

EXIGEN® SERVICES: CASE STUDY

DEVELOPMENT OF A REPORT
GENERATION SYSTEM
FOR A MORTGAGE BANK
(HIPOTĒKU BANKA) OF LATVIA

"The Data Warehouse System serves as the bank's central storage site for historical data from various production information systems, and supports rapid generation of complex analyses based on this data.

In addition, the Data Warehouse System makes report generation easier, allowing users to customize reports without involving programmers. Currently, about 300 different types are generated, and this number continues to grow.

There is no need to use our production systems for report generation. Thanks to the accumulated historical data, it is possible to generate reports on past periods, which our production systems could not do. Our cooperation with Exigen Services has been a success.

The company is client oriented. The relationship has always been professional and positive. We have never had a conflict."

*Arnis Kalnins,
Mortgage bank IT Director*

ABOUT MORTGAGE BANK

Mortgage bank (Hipotēku banka) was founded in 1993 by order of the Latvian government, and is the only commercial bank in Latvia that is 100% state owned. The bank offers a wide range of financial services. Its main purpose is to provide mortgages and business loans, not only to help the bank's clients achieve their personal and financial goals, but also to foster the growth of the Latvian economy. The bank has nearly 40 branches throughout the country. Its main customers are small and medium sized businesses, including agricultural enterprises, but the bank also offers services to individuals.

BUSINESS CHALLENGES

Mortgage bank was faced with a situation in which the generation of financial reports was costly and time-consuming, and did not always yield desired results. Problems included the following:

- ▶ The generation of any new type of report required the involvement of IT specialists. End users had no opportunity to define and generate reports independently.
- ▶ The generation of a single report could take days or even weeks.
- ▶ Generated reports were limited in terms of parameters, and did not always present the full range of information requested by the user.
- ▶ Reports were based on data retrieved from a variety of sources, and this data was not always reliable.

SOLUTION DELIVERED / IMPACT ON BUSINESS

Mortgage bank required a new system to support the fast, accurate, and reliable generation of reports. It entrusted Exigen Services (formerly Exigen Services DATI) with this task.

Exigen Services started work on a unified Data Warehouse System (DWS). System requirements included the following:

- ▶ accuracy and reliability in the collection of data
- ▶ ability to analyze large volumes of financial information
- ▶ support for report generation
- ▶ support for definition of reports by non-technical users
- ▶ use of standardized business terminology across all reports

After a successful pilot project, Exigen Services developed and delivered the DWS, which included the following:

- ▶ central database (Sybase IQ) to store historical financial data (daily or monthly) from various sources (bank system EQUATION, card system, leasing system, accounting system etc). Detailed information on bank clients, loans, deposits, payment movements, collaterals, accounts and transactions was included into DWS





- ▶ transformation tool (Ascential Datastage) to collect data from various sources into a single database. Every night, information is extracted, transferred and loaded from various source systems of the bank into DWS
- ▶ analysis tool (SAP BusinessObjects) to support:
 - ▶ generation of predefined reports
 - ▶ creation of new reports by non-technical users
 - ▶ forecasting and analysis of risks
 - ▶ forecasting and analysis of cash flow.

The project was started in February 2004, and the system went into operation just 6 months later providing the bank with loan data and 20 predefined reports including “credit portfolio” during the first stage of the system development.

Hundreds of different types of reports have been generated and published by Accounting Department without involving IT specialists. The Accounting Department and Risk Department generate reports and analyze information by themselves. Exigen Services specialists are mostly needed to develop specific reports for the Bank of Latvia and for the Financial and Capital Markets Commission.

At the end of 2007, a BASEL II project was completed. The main purpose of this project for DWS was to support generation of risk management reports in accordance with BASEL II requirements. Exigen Services developed data warehouse structure, prepared, calculated and loaded data into the DWH database. A report named „Minimum capital requirements for the bank” was generated.

After 6 years, there are more than 1.2 terabytes of data in the warehouse. Approximately 1 gigabyte of data is uploaded into the DWS every night. Most data is stored in its simplest form without aggregation, for example transaction data. In the largest data table (accounts), there are about 520 809 569 rows and 500 columns.

BENEFITS OF THE SYSTEM INCLUDE THE FOLLOWING

- ▶ Data from various sources is collected in a single database.
- ▶ The report preparation process is enhanced and streamlined. In the past, the bank generated about 50 different reports, mostly for regulatory institutions. These reports were generated manually or using special applications. In some cases, errors were detected, usually due to invalid data. In those situations, reports had to be generated again. Certain types of business analysis were never done because the system failed to provide support. Today, the system is used to generate about 300 different types of reports. Most of them are generated automatically in minutes, and the data quality is substantially improved. Sybase IQ architecture enables high speed information retrieval, so it is not mandatory to detect all query types that users will need. The speed of queries depends on the user’s skills, but it could take less than 10 seconds to complete and process a query.
- ▶ The data warehouse system supports generation of risk management reports in accordance to BASEL II requirements. This resulted in cost savings for the bank, which did not have to acquire a separate solution for these reports.
- ▶ Processes are automated, and less manual work is required to maintain data and run reports.
- ▶ Historical data is gathered and can be used for analysis.



► Security mechanisms are in place to ensure data protection. Thanks to the frequent generation of many report types, the bank now has a more reliable body of knowledge to facilitate effective decision making. Exigen Services continues to enhance and support the system.

TECHNOLOGY SIDEBAR

- Microsoft Windows 2000
- Microsoft Windows 2003
- Microsoft Windows XP
- Sybase IQ
- Ascential DataStage (IBM Websphere Datastage)
- SAP BusinessObjects
- SAP Web Intelligence

ABOUT EXIGEN® SERVICES

Exigen Services is an Inc. 5000 global IT company focusing on business technology programs for the financial services, telecom and media industries. Exigen Services “co-invests” with clients to drive towards strong business returns over the lifecycle of the program, through aligned incentive structures and a common governance and risk management approach that mitigates both business outcome risk and program execution risk. Exigen Services specializes in user interaction, business process management and digital content management. Since 2000, Exigen Services has been a global leader in the use of distributed Agile methods of software development.

Exigen Services has achieved high honors in a variety of independent lists and rankings, including Brown & Wilson’s Black Book of Outsourcing in 2008 and the Global Services 100 ranking in 2009.

Clients range from mid-sized growth companies to Fortune 500 organizations, and include Sun Microsystems, CSC, T-Mobile and many others.

CORPORATE
HEADQUARTERS
345 California Street, 22nd Floor,
San Francisco,
CA 94104, USA
+1 415 402 2600
sales@exigenservices.com

Saint-Petersburg
development center
Phone: +7 812 7025115
Fax: +7 812 7025114
Anastasia Novoseltseva, Global
Marketing Communications Director,
Exigen Services

For information
on Exigen Services call your local
worldwide sales, service and
technical support offices:
www.ExigenServices.com

www.exigenservices.com

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