



# MBA Technology Overview

Legal Issues in Mortgage Technology  
Conference

Harry Gardner, Director of Industry Standards

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# MBA Technology Thrusts

- Transactional Data Standards – MISMO  
(Mortgage Industry Standards Maintenance Organization)
- Data Security – REFSMO  
(Real Estate Finance Security Management Organization)
- Electronic Mortgage Standards  
(eMortgage Workgroup)

# MISMO: Transactional Data Standards for the Industry



# Why are Data Standards Important?

- Cost-effectively collect data needed from trading partners & service providers to make informed business decisions electronically and quickly
- Provide confidence in data and its integrity
  - Understand data definition, purpose, characteristics
  - Encourage consistent usage across industry
- A common language for all users

# MISMO Overview

- Launched by MBA in January 2000
  - 90 subscriber companies, 500+ individuals on listservs
  - Fannie, Freddie, lenders, vendors, service providers (credit, title, appraisal, flood), more...
- Developing XML transactional data standards
  - Foundation for real estate industry e-commerce
  - Trading partners can extend/expand as needed
- Multiple standards discussions underway
  - (AARTT/REIPA, Appraisal Institute, IFX, ebXML, XBRL, NAR/RETS, ACORD, LegalXML, PRIJTF, etc.)

# MISMO Deliverables

- Industry Business Data Dictionary
  - Approx 2000 data elements, going to 4000+
- Industry-standard XML DTDs (Document Type Definitions)
  - 6 Process-area DTDs currently
  - 14 to be released in January 2002
- Engineering guidelines for creating DTDs
- Implementation Guides to build MISMO standard transactions (by process area)

