



ARTEnterpriseTM

PRODUCT FAMILY SUMMARY



ART Enterprise™ Components

By adding intelligence and efficiency to your critical business processes, MindBox™ greatly simplifies the task of providing faster and more individualized decisions and service throughout your enterprise.



“MindBox is making its expertise and technology available to a broader range of companies within the financial services industry. Not all companies can afford to make one lump investment. This component strategy allows them to implement solutions based on their most urgent needs, and to prioritize IT spending accordingly and leverage that spending for future growth.”

Bryan C. Keane
Senior Analyst
Prudential Volpe Technology Group

The ART Enterprise Product Family — a suite of cutting-edge artificial intelligence software components — reduces costs and risk with a proven approach that enables rapid automation of your unique policies for complex business processes. Origination, sales and customer service, underwriting, pricing, product configuration and deal negotiation are all examples of decision intensive processes that are streamlined and optimized when automated by MindBox technology. This technology is so powerful it allows you to tailor each individual interaction to optimize your relationship with a given customer, regardless of customer point of contact.

MindBox™ helps your company retain and leverage its intellectual capital by automating your best knowledge and decision processes. As a result, everyone on your team is able to immediately tap into the knowledge of your top performers, and to provide this knowledge directly to your internal and external customers in a format they will immediately understand. With the ART Enterprise Product Family, your customers get the same high quality information regardless of how and when they look for it.

Generates New Revenue Streams

With personalized customer interaction, clients are presented with product offers and customer service solutions meeting their specific requirements at the best point of contact. This added value results in more completed transactions, higher levels of customer satisfaction and increased opportunities for cross-selling and up-selling. These automated processes help increase revenue streams at the same time they improve efficiencies and increase profits.

Specific Component Features

MindBox's financial services domain components fit neatly into the workflow of a lending process. ART Optimize™ is the flagship component, which provides all the core functionality required to implement an entire lending process from credit check to deal structuring to pricing to underwriting.

The components are structured to encapsulate an institution's best knowledge and practices in systems that can be rapidly deployed. These frameworks are tailored to each client's specific institutional policies or strategies. In addition, the component approach allows for phased implementation of these systems — our customers begin to see ROI

before the full system is in place and they are affordable for a wide range of institutions.

ARTOptimize™

An integrated suite of component functionality delivered with MindBox's expert professional services, *ARTOptimize* allows for complete personalization of every step in the loan origination, deal negotiation and optimization and underwriting process. *ARTOptimize* automates the process of creating an individually-tailored financial package for a given customer, resulting in automated, complete personalization of every step in the loan origination and underwriting process. Specifically, *ARTOptimize* leverages an institution's data and business rules to complete the following steps:

- Integrates credit data from multiple sources
- Analyzes and acts upon that credit data according to specific company policy
- Provides explanations of credit decisions made and why subsequent actions were taken
- Provides complete intelligent product selection capability, including appropriate product matching for a specific customer in addition to implementing product exclusion and eligibility decisions
- Prices the final product, providing the best possible offer for the specific customer
- Provides a list of conditions that must be met in order for the loan to be granted
- Debt Consolidation Advisor: Provides a suggested list of debt consolidation strategies the borrower might take in

order to lower costs and create a better debt portfolio

- As part of this debt consolidation scenario, lays the foundation for the cross selling or upselling of other products, specifically, HELOCs and line of credit products
 - Includes the MindBox Power Editor, used to maintain the rules in a user friendly, recognizable environment.
- ARTOptimize* provides lenders with the ultimate tool to meet your customers' needs while adhering to your company's policies, best practices and your bottom line goals. This minimizes risk, improves customer service, and

COMPONENT BENEFITS

- Lending decisions incorporate the best practices of your company and your top employees, benefiting every customer interaction.
- Loan packaging and pricing are tailored to the individual while adhering to company policies, government regulations and your bottom line.
- Customer service is improved as clearly articulated reasons are given for each credit or loan decision.
- Changes in policy can be quickly and simultaneously incorporated across all channels.
- External industry regulations are incorporated in the decisioning process, ensuring your compliance at all times.
- Industry standards, including MISMO, were considered in the development process, ensuring easy integration with other systems.
- The components are cost effective for a wide range of institutions and return rapid ROI.

increases revenue due to faster processing and improved ability to close sales.

