

ETL Platform Migration - Pentaho to SSIS

Providing hassle-free ETL migration from Pentaho to SSIS

Objective

One of the Pyramid's Clients was facing business challenges like long cycle turnaround of data due to technical challenges like ETL integration issues to the tool. Pyramid explored several alternatives and proposed an amicable solution with new architecture and migration of the ETL process to the new tool. Pyramid hence successfully migrated the entire ETL process from Pentaho Data Integration (PDI) 6.0 to SQL Server Integration Services (SSIS) 2016 with Business Intelligence Markup Language (BIML).

Challenges

- ▶ Salesforce integration with Pentaho has multiple challenges whereas SSIS has good integration with Salesforce using DBAMP plugin.
- ▶ SSIS Integration of MSSQL is better than Pentaho since SSIS has tight integration with the SQL Server stack.
- ▶ In Pentaho, it is harder to organize dependencies, which is not the case with SSIS.
- ▶ Debugging .NET script is not efficient with Pentaho.

Approach

- ▶ Source Target Mapping
- ▶ BIML/SSIS Package Development
- ▶ Intermediate Staging Load
- ▶ Load Data into DWH
- ▶ Unit Test (Field Level Comparison)

Business Solution

- ▶ Automated SSIS development with reusable patterns and code that can improve time to delivery, maintainability, and correctness of data.
- ▶ Re-engineered MySQL queries to MSSQL queries.
- ▶ Creation of new customized applications.
- ▶ Migrated 350+ ETL across 10 subject areas within the project timeline.
- ▶ The team learned BIML code development on the fly.
- ▶ The ETLs varied in complexity with 38% Complex category.

Business Benefits

- ▶ With the BIML framework in place, ETL generation does not require any coding effort and ETL can be generated with few configuration changes to eliminate chances of human error.
- ▶ Provided flexibility to easily add new data sources which improved the capabilities of the data warehousing solution.
- ▶ A robust SSIS ETL framework was created to trace, audit and log data distribution across applications.
- ▶ Framework supported multi-step operations complex transformations, structured exception handling and aggregation of data from different data sources.
- ▶ With the SSIS framework, data loaded in parallel to several varying destinations.

Solution Highlights

- ▶ 40% increase in developer productivity.
- ▶ 60% reduction in data validation effort.
- ▶ 30% faster in data processing and loading.

Solution Support

- ▶ Systems Integration and Consolidation.
- ▶ Support, Maintenance, Re-engineering, and Performance Tuning.
- ▶ On-going Application Maintenance & Support.
- ▶ Feature Enhancements.

BI Platform Migration - Pentaho to Tableau

Allowing quick and painless migration of BI Tool

Objective

One of the Pyramid's Clients was facing dashboard performance challenges using BI Tool on Pentaho BI Server 6.0 like Dashboard Performance resulting in several business challenges. Pyramid explored several alternatives and proposed an amicable solution for migration of the entire BI Tool from Pentaho BI Server 6.0 to TABLEAU 9.0.

Challenges

- ▶ New DWH on MSSQL, hence all the reports should point to new DWH (MSSQL).
- ▶ Advanced data visualizations are not as advanced as Tableau.
- ▶ Use of Pentaho's metadata layer is cumbersome with insufficient documentation.
- ▶ In Pentaho, there is no system of perpetual licensing leading to higher cumulative expense over the years.

Business Solution

- ▶ Re-engineered queries to deliver pagination capabilities in front-end, which considerably improved performance (existing Solution downloaded all records at one go, upon startup).
- ▶ Used Data Migration tools to move from a legacy system to a new system.
- ▶ Migrated 240+ reports across 8 subject areas within the project timeline.
- ▶ Re-engineered 180+ MySQL queries to MSSQL queries developing new dashboards on Tableau.

Business Benefits

- ▶ Reduced initial dashboard load time from 30+ seconds to 10+ seconds, a 3x improvement in dashboard performance.
- ▶ Migrated Healthcare Operations Dashboard that helped executives monitor and manage 30+ KPIs simultaneously.
- ▶ Proved the capability as a self-service BI to end users.
- ▶ Enhanced capabilities such as Text Search, Dual Axes Charts and Image Export options.
- ▶ Intuitive User Interface of dashboard makes it easy to use for technical and non-technical operators alike, eliminating the requirement of investing in technical training.
- ▶ The data visualizations of Tableau are clean, explanatory and hardly needs formatting. Customizations if at all required, can be implemented in few simple clicks, reducing the overall time and resource investment.

Solution Highlights

- ▶ 60% improvement in dashboard performance.
- ▶ 40% reduction in the report development effort.
- ▶ 30% faster in data processing and loading.

Solution Support

- ▶ Systems Integration and Consolidation.
- ▶ Support, Maintenance, Re-engineering, and Performance Tuning.
- ▶ On-going Application Maintenance & Support.
- ▶ Feature Enhancements.

About Pyramid

Pyramid Consulting Inc. is a global technology and process driven software solutions company offering customer centric solutions. With knowledge and experience of the entire IT lifecycle, we help enterprises streamline core IT processes and augment their competitive advantage. Pyramid's global delivery model harnesses productive tools, agile methodologies, iterative processes and expert frameworks to provide innovative and cost-effective solutions.

Our domain and industry experts engineer robust technology solutions for clients in a wide range of industries including retail, logistics, healthcare, insurance, software development, financial services, media, publishing and telecommunications.

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