# MISMO Organization

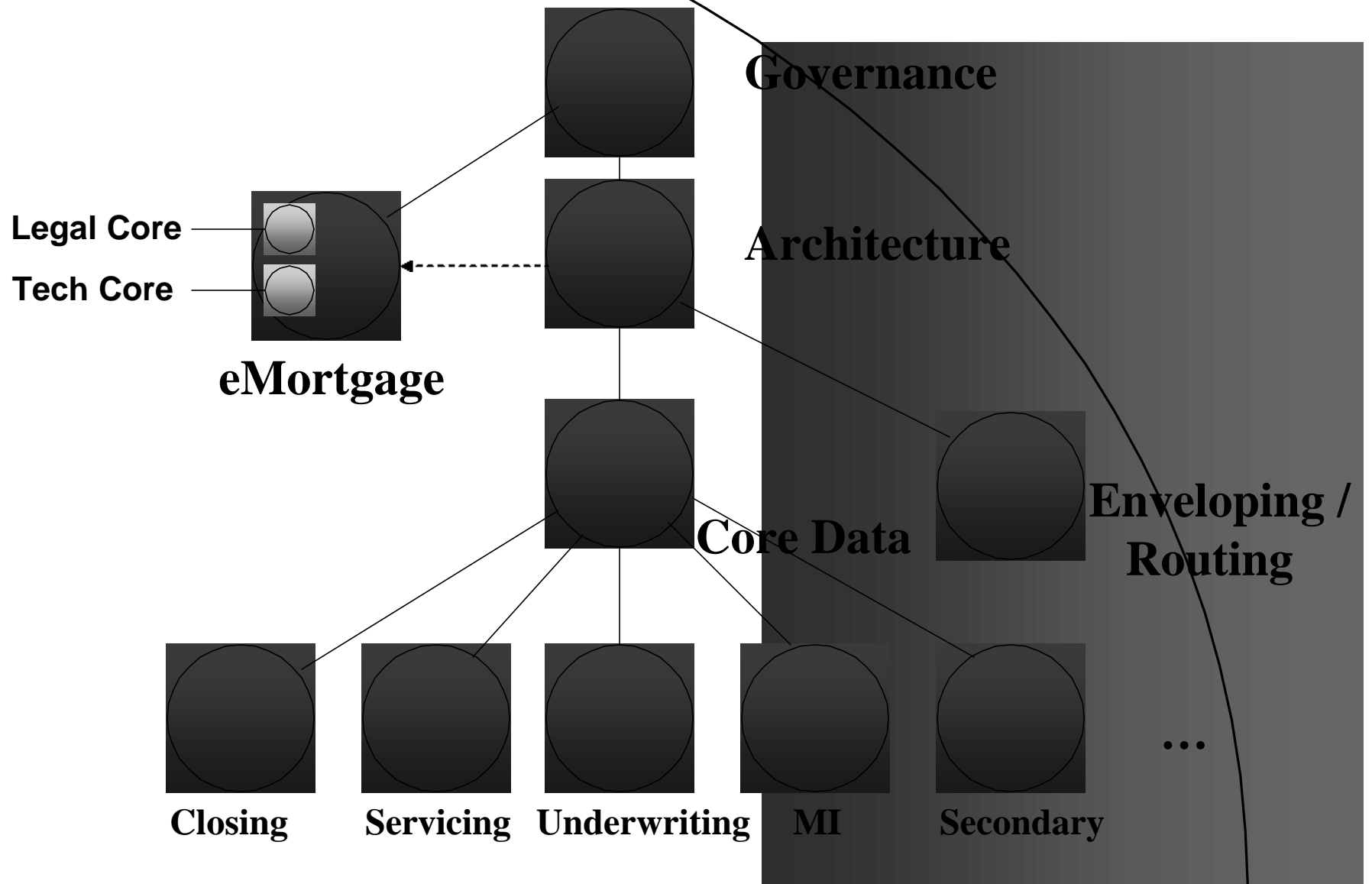
- **Governance Committee**

- Guides the policy and administrative direction of MISMO
- 16 members from across industry sectors

