁶ the USPS reports that traditional mail delivery is facing increasing competition from electronic alternatives such as the Internet.¹⁷ In addition, although private express mail delivery services, such as UPS, FedEx, and DHL continue to dominate the “urgent” delivery sector of mail and packages,¹⁸ they also face competition from electronic mail.

¹¹ Pub. L. No. 106-229, 114 Stat. 464 (2000).

¹² *Id.* Some exceptions are provided in Section 103 of the E-SIGN Act such as testamentary and domestic relations documents, court orders, notices of cancellation for utility services and health benefits, housing or rental foreclosure and default notices, and product safety and hazardous material notices.

¹³ With the E-SIGN Act, Congress stressed the importance of a technology-neutral law that fostered economic activity. The Internet technology industry, prior to the passage of the E-SIGN Act, had developed and continues to develop technologies that enhance consumer understanding and confidence in electronic commerce transactions. Although the available technologies range from simply typing a name at the end of an e-mail message, to a key note that constitutes a digital signature, to a unique biometric identifier such as a fingerprint or iris scan, at present, none of these models for electronic signatures is established as the market leader. Report of the Committee on Commerce, Science, & Transportation on S.761. p. 4. 106th Congress, 1st session. July 30, 1999 <<ftp://ftp.loc.gov/pub/thomas/cp106/sr131.txt>>

¹⁴ *History of United States Postal Service* (visited June 7, 2000) <<http://www.usps.gov/history/his1.htm>>.

¹⁵ *U.S. Postal Service and Pitney Bowes Form Mailing Industry Task Force*, Business Wire, Mar. 27, 2001, available in LEXIS, Market and Industry, Industry and Topic.

¹⁶ *U.S. Postal Service: Major Management Challenges and Program Risks*, pg. 6, (GAO-01-262, January 2001) (visited on June 8, 2000) <<http://www.gao.gov>>; United States Postal Service at 4.

¹⁷ *U.S. Postal Service: Major Management Challenges and Program Risks*, pg. 6, (GAO-01-262, January 2001) (visited on June 8, 2000) <<http://www.gao.gov>> .

¹⁸ UPS represented approximately 55 percent of the domestic delivery market posting approximately \$24 billion in revenue. United Parcel Service, 2000 Annual Report 32 (2001) (UPS Annual Report). Likewise, FedEx captured 23 percent of the domestic delivery market with \$9.96 billion. Federal Express Corporation, 2000 Annual Report 9 (2001). The remaining 22 percent of the market is divided among USPS, DHL, and other smaller companies. DHL 2000 Worldwide Express Corporate Report 3 (2001) (DHL Corp. Report).

The impact of electronic mail was confirmed by the United States General Accounting Office (“GAO”) in a report that found that traditional mail volumes are affected by federal agency mandates to reduce paperwork and to adopt electronic bill and payment methods.¹⁹ For example, due to the Paperwork Reduction Act, of the 880 million Social Security checks, tax refunds, and other payments sent by the Department of Treasury in fiscal year 1999, 68 percent were sent electronically.²⁰ As such, the loss of physical delivery of these documents accounted for \$180 million in lost revenue.²¹ Moreover, the banking industry reported that its mailing volumes were reduced by 18 percent between 1996 and 1999, a direct result of its determination that mail-based billings and payments are more costly to process than electronic versions.²²

Despite these trends, consumers continue to prefer traditional mail for the delivery of some records. Of the households surveyed in a study conducted in February 2001, 93 percent preferred traditional mail when receiving financial documents and information.²³ In fiscal year 2000, the Postal Service delivered almost 208 billion pieces of mail to more than 130 million households and businesses with \$65 billion in operating revenue.²⁴ Although financial indicators revealed that the USPS failed to meet revenue targets for the first three quarters of fiscal year 2000, it posted its highest financial and service performance for the past five years.²⁵ Moreover, the private express mail companies with the largest share of the market continue to post solid profit margins.²⁶

In light of increasing competition from electronic mail, both the USPS and private express mail delivery services have incorporated electronic mail ventures into their current and future business plans. According to the USPS’s predictions, “[a]s applications associated with electronic mail evolve, a hybrid mail is emerging, [and] people are realizing that the combined use of both hard-copy and electronic mail ensures a balance of cost effectiveness, universal delivery and effective message content delivery.”²⁷

The USPS and private express mail delivery services cited consumer demand, reduced costs, and greater efficiencies as reasons they have initiated electronic mail services.²⁸

¹⁹ *U.S. Postal Service: Major Management Challenges and Program Risks*, pg. 17, (GAO-01-262, January 2001) (visited on June 8, 2000) <<http://www.gao.gov>>.

