

# TECH.10

MBA's NATIONAL TECHNOLOGY IN MORTGAGE BANKING  
CONFERENCE & EXPO 2010, APRIL 25-28, CHICAGO

## Automation

# Underwriting Agility with Business Rules



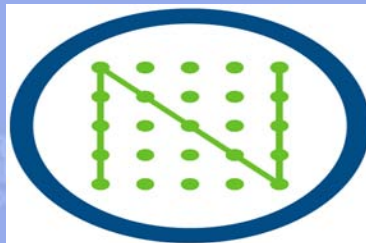
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## Underwriting Agility with Business Rules



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ADVISORY GROUP**



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North Shore Systems

**Quicken® Loans®**

**M&T Bank**



- Brian Stucky
  - Managing Director, Business Decision Management
  - Allegiance Advisory Group
- Steve Harris
  - CTO
  - North Shore Systems
- Patrick Hartford
  - Solutions Architect
  - Quicken Loans
- Daniel Shields
  - Administrative Vice President, Commercial Real Estate Finance
  - M&T Bank



- Overview
  - Brian Stucky
- Panelist Presentations
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  - Daniel Shields
- Panel Roundtable
- Open Forum



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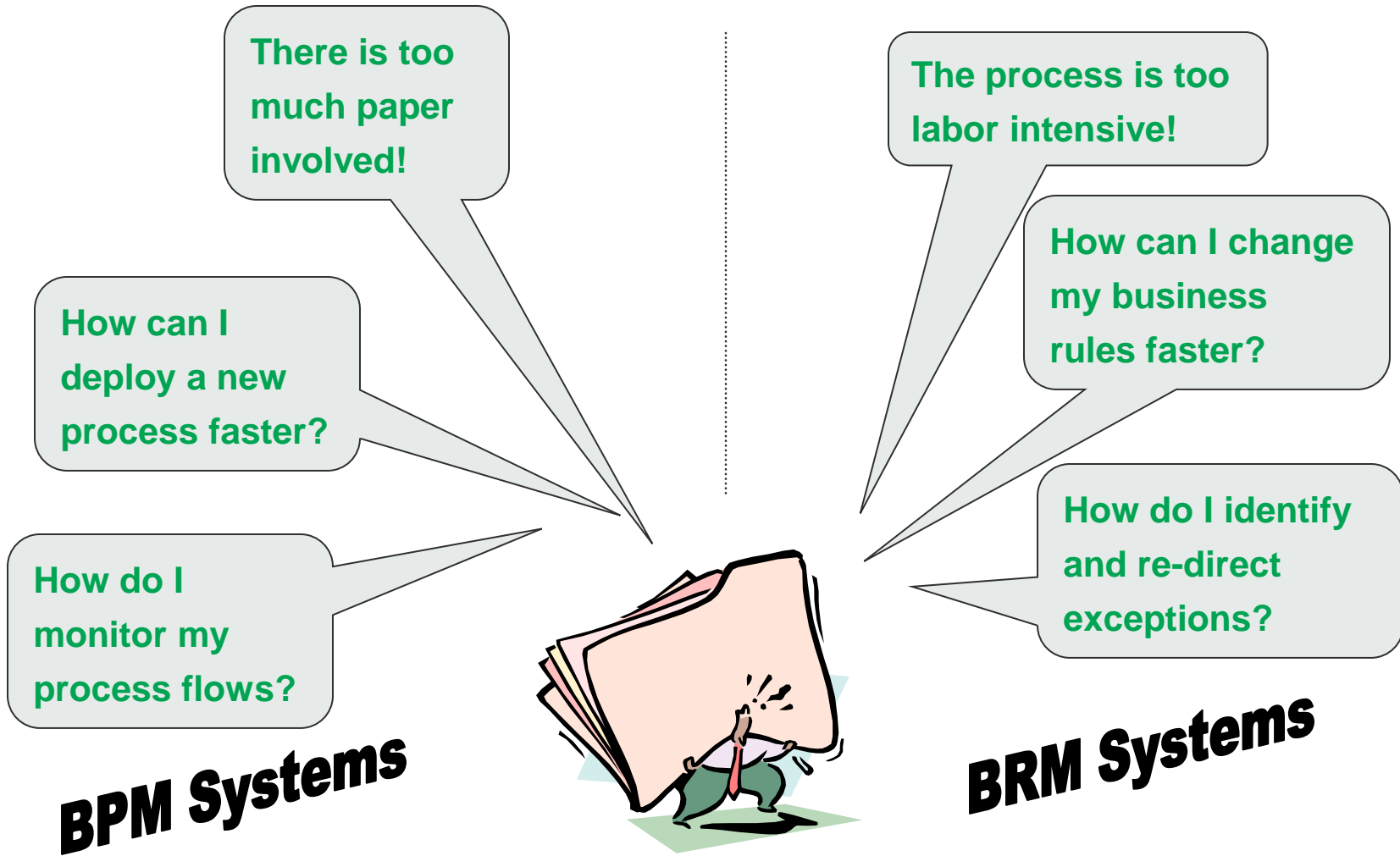
# Business Decision Management Business Rules and Process Overview

