

FINANCE ANALYTICS CASE STUDY: SAP B1 TO POWER BI



SUMMARY

Like many organisations, Wing Yip utilised spreadsheets for the creation of essential monthly documents, such as the Management Accounts and Board Packs. However, this process proved to be arduous and time-consuming, involving manual extraction of data from three disparate source systems - SAP Business One, Payroll and Retail Operations - into spreadsheets. Subsequently, the tables and charts were transferred into Word documents for distribution to the Management Team. Recognising the inefficiencies of this manual process, Wing Yip engaged with INFuse to develop a system to extract and transform the data into a centralised Data Warehouse. This facilitated report generation in Microsoft Power BI, thereby eliminating the time-consuming manual steps and enabling seamless comparisons across financial years, store locations, cost categories and allowing the effortless creation of additional financial reports, as needed, in the future.

"The Infuse team have been fantastic. Very friendly, extremely helpful, and always fast with their responses. They worked with us on the integration of three source systems into Power BI and we are using the reports created on a weekly basis to make business decisions."
Finance Manager at Wing Yip



ABOUT WING YIP

Wing Yip is a renowned company distinguished for its legacy in Asian grocery retail and wholesale distribution across the United Kingdom. Established in 1970 by Mr. Wing Yip, the company has grown into a prominent name in the Asian food industry, offering a diverse range of authentic ingredients, culinary essentials and specialty products sourced from across Asia. With multiple retail outlets strategically located in key cities, Wing Yip caters to both individual consumers and businesses, providing an extensive selection of fresh produce, spices, sauces, and kitchenware essential to Asian cuisine. Beyond retail, Wing Yip also operates as a trusted wholesaler, serving restaurants, catering establishments, and foodservice providers nationwide. Committed to quality, diversity and customer satisfaction, Wing Yip continues to be a cornerstone of the Asian culinary experience in the UK, embodying a rich heritage and a passion for excellence in every aspect of its operations.



THE CHALLENGE

Revamp the slow and tedious manual procedure involved in crafting the monthly Financial Reports, with the introduction of an automated system. By leveraging the robust capabilities of SSIS for seamless data loading into a SQL Server Data Warehouse and Power BI to harness this enriched data repository, the creation of the once burdensome task of report creation needs to become effortlessly streamlined.

SAP Business One®



CHALLENGES

- **Data Integration:** Harmonising disparate data formats and structures from three sources poses a challenge in SSIS (SQL Server Integration Services).
- **Transformation Complexity:** Managing complex data transformations during the ETL (Extract, Transform, Load) process requires careful handling.
- **Data Quality Assurance:** Ensuring data integrity and consistency across multiple sources is essential for accurate analysis.
- **Performance Optimisation:** Optimising SSIS packages to handle large volumes of data efficiently while minimising runtime.
- **Synchronisation:** Ensuring timely and synchronised data updates between data sources, the Data Warehouse and Power BI reports requires meticulous planning and scheduling.

DEVELOPMENT SUMMARY

- Establish scalable Data Warehouses in both Test and Production environments.
- Design and implement SSIS pipelines to extract data from three distinct source systems.
- Conduct data transformation processes to cleanse and standardise fields as necessary.
- Define Dimension and Fact table structures to organise and store the transformed data effectively.
- Utilise Power BI to model the data, creating necessary measures to support key financial reporting requirements.
- Create key Financial reports in Power BI.



THE SOLUTION

PROJECT OVERVIEW

This project aimed to streamline the Wing Yip data integration and reporting processes by leveraging SQL Server Integration Services (SSIS) to extract, transform and load data from many sources into a centralised Data Warehouse. The data was then seamlessly integrated into Power BI to provide Financial business intelligence and analytics.

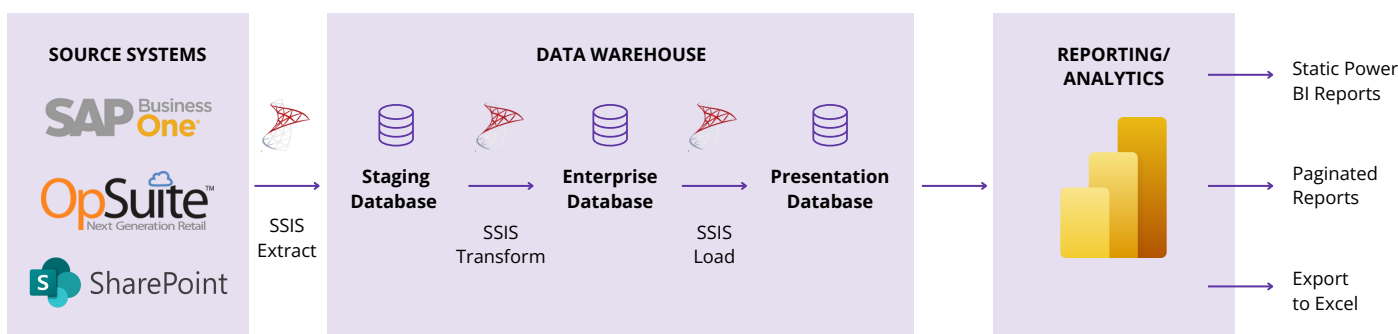
KEY COMPONENTS AND OBJECTIVES

Data Sources: The project involved extracting data from SAP Business One and the Retail Operations/POS system. There was also an additional requirement for numbers to be manually entered and automatically loaded each month, using a SharePoint List. INFuse collaborated with the Finance Project Team to first identify the required source data and fine-tune the transformation and cleansing process, to ensure results that are accurate and can be trusted.

Data Warehouse: Working closely with Wing Yip IT, the required infrastructure was implemented and both Test and Production centralised data warehouses were established to store the integrated data. This Production data warehouse serves as a single source of truth, providing a unified and reliable repository for business data.

Data Transformation/ETL Process: SSIS was utilised to transform the raw data extracted from each source into a standardised format suitable for analysis. As well as data cleansing, this included denormalisation and aggregation to ensure consistency and accuracy across all datasets. SSIS packages orchestrate the ETL process, automating the extraction, transformation, and loading of data from the source systems into the data warehouse. Error handling mechanisms and alerting have been implemented to ensure data integrity and reliability.

Integration with Power BI: The integrated data in the data warehouse was seamlessly integrated into Power BI for reporting and analysis. Power BI reports provide stakeholders in Finance and on the Management Team with actionable insights derived from the consolidated and transformed data, with the additional benefit of being able to export to Excel or PDF format.



BUSINESS BENEFITS

Improved Financial Analytics:

Provision of timely, interactive financial performance information to key decision makers enabling them to take swift action to maximise the commercial performance of the company.

Efficiency and Automation:

Automation of the ETL process using SSIS reduces manual effort and ensures timely data updates, improving operational efficiency.

Comprehensive Analytics:

Integration with Power BI facilitates comprehensive business intelligence and analytics, empowering stakeholders with real-time insights into key performance metrics and trends.

Scalability and Flexibility:

The modular architecture of the solution allows for scalability and flexibility, accommodating future growth and evolving business requirements.

OUTCOME AT A GLANCE

- Scalable Test and Production Data Warehouses created.
- Code written to cleanse and denormalise the data.
- SSIS ETL configured and automated to carry out the data load each night.
- Power BI Model built to allow flexible reporting and scheduled to automatically refresh, following the overnight data load.
- Profit and Loss and Board Pack documents created with the ability to export to PDF for easy distribution.
- Potential unlocked for many more initiatives.
- All work completed to schedule and within the estimated hours and timescales.