²⁰ *Id.*

²¹ *U.S. Postal Service: Postal Activities and Laws Related to Electronic Commerce*, pg. 6 (GAO/GGF-00-188, Sept. 2000) (visited June 8, 2000) <<http://www.gao.gov/new.items/gg00188.pdf>>.

²² *Id.*

²³ The *2001 Household Mail Preference Study* was commissioned by Pitney Bowes Global Mailing Systems Division and conducted by the ICR Research Group. The survey was conducted by phone to 1,000 U.S. households, and it determined that 53 percent of those surveyed have access to email at home. In March 1999, Pitney Bowes performed this mail preference study to address the growing emergence of email in households, and in February 2001, the study was repeated.

²⁴ *U.S. Postal Service: Major Management Challenges and Program Risks*, (GAO-01-262, January 2001), pg. 6, (visited on June 6, 2000) <<http://www.gao.gov>>.

²⁵ *Id.* at 15.

²⁶ UPS Annual Report at 32 (2001); DHL Corp. Report at 3 (2001).

²⁷ USPS at 3.

²⁸ USPS at 2; FedEx at 3; UPS at 2.

1. Consumer Demand

Traditional mail delivery providers such as the Postal Service, UPS, and FedEx agree that most businesses will have to maintain a two-tier messaging system (electronic and hard-copy) in order to remain viable.²⁹ In particular, UPS emphasizes that the development of the “virtual world” will not replace the physical delivery of goods, both forms of communication will coexist and enhance each other, and the development of electronic commerce will allow UPS to continue traditional mail services while adding other services to enhance core business packages.³⁰

According to the Postal Service, cross-media capabilities are expected to be a standard option for messaging and commerce in the 21st century.³¹ In anticipation of future consumer demand for cross-media services, traditional mail delivery companies have launched new services. Some examples of the USPS’s new services include “NetPost Mailing OnLine,” a system that enables mail to be submitted electronically for printing, mailing, and delivery by the Postal Service and provides the advantages of physical mail and electronic mail to the nation.³² Similarly, UPS unveiled “UPS OnLine Courier,” which allows secure delivery of an electronic document by providing encryption, with password-only access, allowing the sender to recall or cancel delivery of files.³³

According to the Postal Service, research indicates that electronic and hard copy messages are not perfect substitutes for one another, and the consumer’s choice of medium depends largely on the specific nature of the application and the context of the message.³⁴ In addition, the USPS noted that, while some customers may prefer all of their messages to be in a single format, these customers will likely remain small in number. In fact, it asserts that most consumers prefer to receive some messages in one format and other messages in a different format, and that these preferences change for the same customer depending on the circumstances.³⁵

2. Costs and Efficiencies

Businesses that use electronic record delivery may save costs. The USPS explained that there are significant operating costs associated with the delivery of hard copy mail.³⁶ For example, the USPS employs 797,795 career employees, invests billions of dollars annually in leased, new or improved buildings and mail processing equipment, operates a transport and delivery fleet of 202,000 vehicles that drive 1.1 billion miles a year, and transports mail by airplane (15,000 commercial airline flights/daily), truck, railroad, boat, and even by mule to/from

²⁹ USPS at 2; UPS at 2; FedEx at 2.

³⁰ UPS at 2.

³¹ USPS at 1.

³² USPS at 2.

³³ UPS at 2.

³⁴ USPS at 3.

³⁵ *Id.*

³⁶ USPS at 1.

the bottom of the Grand Canyon.³⁷ Therefore, cost is a large factor in the Postal Service's decision to offer more than one method of delivery.³⁸

One commenter noted that financial institutions also benefit from reduced costs by offering consumers the option of receiving statements and information electronically instead of through physical mail.³⁹ For instance, Household Bank spends \$73 million per year in mailing statements, and estimates that switching to electronic delivery of statements would save them 39 cents per statement.⁴⁰

These savings also affect major transactions, such as mortgages, and the financial institutions that offer them. eOriginal recently completed a pilot program in Florida that delivered the first end-to-end electronic mortgage closings in Florida's history, and has subsequently completed end-to-end electronic mortgage closings in New York using the Internet as the communication and distribution channel.⁴¹ In its comments, eOriginal noted that the system demonstrated significant savings of \$750 - \$1,000 per originated loan, which equals an approximate savings of 40 percent in loan life cycle costs, and a reduction of the cycle time of loan closing to market delivery from 45 days to three hours.⁴² Other benefits highlighted include improved risk management of mishandled documents, reduced errors and omissions, reduced staff, increased production, reduced administrative and training costs, and improved customer service.⁴³

III. EFFECTIVENESS OF ELECTRONIC VERSUS TRADITIONAL MAIL DELIVERY

When comparing traditional mail and electronic mail, commenters asserted that there are a number of characteristics that may apply to traditional mail delivery that do not apply to electronic mail or mail posted to a website. Commenters identified four areas distinguishing electronic mail delivery and traditional mail delivery that impact their relative effectiveness: 1) universal access; 2) reliability; 3) authentication; and 4) privacy/security.

