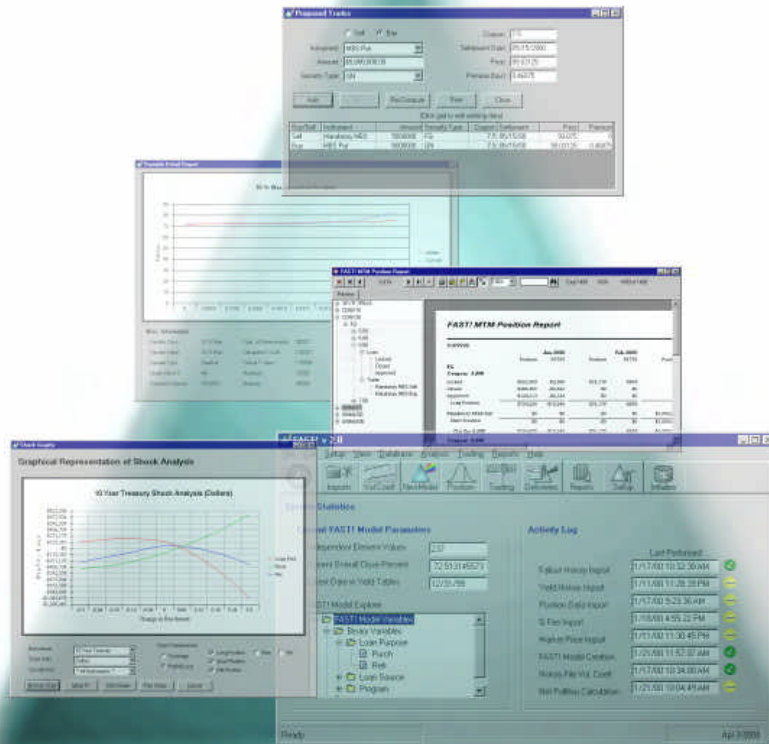


# FAST™ Risk Management System

*A Powerful Analytical Tool for Risk Management*



Copyright© 2001-2003 Precision Risk Management Systems, Inc., Little Rock, Arkansas

All rights reserved. Reproduction in whole or in part by mechanical, electronic, or any other means is prohibited without express written consent from Precision Risk Management Systems, Inc.

FAST Risk Management™ is a service mark of Precision Risk Management Systems, Inc.

FAST Risk Management System Overview



## Challenge - Maximizing Opportunities in Today's Marketplace

In today's mortgage environment, margins have narrowed and the competitive pace for production volume has increased. To be successful, mortgage bankers need to take full advantage of each opportunity that arises. Opportunity for enhancement exists in several areas including:

- Pricing Strategy
- Data Management
- Statistical Fallout Modeling
- Best Execution Analysis
- Interest Risk Mitigation
- Business Risk Mitigation
- Delivery Optimization

Optimizing each of these requires innovative methodologies and analytical tools that most mortgage bankers cannot efficiently build and support in-house. A technology solution should provide accurate information based on sound analytical models for decision-makers, flexibility to meet various business requirements, seamlessly integrate with existing systems, and, most importantly, be easy for the end-user to use and understand.

## Solution - The FAST Risk Management System

The FAST Risk Management System provides the necessary tools mortgage bankers need in a client-server based package that provides robust flexibility enveloped in a user-friendly environment.



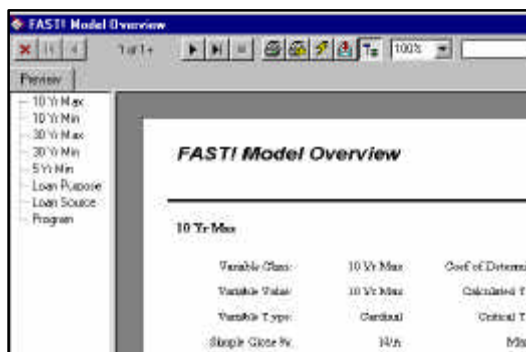
### System Features

- Detailed Position Reporting
- Mark-to-Market
- Gain/Loss Forecasting
- Delivery Fee Rules Engine
- Links to Automated Quote Systems
- Rate Shock Sensitivity Analysis
- Best Execution Analysis
- "What-if" Trade Analysis
- Automated Trade Processing
- Delivery Optimization
- Sophisticated Fallout/Adverse Selection Reporting
- Seamless System Integration
- Meaningful Management Reports

## Introduction

Risk management for mortgage bankers has evolved into a unique challenge. With the proliferation of mortgage brokers and internet originations, mortgage bankers are faced with the daunting task of identifying new factors that will impact pipeline closing ratios and developing statistically sound models to relate the impact that interest rate movements will have on these factors.

