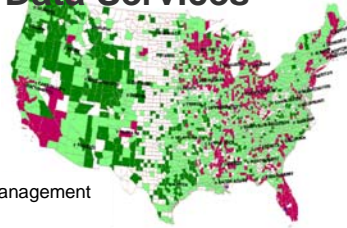




Geography Reference Data Services



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Enterprise Architecture

Agenda




- Introduction (Justin)
- Geography Business Case (Justin)
- RDS IQ Architecture (Chris)
- Geography Approach, Status and Results (Diane)
- Conclusion (All)



Introduction

- Freddie Mac is a stockholder-owned corporation chartered by Congress in 1970 to keep money flowing to mortgage lenders in support of homeownership and rental housing.
- The company's Information Strategy is driven by operational and technical organizations that have been established to:
 - » Integrate and rationalize functions across the company
 - » Develop and manage standards and procedures
 - » Develop and manage shared information repositories


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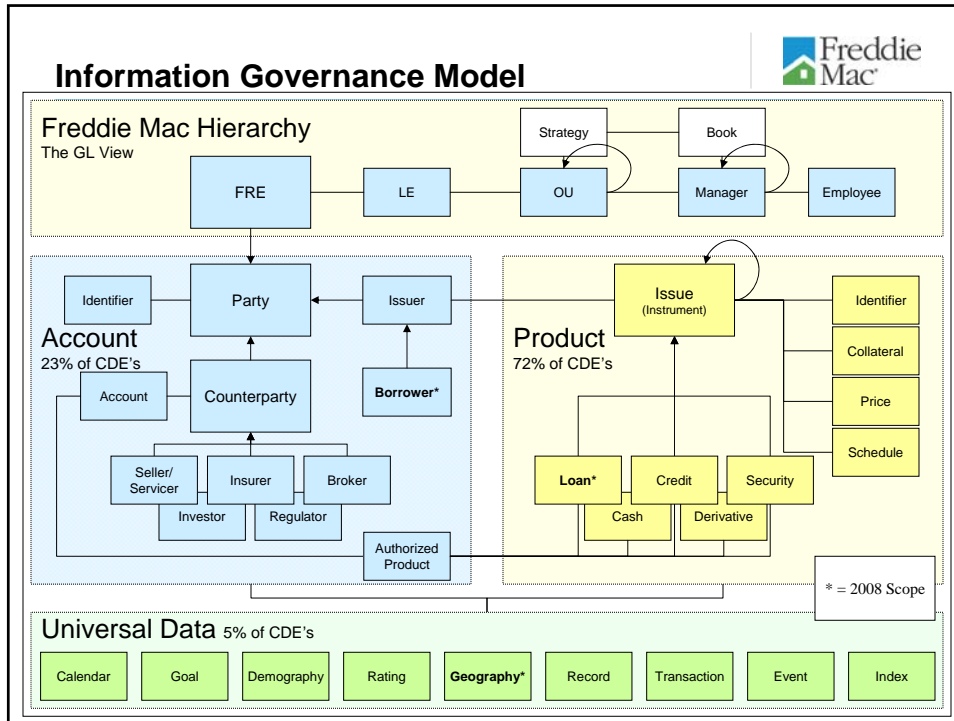
Information Strategy


- Shift from remediation to strategic priorities
- Develop "reference data services" to improve product development, simplify business & operational processes, and technology
 - » Manage information as we do financial assets
 - » Capture, enrich and master data where it is originated, and distribute with data quality controls
- Reuse, extend, improve: leverage existing infrastructure & analyses

- Define incremental plan with periodic measurable benefits
- Build self-funding business cases
- Establish enterprise governance program & information architecture standards

Front Office	Mission			
Middle Office	SF	MF	ICM	
Back Office	Finance & Operations			


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Geography Business Case

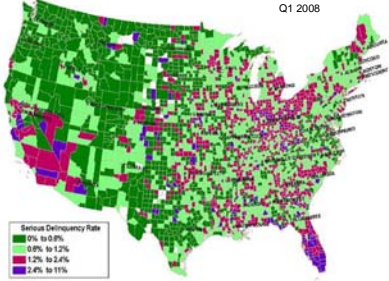
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Why Geography?