Brian Stucky

Managing Director



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Look at business rules within the context of well-defined business process.

Process and Rules can be combined to achieve greater agility, flexibility, and auditability.

**Process**: what the business does

**Rules**: how the business does it



Rapid change, continuous improvement of services: *Agility!*

- Most commonly recognized reasons for using rules
  - Simply knowing what the rules are – clearer requirements
    - **Design (business value)**
      - Controlled, consistent approach to “knowledge engineering”
      - Incorporating all relevant sources of intellectual capital
        - › Subject matter experts
        - › Policy documents and guidelines
        - › Legacy systems
  - Controlled consistency and quality
    - **Implementation (technical state)**
      - Various development platform options
        - › Domain specific applications
        - › Home-grown systems
        - › COTS
  - Accelerated change, reduced development cycle times
    - **Management (business control)**
      - Support **business-driven need** for frequent change or rapid turnaround
      - Move rule management functionality to more people



# A Decision Management Approach

Business Rules are BOTH Methodology and Technology

## *As a Methodology:*

Provides a framework to understand, analyze, document and view rules, decisions and processes

Enables the structuring of requirements to significantly reduce development costs and time

Allows standardization of an end-to-end governance process

## *As a Technology:*

It allows for rapid change to existing systems and gives business the opportunity to truly own the system

Allows for centralized consistent persistence of all rules in the Enterprise

Facilitates the creation of a “Service Based” (SOA) enterprise and reuse of rules

Provides transparency, auditability and accountability with respect to decision making



North Shore Systems is an industry leader in providing technical solutions to the commercial real estate finance industry over the last 10 years.

### ➤ **END-TO-END PROCESS AUTOMATION**

- Origination
- Servicing
- Asset Management
- Broker Module

- **IMPLEMENTATION OF 'STRATEGY'**
  
- Failure to implement and operationalize new products is one of the more significant road blocks to successful realization of 'strategy'
- 'Strategy' can be implemented only if it is broken down into a bunch of tactical steps
- Experience shows that a fundamental problem with sourcing applications is that they are often obsolete by the time they are built and implemented
- This is because such applications are generally designed to deliver only on 'known' products and processes
- This makes the implementation of any kind of product innovation difficult or even impossible.

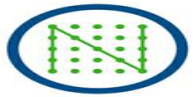
## ➤ IMPLEMENTATION OF 'STRATEGY' -CONT-

- These are limited in their usefulness and do not adequately portray how a product is structurally differentiated from others
- Products are probably more like automobiles with standard parts and 'options', than they are members of an 'organic family'
- The fundamental approach of the product architecture is to deconstruct products into their standard 'parts' or 'components', and, further, into the options available for each 'part'
- Build a ***repeatable process for launching new products***
- Data of sufficient depth and breadth to add value to risk measurement and other econometric models.