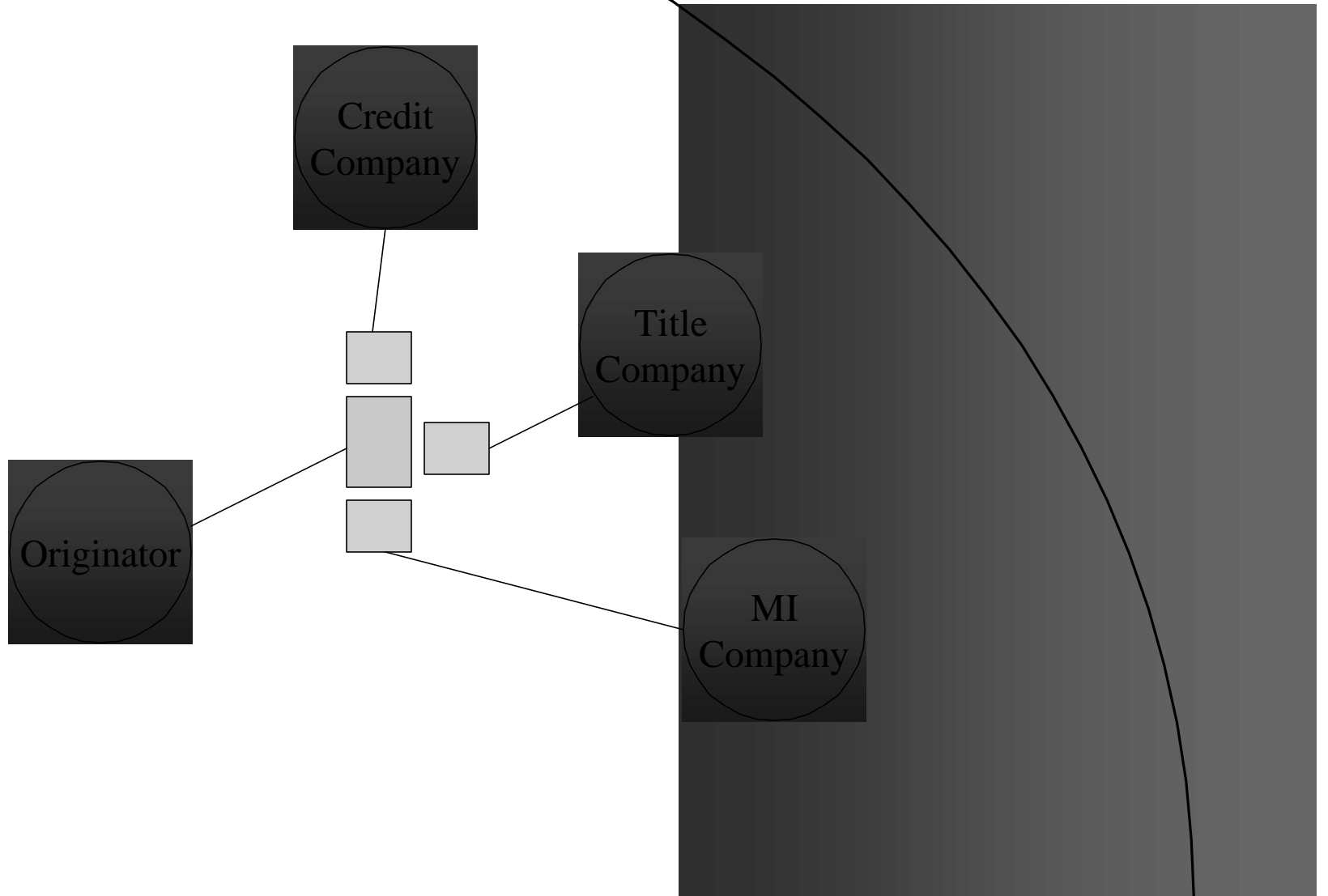
- **Workgroups**

- Process-focused industry participants defining business data needs for specific business areas
- Architecture WG defines technical structure, core data and process groupings and administers tool
- eMortgage WG defines electronic mortgages re: ESIGN and UETA, and how to support eMortgages with networks and security

# MISMO Organization



# How MISMO Works



REFSMO:  
Industry-Standard Security/PKI



# What is PKI?

- “Public Key Infrastructure”
- Technology infrastructure for secure transactions
- Public/private key encryption allows confidential data to flow between previously-unrelated parties
  - Data encrypted for secure business transactions
  - Each user has public key (provide publicly to trading partners, etc) and private key/password
  - Data encrypted with public key can only be decrypted with private key, and vice-versa.
- Keys managed by Certificate Authority (CA)

# Benefits of PKI

- Authentication: *Confirm user identity*
  - Requires private digital certificate and valid password
  - Stronger than simple user id and password login
- Confidentiality: *Maintain data privacy*
  - Data encrypted for secure transmission
- Integrity: *Detect data tampering*
  - Digital signatures detect (but don't prevent) unauthorized changes
- Non-repudiation: *Proof of participation*
  - Technical proof that an individual's private key was used
  - Enables trust between entities previously unknown to each other
  - Not infallible – private key or software could be compromised

# Digital Certificates

- Identify you on the Internet
- Issued by a trusted third party referred to as a Certificate Authority (CA)
- CA will offer a range of certificates, graded to the level of inquiry used to confirm the identity of an individual
  - Certificates can be issued in response to an email address
  - Certificates can be issued after receiving third party proofing of name, address, and other personal information in the on-line registration process
  - Certificates can be issued once a person appears in person and presents registered credentials and /or after a person has been thoroughly investigated

## Digital Ids Version 3 X.509 Certificates

Certificate format version	version 3
Certificate serial number	987654
Signature algorithm identifier for CA	RSA/SHA-1
Issuer X.500 name	c=US,o=MBA
Validity period	start=01/08/99 expiry=01/08/2002
Subject X.500 name	c=US, o=FM, cn= Jane Doe + ...
Subject public key information	RSA/SHA-1
Extensions: Type, Criticality, Value	
CA Signature	

# Digital Signatures

- Electronic fingerprints of messages “signed” by a private key (using a hashing algorithm and digital certificate)
- Not the same as electronic signatures, such as:
  - Scans of handwritten signatures
  - Electronic “penned” signatures
- Unlike “wet” signatures...
  - Digital Signature differs for each document
  - Document contents and origin can be verified (integrity and verification)

# Certificate Authority

- Accepts applications for certificates
- Verifies the identity of the person or company applying for the certificate
- Issues certificates
- Revokes certificates  
(CRL = Certificate Revocation List)
- Provides information about the certificates that it has issued in a Repository

# Trusted Authority Model

- This is as opposed to “root” or “hierarchical”
- The Real Estate Financial Services Industry needs more than just CA services
- Liability protection for relying party (if authorization checking has been performed)
- Worry-free use of certificate if all policies, including legal, are adhered to by all concerned parties