Components A La Carte

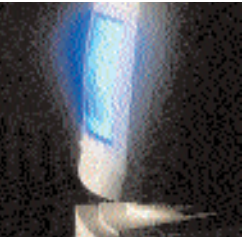
Most customers will want to buy the complete *ARTOptimize* integrated suite. However, when only certain pieces of that functionality are required, separate components are also available. While all are dependent on *ARTEnterprise*, each can be implemented independently of other components.

ARTPrice™

ARTPrice allows lenders to meet customer needs with a price automatically tailored to the individual while complying with your company policy and bottom line goals. *ARTPrice* automatically adjusts the base rate according to your company policies to provide a fully calculated, quotable price. This price includes the calculation of guaranteed closing costs, encompassing estimated real estate taxes, insurance and all other closing costs. The faster processing and improved ability to close initial sales and suggest new ones increase your revenue. Finally, *ARTPrice* improves the quality of pricing decisions by integrating the best practices and knowledge of your top employees into the system. Every customer gets your best offer.

ARTQualify™

ARTQualify allows institutions to maximize their revenue potential with a given customer, while also ensuring that they are adhering to risk management policies. *ARTQualify* allows the specification of guidelines governing product availability and selection.



“The expanded [MindBox] system enables us to decrease the processing time from weeks to days. This means we not only save money on every loan we process, we also can process more loans.”

Milt Riseman
Chairman
Upland Mortgage

The component uses a decision engine to reconcile specific institution guidelines with customer information and requirements to determine that borrower’s eligibility for specific products. *ARTQualify* also provides conditions and exclusions regarding the borrower’s product eligibility based on institution guidelines. Finally, *ARTQualify* provides a checklist of items required to verify the borrower’s statements on the loan application and any additional requirements that may be placed on acceptance of the loan program. This checklist specifies which party is responsible for meeting specific conditions or stipulations.

Debt Consolidation Advisor

Debt Consolidation Advisor is a module within *ART Optimize* that’s also available as separate component. This module, sold to a bank or mortgage company, evaluates the end customer’s debt portfolio and suggests the optimal approach to consolidating that debt to meet the objectives of both the customer and the lending institution. For example, the customer’s objective may be to minimize monthly expense, minimize overall cost, or maximize available cash. The institution’s objective may be to encourage the customer to draw down on or buy a HELOC or some other line of credit or lending product.

The module:

- Integrates and evaluates credit data from several sources.
- Determines the best course of action for the borrower to meet his or her debt portfolio objectives and provides reasons for taking the suggested actions
- Can be deployed equally effectively via the web or via personnel banker and branch personnel desktops
- Provides justification for the borrower to apply for and more importantly draw against a line of credit (second mortgage, HELOC, credit card, personal loan, etc.)
- Provides information and explanations regarding the best loan product to cross sell and why
- Includes the MindBox Power Editor, used to maintain the rules in a user friendly, recognizable environment.



ART Enterprise Product Family

Scales With Your Business

ART Enterprise has been proven to scale efficiently for extremely high volumes without compromising speed or performance. ART Enterprise systems use an enhanced version of the RETE algorithm for processing rules to ensure the highest performance and scalability available. The RETE algorithm offers significantly better performance than traditional approaches as it ensures that all conditions are only evaluated once and then re-used across different rules, regardless of the number of rules to which they apply. In addition, when data changes, only those rules that are affected are processed. This ensures the most efficient and rapid decisioning possible.

In addition, we have recently enhanced the load balancing capabilities within ART Enterprise. Our improved load balancing capabilities ensure that your system maintains the highest possible level of performance. Load Balancing ensures that tasks are routed automatically to the most available and appropriate engine, whether that be a core ART Enterprise engine or a component engine.

Plugs into Your Current Technology Environment

ART Enterprise's open architecture integrates easily with your existing systems, hardware and software. The flexible component architecture allows you to leverage your existing investments and ensures that the system will adapt over time to meet changing technology requirements.

In order to ensure the seamless

integration of ART Enterprise into your environment, we have created several services and interfaces to common technology standards. These ensure rapid and successful implementation of ART Enterprise systems, regardless of the environment surrounding them. Specifically, ART Enterprise integration includes a wide set of tools and integration kits to connect our systems to a wide variety of technologies:

JAVA INTEROPERABILITY ART Enterprise's java interoperability is consistent with the J2EE Connector Standard. Therefore, ART Enterprise can operate seamlessly in any EJB, JB or Java Messaging Standard environment.

