



CUSTOMER STORY

Countrywide Home Loans

Countrywide Saves over \$5 Million Annually with Loan Underwriting System

“WE WANTED TO SELECT A PRODUCT from a solutions provider with proven success in delivering large-scale business process automation projects. That partner was MindBox™,” said Iain Stobie, Senior Vice President of Countrywide.

Every underwriter knows that approving home loans is a tricky business. Many factors must be correctly evaluated and considered before the mortgage loan can be approved — the applicant’s income, employment and credit history; the applicant’s assets and liabilities; the appraised value of the home; local market conditions; government regulations and limitations; and company guidelines and policies. Many of these factors are complex and constantly changing. In all, loan underwriters typically evaluate as many as 1,500 different pieces of dynamic data in reviewing loan applications.

Countrywide Home Loans is the nation’s largest independent mortgage lender, including loans originated in branch offices, through the Internet, and by telephone. Countrywide knows as well as any lender how difficult it is to ensure consistently high-quality loan underwriting services, given interest rate changes and constant market fluctuations. In the early 1990s, faced with market changes and a short supply of qualified underwriters, Countrywide needed to process more loans more efficiently, at a lower cost than ever before.

The company’s solution was to develop the Countrywide Loan Underwriting Expert System (CLUES) — a complete rule-based system for organizing, processing and evaluating thousands of data elements for efficient and profitable loan underwriting. Based on guidelines distilled from the knowledge of the best and most experienced loan underwriters, CLUES analyzes critical information from loan applications, credit reports, and home appraisals and determines whether loans should be approved immediately or reviewed further through a manual process.

Created by Countrywide’s internal development team, using MindBox™ ART*Enterprise* artificial intelligence software, CLUES has helped increase productivity, improve underwriting efficiency and accuracy, enhance customer service, and cut costs for Countrywide. According to Stobie, CLUES currently saves Countrywide an average of over \$5 million a year while improving the quality of loans.

“Before we developed CLUES, our underwriters typically spent 50 minutes reviewing each loan application,” said Stobie. “Now, they spend an average of 15 minutes on each loan, giving them more time to service customers. CLUES has had a direct impact on our bottom line and has dramatically improved our market position.”

Comprising several thousand rules, underwriting functions and objects, CLUES now processes more than 65,000 loans per month. These come from more than 550 Countrywide branches nationwide and thousands of brokers and correspondents connected via the World Wide Web.



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IAIN STOBIE
SR. VICE PRESIDENT
COUNTRYWIDE HOME LOANS

CLUES: Selecting the Technology

IN THE EARLY 1990S, Countrywide Home Loans began investigating automated solutions to help alleviate the critical shortage of qualified underwriters and to increase the number of loans processed per employee.

The company’s development team evaluated a variety of sophisticated rule-based expert system development tools. Countrywide assessed this technology based on functionality, flexibility and portability. Because no automated loan underwriting application of such a large scale had ever been successfully implemented, Countrywide needed more than just a tools vendor. The company needed a reliable business partner who could help them build a system that would incorporate their best practices into an automated loan underwriting platform. That partner needed to be stable, with a track record of successfully applying technology to build best of breed intelligent decision systems.

"Loan underwriting is a core business function, so we needed a stable partner who we could count on to be here not just this year and the next, but ten years down the road. We needed a partner whose technology would easily adapt and scale to our changing needs over time. That vendor was MindBox™," says Stobie.

Implementing and Integrating the System

IN FEBRUARY, 1992, Countrywide installed MindBox's ART*Enterprise* software development technology on a development network of PCs running Microsoft Windows and an IBM RS6000 running UNIX and Motif. Within six months, Countrywide's team of three developers and one manager had completed conceptual modeling and an initial prototype.

Within 10 months, the team had ported the CLUES system to OS/2 running on Countrywide's branch office PC systems and completed a highly successful beta test. Full production systems were ready by February, 1993, only 12 months after the project began.

"With such a small development team, you might expect the design, development, testing and deployment of a major enterprise application to take more than a year," said Stobie. "But we found that in addition to having stellar development professionals, we had a highly portable and flexible system in ART*Enterprise*. This was a big plus as we outgrew the capabilities of our 486 PC and needed to port the application to Pentium multiprocessors and Windows NT. With ART*Enterprise*, we accomplished this port in one hour. Clearly this portability and scalability saved us valuable time in our development cycles."

A Powerful Internal Advisor

EMBEDDED WITHIN the company's loan origination software, CLUES is completely non-intrusive for loan processors and underwriters. The loan processor enters all of the loan application data, verifies it and then, by selecting a single CLUES button, can have the loan underwritten and evaluated within a few moments. The system approves 70-80% of all the loans it processes with no additional input or processing needed from loan underwriters. Loans that are not instantly approved are referred to underwriters for further evaluation, with all pertinent problem areas flagged for easier review, accompanied by recommendations. CLUES itself never denies a loan.

"CLUES has freed up our experienced loan underwriters to focus on more specialized and complex cases, and simultaneously serves as a valuable training tool

for our less experienced loan processors," says Stobie. "Just as important, it's enabled us to achieve unparalleled consistency and quality in loan processing, helping ensure that Countrywide never discriminates or applies bias in underwriting a loan."

Modular Design Yields Flexibility for the Future

MINDBOX'S ART*Enterprise* technology allowed Countrywide to design CLUES with flexibility and scalability for future needs. Countrywide's application consists of five modules, each with its own set of rules that apply to a particular type of analysis. The three primary modules perform the following functions:

- Credit Analysis, including the evaluation of credit information from both the loan application and credit bureau data;
- Appraisal Analysis, reviewing data input from the appraisal report on the home's value in conjunction with an analysis of comparative properties and local market data;
- Ability Analysis, summarizing the applicant's ability to meet the mortgage obligations by analyzing income, employment history, assets and liabilities.

Two additional modules are dedicated to ensuring the thoroughness and integrity of the data and to performing calculations of derived values, such as monthly housing and debt ratios. Countrywide's CLUES application accepts data from internal applications and external sources (such as credit bureaus) through a custom-written interface that selects the most pertinent sets of data from Countrywide's loan origination application and formats it for use by CLUES.

"CLUES's modularity is an important design advantage," notes Stobie. "It has allowed our developers to focus on the core set of rules for the vast majority of loans we service. It made it straightforward to add more modules for handling FHA and VA loans, home equity lines of credit and loans for second homes and investment properties. Also, maintenance and upgrading are easier, because changes to one module do not necessitate changes in any other modules."

"Each year, CLUES has continued to improve our bottom line. Since its original implementation, we have continually added new modules, lines of business and users, most recently via the Web. We view it as a major strategic advantage over our competitors," said Stobie.

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CUSTOMER
Countrywide Home Loans

COMPANY SIZE
S&P 500

INDUSTRY
Mortgage Banking

DEPARTMENT
Loan Underwriting

APPLICATION
Countrywide Loan Underwriting Expert System (CLUES)



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