CASE STUDIES
BUSINESS INTELLIGENCE

ONWELO

01.

Client:
German company that connects two representatives of high-class global banking

Product / Service:
Construction of generic ETL data flows supplying Data Hub and Raw IN layers as well as development analysis and testing assistance

Industry:
Financial

Goal:
To implement a new generic way to supply the data warehouse from all source systems

Challenges and **problems**

* No test approach and strategy
* Current solution generated a large amount of work with every change in the source system
* Limited analytical documentation
* Very limited documenting of development projects
* Lack of sufficient development team
* Undefined range of requirements

Tasks

* Agreeing on strategies, architecture, direct involvement of IT and business
* Implementation of development strategy (documentation, requirements, coding standards)

* Implementation of data flows from the source system to the Data Hub layer (generic solution)
* Implementation of data flows from the Data Hub layer to Raw IN layer (generic solution)
* Implementation of data flows from data warehouses to the Data Hub OUT layer (generic solution)
* Defining the development and testing process in consultation with client management
* Providing detailed documentation of the solution
* Operational support as part of the production installation for the client's team

02.

Client:
International bank operating all over the world

Product / Service:
- Defining reporting processes
- Migration of processes between databases
- Implementation of new requirements

Industry:
Banking

Goal:
- To migrate existing processes to SAS systems and implement new requirements
- To optimize and modify working reports
- To create statements and support banking processes
- To re-certify and withdraw old processes
- To perform UAT tests on system tools

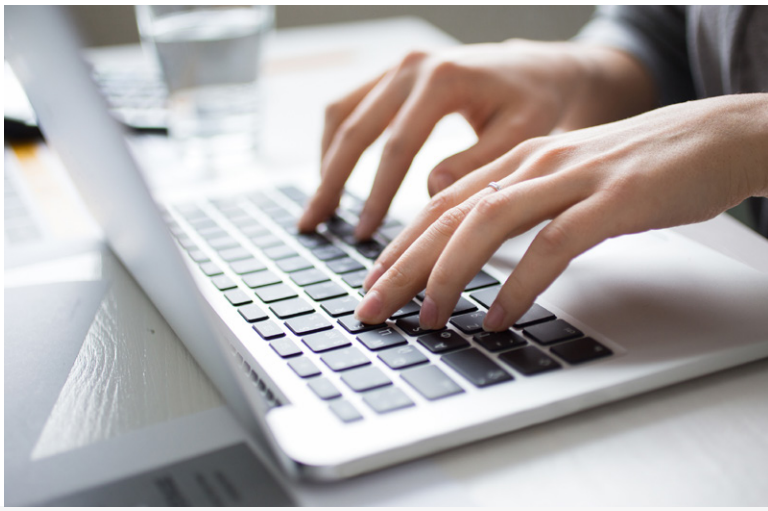
Challenges and **problems**

* Lack of technical and business documentation of existing processes
* Lack of people responsible for the current solution
* Lack of technical skills of individuals who are the recipients of reports
* Communication problems on business-IT line and related difficulties

* No development procedure — every individual developer creates processes in a way that other developers do not know
* Various naming of the same identifiers and data in the database
* Application overload resulting from not optimally created processes by too many users
* Bad sign-up process and interception of errors occurring in processes and applications
* Errors in data retrieved from the database
* Poor way of marking the required information in the database

Tasks

* Migrating existing processes between the Oracle and SAS databases
* Implementing new requirements for existing processes
* Creating new processes and tasks for reporting purposes
* Conducting tests of solutions being developed
* Optimizing and modifying existing processes
* Handling and creating cron processes
* Creating and modifying a system for handling customer refunds regarding UOKiK decisions
* Recertification of SAS reporting processes after the migration period



03.

