Electronic Signatures: How to Navigate the Last Mile for Your Firm

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It has now been nearly 12 years since President Bill Clinton signed into law the Electronic Signatures in Global and National Commerce Act (E-SIGN). This law, which took effect on 6/1/01, put the federal government's imprimatur on electronic records and signatures in interstate or foreign commerce transactions. In 2001, the Securities and Exchange Commission (SEC) published guidance on electronic signatures for the securities industry, Rule 17a-4(f), to assure accuracy, accessibility and accurate reproduction of e-signatures.

In the intervening years, many American industries have embraced e-signatures. Today, you can't pass the checkout counter of many Wal-Mart or Home Depot stores without giving an electronic version of your John Hancock. Large banks such as Wells Fargo and Bank of America have embraced e-signatures in most branches, and some insurance companies now transact the bulk of annuity applications with e-signatures.

But what about the securities industry? Navigating the last mile of the journey to e-signatures remains a major challenge. This is ironic, because twenty years ago the securities industry was a leader in adopting new technologies to streamline trading, recordkeeping, and transfers. Who can forget the massive capital and brainpower the securities industry poured into high-tech in the 1980s to eliminate back-office bottlenecks, increase system integrity, and assure investors' confidence?

With its massive piles of paperwork and critical need for document security and integrity, the securities industry has always had a compelling need for e-signatures and paperless processing, starting with cost savings. Sources have estimated that each hard-copy package to order a mutual fund costs about $125 to process including “wet signature” application, check-handling, copying, shipping and storage/retention.
Perhaps even more costly for securities firms is the competitive risk of falling behind, and then failing to recruit and retain top producers. At any industry seminar on e-signatures and paperless developments, it’s apparent that pressures are rising in the field as producers plead for home-office help in reducing paperwork, increasing transparency, and saving time and money.

If you want to respond to these pressures, what can you do now to navigate the last mile in e-signatures and paperless processing? As developers of software solutions in this space, we think the answer has four parts:

• Understand the law’s requirements
• Recognize the opportunities and choices
• Identify the securities industry’s obstacles
• Get your firm ready for rapid developments

Let’s take them one by one.

**Understand the Law’s Requirements**

The federal E-SIGN law provides that with respect to any transaction within its scope, a signature, contract or other record relating to the transaction may not be denied legal effect, validity or enforceability solely because it is in electronic form. E-SIGN also provides that a contract relating to such transaction may not be denied legal effect, validity or enforceability solely because an electronic signature or electronic record was used in its formation. E-SIGN also requires entities that opt to store records in electronic form to ensure that the records are accurate, accessible, and capable of accurate reproduction for later reference.

Under the law, an electronic signature is a “sound, symbol, or process, logically associated with a document” such that it is:

1. Unique to each user
2. Under the sole control of the signer
3. Linked to a document in such a way as to prevent tampering, and
4. Capable of being authenticated

Each valid e-signature must be associated with a transaction record and executed or adopted by a person with the intent to sign. This means that a valid e-signature under the law can’t be:

• Signed or stored separately – e.g., on a blank sheet of paper – apart from the transaction record.
• “Robo-signed” by a computer (not a person).
• Signed deceptively, copied or commingled.

Finally, E-SIGN requires consumer protections for documenting and protecting proof of transaction and delivering and storing related consumer disclosures.
Recognize the Opportunities and Choices

Clearly, securities firms should utilize e-signature services that are fully compliant with E-SIGN, as well as SEC and FINRA regulations, and choices are available. Three separate formats of ESIGN-compliant signature technologies have emerged in the securities industry:

1. Digital/electronic stamp used by a known person – This format is used to authenticate advisor/producer signatures and for principal approvals. Security controls access rights for digital stamps, and the process can be delivered remotely, through the cloud. The firm assigns a unique electronic stamp to each known person, and the stamp may be used by that person, either physically (in-person) or remotely. Since clients and prospects are not considered “known persons,” this format may not be used for consumer signatures.

2. Electronic signature pads – A hardware device, similar to those used in store checkouts, is used to create a biometric record of the client’s physical signature, including signing speed and pressure. Each pad is “bound” to a unique advisor/producer and requires individual authentication. Topaz Systems, Inc. is a leader in supplying signature pad hardware for the financial services industry. (Note: Security for a tablet used in a store checkout is not as robust as in those used by financial services firms.)

3. Remote signing through multi-factor authentication – Like electronic pads, this format may be used for consumer signatures provided that documented steps are taken to authenticate information available exclusively to the signer. An advantage of this format is that it may be used remotely, as well as in-person. Docupace’s ePACS system leverages a secure authentication mechanism to manage subsequent signing, client communication, and document distribution on behalf of the same client. The cost of utilizing this format is far less than advisors are currently spending for mailing, copying, printing and tracking lost documents.

