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eMortgage Workgroup Status Update

MISMO eSigned PDF Guidelines

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Countrywide Financial



Topics

- **Background**
- **PDF Format**
- **eSigned PDF Guidelines**
- **eSigned Documents**
- **Conclusion**

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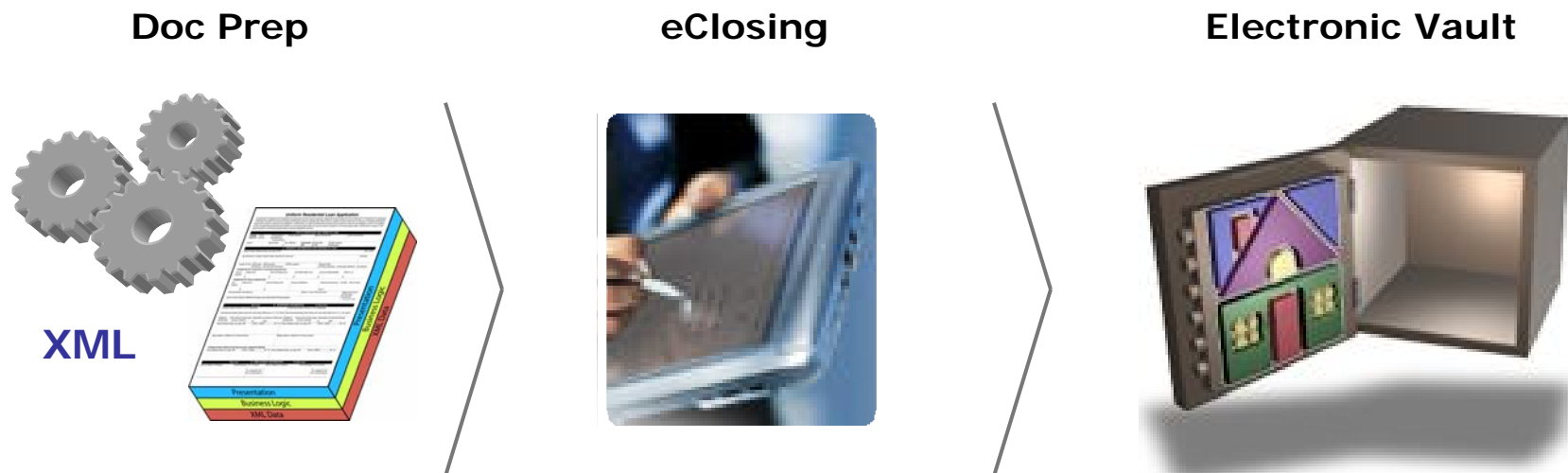
From Paper to Imaging to eMortgages

- **Today** – Electronic documents generation, delivery, and imaging.
 - Still need to print the documents for signatures and then image them.
- **Tomorrow** – From Imaging to eMortgages using XML and eSigned Docs.
 - The documents are created electronically, executed electronically, transferred electronically and ultimately stored electronically. AKA – the paperless mortgage.
- **Bottom Line** – Great savings today and much more potential savings tomorrow.



eDocs – Electronic Documents

- An electronic document (eDoc) functions as an equivalent to a paper document. It also eliminates the need for printing.
- Paperless environment has been a key driver for the evolution of the eDocs formats from imaging to the electronic records.
- Legislatively, ESIGN and UETA similarly define an electronic record as a record “created, generated, sent, communicated, received, or stored by electronic means.”



Background on ESIGN and UETA

- Uniform Electronic Transactions Act (UETA) introduced in 1999.
 - 46 states plus DC have adopted UETA in some form.
 - UETA’s Objective: Ensures that transactions in the electronic marketplace are as enforceable as transactions memorialized in paper.
- Electronic Transactions in Global and National Commerce Act (ESIGN) was passed in 2000 by Congress.
 - Relationship to UETA: Mirrors UETA’s provisions, but will preempt a state UETA law if the state law contains amendments that conflict with ESIGN.
 - Adds a requirement to obtain consumer consent before delivering certain consumer disclosures that need to be in writing.
- Electronic record is defined as “a record, created, generated, sent, communicated, received or stored by electronic means.”

