

BankFusion Equation Technical Overview

Misys BankFusion - The Way Banking Applications Should be Built

Misys has been providing leading core Banking solutions to global markets for more than 30 years and is uniquely positioned to enable the banking world to “ever-green” established systems.

Leveraging the capabilities of BankFusion together with our leading Equation core banking solution, we are empowering our clients to increase revenues, reduce operational costs, respond rapidly to changing demands and de-risk their businesses.

BankFusion Equation – The Next Evolution

Misys is delighted to announce the arrival of BankFusion Equation, the latest major release of Equation, which captures 30 years of retail banking business and functional expertise, matched with the latest SOA and Java technology being used by the retail banking sector today.

With BankFusion Equation, incorporating Equation and the Equation Desktop, BankFusion Workbench and BankFusion Server, banks are able to quickly and easily design and deploy new Equation functionality as standards-based reusable components.

BankFusion Equation Overview

BankFusion Equation Workbench (Workbench) is Misys’ unique process-driven, SOA, JAVA (J2EE) design time environment. The architecture is highly scalable and extremely flexible for building new applications, and product and business process configuration, deployment and maintenance.

BankFusion Equation Server provides common runtime technical services including security, persistence, logging, audit, instrumentation and portability.

BankFusion Equation provides Equation users with a quick and cost-effective means of building new Equation functionality around existing Equation functions. The Service Composer (a Workbench component) is used to

aggregate Equation API’s and provide new composite services constructed as a BankFusion Equation micro-flows. These can then be published as standards-based web services.

The Workbench can also be used to build “green-field services” i.e. completely new services with new validation rules, new prompts, new enquiries and database updates. Green-field services can then be incorporated into composite services.

Once deployed, a new service is available for onward use in the Equation Desktop (Desktop) and other channels, for example online banking, agents and third party Business Process Engines.

Typical Consumers of BankFusion Equation Services

- + ESB (Enterprise Service Bus)
- + Message Brokers
- + Business Process Execution (e.g. BPEL Engines)
- + Process Management (workflow)
- + Any SOA application

To further underpin the technical credentials of the new architecture, Misys and IBM have jointly completed a successful proof-of-concept proving the integration capabilities of BankFusion Equation using the IBM Websphere Integration Developer.

BankFusion Equation Workbench

The Workbench lets banks design new components built from Equation's huge library of pre-built APIs, and is delivered as a standards-based eclipse plug-in.

The BankFusion Equation Service Composer (Service Composer), a Workbench component has a library of all Equation APIs (including Prompt and Validate APIs) which can be enriched (validation rules, presentation and defaults) and extended (green-field services and multiple UI layouts) from within the Workbench.

Having defined a new service and chosen the Equation APIs that will be used for updating the database or retrieving data, the fields defined in these APIs may be "dragged" onto the screen definition creating a mapping between the screen fields and the API fields.

Services created with the Workbench can be fully integrated with Equation journaling, external input, commitment control and recovery features.

Workbench Technical Benefits

- + **Comprehensive API Library** – all existing Equation API functionality to choose from, including Prompt and Validate APIs and selected Service Routines. Banks are able to choose which APIs they want to publish, which is a more efficient and flexible than using the "published services" approach followed by other vendors.
- + **Auto-generation of code** – new components can be built using wizards and Workbench drag-and-drop functionality. Once the component is complete, the Workbench will automatically generate the XML code required to deploy the new functionality as a service.

- + **XML** – design time artefacts are defined in XML code, which ensures that a clearly defined set of standards is applied. This makes it possible to distribute the new object to a multitude of different channels with minimal effort. Content and data is retrieved once, and can be delivered many times and in many formats with ease, facilitating standard source control and integration
- + **JAVA** – New components can contain Java user exits to define more complex rules and behaviour
- + **Automatic database mapping** – input and display fields are automatically mapped to the database
- + **Equation integration** – New services built with the Workbench are compatible with Equation journaling, recovery, external input and commitment control
- + **Default API features** – The Workbench defaults standard processing features of APIs i.e. the default validation modules and the default mapping for a particular API
- + **Testing and deployment** – The Workbench publishes new components, simplifying the testing and deployment of new components
- + **Auto-packaging** – once completed and tested, the new service is packaged as a standard equation patch. The new patch can then be deployed and installed using standard Equation installation procedures
- + **Multilanguage** – The Workbench can be implemented in multi-language environments