Remote Signing Example

![Remote Signing Example](image-url)
DocuSign, a leading provider of e-signature technology, has developed this consumer (user) interface for a remote signing process with multi-factor authentication. The consumer adopts a signature and initials, which are then authenticated and used on all subsequent transactions requiring a signature. Docupace has pre-integrated DocuSign’s technology into its EPACS system.

In addition to these three formats, securities firms will need to support “wet signatures” as the evolution to paperless records and e-signatures unfolds. Specific types of documents, such as stock certifications and medallion stamped documents, can’t be processed with e-signatures.

To convert wet signatures to electronic (where applicable), the hard-copy document is scanned at the branch or broker-dealer level and then either shredded or forwarded. If a wet signature is forwarded, it is typically sent to a third party outside of the broker-dealer, such as a clearing house or transfer agent.

Regardless of which format is used, the goal of an electronic signature-capture system is to reproduce the techniques, ceremony, familiarity and convenience of handwritten signatures on paper.

**Client Signature Capture System Example**

Here is one suggested example of how a securities firm could implement a robust e-signature system for client use, using electronic signature pads, as described above:

1. The document or transaction is reviewed by the signer(s).
2. The signature is captured in the presence of the advisor/rep, using that individual’s bound signature pad or tablet.
3. The signature is bound to a fillable electronic (PDF) document via cryptographic hashing, via the AutoKey generation and EncryptionMode functions of Adobe controls.
4. The Signature and Key receipts are obtained from the control and concatenated together to form a Transaction Receipt.
5. Transaction documentation is then printed or e-mailed to the customer. The customer can then verify that the document and signature match those displayed by the application. The transaction receipt, the signature, and the document data are stored as evidence of the completed transaction.

If a dispute arises, the stored contract and signature are used to re-generate the receipts. The receipts are then compared to the stored receipts and can be compared to the printed receipt that was provided to the signer at the time of signing. The comparison of the stored receipts to the regenerated receipts from the e-contract protects the firm against customer repudiation and proves that the document and signature are the same as originally signed.

If the signer claims that the signature is a forgery, the bound signature and
document data can be provided to a forensic document examiner utilizing the tablet’s analysis tool and a handwriting analysis expertise to authenticate the identity of the signer. The signature and document receipts are unique to the original document and signature, and the storage of receipts allows for conclusive comparisons at a later date. Validation of the transaction through multiple receipts prevents forgery from going undetected. With reliable receipt storage, it is impossible to modify the document and fool this kind of system, which protects both the firm and client.

**Identify the Securities Industry's Obstacles**

A compliant system such as the one described above can be adopted now, at the enterprise level, by any U.S. securities firm. So, why does adoption seem so sluggish? What are the obstacles in navigating the securities industry’s last mile?

Docupace believes they come down to two main issues: 1) receiver reluctance; and 2) lack of industry standards for integrated paperless processing.

1. **Receiver reluctance** – The demand for paperless processes and e-signatures is being driven primarily by consumers and producers. It is trickling up through securities firms, but then it is hitting a barrier because the receivers of data are not yet accepting proven technologies. These receivers include clearinghouses, mutual fund groups, hedge funds, private placement providers and direct participation programs. They are not a monolithic group, and some receivers in each category have been proactive in adopting e-signatures and paperless solutions. However, until broker dealers can be confident that e-signature and e-documents are acceptable wherever they are sent, this obstacle will remain.

The question of why receiver reluctance exists is not quick or easy to answer. For brevity here, let’s say it is a combination of legacy systems, inertia, early-adoption anxiety, a desire to share in the fruits of new technologies, and institutional caution.

2. **Lack of an industry standards for enabling integrated paperless processing** – The e-signature/paperless document industry has developed diverse vendors, technologies and standards — most of which represent talent and innovation but none of which, standing alone, make paperless processing seamless and easy. For example, a securities rep can purchase a Topaz pad “off-the-shelf” and start using it to capture client signatures electronically in 10 minutes. But the pad alone doesn’t begin to meet E-SIGN requirements or industry standards, much less compliance requirements of the rep’s firm. No stand-alone pad can track the full life-cycle of a transaction and bind an authentic signature to that particular transaction, securely and forever.