The fundamental goals for risk managers should be to minimize risk factors and reduce the company's exposure to these risks. By accomplishing these two goals, hedge costs associated with pipeline management will be reduced. In order for the risk manager to minimize risk factors, solid management reports are required. These reports must be based on sound statistical methods that objectively evaluate all facets of the company's business as each relates to variability and hedge costs. Armed with a better understanding of the factors that are impacting his position and the extent the impact is having, the risk manager can make intelligent management decisions. Once the risk factors have been addressed, the risk manager needs analytical tools and reports to assist in minimizing the company's exposure to these factors.



*FAST enables risk managers to know what factors have an impact on pipeline performance, the magnitude of the impact and the how these factors change under different interest rate environments.*

Previous attempts to address the issues above have been made, but many fall short in one respect or another. Mortgage bankers have been forced to conform to the risk management methodologies of software vendors. FAST is an example of business driving a technology solution rather than the software industry driving business. It is the culmination of five years of research, development and testing. It has been extensively tested using live data through various market conditions.

### Self-Defining Database

Most software systems impose a rigid database design on its users, forcing the user to either comply to what's available or alter the database with user-defined fields. Each mortgage banker has a different risk profile. Pipeline performance and profit volatility is different based on any combination of loan characteristics. Due to this fact, the FAST database was designed to be self-defining. FAST requires only a few select fields of data, and the user is allowed to add as many different variables to the system as is necessary.

### Loan-Level Analysis

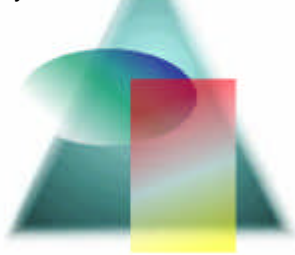
Upon initial development of FAST, several issues were identified as being crucial to the design of a risk management system. First, a risk management tool should be based on loan-level analysis. Rather than attempting to arrange loans into various groups and perform analysis on the groups, FAST analyzes each loan based on its unique set of characteristics. This allows FAST to arrive at the most accurate conclusion regarding the risk level for a particular loan.

### Benchmarking

Another area of concern was the use of benchmarking. Benchmarking attempts to re-state various items, trades and/or loans, as a single, universal item. While this method simplifies the processing of certain

items such as mark-to-market and position reports, it actually presents an additional risk factor to the risk manager, basis risk. By restating various loans as a single instrument, the risk manager faces the risk of spreads between the benchmark and the various underlying instruments changing. The result of this is increased volatility in earnings and increased hedge costs.

Another challenge that results from benchmarking is attempting to capture historical price history over long periods of time for a particular benchmark. As interest rates move, the relevance of a particular benchmark may change, forcing the user to redefine the benchmark. FAST addresses this issue by allowing the user to define as many security types and instruments as needed. Each loan is priced to its underlying security, and reports are generated that state the risk position as it relates to all instruments, not just the benchmark instrument. To determine interest rate sensitivity, FAST builds a historical file of US Treasury yields on the five, ten and thirty year bonds. The user has the ability to view interest rate sensitivity in terms of any instrument that exists in the system. When changing from one security instrument to another, FAST analyzes the security's current duration and convexity verses the US Treasury curve. In other words, a shock chart of the user's 15 year position can be expressed in terms of an actual 15 year instrument.



### Rate Lock or Option?

A risk management system should be intuitive to risk management professionals. During the initial design stages of FAST, it was noted that competition dictates that lenders offer borrowers rate lock protection free of charge. While the borrower is usually under no obligation to close the loan, he may choose to close the loan at the locked

rate and points or transfer his application to another lender should the prevailing rates fall. From a hedging standpoint, this sounds very much like a simple put option. In the past, attempts have been made that use various option valuation models as a basis for hedging locked loan positions. However, upon closer inspection, there are subtle differences that make hedging an option very different from hedging a rate locked loan application.

By using option valuation models to determine the relative current value of a lock, the option model must first determine to what degree a locked loan is "in-the-money" or "out-of-the-money" compared to current market prices. The fallacy with using this approach is that over the life of a loan lock, there will be peaks and valleys in interest rates. The magnitude of these interest rate changes over the life of the lock is the critical factor in determining the probability of a loan closing. If the locked loan were treated as a put option, it would be re-evaluated each day based on current market prices without regard to previous interest rate swings the locked loan had previously been exposed to.



