



# Securing the American Dream:

PKI in the Real Estate Finance Industry

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# Agenda

- ◆ eBusiness activity in the Real Estate Finance industry
- ◆ PKI and its potential role in Real Estate Finance eBusiness
- ◆ Internal and Community PKI activities
- ◆ Advantages and challenges of an Industry PKI
- ◆ Questions and Answers



# About Fannie Mae

- ◆ Fannie Mae (FNMM) is a New York Stock Exchange company and the largest non-bank financial services company in the world. It operates pursuant to a federal charter and is the nation's largest source of financing for home mortgages.



# What's happening in the Real Estate Finance Industry?

- ◆ Fact: Everyone wants to become an e-business company
- ◆ E-business presents an opportunity to optimize your business processes
- ◆ Internet demands ever shorter transaction cycles
  - Mortgage industry is paper-intensive
  - Time is money!
- ◆ Fervent activity in the “mortgage dot-com” arena
  - Portals for realtors/brokers/lenders (Mortgage.com, nCommand)
  - Closing service providers (e-cloz, expressclose.com)
- ◆ Federal E-sign legislation took effect 1 October 2000



# The Real Estate Finance Industry Has a Future On-line

- ◆ “Cameron King, a technology strategist credited with much of Countrywide's on-line success, foresees online [mortgage] deals closing with digital signatures "very, very soon". In the next 12 to 18 months you will see an end-to-end loan completed in electronic form”.

– *Mortgage Technology* magazine, March 2000



# The Real Estate Finance Industry Has a Future On-line

- ◆ “Just as automated underwriting has streamlined online mortgage lending, risk-based pricing and the use of digital signatures will become common efficiency fixtures in the on-line delivery system”.
  - *Mortgage Technology* magazine, March 2000

# The Real Estate Finance Value Chain



- ◆ Process is complex and paper-intensive
- ◆ PKI affords opportunities to improve process at every stage



# Business Drivers

- ◆ Real Estate Finance value chain includes numerous smaller partners and customers
  - Brokers, lenders, investors, servicers, appraisers, other service providers
  - Impractical for all of these partners/customers to connect using private extranets (I.E.: Frame relay)
  - The Internet allows for efficient flow of information across all elements of the value chain
- ◆ Security an obvious prime requirement
  - Internet's global reach brings multiple business benefits, as well as added risks that must be managed.



# Business Drivers

- ◆ Industry participants often have multiple business relationships within the industry
  - Interoperable credentials are a high priority
  - Impractical for participants to register and hold credentials issued by multiple institutions
  - Commonly agreed policies (including user identification criteria and liability structure) become necessary
- ◆ Therefore it's in the best interest of the industry to develop a common trust framework



# Potential applications for PKI in Real Estate Finance

- ◆ PKI can enable applications to be deployed securely and efficiently on the Internet
  - Loan origination/underwriting
  - Associated document processing and transfer (I.e.: appraisals, certifications, etc.)
  - Loan closing (including creation of electronic mortgage note)
  - Loan delivery to investors
  - Loan recordation



## Fannie Mae is committed to eBusiness

- ◆ Fannie Mae/eBusiness was launched in July as a separate business unit focused on delivering a broad set of new solutions for Fannie Mae customers.
- ◆ With \$450 billion in on-line business-to-business volume expected from the division this year, Fannie Mae is the premiere e-Business partner in the secondary market.



# Fannie Mae is committed to eBusiness

- ◆ First “paperless” mortgage purchased in the secondary market (Broward County, Florida in July 2000)
  - Mortgage note is an enforceable electronic document per UETA
  - Signed with a digital certificate
- ◆ Initial Electronic Mortgage standards released in October 2000
- ◆ Working with MISMO for industry-wide e-mortgage standards



# Internal PKI activity in Fannie Mae

- ◆ Enterprise CA in operation
  - Implemented with Entrust @ Your Service
  - Pilot mode with 200 users
  - 2000 users planned for 2001
- ◆ Internal applications
  - Secure Mail
  - Web authentication
  - Peoplesoft authentication and transaction signing (2001)



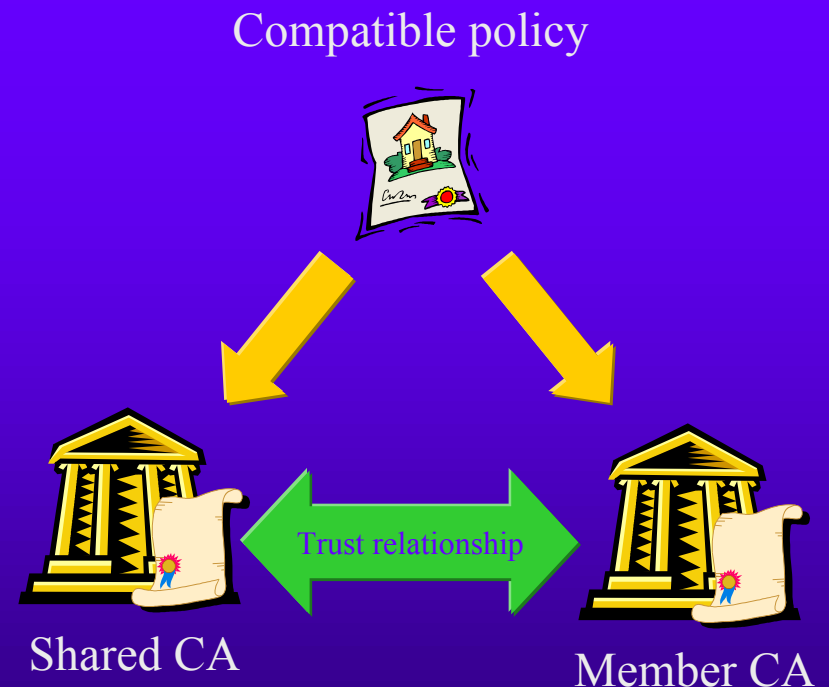
# The Real Estate Finance PKI Initiative

