

# Report to the Governor and Legislature on

## **New York State's Electronic Signatures and Records Act** *(Laws of 1999, Chapter 4)*



**James T. Dillon, NYS Chief Information Officer**  
**Michael McCormack, Director, NYS Office for Technology**



**Prepared by New York State Office for Technology**  
**November 1, 2004**

**TABLE OF CONTENTS**

*EXECUTIVE SUMMARY* ..... 2

*INTRODUCTION* ..... 4

*ESRA AND RELATED FEDERAL LEGISLATION* ..... 7

*ESRA REGULATION AND GUIDELINES* ..... 9

*NEW INFORMATION CONCERNING*

*ELECTRONIC SIGNATURES/RECORDS* ..... 11

    A. Technology Changes and Trends ..... 11

    B. State Agency Use ..... 13

    C. Local Government Use ..... 17

    D. Private Sector Use ..... 19

*DIFFICULTIES IN USING AND ACCEPTING*

*ELECTRONIC SIGNATURES/RECORDS* ..... 24

    A. State Government ..... 24

    B. Local Government ..... 25

    C. Private Sector ..... 25

    D. NYS Unified Court System ..... 26

    E. Maintaining Electronic Records Over Time ..... 27

*SUMMARY OF COURT DECISIONS* ..... 30

    A. NYS Court Decisions ..... 30

    B. Federal Court Decisions ..... 31

*RECOMMENDATIONS FOR LEGISLATIVE CHANGES* ..... 33

*CONCLUSIONS* ..... 35

## ***EXECUTIVE SUMMARY***

This is the second in a series of two (2) reports from the New York State Office for Technology (OFT) to the Governor and leaders of the State Legislature on the use and acceptance of electronic signatures and records in accordance with State Technology Law Article III, the Electronic Signatures and Records Act (ESRA). Pursuant to Chapter 4, §3 of the Laws of 1999, this report addresses information regarding electronic signatures and records that OFT has obtained since it filed its first report on this subject in November 2002. In particular, this report addresses the following topics enumerated in the above-referenced Chapter Law:

1. Information that analyzes the effectiveness of the laws of New York State regarding electronic signatures and records.
2. Difficulties that localities, State agencies, the court system, and individuals have encountered when using electronic signatures and records.
3. Recommendations for any legislative changes to State laws relating to electronic signatures and records.

Significant findings include:

### **Updated Data**

- ▶ The methods and technologies available for creating, storing, transferring and managing electronic signatures and records have not substantially changed since OFT filed its original ESRA Report in 2002.
- ▶ Over the past two years, the trend to improve existing signature approaches, rather than to develop new ones, has continued in the electronic signature technology industry.
- ▶ New York State agencies not only continue to accept and utilize electronic records from citizens, businesses and other government entities, but the deployment of electronic signatures by State agencies has grown from 6 to 24 applications in the past two (2) years. In particular, process-based electronic signatures that utilize a Personal Identification Number (PIN), password, or other shared secret for authentication purposes are typically being used by State agencies.
- ▶ The New York State court system is accepting electronic filings through the implementation of an extended pilot program.
- ▶ Local government entities in New York State are increasingly using and accepting electronic records, but few local governments utilize electronic signature solutions at this time.

- ▶ The wide-spread adoption of electronic signatures remains limited in the private sector, with certain notable exceptions involving the financial services, healthcare and insurance industries.

### **Difficulties Encountered**

- ▶ Public and private-sector participants continue to report similar difficulties and obstacles in employing electronic signature solutions, including:
  - limited judicial direction on the authenticity and integrity of electronically signed documents;
  - the high cost and complexity of secure electronic signature and authentication solutions;
  - the lack of workable solutions for the long-term retention and preservation of electronic records.

### **Effectiveness of New York State Laws**

- ▶ The updated data reflects that ESRA, as amended in 2002, and related laws are facilitating the use and acceptance of electronic signatures and records in the public and private sectors.
- ▶ Since 2002, a number of federal and State courts have acknowledged the effectiveness of ESRA and related laws in upholding the validity of electronic transactions.

### **Recommendations**

- ▶ OFT recommends the continuation of ESRA, without further amendments, at this time. Given national developments, New York State should study the need to continue to exclude from ESRA those documents recordable under Article 9 of the Real Property Law for possible future amendments to ESRA.
- ▶ New York State should consider adopting an interagency collaborative approach in addressing long-term electronic record preservation solutions, thereby focusing the resources and expertise of multiple agencies on an issue of continuing importance to government entities.
- ▶ OFT should continue to provide consultative services to public and private sector parties in the selection and implementation of appropriate electronic signature and record solutions for use in commercial and government transactions.

## ***INTRODUCTION***

Chapter 4, §3 of the Laws of 1999 requires that on or before November 1, 2004, the Director of the Office for Technology (OFT) shall submit a report to the Governor and leaders of the State Legislature concerning ESRA. Specifically, the 2004 report is to address new information regarding electronic signatures and records that OFT has obtained since it issued its first report on this subject in November of 2002. That earlier report, which addressed specific topics regarding the implementation of ESRA, can be viewed on OFT's web site at [http://www.oft.state.ny.us/esra/ESRA\\_Report\\_2002/ESRA\\_Report\\_index.htm](http://www.oft.state.ny.us/esra/ESRA_Report_2002/ESRA_Report_index.htm).

In addition to discussing new information that OFT has obtained relative to electronic signatures and records, the 2004 ESRA report addresses the following topics as specified in Chapter 4:

1. The effectiveness of the laws of New York regarding electronic signatures and records;
2. Difficulties that localities, State agencies, the court system and individuals encountered when using electronic signatures and records, and
3. Recommendations for any legislative change(s) to ESRA or any other law related to electronic signatures or records.

In accordance with this mandate, OFT coordinated and conducted the following efforts over the course of several months in preparation of this report.

1. State agencies were canvassed for information concerning their use and acceptance of electronic records and signatures, policies and practices that they have implemented addressing the receipt, management, retention or preservation of such signatures and records, and difficulties or barriers encountered in using or accepting the same.
2. The New York State (NYS) Local Government Information Technology Directors Association (LGITDA) was asked to survey its members on the number of local government entities using or accepting electronic records or signatures, related policies and practices, and difficulties or barriers encountered when implementing or contemplating the use or acceptance of electronic signatures and records.
3. The NYS Association of Towns, the NYS Conference of Mayors and Municipal Officials and the NYS Association of Counties were contacted for information relevant to local government acceptance and use of electronic records or signatures, related policies and practices, and difficulties or barriers encountered by local governments when using or accepting electronic signatures and records.

4. The NYS Office of the State Comptroller was asked for information concerning that Office's experience in using or accepting electronic signatures and records and what information it could provide concerning the use or acceptance of electronic signatures by counties or municipalities.
5. The State Archives, a part of the NYS Education Department, was requested to submit information about State and local government entities that accept electronic records and have developed related policies and procedures. State Archives was also asked to provide its professional assessment of the impact changes in technology have had on the ability of public entities to maintain records in formats other than paper over time.
6. The NYS Office of Court Administration was asked to identify electronic records it accepts or receives for filings, reporting, applications or other functions; the extent to which that Office has developed related policies and practices; and specific issues or difficulties that it has encountered in implementing the use or acceptance of electronic records or signatures.
7. Gartner Group and META Group, Inc., leading industry technology analyst firms, were contacted for information on the use, acceptance, costs and national trends associated with electronic signature and record technologies in both the public and private sectors.
8. The Internet and other sources of information were explored for relevant news articles and industry reports on the use and acceptance of electronic signatures and records in both the public and private sectors.
9. Relevant law review and legal journal articles, and federal and state court decisions addressing federal and state laws impacting the use of electronic signatures and records in commercial and governmental transactions were identified and analyzed.
10. OFT files, calendars, and telephone logs were canvassed to identify meetings, conference calls and other discussions conducted over the past two (2) years with private and public entities concerning the use of electronic signature solutions, the technologies under consideration, and the types of transactions in which such technologies would be employed.

The information generated by these efforts was then compiled and analyzed to address the topics outlined above. The results of these efforts, conclusions and recommendations are presented in detail below. It is from this data and analysis that one can assess the effectiveness of the laws of New York regarding electronic signatures and records.

The information generated by these efforts is organized and analyzed in the following sections.

1. New York State and federal electronic signatures and records legislation.
2. ESRA regulation and guidelines.
3. New information on the use and acceptance of electronic signatures and records in the public and private sectors, including technological changes and trends since 2002.
4. Difficulties encountered by localities, state agencies, the court system and individuals in the use and acceptance of electronic signatures and records.
5. Recent court decisions addressing New York State and federal laws impacting the use and acceptance of electronic signatures and records.
6. Recommendations for legislative changes to laws impacting the use and acceptance of electronic records and signatures.
7. Overall conclusions drawn from the data and information contained in the report.

## ***ESRA AND RELATED FEDERAL LEGISLATION***

Article III of the New York State Technology Law<sup>1</sup>, the Electronic Signatures and Records Act (ESRA), was signed into law by Governor George E. Pataki on September 28, 1999. In adopting ESRA, the Governor and State Legislature were seeking “to unleash the unlimited economic growth potential of electronic commerce for businesses, consumers and government entities.”<sup>2</sup> ESRA encourages and facilitates electronic commerce and electronic government transactions by authorizing public and private parties in New York State to use and accept electronic signatures and records in lieu of handwritten signatures and paper documents. ESRA effectively provides that electronic signatures and electronic records are to be treated no differently for legal purposes than their non-electronic counterparts. Business, consumer and government transactions can now be conducted through purely electronic means. The records, contracts and agreements created and retained through such technologies are subject to the same laws that are applicable in the paper document world.<sup>3</sup> Additionally, under ESRA the use of electronic signatures and records is purely voluntary. Neither public nor private parties can force a person or other entity to complete a transaction or submit a record electronically unless otherwise provided by law.<sup>4</sup>

ESRA was one of the first state statutes in the nation to endorse the legal validity and enforceability of electronic signatures and records. In October of 2000, the federal government adopted the Electronic Signatures in Global and National Commerce Act (E-Sign Law)<sup>5</sup> authorizing the use and acceptance of electronic signatures and records in interstate and international commercial transactions. Like ESRA, the E-Sign Law validates the use and acceptance of electronically created documents and signatures in these business transactions but does not require anyone to employ or receive such objects.<sup>6</sup> Similar to ESRA, the E-Sign Law defines the term “electronic signature” to encompass an “electronic sound, symbol or process” that is “attached to or logically associated with a contract or other record” and that is executed or adopted by a person intending to sign the record to which it is attached or associated.<sup>7</sup>

This broad definition of an electronic signature, shared by both ESRA and the E-Sign Law, allows parties to an electronic transaction to choose the type of electronic signature technology or process that best suits the business needs and legal risks of the

---

<sup>1</sup> Chapter 57-A of the Consolidated Laws of New York.

