Corebank Online

Since core systems are the most transaction-oriented area within the financial organization, any solution must be robust enough to handle millions of transactions per day across a multitude of channels. Corebank J2EE features a layered architecture with a clearly defined interface for online transactions, separated into four architecture layers:

- API layer – the published interface to Corebank online
- Business logic layer – implements Corebank business logic
- Business domain layer – implements Corebank object servers
- Data access layer – provides the access to the underlying database

The API layer offers an abstraction from the internals of Corebank and protects front-end applications from changes to Corebank. The business logic layer implements the internal business flow across business domains in Corebank. The business domain layer manages a specific domain within Corebank, such as arrangement or involved party. Business validations are also executed in the business domain layer. The data access layer provides access to the relational database.

The server API has been converted to Enterprise Java Beans (EJBs) and gives Corebank access to container services, such as transaction control, access control and distributed access. The Corebank API is Web-Services enabled, to enable the automated generation of WSDL definitions using standard development tools, such as those in the WebSphere suite. The use of Web Services provides a secure, non-proprietary, implementation-independent programming model and is one of the key benefits provided by the standards-based Corebank API layer. All other layers - business logic, business domain and data access - have been converted to Plain Old Java Objects (POJOs).

The data access layer uses SQLJ as the database access syntax. The Corebank database has been converted to Unicode, the natural character encoding standard for a Java environment. The Corebank database is deployed in DB2, which is available on the same broad selection of platforms as WAS, enabling the Corebank database to be portable across platforms as well.

Corebank Batch

Even in a modern real-time core system, some processes are still most effectively performed in a batch mode. IBM has enhanced WebSphere based on FIS' input to support efficient batch processing by boosting transaction processing throughput, incorporating batch processing capabilities and extending system management capabilities to meet Corebank's mission-critical operating requirements. Corebank's batch main programs have been

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Corebank J2EE

IT Agility = Competitive Advantage

In today's global retail banking environment, financial services organizations operate on different platforms and compete at different levels. As financial institutions look to refresh their core processing platform, it is essential to consider which technologies will produce the best combination of return on investment and flexibility to accommodate future changes in the business. With the right solution in place, a financial institution can continually adjust its strategic business activities to reflect the constant shifts in market focus.

How does your current core processing system measure up to the challenges ahead?

Corebank J2EE is one of FIS' next generation, customer-centric, real-time, relational database, 24x7 continuous core processing solutions for global retail banks. Corebank J2EE is a J2EE-compliant strategic banking application that supports a wide range of customer, product build, deposit, lending and payment functionality designed to meet the challenges of a new banking age.

Enabling Platform Independence

To provide financial services organizations with flexibility in the choice of platforms on which to run Corebank, Corebank has been adapted to the Java 2 Enterprise Edition (J2EE) architecture and programming model. This platform independence makes Corebank capable of adapting to cutting-edge global IT standards while delivering Corebank's proven business functionality. Corebank's application design principles include isolation layers between the business logic and the underlying infrastructure, which allow Corebank business components to remain unaffected by changes in the underlying infrastructure while continuing to exploit additional capabilities as J2EE evolves.

The Corebank Solution

Corebank J2EE is an integrated set of core banking components for the retail banking environment. Corebank components include:

- Corebank Financial Institution Infrastructure – defines the bank's organizational structure for flexibility in addressing business operations in a single or multibank environment.
- Corebank Product Build – facilitates innovative product designs and complex product packages with a real-time product factory, allowing

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the user to change product components easily, such as interest rates, fees or business rules, to enable portfolio growth, without the need for IT programming support.

- Corebank Customer Management and Customer Overview – provides a comprehensive customer overview, maintains detailed customer information and supports customer administration and relationships to improve customer service.
- Corebank Account Administration – supports Corebank accounts throughout their life cycle with event-driven processing to reduce errors and increase productivity.
- Corebank Payments – supports all Corebank financial transactions and payments in real time, including multicurrency operations.
- Corebank Management Information, Monitoring and Reporting – provides the data for management information, financial reporting and regulatory compliance.

Corebank J2EE Architecture

Corebank J2EE architecture moves Corebank to a J2EE-compliant, three-tier server model using key IBM Java, WebSphere, DB2 and AIX technologies.