A. Universal Access

A fundamental issue when comparing electronic to hard-copy mail delivery is that a substantial portion of the American public does not have access to electronic messaging services at the present time. As reported by *Falling Through the Net*, a study prepared by NTIA on

³⁷ USPS at 2.

³⁸ *Id.*

³⁹ Household Bank, N.A. ("Household Bank") at 2.

⁴⁰ *Id.*

⁴¹ eOriginal, Inc. ("eOriginal") at 3.

⁴² *Id.*

⁴³ *Id.*

computer and Internet growth, a majority of households are still not connected electronically.⁴⁴ The report finds:

- Over 55 percent of Americans have no access to the Internet in their homes or elsewhere.
- Only 41.5 percent of all households have Internet access.
- Over 8 percent of Americans rely on public access, their employers', or other persons' computers.

One commenter stated that until electronic commerce reaches the same degree of universal access as traditional mail delivery, the law should treat electronic delivery and physical world delivery of records differently.⁴⁵ That commenter also noted that, although universal access to the U.S. mail is acknowledged, it is not appropriate to apply the same assumptions to electronic delivery.⁴⁶

A particularly critical difference between electronic mail delivery and traditional mail delivery is that electronic delivery requires money and a computer to access messages. As one commenter noted:

[t]he requirements include a computer, a telephone wire or cable access connection, and an Internet Service Provider, or ISP. There is also a fairly substantial capital outlay to acquire a computer, and, if one wishes to keep a physical copy of a communication, a printer, and a monthly service fee for an ISP. At the current time, these fees generally range from \$20 to \$40 a month.⁴⁷

The fact that technology is changing rapidly in the area of electronic communication means that the onus to keep up has consistently and unfairly been placed, in that commenter's opinion, on the consumer.⁴⁸

Electronic communication is also not universally available or financially achievable for every business in the United States. In the small business sphere, one commenter emphasized that some, but not all, of its association members, ranging from small, local consumer mediation offices to large government and international agencies, have access to the tools necessary to enable them to receive documents electronically.⁴⁹ Even in today's business atmosphere, there remain small businesses that cannot afford to expend monies on the equipment necessary to deliver and receive electronic communications.

⁴⁴ *Falling Through the Net: Toward Digital Inclusion: A Report on Americans' Access to Technology Tools, Figure I-1* (visited June 8, 2000) <<http://search.ntia.doc.gov/pdf/fitn00.pdf>>.

⁴⁵ National Consumer Law Center ("NCLC") at 5.

⁴⁶ *Id.* at 3.

⁴⁷ National Association of Consumer Agency Administration ("NACAA") at 2.

⁴⁸ *Id.* at 4.

⁴⁹ *Id.*

No comparable outlays are necessary for a consumer or business to receive a letter via the United States mail or an independent delivery service. While the cost of sending paper letters increases on occasion, there is no equivalent capital outlay or ongoing cost to receive a paper communication. Rather, the receipt of postal mail is free.

B. Reliability, Retention, and Portability of Records

While electronic communication is often faster and cheaper than conventional forms of delivery, the reliability and retention of electronic records, unlike paper counterparts, are less certain.⁵⁰

Commenters agree that system failures can damage or destroy electronic records, and unless appropriate safeguards are in place, electronic records may also be modified without the knowledge of the person in whose files the records exist, or to whom they are sent.⁵¹ Moreover, when describing their experiences with electronic records, one commenter noted that messages can be lost in cyberspace, the telecommunications infrastructure can be down, the computers sending or receiving the transmissions can break down, or messages may be rejected at firewalls.⁵²

Transferring and forwarding e-mail messages also present problems to consumers when they are forced to change e-mail accounts without advance notice, due to a job loss or an ISP's going out of business for example.⁵³ While there are ways to minimize the problem of losing e-mail messages, such as getting a permanent forwarding address from an established organization, or registering a domain name, most people do not know about such services.⁵⁴

On the other hand, when describing how the existence of electronic records affects the convenience of record keeping, business commenters noted mixed results. They reported that, although electronic record transmission is not perfect, it is easier and cheaper to create and store records; it is much easier to access information in electronic records; and electronic records take up less physical space.⁵⁵ Conversely, commenters also noted that an electronic record can only be maintained electronically, that during their transmission they must be securely sealed, and that they may be lost in transmission or while in storage.⁵⁶ Although commenters agreed that paper documents are less easily manipulated, they stressed the extreme importance that tamper-resistance is built into any electronic records intended to be kept in order to maintain trust and integrity in the system.⁵⁷

⁵⁰ FedEx at 3; NACAA at 3.