<sup>2</sup> NYS Office for Technology, *Report to the Governor and Legislature on New York State’s Electronic Signatures and Records Act*, p. 7, November 1, 2002, available at [http://www.oft.state.ny.us/esra/ESRA\\_Report\\_2002/ESRA\\_Report\\_index.htm](http://www.oft.state.ny.us/esra/ESRA_Report_2002/ESRA_Report_index.htm).

<sup>3</sup> ESRA §306 allows for electronic records and signatures to be admitted into evidence in legal proceedings under the same evidentiary rules applicable to paper records. Additionally, CPLR §4518(a) was amended in 2002 to provide that an exhibit derived from an electronic record, made in the regular course of business, shall be admissible where the exhibit is a true and accurate representation of the electronic record.

<sup>4</sup> See New York State Technology Law §§305(1) and 309.

<sup>5</sup> 15 USC 7001, et seq.

<sup>6</sup> 15 USC §7001(a) and (b).

<sup>7</sup> See 15 USC §7006(5) and NYS Technology Law §302(3).

transaction under consideration. Consequently, both ESRA and the E-Sign Law equally support and advance the use of electronic technology to transact commercial and government business in New York State and across the nation. In this regard, ESRA was amended in 2002 to better conform this State statute to the federal E-Sign Law. The declaration of intent accompanying this amendment stated, in relevant part, as follows:

.... It is the intent of this bill to ensure that these laws continue to complement each other in achieving their stated purposes.... the legislature finds that it is in the best interest of the state of New York, its citizens, businesses and government entities for State and federal law to work in tandem to promote the use of electronic technology in the everyday lives and transactions of such individuals and entities.<sup>8</sup>

The efficacy of both ESRA and the E-Sign Law to advance the use and acceptance of electronic technology in commercial and government operations has been recognized in recent judicial decisions as documented later in this report.

---

<sup>8</sup> Laws of 2002, Chapter 314, §1.

## ***ESRA REGULATION AND GUIDELINES***

As noted previously, ESRA was amended by the Laws of 2002, Chapter 314 (effective August 6, 2002) to, among other things, bring this State statute into alignment with the federal E-Sign Law. Most significantly, the definition of “electronic signature” was modified to allow parties to an electronic transaction greater flexibility to choose a signature approach that reflects the risks and benefits inherent in a given transaction. On May 7, 2003, OFT revised its existing regulation implementing ESRA, Title 9 NYCRR Part 540,<sup>9</sup> to reflect this statutory amendment.

In developing the revised regulation, OFT publicly solicited and established an advisory work group. The work group consisted of voluntary representatives from the private, State and local government sectors. Eleven individuals volunteered, eight (8) from state agencies, two (2) from the private sector, and one (1) from local government to work with OFT legal and technical staff in developing recommendations for revising both the ESRA regulation and existing ESRA-related guidelines. OFT’s ESRA Guidelines set forth best practices that governmental entities could employ when using electronic signatures and records in governmental transactions. Based on the recommendations made by this work group, both the ESRA regulation and guidelines were revised to reflect the amendments to the ESRA statute.

The revised ESRA regulation furthers the Legislature’s intent that ESRA and the E-Sign Law work in tandem to support and encourage the use of electronic technologies in public and private transactions. The final amendment of the regulation deleted implementation standards and procedures for the use and authentication of electronic signatures that are no longer relevant under the amended ESRA. The revised regulation also supports the Legislature’s objective of protecting the public’s interest in the use of sound and appropriate practices when engaging in electronic transactions with governmental entities. This is achieved by requiring State agencies and local governments to conduct a business analysis and risk assessment when selecting an electronic signature approach for use or acceptance in an electronic transaction.

Completely revised ESRA Guidelines were published on May 23, 2004.<sup>10</sup> Rather than three (3) sections, the revised ESRA Guidelines contain two (2) sections, one (1) on electronic signatures and one (1) on electronic records. The original third section on electronic signature security contained mostly general security guidance, which is now addressed by the new State *Information Security Policy* issued by the Office of Cyber Security and Critical Infrastructure Coordination (CSCIC).<sup>11</sup>

---

<sup>9</sup> Available at [http://www.oft.state.ny.us/esra/esra\\_regs\\_050703.htm](http://www.oft.state.ny.us/esra/esra_regs_050703.htm)

<sup>10</sup> Available at [http://www.oft.state.ny.us/esra/Guidelines\\_files/index.htm](http://www.oft.state.ny.us/esra/Guidelines_files/index.htm)

<sup>11</sup> NYS CSCIC, Cyber Security Policy P03-002, *Information Security Policy*, April 18, 2003.

The electronic signatures section of the revised ESRA Guidelines contains the following new or revised material to reflect the amended ESRA law and regulation.

- **ESRA Definition of an Electronic Signature:** Provides an explanation of an electronic signature under the amended ESRA, replacing the definition of an electronic signature from the original statute.
- **Electronic Signature Approaches:** Outlines the many electronic signature approaches now available under the amended ESRA.
- **Selecting an Electronic Signature Approach:** Provides guidance on conducting, applying and documenting the business analysis and risk assessment required by the revised ESRA regulation when governmental entities select an electronic signature approach.
- **Special Issue: Multiple Signatures:** Outlines issues to be addressed when multiple electronic signatures are required in an electronic transaction.

The electronic records section of the revised Guidelines was expanded to address the following additional items:

- **Capture an Electronic Record for Each Transaction Conducted through a Multi-entity Portal:** Provides guidance on managing electronic records created through the use of a web portal involving more than one (1) governmental entity.
- **Develop an Approach to Maintain the Authenticity and Integrity of Electronically Signed Electronic Records:** Provides guidance on determining what information needs to be retained to maintain a valid, authentic, and reliable electronic record, and preserving the link or association between the various components of an electronically signed electronic record.

The revised ESRA Guidelines also contain summary tables of the electronic signatures and records sections for quick reference. While the ESRA Guidelines were developed for State and local government entities, much of the guidance and best practices set forth in the Guidelines are equally relevant to the private sector.

## ***NEW INFORMATION CONCERNING ELECTRONIC SIGNATURES/RECORDS***

As noted in the Introduction, this report's primary purpose is to present new information on the use and acceptance of electronic signatures and records obtained by OFT since it filed its last ESRA report in 2002. This section contains information that OFT has obtained from various identified sources addressing the following.

- Changes and trends in technologies used to create electronic signatures.
- State, local government and private sector entities using electronic signatures/records.
- Electronic transaction policies and practices being followed by these entities.
- Types of electronically signed transactions that are engaged in by these entities.

### **A. Technology Changes and Trends**

The following information is based on discussions with leading independent technology-consulting firms<sup>12</sup> and an extensive review of recent electronic signature and related technical literature.

#### **Changes**

The methods and technologies available for creating electronic signatures have not substantially changed since the 2002 ESRA Report was issued. As reported in 2002, most methods of creating an electronic signature involve a number of technologies and processes. Therefore, it is more accurate to think of a range of approaches to electronic signing rather than thinking of an array of stand-alone electronic signature technologies. Each electronic signature approach provides varying levels of security, authentication, record integrity and protection against repudiation (non-repudiation). However, each approach can be implemented in various ways and can be combined with techniques from other approaches to increase the strength of these attributes. Baseline information on the major approaches to electronic signing in use today was provided in the [2002 ESRA Report](#). These approaches are briefly listed below from the lowest to the highest level of security, authentication, record integrity and non-repudiation.

- a) **Click Through, Click Wrap:** a signer is asked to affirm intent or agreement by clicking a button.
- b) **PIN or password:** a signer accesses a system, is requested to enter name and PIN and/or password to "authenticate" and affirms intent to sign at the point signature is applied.
- c) **Digitized Signature:** a graphical image of a handwritten signature is created by using a special computer input device, such as a digital pen and pad.

---

<sup>12</sup> OFT's primary contacts included Gartner Group and META Group, Inc.

- d) **Signature Dynamics:** a variation on a digitized signature in which each pen stroke is measured (e.g., duration, pen pressure, size of loops, etc), creating a metric.
- e) **Shared Private Key (Symmetric) Cryptography:** a signer electronically signs a document and the recipient verifies a signature using a single key that is not publicly known but is a shared secret.
- f) **Public/Private Key (Asymmetric) Cryptography - Digital Signatures:** two (2) mathematically linked keys are generated -- a private signing key and a publicly available validation key. A "digital signature" is created when the owner uses the private signing key to create a unique code on an electronic document. The document's recipient employs the owner's public key to validate the signature's authenticity and to verify that the document was not altered. Digital signatures are often used within the context of a Public Key Infrastructure (PKI), consisting of policies, technology standards and legal agreements governing the issuance and use of public and private keys.
- g) **Biometrics:** a signer's physical characteristic (fingerprint, retina, voice) is measured by a microphone, optical reader, or some other device; converted into digital form; and then compared with a copy of that characteristic stored in the computer and authenticated beforehand as belonging to the signer.
- h) **Smart Card:** a plastic card containing an embedded chip that can generate, store, and/or process data. Information from the card's chip is read by security software only when a person enters a PIN, password or biometric identifier. While not electronic signatures per se, smart cards can facilitate various authentication technologies and electronic signature approaches.