*FAST allows users to view interest rate shock analysis in terms of any security instrument defined in the system.*

Since the borrower is free to choose at any time during the lock period whether or not to close the loan, the "expiration date" of the option is not known. This is different from European options where the expiration date is set and the option may only be exercised on that date. American options do allow the option to be exercised at any time up to the expiration date. However, a borrower is free to change his mind multiple times during the

lock period, whether he notifies the lender or not. In other words, the "put option" that the lender gives the borrower may be exercised at any time during the lock period and may be effectively "unexercised" and then "re-exercised" numerous times at the borrowers discretion. In addition, borrowers are not 100% efficient. A borrower may close a loan that is locked at a rate that is higher than current market simply because he doesn't want to endure the hassle of switching lenders. By hedging this borrower's lock as an option, the risk manager would incur additional, unnecessary hedge costs.

### Decision Making

Rather than creating a "black-box" that would make decisions on behalf on the risk manager, FAST development was focused on creating an analytical tool that risk managers could use to assist in making decisions. Each risk manager varies to some degree in risk management philosophy and risk tolerance. To meet these varying needs, FAST has been designed to serve as a powerful analytical tool that can be applied to various hedging styles and philosophies. Whether a risk manager is a "Fallout Hedger" or a "Profit Hedger", the FAST Risk Management System provides the tools necessary to make effective risk management decisions.

### Useful Management Reports

The final fundamental issue addressed in the development of FAST is the need for simple, concise reports that provide accurate, meaningful data. Providing the risk manager with hundreds of convoluted reports that would take hours or even days to review does not aid in risk management. On the contrary, using reports that are not intuitive and concise can lead to poor decision-making. FAST provides a report set that addresses the needs of the risk manager in a clear, understandable format.

### Conclusion

FAST has been designed and tested to suit the needs of various mortgage bankers. Considering the above issues, FAST provides an analytical tool for risk management that is based on loan-level analysis and grounded in a sophisticated statistical prediction model. This provides an accurate view of the mortgage banker's risk position. The combination of a powerful analytical tool with simple data import requirements, user interfaces and rich management reports, makes the FAST Risk Management System an excellent risk management solution.



## Integration with Existing Systems

As previously discussed, FAST offers total flexibility with regards to interfacing with existing front-end systems. Users have the ability of importing the following data:

- Fallout History
- Yield History
- Current Position
- Buy-up/Buy-down Grids
- Current Market Prices

Where applicable, FAST allows the user to specify whether imports should overwrite existing data or append to the existing data. Additional import features allow the FAST user to maintain accurate data tables, resulting in higher accuracy during the analysis phase.

In order for FAST to integrate with existing front-end systems, it has been designed to accept imports in the following formats:

- Microsoft Access
- dBase III, IV, V
- Excel 3.0, 4.0, 5.0, 97
- Delimited Text
- Btrieve

Rather than attempt to account for all data fields that various mortgage bankers may wish to include in history, FAST analyzes the user's import file and builds a custom database based on that import file. This provides exceptional flexibility for the user. Implementation is greatly simplified since there are no hard-coded exports to build within existing systems. Additionally, if the risk manager wants to change the data elements used for modeling, he only needs to change the front-end system's export file. The need for creating identical file definitions on multiple systems is eliminated.

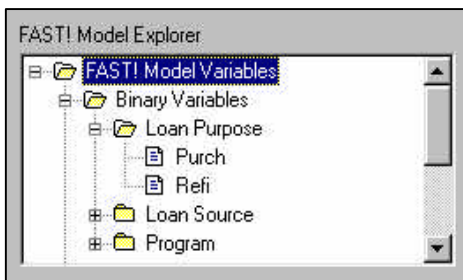


*Dynamic interface design simplifies the process of implementation and maintenance.*

## User Interface Design

One key element in the design of FAST was the development of a user-friendly work environment. Users are presented with pertinent data in a control panel style interface. Users have the ability to navigate the system through the use of graphical toolbars or standard menus. The work environment may be changed to suit the preference of the user. Additional tools are available to assist the user in monitoring daily activities and current FAST Model components.

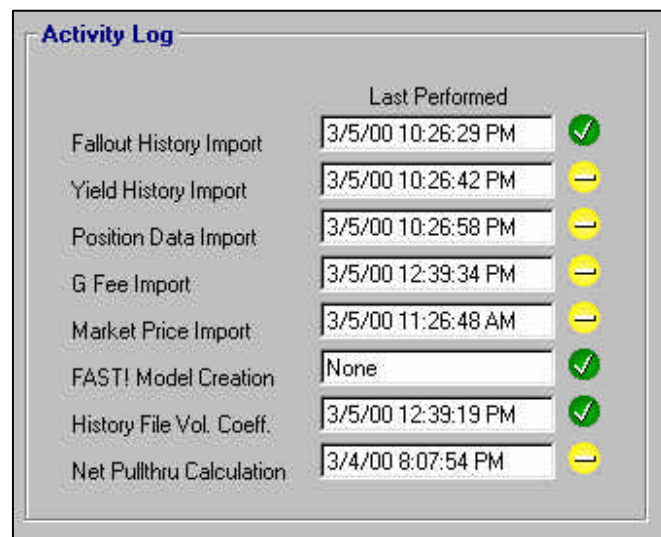
The FAST Model Explorer presents an overview of every element contained within the prediction model. It is designed to allow the user to drill down into various components and determine how each component impacts pipeline closing probabilities. The FAST Model Explorer explains the characteristics of each component in terms of its reliability, significance and variability. Where applicable, a graphical representation of the data component is also provided. The FAST Model Explorer helps the risk manager understand which loan characteristics have a significant statistical impact on closing probability.