⁵¹ FedEx at 5.

⁵² *Id.* at 2.

⁵³ Gabriel Goldberg, *Don't Become and E-mail Orphan*, *The Washington Post*, June 8, 2001, at E1.

⁵⁴ *Id.*

⁵⁵ FedEx at 5; UPS at 2.

⁵⁶ FedEx at 5; NACAA at 3.

⁵⁷ FedEx at 5; NACAA at 3; NCLC at 5.

C. Authentication/Integrity of Communication

The effectiveness of any delivery system, especially electronic, also depends upon its ability to ensure the integrity of its data.⁵⁸ Unlike most paper transactions, electronic transactions pose the issue of how to authenticate the parties to a transaction. This involves determining the identity of the parties to a transaction so that the parties are certain that they are dealing with the appropriate individuals. Arguably, most electronic retail commerce transactions occur between parties that do not have a pre-existing business relationship and do not meet face-to-face. Thus, traditional methods of identifying a party and conducting a legally binding transaction can be completely absent. Once the identity of the parties has been established, it is important that the on-line transaction take place in a secure environment to ensure the authenticity and integrity of the transmission. It is also important that a record of the transmission is retained should any dispute arise in the future.

Some commenters assert that technology, such as that enabling electronic signatures, provides a solution and resolves many of the complex issues involved in on-line commercial transactions.⁵⁹ Although digital certificates are not yet a widely used consumer product, public key technology is increasingly recognized as an intrinsic element in electronic commerce and other on-line transactions.⁶⁰ According to one commenter, hierarchical electronic verification systems, such as a public key infrastructure or PKI, offer all of these elements of security and efficiency and create a framework for electronic document delivery and storage that meets or exceeds the dependability of traditional forms of delivery. Although many consumers use this technology without being aware, customers will benefit from having a choice of delivery mechanisms, both electronic and traditional, until all customers are familiar and have access to electronic security and delivery methods.⁶¹

D. Privacy/Security

Another key issue is the privacy of documents when using either postal or electronic delivery methods. Consumers who frequently use e-mail are particularly concerned about privacy violations when engaging in commercial transactions.⁶² A recent survey revealed that 77 percent of consumers using the Internet are very concerned about the misuse of their personal

⁵⁸ Register.com at 1.

⁵⁹ Register.com at 1; *Response to Request for Comments: Section 105(b) of the Electronic Signatures in Global and National Commerce Act, Comments of Verisign Corporation, et al* (visited June 8, 2000) <<http://www.ftc.gov/bcp/workshops/esign/comments/Verisign2.htm>>; *Response to Request Comments: Section 105(b) of the Electronic Signatures in Global and National Commerce Act, Comments of Digital Signature Trust Co.* (visited June 8, 2000) <<http://www.ftc.gov/bcp/workshops/esign/comments/dstc.htm>>.

⁶⁰ Register.com at 1; *Federal Agency Use of Public Key Technology for Digital Signatures and Authentication* (visited June 8, 2000) <<http://csrc.nist.gov/publications/nistpubs/800-25/sp800-25.pdf>>.

⁶¹ Register.com at 3.

⁶² Center for Democracy and Technology (“CDT”) at 1; FedEx comments at 3; *See also* Jeffrey Rosen, *The Unwanted Gaze: The Destruction of Privacy in America* (Random House, 2000) (states that a user’s subjective expectations of privacy reflect the amount of privacy they experience and, as technology advances, the expectation of privacy decreases).

information on-line.⁶³ E-mail messages, for example, can be intercepted, rerouted, wiretapped and read, or altered, without the sender's knowledge.⁶⁴ One commenter concluded that it is important to have a consent of receipt because data can be lost during transmission without notice to the sender or recipient.⁶⁵ Another commenter noted that physical mail, by contrast, can be held for receipt by an agent of the person for an indefinite period of time without divulging either the sender or the content of the message.⁶⁶ Postal delivery to the mailbox or to the door may create fewer privacy concerns because there is a more limited realm of people who can access these documents.

