

Technology Foundations

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MBA Technology Focus

- Technology Committees
 - » BoDTech
 - » ResTech / CommTech
- Residential Technology Providers Forum
- MISMO
- Information Security
- eMortgage
- Technology Conferences
- Technology Education / Certification

MISMO: Industry Standards

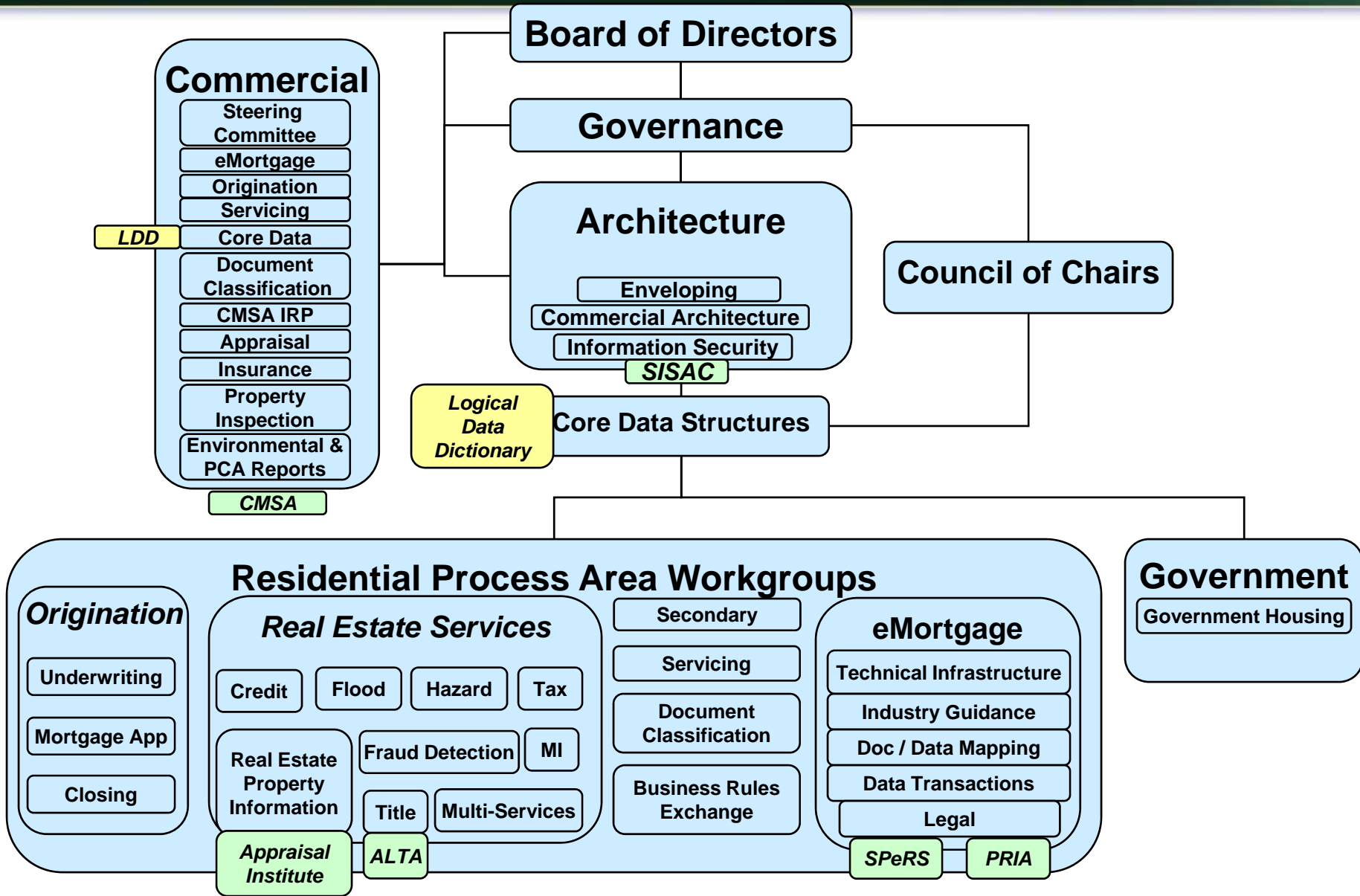
- XML Data Standards for e-commerce
- Info Security Best Practices
- eMortgage Guidelines and Specifications

- Version 3.0 – XML Schema
 - » Structural consistency
 - » New capabilities, easier extensibility

Business Benefits of MISMO Standards

- Common language through data dictionary
- Mapping of terms between process areas
- Standardized data transactions
 - » Faster / cheaper / better
 - » Interface development in 2 weeks vs. 6 months
 - » Much easier to add or subtract interfaces with business partners