*Using the FAST Model Explorer, users can drill down into the various components that comprise the current prediction model.*

To ensure accurate data processing, an activity log is automatically generated based on user actions. This activity log records the date and time certain critical functions are

performed. The log is displayed using graphical icons indicating the action items that have been performed and the current status of various system components. In a glance, users can determine what system functions have been performed and which ones may require action. The activity log is integrated with position reports. This prevents erroneous reporting resulting from stale data.



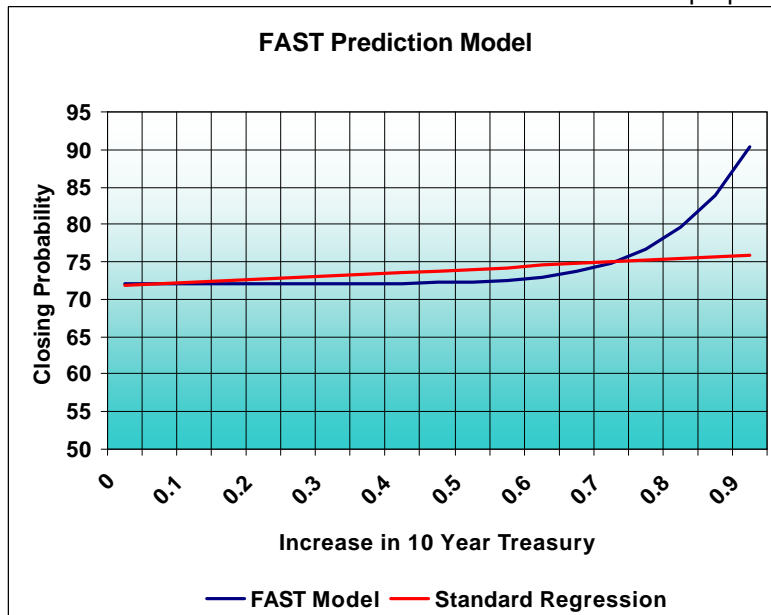
	Last Performed	
Fallout History Import	3/5/00 10:26:29 PM	✓
Yield History Import	3/5/00 10:26:42 PM	—
Position Data Import	3/5/00 10:26:58 PM	—
G Fee Import	3/5/00 12:39:34 PM	—
Market Price Import	3/5/00 11:26:48 AM	—
FAST! Model Creation	None	✓
History File Vol. Coeff.	3/5/00 12:39:19 PM	✓
Net Pullthru Calculation	3/4/00 8:07:54 PM	—

*The Activity Log guides users through required daily functions.*

User interfaces have been designed to be intuitive and easy to navigate. The integration of activity profiles eliminates the necessity of routine data entry. Within various screens, the user may define processing options and store these as profiles to be used for future use. The result is improved efficiencies and reduced training issues for the end user.

## The FAST Prediction Model

The core of the FAST Risk Management System is a proprietary statistical modeling tool that is capable of building non-linear relationships between loan characteristics and closing probability. These characteristics are analyzed individually against all others. The result of this sophisticated modeling routine is a matrix that not only describes each characteristic's predictive nature, but the overall weighting that each characteristic has in relation to all others. This enables FAST to construct a predicted closing probability based on any combination of loan characteristics.



*The FAST Prediction Model identifies non-linear relationships between data elements, greatly increasing the model's accuracy.*

Many attempts have been made to use standard linear regression models to build prediction models for pipelines. The fundamental problem with this approach is the assumption that certain data elements have a straight, linear relationship with a loan's closing probability. For example, research has shown that small movements in interest rates have little impact on closing probability. However, larger changes in interest rates have a substantial impact on closing probability. Additionally, the impact of rising rates is noticeably different than falling rates.

The FAST Prediction Model computes the standard linear relationship of selected data elements and then solves these equations to best describe the actual relationship that exists and an overall predictive strength coefficient is computed. Closing probability is greatly influenced by taking into account the non-linear relationship of data elements and the individual strength coefficients.