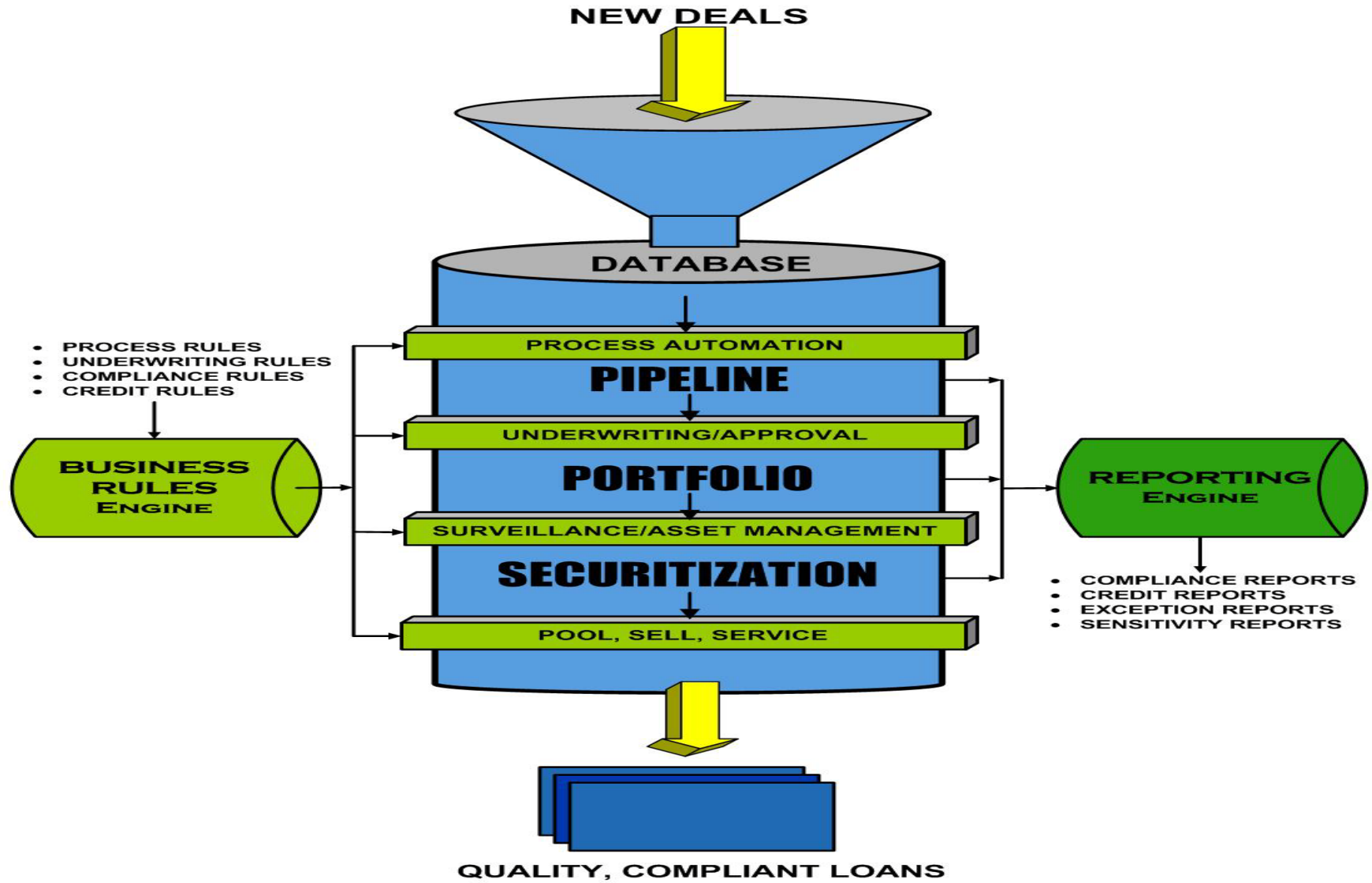
- **BUSINESS RULE ROAD MAP STRATEGY COMES WITH CHALLENGES!**
  
- Business rule will normally begin life as textual notes in the process
- This is because they will be gathered during a process development workshop and written straight into the process model
- Once the process model is stable, then business rules should be formalized in a Business Rules Document and given a unique reference number within the hi-level process/project/system model from which they have been derived
- Business Rule action definition must take place. IE: Email, message, stop updates.
- Orchestrate a Business Rule execution strategy plan.