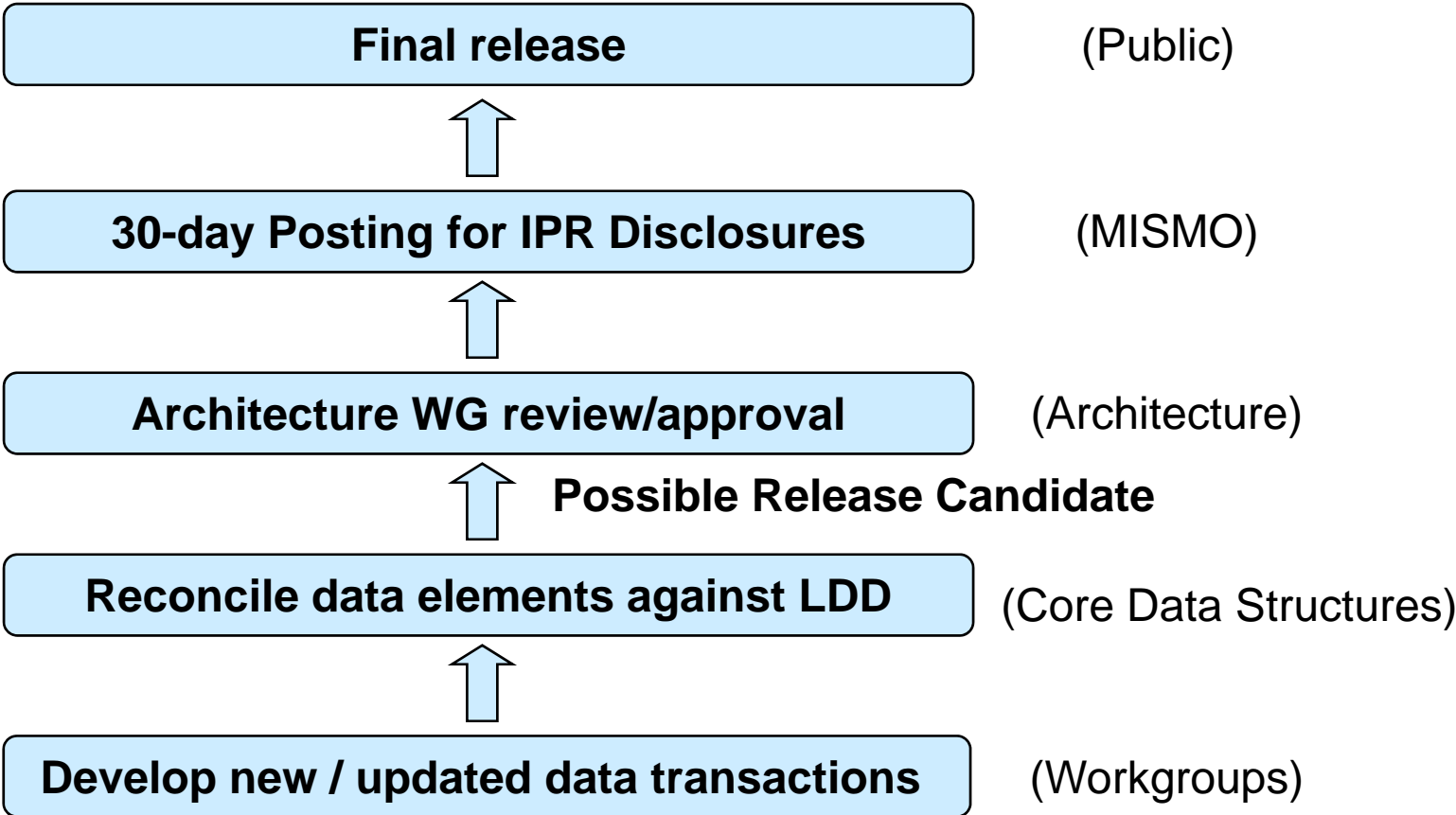
MI SMO Organization



2007 Governance Priorities

- Organizational Alignment:
 - » Enhance program and project management capabilities – ONGOING
 - » Strengthen Core Structures and Core Data alignment – DONE
 - » Consolidate WGs that overlap objectives and skills – DONE
 - » Better align MISMO Governance Committee with strategic objectives and revisit seat structure - DONE
- Adoption:
 - » Identify and promote value proposition for MISMO – ONGOING
 - » Increase Government adoption – ONGOING
 - » Increase MXCompliance Certifications – ONGOING
 - » Increase and monitor eMortgage Statistics – DONE
 - » Move forward with Version 3.0 by establishing high level architecture and begin reconciliation of - DONE
- Communication:
 - » Enhance Web site and promote use of Wiki – DONE
 - » Enhance outreach through publications – ONGOING
 - » Recognize and publish company adoption milestones - ONGOING

MISMO Standards Process



MISMO Version 3.0

- Common architecture and logical model based on Version 2.x content
- Drivers:
 - » Changes in Real Estate Finance Industry
 - » Fully-Qualified XML Schema
 - » Opportunity to Improve Transactions
 - » Reconcile Differences Across Version 2.x Workgroup Transactions

MISMO Version 3.0 Benefits

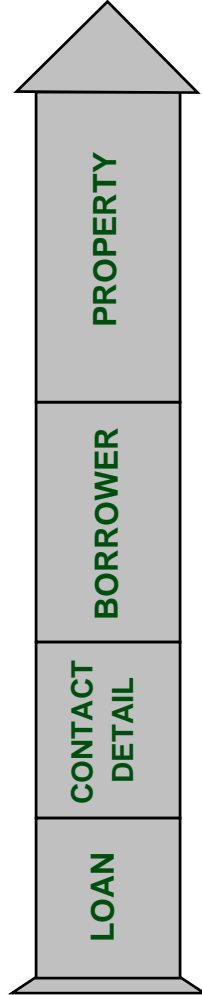
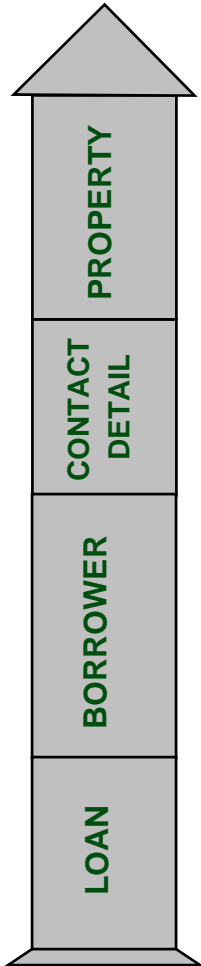
- Consistency of Structures
- Easier to Implement
- Communicate Multi-lingual Information
- Information Security Issues (data point encryption)
- Integral in moving forward with eMortgages

History of MISMO Versions

Version 2.x Transactions

Flood Request

Secondary Loan Delivery



History of MISMO Versions

- Version 3: Full W3C Schema
 - » Element-based
 - » Based on content of Version 2.x
 - » Common architecture and logical model
 - Same format for any origination process
 - Same format between loan origination, secondary market and loan servicing
 - Same format across eMortgage documents

Drivers For Version 3.0

- Changes in Real Estate Finance Industry
- Fully-Qualified XML Schema
 - » Namespaces
 - » Stronger data typing and custom data types to suit real estate finance needs
- Opportunity to Improve Transactions
 - » Remove deprecated data points
 - » Resolve structural / relationship issues
- Reconcile Differences Across Version 2.x Workgroup Transactions
- Leverage Version 2.x Content

Technology Differences Between Ver 2.x and Ver 3.0

W3C XML Schema vs. DTD

MISMO is able to take advantage of architecture and functionality not available in DTDs:

- Publish Using Namespaces
- Stronger Data Typing
 - » Assist in effort for data quality
- Better Compatibility with Other, More Recent, XML-based Technologies
 - » SOAP
 - » The family of Web Service standards
 - » The data security and integrity standards
- Richer Level of Metadata to Describe the MISMO Standards