Using simple drop-and-drag techniques, the risk manager defines the FAST Prediction Model by selecting various loan characteristics such as source of business, purpose, product, lock period, geographic location, etc. The possibilities are limited only by the data included in the interface from the existing front-end system.

The primary advantage of using the FAST Prediction Model is the ability to take into account inefficient borrower behavior. Rather than converting the loan lock to a synthetic option that will always exercise when it is "in the money", FAST observes actual borrower behavior and determines the point at which interest rate changes will impact closing probability. By reducing the optionality of the loan lock, risk managers can reduce hedging costs associated with options hedging.

A secondary feature of the FAST Prediction Model is its ability to detect possible unfair lending practices. A risk manager can test the statistical significance of various HMDA related data elements and determine if any of these factors appear to be a significant predictor of closing. If the model results indicate the possibility that unfair lending practices are occurring, management can be in a position to take a proactive approach to the problem.

The FAST Prediction Model is a very sophisticated statistical modeling tool. However, it was designed for use by risk management professionals and a thorough understanding of statistics is not required.

## Position Reports and Sensitivity Analysis

Effective pipeline risk management is one of the most critical challenges for mortgage bankers. Understanding the risk associated with locked positions and the sensitivity of these positions to movements in interest rates is required for risk managers to make effective trading decisions. The FAST Mark-to-Market Position Report and Sensitivity Analysis provides the risk manager with the necessary information for pipeline hedging decision-making.

Current pipeline information is imported through FAST's dynamic interface. FAST analyzes the pipeline data and uses the user's current FAST Prediction Model to perform a loan-level analysis of closing probability. This information is combined with current market prices, buy-up/buy-down grids and excess servicing plans to compute the current market value of each loan in the pipeline.

Based on user setup, each loan is marked based on its earliest possible settlement date. This calculated settlement date takes into account a user-defined turn-around time that indicates the number of days needed to deliver a loan after closing. The FAST Position Report displays long and short position data and mark-to-market values by settlement month. This crucial information allows the risk manager to put the appropriate hedges on for the correct settlement date. In doing so, the costs associated with rolls and/or swaps needed to match-up positions prior to settlement are reduced.

Forecasting marketing gains and losses is another critical function required of the risk manager. Without appropriate tools, this task can be time consuming and inaccurate. The FAST Position Report assists the risk manager with this task by breaking down gains and losses by month. This allows the risk manager to identify future earnings volatility. The accuracy of the gain/loss forecast is enhanced by utilizing the Delivery Fee Rules Engine. The rules engine allows users to enter pricing rules that adjust

gain/loss based on individual loan characteristics.

Checks and balances have been incorporated into the FAST Position Report. The system checks for missing or suspect data on loans, trades and current market prices. A summary of findings is produced indicating the overall integrity of the data supporting the report. No more instances of reports that are inaccurate due to system data being corrupt. To prevent reports from being erroneously distributed based on stale data, the FAST Activity Log is included on the report as well. This indicates the date and time of the data contained on the report.

	Jun-2002		Feb-2002		Position
	Position	MTM	Position	MTM	
<b>FGF</b>					
Coupon 5.250					
Locked	\$1,014,403	-\$7,161	\$166,946	-\$1,875	\$0
Closed	\$79,000	-\$379	\$0	\$0	\$0
Approved	\$124,742	-\$846	\$0	\$0	\$0
Long Position	\$1,218,145	-\$8,387	\$166,946	-\$1,875	\$0
Misc/Corp MBS Sell	30	\$0	\$1,000,000	\$17,063	\$0
Short Position	30	\$0	\$1,000,000	\$17,063	\$0
<b>Net for \$ 200</b>	\$1,218,145	-\$8,387	-\$833,554	\$13,188	\$0
Coupon 6.000					
Locked	\$8,486,739	\$12,124	\$5,371,135	\$38,067	\$162,100
Closed	\$3,321,450	-\$15,781	\$0	\$0	\$0

The FAST MTM Position Report provides position and mark-to-market data broken down by security, coupon, loan stage and trade type.

Knowing the current net position and its value is only half the battle in managing pipeline risk. Understanding the position's sensitivity to interest rate changes is the other. FAST provides a sensitivity analysis tool that allows the risk manager to view the position's overall sensitivity or drill-down into various areas of the position based on security type and coupon.

Rather than forcing the user to view the sensitivity in terms of just one global benchmark, FAST provides the ability to view sensitivity in terms of any instrument defined in the system. The user has the ability to change the instrument on the fly. This is very useful when analyzing particular

segments of the position. When analyzing a fifteen year position, the risk manager can view the sensitivity based on changes in a fifteen year security.