## Trends

In 2002 it was reported that the direction of electronic signature technology was to improve existing approaches rather than to develop new ones. These improvements often involved combining techniques from various signature approaches to provide increased security, authentication, record integrity and non-repudiation for less secure signing techniques. Some signing solutions used PKI-related digital signature technologies but avoided the complexities and costs of developing a full PKI, reduced the risks of requiring users to protect their private keys, and avoided the necessity for software on each client computer.<sup>13</sup> These solutions provided centralized private key management by the issuing organization and utilized identification and authentication methods that avoid the need for a neutral third party [i.e., Certificate Authority (CA)] to be involved in the signing transaction.<sup>14</sup>

The trends noted in 2002 have continued. In addition, vendors are increasingly incorporating electronic signatures into proprietary applications often geared towards document management, electronic forms, and workflow management. These products use a variety of technical approaches and some provide various electronic signature options.

<sup>13</sup> Jan Sundgren, *Server-Side Digital Signatures Spark Interest* (Giga Ideabyte, November 18, 2002).

<sup>14</sup> V. Wheatman, *Public Key Infrastructure IH02 Magic Quadrant* (Gartner Research Note, February 14, 2002).

For example, one product accommodates any combination of signature methods (click through, PIN, Password, Signature Pad, XML or digital certificate) or signature complexity. A 2003 report from Gartner, Inc., describes this and other products from eight (8) vendors who provide the type of electronic signature solutions described above.<sup>15</sup>

In a related trend, leading PKI vendors are increasingly gearing their products to more easily integrate into various applications, particularly those supporting electronic forms and multiple document formats. For example, one PKI vendor is marketing a product that will allow the digital signing of web-based transactions authenticated by applying multiple digital signature types to electronic forms-based processes.<sup>16</sup>

The above-described trends have been facilitated by leading vendors of software that create electronic documents, such as Microsoft and Adobe, who have improved their products' ability to support electronic signatures, especially third-party digital signature products. This has allowed many of the recent electronic signature products to accommodate the most widely used document formats including word processing documents, spreadsheets, and PDF documents. In addition, in 2002, the World Wide Web Consortium (W3C) recommended XML Signature, a standard developed with the Internet Engineering Task Force (IETF), as a means of verifying electronic signatures used for XML transactions. XML, or Extensible Markup Language, provides a flexible way to create standard information formats and share both the format and the data on the World Wide Web. It is widely used to develop e-commerce applications. The XML signature is designed to work with both the Internet and election markup language (EML) documents. The standard addresses the cryptographic association of data with a key to provide authentication and integrity. It also defines signature quite broadly to encompass not only what is generally considered to be a digital signature but also to include symmetric authentication codes and biometric-based methods.<sup>17</sup> The XML Signature standard has facilitated the use of electronic signatures for Internet-based transactions.

## **B. State Agency Use**

A survey of 73 State agencies represented on the New York State CIO Council<sup>18</sup> was conducted specifically for this report. Twenty-eight agencies responded, resulting in a 38.3% response rate. This survey data was supplemented by information from the following sources.

- Data collected quarterly from State agencies as part of OFT's monitoring of New York State's e-Commerce/e-Government initiative.
- Information provided by the State Archives.

---

<sup>15</sup> Kristen Noakes-Fry, *E-Signatures – Digital and Electronic: Technology Overview* (Gartner Technical Overview, June 17, 2003).

<sup>16</sup> Id.

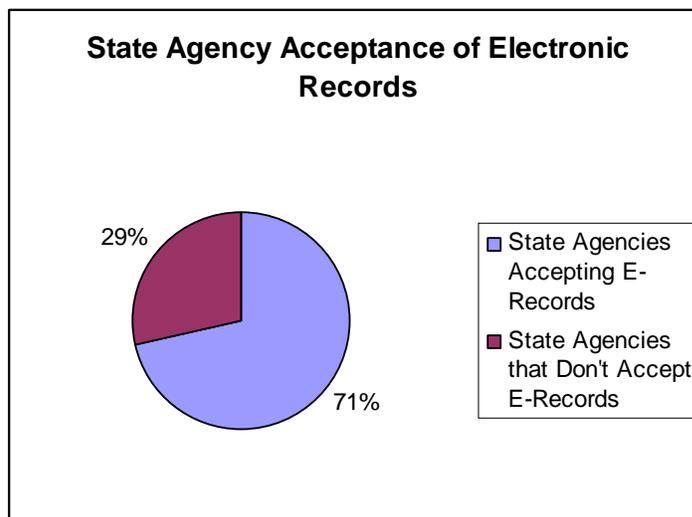
<sup>17</sup> Id.

<sup>18</sup> <http://www.cio.state.ny.us/ciocouncil.htm>

- Information collected by OFT through consulting and providing guidance to State agencies in its role as “electronic facilitator” under ESRA.

## Electronic Records

Most State agencies accept electronic records from citizens, businesses and other government entities. Twenty agencies responding to the survey (71% of respondents) stated that they accept some electronic records. Furthermore, a review of e-Commerce/e-Government data reveals that an additional 21 agencies have implemented online transactions that result in the capture of an electronic record.<sup>19</sup> The number of State agencies reportedly accepting electronic records at this time is comparable to the number reported in the 2002 ESRA Report.



In addition, as of 2002 the New York State Unified Court System has accepted electronic filings in selected courts as part of a pilot project. This pilot project has expanded since 2002 from commercial claims in Monroe and New York County Supreme Court, and tax certiorari claims in Westchester County Supreme Court, to also include the Commercial Division of Supreme Court in Erie, Nassau, Suffolk, Westchester and Albany counties, as well as the Court of Claims.<sup>20</sup>

As found in the 2002 ESRA Report, State agency policies and practices regarding the receipt, management, and preservation of electronic records have been developed in response to clear legal or regulatory requirements and/or are application-specific. These latter policies are closely aligned with the operational needs of particular electronic

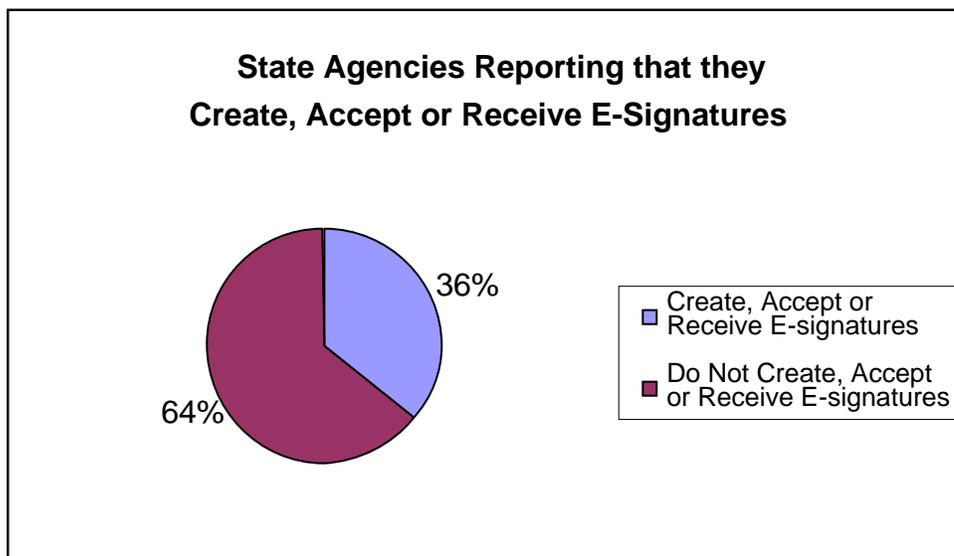
<sup>19</sup> As part of regular e-Commerce/e-Government reporting to OFT, State agencies are asked to identify electronic “services” and “transactions” conducted by such agencies. Services are the delivery of non-static information, including customized information based upon structured queries. Transactions update agency data, thereby creating or modifying an electronic record.

<sup>20</sup> See State of New York Unified Court System, *Report on the New York State Unified Court System Filing by Electronic Means and Filing by Facsimile Transmission Pilot Programs Pursuant to Chapter 367 of the Laws of 1999* (April 1, 2002).

applications and are focused on electronic records management and storage. The State Archives reports that 43 State agencies have adopted electronic records retention policies pursuant to the provisions of Section 57.05 of the Arts & Cultural Affairs Law, two (2) more agencies than reported such policies in 2002. A number of other agencies indicated that they comply with State Archives, OFT or CSCIC policies and guidelines for the management of electronic records. OFT has received no information to indicate that ESRA has sparked additional electronic record policy or procedural development among State agencies, beyond what is required to comply with existing laws, regulations, control agency requirements or the need to manage installed technologies.

### **Electronic Signatures**

There has been exponential increase in State agency acceptance and use of electronic signatures during the last two (2) years. The 2002 ESRA survey of State agencies and OFT consultations identified six (6) agencies that accepted electronic signatures. Each agency had implemented one (1) electronic signature application for a total of six (6) such applications. That survey also identified three (3) proposed electronic signature applications that State agencies planned to develop in the future. In the 2004 ESRA Survey, ten (10) State agencies (36% of all agencies reporting) identified that they created, accepted or received electronic signatures. Additionally, four (4) agencies described agency applications that were using a combination of automated and manual techniques that approached the implementation of an electronic signature. Two (2) other reporting agencies are users of federal agency electronic signature applications. From these sources, OFT has identified a total of 24 electronic signature applications that are currently being employed by State agencies, an increase of 18 applications since 2002.



It appears that the changes in ESRA enacted by the State Legislature on August 6, 2002,<sup>21</sup> allowing for the use of a wider range of electronic signature approaches, has had a positive impact on State agencies' ability to implement electronic signature solutions. This is evidenced by the increase in the number of electronic signature applications employed by State agencies since 2002. Additionally, most of these electronic signature applications were process-based signatures that utilized a PIN, password, or other shared secret for authentication purposes. It is noteworthy that such types of electronic signatures were not supported by the original ESRA statute.

Two (2) State agencies in particular have embraced the use of electronic signatures. The Higher Education Services Corporation (HESC) offers four (4) transactions involving an electronic signature to its customers, and the Department of Tax and Finance (DTF) offers eight (8) such transactions to business and individual taxpayers. The following descriptions of selected State agency electronic signature applications give an indication of the types of signed electronic transactions available to the public, businesses, and other government entities.