PDF Format – Evolutionary Approach

	Flat PDF		Data Enabled PDF	
	1. Flat PDF – Scanned Image	2. Flat PDF – Electronically Generated	3. Data Enabled PDF - with AcroForms	4. Data Enabled PDF - with XFA & XDP
Describing (Metadata)	<i>Through XMP or file attachments</i>			<i>XMP and native XML support</i>
Visually Representing	<i>Bitmap Image of Document</i>	<i>Vector & font-based image with selectable & extractable text</i>	<i>Form field annotation objects</i>	<i>XML template for layout and data fields</i>
Embedded Data	<i>Only with attachments</i>	<i>With attachments or through complex PDF-based processes</i>	<i>Through attachments, or embedded data in FDF or XFDF</i>	<i>Full XML Schema support</i>
Transparently Linking Data and Presentation	<i>Not available</i>		<i>Linking between Form Field Annotations and FDF/XFDF</i>	<i>Full linking of Schemas via XFA mapping</i>
Electronically Signing	<i>Fully supported with PDF Signatures</i>			
Tamper Evident Sealing	<i>Fully supported with Certification & PDF Signatures</i>			
Auditing	<i>Fully supported with Certification & PDF Signatures</i>			
Software & Libraries Available	<i>Adobe, 3rd Party Commercial, and Open Source</i>			
PDF/A	<i>Fully supported</i>		<i>Flattened only</i>	

Industry Standards for eSigned PDF documents



Supported by MISMO eMortgage Guide and eMortgage Closing Guidelines.

MISMO eSigned PDF Guidelines

- MISMO eSigned PDF Guide providing voluntary guidelines to standardize PDF mortgage documents.
- The guide provides direction for the use of PDF for electronic mortgage documents, including those that contain electronic signatures.
 - Legal considerations
 - Guidelines
 - General format structure
 - Electronic Signatures
 - Digital Seals
 - Open Source
 - Data, Signatures, other.

eSigned PDF Legal Considerations

- ESIGN and UETA are technology neutral.
 - No specific technology requirements for the creation of electronic signatures or records.
- An electronic document can enjoy the same legal effect and validity if it:
 - Meets the definition of an “electronic record” under ESIGN and UETA;
 - Complies with any content, format, or proximity requirements of applicable law;
 - Is delivered in a manner specified by applicable law (e.g., timing);
 - Is capable of retention by the recipient at the time of receipt;
 - Is accessible and accurate; and
 - Can support technology or processes that allow one to verify the identity of a sender of the electronic record and to assure the informational integrity of the electronic record.
- UETA specifically contemplates the use of a “security procedure” (e.g., algorithms, codes, encryption, etc.) to ensure information integrity in an electronic record and for attribution of electronic records and signatures.

Guidelines supported by Sample Open Source Code



4 Open Source Code

4.1 Sample C#.NET Code

Using the iText (<http://www.lowagie.com/iText/>) libraries to create, extract and validate eSignatures.

Pre-requisites.

Download the library from the web site mentioned above and include it in your project. The examples provided in this document have been created in the .NET environment using C#. The code may be different for different environments and for different certificate stores. The code should be used only as a guideline.

4.1.1 Create a data-enabled PDF

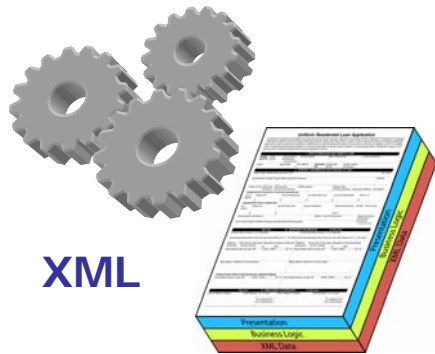
A PDF template is needed to create a PDF using iText. A data source will be needed to populate this template and save it as a PDF using iText. The sample code is listed below. The methods in *blue italics* are iText methods and objects.