While computing position reports, the user has the ability to control several processing options such as minimum and maximum closing percentage allowed, interest rate shock ranges and whether to mark loans to market using basic price tables or best execution prices. Once again these options may be stored as profiles to simplify daily processes.

To assist in the trading function, FAST gives the user the ability to enter "what-if" trades. The sensitivity analysis incorporates these trades and re-computes the users current position and sensitivity based on the proposed trades. Once the risk manager has determined which trades are required, the proposed trades can be printed to assist in trade execution.

#### Fallout Hedging vs. Profit Hedging

There are numerous methodologies used by risk management professionals today, but most of these methods fall into one of two categories: fallout hedging or profit hedging. Fallout hedging is the practice of placing hedges in place in a manner that accurately matches trades to anticipated deliveries. The fundamental principle of fallout hedgers is the idea that if newly locked loans are "covered" at prices comparable to the locked loan's price, then there will be minimal gain or loss when the loan settles.

Profit hedging focuses more on the sensitivity of gains and losses to interest rate movements. A profit hedger would pay less attention to what the net long or short position was and more attention to what the potential impact the net long or short position was going to have on gain/loss. In other words, if a profit hedger had a net long position, but the sensitivity analysis indicated that the long position was very insensitive to interest rate movements and thus not likely to impact gain/loss, the hedger would take no action. Likewise, if a profit hedger's positions were perfectly matched and the current net exposure was nil, but sensitivity analysis indicated a potential impact to gain/loss under a certain interest rate change, the hedger would place additional hedges to offset the risk.

During the development of FAST, it was recognized that there are benefits to both methods mentioned above. It was also determined that a system capable of satisfying the needs of both fallout hedgers and profit hedgers would be more acceptable than a system that only addressed the needs of one of the two methods. Therefore, the FAST Sensitivity Analysis has been designed so users can view loan and trade positions in dollars as well as gain/loss in dollars and basis points. This greatly enhances the user's ability to make decisions regarding what types of hedges are appropriate under various situations.

*FAST provides the tools mortgage bankers require to effectively manage interest rate risk.*

## Trade Processing

A solid trade processing system is a must for any risk management system. Rather than forcing users to abide by system-imposed restrictions, users should have full function control over entering and tracking all types of trading activity from simple forward sales to buying and selling options and futures. Traders need effective tools for automating pair-offs, dollar rolls and trade allocation for dealer notification.

FAST has addressed these issues in an easy-to-use interface design. Where applicable, pull-down menus supply users with valid selection options reducing the occurrence of data-entry errors. Also included in the FAST trading module is the ability to track competitive bids from various dealers on a single trade.

Detailed trade conformation tracking and trade assignment functionality are included in the trading module.

The trade module supports the use of the following standard security types:

- Mandatory MBS
- Whole Loan Cash-Flex
- MBS Put
- MBS Call
- Treasury Cash
- Treasury Put
- Treasury Call
- Treasury Future

In many systems, the issue of pair-off allocations and dollar rolls becomes a convoluted process that requires some sort of work-around to accommodate the user's needs. FAST has an intelligent pair-off allocation tool that assists the user in allocating pair-offs to outstanding trades. This feature analyzes the pair-off trade and searches the database for outstanding trades that match the characteristics of the pair-off. By taking into account previous pair-off and delivery allocations, FAST guides the user through the process of allocating the pair-off trade. This ensures accuracy of pair-off allocations and prevents users from making critical trading mistakes.

The process of producing dealer notification reports for 48-hour notice has been automated as well. Before producing the report, FAST will search the database for the next trade settlement date and default the report date to that date, or the user has the opportunity to override this feature and enter any date desired. The Delivery Allocation Report may be printed, faxed or e-mailed directly from the user's workstation.

## Delivery Allocation

By simply including a delivery identifier within the position data import, users can take advantage of automatic delivery optimization within FAST. This optimization routine examines the delivery type and settlement date, selects all appropriate trades and allocates the delivery to the trades in a manner that will maximize profits based on current market prices and trade variances.

This tool is also critical for managing the outstanding trade position and avoiding

surprises on settlement day resulting from a trade that was overlooked in the allocation process. The delivery allocation tool presents the user with a table of trades matching the delivery characteristics. This table provides the user with pertinent trade data, partial pair-off amounts, and previous delivery allocations.

The user has the opportunity to select a delivery fee rule. This ensures the gain/loss calculations reflect the true gain/loss on the delivery.

**Delivery Header**

Delivery ID: 252000 (Select Delivery to edit or enter new ID.)