***TAP e-signature (HESC):*** Students who complete an electronic Free Application for Federal Student Assistance (FAFSA) on the Web and who indicate that they are a New York State resident are transferred to a New York State site to answer the additional questions needed to process a NYS Tuition Assistance Program (TAP) award. Students and parents can electronically sign the electronic FAFSA by using a PIN that has been assigned by the U.S. Department of Education. Students and parents are informed that by electronically signing the FAFSA and clicking the submit button they also are electronically signing the TAP application.

***Electronic Timecard System (Office of Temporary and Disability Assistance - OTDA)*** The Division of Program Support and Quality Improvement (PSQI) in OTDA employs an electronic timecard system that replaces a manually signed and submitted time and attendance record. PSQI staff, who are authenticated through a sign-on protocol within the application, authorize their submission and attest to the validity of the timecard record electronically. Supervisors review and approve submission of the records electronically to time card unit personnel.

***International Fuel Tax Agreement License (IFTA) E-file (DTF):*** This electronic service enables a business based in New York State to quickly and accurately file an electronically signed IFTA report. The signature is created through a process that requires a DTF-assigned password for authentication and clicking a submit button. Taxpayers are informed that by entering their password and clicking submit they are creating a signature.

***Claims Information System (CIS) C-4 Form (Workers Compensation Board - WCB):*** Each WCB medical provider has a unique user ID and password assigned to them, which they use to authenticate when electronically submitting a CIS C-4 Form. A popup box appears after data is entered into the field "Health Care Provider Submitting This C-4." This box informs the medical providers that they are about to perform the equivalent of signing a C-4 form (see exact text below). The medical provider submitting the C-4 form must click "OK" in this box before the transaction can be completed.

---

<sup>21</sup> Laws of 2002, Chapter 314.



### **C. Local Government Use**

OFT surveyed members of the NYS Local Government Information Technology Directors' Association (LGITDA) to determine the extent to which local government entities accept electronic records and signatures. LGITDA includes representatives from most counties and some larger municipalities. Eleven (11) entities, mostly counties, responded to the survey. OFT also contacted the NYS Association of Towns, the NYS Conference of Mayors and Municipal Leaders and the NYS Association of Counties asking them to poll their membership for any information relevant to local government acceptance of electronic records and related policies. OFT has also drawn on information collected from local government inquiries concerning electronic signatures and records during the last two years.

Additionally, OFT requested that the State Archives provide information on:

- local governments that accept or receive electronic signatures and records from citizens, businesses, or other governments for filings, reporting, applications or other functions; and
- the extent to which local governments have developed policies and procedures regarding the electronic records they receive or accept.

The State Archives reviewed its existing information and conducted an informal survey of local governments. Ninety-three (93) local governments responded to that survey, the results of which were provided to OFT.

From the data available, it can be safely said that an increasing number of local government entities are accepting electronic records. Five (5) of the 11 governments responding to the LGITDA survey indicated that they accept electronic records. The State Archives advises that 92 local governments responding to its 2004 survey reported that they accept electronic records. In 2002, only 15 local governments reported to the State Archives that they accepted or received electronic records. The difference between the numbers suggests that local governments have made great progress over the past two (2) years in expanding their capacity with regard to electronic records management. The types of electronic records local governments are receiving and accepting include consumer protection complaints, personnel reports and Geographic Information System data.

The State Archives maintains a reliable source of data on local government electronic records policies. State Archives has reported the following.

Two years ago, only two governments reported that they had developed policies related to electronic records, while this year the number is 22. . . . In our experience, electronic policies and procedures cover a large range of topics, with none predominating. However, anecdotal evidence suggests that acceptable use policies for e-mail and the Internet are the most common. Other topics include security and confidentiality, complying with the Freedom of Information Law, disaster planning, general management procedures for electronic records retention, and the backing up of electronic records.<sup>22</sup>

From the reported information, it appears that a few local governments are now willing to use electronic signatures. The Syracuse City Police Department and Onondaga County Sheriff’s Department are in the process of implementing an automated police reporting system that includes the use of an electronic signature solution. New York City has implemented an automated parking ticket system that employs a very secure electronic signature and is exploring the use of electronic signatures in procurement transactions and for other purposes. The State Archives found that a number of local governments claim to be using electronic signatures, but it is unclear whether these applications truly employ a fully electronic signature solution.<sup>23</sup> It should be noted that in 2002 no local government reported using electronic signatures.

There are also indications that local governments’ interest in electronic records and electronic government applications continues to be strong. Much of this is anecdotal. However, one piece of solid evidence comes from the interest in electronic records and electronic government related grants offered through the Local Government Records Management Improvement Fund (LGRMIF) established by the State Legislature. Over the past few years, there has been a steady and sometimes dramatic increase in grant funding provided to local governments for electronic records projects. LGRMIF provides millions of dollars a year in funding for archives and records management projects to local governments across the State.

<b>LGRMIF Grants Cycles</b>	<b>Awarded for Electronic Records Related Categories</b>	<b>Awarded for All Categories</b>
2002-2003	\$1,924,614	\$7,100,524
2003-2004	\$2,076,711	\$8,899,817
2004-2005	\$4,736,658	\$13,117,839
<b>Totals</b>	<b>\$8,737,983</b>	<b>\$29,118,180</b>

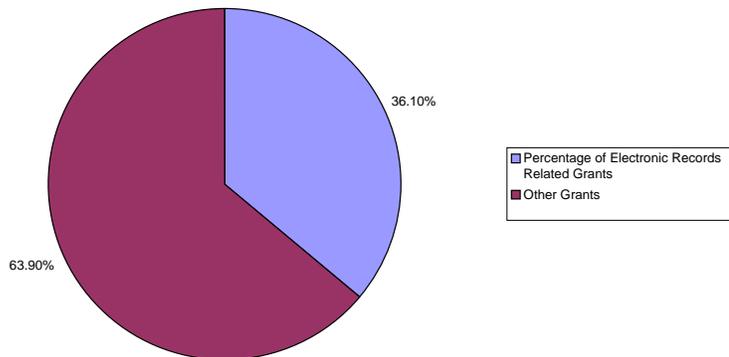
The amount of grant money awarded each year indicates a general increase in the funding awarded in grant categories related to electronic records. Also, over this period of time, funding given to local governments for electronic records projects increased from 27.1%

<sup>22</sup> Report from the State Archives to OFT on the Electronic Signature and Records Act (ESRA), pg. 2, June 30, 2004.

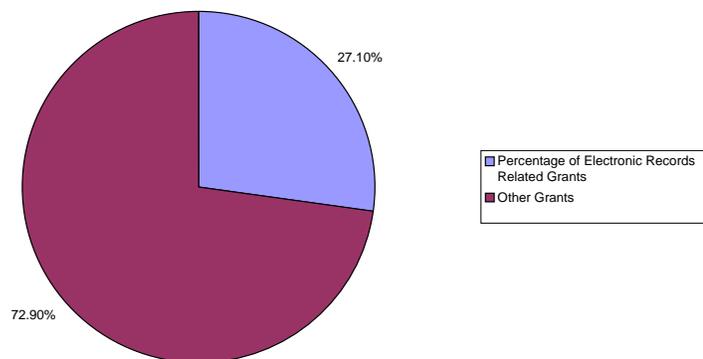
<sup>23</sup>The State Archives noted that “Our listed results include a number of small local governments, so we are not convinced that these governments truly understood the concept of electronic signatures.” Id. at pg. 1.

of the total amount of grant funding for the 2002-2003 grant year to 36.1% in the upcoming 2004-2005 grant year. These numbers indicate that many local governments are convinced that electronic records projects address their central business concerns, and that there is a need to address electronic records issues at the local government level.

#### Electronic Records Related LGRMIF Grants 2004-2005



#### Electronic Records Related LGRMIF Grants 2002-2003



#### D. Private Sector Use

OFT submitted questions to leading industry technology analyst firms, Gartner Group and META Group, concerning trends in the use and acceptance of electronic signatures and records by private industry and business entities. These firms were asked to address the most prevalent approaches or technologies used for creating and capturing electronic signatures, the leading sectors or industries employing such methods and to identify deterrents or facilitators to the use of electronic signatures in the private sector. Similar questions were posed concerning the use of electronic records by private entities. Additionally, OFT gathered and studied technology analyst reports, industry and business journal/review articles and newspaper accounts addressing the use of electronic

technology to complete transactions in the private sector, with particular focus on what has transpired over the past two (2) years since the 2002 ESRA Report. Information from consultations that OFT staff provided to private firms over the past two (2) years on specific electronic transactions is also included in this report.

What emerges from these various sources is that wide-spread adoption of electronic signatures remains limited in the private arena, with certain notable exceptions.<sup>24</sup> As identified in OFT's 2002 ESRA Report, the financial services, healthcare and insurance industries remain the leaders in deploying electronic signatures in internal transactions and, to a lesser extent, in transactions with other business partners and customers. Interestingly, one of the factors driving the use and acceptance of electronically signed records by entities in these industries is the legal and regulatory environment under which they operate.<sup>25</sup> As a matter of law, many of the transactions in which these businesses routinely engage often require that documents be signed by the involved parties. In recognition of this, and in an effort to facilitate the use of digital technology to expedite these transactions, governmental regulators have published guidelines, policies, standards and rules to ensure the security, confidentiality and integrity of these electronically signed records.<sup>26</sup> Additionally, recently adopted federal statutes, such as the Check Clearing for the 21<sup>st</sup> Century Act<sup>27</sup> and the Health Insurance Portability and Accountability Act of 1996 (HIPAA)<sup>28</sup>, have impacted the willingness and necessity of some of these industries to use electronic technologies in their internal business transactions. It has been suggested that these statutory and regulatory developments may give these highly regulated industries the reassurance and incentive to further engage in electronic transactions that employ electronic signature solutions.<sup>29</sup>

## **Financial Services Sector**

While the successful deployment of electronic signing has expanded in the financial services field over the past two (2) years, quantifiable data is hard to find.<sup>30</sup> It is known that the number of banking institutions offering web services to small business customers doubled between 2002 and 2003,<sup>31</sup> and that some of these services involved the use of electronic signing. In 2003, the Bank of America reported a total of 6 million

---

<sup>24</sup> Arabella Hallawell, *Bumpy Road to Adoption of Electronic Marks of Approval*, Gartner Research AV-17-4264, July 23, 2002.

<sup>25</sup> Jan Sundgren, *Electronic Signature Successes in Financial Services*, Giga Information Group, Inc., December 26, 2002.