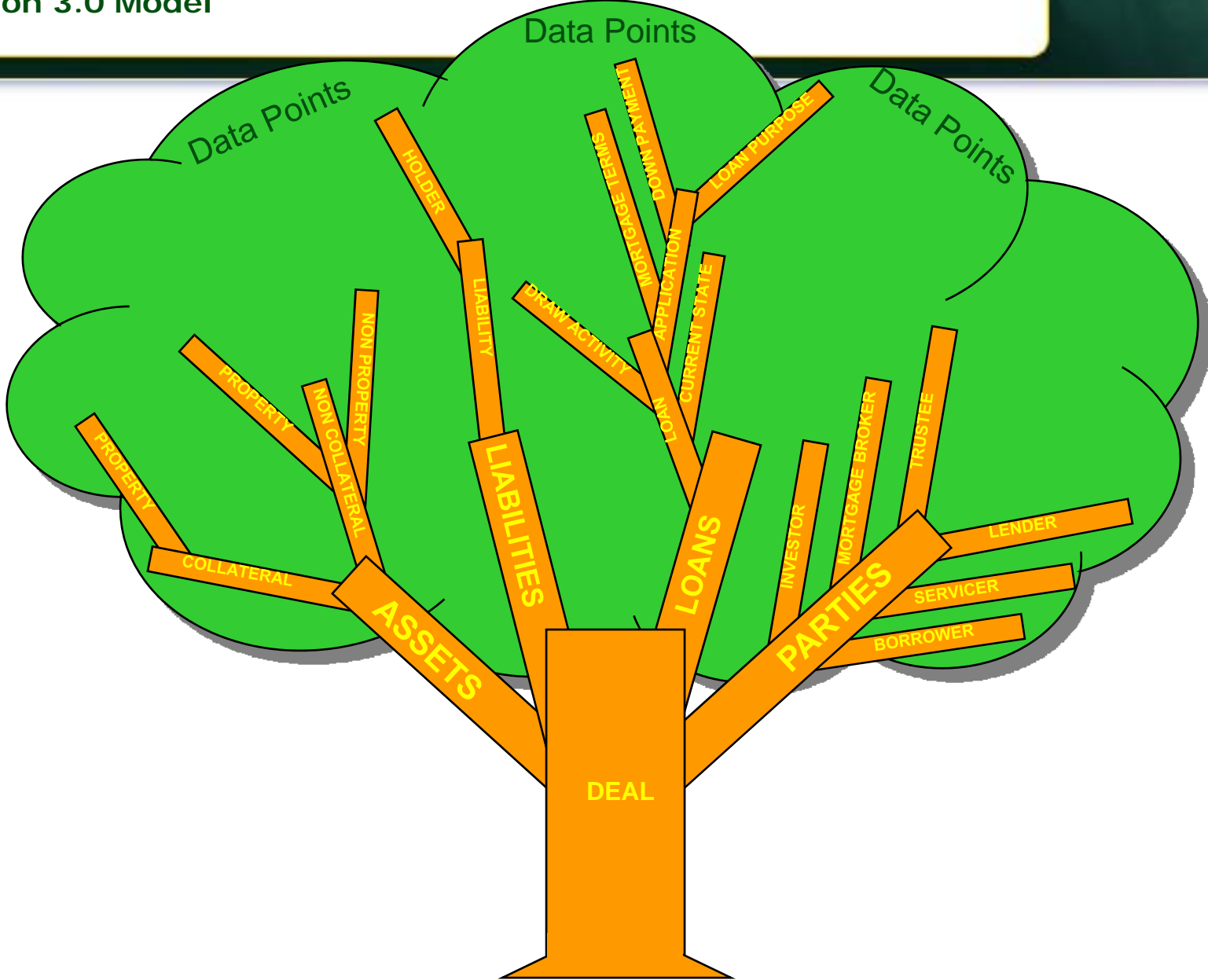
Technology Differences in Version 3.0

Use of SOAP

- Protocol (Standard) for Exchanging XML-based Messages
- Can Replace Version 2.x Request and Response Envelopes
- Many Open Source and Third Party Toolkits Available
- Resolve Several MISMO Implementations Issues:
 - » Security
 - Encryption and Authentication
 - » Routing
 - Flexibility to identify intermediaries
 - » Messaging
 - Message identification, preferred response method and large attachments
 - » Compression
 - Verbose message handling