# Participant Analogies Between Credit Cards and eCommerce

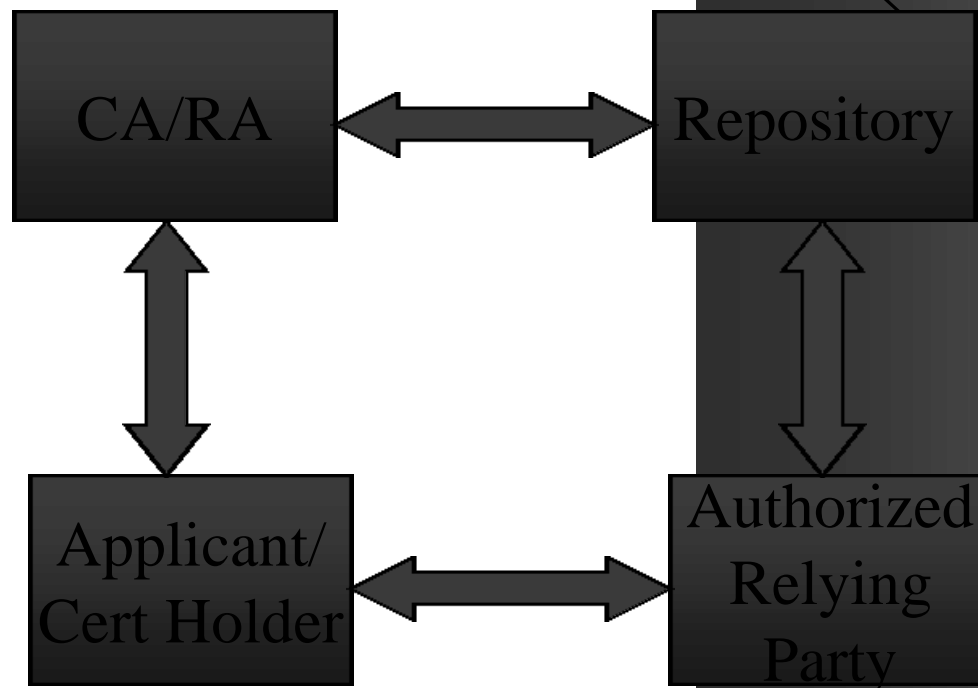
- Credit Card Model

- Card Issuer
- Card Holder
- Merchant

- eCommerce

- Certificate Issuer
- Certificate Holder
- Relying Party

# How the Real Estate PKI will be set up (“4 corner model”)



# Here's Where PKI Can Help

- PKI can enable applications to be deployed securely and efficiently on the Internet
  - Loan origination/underwriting
  - Loan delivery to investors
  - Secondary market deal making
  - Servicing transactions
  - Mortgage-related document transfers
  - Secure electronic recording

# Benefits of Having a Common PKI

- Avoids Need for Multiple Certificates
- Minimizes Number of Rule Sets
- Reduces Exposure to Risk and Liability
- Cheaper Overall Systems Costs

# MBA PKI Initiative

- Started in September 1999
- Fannie Mae and Freddie Mac co-chair Security Working Group
  - Numerous working group meetings held
  - PKI documentation developed
  - Interest in initiative has continually grown
- Led to formation of REFSMO

# REFSMO

(Real Estate Finance Security Management Organization)

- Project moniker for MBA PKI initiative
- Members from across the industry
- Real Estate (PKI) and security workgroup (hacking, fraud, etc)
- Plugs into MISMO XML standards
- Also based on security industry standards (X.509, etc)
- Meant to serve as the basis for secure eCommerce

# REFSMO During 2001

- MBA selected Digital Signature Trust (DST) as preferred CA provider
- DST supports a policy maintained by the ABA
- MBA partnered with ABA on standard digital certificates (TrustID™)

# Long Term View

- Responsibilities

- Management of Certificate Policy
- Management of TrustID<sup>®</sup> Rules including enforcement and network fees
- Annual Certification of TrustID<sup>®</sup> CAs
- Advocacy for TrustID<sup>®</sup>
- Marketing TrustID<sup>®</sup>
- Management of the guidelines for the operation of the entity



