



3Nexus Payment and Billing System Case Study

Your Results.
Our Commitment.



The Payment Service Provider project is part of a program to manage online payment services. It enables collaboration and data sharing between bank, merchants, and online payers or end-users.

Industry	Banking and Finance
Solution	Payment and Billing System
Services Used	Custom Software Development
Technologies	Programming Languages Java, J2EE: EJB, Servlets, JSPs, XML WebServices, JavaScript, HTML Database Server: IBM DB2 8.1 Application Server: IBM WebSphere 5.0
Engagement Model	Time and Materials
Efforts	120 man-months

Key Features:

The system is positioned as a transaction management aggregator (aggregating merchants and processing their transactions through the acquirer). It consists of functional modules:

- ♦ **Merchant Management and Contracting:** This easy-to-use module manages and monitors sales, support and merchants' activities. A merchant registers online and manages his contracts, fees, commissions and carries out transactions.
- ♦ **Merchant Web Interface:** The merchant accesses to his online account, where he views his profile, changes settings, manages merchandises, receives technical support documentation, performs manual transactions using an online POS terminal, and processes or refunds pre-authorized transaction.
- ♦ **Merchant Payment Site:** This is an open interface for merchants to perform automated transactions for their clients.
- ♦ **Merchant Deposit Monitoring and Fraud Prevention:** Merchant can utilize this powerful toolset for preventing fraud attempts and thus decreasing the risk of financial losses. The system applies statistics and complex data mining reports to give company employees all instruments to detect and sufficiently react to abnormal cases. Risk prevention modules with the use of the on-the-fly data mining automatically detects suspicious transactions and stresses high attention to them
- ♦ **Reporting:** Usage and analytical reports provide all sorts of static and dynamic monitors and views, enabling real-time observation of the application work and client activities
- ♦ **Chargeback Management:** Chargeback is the most eye striking issue in online payments business, due to financial associations' treatment of online transactions as a type 'card not presented'. This module manages chargeback information and its manipulation between bank and merchants to formalize or prevent arbitrage cases.

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- ◆ Customer Support: This is a trouble ticketing system for online support that assists clients in technical problems, financial or business resolution, etc
- ◆ Admin Control module conducts user administration (merchants, operators, managers, card holders, administrators), rights management and settings

Highlights:

The system allows multiple levels of usage.

Level 1: The merchant is experienced in programming and uses a high level interface in SOAP or XML. He uses his own or high-end hosted shopping environment with shopping cart and SSL and displays payment communication to the cardholder from his own site and only transmits full fledged data to our site.

Level 2: The merchant uses customizable interfaces and provides the same specifications as competing payment service providers. We reproduce the functionalities of competing payment service providers to simplify the merchant's move from them to us. Normally the merchant of this level is as experienced as that of the first level.

Level 3: The merchant is slightly experienced. He uses shopping carts without SSL environment. We provide for him an interface which takes the order from the cart and provides a secure site to the cardholder to enter his secure payment data. This customization is a WYSIWYG toolset in the merchant's interface.

Level 4: The merchant has a plain HTML website and no experience in programming at all. He has to fill out a dedicated and specified Excel Sheet online or he can download it from our site and key in his products, descriptions and prices and his home PC. If the merchant decides to put the file to his own web server, he has to provide the correct location. He can also upload it to a company hosting partner using their merchant interface.

Level 5: The merchant only uses the online Point of a Sale (POS) terminal.

Solutions

The key success is strong business analysis and transparent requirement management. Our business analysts perform joint application development (JAD) on client's site for 2 months.

The business consulting group had brilliant ideas and extensive experience in online payments. However, they had no clear requirements for the system. Our experience in technical and business analysis was a great benefit for the client.

During our cooperation we complete the cohesive requirements, which helped us to build a cost effective, secured and user-friendly solution for company employees, their clients (merchants), and merchants' clients (online shoppers).

Customer Benefits:

Having selected the right outsourcing strategy based on full cycle application development and professional service provider, the client gained the following benefits:

- ◆ Essential cost-saving benefit for the investors.
- ◆ Critical support for key resources. This allows the client to focus on the company business infrastructure as well as setting up new sales activities.
- ◆ Shortening time to market. The first version of the system was deployed on the production platform in just two months after the development had started.
- ◆ High return on investment. The fully automated system minimizes the company employees' efforts and directs the assets to sales activities.
- ◆ Efficient technical support of the application and production platform.

Key Advantages:

- ◆ Multicurrency and multilingual support allows easy expanding of the business worldwide
- ◆ Email confirmation and notification mechanisms allow supporting clients and conducting business flows
- ◆ Merchant deposit and fraud auditing and monitoring are complied with and certified by a number of associations including Visa and MasterCard Secure Code, J-Secure of JCB, etc.
- ◆ System is integrated with a number of leading acquiring banks worldwide: Citibank, Deutsche Bank, American Express, B+S, WorldPay, etc

Technical Overview:

The system applies three-tier model and Service-oriented Architecture (SOA). Three layers of the system are the business logic, presentation and persistence (database) layer. Such division enables independent work of the design group and programmers of the project team. The use of SOA portlets allows 3Nexus to develop a quick and stable solution within a short period of time.

Technologies:

Programming Languages: Java, J2EE: EJB, Servlets, JSPs, XML WebServices, JavaScript, HTML

Database Server: IBM DB2 8.1

Application Server: IBM WebSphere 5.0

Efforts:

120 man-months



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