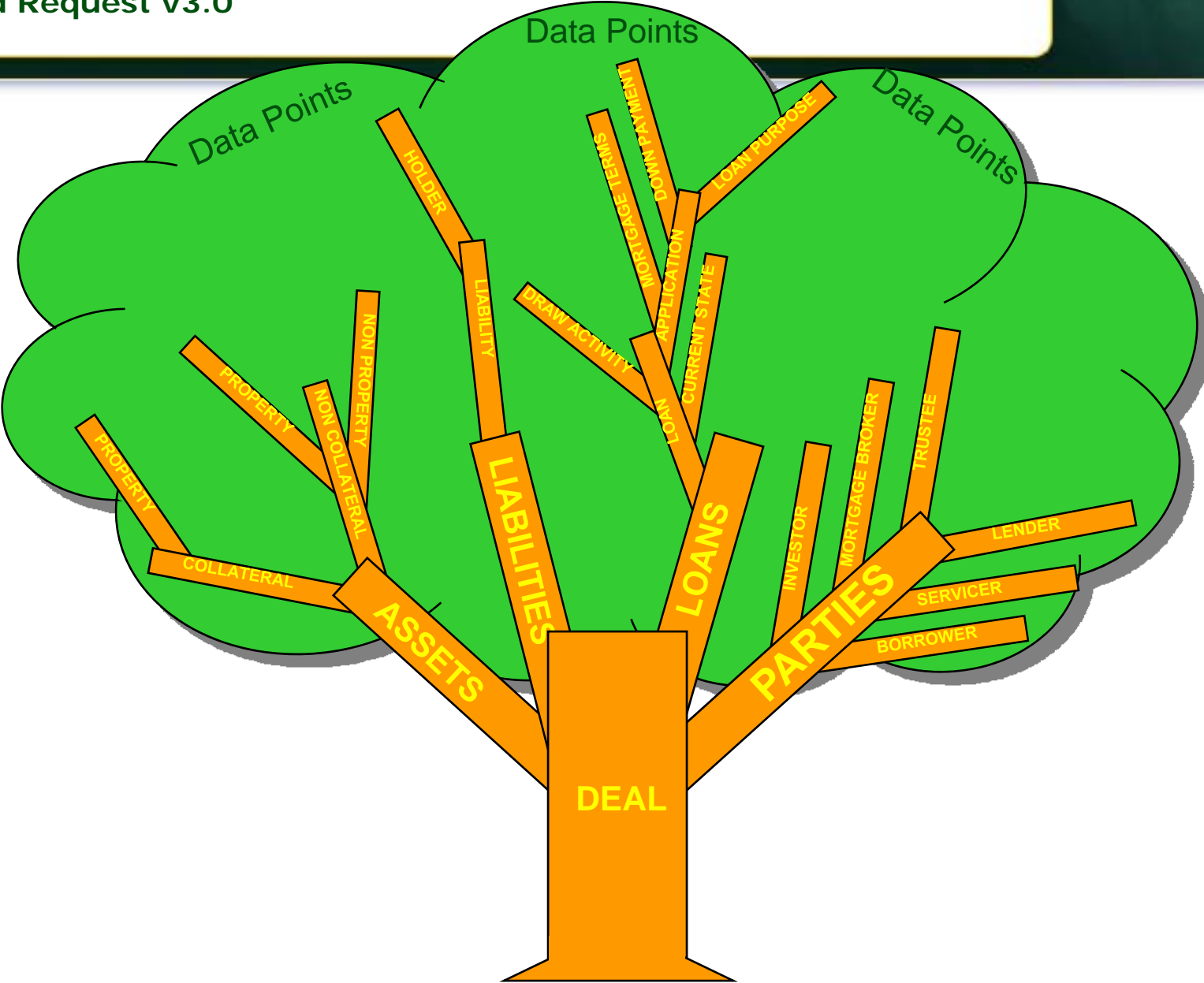
Version 3.0 Transaction Example

Version 3.0 Model



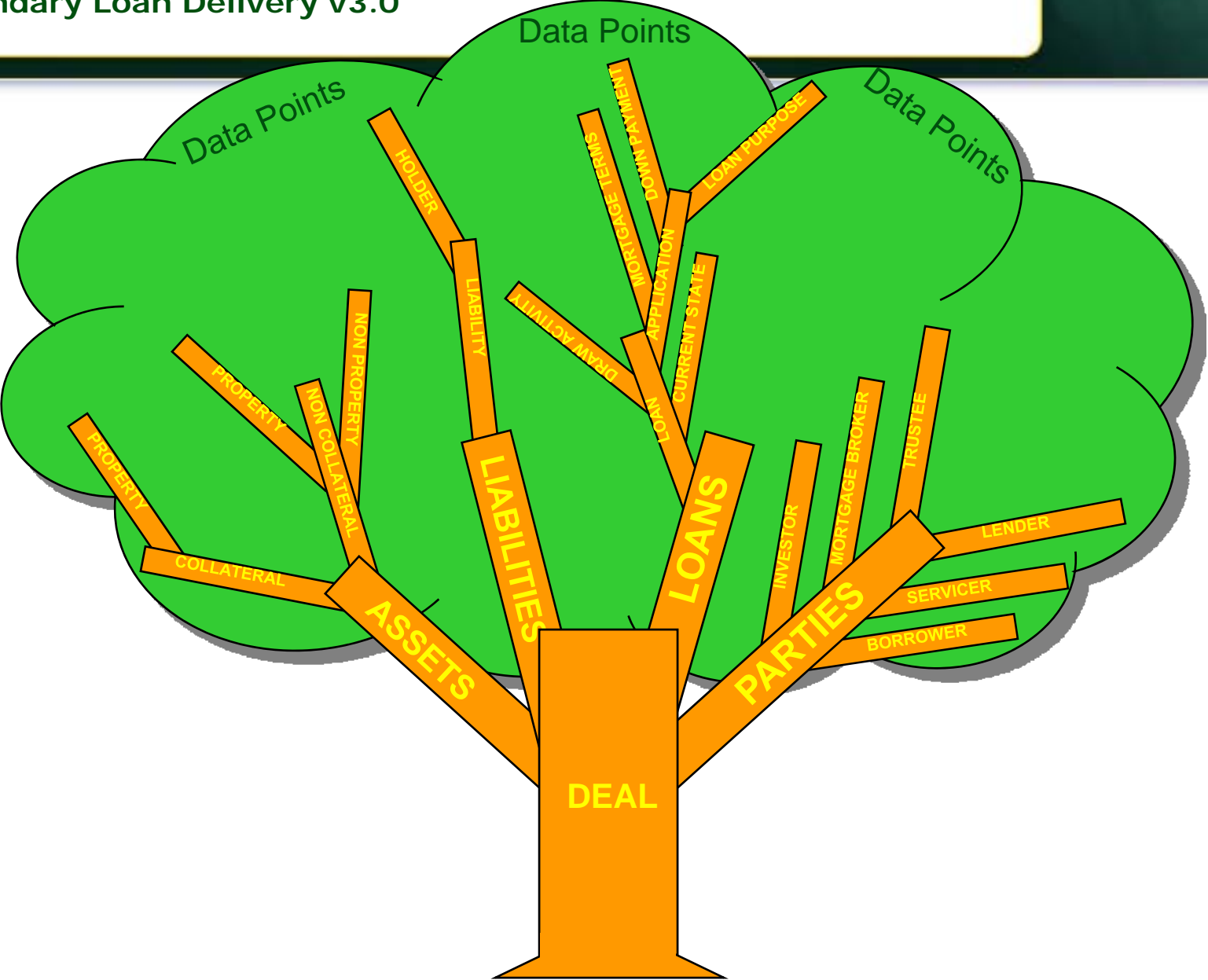
Version 3.0 Transaction Example

Flood Request v3.0



Version 3.0 Transaction Example

Secondary Loan Delivery v3.0



Business Value of Version 3.0

- Consistency of Structures
 - » Greater interoperability
 - » Efficiency of reuse
- Easier to Implement
 - » Platform neutral design leverages the latest XML tools
 - » Decreases time to market
- Communicate Multi-lingual Information

Business Value of Version 3.0

- Information Security Issues
 - » Leverages built-in SOAP protocols for username/password encryption and digital signature
 - » Element-centric design allows data point level encryption
- Easier to Extend the Standard
 - » Extensions available at all containers
- Based on Version 2.0 Content

Delivery and Timeline

- MISMO Organizational Changes To Address Version 3.0
 - » D3, Core Data Structures and Chief Architect
 - » Reconciliation efforts
- Finalize Framework By Early 2008
- Deliver First Version 3.0 Deliverable Early/Mid 2008

MXCompliance

- Measures compliance with specific process-area transactions and versions
- MISMO Workgroups establish business Use Cases, determine required fields
- Candidates must provide sample outgoing transactions from their systems
- Must successfully receive ingoing transactions (self-attestation)
- Services available
 - » Import, Export and Verification