The availability of information to third parties and the impact on the privacy rights of the sender of the message is highlighted by one commenter as yet another difference between e-mail and traditional mail delivery.⁶⁷ One concern surrounding e-mail use is the collection of information by third parties during electronic transactions. When a consumer uses a digital certificate to guarantee his or her identity, one commenter notes that the third parties issuing these digital certificates often collect detailed information.⁶⁸ These third parties can also track when and how the certificates are used, thus creating a rich storehouse of transactional information.⁶⁹ Since this information collected is not currently protected by law, it can be sold, distributed, or used without the person's knowledge or consent.⁷⁰

Consumers and businesses have varying degrees of solutions to protect privacy, whether using electronic delivery methods or traditional postal delivery methods. There are a number of privacy tools available to on-line users that can help them protect their information and identity. These include anonymity tools that disguise the user's identity, technologies to block cookies from the browser, tools that facilitate the reading of privacy policies, as well as encryption tools that secure data in transit and storage.⁷¹ In light of consumers' rapidly increasing use of electronic mail, consumers appear to believe that businesses should implement good privacy policies.⁷²

⁶³ *Opinion Surveys: What Consumers Have To Say About Information Privacy* (visited June 8, 2000) <<http://energycommerce.house.gov/107/hearings/05082001Hearing209/Westin309.htm>>. Also see, *Will Banks Cease to Exist? How Have Americans Embraced Online Banking*, Red Herring and Ipsos-Reid Survey, Jan. 11, 2001 (visited June 8, 2001) <http://www.ipsos-reid.com/media/content/displaypr.cfm?id_to_view=1156>, which found that for 34 percent of banking customers that have Internet access, security and privacy concerns are the primary reasons they do not engage in on-line banking transactions. As well, this study found that only 15 percent of all U.S. investors make their investments on-line.

⁶⁴ See, e.g., Privacy Foundation, Richard Smith's Tipsheet (visited June 8, 2000) <<http://www.privacyfoundation.org/commentary/tipsheet.asp>>.

⁶⁵ NACAA at 3.

⁶⁶ NCLC at 3, <<http://www.ntia.doc.gov/ntiahome/ntiageneral/esign/comments/NCLC.htm>>. There is general recognition that solutions to the on-line privacy issues are necessary to improve the American consumers' confidence in the use of e-mail and the Internet. The technology industry is searching for privacy solutions that will protect consumers' rights to know how the information they provide to obtain certificates and to on-line merchants is being used. See "Online Privacy Matters," Red Herring Magazine, January 16, 2001.

⁶⁷ CDT at 2.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ While these methods provide some privacy, the experts recognize that there is no absolute guarantee of security for e-mail. See, *Bug Watch: The Hidden Danger in E-Mail*, Financial Times Information, October 13, 2000.

⁷² Dr. Alan Westin Testimony on *What Consumers Have to Say About Information Privacy: Before the Subcomm. on Commerce, Trade, and Consumer Protection*, 107th Cong. 201 (2001).

In addition to privacy, both traditional mail and electronic mail raise security concerns. As noted by one commenter, the security of electronic communication is an important element to the evaluation of the effectiveness of electronic communications.⁷³ The commenter explained that many complaints are received each year from consumers concerning the theft or misapplication of their personal information via electronic mail, and emphasized that while one person may steal the paper mail from a consumer's mailbox, the number of persons who can access an individual's personal information on-line can be virtually limitless, dependent only on their ability to get past electronic fire walls.⁷⁴

One company asserted that a cheaper and more tightly integrated secure message and digital signature option is needed.⁷⁵ It further stressed that it was experimenting with a variety of technologies including, but not limited to encryption, digital signatures, value-added networks, and password protection.⁷⁶ With one newly released on-line product, UPS uses a multilayer security approach: it provides up to 128-bit encryption, password-only access, instant delivery notification and sender recall/cancellation of file delivery.⁷⁷ When discussing other security options for consumers, another company that provides on-line products and services concluded that, although digital certificates are not yet a widely used consumer product, public key technology is increasingly recognized as an intrinsic element in e-commerce and other on-line transactions.⁷⁸

Acknowledging the increasing importance of privacy and security to consumers, the USPS emphasized the "sanctity of [its] seal," noting that its law enforcement arm, the US Postal Inspection Service, investigates criminal acts involving mail, and assures that transactions taking place through the traditional mail will be protected.⁷⁹ Even in its recent electronic ventures, the Postal Service realizes the importance of privacy and security. For example, through its recently introduced product, PosteCS, the USPS provides secure on-line electronic courier service.⁸⁰

These examples highlight that both traditional mail delivery and electronic mail delivery companies, in an atmosphere of increased concern for security, are taking affirmative steps to provide adequate security and to maintain consumer trust. The degree to which postal or e-mail is secure will depend on the protections provided during service delivery.

⁷³ NACAA at 3.

⁷⁴ *Id.*

⁷⁵ FedEx at 6.

⁷⁶ *Id.*

⁷⁷ UPS at 2.

⁷⁸ Register.com at 2.

⁷⁹ USPS at 4.

⁸⁰ USPS at 2.

IV. CONCLUSION

The Department of Commerce has assessed the effectiveness of electronic mail and postal delivery based on comments received and independent research. We find that there are extensive benefits that accompany both traditional mail and electronic mail. These benefits, however, do not mean that electronic communication provides the same degree of reliability and universal access that is currently provided by traditional mail. The differences between electronic and traditional mail communications highlight four important issues: universal access, reliability, authentication, and privacy/security.