<sup>26</sup> See Health Insurance Reform: Standards for Electronic Transactions, 65 Fed. Reg. 50,312 (Aug. 17, 2000), codified at 45 C.F.R. pts. 160 and 162; Standards for Privacy of Individually Identifiable Health Information, 67 Fed. Reg. 53,182 (Aug. 14, 2002), codified at 45 C.F.R. pts. 160 and 164; Office of the Comptroller of the Currency, Interagency Guidance on Weblinking Activity, OCC 2003-15.

<sup>27</sup> Pub. L. No. 108-100, 117 Stat. 1177 (2003), codified at 12 U.S.C. 5001 et seq.

<sup>28</sup> Pub. L. No. 104-191, 110 Stat. 1936 (1996), codified at 42 U.S.C. 201 et seq.

<sup>29</sup> Gideon Reitblat, *Development in Banking and Financial Law: 2003*, 23 Ann. Rev. Banking & Fin. L. 135 (2004); M. Susan Ridgely and Michael D. Greenberg, *Pharmacy, Facsimile, and Cyberspace: An Examination of Legal Frameworks for Electronic Prescribing*, 13 Alb. L.J. Sci. & Tech. 1 (2002).

<sup>30</sup> Supra note 24.

<sup>31</sup> Steve Cocheo, *In the Zone: More Banks Are Getting Their Web Strategies Where They Want Them*, A.B.A. Banking J., March 1, 2003, at 29.

active online customers, representing an increase of 43% over 2002.<sup>32</sup> The financial services sector has successfully deployed several types of electronic signature solutions, including enhanced click-through processes incorporating a server side digital certificate allowing potential homebuyers to fill out and sign mortgage application documents over the Web. High value and high frequency online financing between major banking institutions using digital signatures executed through the use of smart cards is operational at this time. Commercial mortgage companies are allowing for the online signing of documents by mortgage company officials as such documents are routed through complex internal approval processes, using specialized electronic signature solutions including digitized signature images as part of each signature. These successful electronic signature deployments are reportedly yielding faster business processes, reduced error rates and reduced paper and document delivery costs.<sup>33</sup>

The banking and financial industry recently adopted a set of guidelines, procedures, checklists and strategies for companies to use in creating, signing, managing and transferring legally enforceable electronic records and signatures in both commercial and consumer transactions. Specifically, the *Standards and Procedures for Electronic Records and Signatures (SPeRS)*<sup>34</sup> was adopted in September of 2003 by banking and financial industry leaders as a way of encouraging and facilitating electronic transactions authorized by existing laws like ESRA and E-Sign.<sup>35</sup> The actual impact that SPeRS has had on the use and acceptance of signed electronic records is yet to be determined and reported. However, it is expected that the success of electronic signing in the banking and financial services sector should be advanced by SPeRS.

## Healthcare Sector

As noted earlier, the healthcare industry in this country, like the banking and financial services sector, is a highly regulated business at both the federal and state levels. Legal mandates, political pressure and recognized consumer advantages have started to drive corporate healthcare institutions, medical groups, pharmacies, medical practices and medical insurance payers to implement advanced information technology systems.<sup>36</sup> Many healthcare industry transactions require the use of signatures for both legal and business reasons, thus necessitating the use and acceptance of electronic signature technologies when such transactions are conducted electronically.

---

<sup>32</sup> *In Brief: Bank of America Internet Banking Up*, AM. Banker, August 27, 2003, at 13.

<sup>33</sup> Supra note 24.

<sup>34</sup> Electronic Financial Services Council, September, 2003, available at <https://www7.sslidomain.com/efscouncil/ssl/cart/spersManual.asp>

<sup>35</sup> Margo H.K. Tank, R. David Whitaker, Jeremiah S. Buckley, *Industry Group Poised to Publish Guidelines for Electronic Records and Signatures*, No. 2 Elec. Banking L. & Com. Rep. 1, June 2003; James F. Bauerle, *From Woodstock Nation to EBay Nation -- Emerging Standards for Electronic Records and Signatures*, Banking L.J., January 2003.

<sup>36</sup> Bill Gillette, *IT Applications Gradually Adapting to Needs in Long-Term Care*, Managed Healthcare, volume 14 issue 2, February 1, 2004; Laura Landro, *The Informed Patient: Push Grows for Online Health Data*, The Wall Street Journal, March 11, 2004.

At this time, neither federal nor New York State laws or regulations require the use of a particular electronic signature component or solution in these healthcare transactions.<sup>37</sup> Private healthcare industry associations, like the American Health Information Management Association and the Medical Records Institute, have published standards and guidelines for the use of electronic signatures on electronic health records.<sup>38</sup> Given the confidential nature of the information that is recorded and/or transmitted in these health-related transactions, and the life and death consequences of the topics addressed in many of these communications, it is anticipated that highly secure and trustworthy electronic signature solutions are more likely to be selected and implemented by the healthcare sector.

The Centers for Medicare & Medicaid Services (CMS), a federal agency within the U.S. Department of Health and Human Services, recently reported that 16% of medical practices in the United States currently use electronic prescriptions.<sup>39</sup> CMS has announced that it intends to issue standards for electronic prescribing within the year in an effort to increase such use. Healthcare experts anticipate that the adoption of electronic prescribing would save the nation some 27-29 billion dollars a year in health care costs and significantly reduce medical errors stemming from illegible handwritten prescriptions.<sup>40</sup> On a related note, a coalition of pharmaceutical industry organizations, biopharmaceutical companies and government agencies on an international level recently unveiled an electronic signature standard to speed the flow of electronic documents throughout the pharmaceutical industry.<sup>41</sup> This standard, developed under the *Secure Access for Everyone (Safe)*<sup>42</sup> project, includes digital-identity technical specifications, policies, guidelines and a legal infrastructure for the exchange of signed electronic documents in the industry.

## **Insurance Sector**

The sale of insurance over the Internet and the use of electronic signature technologies in the online insurance application process continue to be piloted and analyzed by companies in the insurance industry, similar to what was described in OFT's 2002 ESRA Report. While the Internet boom of the late 1990's has receded, and the tragic events of September 11, 2001, refocused energy and resources in other directions,

---

<sup>37</sup> Under the federal HIPAA statute, the Secretary of Health and Human Services is mandated to develop privacy and security standards governing the electronic exchange of administrative and financial health-related information. These were to include rules concerning the use of electronic signatures in such exchanges, but to date no such rules have been adopted. In New York State, the use of electronic signatures or computer generated signature codes on medical records in medical facilities is acceptable as authentication when utilized in accordance with hospital policy (10 NYCRR 405.10).

<sup>38</sup> See [http://library.ahima.org/xpedio/groups/public/documents/ahima/pub\\_bok1\\_022161.html](http://library.ahima.org/xpedio/groups/public/documents/ahima/pub_bok1_022161.html)

<sup>39</sup> American Political Network, *Quality and Cost Internet: 'E-Prescriptions' Could Save U.S. \$29B Per Year*, American Health Line, volume 10 No. 9, April 15, 2004.

<sup>40</sup> American Political Network, *Politics and Policy E-Prescribing: Doctors, Pharmacists Testify about Merits*, American Health Line, volume 10 No. 9, July 23, 2004.

<sup>41</sup> Rick Whiting, *Electronic Signature Standard Aims to Speed Document Flow*, Information Week, June 9, 2004.

<sup>42</sup> See [http://www.arcot.com/docs/SAFE\\_TPOC\\_FS.pdf](http://www.arcot.com/docs/SAFE_TPOC_FS.pdf)

the explosive growth of Internet usage continues to provide the insurance industry with increased sales and profit opportunities.<sup>43</sup>

In an effort to support such initiatives in this highly regulated industry, some states have provided guidance and direction to insurers seeking to capitalize on these Internet opportunities. New York State in particular has been at the forefront in providing assistance to insurers looking to do business over the Internet. The State Insurance Department has issued various guidance circulars and informal legal opinions answering electronic commerce related questions posed by insurance carriers.<sup>44</sup> Among other things, such guidance has addressed the use of electronic signatures and records in the electronic marketing and sale of insurance in New York. In this regard, the State Insurance Department has noted that “[t]he great majority of the existing provisions of the Insurance Law do not impose any impediment to electronic commerce and do not inhibit the legislative intent to place electronic commerce on the same legal ground as paper commerce.”<sup>45</sup>

---

<sup>43</sup> Kathryn Emerson, *E-Agencies Should Thrive as Web Use Grows*, National Underwriter Property & Casualty-Risk & Benefits Management, June 21, 2004; Market Wire, *Blue Cross Makes it Easier for Agents to Sell Individual and Family Coverage Online with New ‘PlanFinder’ Tool*, June 10, 2004.

<sup>44</sup> See State of N.Y. Ins. Dep’t Circular Letters No. 33 (Nov. 4, 1999) and No. 5 (Feb. 1, 2001); Off. of Gen. Counsel, State of N.Y. Ins. Dep’t., Op. No. 01-06-24 (June 20, 2001), Op. No. 01-06-26 (June 26, 2001) and Op. No. 02-02-22 (May 28, 2002).

<sup>45</sup> Circular Letter No. 33, *supra* note 44.

## ***DIFFICULTIES IN USING AND ACCEPTING ELECTRONIC SIGNATURES/RECORDS***

The difficulties or barriers to the acceptance of electronic signatures and records identified by State government agencies, local governments and private sector entities are very similar. These can be organized into the following general categories.

- Continuing concerns over legal acceptance.
- User acceptance.
- Cost of highly secure technologies.
- Technical and integration issues.

In addition, public sector entities have identified the following difficulties with the implementation of electronically signed records.

- Lack of a statewide infrastructure for electronic signatures.
- Retention and preservation of electronic records especially over long periods of time.