# Component/Rules Based Methodology

## IMPLEMENTATION OF 'STRATEGY' APPROACH



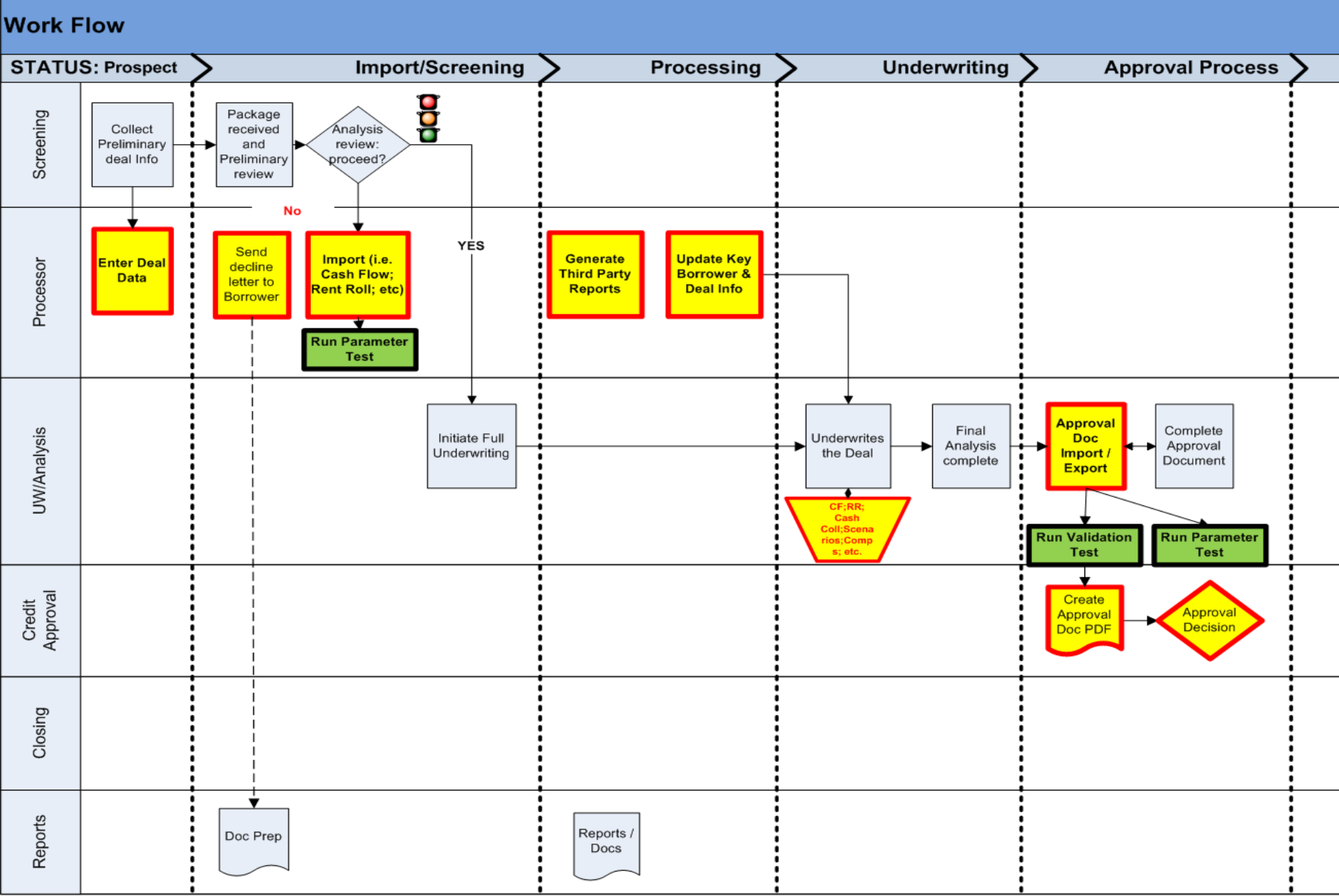
# North Shore Lending System



# Component/Rules Based Methodology



## IMPLEMENTATION OF 'STRATEGY' APPROACH



### Business Rule example:

<b>Business Name</b>	Current Note Rate
<b>Business Rules</b>	Object Identifier:BR.127
<b>Business Area:</b>	Multifamily
<b>Object Text:</b>	The Current Note Rate is applicable only if the Loan Purpose = Refinance.
<b>Business Rule Action:</b>	Warning message

### ➤ IDENTIFY COMPONENTS/RULE PROCESS IDENTITIES

#### Component Examples

- Credit Policy
- Loan Approval Limits
- Loan Validation
- Fee default/Limits
- Workflow
- Import/Export validations
- Email
- Exception Creation
- Conditions Creation
- Constraints

### ➤ IDENTIFY COMPONENTS/RULE PROCESS IDENTITIES (CONT):

#### Rule Process Identity Examples

- Employee Roles
- LTV (Min/Max)
- DSCR (Min/Max)
- Loan Amounts
- NOI
- Term of Loan
- DCR Adjustment

### ➤ CLIENT SUCCESS/ROI

- Client wrote 300+ credit policy rules.
- Before we could implement, credit policy changed mid stream.
- Because they were component based, there was no ***Panic!***
- Within two weeks the rules were updated with no impact to the implementation date
- **NO PROGRAMMING OR SYSTEM CHANGE WAS REQUIRED, JUST RULES!**