- ◆ Coordinated by the Mortgage Industry Standards Maintenance Organization (MISMO), part of the Mortgage Bankers' Association of America
- ◆ Fannie Mae and Freddie Mac co-chair the Security/PKI working group
- ◆ Draft Certificate Policy developed
- ◆ RFP Issued for “Shared CA”
  - Focused on B2B interactions

# Real Estate Financial Industry Proposed PKI Deployment

## ◆ Phase 1 (2Q 2001)

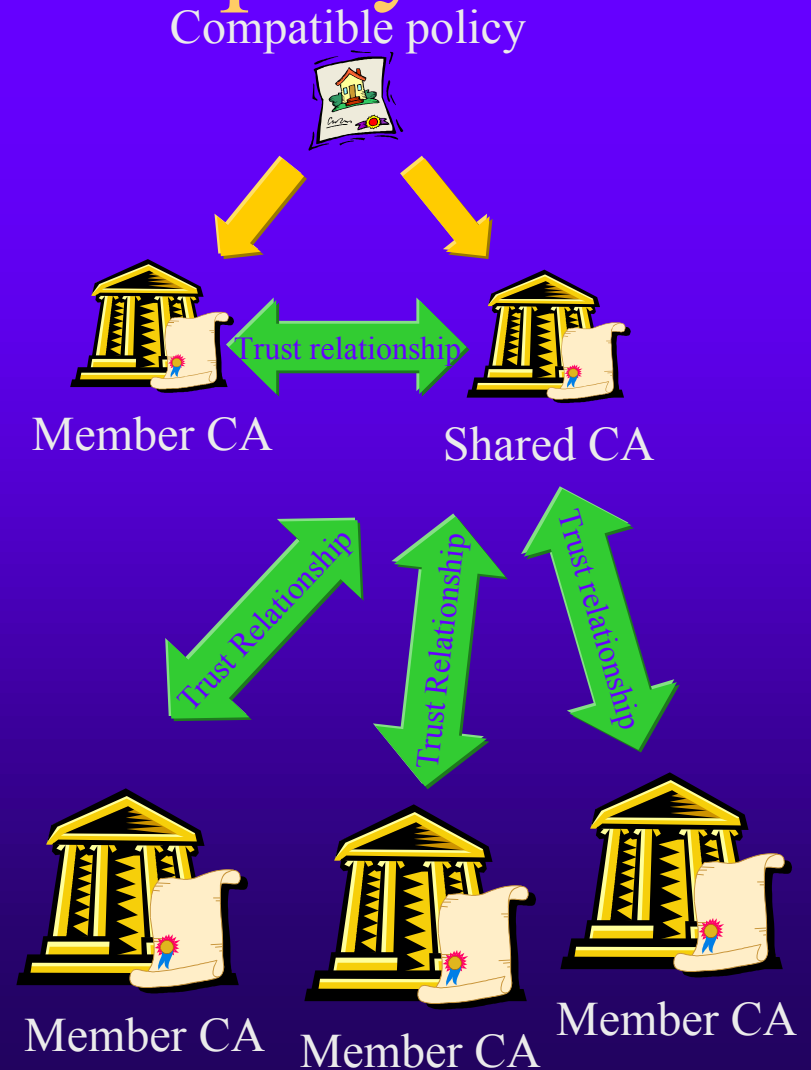
- Member CA's for internal use
  - Operated by member or outsourcing vendor
- Shared customer CA
  - Provides certificates for members not wishing to establish own CA's
  - Operated by trusted 3rd party vendor
  - Industry "sponsored" with common policy
- Members can become authorized relying party for other CA's (one-way trust)



