NOUS INFOSYSTEMS
LEVERAGING INTELLECT

CMMi Level 5 SVC+SSD v1.3
ISO 9001:2008
ISO/IEC 27001:2013

Case Study

Automation of Complaince Reporting to Achieve Quick Turnaround Time

THE CLIENT

The client is major implementation partner for a core banking system in Asia pacific region with a large client base.

THE BUSINESS CHALLENGE

- Existing banks that were using the core banking solution, did not have any automated way of generating compliance reports and were generating manual Excel based reports for BASEL II Credit, Market and Operational Risk compliance.
- Since it was prepared manually it was time consuming and tedious and calculations were error prone.

THE NEED

Client envisaged to develop a product that would automate BASEL compliance reporting for the banks with core banking system in place. Key aspects of the product as visualized are:

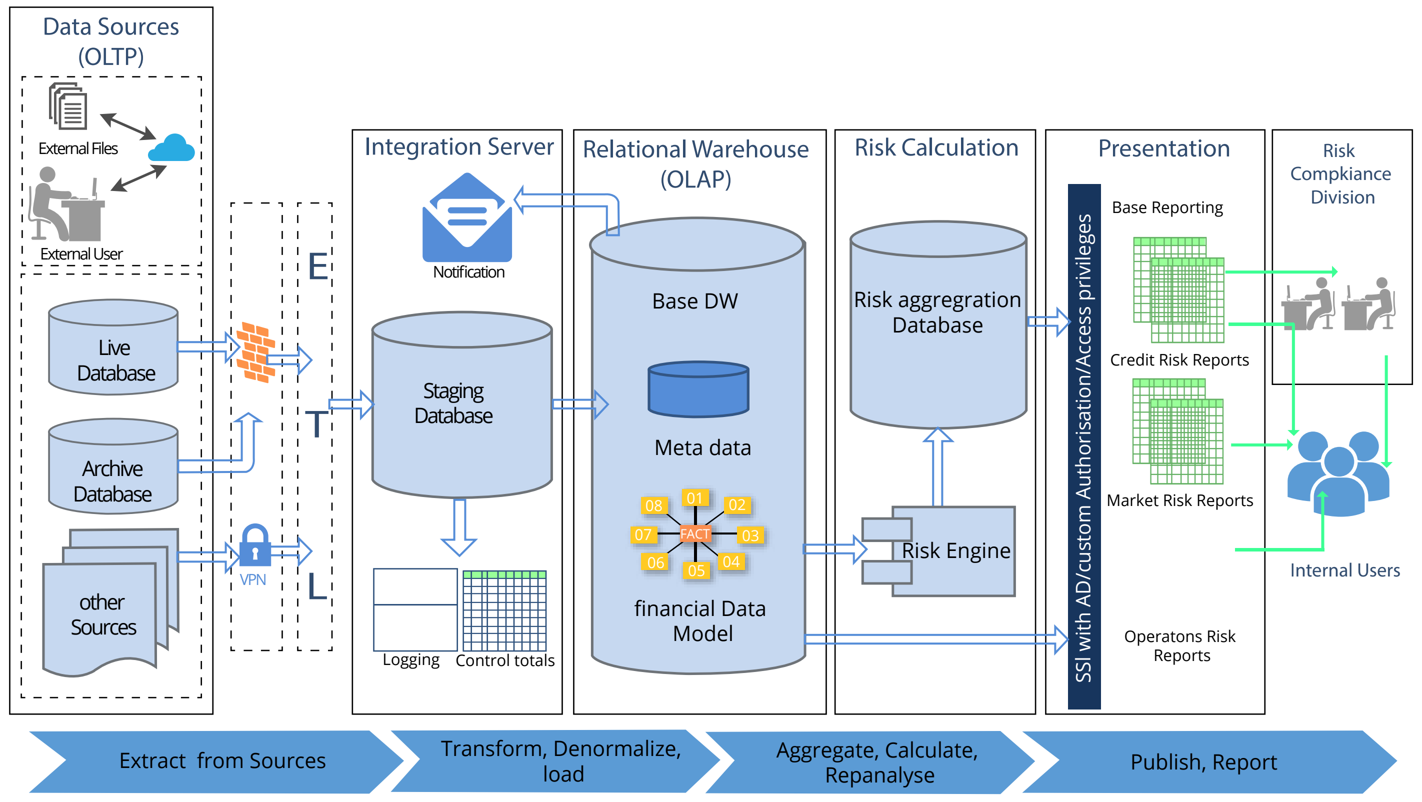
- Should contain generic data warehouse to Credit, Market and Operational Risk data pulled from core banking solution
- Should have the capability to calculate Credit, Market and Operational Risk as per the BASEL II guidelines
- Should have the capability to generate compliance reports for BASEL II Credit, Market and Operational Risk
- Support source data from multiple formats for Credit, Market and Operational Risk data
- Should be generic enough, so that for implementing at any bank only requires mapping source data elements with the generic data warehouse model in order to be able to generate Basel reports

