

BRMA ELECTRONIC CONTRACT INITIATIVE

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This document is a summary of the current BRMA Electronic Signature Initiative which began in 1997.

Executive Summary

The BRMA Contract Committee began discussing the electronic transmittal of contracts as early as 1992. While the available technology would allow e-mailing of word-processed documents, the wide variety of word-processing programs and the limited conversion capabilities of those programs frustrated this effort. For example, while it was possible to convert a Word document into WordPerfect format, sometimes margins, page breaks and tables were corrupted. Also, there could be no certainty that the converted document was the same document as originally drafted. The loss of contract formatting and identifying marks and logos would create doubt as to the authenticity of the wording.

Even if a contract could have been transmitted electronically intact, the options for executing the contract were limited. A contracting party could print a signature page and manually sign and mail it back, but such process would have vitiated the efficiency of e-mail. Public key encryption was considered, however, this process was viewed as too great a departure from the traditional reinsurance contract format.

BRMA INITIATIVE

In 1997 the BRMA Contract Committee formed a Technology Subcommittee to formally explore the concept of electronic contracting. The Subcommittee considered several alternatives, such as posting the full contract wordings on website repositories. They concluded that combining the ease of e-mail use with cross-platform document software and electronic pen signatures might be a viable solution. The Subcommittee decided to form a test pilot and focus their review on two software products that appeared promising - Adobe Acrobat Exchange and PenOp. Consistent with BRMA's mission of enhancing the broker market reinsurance process, the goal was to test the products and report findings for the individual consideration of companies in our industry.

Adobe Acrobat Exchange allows documents to be created using any word-processing software and then saved in Portable Document Format (PDF), which preserves margins, logos and other information which can be viewed using Adobe Acrobat software.

PenOp utilizes software that can be plugged in to Adobe Acrobat Exchange and allows a handwritten signature to be captured and inserted into a PDF file via a digitizer pad attached to the user's computer. If a document is altered subsequent to signature, the signature is visibly invalidated.

Despite the selection of specific software for testing, BRMA has always stressed that members are free to choose whether the methodology outlined in this article, or some other methodology, is appropriate for them. BRMA's involvement in this project does not imply an endorsement of any specific software or hardware products.

THE PILOT – PHASE I

The initial Pilot participants, Guy Carpenter and NAC Reinsurance Corporation tested Adobe Acrobat Exchange Version 3.0 along with PenOp signature software. The initial Pilot participants felt that, while promising, the Adobe 3.0 software fell short of expectations; particularly in the areas of document security and document comparison. After communicating this finding to Adobe, the Pilot participants were invited in September of 1998 to participate in Adobe's Beta testing of Adobe Acrobat Exchange Version 4.0.

Beta testing continued until April 1999, when Adobe Acrobat Exchange Version 4.0 was released. Functional improvements were included in this final release, resulting from the BRMA participants' involvement in the Beta testing.

THE PILOT - PHASE II

In the fall of 1999, the Pilot was expanded to include fourteen BRMA member companies who were to test the newly released software and act not only as brokers and markets, but also play the role of cedants.

The Pilot consisted of three separate groups working independently to test the software. Each group also sought to surface any practical or organizational issues.

The pilot groups were (individual participant's names appear at the end of this document):

Group 1

E.W. Blanch	Towers Perrin Re	Zurich Re (NA)	Odyssey America Re
CNA Re	XL Re	Gerling Global Re	

Group 2

Guy Carpenter	Willis Re – NY	PXRE	Odyssey America Re
CNA Re	XL Re	Hart Re	GE Re

Group 3

Holborn	Willis Re – NC	PXRE	GE Re
Gerling Global Re	Zurich Re (NA)	Hart Re	

Phase II commenced on 15 January 2000. The brokers in each group created documents and e-mailed them to the “cedant” who then executed the documents electronically and returned them via e-mail. Brokers then e-mailed those signed documents to the “markets” for electronic countersignature.