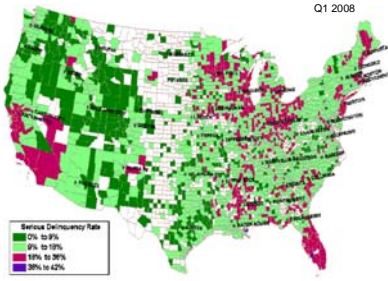
- Real estate is mortgage collateral
 - »Where is the property?
 - »What kind of property is it?
 - »What is nearby that drives value?
 - »What is happening in local markets?
- Gain insights into the market:
 - »Where are opportunities?
 - »Where are the risks & problems?
 - »What are root causes?
 - »What is the outlook?

Delinquency Rates in Prime Markets
Q1 2008




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Delinquency Rates in SubPrime Markets
Q1 2008



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Problem Statement

- Currently, Freddie Mac creates and manages geography data in at least 14 different business areas using multiple applications and redundant interfaces.
- Business areas have similar or identical geography data business and technical requirements
- Multiple interfaces lead to data integrity, control and consistency issues
- Increased costs to enhance and maintain numerous applications and interfaces

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RDS Information Quality (IQ) Architecture

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Information Architecture for IQ: Principles

- Establish a corporate governance process, including the development of shared Information definitions, common quality measurement standards and procedures, threshold and metrics for management, and decision processes.
- Understand volume, scalability and product development strategies, and align technology initiatives with business strategies.
- Define an integration architecture that can support new product development while isolating legacy platforms from financial systems, such that keep running the cash flow engines while developing new products and platforms.
- Establish common sense metrics and measure Information quality often and with rigor.

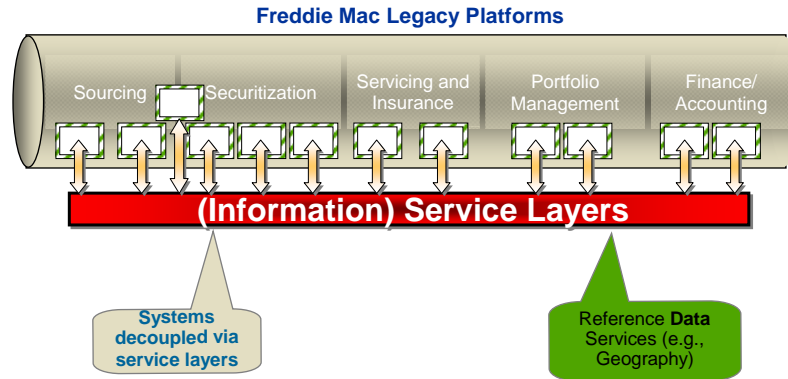
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Service Layer Integration Architecture



Highlights:

- Decouple FRE legacy systems and platforms via Service Layers
- Reference Data Services is a key to Service Layer Integration Architecture



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Information Quality & Control Architecture



Quality from Data Modeling:

Information is modeled to ensure understanding, and the data is well structured and data quality is included


Quality from System of Records:

Best-Breed Authoritative list of SORs is developed and maintained, and its use across corporate is enforced

- Data Quality is included into Canonical data modeling
- Develop and maintain an authoritative list of SORs to enforce Information Quality across the enterprise
- Owners will need to create their information in a controlled and quality way, register and provide sufficient metadata for future consumers.

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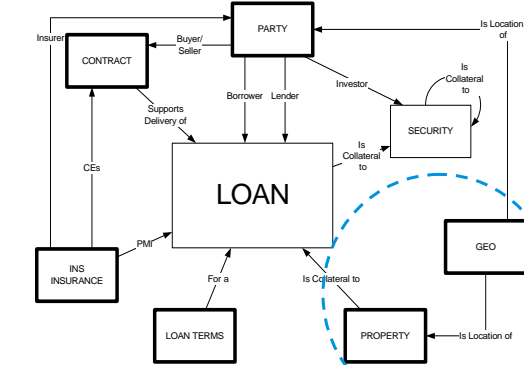
Geography RDS Approach

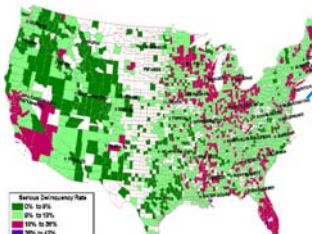
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Why Geography?