Client:
One of the largest universal banks in Poland

Product / Service:
Migration of data warehouse supply from Oracle solutions (Oracle Warehouse Builder, PL SQL) to IBM InfoSphere DataStage

Industry:
Banking

Goal:
To transfer existing ETL processes to IBM InfoSphere DataStage

Challenges and **problems**

- Migration scale (c. 500 stars, over a billion lines processed as part of daily data loading, over 100 GB of daily data increments)
- Tests and cooperation of development team with data warehouse owners
- Incomplete business documentation
- Optimization of warehouse loading time using the strengths of DataStage environment
- Preparation of business test cases for developer tests
- Changing the approach in ETL solutions by eliminating the Operational Data Store layer
- Cooperation with teams from another city

Tasks

- Developing agile ETL processes and minimizing the risk of errors
- Developing a communication path with Data Officers responsible for testing individual warehouse areas
- Providing support during tests — helping to find errors and discrepancies between the documentation and the actual status of processes
- Cooperating with other customer teams
- Automating some aspects of data warehouse migration
- Ensuring data lineage and strict adherence to technical conventions established prior to migration
- Refreshing the documentation and creating new documentation based on metadata, in a manual and automated manner, using open source tools
- Self-organization of the team in the scrum methodology
- Support for a dedicated customer framework (configuration, parameterization)
- Support for test environments and implementation of test cases as part of UAT tests

04.

Client:
German chain of stores offering electronics and home appliances

Product / Service:
Development and maintenance of data warehouses and BIs embedded in the Azure cloud environment

Industry:
FMCG

Goal:
To implement new business functions for the DWH/BI environment and to maintain this environment

Challenges and **problems**

- Takeover of the solution after previous vendor disappeared suddenly
- Undefined ecosystem — no processes responsible for deployment, testing, change management, no environments or platform maintenance processes
- Limited trust in vendors (effect of cooperation with the previous vendor)
- Lack of business and system analysts on the MMS side (difficulty in defining requirements and acceptance of projects)

Tasks

- Requirement analysis
- Solution design
  - Use of Azure cloud components (PAAS, SAAS)
  - Optimizing the solution
- Defining processes supporting the environment
- Process implementation
- Implementation testing
- Deployment

05.

Client:
The Polish branch of one of the largest insurance companies in the world

Product / Service:
Creation of an anti-fraud system for controlling internal malpractices

Industry:
Insurance

Goal:
To build a platform supporting fraud detection process in the company — identifying policies sold by blacklisted agents, payment analyses, welcome area

Challenges and **problems**

- Launching the system on a new global Big Data platform
- Necessary reverse engineering of the previous solution based on VB
- Implementation of the agile scrum method
- Improving the effectiveness of detection processes
- Building a system that will easily be scalable to the entire organization
- The system must be easily expandable to other process areas

Tasks

- Reverse engineering of the previous VB solution (several dozen Excel files and MS access files)
- Solution design
- Launching dev/test and production environments
- Process implementation
- Launching scrum framework, stakeholder education
- System testing
- Deployment

06.

Client:
Austrian commercial bank

Product / Service:
Development, maintenance and optimization of data warehouses

- Data model prepared for the needs of the Polish and Austrian company
- Optimization, development and maintenance of data warehouse layers
- Analyses of data marts and reporting

Industry:
Banking

Goal:

- To maintain and develop systems after the division of banks
- To create new data warehouse components for new systems
- To optimize data warehouse only for the necessary data in the area
- To exclude unnecessary processes after dividing the bank

Challenges and **problems**

- No access to production data
- Incorrect and incomplete test data
- Limited analytical documentation
- Lack of people who are well-versed in source systems
- Lack of people who are familiar with the adopted target systems
- Lack of complete knowledge about the data warehouse
- Resource restrictions

Tasks

- Developing a roadmap for system optimization
- Arranging the scope of works in the warehouse
- Analyses of source systems, data warehouses and extracts for external systems
- Optimization and development in the data warehouse
- Developing and testing introduced changes

07.