Compliance is perhaps the most important reason to integrate e-signatures with the rest of a paperless office. For example, SEC Rule 17a-4(f) maintains storage requirements for electronic signatures and records that assure accuracy, accessibility and accurate reproduction. This means: A compliance officer must know that during a FINRA or SEC audit, any single electronic document or record (among millions) is quickly and easily accessible and printable.

Other industries have emphasized integrated systems and enabled them with standard industry protocols. For example, hospitals in the U.S. have made huge
strides toward paperless systems in the past decade, and e-signatures are only one component of the integrated standard medical records systems they have adopted. Large companies like GM now depend on end-to-end paperless manufacturing systems, in which electronic sign-offs are integrated into inventory-tracking, inspections, labor allocation and other system components. This would not be possible without standards uniting suppliers and manufacturers.

In the securities industry, forward-thinking firms are adopting comparable systems at the enterprise level. These systems enable straight through processing (STP) by automating workflow, document management, SEC-compliant records storage, electronic checks and forms, user authentication and e-signatures. Each pre-integrated component can represent a best-of-breed technology, provided all components are designed to be compatible.

Above the enterprise-level, the securities industry also has integration challenges, which can be solved with uniform industry standards to connect vendors and technologies. For comparison, the hi-fi audio industry did not begin to reach its consumer potential until Dolby Laboratories invented the industry’s noise-reduction and encoding standards in the 1960s. Currently, the securities industry lacks a “Universal Connector” software standard to make sure that leading paperless solutions work together.

Docupace has volunteered to contribute technology to the industry, via the FSI, to provide a Universal Connector. We believe the market opportunity in the securities industry is large enough, and the cost-saving potential is so great, that vendors’ investments to establish standards will be rewarded over the long run. Also, we believe that developing a Universal Connector will send a powerful signal to both the “reluctant receivers” and any securities firms that are still on-the-fence about adopting paperless systems.

**How to Secure Paperless Processes in the Cloud**

As shown below, Docupace has developed ePACS Cloud as a hub of secure paperless processes, accessible by all users of forms, documents and data including clients, advisors and a broker-dealer’s home office.
Get Your Firm Ready for Rapid Developments

What can you do now, in your firm, to start navigating the last mile in e-signature adoption? Here are our best ideas:

1. Conduct an e-document inventory – In 2012, you will see the pressure for paperless solutions intensify, especially among consumers and producers. Diverse trends are driving this pressure, ranging from increased usage of electronic tax-filing and CRM software to the roaring success of the Apple iPad. We are seeing widespread adoption of iPad solutions for “field use” in completing applications, delivering communications, and connecting to client records and correspondence. Docusign, a leading e-signature tech developer, has introduced a free iPad app, Docusign Ink, which is flying off the App Store shelf.

This is a good time to inventory how many of your producers are using iPads (or other tablet PCs) and how they are using them. Your e-document inventory also can focus on attitudes and needs in sales supervision, operations, compliance and the firm’s senior management. You can even survey clients or customers to understand their habits and preferences. A thorough e-document inventory will help to gather useful information to support your firm’s decisions, and it also will send a clear signal that you are moving forward.

2. Emphasize pre-integration – In every other industry that has broadly adopted paperless processing, the preferred solutions are pre-integrated and cloud-based. Pre-integration is the fastest and surest way to implement new technologies and assure transitions because compatibility between vendors has
been battle-tested and the industry’s best practices are built-in. For perhaps the next decade, broker dealers will be required to support diverse e-signature solutions ranging from conventional “wet signatures” to multi-factor remote authentication. Pre-integrated solutions, such as Docupace’s EPACS, have the flexibly to support the full spectrum of needs and new developments.

To design an integrated system best suited to each firm, we help each prospective client evaluate three areas: 1) Process, including typical document signing procedures and the flow of documents and data; 2) People, including current tech skills and attitudes that may affect adoption; and 3) Technology, including evaluation of the best tools and steps to assure document/signature integrity. Since new e-signature technologies (such as voice signing) are still emerging, we emphasize open-architecture systems that can adapt and expand.

3. Participate in developing industry standards – To eliminate obstacles, securities firms must work together to demand industry standards. Twelve years after ESIGN, our paperwork-intensive industry still spends far too much money and staff time pushing paper, at high cost. We believe the development of Universal Connector software, though FSI, represents a great start.

4. Get ready! – In 2012, all prerequisites for paperless securities workflows and straight through processing are converging. Consumers and producers are demanding change, and even regulators recognize that the U.S. securities industry should be a leader in this area, not a laggard. This is an opportune time for each securities firm to methodically evaluate options and make strategic decisions.

For every securities firm, e-signature is no longer a matter of “If.” It is only a question of “When?” We think the best answer to that question is now.