



OnDemand  
Agility  
Solutions

---

YOUR TRUSTED KNOWLEDGE PARTNER

## Case Study

# Sales Reporting DWH

### **Business Requirement**

Data Warehouse may be defined as massive database (typically housed on a cluster of servers, or a mini or mainframe computer) serving as a centralized repository of all data generated by all departments and units of an organization, small or large.

## “Case Study – Sales Reporting DWH”

---

Need for data warehousing project can arise in any one or a combination of the following cases:

- The inability to extract data from multiple disparate data sources and resolve differences in data definitions
- A lack of high quality data on which to base critical business decisions
- No "single version of the truth" for business rules and data definitions
- Inability to share consistent information across business divisions
- A proliferation of non-integrated, "stovepipe" applications
- The inability to generate consolidated and reconciled financial and other business reports

### Scope

Implementing data warehousing for delivering any software project will facilitate:

- Incredible design patterns
- Explicit planning
- Cleanse the data
- Remove discrepancy
- Up-to-date analysis
- Enriched performance
- Thrifty budget

Data analysis being a primary concern, the client insisted that the data integration issues be managed with utmost care. Oracle Discoverer, our property suite, materialized as an appropriate technical tool to facilitate a proper workflow for accomplishing data analyzing & reporting activities.

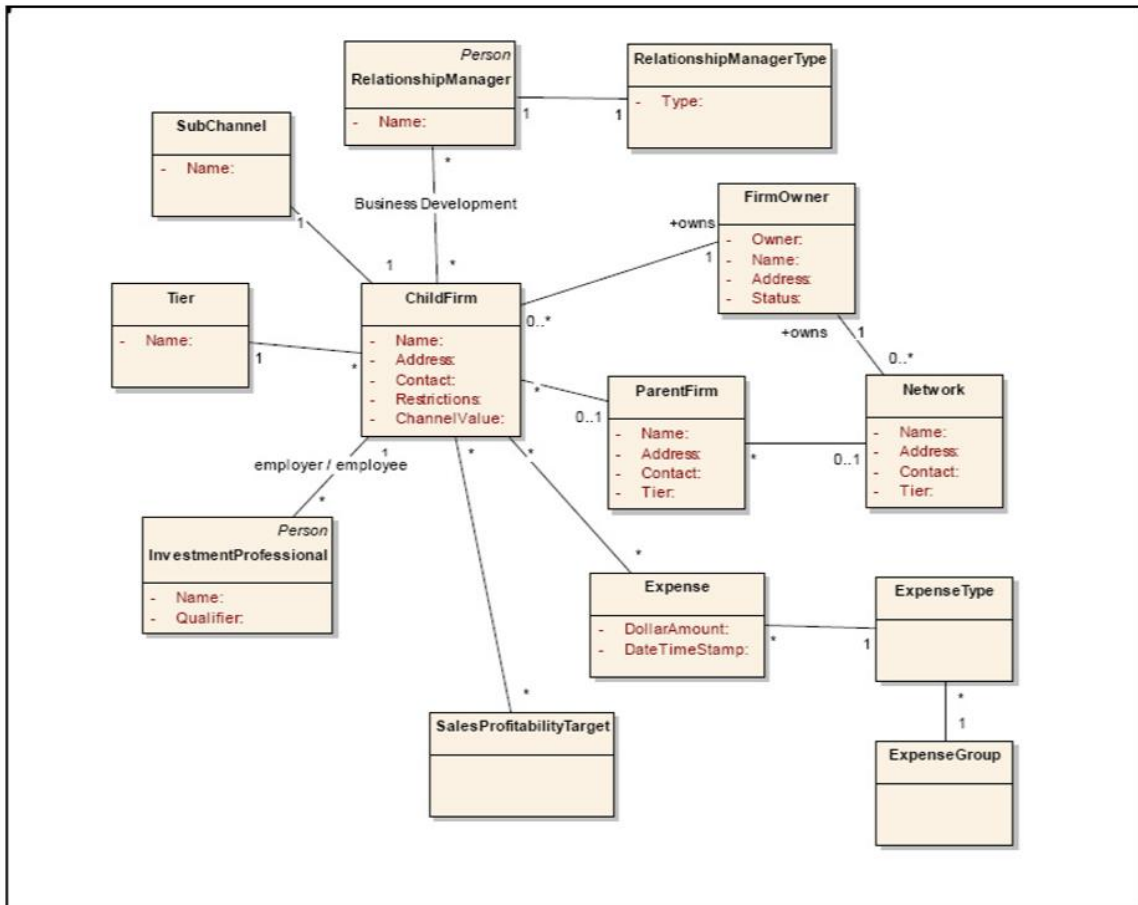
### Our Approach (Technical)/Methodology

In order to achieve successful Data warehousing we adhered to certain steps:

- **Planning:** One thing we have learned while delivering any software project including data warehousing is careful planning. Careful planning can make your data warehouse a success and any slippage can make it look bad. When we were engaged in Data warehouse project, we spent good part of engagement time in planning and aligning things.
- **Tool Selection:** Tool selection is one of the most important aspects of data warehousing project, with the several tools available as a choice. The main features one must look at while picking the right ETL tool are transformation capabilities, data cleansing capabilities, managing high volume loads and available of connectors for directly connecting to various data sources. Our resources have extensive experience in using **ETL tools like Informatica, Oracle Warehouse Builder (OWB), DataStage and TalEnd (open source)** however for this project we picked **Oracle Warehouse Builder (OWB) for ETL operations**. Among various reasons behind this decision, few important ones were low development cost, easy long-term maintenance, Oracle as a target warehouse database and existing Oracle licensing.

