By Brad Parkins and Bill Lehman

New Roles for Rules

In the April 2006 issue of *Mortgage Banking*, CC Pace contributed an article on rules engines ("Why Should I Care About Rules Engines?") that provided an introduction to rules and rules engines, a brief history of their use in the mortgage industry and a framework to understand the rules engine products available in the marketplace. The article focused on mortgage origination—primarily around mortgage product eligibility and pricing, automated underwriting and workflow—as that was where rules technology was most commonly being applied in the industry at that time.

Times have changed, and so has the use of rules engines. So in this column, we wanted to focus on different areas where rules engines currently are being used by servicers, counselors and mortgage insurance (MI) companies.

To recap briefly, business rules are the tenets, terms and conditions that govern how we do our work. Examples would be "fees cannot be greater than 5 percent of the loan amount" or "when a loan is 'in trouble,' it is routed to the workout department." Rules underlie most of our daily decisions if you were to look for them.

A rules engine is a specialized piece of software that is designed specifically to manage and process business rules and logic efficiently. Rules engines make systematizing decision making easier by allowing business rules and associated logic to be cataloged and configured rather than embedded into code. The rules and logic defined within the rules engine are generally easier to understand and maintain then, when that same logic is expressed within procedural system code.

With a rules engine, business analysts can often maintain the rules and associated business logic without the need for programmer assistance, contributing to a more streamlined maintenance process with a lower resource cost. Implementation of a rules engine is therefore often a cost-efficient solution for many organizations.

Rules are also a way of disseminating best practices across the enterprise in a consistent manner and empowering line-level employees, as the system provides the support system to make decisions. Rules engines also provide a mechanism to use historical information to manage the process and the resultant decisions, in the way that the best automated underwriting systems leverage statistics on loan performance and triage loans accordingly.

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Today, rules are being written to consider factors well beyond the basic program guidelines. Home values, declining markets and other property data are being used by the rules engines to appropriately route and process loans. This allows organizations to better leverage in-house appraisers or property reviewers and produce a higher-quality loan, ensuring a full file review is completed based on the specific loan characteristics, current status and respective geographical area.

Loans are directed to the appropriate level of underwriter for review and analysis, ensuring that higher-paid, more-qualified underwriters are focused on the more-difficult loan cases, while the lower-level underwriters review the loan files that are more straightforward and simpler to underwrite. The end result is a more efficient use of resources, with lower staffing levels needed to process more loans.

New uses in servicing

As the marketplace has changed, rules engines have allowed lenders to quickly implement controls to reflect their changing business strategies. The rules that were initially put in place by lenders are routinely reconfigured and supplemented to support new loan products or change the way loans are processed.

Dependence on rules-based technology is growing, and the use of rules engines has also expanded within the industry. Rules are now being written and implemented at more points in the loan's life cycle and within different industry players, reflecting the changing focus of the industry in addressing the credit crisis and related loss-management activities.

Servicing departments have been using rules for some time to help them manage their inbound and outbound call volumes. With a dramatic increase in the number of borrowers requiring assistance and inquiring about their options and loan status, rules are essential to prioritizing inbound calls; using loan status and other information to direct calls to appropriate personnel; and identifying factors that indicate pending trouble, a high-risk borrower or other situations that could benefit from proactive management of the account.

For servicers, rules usage has now extended past the call center and into other areas of their process, particularly their loss-mitigation activities.

The loss-mitigation process is historically a manually intensive effort dependent on qualified, trained resources. The credit crisis has made a knowledgeable and trained loss-mitigation agent a limited resource, requiring servicers to think beyond the traditional manual effort and look to technology to support their activities and provide greater efficiency.

Rules technology is being employed for its ability to distribute best practices, allowing servicers to use less-knowledgeable resources and ramp them up faster. The technology supplements the required training and assists the loss-mitigation agents in their daily activities, including helping to identify when it is appropriate (or not) to contact a borrower and determining what options should be offered based on the borrower's loan and personal situation.

Rules are also being leveraged to help servicers analyze the available options and even re-underwrite the loan based on what is appropriate for the borrower. The vast majority of servicers are looking to avoid foreclosures due to declining home values and overflowing real estate–owned (REO) inventories, so numerous alternatives (such as short sales and other loan-modification options) are always being considered and each option carries with it its own complex set of rules.