**Allocation**

Trade to Allocate: 9  
Remaining Amt to Allocate: \$0  
Total Amt to Allocate: 0 [Update]

Trade #	Trade Amt	Trade Price	Settlement	Prev Alloc Amt	Pair-off Amt	Current Alloc Amt	Unalloc Balance
9	\$8,500,000	100.0000	05/31/2000	\$5,450,000	\$0	\$3,050,000	\$0.00

**Delivery Header**

Delivery ID: 252000 (Select Delivery to edit or enter new ID.)

**Delivery Information**

Pool/Investor ID: [ ]  
Sec Instrument: FG [v]  
Cash Delivery:   
Coupon: 8.0  
Settlement: 5/31/2000 [v]  
Fee Rule: default [v]

**Delivery Overrides**

Guarantee Fee: 0.0  
Servicing Fee: 0.0  
Max Buy-up: 0.0

[Update] [Delete] [Auto-Allocate] [Cancel]

*Automated delivery optimization makes the process of tracking deliveries and allocations easy and accurate.*

## Best Execution Analysis

In order to maximize profits, mortgage bankers must be able to take advantage of the very best delivery option available. Many mortgage bankers attempt to perform best execution analysis, but don't have the resources or understanding required to perform a thorough, precise best-ex analysis. The FAST Best Execution Engine provides the information needed by risk managers to make important pricing and hedging decisions.

Some of the features of the FAST Best Execution Engine include:

- Ability to import loan-level buy-up and buy-down grids.
- Support of multi-tiered excess servicing plans.
- User defined constraints.
- Result tables that may be used for daily pricing.

Based on user-defined setup and constraints, current buy-up/buy-down grids, and excess servicing plans, FAST will compute the optimal servicing fee to be used on each note rate within each product group and guarantee fee scenario. This optimal servicing fee is then used to compute "all-in" prices for all possible delivery instruments within the product group.

A result table is generated that stores the components of the execution analysis by product group, instrument, buy-up/buy-down method, delivery date and loan-level note rate. These components include a breakdown of agency buy-up, buy-down and excess servicing amounts. This table is available to risk managers to be used as the basis for daily pricing models. This information can also be utilized in the loan delivery and pooling areas to build pools that maximize both agency buy-up and excess servicing within the constraints entered by the user.

Excess Servicing Plans

Excess Plan ID:  Choose an Excess Plan to edit or enter a new Plan ID.

Excess BPS from  to

has a ratio of

(Click on grid to edit an existing item)

Range Max	Excess Ratio
10.0000	5.4000
15.0000	5.0000
20.0000	4.8000
50.0000	4.0000

*The ability to define multi-tiered excess servicing plans is crucial to performing accurate best execution analysis.*

## System Report Features

Many software solutions provide good user-interface design, but fail miserably when it comes to providing succinct, meaningful reports. Users do not need the hassle of sorting through volumes of reports, adding one report to another, or exporting data from various reports to spreadsheets to arrive at a simple answer such as, "What is my position?". Producing hundreds of pages of confusing reports that are ineffective is wasteful and counter-productive. The primary goal when developing FAST's system reports was quality, not quantity.

FAST provides standard system reports that answer the questions risk managers want to know. These reports are arranged to provide maximum information in a clean, efficient format. The following features are available within all system reports:

- Treeview summary control
- Drill-down capability at the click of a mouse
- On-screen search feature for locating specific items within a report
- Ability to export report in numerous formats, including HTML
- Ability to direct output to printer, fax or e-mail on the fly.

The treeview summary control allows users to navigate through reports quickly and easily. With just a few mouse clicks, a user can move to various areas of the report without navigating every page in-between.

Whenever summary information is presented on a report, the user can simply double-click on the summary data to see the detailed data that was used to produce the summary. This is very helpful when risk managers have specific questions about certain values on a report. For example, to see a detailed listing of all loans that were in a conventional 30 year position, the user would simply double-click the total loan field on the report. This feature reduces the overall number of system reports needed. Rather than producing a report that contains just summary data and another report that contains both detail

and summary data, just one report that has the ability to show one or both is required.

The on-screen report search feature allows users to enter a value and search the entire report for that value. Once again, this assists the user in navigating through large reports. If a user were viewing a very large, loan-level report, it would be simple to key in a loan number and find that loan within the report without manually searching page-by-page.

Output options for reports are flexible and robust enabling users to take data from the FAST Risk Management System and use this data in other systems. The user has the ability to export report data to text files, Excel or Lotus spreadsheets, RTF documents, Word documents and HTML web documents. Additionally, the user can send report data directly into other databases that use ODBC connectivity. Report output may be printed, faxed from a fax board or e-mailed from the user's workstation.

Reports are created using Seagate Crystal Reports. These report files are provided with the system so that the user can make custom modifications to suit individual needs. The FAST database is accessible through ODBC. This enables users to create additional management reports as needed.