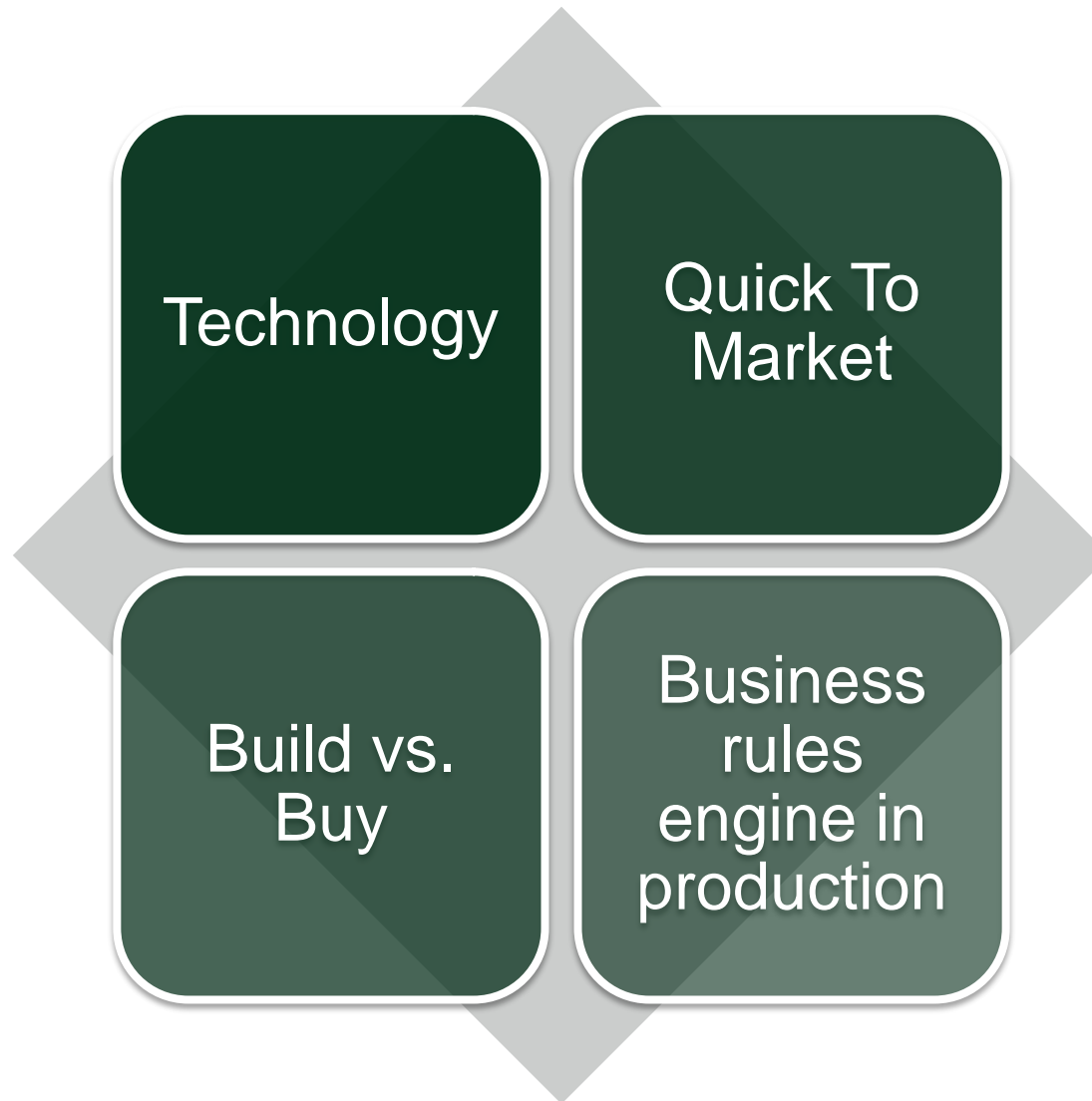


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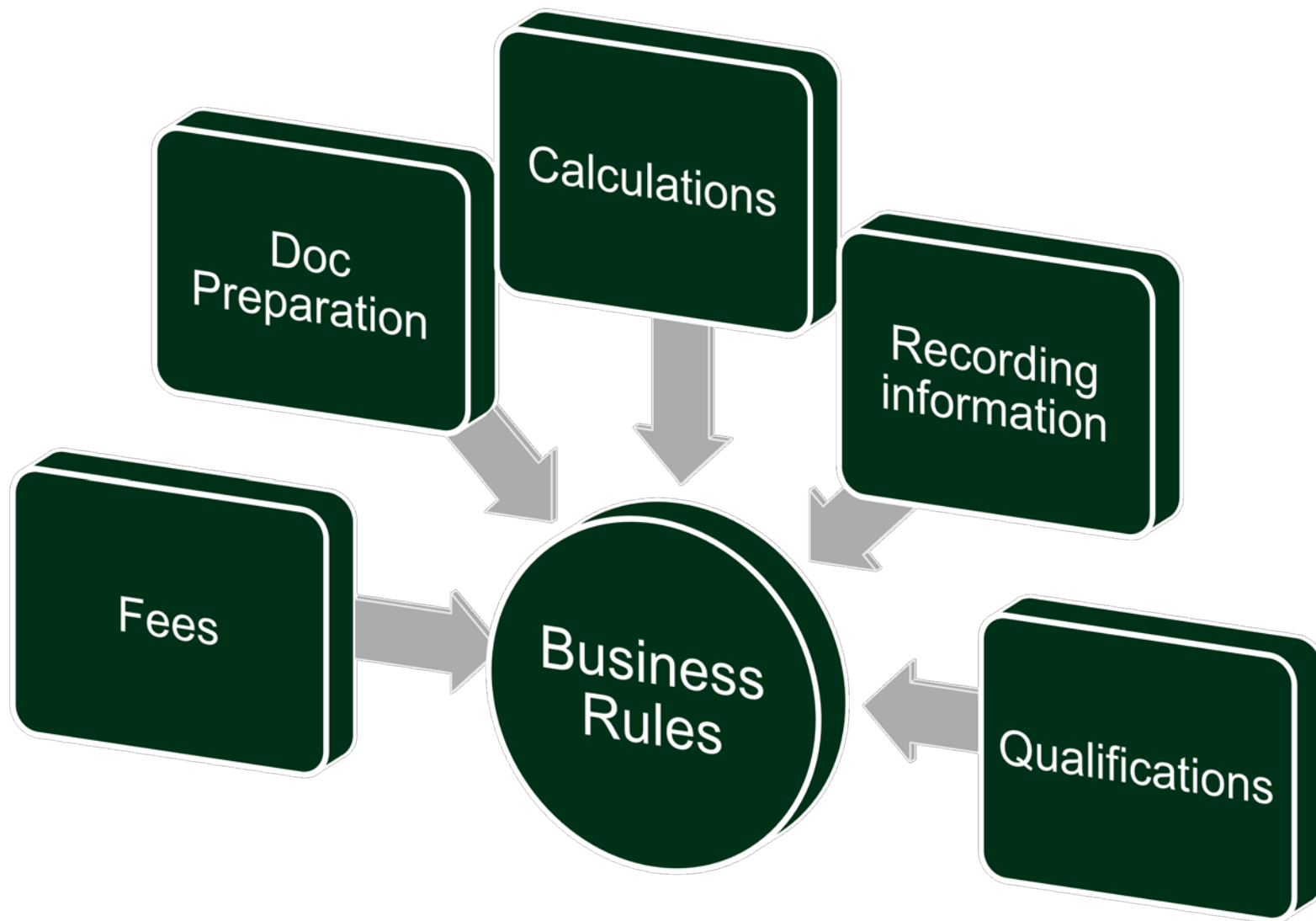
# Home Made Business Rules Engine Origination Systems

Patrick Hartford, CMT  
Solution Architect

**Quicken® Loans®**



# Our Implementations



## Rules Engine

- SQL Server DB
- MS Workflow Rules Engine API .Net 3.0
- Written in C#

## XML Based Results

- Leverages web services
- XML based

## Design and runtime environments

- Execution isn't run from a single location
- Scalable
- Rules can be compiled for a different engine