**eMortgages:  
Standards for the Future**

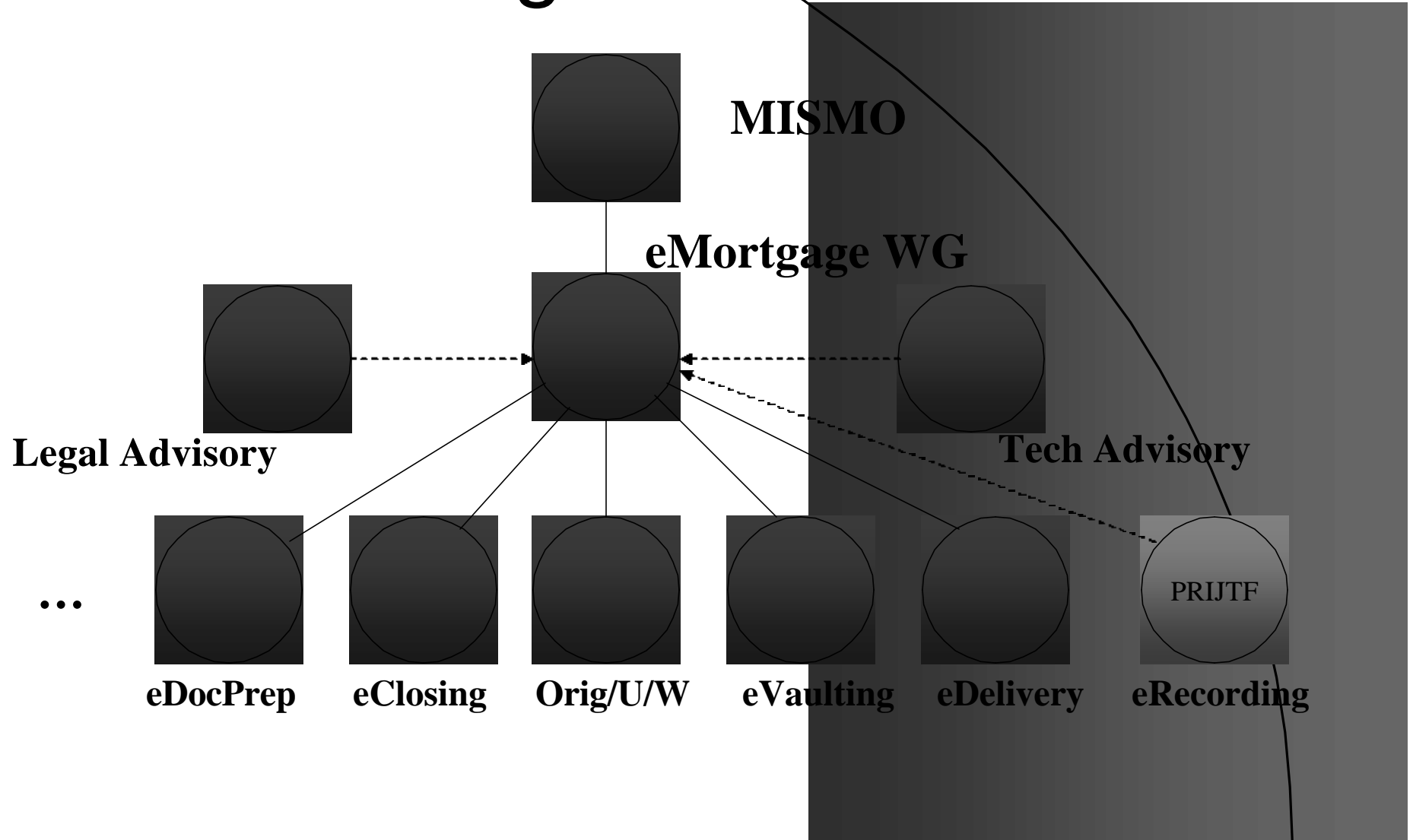
# eMortgage Mission

- Build upon and extend current MISMO mortgage data standards
  - Reuse industry-standard datasets developed by process-area workgroups
- Develop requirements and recommendations for fully electronic mortgage processing – Why?
  - Cost savings to all parties involved (less keying of data)
  - Increased efficiency and liquidity in mortgage marketplace

# eMortgage Overview

- Kicked off in January, regular conf calls
- Adopted mission statement & scope and mapped to existing MISMO processes
- Created industry guidelines for technical, functional, and operational requirements
- Tackled technology infrastructure issues (e.g. XHTML, transferable record, archiving)
- Delivered 1.0 draft recommendations & guidelines in October 2001 at MBA annual conference!