While all three groups generally viewed the results favorably, several significant issues were raised. It should be noted that the section expressing our concerns is much lengthier than the benefits section of this article – this imbalance should not be read as an indictment of the methodology. The issues raised are relatively minor from a technical standpoint – the participants merely want to ensure a thorough identification of each issue. No issue is believed to be insurmountable and participants definitely recommend further research and testing.

BENEFITS

To that effect, the groups noted the following significant benefits which emanated from the testing process:

- Cost of copies and postage are reduced.
- Faster turn-around time. Approximately 12 days can be saved from the normal mail cycle.
- The possibility of losing documents in the mail is eliminated.
- Users can create links to their imaging systems.
- Filing is as simple as detaching and saving a file to a network directory.
- Through electronic archiving, PDF files can be viewed across an organization by multiple departments. The files can be retrieved instantaneously.
- Several workflow enhancements are possible - geographic limitations are minimized (e.g. a contract can be received in one office and routed to geographically dispersed workgroups without being printed, copied or faxed) and follow-up can be automated.
- Placing slips and other placing information can potentially be attached to XML placing messages in PDF format, eliminating the bifurcation which existed with EDI.

CONCERNS

At the same time, however, the groups also noted the following issues requiring resolution:

Signature Software

The initial Phase II testing utilized Adobe Acrobat 4.0 paired with PenOp signature software. During testing several participants also tested other signature software products. One product by Communication Intelligence Corp. (CIC) is a software package called "Sign-It Pro" which had some cost benefits over PenOp. CIC's website is at www.CIC.com. Adobe's website is at www.adobe.com.

Subsequent to completing the Phase II Pilot, PenOp was acquired by CIC. CIC will be integrating all of the PenOp features into its "Sign-It" product and there will no longer be any PenOp products.

Several Pilot participants also investigated other signature software products. One product creates an "e-persona" and utilizes PIN numbers and stamps to effect the execution of a document, rather than a biometric signature. As with public key encryption, participants felt that this approach was too great a departure from the traditional method of signing reinsurance contracts and thus would meet with too much "cultural resistance".

Legal Issues

The legal environment with respect to electronic contracting and signatures is evolving. Anyone contemplating use of this software and hardware should consult with their own counsel regarding this methodology. However, several legal issues/concerns surfaced during testing:

Mode of Execution Article

Each of the Pilot groups saw a benefit to including a Mode of Execution Article in reinsurance contracts. The Article would contain a specific acknowledgment and agreement by the parties to the contract that the contract can be signed by original ink signature, facsimile signature, or electronic pen signature. The use of any one of the listed types of signature will constitute a party's original signature and bind the party under the contract. The BRMA Contract Committee prepared the following sample Mode of Execution Article:

MODE OF EXECUTION ARTICLE

1. This Agreement may be executed by:
 - a. An original written ink signature of paper documents.
 - b. An exchange of facsimile copies showing the original written ink signature of paper documents.
 - c. Electronic signature technology employing computer software and a digital signature or digitizer pen pad to capture a person's handwritten signature in such a manner that the signature is unique to the person signing, is under the sole control of the person signing, is capable of verification to authenticate the signature and is linked to the document signed in such a manner that if the data is changed, such signature is invalidated.
2. The use of any one or a combination of these methods of execution shall constitute a legally binding and valid signing of this Agreement. This Agreement may be executed in one or more counterparts, each of which, when duly executed, shall be deemed an original.

While the Mode of Execution Article is not a BRMA clause (it has not been given a BRMA number), it does provide a framework from which working clauses can be drafted. If any of these clauses are used in contracts, they will be eligible for inclusion in the BRMA Contract Wording Reference Book.

Electronic Contracting Authorization

Two groups raised questions about whether Intermediaries should complete Electronic Contracting Authorizations with ceding companies and reinsurers. These Authorizations would outline the rights and responsibilities of those parties who choose to employ electronic reinsurance contracts. While there is some debate about the need for these agreements in light of the Uniform Electronic Transactions Act (UETA) and the Federal Electronic Records and Signature in Commerce Act, several members of the Pilot are working to draft a sample Electronic Contracting Authorization.