Client:
One of the leading mobile network operators in Poland

Product / Service:
Creating control for a new platform for billing prepaid clients

Industry:
Telecommunications

Goal:
To design, develop and deploy a set of new control methods for the newly created billing system

Challenges and **problems**

* Analysis of the new billing platform, new services, free units, relations between them and analysis of the billing method
* Developing a migration plan for clients from existing control methods to new ones
* Rewriting the existing code from scratch, including the optimization techniques
* Finding where the new systems store the information needed for controls defined by the business (e.g. regarding usage limits)

Tasks

* Designing and building 11 new usage controls — comparison of individual events at the MSISDN level
* Designing and building 9 new configuration controls — comparison of individual parameters at the given MSISDN level
* Migration of existing 20 reports to the new platform, rewriting the code in PL/SQL from scratch

* Migration of existing workflows in Informatica as well as designing and adding new ones
* Writing a new loader for loading CDRs from the new system
* Designing new OLAP cubes and views that supply them
* Conducting tests with a business team

08.

Client:
One of the leading mobile network operators in Poland

Product / Service:
- Online cluster for monitoring applications / systems / containers and infrastructure based on collected metrics and logs
- Integration with monitored systems
- Integration with the Umbrella Monitoring System
- Alarm generation
- Online dashboards
- Business analyses with owners of integrated systems

Industry:
Telecommunications

Goal:
To deploy a system for monitoring applications / systems / containers and infrastructure based on collected metrics and logs

Challenges and **problems**

* Lack of customer experience with selected technology – inadequate technology for some requirements
* Open source technology — insufficient documentation, no authentication and authorization mechanism and no possibility to purchase a license for a given functionality
* Lack of dedicated infrastructure — insufficient resources
* Lack of defined requirements

Tasks

* Upgrading the existing environment to a newer version and changing the configuration
* Securing the environment, implementing the authentication and authorization mechanism module
* Implementing alerting module
* Integration with the Umbrella Monitoring System
* Business meetings and analyses with owners of integrated systems
* Proposals for integration, alert rules, dashboards
* Integration with monitored systems
* Creating dashboards
* Creating alert rules
* Administrating and maintaining the environment
* Creating the architecture of the next version of the environment

09.

Client:
A company from the automotive industry, a global leader in the field of transmission and suspension

Product / Service:
Monitoring of infrastructure and logs

Industry:
Automotive

Goal:
To deploy a framework for infrastructure monitoring for 80 hosts including interactive and in-depth analytics

Challenges and **problems**

* Development of a unified model of application logs
* Preparation of one repository containing data from multiple machines (~80)
* Detecting bottlenecks in processing
* Stream data processing
* Installation and configuration of the environment

Tasks

* Developing framework for the review of infrastructure and application logs in real time
* Developing PoC (after installing the X-Pack) of machine-learning system to prevent errors
* Using technologies: ELK Stack (Elasticsearch, Kibana, Logstash, Metricbeat, Filebeat, Ansible, Kafka, ZooKeeper)

10.

Client:
A company from the automotive industry, a global leader in the fields of transmission and suspension

Product / Service:
Development of an analytic layer for metadata describing videos from car cameras

Industry:
Automotive

Goal:
To develop an efficient search system that combines defined text and numerical criteria

Challenges and **problems**

* A large amount of data (thousands of hours of recordings described by millions of metadata files)
* Lack of a coherent and uniform metadata structure
* Thousands of attributes describing individual source videos
* Analysis of problems resulting from previous implementation attempts
* Combining data searching from various sources into a single context (flat files, database, other)
* Developing a data model that is convenient to analyze

Tasks

* Developing an index containing millions of documents
* Automation and deployment of ELK production environment
* Using technologies: Python — itrk Mobileye data transformation (automotive standard), ELK Stack (Elasticsearch, Kibana, Logstash), integration with core system of the client

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The amount of share capital: 1 131 000,00 zł.