Corebank J2EE has been designed to provide J2EE compliance without sacrificing performance. Rather than relying on proprietary tools and services, Corebank has chosen to rely on IBM's wealth of experience with application platform technologies. FIS carried out this project in close partnership with IBM, who provided considerable support in exploiting the capabilities of IBM's WebSphere Application Server (WAS) software and eServer hardware.

This combination of Corebank J2EE running on WebSphere Application Server enables financial organizations to select the system configuration most appropriate for their business strategy and system scale. With a design conforming to the J2EE architecture, Corebank can take advantage of the broad platform support and on-going improvements in performance and availability provided by WAS.

WebSphere-hosted applications can be integrated into the existing infrastructure of any size financial services organization. WebSphere has been optimized to run on many mainstream platforms, including IBM's eServer p- and zSeries hardware, under either z/OS or Linux, and database and transaction processing workloads can be split onto separate platforms if desired, and mixed p/zSeries configurations are supported.

converted to EJBs and the batch business domain layer and data access layer have been converted to POJOs. WebSphere Application Server version 6 is being specifically engineered by IBM to provide good Corebank batch performance in a J2EE environment.

Corebank supports true 24x7 banking operations. Corebank processes are shared across a common operational database, which provides the ability to run batch processes concurrently with the online system for improved business and operational efficiency. Using the same programming model for both batch and online business domain and data access means that modules called by both batch and online processes can be shared, thereby reducing complexity, maintenance effort and development risk. These common modules are implemented as POJOs.

Corebank Data Model

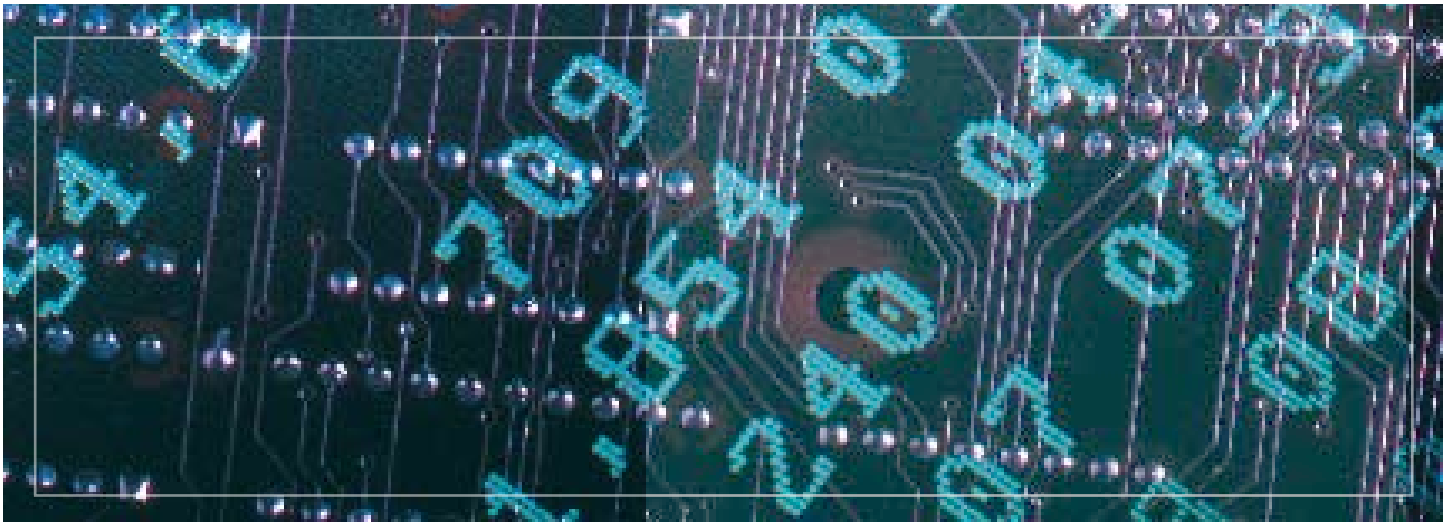
Corebank's application architecture is based on IBM's Information Framework (IFW) Financial Services Data Model (FSDM) and supports a component-based business model that is extremely efficient in the re-use of software components, reducing application complexity, maintenance effort and development risk. Corebank's ability to support a range of banking product lines, and to release products quickly, is a direct consequence of the use of FSDM. Both FSDM and IFW have been verified by many financial institutions throughout the banking world.