In addition, as the legal environment for electronic contracting evolves, other issues may arise which will resolve the need for a Mode of Execution clause and an Electronic Contracting Authorization, as well as other content of reinsurance contracts.

Regulatory Approval

Although the reality is that more and more state legislatures are recognizing the validity of electronic signatures, the central issue of whether Insurance Departments will recognize electronic signature of reinsurance agreements still needs to be resolved. One member broker has contacted the New York State Insurance Department and obtained their approval for this methodology. It is hoped that by the end of 2001, all 50 insurance departments will grant regulatory approval.

Replacement Pages

Replacement pages, a standard practice in reinsurance today, can be addressed via a facility to append PDF files to each other. The original signature is not invalidated and a "thumbtack" graphic indicates to anyone reading the contract that there has been a change. However, several participants questioned the legality of replacement pages, averring that changes should only be effected by formal endorsement.

Beyond security aspects, business and legal judgment may lead toward developing business rules regarding correcting contract deficiencies and errors via an endorsement or a properly notated (and acknowledged) replacement page. It is up to each individual user and their legal counsel to decide how replacement pages should be handled.

Possibly Weak Security Features

Use of the annotation tool in Adobe Acrobat was an important discovery because it allows a person to add notations to the original contracts to reflect the date

signed, the reinsurers' reference numbers, and other key information. As with other annotations, these annotations are "overlays" and do not actually alter the original document - and thus do not invalidate the signature when used. However, during the test period, one group was able to "trick" the system by duplicating fonts and color to amend a text, even after the document was signed, without invalidating the signature as occurs with the use of the Touch-Up tool.

Similarly, although the use of "thumbtacks" for linking replacement pages to the original document was an important and useful discovery, the need to assure that documents cannot be subsequently altered needs to be addressed.

Most of the participants agreed, however, that it is impossible to devise software security that cannot be defeated if someone is determined enough. In fact, given advances in technology, such as scanners, it is relatively simple to alter paper documents.

In any event, given that broker market reinsurance contracts usually have several participating reinsurers, it would be difficult for one party to unilaterally alter a document without being immediately detected.

In summary - electronic contracts and signatures are likely no less secure than traditional paper contracts.

Use of Doc-Compare Features

Users may need to review the relevance of a memoranda of changes and use of doc-compares in the process. The Pilot group observed that the Adobe word comparison feature was inefficient as it created large-sized documents and inconsistently captured changes made between versions. Also, it was only useful for relatively minor changes (e.g. a rate or date change) and was virtually useless if additional pages were added or deleted.

There was a strong opinion that protected doc-compare versions of many word processing programs would be an improvement over use of the compared Adobe files.

Size of files

All members of the Pilot recognize that a proliferation of electronic files could negatively impact computer storage space – offsetting some of the benefit of electronic contracting. For example, use of annotation tools may result in the need to save a clean copy of the contract as well as the working copy, which could be annotated for internal discussion or negotiation of final terms. In addition to these electronic files, users may wish to maintain, as a backup, one or more paper copies. One group found that using Acrobat Distiller versus Acrobat

PDF Writer to convert word processing documents to PDF format, results in a much smaller file. However, it takes about three minutes to create a file with Distiller, versus less than a minute using PDF Writer.

The proliferation of electronic files and their impact on hardware infrastructure need to be explored further by each individual user. The recommendations from Information Systems (IS) staff may help in finding innovative solutions to storage issues.

OBSERVATIONS

The following are provided for informational purposes and would need to be addressed by each organization individually. The resolution of each was beyond the scope of the collective Pilot.

Learning Curve

As with any new software, increased use results in a commensurate increase in comfort and ease for users. Several new users felt that the software was difficult to use, while others who had worked with the software felt more comfortable.

It is suggested that each participant explore with their IS staff features such as document defaults and pre-setting the size of the signature areas to assure a smooth flow between the parties and an acceptable look to the documents.