MXCompliance

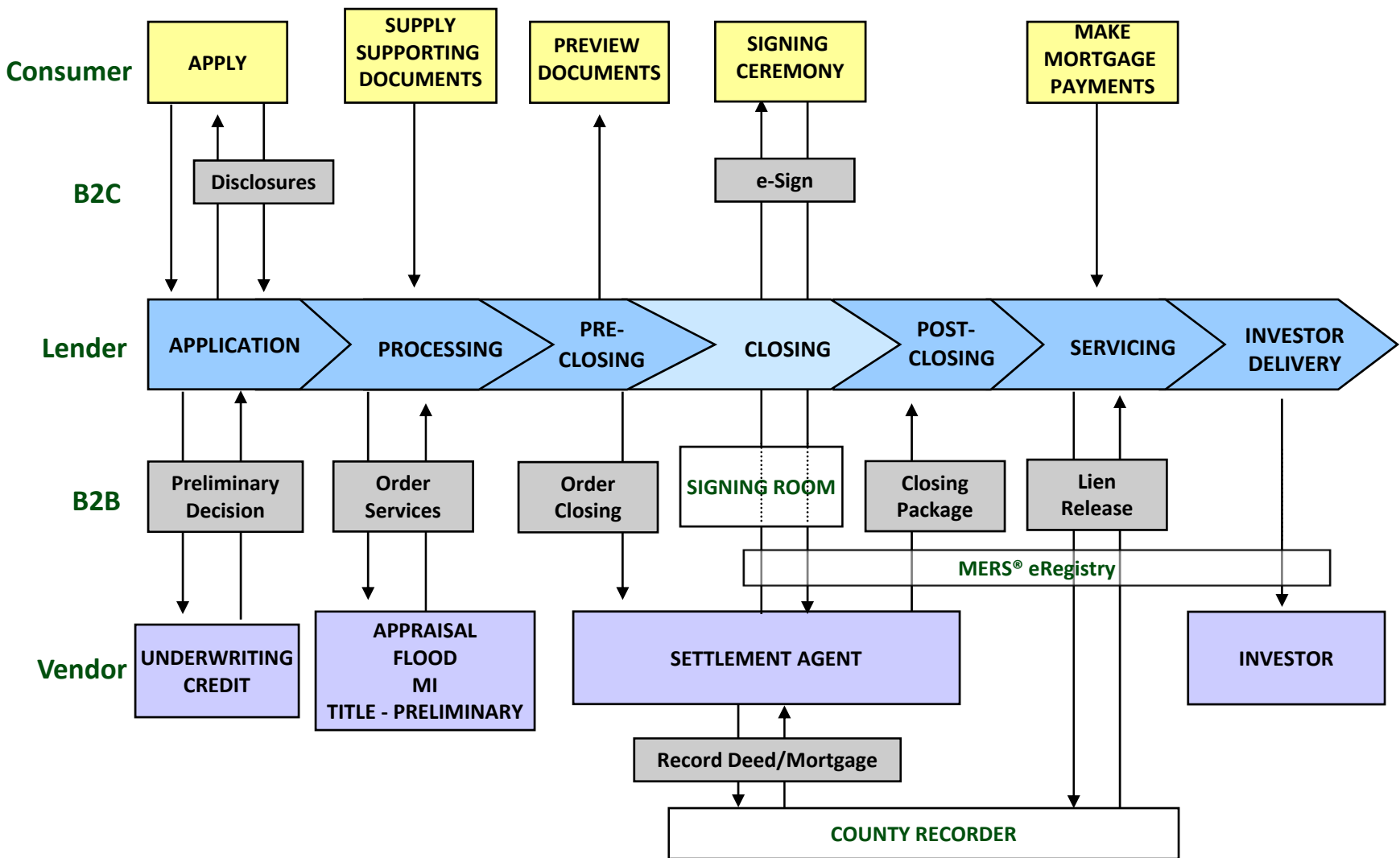
- Sixteen companies are certified
 - » Twelve maintain multiple certifications
- Certifications available
 - » Credit Request and Response
 - » MI Application Request and Response
 - » AUS
 - » Flood Request and Response
- Certifications in process
 - » Title (projected release Q1 2008)
 - » Updated Credit Request/Response (projected release Q1 2008)

Where MISMO is being used

- Front-end service providers
 - Application, Credit, MI, Title, Flood, AUS
- LOS's
 - Dynatek, MortgageFlex, Gallagher...
- Servicers
 - Loan setup and some servicing transfer
- "e" companies (eClosing, eMortgage, ...)
 - Encomia, DPS, Fiserv eLending, Stewart, Digital Docs, MERS, ...
- Title companies
 - Fidelity, Stewart, First American, ...
- Consultants
 - CC Pace, The Performance Group, Magnolia Technologies...
- Forms and Doc Prep Companies
 - VMP/Wolters Kluwer, VMP/DesertDocs, Doc Magic...
- Startup companies learning the business

FROM XML STANDARDS TO EMORTGAGE

Residential Mortgage Process Flow



Electronic Signature vs. Digital Signature

Electronic Signature

Refers to a variety of methods that can indicate a person's signature of agreement:

- Click-sign (on the web) – “Click OK to agree to these terms”
- Holographic – Electronic signature pad captures your written signature electronically (not just the image, but sometimes biometric data too – pressure, speed of pen, etc)

Digital Signature

Uses PKI technology to create a unique alphanumeric code to represent an individual's identity. This code is appended to document files to effect a signature.

Why eMortgages?

Lenders:

- Better control of process
- Shortened timeframes
- Reduced data errors, easier QC
- JIT doc generation, no paper shipping
- eDelivery immediately upon closing
- eRecording – no delay

Borrowers:

- Enhanced experience
- Document preview
- Easy doc access
- Easier closing
- Reduced cost