New uses in counseling

The rules engine has also become a useful tool in counseling. Many foreclosure-prevention counselors are now using (or looking to use) rules-engine technology that can support their efforts in the foreclosure-avoidance process. The options and avenues that any homeowner can potentially take are almost as complex as the multitude of loan products that precipitated the current crisis.

Counselors must consider the servicer, loan program and investor involved with the original loan, as well as the various programs offered at the federal, state and local levels. All of those options must be considered within the boundaries of the homeowner's budget, as derived from his or her income and expenses.

The potential options for the homeowner must be identified before the various avenues can be analyzed in an effort to identify and understand which alternatives might realistically apply to the homeowner. For the counselor, unlike the servicer, the analysis does not focus on the potential loss; instead, the focus is on the likelihood that the homeowner will avoid foreclosure and be able to afford the home on a go-forward basis.

Rules can also identify requirements that must be met and guidelines that must be followed for each program under consideration. Systematizing this information improves the chances that the homeowner can be approved for the selected alternative by helping ensure that the appropriate paperwork and follow-up is completed according to the defined rules and guidelines.

New uses in mortgage insurance

Mortgage insurance companies are also increasingly using rules engines in new ways. MI companies have a critical role in addressing the loss-management process. Similar to the servicer's use of rules engines, the MI companies are leveraging their own rules engines to aid their employees when identifying and helping borrowers in distress.

MI companies are using rules to proactively identify borrowers for loss-mitigation support. This early detection allows the MI companies to get their workout specialists and loan-modification employees involved as soon as the customer is identified—sometimes even before the borrower has contacted his or her servicer. The MI companies can then help educate the borrower on the different options available, based on the borrower's particular situation, to avoid foreclosure.

The use of rules within mortgage insurance companies extends to assisting in the identification of the appropriate options, taking into account the borrower, servicer and the MI company itself, as all have a stake in the final solution—whether it be a short sale, loan modification or some sort of interim financing.

MI companies are also using rules engines to assist in fraud detection and for quality control in their claims process. Rules engines are being used to identify invalid policies and claims by sifting through mounds of data related to each loan and respective policy to ensure that the policy is valid based on the actual loan terms. This process also extends to reviewing differences in loan data from the time of origination of the MI policy to the time of the claim to ensure the suitability of the loan to the policy. If the policy is found to be inappropriate for the loan, the claim can be immediately denied, bypassing the need to spend any resources on its review following sending notification to the appropriate parties of the policy issues.

If the policy is valid for the loan, the MI company's rules engine will verify the claim against the terms of the policy to ensure it meets the required parameters. Once verified, the claim is submitted for processing within the claims group. Rules can automatically identify issues and notify the respective parties with no expense from a resource time or cost perspective to the MI company.

This proactive approach also allows for earlier notification to the lender to address any deficiencies and resubmit the claim, shortening the time frame for payment. Using rules, the MI companies are able to address valid claims in a more timely and cost-efficient manner by ensuring their teams focus on the "real" claims.

Mortgage insurance companies are finding that investigating loans proactively is an effective component of their overall loss-management approach, and that rules can be used to facilitate those investigations. Instead of waiting for the lenders to inform them of fraud discovered on their end, the MI companies have set up rules to use monthly information on loans under policy received from lenders to ferret out perpetrators of fraud and to take appropriate action against them before a claim against the policy is ever filed.

Rules technology is necessary to remain competitive

As more companies in the mortgage industry implement business rules through rules engines, they find themselves better able to address their changing priorities in a more timely and effective manner. By leveraging rules technology to support their internal knowledge base and ensure compliance with regulations and guidelines, companies are experiencing significant savings due to more efficient processes, reduced training expenses and lower resource costs.

Effective implementation of rules engines is seen as a competitive advantage today, but will be a baseline requirement for remaining competitive tomorrow. The ability to keep up with the fast pace of change is increasingly difficult without the assistance of technology to disseminate new information for consistent application throughout the organization, as well as the ability to empower the expert's knowledge into a maintainable system and leverage it for line personnel.

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