In general, these barriers are similar to those uncovered in the 2002 ESRA Report, but with some telling differences. Unlike in 2002, there is no indication that ESRA itself is a barrier to the adoption of electronic signatures and records. Clearly, the concerns previously expressed over the difficulty in meeting the stringent technical requirements for a valid electronic signature imposed by the original ESRA statute have been addressed by the amendments to the statute that went into effect in August of 2002. There is also an increased realization on the part of public sector entities that cost factors mostly come into play when highly secure, advanced authentication methods, such as PKI or biometrics, are part of the selected electronic signature solution. Presented below are the specific issues identified by State government agencies, local governments and private sector entities concerning the difficulties they face in adopting electronic signatures and records. We also address the difficulties in employing electronic signatures and records that have been identified by the New York State court system. Lastly, this section of the report concludes with a discussion of the ability of government to retain and preserve useable electronic records over time, a historically identified barrier to the successful implementation of electronic record systems.

### **A. State Government**

Information concerning the difficulties and barriers State government agencies face in accepting or adopting electronic signatures was mostly gathered through OFT's survey of State agencies described earlier in this report. While cost was the most common barrier to the adoption of electronic signatures as identified by State agencies, the number of agencies citing cost as a barrier was appreciably lower in 2004 than in 2002. In addition, specific concerns were raised about the cost and complexity of highly secure authentication processes as employed in certain electronic signature technologies like PKI. This may indicate a growing awareness that the use of electronic signatures per

se may not place undue resource burdens on agencies, but that certain high-end applications can be problematic. Clearly, cost remains a major challenge to the adoption of the highly secure types of signature technologies needed for certain electronic government transactions.

In addition to the cost concerns with certain types of electronic signature solutions, three (3) State agencies noted problems in integrating electronic signatures and records with partially manual processes or incompatible technologies, and the cost implications of these problems. Agencies also are concerned about their ability to retain electronically signed electronic records for extended time periods. Three (3) State agencies mentioned potential problems with the legal acceptance of electronic signatures that were specific to either their own high-risk environment or agency specific requirements. Three (3) agencies cited the lack of user acceptance of electronic signatures and records as a barrier to their adoption, and two (2) State agencies noted the lack of a statewide infrastructure for PKI as problematic.

## **B. Local Government**

Information concerning the issues, difficulties and barriers local governments face in implementing electronic records and signatures was mostly gathered through the LGITDA survey. The barriers consistently mentioned by the mostly county government respondents to the survey were cost, the lack of acceptance or knowledge about electronic signatures on the part of local government officials, and the lack of a statewide infrastructure for such signatures. These expressed concerns were very similar to the barriers mentioned by State agencies as referenced above. Although the response to the LGITDA survey was limited, these findings are similar to those in 2002 when more data was available from a wider sample of local governments. At that time, OFT reported that:

The vast majority of those that responded to this question mentioned lack of information or expertise concerning electronic signatures as a major barrier. Costs were also frequently mentioned, and one respondent which reported the implementation of electronic signatures, identified the lack of an infrastructure as a barrier in implementing digital signatures.<sup>46</sup>

## **C. Private Sector**

The overall use and acceptance of electronic signatures and records in the private sector in New York State, as in the nation, have been tempered by the costs associated with advanced authentication infrastructures required by certain electronic transactions and the uncertain legal environment associated with digital technologies.<sup>47</sup> It has been suggested that business enterprises have overemphasized the need to implement electronic signature/approval solutions that incorporate expensive electronic authentication technologies and processes.<sup>48</sup> In that both ESRA and the E-Sign Law now

---

<sup>46</sup> NYS Office for Technology, *Report to the Governor and Legislature on New York State's Electronic Signatures and Records Act*, p. 24, November 1, 2002, available at [http://www.oft.state.ny.us/esra/ESRA\\_Report\\_2002/ESRA\\_Report\\_index.htm](http://www.oft.state.ny.us/esra/ESRA_Report_2002/ESRA_Report_index.htm).

<sup>47</sup> Supra note 24.

<sup>48</sup> Id.

support the use of less costly technologies with which to create electronic signatures, it is hoped that private enterprises will be more open to selecting electronic signature and authentication methods that better match the legal risks and business needs of particular transactions.

While ESRA and the E-Sign Law clear the legal path for electronic transactions to be deemed the equivalent of paper transactions, undefined processes and standards for conducting enforceable electronic transactions, and an immature legal environment, continue to impede the use of electronically signed records in electronic commerce and electronic government. As noted earlier in this report, it is anticipated that with the recent establishment of government rules and private industry standards to guide the business and legal communities in how to transact electronic commerce using electronic signature and record solutions, private sector entities will be encouraged and empowered to implement these information technology tools more broadly.

#### **D. NYS Unified Court System**

Information on barriers to the New York State Unified Court System's (UCS) adoption of electronic signatures and records has been mostly gleaned from the UCS's own report on its electronic filing pilot project.<sup>49</sup> Although this report primarily focused on electronic records, its analysis and conclusions apply equally to electronically signed records. The UCS report noted that there was reluctance on the part of many attorneys to use electronic records. Reasons cited for this reluctance were concern over trying a new system for filing documents that differed from the existing process, lack of familiarity with computer technology, and privacy concerns about supplying client-related information over the Internet. UCS identified a number of underlying reasons for these concerns. First, the legal profession is normally risk averse and has always had a suspicion of what it has viewed as untested technologies. In addition, the use of electronic records in commercial proceedings must have the consent of all parties, which is sometimes difficult to obtain. Lastly, and most significantly, are privacy concerns raised by electronic and specifically Internet access to court records. The UCS is addressing all of these concerns through an education program for attorneys, and also established a Commission on Public Access to Court Records to address access and privacy concerns. The Commission reported its findings earlier this year and recommended the following as far as electronic filings and access to court records.

As stated above, the Commission's view is that courts should treat private or confidential material in electronic form in the same manner it treats such material in paper form. In that respect, the Commission has proposed that certain personal identifying data should not be made public in court records, whether maintained in paper or electronic form. As for more generalized concerns about disclosure of public case records on the Internet, the Commission has determined that

---

<sup>49</sup> State of New York Unified Court System, *Report on the New York State Unified Court System Filing by Electronic Means and Filing by Facsimile Transmission Pilot Programs Pursuant to Chapter 367 of the Laws of 1999*, April 1, 2002.

across-the-board distinctions in the treatment of public case files should not be made based upon whether information is maintained in electronic or paper form.<sup>50</sup>

Despite the above mentioned barriers to electronic filing, the UCS pilot has expanded and includes an electronic signature-like certification that could be developed into a full electronic signature solution in the future.

### **E. Maintaining Electronic Records Over Time**

As in 2002, the State Archives was asked to comment on the challenges to maintaining electronic records over time and progress made on this issue over the last two (2) years. The Archives reports that the preservation challenges facing governments that create and hold electronic records have not diminished since the 2002 ESRA Report. These challenges bear repeating and are summarized below.

- **Electronic records are inherently unstable.** Technological obsolescence launches a constant four-pronged attack against the possibility of preservation: hardware, software, file formats and media formats are all subject to change and technology advances so quickly and so often that change is a constant. Organizations need to keep their hardware and software current – upgrading to new versions regularly - and they must ensure that electronic records remain usable in each new environment.
- **Maintaining electronic records over time is not a high priority for government entities.** State agencies have successfully maintained usable electronic data over time for information vital to their operations. However, there is no evidence that they are doing this for all permanent or valuable electronic records under their care. When government entities have no compelling reason to expend resources to preserve electronic records, it is likely that they will be neglected and rendered unusable.
- **Cost effective techniques for preserving electronic records in useable formats are not yet available.** The archival community as a whole has not developed a standard solution for the preservation of electronic records. The New York State Archives lacks the resources to preserve large quantities of electronic records and at this time only has the ability to preserve electronic records in a limited number of formats.
- **Permanent electronic media does not exist.** Many organizations incorrectly believe that a CD-ROM or a computer tape will always last until the end of its greatest possible life expectancy and that is not at all the case. Disc technologies are often very susceptible to environmental conditions (light, humidity, air-borne particulates, and even human fingerprints) and may have a much shorter expected life span under these less than optimal conditions.

OFT has also found that electronically signed electronic records raise special concerns. The importance of preserving the context and links between components of electronic records is critical if they are electronically signed. Such contextual information provides additional evidence to support the reliability and authenticity of the signed electronic record and/or may actually constitute the electronic signature itself. Therefore,

---

<sup>50</sup> Commission on Public Access to Court Records, *Report to the Chief Judge of the State of New York*, February, 2004, pg. 29.

the key challenges faced by governmental entities in maintaining electronically signed electronic records are to:

- Determine what information needs to be retained to maintain a valid, authentic, and reliable signed electronic record.
- Preserve the link or association between the various components of a signed record over time.

Addressing these issues overtime can present a monumental challenge to some entities. The State Archives reported the following as to the progress made in addressing these issues on the national level.

There is still no single electronic records preservation solution that serves as a standard . . . Migration—with all its inherent faults (heavy costs and possible data degradation)—remains the most common solution used by archivist across the country. New solutions being proposed include the use of Extensible Markup Language (XML) and the Portable Document Format (PDF) as answers for some preservation issues.

XML is currently the focus of much electronic records research and prototyping. XML, a sister language to HTML, allows the conversion of textual records into a pure ASCII or Unicode format that will be relatively simple to preserve over time. Since XML allows for the tagging of data within a file, it thereby allows a way to reproduce the general look and feel of an electronic document without the impossible burden of retaining the document in its native and unstable word processing format. Additionally, XML is serving as one element of the general electronic records plan of the National Archives and Records Administration (NARA). This plan, titled the *Electronic Records Archives*<sup>51</sup>, includes millions of dollars of research each year and has as its goal the development of a scalable model for preserving and providing access to archival electronic records.