NOUS SOLUTION

Developed data warehouse from scratch following **Ralf Kimball** approach. Designed the warehouse to hold Credit, Market and Operational Risk data together in single **Star Schema**. Provided the application framework that includes web application. The following are key features implemented:

- Custom ETL tool developed using and SQL Server Integration Services and SQL Stored procedures to support multiple data sources.
- Developed Risk Calculation Engine to run Credit, Market and operational risk related calculations and populate aggregated report source tables.
- SSRS reports to source data from the aggregation tables to generate Basel II compliance reports for all three risk areas
- ASP .NET based web application to seamlessly access the data from aggregate tables and run SSRS reports
- Made the entire system configuration driven and extremely modular so that it can be easily be configured based on client needs.
- ASP. Net front end application provides full flexibility to administrators to add and modify numerous configuration entries to control and configure reporting. It also provides features to:
  - Add / modify users to system
  - Add / remove privilege to access reports
  - Add / remove privileges to configure system
  - Enable / disable any specific compliance report(s).

Given below is high level design of solution:



High Level Data Flow:

The below schematic shows the DW data flow that is proposed to be used for BASEL DW data population:

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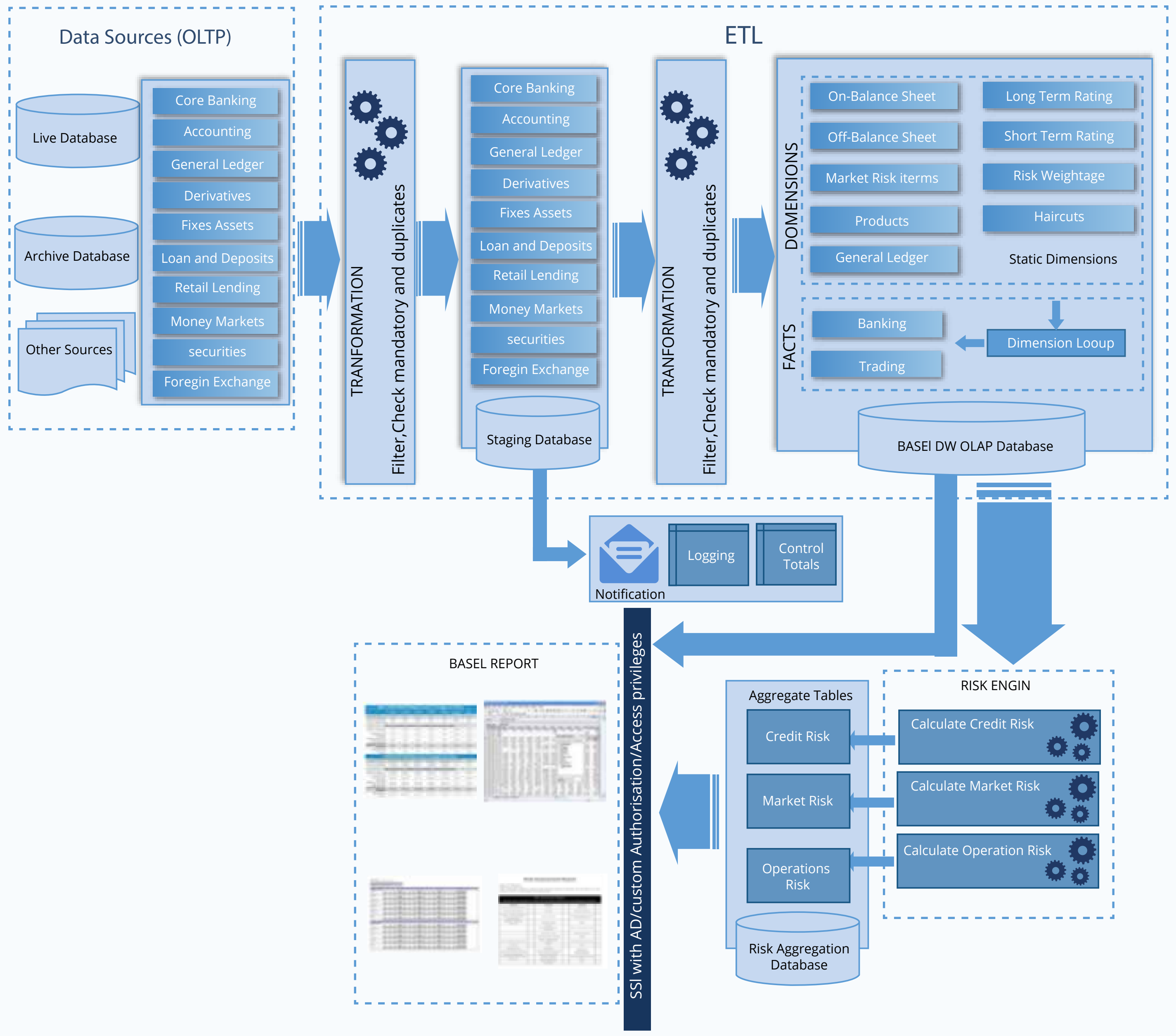
Domain - Banking

Platform – SQL Server 2012

Technologies – SQL Server 2012, SQL Server Integration Services, SQL Server Reporting Services and .Net Framework 4.5

Deployment – SQL Server Catalog for ETL and web deployment for User frontend.