The ESIGN Act does not prescribe the use of a particular technology for the transmission of electronic mail; rather, the Act leaves those choices to the marketplace. The Department notes, however, that the creation and implementation of technologies to provide effective and secure electronic mail will promote electronic commerce. In the future, consumers may expect a proliferation of competing mechanisms for bringing electronic mail into common usage in the digital age. However, it is important to balance the goal of increased electronic mail usage with measures that will enhance consumer confidence in this medium.

For the foreseeable future, the Department concludes that, despite the recent developments in the electronic industry, electronic mail has not become a substitute for traditional mail transactions; rather, they serve as complimentary services in many cases. Both mail delivery systems can be considered effective because they serve valuable purposes and different needs at this time.

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APPENDIX A

Federal Register Notice

Dated: February 27, 2001.
 William T. Hogarth,
 Acting Assistant Administrator for Fisheries,
 National Marine Fisheries Service.
 [FR Doc. 01-5131 Filed 3-1-01; 8:45 am]

BILLING CODE 3510-22-S

DEPARTMENT OF COMMERCE

[I.D. 021301 D]

New England Fishery Management
 Council; Public Meetings

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of rescheduling and cancellation of public meetings.

SUMMARY: The New England Fishery Management Council (Council) has rescheduled a March meeting of its Skate Oversight Committee and Advisory Panel and changed the location of the meeting, and has cancelled a meeting of its Habitat Oversight Committee.

DATES: The Skate Oversight Committee and Advisory Panel meeting will be held on March 13, 2001, at 9:30 a.m.

ADDRESSES: The meeting will be held at the Radisson Hotel, 35 Governor Winthrop Boulevard, New London, CT 06320; telephone: (860) 443-7000.

FOR FURTHER INFORMATION CONTACT: Paul J. Howard, Executive Director, New England Fishery Management Council (978) 465-0492.

SUPPLEMENTARY INFORMATION: The original notice (66 FR 11001, February 21, 2001) stated that the Skate Oversight meeting would be held on March 6, 2001 at 9:30 a.m. It also stated that the location was the Radisson Airport Hotel in Warwick, RI. The meeting of the Habitat Oversight Committee scheduled for March 7, 2001 at 9:30 a.m. is cancelled.

Special Accommodations

The meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Paul J. Howard (see ADDRESSES) at least 5 days prior to the meeting dates.

All other previously published information remains unchanged.

Dated: February 27, 2001.
 Bruce C. Morehead,
 Acting Director, Office of Sustainable
 Fisheries, National Marine Fisheries Service.
 [FR Doc. 01-5149 Filed 3-1-01; 8:45 am]
 BILLING CODE 3510-22-S

DEPARTMENT OF COMMERCE
 National Telecommunications and
 Information Administration
 [Docket No. 010222048-1048-01]

RIN 0660-XX11

**Notice, Request or Comments on
 Section 105(a) of the Electronic
 Signatures in Global and National
 Commerce Act**

AGENCY: National Telecommunications and Information Administration, U.S. Department of Commerce. **ACTION:** Request for comments on the Section 105(a) of the Electronic Signatures in Global and National Commerce Act.

SUMMARY: The National Telecommunications and Information Administration (NTIA) invites interested parties to review and comment on section 105(a) of the Electronic Signatures in Global and National Commerce Act ("ESIGN" or "the Act") (Pub. L. 106-229, 114 Stat. 464). Section 105(a) requires the Secretary of Commerce to conduct an inquiry and report to Congress on the effectiveness of delivery of electronic records to consumers using electronic mail as compared with the delivery of written records via the United States Postal Service and private express mail services. In connection with this report, this Federal Register notice is intended to solicit comments from interested parties. NTIA invites the public to submit comments on section 105(a) of the ESIGN Act in paper or electronic form. All comments submitted in response to this Notice will be posted on the NTIA website. **DATES:** Interested parties are invited to submit comments no later than April 2, 2001. **ADDRESSES:** Comments may be mailed to Josephine Scarlett, Office of the Chief Counsel, National Telecommunications and Information Administration, Room 4713 HCHB, 1401 Constitution Ave., NW, Washington, DC 20230. Paper submissions should include a diskette in ASCII, WordPerfect (please specify version) or Microsoft Word (please specify version) format. Diskettes should be labeled with the name and organizational affiliation of the filer, and

the name version of the word processing program used to create the document.

In the alternative, comments may be submitted electronically to the following electronic mail address:

<esign705a@ntia.doc.gov>. Comments submitted via electronic mail should be submitted in one or more of the formats specified above. **FOR FURTHER INFORMATION CONTACT:** Josephine Scarlett, Office of the Chief Counsel, telephone: (202) 482-1816; or electronic mail:

<jscarlett@ntia.doc.gov>. Media inquiries should be directed to the Office of Public Affairs, National Telecommunications and Information Administration, at (202) 482-7002.