A preservation methodology working from a different set of assumptions is the Portable Document Format Archives (or PDF/A) development program.<sup>52</sup> Supported by Adobe itself . . . the PDF/A project's goal is to develop a version of PDF that would guarantee long-term accessibility . . . [I]t would exclude those elements now supported by PDF that are likely not to be supported long-term (such as Java scripting). By identifying a clear set of features of this format, Adobe itself (and potentially other vendors, since PDFs code is open) would be able to ensure that any PDF reader had the ability to read the PDF/A format into the future . . . PDF does a significantly better job of reproducing the look and feel of documents in their original formats.<sup>53</sup>

The State Archives also reported that it “. . . has made preliminary steps towards redeveloping its capacity for managing archival electronic records. An Electronic Records Team is currently charged with developing a plan and methodology for managing these records.”<sup>54</sup> It is anticipated by State Archives that this team will develop a staff training plan in electronic records and will implement some specific electronic

---

<sup>51</sup> Additional information on Electronic Records Archives can be found on the NARA website at [http://www.archives.gov/electronic\\_records\\_archives/](http://www.archives.gov/electronic_records_archives/)

<sup>52</sup> For additional information on PDF/A see William G. LaFlurgy, “PDF/A: Developing a File Format for Long-Term Preservation,” RLG DigiNews Digest (December 15, 2003, Volume 7, Number 6) or at [http://www.rlg.org/preserv/diginews/v7\\_n6\\_feature1.html](http://www.rlg.org/preserv/diginews/v7_n6_feature1.html)

<sup>53</sup> Report from the State Archives to OFT on the Electronic Signature and Records Act (ESRA), pgs. 5-6, June 30, 2004.

<sup>54</sup> Id. at 6.

records projects. The Archives also plans to purchase a digital linear tape drive and a work station, which will be used to copy, error-check, and manage digital storage media. Moreover, the Archives has received permission to hire a professional staff member to be responsible for the entire range of activities regarding the management of archival electronic records.

As in 2002, the State Archives has offered to collaborate with OFT in the systematic collection of data to better identify electronic record preservation challenges faced by public entities and ascertain opportunities for solutions. Such a collaborative approach has been recognized in a number of other states where interagency consortia have been created to address electronic records issues from a broad statewide perspective.<sup>55</sup> A similar approach may be appropriate for New York State government.

---

<sup>55</sup>In Ohio the State Archives and the Office of Policy and Planning (OPP) formed an Electronic Records Committee to address electronic records issues (see <http://www.ohiojunction.net/erc/abouterc.html>). A similar committee was also formed in Kansas (see <http://da.state.ks.us/itab/erc/>).

## ***SUMMARY OF COURT DECISIONS***

As with OFT's 2002 ESRA Report, extensive legal research has been conducted to identify relevant federal and New York State court decisions addressing ESRA, the federal E-Sign Law and any other New York State or federal laws impacting the use and acceptance of electronic signatures or records. Relevant law journal and law review articles have been tracked since the filing of the last ESRA Report and legal search engines have been employed to discover relevant case decisions. As evident below, a number of courts have addressed this topic since 2002, which very well may reflect the increased acceptance and use of signed electronic records in both commercial and governmental transactions as supported by the data referenced earlier in this report.

### **A. NYS Court Decisions**

The first reported case decision to cite ESRA was *The People v. McFarlan*<sup>56</sup>, addressing the admissibility of a computer generated photo used to identify the defendant in the case. In *McFarlan*, an original computer generated photo array printout of possible suspects was not available for production at trial. Instead, an identical printout copy of the same array was produced and admitted into evidence. In addressing the introduction of the second printout, defendant argued that the loss of the original photo array depicting the defendant should impose a presumption that the photo array procedure was impermissively suggestive, invalidating defendant's arrest. In denying defendant's claim, the court held that the "original" photo array was never lost but instead continued to reside as stored information in the police computer. The court found that the stored information was an electronic record that could be appropriately retrieved and reproduced to paper as was done in this case. In support of this finding, the court noted that "ESRA, in conjunction with Civil Practice Laws and Rules § 4518 (the Business Records Rule), permits this Court to consider the second printout as proof of the original computer record due to the manner in which the document was stored and retrieved."<sup>57</sup> The court in *McFarlan* cited ESRA, and OFT's regulation implementing ESRA<sup>58</sup>, in holding that an electronic record, retrievable in usable form, has the same force and effect as a record not produced or maintained by electronic means.

Interestingly, the court in *McFarlan* also addressed the federal E-Sign Law in the context of whether that subsequently enacted federal law had preempted ESRA. After extensive consideration of the E-Sign Law's scope, that Law's impact on ESRA and the constitutionality of the federal statute, the court found that the evidentiary issue in question would be decided similarly under ESRA or E-Sign, thus negating the necessity to decide the preemption issue.<sup>59</sup>

---

<sup>56</sup> 191 Misc.2d 531, 744 N.Y.S.2d 287 (Sup. Ct. NY County, 2002).

<sup>57</sup> 744 N.Y.S.2d at 291.

<sup>58</sup> 9 NYCRR Part 540.

<sup>59</sup> 744 N.Y.S.2d at 294.

A second reported court decision in which ESRA is addressed is found in *D'Arrigo v. Alitalia*<sup>60</sup>, a case involving the electronic filing of a claim for damaged luggage. The defendant argued that international law required notice of the claim to be in “writing” and that a computer entry does not qualify as a writing. In determining that as a matter of law the entry of a claim on a computer terminal was a “writing” that satisfied the notice requirements of applicable international law, the court cited ESRA and ESRA’s enabling regulation.<sup>61</sup> The court noted that ESRA’s definition of “electronic record” captures the computer entry in issue in the case, and that ESRA permits the admission of electronic records into evidence.

A more recently reported New York State court decision addressed the validity of a typed signature at the bottom of an e-mail for purposes of satisfying New York State’s general Statute of Frauds. In *Rosenfeld v. Zerneck*,<sup>62</sup> the court addressed this electronic signature question in the context of whether individuals could enter a contract for the sale of real property via exchanged e-mails.<sup>63</sup> It was undisputed that the parties in the case had typewritten their names on exchanged e-mails in which they addressed certain terms concerning the purchase and sale of specific realty. In ruling on an issue of first impression in New York State, the court held that the act of typing one’s name at the bottom of an e-mail “manifested his intention to authenticate this transmission for Statute of Frauds purposes and the copy of the e-mail in question submitted as evidence by the defendant constitutes a sufficient demonstration of same.”<sup>64</sup>

Interestingly, in upholding the validity of a typed signature on electronically transmitted messages, the court in *Rosenfeld* did not rely on ESRA or the E-Sign Law. Instead, the court noted that the New York State Statute of Frauds<sup>65</sup> had been amended in 1994 “. . . to provide for the subscription of electronically transmitted memoranda . . .”<sup>66</sup> The fact that neither of the parties in the litigation had raised the issue of whether the exchanged e-mails were validly signed for purposes of the Statute of Frauds, and consequently had not briefed the court on the issue or related law, may account for why the court in *Rosenfeld* did not reference ESRA as additional support for its decision.<sup>67</sup>

## **B. Federal Court Decisions**

There have been a number of federal court decisions addressing the use and acceptance of electronically signed records since the filing of the 2002 ESRA Report.

---

<sup>60</sup> 192 Misc.2d 188, 745 N.Y.S.2d 816 (Civil Ct. City of N.Y., Richmond Co., 2002)

<sup>61</sup> 192 Misc.2d at 191.

<sup>62</sup> 776 N.Y.S.2d 458 (Sup. Ct. Kings Co., 2004)

<sup>63</sup> For how state courts in Massachusetts have handled this same question see *Shattuck v. Klotzbach*, 14 Mass. L.Rptr. 360, 2001 WL 1839720 (Mass. Super. 2001) and *Singer v. Adamson*, 2003 WL 23641985 (Mass.Land Ct. 2003).

<sup>64</sup> Supra note 62 at 460.

<sup>65</sup> NYS General Obligations Law section 5-701[b] (4).

<sup>66</sup> Supra note 62 at 461.

<sup>67</sup> Also see *Page v. Muze, Inc.*, 270 A.D.2d 401 (2d Dept. 2000), holding that an e-mail with a typewritten signature did not satisfy the subscription requirement of the former Statute of Frauds’ provision that was subsequently amended and addressed in *Rosenfeld*.

Some of these reported decisions involved factual scenarios that preceded the adoption of ESRA and the federal E-Sign Law, making these statutes inapplicable to the court rulings. These pre-ESRA and E-Sign Law cases include *G.R. Toghiyany v. Amerigas Propane, Inc.*<sup>68</sup>, in which the Court of Appeals for the Eighth Circuit held that an enforceable contract could not be inferred from various e-mails between the parties, since, among other things, the e-mails were not signed writings for purposes of the Missouri Statute of Frauds. Yet, under a similar set of facts in *Cloud Corporation v. Hasbro, Inc.*<sup>69</sup> the Court of Appeals for the Seventh Circuit held that a sender's name on an e-mail satisfied the signature requirement of the Uniform Commercial Code and the Illinois Statute of Frauds.

One of the first reported federal court decisions addressing this issue under the authority of the E-Sign Law is found in *Roger Edwards, LLC v. Fiddes & Son, LTD.*<sup>70</sup> In that case, the court cited the E-Sign Law in further support of its finding that e-mails satisfy the writing and signature requirements of Maine's general Statute of Frauds. Likewise, in holding that an e-mail was a "writing" for purposes of satisfying a written consent clause in a contractual agreement for the sale of advertising time, the federal District Court for the Southern District of New York in *Medical Self Care, Inc. v. National Broadcasting Company*<sup>71</sup> found that "a decision not to consider an e-mail a writing is arguably foreclosed by 15 U.S.C. section 7001 . . ." <sup>72</sup> (the E-Sign Law). In a subsequent case, *On Line Power Technologies, Inc. v. Square D Company*<sup>73</sup>, this same District Court cited both ESRA and the E-Sign Law as support for its finding that a series of e-mails between certain parties was sufficient evidence of a signed agreement for the sale of products and services.

It is important to note that the parties in these reported New York State and federal case decisions did not dispute the authenticity or integrity of the electronic signatures or records in issue in these matters. To date, no federal or state court decisions have been reported in which the courts address the authenticity or integrity of electronically signed records in the context of ESRA or the E-Sign Law. This lack of case law may be an indication that the use of electronic signatures in commercial or government transactions is minimal. It also could be an indication that parties engaging in electronic commerce and electronic government, and their attorneys, have been careful and risk averse in structuring transactions that employ electronic signature solutions, so that the authenticity and integrity of signed electronic documents are not in issue and disputes are a rarity. This current lack of judicial attention may account, at least in part, for why electronic signatures are not more widely employed in New York State and across the nation at this time.

---

<sup>68</sup> 309 F.3d 1088 (8th Cir. 2002).

<sup>69</sup> 314 F.3d 289 (7th Cir. 2002).

<sup>70</sup> 245 F.Supp.2d 251 (D.Me. 2003).