The below is a method which will open the template, put the passed values in the respective fields and save a new document.

```
public static void iTextWriteTest(string minnum, string stname, string
houseenum)
{
    string filepath = @"D:\PDF_Template - v3.pdf";
    string newfilepath = @"D:\PDF_Sample.pdf";
    PdfReader reader = new PdfReader(filepath);
    PdfStamper pdfs = new PdfStamper(reader, new
FileStream(newfilepath, FileMode.Create));
    AcroFields af = pdfs.AcroFields;
    Hashtable hs = af.Fields;
    foreach (object obj in hs)
    {
        DictionaryEntry de = (DictionaryEntry)obj;
        string fieldname = de.Key.ToString();
        if (de.Key.ToString().IndexOf("IN_MtgIDNum") > -1)
        {
            af.SetField(fieldname, minnum);
        }
        if (de.Key.ToString().IndexOf("PR_AddrLine") > -1)
        {
            af.SetField(fieldname, houseenum + " " + stname);
        }
    }
    pdfs.Close();
}
```

eSigned PDF Documents

Doc Prep



eSigning




Electronic Record

Recording Requested By:
Conrad Simms

Document Services Dept
44 North Main

After Recording, Return To:
23344-48589-9585
Orange County
California
November 15, 2005
10:01:34 am
Marilyn Clark
\$50.00

Prepared By:
Conrad Simms

Signature/Seal of Recorder

eMortgage to eSign Corp
1234 Main Street, Suite 100
Orange, CA 92668
Phone: (714) 944-1234
Fax: (714) 944-5678



123456789 E-123-456-789 987654-321

DEED OF TRUST

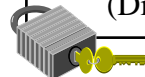
DEFINITIONS
Words used in multiple sections of this document are defined below and other words are defined in Sections 3, 11, 13, 18, 20 and 21. Certain rules regarding the usage of words used in this document are also provided in Section 16.
(A) "Security Instrument" means this document, which is dated November 15, 2005, together with all Riders to this document.
(B) "Borrower" is John Doe

Borrower's address is
1234 Main Street, Santa Ana, CA 92702
Borrower is the trustee under the Security Instrument.

CALIFORNIA-Single Family-Family Trust-Freddie Mac UNIFORM INSTRUMENT
Page 1 of 15
Form 3005 1/01



Tamper-Evident Seal
Signature Value
(Digital Fingerprint)