Cost savings throughout the process

Business Value: ROI of Technology

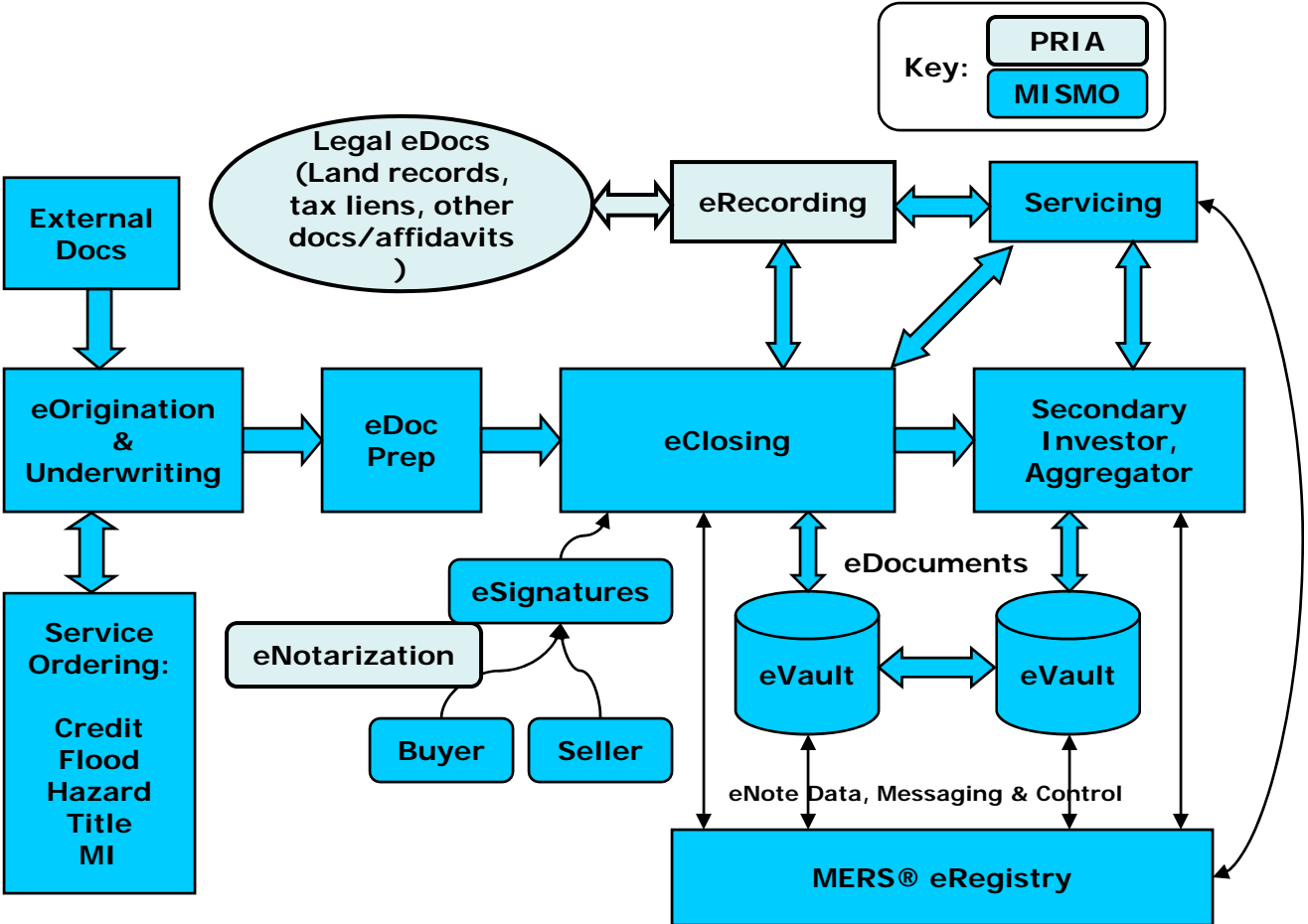
- Faster execution; lower risk
 - » Minutes vs. Days
- Parallel workflow
 - » Several processors can work on e-loan file at once
- Eliminate paper shipping
 - » Save shipping costs, eliminate weather delays
- Greater security
 - » eDoc security controlled centrally; no paper floating on desks
- Reduced effort for QC, auditing
 - » Automated QC, eliminate Stare and Compare
 - » No need to audit multiple silos; normalized data through systems
- Easier (e)Servicing, (e)Custodial setup
 - » Instant sharing of eDocs

Improved Quality

- **DATA quality**
 - » Documents can update new systems automatically (SMART® Documents store extractable data)
 - » Data re-keying mistakes reduced or eliminated
- **DOCUMENT quality**
 - » Documents match system of record (modification to documents controlled by lender)
 - » Electronic signature processes capture more evidence about document signing ceremony
 - » Document integrity over the life of the loan can be validated at any time
- **PROCESS quality**
 - » All parties share the same exact information, efficient access to documents
 - » Documents are always correctly signed/notarized
 - » Automated QC of documents makes post closing/investor pre-purchase exception-handling-only

(This slide courtesy Kim Weaver, Fiserv eLending)*

eMortgage Process Flow



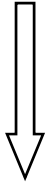
Electronic Document Requirements

- Information describing the document
- Visual representation of the document
- Data embedded in the document
- Transparent linking of the data and visual representation
- Electronic signatures in the document
- Tamper-evident security in the document
- Audit trail of changes in the document

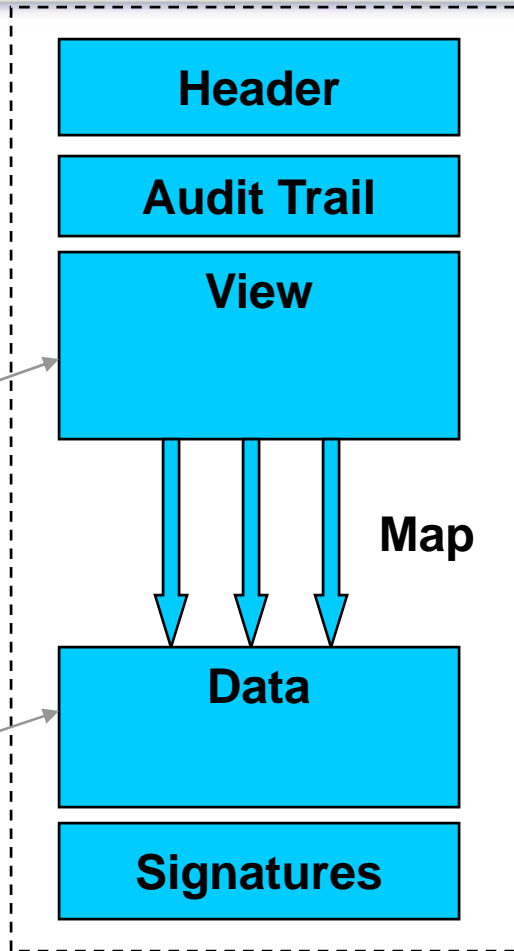
SMART® Document Concept

Securable
Manageable
Archivable
Retrievable
Transferable

May 1, 2003
Closing Date



<ClosingDate>20030501
</ClosingDate>



Header

Document type, other info

Audit Trail

History of events

View

What the buyer sees and signs

Map

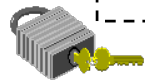
Maps View fields into Data

Data

XML Data for lights-out processing

Signatures

*Electronic or digital signatures
– buyer, seller, et al*



Tamper-evident seal

What is the MERS® eRegistry?

