



## Datawarehousing & Analytics



### SQL Server 2005 Reporting & Analysis Services – Case Study

#### The Summary

Client wanted to capture data from existing legacy system and SAP into a data warehouse for reporting and analytics. AG Technologies met the requirement by implementing the following:

- High performance, scalable and reliable enterprise ETL platform using SQL Server 2005 Integration Services
- Data warehousing solution using SQL Server 2005 Analysis Services
- Open and extensible enterprise reporting solution using SQL Server 2005 Reporting Services
- Enterprise Portal solution using ASP.NET and .NET 2.0

#### The Client

Client is world's largest dried fruit processing plant and is the world's largest handler of dried tree fruits including cranberries, apricots and prunes. It also owns marketing cooperative representing more than two-thirds of the prune market worldwide, and processes more than 50,000 tons of prunes a year. It's processes and markets the dried fruit production of more than 400 members with orchard holdings primarily in California's Sacramento and San Joaquin valleys.

#### The Business Requirement

##### Existing Environment

- Client had existing Alpha application which was originally written on the DEC Alpha system using DEC Basic programming language.
- The application was used to capture the business data relevant to maintaining the hourly union employee's scheduled to run the plants production.
- The Personnel/Timekeeping system was used in conjunction with other modules to administer the plant's union employees.
- Timesheets were used to document approved time for pay and identified an employee's work time on scheduled jobs.
- Employee timestamps were captured from time clocks at the plant and were associated to their respective timesheets.
- The weekly payroll was calculated and passed on to a third party payroll vendor where the payroll taxes and net pay were calculated and the payroll checks were created.

#### Project Summary

**Industry:** FMCG

**Client Profile:** Client is world's largest dried fruit processing plant.

**Business Requirements:** Capture the data from legacy and SAP system into a data warehouse for reporting and analytics.

**Solution:** Implemented Data Warehousing Application using Microsoft SQL Server 2005

#### Solution Benefits

- Single repository
- Single view for legacy and SAP data
- Enterprise reporting solution
- Improved Decision Making
- Cost Saving due to availability of accurate data



## Required System

- Historical data needed to be secured onto digital media. It would be preferable to keep this data in a RDBMS as opposed to backup devices (tapes, etc)
- Clean, transform and normalize the historical data required for reporting and store it in a data warehouse for reporting and analysis purposes
- Move Personnel/Timekeeping data from SAP into the data warehouse for reporting and analysis purposes
- Synchronize the SAP data with legacy data to ensure that reporting for either system is transparent to the user