Workbench Features and Flexibility

- + The Workbench has the flexibility to allow the definition of business rules
- + Java code can be included in new components for more complex rules

- + Expressions can be used to validate input and generate field values
- + The Workbench can also map to externally described user tables
- + Defaulting and fixed values can be applied to new input fields
- + Dynamic input value lists can be generated based on other fields, tables or rules
- + Fields can be protected, or conditionally protected

The Desktop

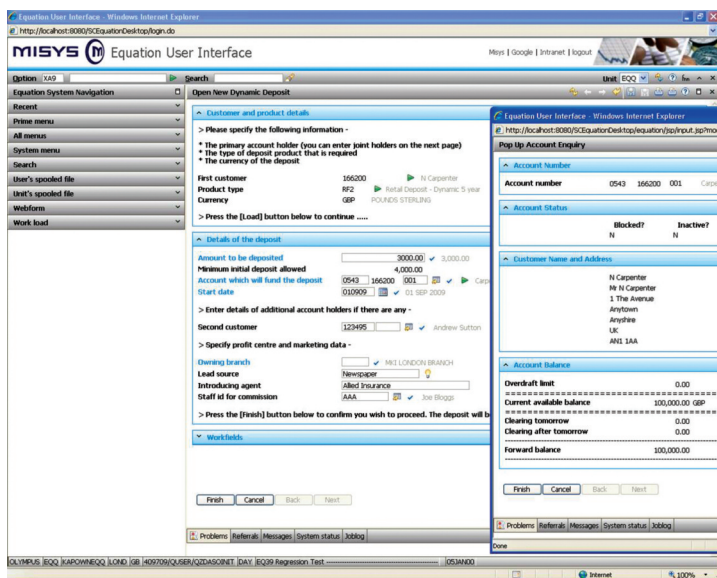
The Desktop is a browser based, thin client input channel which can be used on its own, or integrated into other UI's or existing branch and back office channels.

BankFusion Equation users are able to customise Equation using the Workbench and the Desktop to create simpler and more relevant screens with fewer input fields, allowing staff to be more productive and provide better customer service.

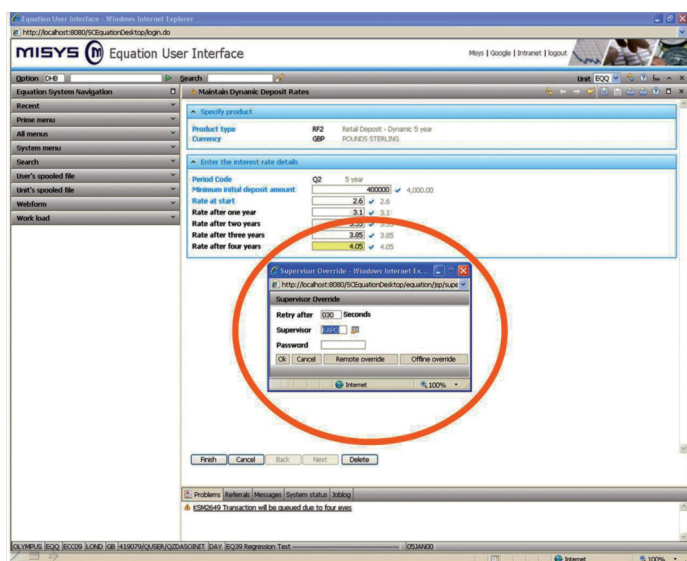
The Desktop is fully integrated with existing Equation screens, and can also be used to allow users to access streamlined processes built using Workbench.

- + Transactions that previously required many steps and many screens of data to complete can now be integrated into a single step with fewer screens
- + Banks can specify their own business rules for transaction validation, leading to fewer mistakes and improved security

By extending the "Enhanced Security Features" capabilities to allow "off-line" authorisation, the Desktop increases security and reduces the risk of fraud or costly errors occurring.