<sup>71</sup> 2003 WL 1622181 (S.D.N.Y. 2003).

<sup>72</sup> Id. at 6.

<sup>73</sup> 2004 WL 1171405 (S.D.N.Y. 2004).

## ***RECOMMENDATIONS FOR LEGISLATIVE CHANGES***

As noted earlier in this report, ESRA was most recently amended on August 6, 2002,<sup>74</sup> in an effort to better align this State statute with federal law addressing the legal validity of electronic signatures and records. As reflected from the data and other information that OFT has collected since 2002, it appears that ESRA and the federal E-Sign Law continue to support the expanded use of electronic technologies in both commercial and government applications. The data collected for this report suggests that the number of State agencies and local governments that accept electronic records has grown since 2002, and there has been a considerable increase in State agency and private sector use of and reliance on electronic signatures during the last two (2) years. Additionally, the courts have begun to recognize the utility of these electronic signature and record laws, as well as their implementing regulations, as noted in the last section of this report. The courts also have acknowledged amendments to related laws, like the Uniform Commercial Code and the New York State Statute of Frauds, as supporting the use and acceptance of electronic signatures and writings.

As currently drafted, both ESRA and the E-Sign Law allow public and private individuals or entities to choose the type of electronic signature technology or process that best suits the business needs and legal risks of the commercial or government transaction under consideration. Consequently, and from our review of the technical and legal literature addressing these laws, the existing statutory framework is not problematic. The barriers or obstacles that appear to impact the growth potential of electronic commerce and electronic government transactions are cost, process and experience related, and no one is suggesting that tinkering with existing electronic signature and record statutes will adequately address these concerns. Consequently, and based on the data and other information contained in this report, OFT is of the opinion that currently there is no need to amend New York State laws that impact the use and acceptance of electronic signatures and records.

One specification in ESRA that could be further studied for possible future revision is the provision that exempts from the statute's application those conveyances and other instruments that are recordable under Article 9 of the New York State Real Property Law.<sup>75</sup> Such instruments include real property deeds, mortgages and notes.<sup>76</sup> While ESRA, as an enabling statute, does not prohibit the use of electronic versions of these documents, the enforceability of such electronic instruments, and the transactions to which they apply, is left to other law. Partially as a result of this legal uncertainty, the use, acceptance and recording of electronic real estate transfer documents generally have not been endorsed by lending institutions, title companies, real estate attorneys,

---

<sup>74</sup> Laws 2002, Chapter 314.

<sup>75</sup> NYS Technology Law §307 (3).

<sup>76</sup> NYS Real Property Law §§ 290 and 291.

consumers or county government recorders in New York State and elsewhere.<sup>77</sup> It even has been suggested that for various legal, practical and technical reasons real estate transactions simply do not lend themselves to the use of digital technology.<sup>78</sup>

Even so, a few county recording officials around the country have implemented some aspects of electronic recording systems for land and title documents.<sup>79</sup> In 2001 it was reported that the Monroe County Clerk's office was the first office to host a fully electronic mortgage closing in New York State,<sup>80</sup> although, as reported to OFT, this practice has not continued in Monroe County. More recently, the State of Colorado became one of the first states in the country to adopt an "E-Record" bill specifically authorizing the recording of electronic documents and establishing minimum requirements for the electronic notarization of such documents.<sup>81</sup> Similarly, in August of 2004, the National Conference of Commissioners on Uniform State Laws (NCCUSL) approved the Uniform Real Property Electronic Recording Act (URPERA).<sup>82</sup> This model law is for states to voluntarily consider and adopt. It allows, but not mandates, county clerks and other local recorders to accept, record, store and post for public review electronic real property records. Additionally, the national mortgage industry has proposed voluntary technical standards for private mortgage companies to follow in implementing electronic real estate loan transactions.<sup>83</sup> Given all of the recent activity on this topic, it may be wise for New York State to further study and reconsider the ESRA exception of instruments recordable under Article 9 of the Real Property Law.

---

<sup>77</sup> Broderick Perkins, *Lenders Not Plugging into Electronic Mortgages*, Realty Times, April 3, 2002; Tod Newcombe, *Signed, Sealed and Electronically Delivered*, Government Technology Magazine, October 2002.

<sup>78</sup> Derek Witte, *Avoiding The Un-Real Estate Deal: Has The Uniform Electronic Transactions Act Gone Too Far?*, 35 J. Marshall L. Rev. 311 (Winter 2002).

<sup>79</sup> Dean Arthur R. Gaudio, *Electronic Real Estate Record: A Model for Action*, 24 W. New Eng. L. Rev. 271 (2002).

<sup>80</sup> The Title Report, *First fully electronic mortgage in New York State is recorded in Monroe County*, March 29, 2001.

<sup>81</sup> Teryl Gorrell and Sheryl Kamicar, *Colorado Launches E-Recording*, 31-DEC Colo. Law. 21 (December, 2002).

<sup>82</sup> See <http://www.nccusl.org/Update/DesktopModules/NewsDisplay.aspx?ItemID=117>; County News Online, *New model act would allow electronic mortgage filing*, Vol. 36, No. 15, August 9, 2004.

<sup>83</sup> See [http://www.mismo.org/mismo/emgr\\_iguide\\_10.cfm](http://www.mismo.org/mismo/emgr_iguide_10.cfm)

## *CONCLUSIONS*

The information that OFT has collected since 2002, as reflected in this report, demonstrates that the methods and technologies available for creating, storing, transferring and managing electronic signatures and records have not substantially changed since OFT filed its original ESRA Report. Furthermore, the focus of the electronic signature technology industry on improving existing signature approaches, rather than developing new ones, has continued over the past two (2) years. In this regard, electronic signature technology vendors are increasingly incorporating electronic signatures into proprietary applications. Additionally, leading vendors of software that create electronic documents have improved their products' ability to support electronic signatures, allowing electronic signature products to accommodate the most widely used document formats. The development and adoption of the XML Signature standard has facilitated the use of electronic signatures for Internet-based transactions.

It is equally clear that most New York State agencies continue to accept electronic records from citizens, businesses and other government entities. The data reveals that the percentage of State entities that accept and utilize electronic records remains high, and the deployment of electronic signatures by State agencies has grown in the past two years. Along the same lines, an increasing number of local government entities in New York State are using and accepting electronic records, but few local governments utilize electronic signature solutions at this time. Likewise, wide-spread adoption of electronic signatures remains limited in the private sector, with certain notable exceptions. As in 2002, the financial services, healthcare and insurance industries remain the leaders in deploying various types of electronic signature solutions in both internal and external applications. The utilization of industry and government supported standards and processes for conducting enforceable electronic transactions partially accounts for this successful deployment in these businesses.

State and local government agencies, the court system and the private sector continue to report similar difficulties and obstacles in employing electronic signature solutions. While uncertainties with the legal acceptance of electronically signed records continues to be perceived as a barrier by some, the focus of this concern is not with State and federal enabling statutes like ESRA and the E-Sign Law. Instead, limited case law addressing what are legally enforceable electronic transactions, and the authenticity and integrity of electronically signed documents created during such transactions, continues to be cited as a constraint on the growth of electronic commerce and electronic government in New York State and the nation. As noted in this report, the recent development and implementation of government and industry sponsored standards, policies and practices for constructing viable and enforceable electronic transactions should encourage and facilitate the use of digital technology in the conduct of business and government. The associated increase in the use of electronic technologies for such purposes should generate more opportunities in the future for the courts to address these issues and provide a common legal framework for all to follow. The existence of

government and industry sponsored standards in turn should impact the legal framework that courts will ultimately fashion in addressing these issues.

The cost and complexity of highly secure signature technologies, which normally are those employing advanced authentication infrastructures such as PKI or biometrics, continues to hamper the expansion of electronic signature use in all sectors of our economy. As noted earlier, since both ESRA and the E-Sign Law now support the use of less costly technologies with which to create electronic signatures, it is anticipated that both public and private sector entities will be encouraged to employ less expensive signature solutions that better match the nature of specific commercial or government transactions. An analysis of a transaction's business needs, and an assessment of the legal and technical risks associated with the transaction, should lead to the selection of cost appropriate electronic signature technologies.

This is not to imply that there is no need to employ highly secure, and more expensive and involved, electronic signature solutions in certain commercial and government transactions. As noted earlier in this report, the electronic signature and software industries continue to develop ways to more easily integrate secure signature solutions into commonly used electronic formats and documents. Hopefully, in time this will help drive down the cost and complexity of implementing such signature technologies. Additionally, OFT as the "electronic facilitator" under ESRA will continue to provide legal and technical guidance to public and private sector entities that are interested in utilizing these more complicated electronic signature applications.

Record preservation challenges facing governments that create and hold electronic records have not diminished since 2002, making this issue a continuing concern for the long-term viability of electronic signatures and records usage. Some progress has been made in addressing electronic record preservation issues at the national level, and certain preservation methodologies look promising. New York State should reflect on the efforts made by some states to address these issues and challenges through an interagency collaborative approach, thereby focusing the resources and expertise of multiple agencies on these problems.

The validity and effectiveness of ESRA and related federal and State laws have been recognized in a number of reported State and federal court decisions addressing the use and acceptance of electronically signed records since 2002. As noted earlier, such courts have acknowledged these statutes and the intent and purpose of these laws to validate and facilitate the use of electronic technology for the conduct of business. It is anticipated that the increased use of electronically signed records by commercial and government entities will give rise to further judicial direction on the legal requirements for the enforceability of transactions in which such records are employed.

Finally, at this time there does not appear to be any need to amend ESRA or other State laws relating to electronic signatures or records. OFT will continue to monitor and analyze the utilization of electronic signatures and records both in New York State and around the country, in an effort to identify any reasons to revise ESRA or related statutes

in the future. In this regard, New York State should consider the continued need to exempt from ESRA those real property documents recordable under Article 9 of the Real Property Law, given recent national developments on this topic. Additionally, OFT, in its role as “electronic facilitator” under ESRA, will continue to provide guidance and direction in how to successfully use electronic signatures and records to all interested parties. In this fashion, New York State should remain at the forefront in its efforts to promote the use of electronic technology in the everyday lives and transactions of its citizens and businesses.