## The Solution

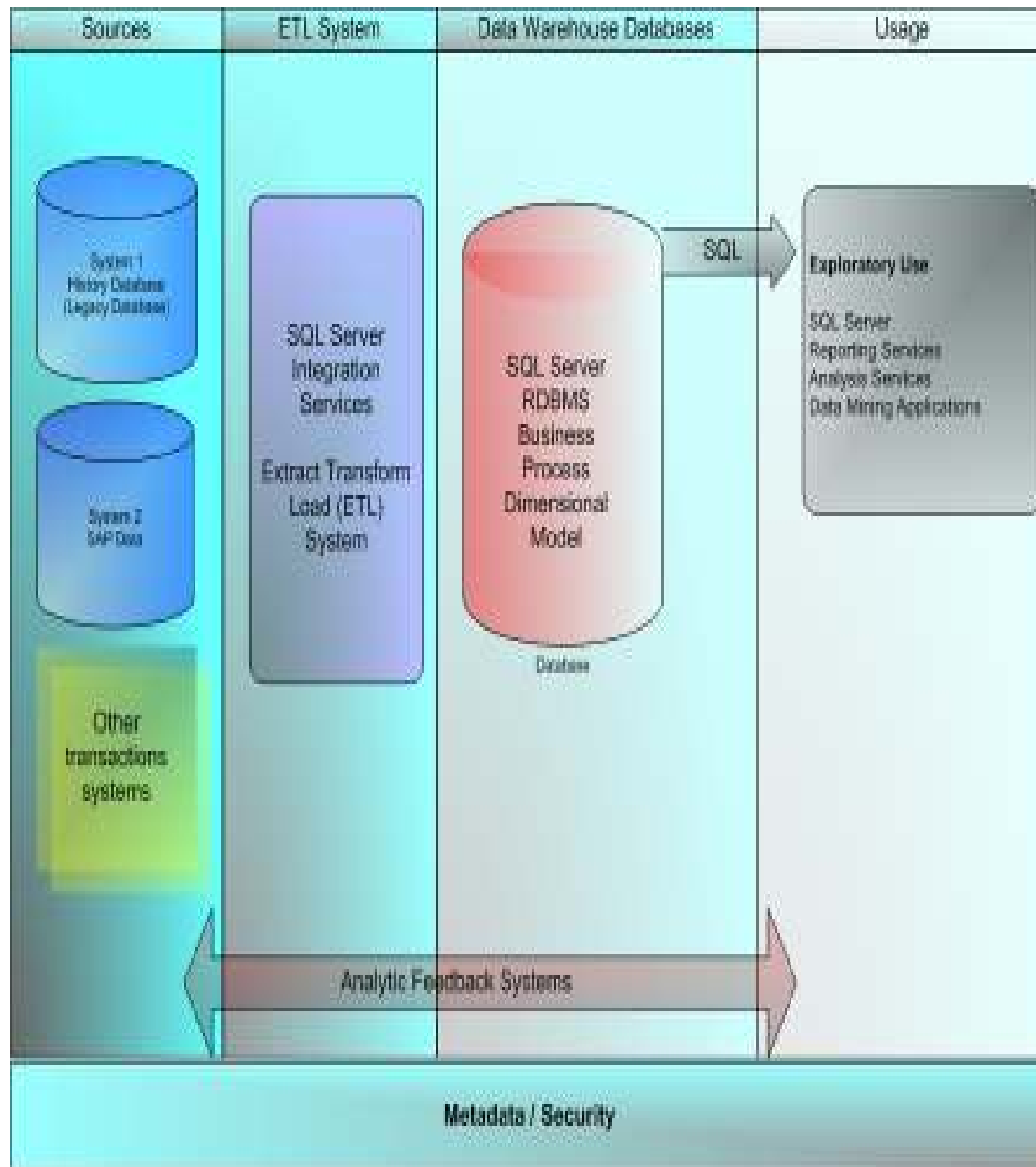
Phase 1 of the solution required migration of data from the Alpha, ADP Payroll and SAP HR to a data warehouse. The migration process using SQL Server Integration Services 2005 ensured cleaning, transformation and synchronization of data from the different data sources. The resultant data warehouse was then used for analysis using SQL Server 2005 Analysis Services. Reporting on the data warehouse was performed using SQL Server 2005 Reporting Services.

Also to extract the SAP data, we have used 'SQL 2005 .NET Data Provider for mySAP Business Suit' which directly extracted the data from SAP. Its SAP system was on Oracle. RFC program(s) was written to fetch the data from SAP and these were called from SSIS by using SQL Server 2005 adapter. The SQL server 2005 agent was responsible for running these SSIS scripts. This job runs on a periodic basis which was configurable. A log file was generated in case of any failure.

Subsequent phases involve moving other SAP modules and enterprise systems to the enterprise data warehouse.



## The Solution Architecture





# AG Technologies

## Technology and Tools:

- Windows Server 2003
- SQL Server 2005
- SQL Server 2005 Integration Services
- SQL Server 2005 Analysis Services
- SQL Server 2005 Reporting Services
- ASP.NET
- .NET 2.0 Framework
- Microsoft SAP Connector

## The Solution Benefit

- Single repository for reporting and analytics
- Single view for legacy and SAP data
- Use of historical and existing data for labor compliance
- Data warehousing approach for migration of archived and history data from SAP and other enterprise systems
- Enterprise reporting solution for historical data
- Data warehousing improved the productivity of decision makers through consolidation, conversion, transformation and integration of operational data, and provided a consistent view of an enterprise.
- Facilitated in saving Organizations countless hours of manual work and avoided making costly mistakes that could be result of assumptions made on incomplete or incorrect data.
- The benefits of data warehousing was easily extended to strategic decision making, which yielded very large and tangible benefits to the company
- The design of DW was developed using Microsoft methodologies and incorporated design patterns and best practices so subsequently if the data volume grows very large and large amount of fields requires aggregation, performance can be improved by building cubes on the DW.