- The industry's response to the requirements imposed by UETA and ESIGN
- The central location to identify the current Controller (holder) and Location (custodian) of the Authoritative Copy of an eNote

Definitions: Paper to “E”

Paper World

Negotiable Instrument

Possession

Original Note (wet signature)

Investor/Holder

Custodian

Endorsement and Delivery

Chain of Endorsements

Servicer

Electronic World

Transferable Record (“eNote”)

Control

Authoritative Copy of eNote

Controller

Location (“eVault”)

Transfer of Control

Transferable Record Audit Trail

Controller’s Delegatee

ESIGN and UETA

- Requirements around the validity and enforceability of electronic signatures include the need to store records in an accessible and accurate manner to maintain legal enforceability.
- Accessibility – speaks not only to present day controls around access, but also to system obsolescence.

MERS® eRegistry Lender Status

- **Live on MERS® eRegistry:**

Fannie Mae

GMAC (as servicer and eVault)

AmTrust Bank (& 500 brokers)

First Houston Mortgage

Boeing Employee Credit Union

American First Credit Union

Freddie Mac (Pilot)

Greenlight Mortgage (Pilot)

1st Advantage Mortgage

Flagstar Bank

Century Bank

Wells Fargo (Pilot)

First Collateral (Pilot)

- **In Integration:**

Freddie Mac

GMAC (as lender)

