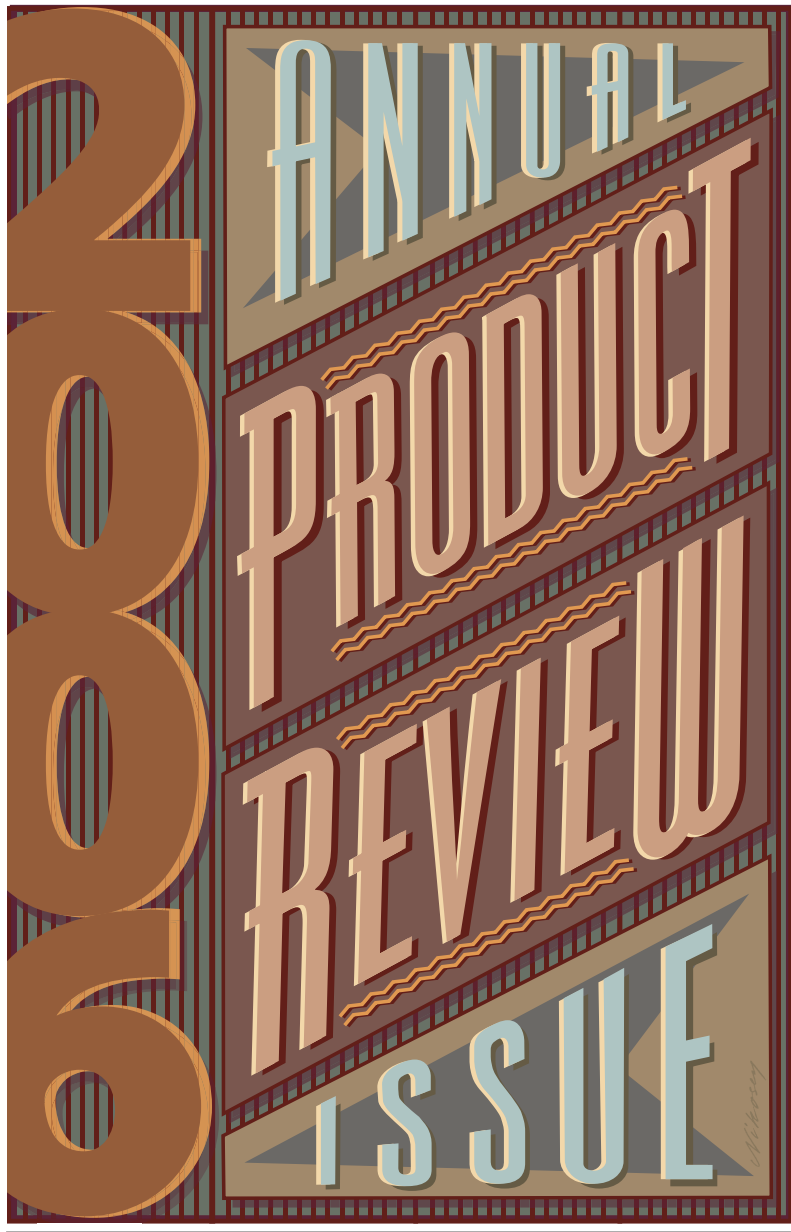


# DMMReview

Turning Data Into Intelligence

July 2006/Volume 16, Number 7

[www.dmreview.com](http://www.dmreview.com)



## PRODUCT REVIEW

LoanPerformance  
Chooses KXEN to  
Assess Mortgage  
Risk, Deploy  
Prepayment and  
Collateral Risk



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## LoanPerformance Chooses KXEN to Assess Mortgage Risk, Deploy Prepayment and Collateral Risk

**REVIEWER:** Damien Weldon, director of Collateral Risk Analytics, and Ed Wike, senior modeler for LoanPerformance.

**BACKGROUND:** LoanPerformance is a leader in residential mortgage performance data and credit risk decision support tools for mortgage originators, servicers, securities issuers and investors. LoanPerformance's industry-standard mortgage servicing and securities databases track the delinquency and prepayment performance of more than 40 million active individual mortgage payments per month and provide loan-level information on more than \$1 trillion in nonagency mortgage and asset-backed securities. LoanPerformance's proprietary databases and suite of predictive prepayment and risk modeling solutions enable clients to make informed business decisions about credit risk, loss mitigation, customer retention, securitization and investment.

**PLATFORMS:** Microsoft Windows and Linux.

**PROBLEM SOLVED:** Prepayment risk and collateral risk are two of the principal business issues associated with holding or investing in mortgage risk. LoanPerformance's analytics allow our clients - who include most of the top U.S. mortgage banks, broker/dealers and investors - to focus on accurately determining these risks for optimal return. Underlying these analytics is a suite of predictive models based on multiple loan-level characteristics such as interest rates, property record information and demographics. The mortgage portfolios modeled range from hundreds to millions of loans. Many of the analytic products provided by LoanPerformance require the development of product-specific models, which requires developing and maintain-

ing many active models. For example, LoanPerformance's mortgage prepayment scoring system, PreTell, will ultimately comprise more than 75 different predictive models covering a wide variety of mortgage products.

**PRODUCT FUNCTIONALITY:** LoanPerformance uses KXEN Analytic Framework, in particular, its Classification/Regression component, to estimate and deploy predictive models for mortgage prepayment and collateral risk scoring. The predictive models generated are very high quality and have been a key component of the success of our analytical products in these risk segments.

**STRENGTHS:** The strengths of the KXEN Analytic Framework are primarily its robust modeling methodology, resulting in models that are both accurate and consistent. KXEN's component architecture also ensures that KXEN Analytic Framework outputs are easy to integrate into various software platforms. The method KXEN utilizes for encoding and transforming the input data within its Consistent Coder module (K2C component) is highly effective as a data preparation step both in its dual encoding of numeric variables and in its treatment of categorical variables and missing data. The Robust Regression engine (K2R component) - used for both regression and classification models - scales very well for large data sets and reduces the burden of model variable selection.

**WEAKNESSES:** The relatively straightforward process steps lend themselves to speed of execution but at the cost of less control over detailed model parameters. However, in our experience, the performance results,



along with the associated improvement in analyst productivity, more than outweigh this drawback.

**SELECTION CRITERIA:** LoanPerformance chose KXEN Analytic Framework because of our prior experience with the product, vendor and underlying methodology.

**DELIVERABLES:** The primary outputs of the KXEN Analytic Framework are predictive models, which LoanPerformance delivers to its clients in the form of scoring engines deployed within a variety of delivery platforms. KXEN models may be deployed in several languages such as program code (C, Java, etc.), predictive modeling markup language (PMML), SQL and SAS code.

**VENDOR SUPPORT:** Implementation rarely requires vendor support. If needed, the KXEN support team is prompt about answering questions regarding technical problems and new features. The best part of working with KXEN is the outstanding team, many of whom we have known for many years.

**DOCUMENTATION:** The documentation is very well written and accessible. However, it is rarely needed because the user interface is intuitive, with new users being able to estimate their first models very quickly. Advanced features such as the API and the shell script language are well documented.