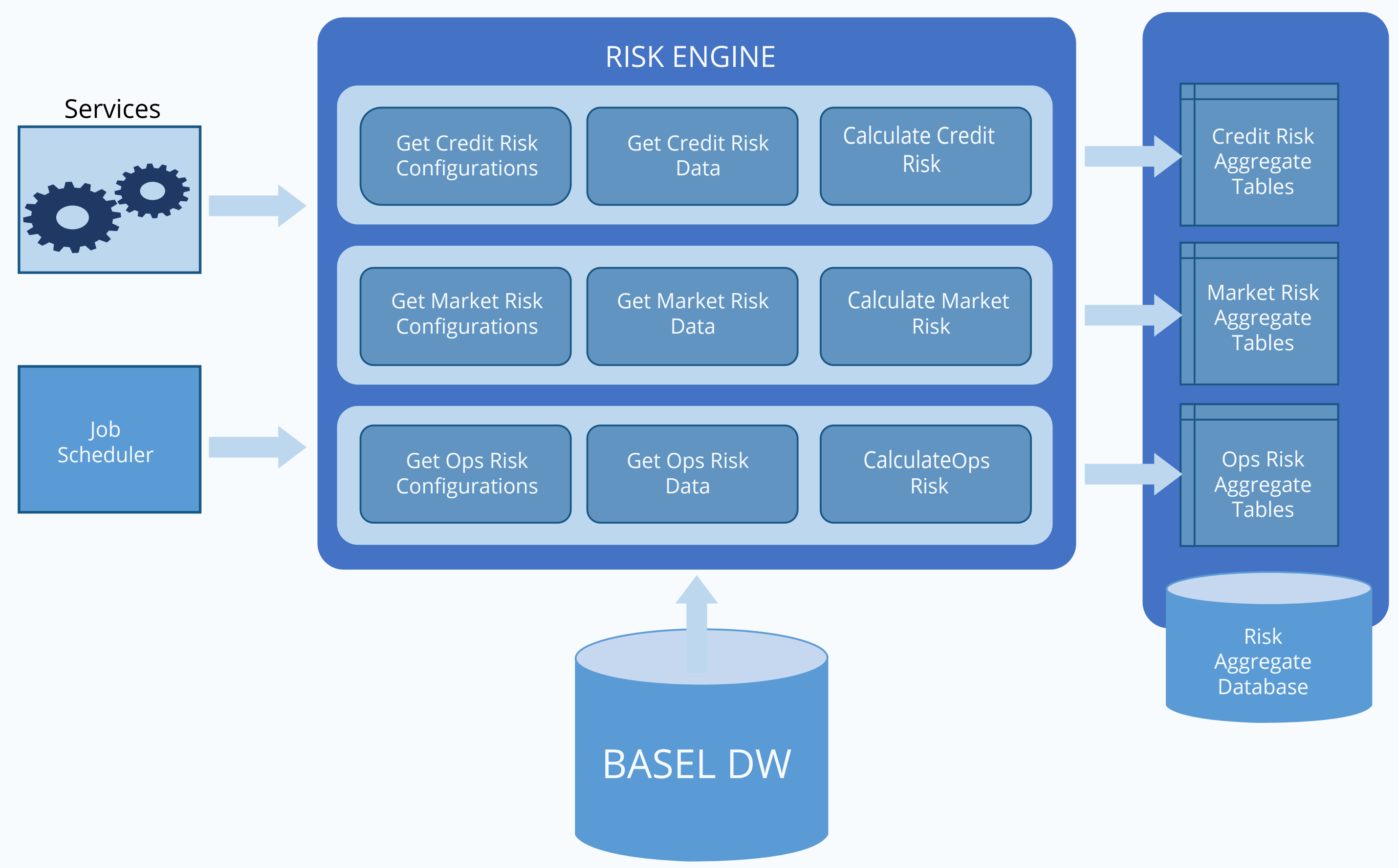


Risk Calculation Engine:

Risk Engine is the component that would be used for calculating the Credit, Market and Operational risks. The BASEL data warehouse database will be the input for risk calculation.

For Risk Engine Calculation a provision is made in the design for a service to supplement SQL routines to handle complex calculations

The flowing is the high level design of Risk calculation engine:



CUSTOMER BENEFITS

- Integration of multiple sources of data into single data warehouse
- Automation of Risk calculation that reduces multiple days' effort to l ess than half a day.
- Greatly increases accuracy of reports and provides a single repository to preserve historical reports
- Flexibility in Periodic Data refresh to go for entire data base or do an incremental load.
- Ability to extend it to any client by jest doing source to DW mapping.

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