

Data Warehousing Solution for customer care outsourcing solutions provider

DATA WAREHOUSING



PSI team was instrumental in analyzing the client's data and enabled to make more informed choices.

About the Client

Client is a global leader in customer care outsourcing solutions and provides solutions to prominent brands that includes fortune 50 companies across multiple industry verticals, namely, retail and business services, communications, healthcare, insurance and financial services, media & entertainment, and travel industries. With decades of CRM experience, serving some of the most recognized brands globally, client showcases deep industry expertise, enabling it to offer comprehensive communications solutions including contact center outsourcing and BPO services. It also comprises billing of agents as per divisions, programs, working hours etc.

Engagement Highlights

Client is a global leader in customer care outsourcing solutions and provides solutions to prominent brands that includes fortune 50 companies across multiple industry verticals, namely, retail and business services, communications, healthcare, insurance and financial services, media & entertainment, and travel industries. With decades of CRM experience, serving some of the most recognized brands globally, client showcases deep industry expertise, enabling it to offer comprehensive communications solutions including contact center outsourcing and BPO services. It also comprises billing of agents as per divisions, programs, working hours etc.

The Need

PSI team partnered with the client to deliver ETL (Extract, Transform and Load) and database services. It enabled the client to transform the raw data into the desired form to load in the target database. The DWH/BI team at PSI advised the client on the forms of data marts oriented to a specific business line or team and data warehouses. In due course, helped them convert databases from one format or type to another. Specifically, the tasks included tracking the agent performance information like call resolution, agent schedules, average handle time, active and waiting calls, call abandonment, total calls, average call length, billing for the specific clients/divisions/departments/skills and programs along with the agent pay and bonus.

Challenges

Business Challenges

- The scope of work was shared abruptly without defining any business logic and mostly with incomplete documentation
- For some Source System of Record (SSoR), PSI team had to analyze data and define the business scope and get a sign off from the client. So, both Functional and Technical documentation had to be done
- The team had to identify relevant data sub-sets for analysis, out of existent database, as the entire data was not required for warehouse implementation. Therefore, initially data filtering had to be done to identify incorrect, wrongly implanted and incomplete data. Further, the data had to be corrected, if possible or eliminated from further analysis
- Selection of relevant dimension as per the source data
- Project was driven by the customer on a daily basis
- Client requirements were constantly changing, which impacted the scope of work
- The team had to develop Master Data to link the critical data to one file and keep the process dynamic
- The client provided services to numerous end-users with the same data warehouse. So, the team's key challenge was to extract the data from different source systems and transform it into the client's Data Warehouse structure
- The developed code executed in the production environment was monitored for some time to verify if the output is as per the expectations. There was a possibility of the output being incorrect not because of the developed code, but because of the incorrect form of source data. Consequently, the client was contacted and necessary corrections were done, in case a need arised
- The team had to develop a back-up plan indicating that if the developed code does not perform as expected in the production owing to any reason(s), it needs to be rolled back in such a manner that the other impacted system is brought back to its original state. So, here back-up plan is basically a roll-back plan

Technology Challenges

- Checking and improving the quality of application's data
- The team never compromised on the quality of the code and the performance was well tested, as any badly designed system would impact the process and the client would have missed the SLA (Service-level agreement)
- The team had to handle all types/formats of data. With a large database, client had a diverse source system. PSI team would receive the data files in various formats, namely, CSV, Excel files, Delimited files, Binary files, Direct Reports, directly from legacy system using ODBC connectivity and directly from OLE DB (Object Linking and Embedding, Database) systems
- Accurately and seamlessly exchanging data between the applications while aligning with the business rules of the existing information system
- The most important activity was modelling / defining the business concepts
- Data Warehouse is information-driven, which is why concept mapping was driving the project
- Complete functionality was required for strong development in PDI along with OWB (Oracle Warehouse Builder) expertise
- Working on PL/SQL and having an Oracle expertise was another key challenge
- Client's database was in Terabytes (TB) and whatever source system you get, it surely provides the data into Gigabytes (GB). So PSI team has to consider all the rules to get the best performance
- Understanding the client framework and learning process control was a key challenge handled during the project
- Understanding and requirement analysis for different client source system "Automatic Call Distributor". The team had to handle all types/formats of data.

Solution Approach

PSI team took a step-by-step approach to execute the project at hand. It offered the client a solution based on Data Warehouse methodology.