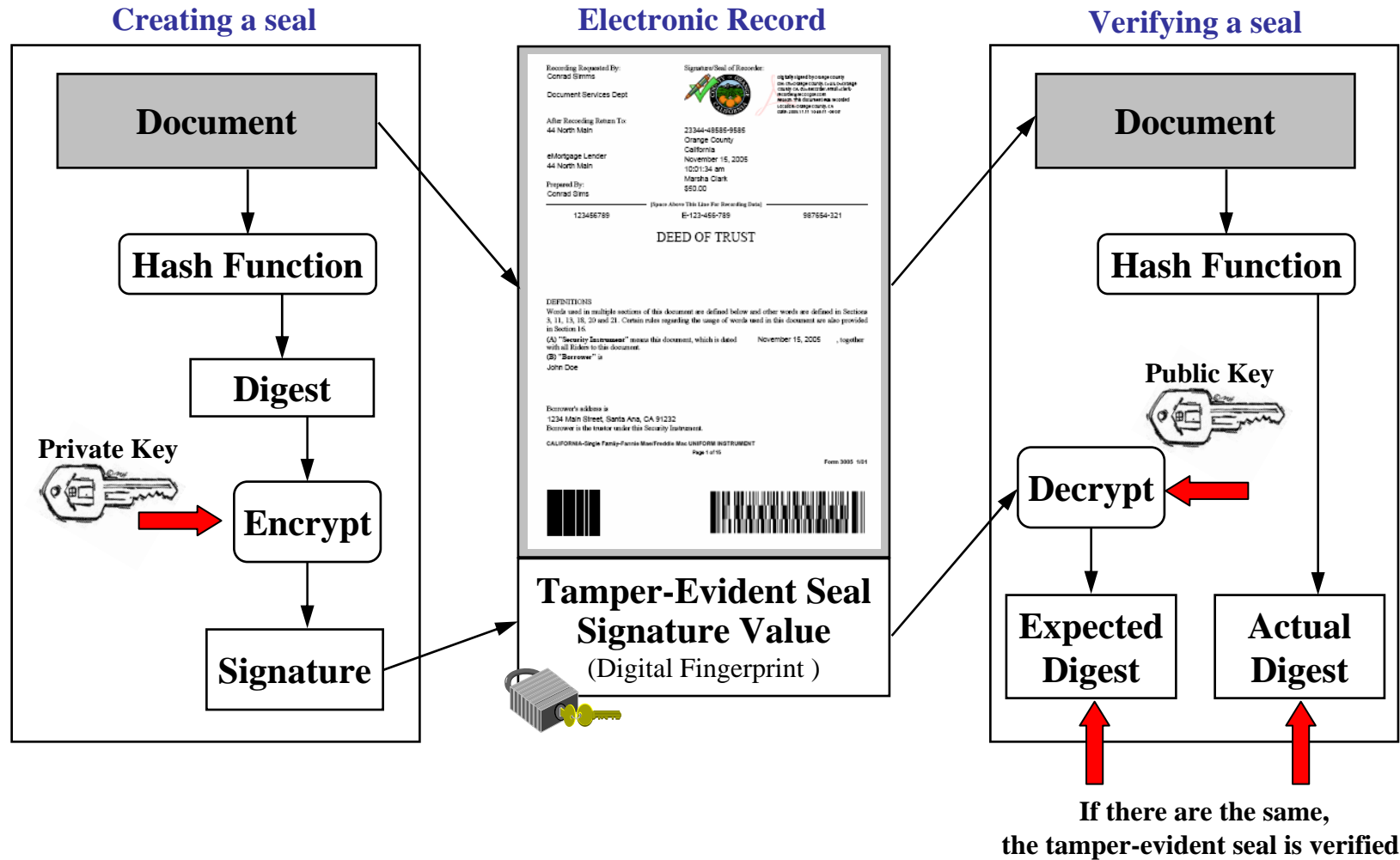
Electronic Vault



Example of electronically signing a mortgage document using an evidence based esignature approach.



Tamper-Evident Seal



Conclusion

- Each eMortgage process reduces paper, time, and cost. The cost savings can be achieved incrementally.
- There will be a continuous transition to paperless mortgage over the next 5 to 10 years.
- eMortgages will continue to gain traction and acceptance based on industry standards.
- During the transition, loans will be hybrid leveraging imaged docs while gradually adopting electronically signed documents.



Disclaimer

This Presentation contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, regarding management's beliefs, estimates, projections, and assumptions with respect to, among other things, the Company's future operations, business plans and strategies, as well as industry and market conditions, all of which are subject to change. Actual results and operations for any future period may vary materially from those projected herein and from past results discussed herein. Factors which could cause actual results to differ materially from historical results or those anticipated include, but are not limited to: competitive and general economic conditions in each of our business segments; changes in general business, economic, market and political conditions in the United States and abroad from those expected; loss of investment grade rating that may result in an increase in the cost of debt or loss of access to corporate debt markets; reduction in government support of homeownership; the level and volatility of interest rates; changes in interest rate paths; changes in generally accepted accounting principles or in the legal, regulatory and legislative environments in the markets in which the Company operates; the ability of management to effectively implement the Company's strategies; and other risks noted in documents filed by the Company with the Securities and Exchange Commission from time to time. Words like "believe," "expect," "anticipate," "promise," "plan," and other expressions or words of similar meanings, as well as future or conditional verbs such as "will," "would," "should," "could," or "may" are generally intended to identify forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward-looking statements



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Thank You!

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