	Position	Mar-2000	Ap
<b>FCF</b>			
<b>Corporate 5.500</b>			
Locked	\$1,180,648	-\$9,035	90
Closed	979,000	-\$378	90
Approved	\$124,743	-\$648	90
Long Position	\$1,284,391	-\$10,061	90
<b>Mandatory MBS-Sell</b>			
Sheet Position	\$1,000,000	-\$17,063	90
Net Bar 5.500	1,384,391	-\$6,001	90
<b>Corporate 6.000</b>			
Locked	\$14,030,034	-\$1,467	90
Closed	\$3,301,030	-\$15,781	90
Approved	\$1,001,034	-\$11,798	90
Long Position	\$19,332,098	-\$29,046	90

## Summary of System Reports

### FAST Model Overview

The FAST Model Overview provides a summary of each of the data elements that comprise the user's currently defined prediction model. This information explains the predictive nature of each data element, its statistical significance and relative predictive strength. The risk manager can use this report to identify certain elements that are having exceptional impact on closing probability. For example, if it was determined that a certain loan program had exceptionally poor performance in terms of overall closing percentage or closing volatility, the risk manager could examine the program closely to determine if that program should be discontinued or modified in some fashion.

### FAST Management Matrix

This report provides valuable fallout and adverse selection information to risk managers. The FAST Management Matrix analyzes each loan source's fallout performance based on a matrix on interest shifts. The information is broken down by loan source and purpose. The report then produces a variance coefficient that indicates the overall variance in a loan source's closing ratio between rising rate environments and falling rate environments. The risk manager can use this information to identify loan sources that have very low closing ratios while rates are falling and very high closing ratios when rates are rising. This enables management to identify those loan sources that are causing increased hedge costs associated with greater volatility and adverse selection. To simplify the process of identifying those loan sources that have highly volatile closing ratios, the user may define certain selection parameters to limit the report to only the desired records.

### Trade Log

The Trade Log report allows the risk manager to view current trades. The user has the ability to sort this report by trade type, dealer or trade date. Also, the user can produce the report based on trade dates or settlement dates that fall within a given range.

### Open Trade Report

The task of managing delivery and pair-off allocations is simplified by utilizing the Open Trade Report. This report allows the user to view all positions for a given settlement date. For each trade, the report details the amount of deliveries and pair-offs allocated. The risk manager can quickly distinguish those trades that are not fully allocated and avoid costly delivery errors.

### Pair-off Report

All gains and losses resulting from pair-offs are detailed on the pair-off report. This information is vital in reconciling gain/loss on settlement. The report breaks down the pair-off gains and losses by dealer, security and trade.

## Summary of System Reports (cont'd.)

### MTM Position Report

One of the fundamental report needs of risk managers is the MTM Position Report. This report combines net position information with current mark-to-market information. The MTM Position Report automatically slots loans into delivery months based on close date or lock expiration date taking into account the users indicated processing time for various delivery types. The risk manager is provided with a breakdown of the current position by hedge group, security instrument, coupon, loan status and trade type. By reporting this information by settlement month, it also assists the risk manager in forecasting future gains/losses. The report also contains a suspect data section that provides loan numbers and/or trade numbers that have suspect data or are missing required pricing information. In addition, the current FAST Activity Log is included indicating the current status of the data used to produce the report.

### FAST Shock Analysis

The Shock Analysis Report is a graphical representation of the current position's sensitivity to interest rate movements. This tool provides a wide range of flexibility allowing the risk manager to drill down into specific areas of the position. To further assist the risk manager, the shock analysis can be re-stated using any security instrument defined in the system. Inclusion of a "what-if" trading module simplifies the process of selecting appropriate hedges for the position.

### Best Execution Report

The Best Execution Report presents the results of the FAST best execution analysis. Execution results are sorted by program group, loan-level note rate and settlement. The risk manager uses this report for pricing as well as delivery and pooling decisions.

### Delivery Allocation Report

To gain efficiency and reduce the number of costly errors associated with dealer notification, the Delivery Allocation Report was included. This report is produced for a given settlement date and indicates all outstanding trades. Each trade is listed along with appropriate pair-off information, delivery allocations, principle settlement amounts, interest payable upon settlement and total funds due on settlement. This report is broken down by dealer and security type.

### Delivery Gain Loss Report

This report provides the user a simple, quick method of computing gain/loss for either a single delivery or all deliveries within a given settlement date range. Additionally, the gain/loss figure is broken down to reflect the following components of gain/loss: loan discount/premium, trade discount/premium, buy-up, buy-down, excess servicing and rules-driven delivery fees.