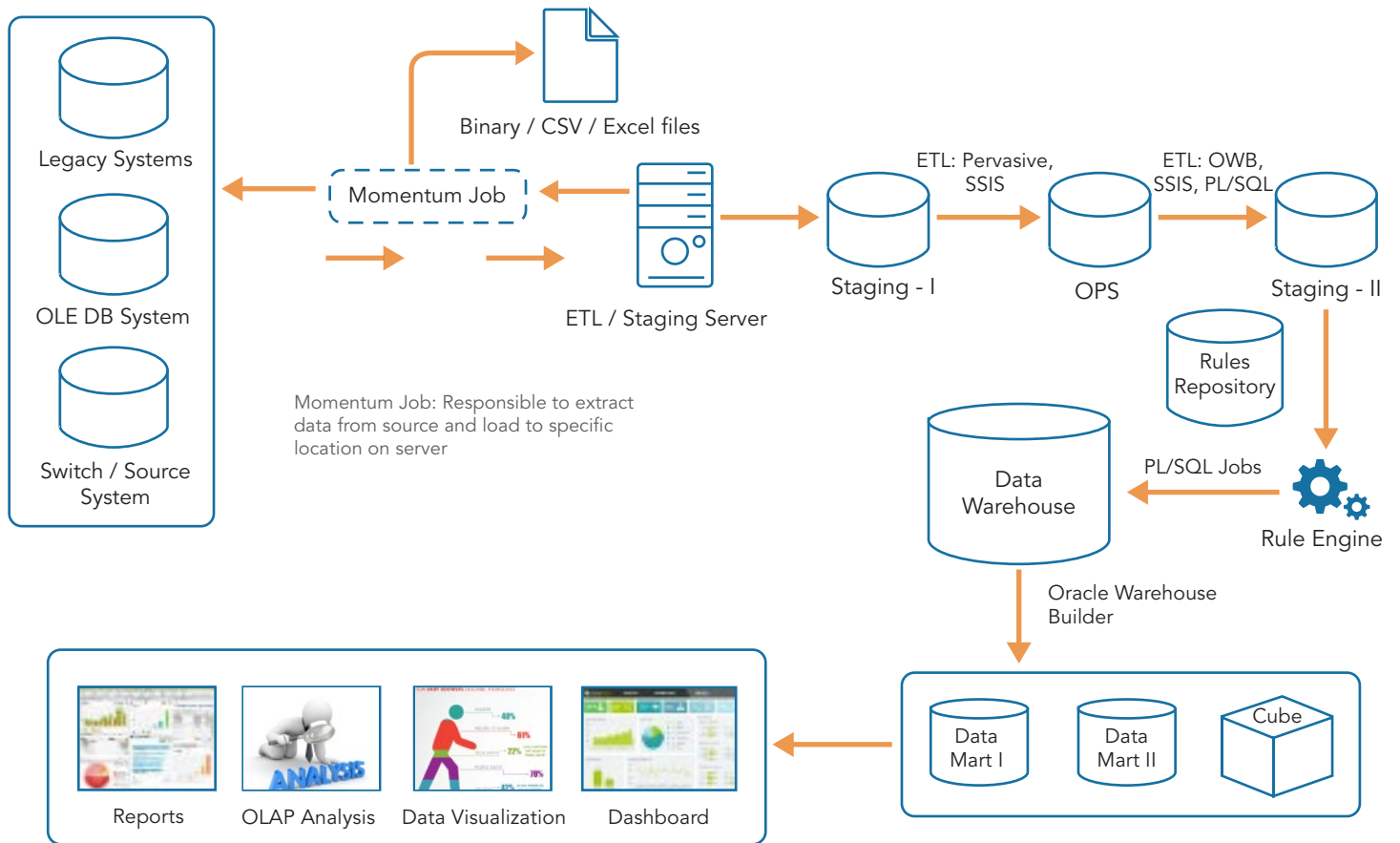
The Data Warehouse System was developed with 3 integrated data layers to enhance the system's productivity and reduce data processing time

- 1 Operational
- 2 Detailed
- 3 Analytical

Methodology / Process Undertaken

- The team grasped the understanding of the application & its architecture as much as possible through knowledge transition sessions and self-learning
- They resolved the existing issues step-by-step to get the technical know-how of the framework, the architecture used across the product and got the system operational
- Worked as a team with the client to handle the bigger issues and future enhancements to provide the best possible solution within a given timeframe

- The team proactively looked for areas of improvement in performance & reliability



Technology Used

The key technologies used are OWB (Oracle Warehouse Builder), PDI with Oracle PL/SQL.

Achievements

- The engagement lasted for 8+ years and we have delivered more than 300 projects with over thousand change requests successfully for numerous end-clients
- The client appreciated the team's on-the-job understanding and resolution of issues tactically by providing practical solutions to optimize the client's database
- The team played a crucial role in optimizing and tuning the database and PL/SQL processes
- The team analyzed and fixed many critical issues for different modules, which helped the client to resolve issues faster and reduce the turnaround time
 - The turnaround time was reduced by more than 80%
- The team outperformed the client's expectations in terms of the deliverables and quality
- Proactively identified the solutions for enhancing usability and performance requirements
- Handling of complex ETL schedules, e.g. execution of multiple chains of ETL packages simultaneously having dependencies on each other
- Integrate different type of data into the client's data warehouse to track down agent performance and billing

Benefits to Client

- Significant efficiencies. (As per the client, PSI team consistently delivered before time)
- Developed generic solutions (tools) for the clients to manage multiple concurrent ETL processes and PL/SQL packages to convert OWB to PL/SQL code, etc

Project at a Glance

Project Name	Data Warehousing Solution
Location	USA
Duration	2009 to 2017
Team Size	3-5
Industry	Customer Care Outsourcing Solutions
Delivery Model	Retainer
Engagement Model	Offshore
Challenge	The scope of work was inadequately shared, without defining any business logic and mostly with incomplete documentation
Solution	The Data Warehouse System was developed with 3 integrated data layers: Operational, Detailed, Analytical
Key Outcome	Client's turnaround time was reduced by more than 80%

About PSI

Pratham Software (PSI) is a global IT services company (with established ISO 9001:2015 & ISO/IEC 27001:2013 practices) providing software product development, consulting and outsourcing solutions to enterprises worldwide. While providing a wide range of solutions, we focus on Outsourced Product Development (OPD), Business Process Management (BPM), Application Development and Maintenance (AMD) and Content Engineering. Our extensive experience in OPD helps us build strong relationships with Independent Software Vendors (ISVs), as we work with them throughout the product development lifecycle. In terms of technology and platform, we work across all major technologies such as Microsoft, Java and Open source and have capabilities and experience in developing solutions for web, mobile, Cloud and social media. For Enterprise customers, in addition to Process Automation, we also offer development and support services in BI and DWH.

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