The Desktop and the Workbench can be used to integrate transactions that required many steps and screens into a single step



By extending the “Enhanced Security Features” capabilities to allow “Offline” authorisation, the Desktop increases security and reduces the risk of fraud

Desktop Technical Benefits

- + **New functionality** – The Desktop allows users to access streamlined processes built using the Workbench
- + **Equation integration** – The Desktop is integrated with all existing Equation functionality. Original Equation functions sit alongside newly created services in the same menu framework.
- + **Standard web browser** – The Desktop can be deployed in Internet Explorer
- + **PDF documents** – Users are able to browse, view and save reports as PDF documents

Desktop Features and Flexibility

- + Equation input and enquiry functions have been improved with the following new features:
 - + Date pickers
 - + Frequency code pickers
 - + List pickers and drop downs for restricted value fields
 - + Mouse navigation
- + Banks are able to apply their own:
 - + Branding
 - + Colour schemes
 - + External links e.g. internal website, search engine
- + The Workbench can be used to customise new and existing screens:
 - + Display fields can be reduced i.e. only fields relevant to a function or service need to be displayed on a screen
 - + Input fields can be prompted and validated using expressions, complex rules and defaulting
 - + Fields can be ordered as required on a page
 - + New Display and input fields can be linked to either existing tables or user tables
 - + Screens can now contain user-defined widgets
- + The Desktop supports multi-language implementations, including right-to-left text orientation for languages such as Arabic

BankFusion Equation Key Benefits

Superior Customer Experience – BankFusion Equation provides banks with the technical edge required to re-engineer complicated manual processes into highly automated and consistent processes, resulting in enhanced customer experience

Increased Competitive Advantage – BankFusion Equation can be used by banks to practise standards-based development, simplifying and speeding up the process of building and Go to Market of new products and services

Increased Operational Efficiency and Productivity – Banks can reduce the complexity of business processes by using BankFusion Equation to design new highly customised and simplified Equation services

Cost-effective – new products and services can be easily and cost-effectively distributed to other channels & partners, including agencies and retailers

SOA – Equation API's can be published as standards-based web services, enhancing agility and business-to-business capabilities

Auto-generation of code – BankFusion Equation automatically generates the XML and code required for new services, thereby reducing the amount of development effort required

Auto-packaging of new functionality and automated deployment to environments significantly reduces the effort to package and install new functionality

Integration – Higher levels of integration can be achieved between BankFusion Equation and 3rd party systems

Reusability – BankFusion Equation standards-based development results in processes and services that can be reused

Equation Integration – BankFusion Equation is packaged and built around Equation standards, capitalising on your existing environment and skills

Reduce errors – Reduction of manual steps, and governance applied during transaction entry reduces errors

Why Choose BankFusion Equation

BankFusion Equation is the latest evolution in of our core banking solution strategy which leverages Equation with tremendous agility and flexibility, enabling banks to manage a rich portfolio of attractive, competitively-priced products and focus on providing superior customer experience.

BankFusion Equation Hardware & Software Guidelines

Developer Machines

For the developer machines (with Workbench) each machine will need:

- + Windows XP (or higher)
- + 2GB memory
- + Eclipse 3.4 (free download)
- + Tomcat or Jboss (free download)
- + Java 1.5 (free download)
- + IBM® Rational® Developer for i 7.5 SOA Edition is required for deploying with IBM WebFacing (optional)

SERVERS

For the server machine(s) (where the Desktop and BankFusion are deployed)

AIX Environment

- + One "IBM Blade" running AIX for every 400 users of the system (approximate sizing)
- + WAS7.0 to run on the hardware
 - + If using multiple Blades, recommend WAS ND
- + HATS runtime licenses if deploying with IBM WebFacing

iSeries Environment

- + Minimum OS version V5R4M0
- + Extra memory and processor
 - + For every 400 users assume extra 2GB main storage (approximate sizing)
- + Websphere Application Server (WAS7.0) (to run on the iSeries is bundled as WAS Express FOC plus latest PTFs)
 - + If deploying with IBM Webfacing, IBM Webfacing and latest PTFs installed onto iSeries
- + HATS runtime licenses if deploying with IBM WebFacing
- + HATS runtime licenses if deploying Equation Desktop (K510)

To find out more about this next evolution of Equation, speak to your Account Manager today or e-mail Equation@Misys.com

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