



A High AI-Q™
Company



E-Business Suite and Middleware for Banking & Financial Services

Connecting core banking systems with global delivery channels through a scalable middleware suite and bilingual customer portal.

Overview

QBurst developed the E-business Suite (EBS), a sophisticated middleware platform that integrates a bank's core systems with delivery channels like ATMs and POS terminals. This solution allows Front End Customers (FECs) to leverage the bank's existing IT infrastructure to offer seamless virtual accounting and financial services.

- Expanded revenue streams for the bank by providing infrastructure-as-a-service to smaller financial units and institutions.
- 24/7 financial accessibility achieved for end-users through ATM integration and a bilingual (English/Arabic) self-service portal.



Client Profile

Headquartered in Africa, the client is a major player in international investment and corporate institutional banking. They provide a comprehensive range of products designed to streamline business processes and enhance digital interaction for their diverse global clientele.

Physical Constraints and Infrastructure Costs

The bank and its associated financial units faced significant barriers in delivering modern, high-speed services to a growing customer base.

- Customers were limited by branch operating hours, with no remote way to access cash, manage assets, or submit service requests.

- Smaller financial institutions (FECs) within the bank's network could not afford the high overhead of setting up and maintaining independent ATM networks or self-help kiosks.
- There was a critical need for a middleware layer that could translate complex financial messages between core banking databases and physical hardware.
- The existing system lacked a unified interface for agents and staff to manage customer portfolios and national certificates efficiently.

Enterprise Middleware and Financial Portal

We managed the full product lifecycle to deliver the e-business suite, a Java-based middleware that acts as the central nervous system between the core bank and external delivery channels.

- **Middleware Architecture:** Developed EJB services that intercept and process financial transaction requests from ATMs, IVRs, and POS terminals using the PHX8583 protocol over TCP/IP.
- **Bilingual Portfolio Manager:** Launched a localized English and Arabic web portal that enables customers to manage accounts and national certificates while allowing agents to manage customer lifecycles.
- **Standardized Security:** Implemented a customized Spring Security framework at both the client and enterprise layers, strictly adhering to OWASP guidelines for financial data protection.
- **Omnichannel Notifications:** Integrated a multilingual framework to send real-time transaction alerts via SMS and email, enhancing user security and engagement.
- **Extensible Integration:** Built well-defined interfaces and Web Services to allow FECs to plug into the bank's IT infrastructure with minimal configuration.

Technical Highlights

Features

- **ATM Message Interceptor:** Capable of processing ISO8583 messages to facilitate real-time withdrawals and balance inquiries through virtual customer accounts.
- **Role-Based Navigation:** The Portfolio Manager features distinct content demarcation for customers, staff, agents, and the general public.
- **Advanced Reporting:** A reporting framework powered by JasperReports that supports data export in Excel, CSV, and XML formats.
- **Reusable Component Library:** Out-of-the-box templates for login, feedback, and account management to accelerate future sub-portal deployments.
- **File Management System:** An efficient, extensible system supporting multiple file formats for bulk data processing and synchronization.

Development

- **Core Stack:** Developed using Java and Spring for robustness, with Hibernate for efficient ORM and Oracle 11G as the primary DB server.
- **Messaging & Integration:** Utilized j8583 for financial message parsing and SOAP Web Services for external system connectivity.
- **Application Server:** Deployed on JBoss, leveraging Apache Tiles for a modular and maintainable web UI.
- **Logic Tier:** Heavy use of Enterprise Java Beans and PL/SQL stored procedures to handle complex financial calculations and high-concurrency requests.

Impact

- **For the Bank:** Significantly increased brand value and created a new revenue model by hosting FECs on their secure IT infrastructure.
- **For FECs:** Improved operational response times and customer satisfaction by offering "big bank" services without the associated infrastructure costs.

- **For Customers:** Provided immediate access to cash via ATM networks and real-time visibility into account promotions and service usage.
- **Service Efficiency:** Drastically reduced the load on physical bank branches by transitioning service requests to digital self-help channels.