

Financial Services

Insurance

Health Care

Java/J2EE

Mobile Platforms

Microsoft .NET

HOMEOWNER MARKETING COMPANY

Case Study



Thapovan

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Investment Management

Investment Banking & Brokerage

Custody & Clearing Services

Corporate Services

The Client

The client is the industry leader in new homeowner marketing that contacts new homeowners and provides them with coupons and advertisements from local businesses as well as national operators as a way of welcoming them to their new neighbourhood. The coupons and the booklets provide the new home owners with details of the various services provided in the neighbourhood thereby making them neighbourhood aware.

The company solicits business from individual service providers to large nationwide corporations. The client, who was earlier part of a large corporation was moved to a new group in 2000.

The Business Challenge

The client, who was originally part of a large corporation, had its complete IT System running in AS400, JAVA and DB2 environment where the hardware and software were leased from IBM. The new group that acquired the client did not want to invest in this high cost infrastructure and wanted to move to a cloud based open source environment.

It was imperative for the group to have this migration done in shortest possible time so that they could cut the high lease costs enabling the newly acquired business to realize profits soon.

Speed, and accuracy of the data ported are critical for the continuity of the business in the new environment. The system had 3 application components Commission, Order and Sales. There were over a million records exceeding several GB.

The challenge was to migrate the J2EE application running in the mainframe environment with DB2 to open source cloud environment in the shortest possible time frame.

The specific functions that needed to be addressed for the migration included:

- Porting the J2EE application environment running in IBM Websphere to open source platform.
- Moving the DB environment from AS 400 to run on OPEN SOURCE environment in RACKSPACE cloud.
- Migrating the existing stored procedures, triggers and other data objects.
- Porting AS400 security and user management to RACKSPACE.
- Migrating the data including pdf files that were stored as blobs to the new DB setup.
- Testing the complete application in the new environment to make sure the porting and migration is complete and successful.

The client gave this as a time-bound turnkey project to Thapovan

The Engagement

The client chose the Thapovan team of professionals for its domain knowledge and its reputation for timely delivery of high-performance applications that offer speed and consistency. Thapovan had earlier proved their capabilities by delivering these applications on time when the client was part of the large corporation.

Points of the engagement included:

- Carrying out a feasibility study.
- Analysis of migration requirements and technical specifications.
- Evaluation of open source products and implementation of best-of-breed technology solutions.
- Designing and development of tools that would aid in the migration.
- Development of modules that are specific to AS400 and that cannot be ported to open source.
- Migration of Data.
- Firewall Configuration.
- Testing, benchmarking performance against the original system.
- Routine quality assurance management and change management.

Solution Highlights

The migration of the J2EE APPLICATION and DATA hosted in the legacy IBM AS400 environment to the open source cloud environment included multiple tasks and challenges.

A few of them are highlighted here:

Feasibility Study: As the application was in Java, Thapovan did not doubt the feasibility of migrating the application. However, since the data was hosted in DB2 AS400 Thapovan performed a thorough feasibility study to determine if the move from AS400 to LINUX was possible and the way in which it could be accomplished.

Hardware Configuration: Hardware configuration aspects like memory, disk space and cluster setup were evaluated and set up in the cloud

Cloud Environment Setup: The set up of the environment for running the applications on a Rackspace cloud Linux instance was completed.

This step involved setting up and configuring:

An appropriate Linux version to support the system

- An appropriate DB2 version for Linux
- Appropriate versions of JBOSS and Java
- An Apache HTTP Server
- Firewall configuration to restrict access to a known set of IPs

Migration: The migration was carried out in multiple steps.

The first step was to migrate the tables and database objects. The schema and database objects were initially exported from AS400 through a combination of SQL Scripts and IBM Data Migration tool. These details were then imported to the DB2 running on Rackspace Linux instance. There was a significant difference in running DB2 in AS400 environment and in an open source Linux environment as the character encodings were different. All data objects could not be ported directly. The schema, triggers and constraints in the AS400 DB2 were imported but the stored procedures failed and had to be handled differently

After completing the migration of tables and database objects, the data was migrated. The data was first exported from DB2 in AS400. The triggers and constraints were dropped in the Linux environment to enable smooth import of the data. Once the data was imported the triggers, constraints and other rules were recreated in the DB2 database in the Linux instance of RACKSPACE cloud.

Thapovan had to write a separate program for migrating the PDF files stored as BLOBs in the original database to the new data base in the CLOUD environment.

Security: Thapovan wrote a method to replace the erstwhile AS400 based mechanism for authenticating users. The schema was put in place to store the Base 64 representation of the user's encrypted password along with the random cryptographic salt generated for the user.

Technology Environment

Major Technology Components:

Cloud:	Rackspace
Language:	Java (JDK 1.6)
Application serve:	IBM WebSphere, Jboss 4.2.1, APACHE
Database:	DB2 in AS400, DB2 in LINUX
OS:	AS400, LINUX
Framework:	Struts
Reporting tool:	BIRT 2.3.2
Other tools:	IBM Data Migration tool

Results Achieved

The Client achieved the following major benefits from the partnership with Thapovan:

- Total turnkey solution at a fixed cost for a seamless migration of application and data from a legacy high cost IBM AS400 environment to a cost effective cloud based open system environment.
- A migrated system with applications and data that was available for immediate use for the client and customers.
- Extraordinary cost savings (of a few hundred thousand dollars a year).
- Cost and time efficiencies that exceeded client expectations.