SUPPLEMENTARY INFORMATION:

I. Background

Advances in information technology and increased Internet usage in domestic and international business transactions have produced significant benefits to U.S. businesses and consumers. Electronic commerce or "ecommerce" has contributed significantly to the growth of the U.S. economy in recent years. Census Bureau statistics show that total retail ecommerce sales for 2000 reached an estimated \$25.8 billion, and accounted for .08 percent of the total retail sales. Although commercial transactions over the Internet have increased over previous years, one of the greatest burdens to the growth of Internet commerce has been the lack of consistent, national rules that govern the use of electronic documents and signatures in electronic business transactions.

In order to promote continued growth in electronic commerce, Congress enacted ESIGN on June 30, 2000. ESIGN facilitates the use of electronic documents in domestic and international commerce and reinforces the validity and enforceability of electronic contracts and signatures. The Act gives businesses the option of transmitting electronic copies of documents that are legally required to be provided to consumers in written form, and provides consumers with the option of receiving electronic copies of these documents. ESIGN does not apply, however, to all documents and notices that are required to be presented in writing.¹

¹ Section 103 of ESIGN provides exceptions for testamentary and domestic relations documents, court orders, notices of cancellation for utility services and health benefits, housing or rental foreclosure and default notices, and product safety and hazardous material notices. ESIGN does not affect state or federal laws that require a writing for these types of documents and notices.

Section 105(a) of E-SIGN directs the Secretary of Commerce to prepare a study comparing the effectiveness of electronic mail in the delivery of electronic records with the effectiveness of traditional methods of document delivery (e.g. mail, express delivery services), and to report the findings of the study to Congress no later than June 30, 2001. NTIA invites interested parties to submit comments on the general issue of the effectiveness of electronic mail in the delivery of electronic documents in comparison to the traditional methods of document delivery and on the specific issues set out in this Notice.

NTIA recently sought public comment on a joint study conducted with the Federal Trade Commission on section 105(b) of the E-SIGN Act.^z The joint study being conducted under section 105(b) concerns the consumer consent provisions of the E-SIGN Act and is separate from the study being prepared for this Notice. Comments submitted in this proceeding may be used in preparation of the report to Congress regarding the consumer consent provisions of the Act under section 105(b). Parties should note or incorporate by reference any comment that was submitted in conjunction with the joint study under 105(b) that also should be considered in this study.

II. Statutory Language Requiring a Report to Congress

The statutory language requiring the Secretary of Commerce to submit a report to Congress on the effectiveness of electronic mail is found in section 105(a) of E-SIGN and is set forth below. Sec. 105. STUDIES.

(a) DELIVERY.-Within 12 months after the date of the enactment of this Act, the Secretary of Commerce shall conduct an inquiry regarding the effectiveness of the delivery of electronic records to consumers using electronic mail as compared with delivery of written records via the United States Postal Service and private express mail services. The Secretary shall submit a report to the Congress regarding results of such inquiry by the conclusion of such 12-month period.

III. Specific Questions

The Department seeks comment on the following specific questions. Parties need not address all questions, but are

^z See Request for Comment and Notice of Public Workshop: Electronic Signatures in Global and National Commerce Act, 66 FR 10011 (Feb. 13, 2001). The notice and comments received concerning the joint study are also available on NTIA's homepage at <<http://www.ntia.doc.gov>>.

encouraged to respond to those about which they have particular knowledge or

I. General Issues

a. Provide an estimate of the percentage of transactions that you conduct per month that require next day, or same day, delivery.

b. Of the transactions included in 1(a) above, approximately what percentage of these are complicated by the fact that mail services do not have Sunday delivery?

c. Describe any delivery problems that you experience with electronic transmissions. How do these problems compare with any problems you experience using the Postal Service, private express, or courier services for delivery of records?

2. Business Issues

a. Do you offer consumers a choice of delivery mechanisms (i.e. electronic or traditional)? Has the market evolved enough to give consumers the choices they need? State whether you conduct a mail or express delivery service, or an electronic mail business.

b. Explain any benefits to your business of providing consumers with a choice between electronic transmission, postal service, or express mail service delivery of documents. Is cost a large factor in your decision to offer more than one method of delivery?

c. How important is the elimination of paper to your business?

d. Does your software enable your company or business to accurately keep track of customer confirmations and electronically "file" correspondence and consents received from customers?

e. What method(s), if any, do you employ for sender/signature verification for electronic transactions?

f. What types of consent mechanisms does your business employ?

g. What methods do you employ for third parties who are authenticating electronic delivery?

h. Under what circumstances will information received from a customer be shared?

i. Do you provide universal service (i.e. delivery to all geographic locations)?