Controlled by  
the BAs

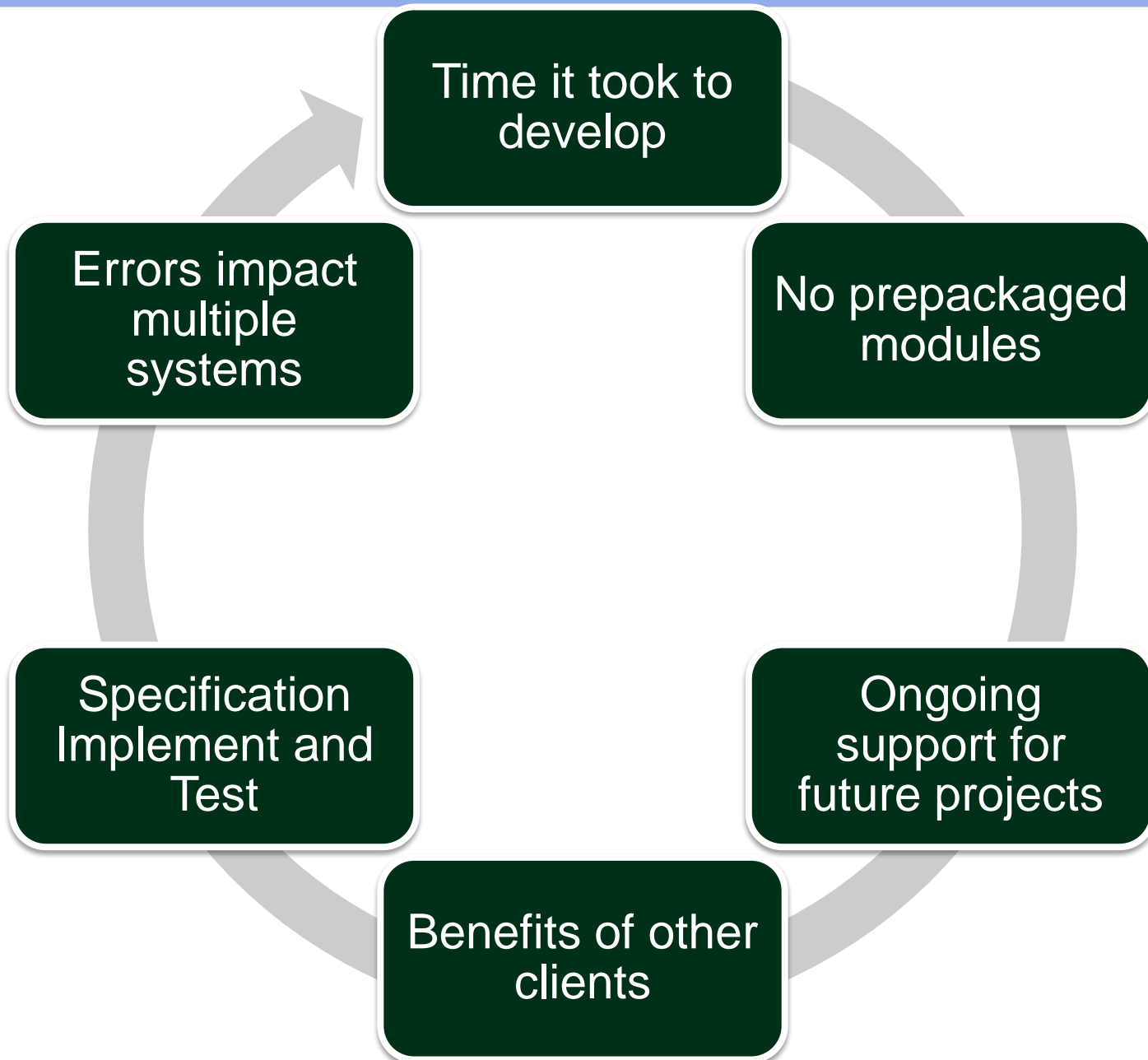
Speed

Allow other  
systems to  
have access

UI  
customizations

Cost Savings

# Our Downsides



## Technology

- Required for SOA
- Implementation is faster
- More systems benefit

## Teams

- BAs Implement and test
- Free up engineers to build systems
- Engineers can improve
- May need extra set of eyes

## Business

- Quicker to market
- Find other usage for rules
- Can “read” the rules

Thank you.

Patrick Hartford, CMT

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<http://www.quickenloans.com>