- Property and geography data are critical to managing our affordable housing goals
 - Collateral to a loan
 - Used for national efforts: Katrina, conforming loan limits
- Supports multiple initiatives across the enterprise and domains: loan (property), counterparty (entity location, market area), regulatory reporting, risk management.
- Data is relatively static
- Concepts are well defined across various domains







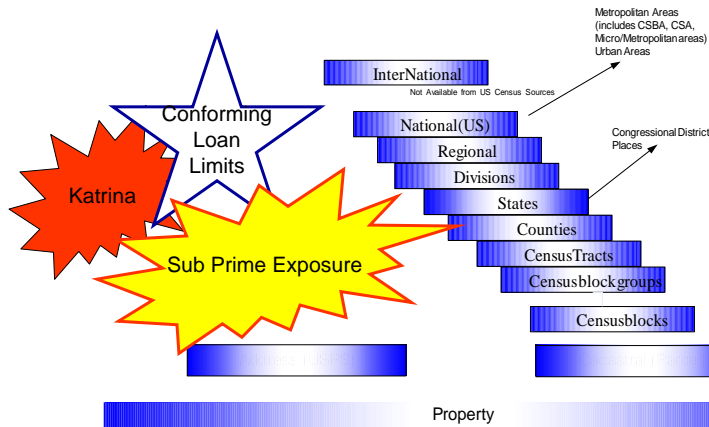
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Loan Geography Requirements



- Geographical information is used by Freddie to manage risk across its inventory of 15 million mortgages
 - » Mission Goals
 - » Loan Sourcing & Securitization
 - » Guarantees & Investment Management
 - » Risk Management
- Geocodes identify assets in the mortgage market
 - » Emergency legislation in February 2008 identified 43 unique metropolitan areas with new conforming loan limits based upon average home price
 - » During Hurricane Katrina, portfolio risk managers needed to identify affected assets in near real time
 - » When combined with demographic or market data, geographic data provides dramatic and illustrative decision criteria

Geographical Hierarchy



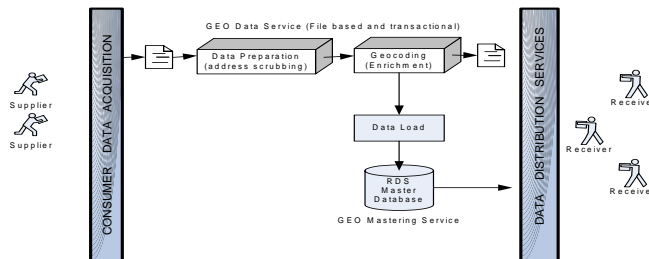
FIPS State Code	FIPS County Code	Census Tract Code	Census Block Group	Census Block ID	CBSA Code	CBSA Metro Flag	CBSAD Code	CSA Code	MSA Code	MCD / CCD Code	County Name	GCP Census Code Names	CBSA Name	CBSAD Name
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RDS-GEO Output Fields

Loan Geography Requirements



- The Loan Geography Reference Data Service provides:
 - » Scrubbed, mastered, geocoded-property data for the Master Data Service
 - » Data services to support a wide range of users with different requirements
 - » Common interface through which applications get access to MDS
- The service produces a cleansed and validated address for subscribers
- These capabilities represent the basic level 2 capabilities of Freddie's Data Management Maturity Model



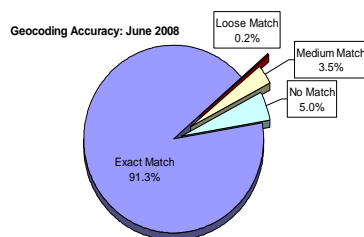
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Loan Geography Status and Results



- In April 2008, the first iteration of the RDS Geography service was implemented into production.
- A customer test environment (CTE) was also established to support non-production related geography needs.
- Enterprise recognized operational process to include:
 - » Monthly Group 1 file updates
 - » Business and technical support model
 - » Subscriber procedures for both the production and CTE environments
- Cost savings will result from reduction in the following:
 - » Number of resources necessary to support business functions
 - » Software license reduction
 - » Cost avoidance related to requirements of new systems
- Year to date Results:
 - » Address scrubbing and geo-coding service level agreements met
 - » Significantly improved performance by ~7 to 10 times faster than legacy process
 - » Provided additional geo-coded data elements for subscribers
 - » Enhanced corporate enterprise geography model to include data required for Mission goal counting
- Management information and metrics are leveraged to continually monitor results



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Conclusion



- Freddie can improve the way it manages data
- The key to managing core data assets is through a reference data strategy
- Understanding Geography data is critical to our corporate mission of affordable housing goals

Q&A



- ...