(i) Please estimate the percentage of the population that your business serves that receives daily deliveries, as opposed to deliveries every few days (e.g. to areas less populated). Estimate the number of those who receive deliveries every few days that also use your electronic services, if available, for faster delivery.

(ii) What percentage of your electronic

percentage are large businesses, and

3. Consumer Issues

a. Do you have access to the necessary tools to enable you to receive documents electronically?

b. If you have the option of receiving electronic records but choose not to, is this decision related to a lack of technology to conduct business in this manner?

c. Describe any burdens that you as a consumer experience, or expect to experience, in receiving electronic records (such as the inability to open, store, or print electronic records).

d. Compare the usefulness and burdens of receiving an electronic record, and confirming receipt electronically, with the usefulness and burdens of receiving a written record.

e. Describe how the existence of electronic records affects the convenience of record-keeping, both negatively and positively.

f. How concerned are you with online privacy and security issues? Describe any specific issues you have encountered (e.g. viruses).

g. Describe any concerns you have with keeping paper documents confidential during their transmission or storage. Are the same concerns present for electronic documents received through electronic mail? If so, state whether you are more concerned with preserving the confidentiality of paper documents or electronic documents.

h. Are electronic transactions complicated by the fact that the consumer must notify a business when the consumer's e-mail address changes? If so, how significantly?

i. Do electronic transactions increase or decrease the potential for fraud or identity theft?

4. Technology Issues

a. What are the estimated costs, either to businesses or consumers, of updating software to ensure compatibility for the electronic transmission of electronic records?

b. What types of technology are being employed to ensure security of transmissions? For example, does your business utilize smart cards, encryption, or password protection devices? Are these devices effective?

c. Are anonymizer-type programs effective in protecting online privacy? Do such programs render authentication ineffective?

d. Does your business use/provide biometrics?

e. Does your business provide consumers with technical support in the

event that consumers encounter difficulties in making electronic transmissions?

Kathy D. Smith,
Chief Counsel.

[FR Doc. 01-5053 Filed 3-1-01; 8:45 am]

BILLING CODE 3510-60-P

CONSUMER PRODUCT SAFETY COMMISSION

Sunshine Act Meeting

AGENCY: Consumer Product Safety Commission.

TIME AND DATE: Wednesday, March 7, 2001, 2:30 p.m.

LOCATION: Room 410, East West Towers, 4330 East West Highway, Bethesda, Maryland.

STATUS: Closed to the Public-Pursuant to 5 U.S.C. 5532(f)(1) and 16 CFR 1013.4(b) (3) (7) (9) and (10) and submitted to the **Federal Register** pursuant to 5 U.S.C.

MATTER TO BE CONSIDERED:

The staff will brief the Commission on the status of various compliance matters.

For a recorded message containing the latest agenda information, call (301) 504-0709.

CONTACT PERSON FOR ADDITIONAL INFORMATION: Sadye E. Dunn, Office of the Secretary, 4330 East West Highway, Bethesda, MD 20207 (301) 504-0800.

Dated: February 26, 2001. Sadye E. Dunn, Secretary. [FR Doc. 01-5212 Filed 2-28-01; 10:03 am]

BILLING CODE 6355-01-M

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 01-02j]

36(b)(1) Arms Sales Notification

AGENCY: Defense Security Cooperation Agency, Department of Defense. **ACTION:** Notice.

SUMMARY: The Department of Defense is publishing the unclassified text of a section 36(b)(1) arms sales notification. This is published to fulfill the requirements of section 155 of Pub. Law 104-164 dated 21 July 1996.

FOR FURTHER INFORMATION CONTACT: Ms. J. Hurd, DSCA/COMPT/RM, (703) 6046575.

The following is a copy of a letter to the Speaker of the House of Representatives, and Transmittal O1-02 with attached transmittal and policy justification.

Dated: February 26, 2001. L.M. Bynum, Alternate OSD Federal Register Liaison Officer, Department of Defense.

BILLING CODE 5001-101

APPENDIX B

List of Commenters

Center for Democracy and Technology (CDT)

Digital Signature Trust Company (DST)*

eOriginal, Inc. (eOriginal)

Federal Express Corporation (FedEx)

Household Bank, N.A. (Household)

Robert E. Kahn and Patrice A. Lyons (Kahn & Lyons)

National Association of Consumer Agency Administrators (NACAA)

National Consumer Law Center (NCLC)

Register.com (Register.com)

United Parcel Service (UPS)

United States Postal Service (USPS)

Verisign*

*Comment in response to Request for Comment of Section 105b of E-SIGN Act