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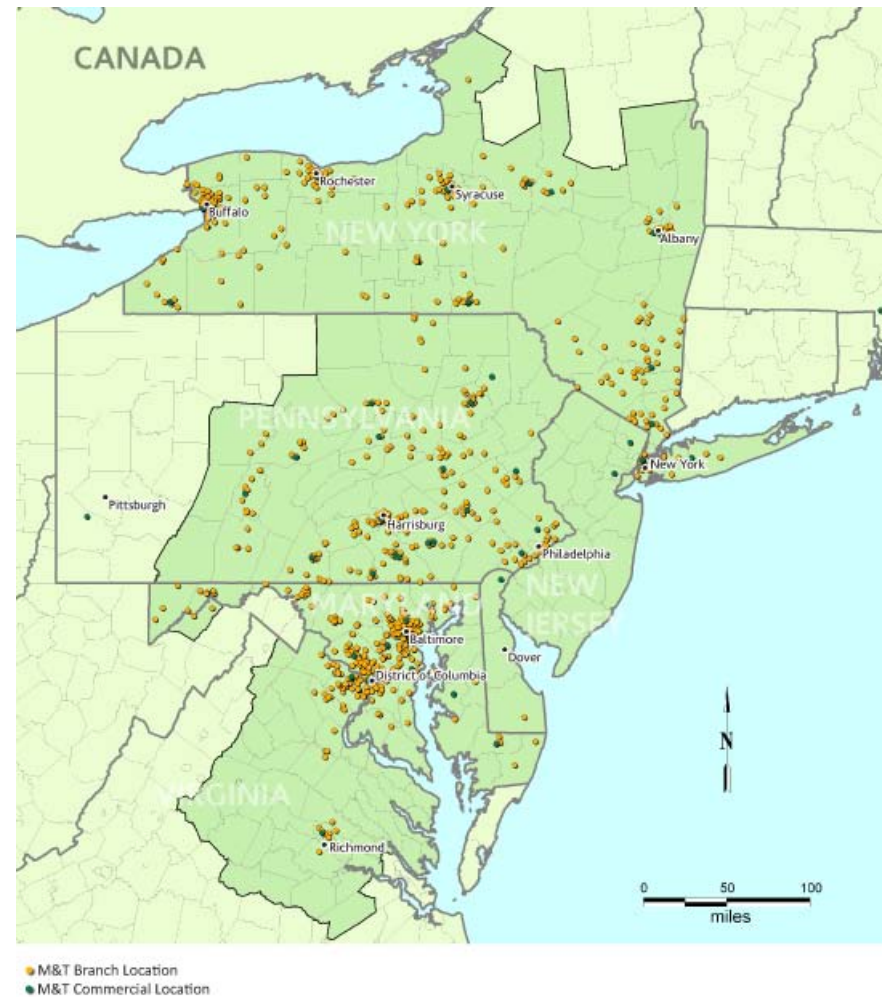
# Making the Decision to Automate

## A Portfolio Lender's Approach

Daniel Shields  
Administrative VP



- Top 20 US-based full-service commercial bank holding company by assets and Top 15 by market cap
- Founded over 150 years ago
- \$68.9 billion total assets
- Over 750 branches and 1,800 ATMs
- Over 14,000 employees located in New York, New Jersey, Maryland, Pennsylvania, Washington, D.C., Virginia, West Virginia and Delaware
- More than 2 million retail customers
- Over 190,000 commercial customers
- Approximately 50% of outstanding shares are owned\* by:
  - 21.2% by management, directors and employees
  - 22.6% by Allied Irish Bank
  - 5.7% by Berkshire Hathaway – (*since 1991*)



\*Ownership as of 9/30/09, as available, otherwise as of 2/27/2009. Inside calculation includes options & deferred bonus shares.

- Financial crisis and the consequent focus on commercial real estate has forced responsible portfolio lenders to have a more inward focus
  - Less origination; more portfolio management
- Boards of Directors insist upon more frequent status reports and “live” data
- Regulatory environment is such that federal and state banking examiners are requiring greater and deeper level of access and credit reporting
- Investment community has lost faith in “reports” and is demanding more transparency into lenders’ CRE portfolios

- Generating buy-in from the Line is critical to success
  - System must eliminate redundancy in data gathering efforts
  - Must remove (or at least reduce) administrative burden from RM and free her up for analysis and synthesis of information
- System needs to be able to communicate with existing bank applications and solutions
- Automating any process needs to balance both flexibility with the need to develop a consistent approach
  - No two transactions are identical, but may – at times – need to be analyzed as such
  - Must be mindful of the different needs and perspectives of the various stakeholders
    - Line, Credit, Management, Regulators, Investment, etc.

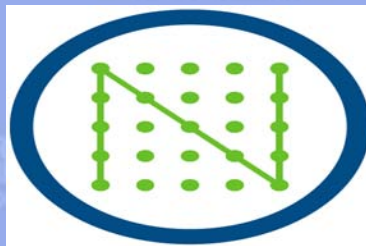
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## Roundtable



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## Questions

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