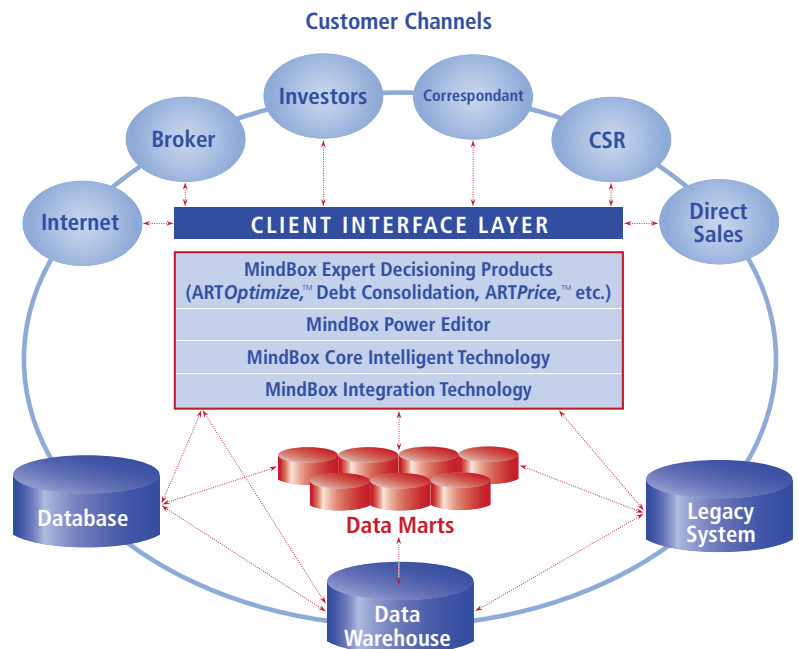
CORBA INTERFACE (Common Object Request Broker Architecture) Our updated CORBA interface allows ART Enterprise to use CORBA to support the distribution of objects imple-

mented in a variety of programming languages. IDL (interface definition language) support is provided to define the services offered by a particular distributed object.

XML INTERFACE XML (Extensible Markup Language) Our new XML interface is an integration service that provides a way to create ART Enterprise objects from the tags defined in a DTD (Document Type Definition), and also allows a user to use ART Enterprise to generate XML documents that can communicate back to other systems effortlessly.

DATABASE INTEGRATION TOOLS These tools provide integration of multiple database sources into ART Enterprise objects. They include support for multi-threaded database integration, ensuring high performance in either a web or networked environment.

Optimizing Every Client Interaction



DOCUMENT INTEGRATION TOOLS These tools provide viewer classes for text documents. Case Based Reasoning can be used to retrieve documents using a combination of text and database attributes.

SYSTEM INTEGRATION TOOLS Systems administrators can easily integrate *ARTEnterprise* applications into existing systems to add intelligence to strategic applications. In addition to support for peer-to-peer communication using TCP/IP sockets, *ARTEnterprise* delivers an embeddable architecture with an open API that supports both dynamic linking and static linking with C++ call-in and call-out capabilities and also supports links to other systems via CORBA, XML, and SOAP protocols.

WEB INTEGRATOR The Web Integrator is a component included in *ARTEnterprise* that uses a high level interface to provide the ability to quickly and easily communicate with Web clients without having to know the low-level communications or code level details. The Web Integrator allows *ARTEnterprise* applications to act as either a client or server in generating or accepting http requests.

Easier Maintenance by Subject Matter Experts

Business users and subject matter experts are the people who really use a system on a daily basis. We believe that these people should be able to maintain their own decision parameters — without having to become part of an already loaded technical systems action item list. Therefore, we have integrated powerful editing capabilities into *ARTEnterprise* that ensure the ability of business users, working with

subject matter experts, to maintain their decisioning systems without requiring expertise in artificial intelligence.