Some members of the Pilot noted that printing PDF documents created a problem. This issue needs to be addressed internally by each user as others did not experience problems when attempting to print these materials.

Transmittals

Each user will need to make its own decisions regarding the role of e-mail and correspondence in an electronic contracting process. For example, should brokers send out separate covering correspondence attached as files in the email or will the email alone suffice? The need to assure that documentation has been sent and received between the parties may need to be reviewed in further detail as well as how the non-contract material, including faxes, may become integrated into the contract file.

Use of a Stamp Instead of an E-Pad

During the Pilot, one group tested use of a signature stamp and observed that this tool worked smoothly and effectively, suggesting that others may wish to try this method, secured through use of password-related controls.

In instances requiring multiple signature pads (i.e. contracts are executed by multiple parties at a firm), the stamp, if installed within a network, may offer cost savings over use of multiple signature pads.

Individual users should experiment with this feature, while remaining cognizant of the potential security issues it raises.

Need for Users to Maintain "Dual Systems"

It is likely that some reinsurers, cedants and London market reinsurers will not join the electronic contracting process in the near term, resulting in a need for a dual process – one for those who can contract electronically and one for those who cannot. As a result, some contracts will be in electronic format, while others will be paper based.

The Pilot participants generally believe that a dual process can be effective and still provide significant, albeit partial benefits to users. Such a process might involve the broker preparing and e-mailing secured Adobe versions of its contracts for ceding companies' and reinsurers' review, reactions and comments. Once a contract becomes finalized, the material can be distributed electronically to parties prepared to contract electronically and via traditional mail systems to those that will contract by wet signatures. When the signing process has been completed, intermediaries would return to clients the wet signatures or PDF signatures; conversely, the intermediaries will provide the reinsurers the client's PDF signature or a photocopy as in the present process.

Need for an Internal and External Marketing Process

Electronic contracting supporters should expect to initiate an internal marketing effort to inform colleagues of the process; to assist in developing rationales to contract electronically; to provide a detailed user guide such as the one the Committee developed; and to develop trouble-shooting procedures and routines. Users may also wish to review methods and procedures regarding the use of faxes, correspondence and e-mails in the negotiation process and how to integrate these material into the electronic contracting process in order to tap other available benefits and efficiencies. Additionally, there may be a need to review and revise, as applicable, document retention procedures and guidelines.

To many ceding companies and reinsurers, electronic contracting may be a radical departure from the way they are accustomed to doing business. All of the groups agreed that this methodology should not be viewed as "all or nothing". One way to gain acceptance is to begin implementing the process incrementally. For example, the intermediary may elect to send the contract electronically in PDF format to the contracting parties and request that they print and "wet" sign the document. Also, the routine transmittal of entire submission packages in

PDF format (as well as paper format) will allow all parties to experiment with the efficiency inherent in this format. As placement slips usually only require the Reinsurer's signature, perhaps these documents can be forwarded in PDF format. In either of these instances the recipient will only need the free Adobe reader. This incremental approach will get markets and cedants acclimated to the technology without requiring complete commitment.

ADOBE ACROBAT 5.0

As of this writing Adobe is Beta testing Adobe Acrobat Version 5.0. As with Version 4.0, several BRMA Pilot participants are participating in that test. It is hoped that some of the issues that surfaced during the BRMA Pilot will be addressed in the next commercial release of the software.

CONCLUSION

The majority of the Pilot participants believe that Adobe Acrobat and CIC Sign-It Pro are products that hold great promise as possible vehicles for electronic reinsurance contracts and electronic signatures. However, both the Pilot participants and BRMA acknowledge that there may be other products which may facilitate electronic reinsurance contracts and electronic signatures. As a result, BRMA's findings should not be construed as an endorsement of specific products, but rather as proof of a methodology.

While the routine electronic transmission and execution of reinsurance agreements may lie somewhere in the (not too distant) future, these Pilot projects have proved it feasible.

PHASE II – PILOT PARTICIPANTS

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