# Real Estate Financial Industry Proposed PKI Deployment

## ◆ Phase 2 (4Q 2001)

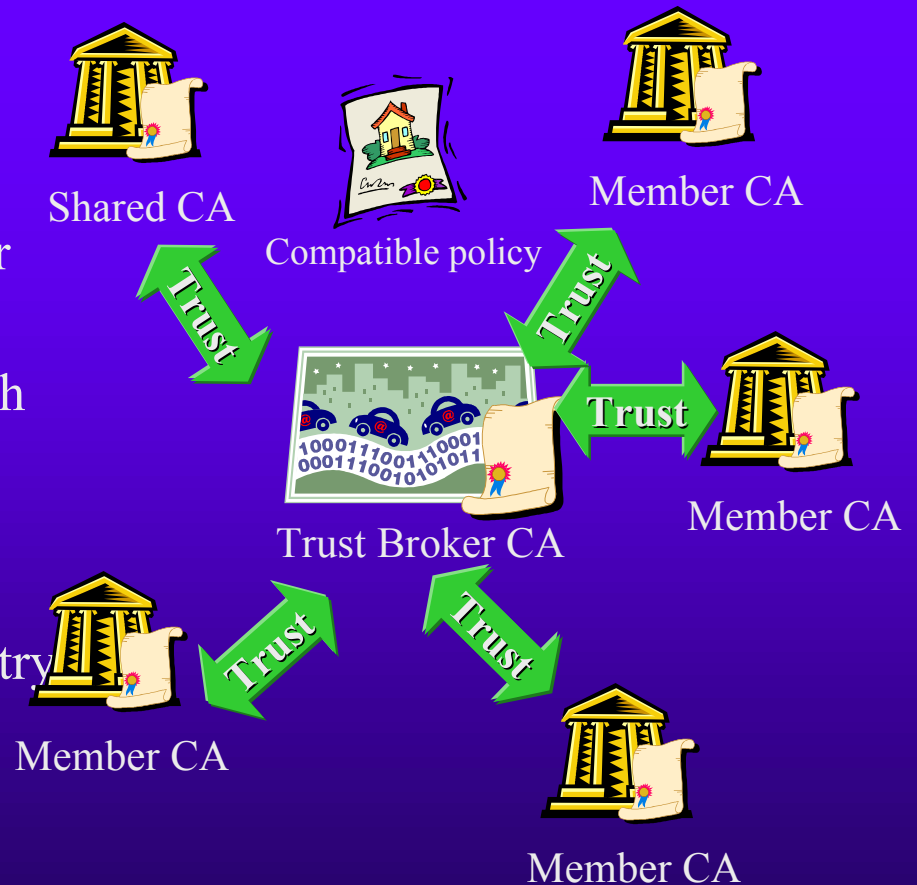
- Establish more reciprocal trust relationships
- Some customers have own CA's for internal/industry use
- Shared CA trust relationships with member-owned CA's
  - For trust relationships, Industry PMA will provide minimum CA standards and practices, conduct due diligence and periodic audits



# Real Estate Financial Industry Proposed PKI Deployment

## ◆ Phase 3 (2Q 2002)

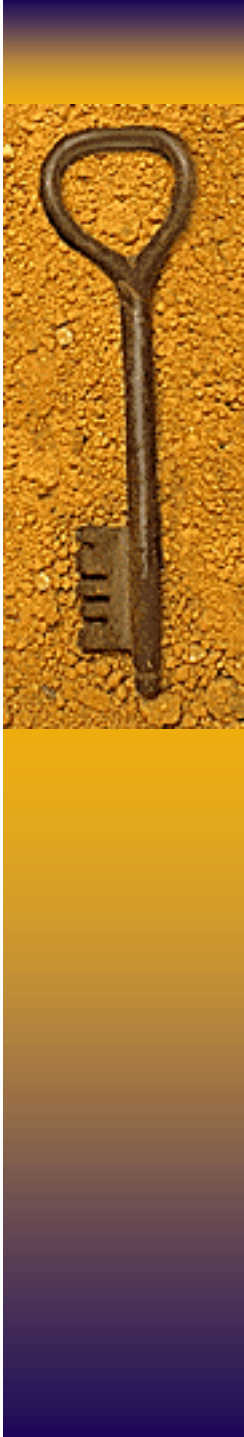
- Number of trust relationships grows
- Industry-level trust broker becomes necessary
- Policies “compatible” with agreed-upon minimum standards for certification practices
- CA’s x-certify with industry trust broker
  - Bridge CA Model





# Advantages of a Trust Network for the Industry

- ◆ Loans can be processed and closed in hours or days, instead of weeks or months
- ◆ Reduced possibility of forged or altered documents
- ◆ Increased privacy for borrowers' information
- ◆ Lower costs throughout the value chain
- ◆ Increased opportunities for homeownership



# Challenges faced in designing an Industry PKI

- ◆ Understanding of PKI technology and contractual framework surrounding PKI
- ◆ Creating a sufficient level of interest among industry participants
- ◆ Selecting a “neutral” trusted party
- ◆ Creating a PKI policy group that is representative of the industry
- ◆ Drafting a PKI contractual framework for the community of interest



# More challenges for the Industry PKI

- ◆ Deciding on how the venture will be organized and financed
- ◆ Identification vs. Accreditation
- ◆ Scarce availability of true full-service PKI providers:
  - CA Operation
  - Registration
  - Accepting liability for both



# Questions?

- ◆ Thank you for your attention