MINDBOX POWER EDITOR

MindBox provides the MindBox Power Editor with its domain components. The MindBox Power Editor is a multi-level editing application that allows business users to modify or update automated business policies. Empowering business users with the ability to maintain and develop business rules for an automated system has been an elusive challenge. Many companies have attempted to create rule editors that use a natural language approach. These editors are at first glance appealing; however, they fail to scale and therefore are not practical for commercial applications. MindBox's Power Editor has taken the approach of creating an editor that manages rules through an intuitive graphical user interface that is designed to use the paradigm and language with which the business user is familiar. In addition, the MindBox Power Editor accomplishes this functionality in a user-friendly environment that is scalable and does not sacrifice performance. It also provides a robust feature set for knowledgebase versioning, auditing, and migrating development systems to production.

POWERFUL SYSTEM TOOLS

ARTAnimate[™]

ARTAnimate is a process flow manager included with *ARTEnterprise* that assists in the maintenance of a process flow within a rule-based system. It allows a

systems expert, working with subject matter experts, to manage and track process flows within the system. They can therefore make sure the sequencing, prioritization and strategy of decisioning within the system is consistent and in keeping with company policy.

ARTExplain[™]

ARTExplain is an explanation facility included with the core *ARTEnterprise* product. This component provides the reasoning behind a given decision, such as conditions required for a loan or product eligibility parameters. It provides clear answers about final or intermediate decisions, and dynamically generates these explanations during the process. These are not canned statements — instead they incorporate specific transaction information. *ARTExplain* is a great tool for your novice employees because it simultaneously helps them provide great service, while educating them with valuable training information.

Debugging and performance tools

In response to enhancement requests from our User Group members, MindBox has introduced new debugging and performance monitoring tools. These include:

- Ability to integrate performance monitoring with transactions
- Improved reporting of detailed performance results (including the ability to format in excel, information accumulated per object)
- Improved Tracing
- Ability to trace attribute value changes
- Reporting of partial rule matches
- Simplified interface to trace functions



ART Enterprise™ Core Functionality

Rule Based Decision Engines

ART Enterprise offers an elegant and efficient means of automating business processes, through the use of rule technology. Rules are independent entities of reusable logic that express business policies as a set of actions to be taken whenever a set of conditions is met. As new data enters the application, a highly optimized rule engine automatically selects the rules that apply to the current situation and uses them to make decisions and take appropriate actions.

Case-based Reasoning (CBR)

ART Enterprise also includes a fuzzy-logic technology called case-based reasoning. This technology enables decisions to be recommended even when the quantity or quality of data is imperfect. In these situations, the system would return a set of possible decisions with confidence factors as well as a list of items where more information is required in order to improve the confidence of the offered decisions.

ART Enterprise's Case-based reasoning engine stores a library ("case-base") of previously solved or engineered problems/situations, and solves new problems or situations by searching for similar past cases and adapting their solution to the current situation. This adds a level of sophisticated decision-making not available in purely rule-based systems, and works extremely well in situations where exact matches or a full set of criteria are not always available. This capability can be used in a wide variety of areas ranging from text analysis and processing to customer support, fault analysis and personalization. It can also be used in the sales

process to support cross sell and up sell of product selections based on prior similar offers, further streamlining and improving your ability to match the correct product to meet the customer's and your company's needs.

Fully Modular Object-Oriented Environment

ART Enterprise provides a completely object-oriented environment. This allows all the benefits of modularity, re-use, rapid integration and encapsulation to be made available to systems administrators.

Adaptable Open Architecture

ART Enterprise's open architecture allows it to be embedded in external applications or be the central application that wraps or calls external applications. The deployment environment permits unbundling of the GUI, data integrator, CBR and rule/object components for efficient licensing and integration with other programs. ART Enterprise can access external programs through a wide range of options — SOAP, CORBA, ODBC, TCP-IP, Plug Ins, etc.

ART Enterprise application components may reside on the client or server, whichever is most economical.

- **LANGUAGES** XML, C/C++, Java and CORBA native language support integrates decision-making capability into distributed object-oriented application architectures.
- **PLATFORMS** Microsoft Windows NT, Windows 2000, Solaris and HP-UX on Unix, and Linux systems supported.
- **DATABASES** All ODBC-Compliant databases.

"Many of the technology trends impacting the financial services industry today are interrelated. The Internet is driving the need for incorporation of better communication and integration standards such as XML. At the same time it is key that systems can operate in a heterogeneous environment using technologies ranging from Java to XML to Unix."

Richard Beidl
Research Director of
Global Mortgage Lending
Tower Group



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