# MISMO eMortgage Organization



# eMortgage Structure

- Main group approx 170 members
- Two Advisory Panels
  - Legal Core & Technology
  - Review issues of broad interest
  - Provide consensus opinions back to workgroup
- Eight Focus Groups
  - Working on specific functional areas
  - 3 - 25 members each

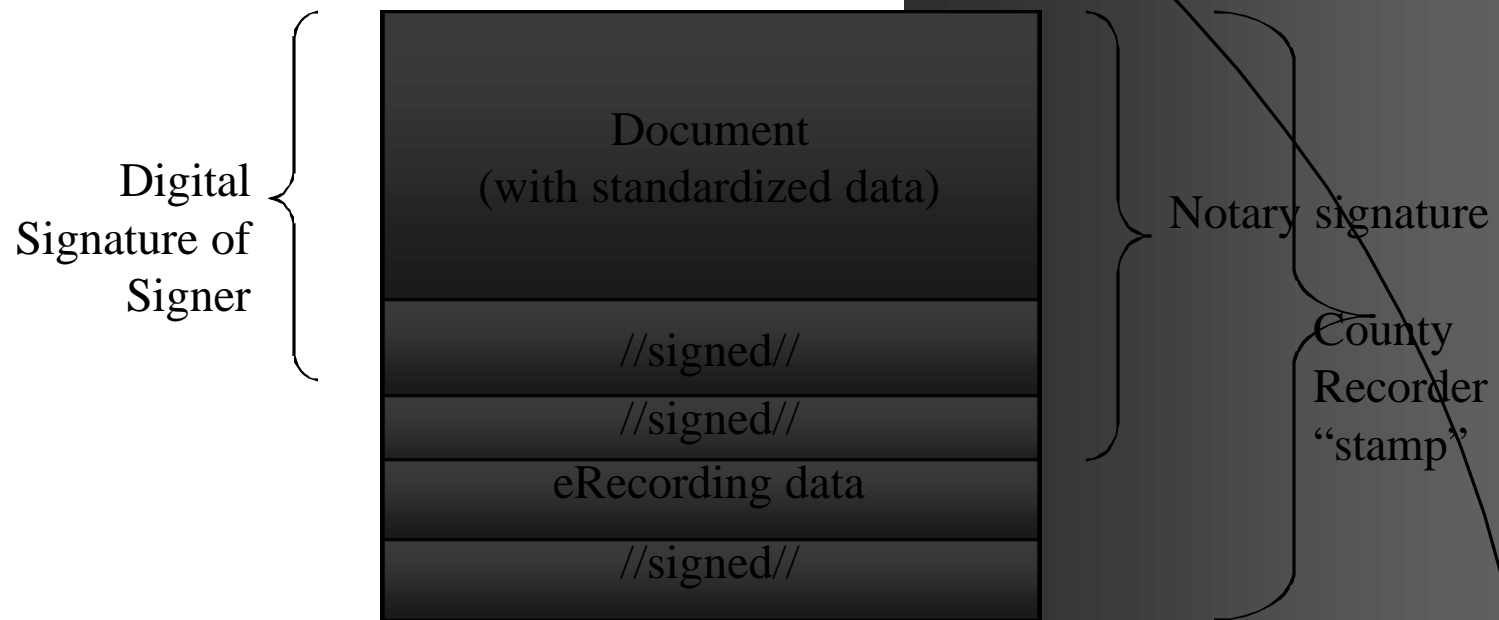
# eMortgage Advisory Groups

- Legal Core
  - Reviews legal questions escalated from Focus Groups or other Workgroups
  - Focused on ESIGN and UETA issues
  - Maintains Issues List and Consensus Response
    - “Living” document
    - Updated as new issues are added, or consensus is reached on each issue
- Technology
  - Reviews broad technology questions
  - Compares/contrasts possible technology solutions

# eMortgage Focus Areas

- Closing (including identification & authentication, through to execution and funds dispersal, including recording)
- Pre-Closing (including: origination and underwriting, document preparation)
- Post-Closing (including: loan delivery, and vaulting/archival)

# eMortgage Visualization



# Conclusions

- Mortgages are a complicated business, all the pieces of the puzzle need to come together faster and easier
- Security and standardization are key issues



Questions?