Corebank's structured, documented data model allows a financial institution to take advantage of the latest advances in enterprisewide information technology. Data is stored in DB2, a reliable and powerful data management system - considered the industry standard for relational database technology.

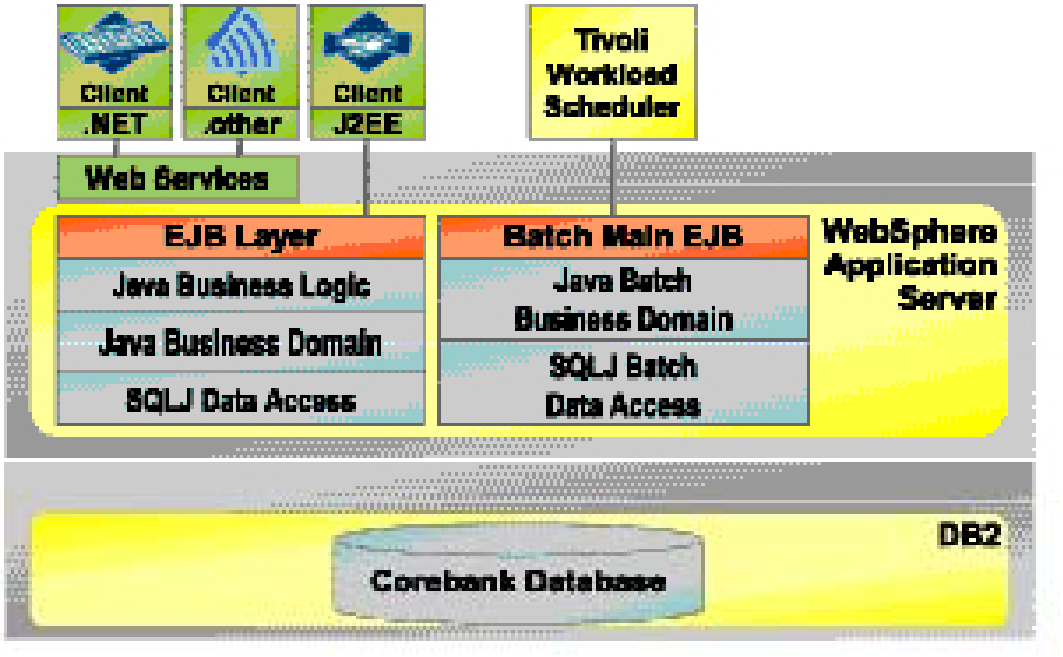
Integrating to Corebank J2EE

Corebank J2EE components can be implemented in a phased approach to minimize risk and deliver business value quickly. Corebank's service-oriented architecture enables consistent processing across various delivery channels and facilitates integration of Corebank business components and third-party applications. This promotes a best-of-breed approach in IT systems design and implementation.

The central interface to the Corebank online application is a set of 150 object oriented APIs providing more than 1000 methods. The APIs are implemented as stateless session beans, each with their own access bean using standard Remote Method Invocation (RMI). All Corebank online transaction control is container-managed. The use of multiple API calls within a single logical unit of work is fully supported. Grouping APIs facilitates the development of business process flows in accordance with industry best practices.



Corebank services can also be exposed through the Xpress Integration Solution Suite (Xpress), the FIS enterprise SOA solution. Xpress is an integration hub comprised of content-rich services which can seamlessly integrate Corebank with older systems, to quickly and easily add new functionality while leveraging existing technology investments. Xpress provides system agility and the ability to deliver business content at a lower cost using open standards.



The Corebank J2EE Value Proposition

According to Gartner, J2EE has emerged as a leading technical architecture for business applications. The use of open standards delivers flexibility to the operational IT infrastructure. Corebank J2EE supports the reduction of development and integration costs and enables service-oriented architecture and the emerging event-driven architecture.

Many organizations are looking to replace legacy systems with a solution that can be introduced without delay to improve operational efficiency and to deliver business value quickly. Corebank J2EE provides any size bank feature-rich business functionality and next-generation technology to support real-time, e-business-enabled, 24 x 7 core banking operations. Corebank J2EE provides the flexibility to accommodate changes in business and market focus and offers an alternative platform for an on-demand, secure operating environment.

Jim Wilson, president, FIS International division, said "We have been delivering world-class core processing applications for more than 40 years and Corebank J2EE demonstrates our continuing commitment to delivering technology innovation to our clients."

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