Navy Federal Credit Union

First American Credit Union

Hinsdale Bank & Trust

Freemont Bank

Over 4,200 eNotes registered since inception

MERS® eRegistry Vendor Status

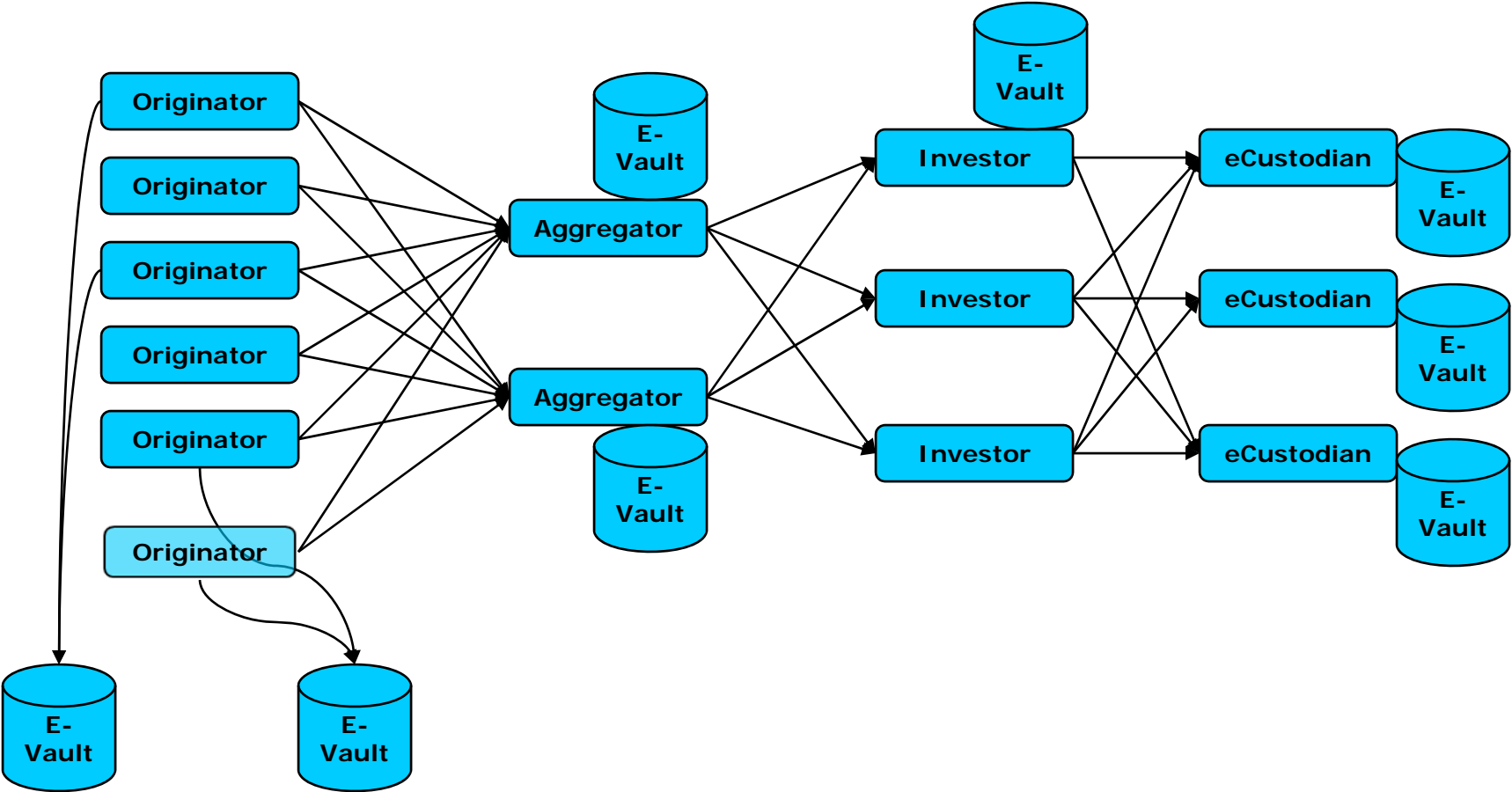
- **Live on MERS® eRegistry:**

- Document Processing Systems**
 - Encomia**
 - Fiserv**
 - Settleware**

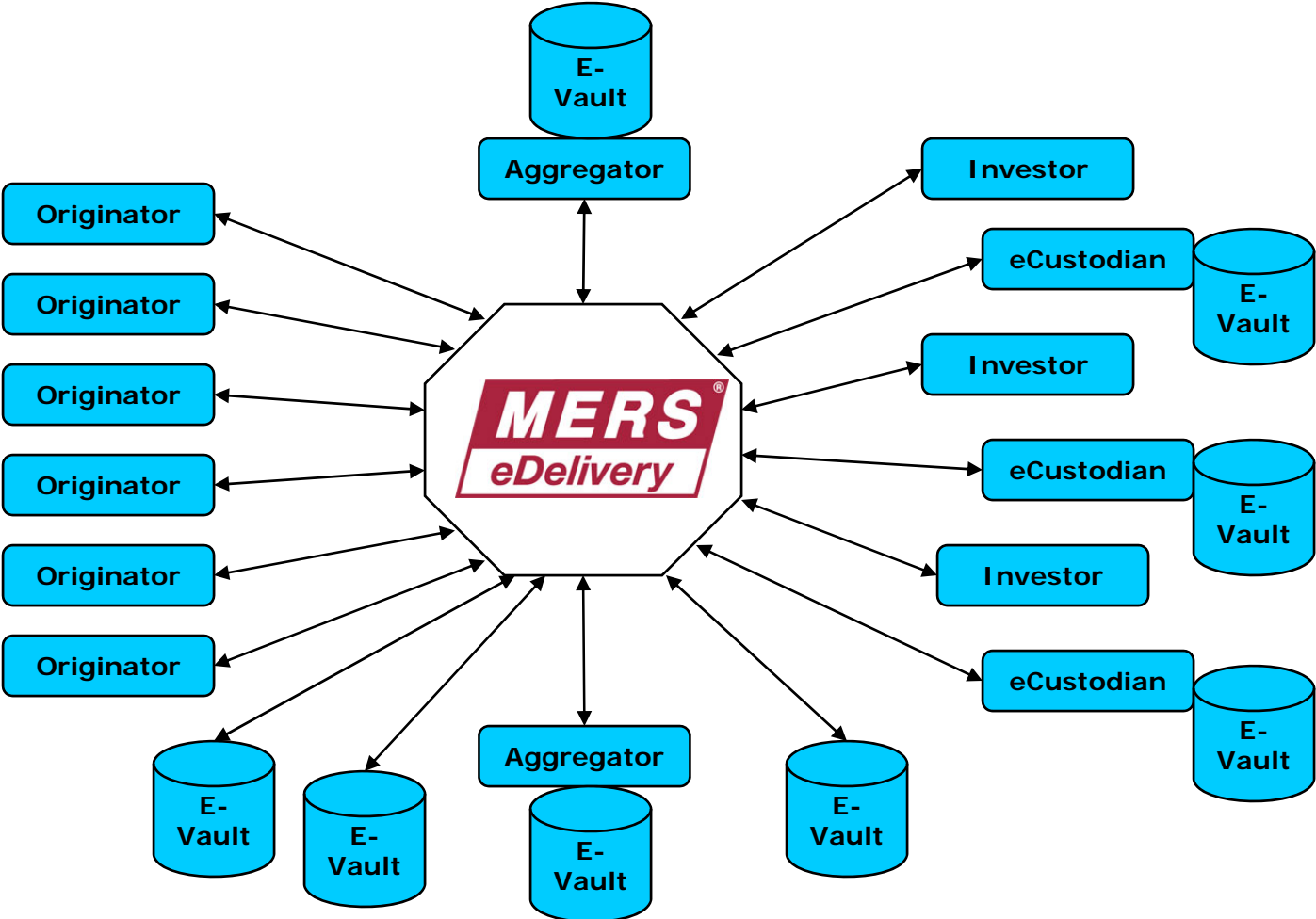
- **In Integration:**

- Stewart**
 - First American**
 - Silanis**
 - MBMS**

Without MERS® eDelivery



With MERS® eDelivery



eMortgage Specifications and Guidance

- XML Specifications
 - » SMART Doc® Specification & DTDs
 - » ePackaging DTD
 - » eMessaging DTD
 - » eMortgage Closing Interface Transactions (eMCIT)
- Industry Guidance
 - » eMortgage Guidelines & Recommendations
 - » Implementation Guides
 - » eMortgage Guide
 - » eMortgage Closing Guide
 - » eMortgage Vaulting Guide
 - » eClosing Cost Benefit Analysis
 - » eSigned PDF® Guidelines
 - » Electronic Vault Regulatory Reference Guide

eMortgage Guide Ver 2.0

- Executive Summary
- Benefits
- Legal Overview
- Key Concepts
 - » MISMO XML Data Standards
 - » eDocs Concept
 - » eSignature Concept
 - » MISMO ePackage Concept
 - » MERS® eRegistry Concept
 - » eDoc Delivery Concept
 - » Electronic Vault Concept
- Industry Processes
 - » eDisclosures
 - » eCredit Reports
 - » E-Appraisals
 - » Flood Zone Determination and Insurance
 - » eNotes
 - » eSecurityInstruments
 - » eTitle Report and Insurance
 - » eClosing
 - » eNotary
 - » eRecording
 - » eDoc Custody
 - » eLien Release
 - » Fraud Detection

eMortgage Closing Guide Ver 1.0

- General
 - » eClosing Overview
 - » Certification Overview
- Guidelines
 - » Legal Considerations
 - » eDocs
 - » eSignatures
 - » eNotary
 - » Tamper-Evident Seal
 - » System Interfaces
 - » System Audit Trails
 - » Electronic Records Storage
 - » Security

eMortgage Vaulting Guide Ver 3.0

- Existing Law & Legislative Overview
- GSE Requirements
- Practical Considerations
 - » Value Proposition
 - » Electronic Vault Implementation Scenarios
- Guidelines for Electronic Vault Interfaces
 - » Transactions List
 - » Transaction Model Example
- Suggested Solution Requirements
 - » Regulatory Considerations
 - » Security
 - » Interfaces
 - » Data Storage
 - » Data Integrity
- Certification Guidelines

eMortgage Adoption Task Force

- Industry Awareness & Feedback
 - » Letter to Industry
 - » eMortgage Starter Kit
 - » Adoption Survey
- Investor Adoption
 - » Summit meeting / presentation at MBA Secondary, NYC
- Warehouse Lending
 - » White paper: Legal Framework
- eServicing
 - » Reconvening broader industry group
- eRecording
 - » Working with PRIA to identify adoption support strategies

Industry Movement

- MERS® eRegistry in production operation
 - » Over 4,000 eNotes registered
- Fannie Mae in production operation
- Freddie Mac in limited pilot operation
- Vendors continue to roll out eDocument and eClosing solutions
- Steady growth in counties supporting eRecording
- Lenders moving forward with production

Conclusions

- Basic MISMO standards can provide significant cost savings
- MISMO 3.0 provides new capabilities across industry
- eMortgages build on that for compelling value proposition
- eMortgage pieces continue to fall into place
- SMART Doc® electronic forms lock VIEW and DATA together, with great (legal) advantages
- eRecording & eNotarization standards are out and growing
 - » More counties becoming eRecording enabled
 - » Some states adopting eNotarization standards and statutes
- MERS® eRegistry provides legal infrastructure for eNote control and transfer

Resources

- www.mortgagebankers.org MBA
- www.mortgagebankers.org/emortgage MBA eMortgage
- www.mersinc.org MERS
- www.mismo.org MISMO
- www.pria.us PRIA
- www.sisac.org SISAC
- www.spers.org SPERS

Thank You

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