## “Case Study – Sales Reporting DWH”

- **Designing:** During planning phase, our team did various design workshops with different business units to come up with the design of data warehouse. The outcome of these design sessions was Domain Model, establishing common terminology across whole organization (most of the transformations were defined for common terminology implementation) and Data model using dimensional modeling methodology. The design also provided capabilities for "As is" vs "As was" analysis.

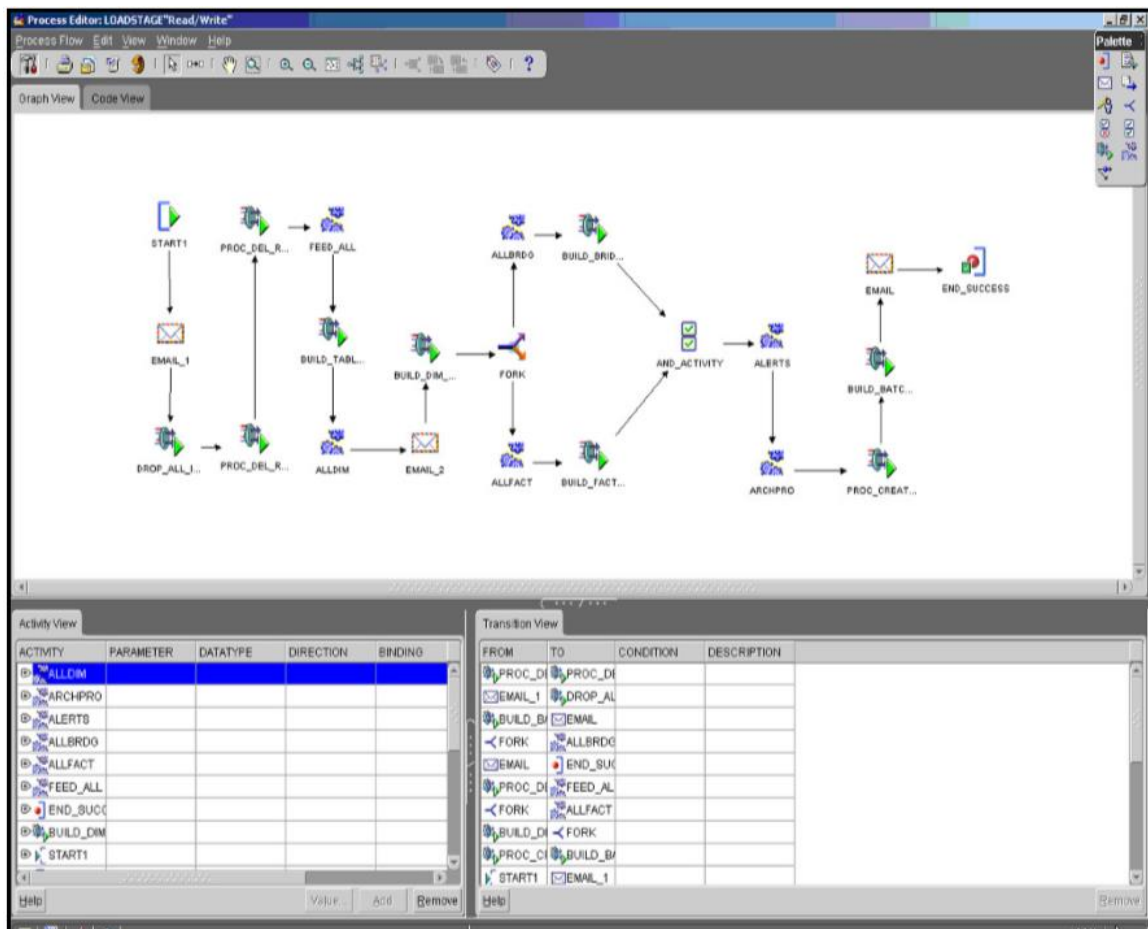


- **Proficiency:** Having team with the financial industry background like Asset Management, Investment Banking, Credit Risk Management, Insurance and Annuities was a big plus. As right from the word go, our analysts were well equipped to perform the domain and data modeling and from day one they were talking to the business owners in the terms only they would understand. Else it would have been weeks of effort to train someone from other functional domain.
- **User Interface (UI) Planning:** One of the best practices in any software design is to keep it in variables as much as possible so that your design is flexible and can accommodate certain values without running through whole SDLC for every little change. Similarly, while performing data modeling, special care has been taken to ensure that the design should not be limited to the requirements given at the

## “Case Study – Sales Reporting DWH”

beginning of the project and it should function properly with the minor changes to the business rules and introduction of new values. To accomplish such flexibility, various lookup tables (transformations and filters) were introduced as a part of complete process design. Once such tables are introduced, it is quite necessary to have simple front-end utility for the maintenance of these tables.

- **Automation:** Once we freeze on the tool, there were few options for the automation including - **Oracle DBMS JOB, Oracle Work Flow and Autosys**. Our client had already selected **Autosys** as their enterprise-level job management system and therefore we used Autosys for scheduling all warehouse jobs. While defining automation model, different job streams were defined (viz. Daily, Weekly, Monthly, Quarterly and Yearly) with the special consideration about parallel execution vs serial execution. Mostly all job streams run during off-hours (night time) and are finished before the user gets in. Therefore, warehouse is mostly available for reporting and analytics.

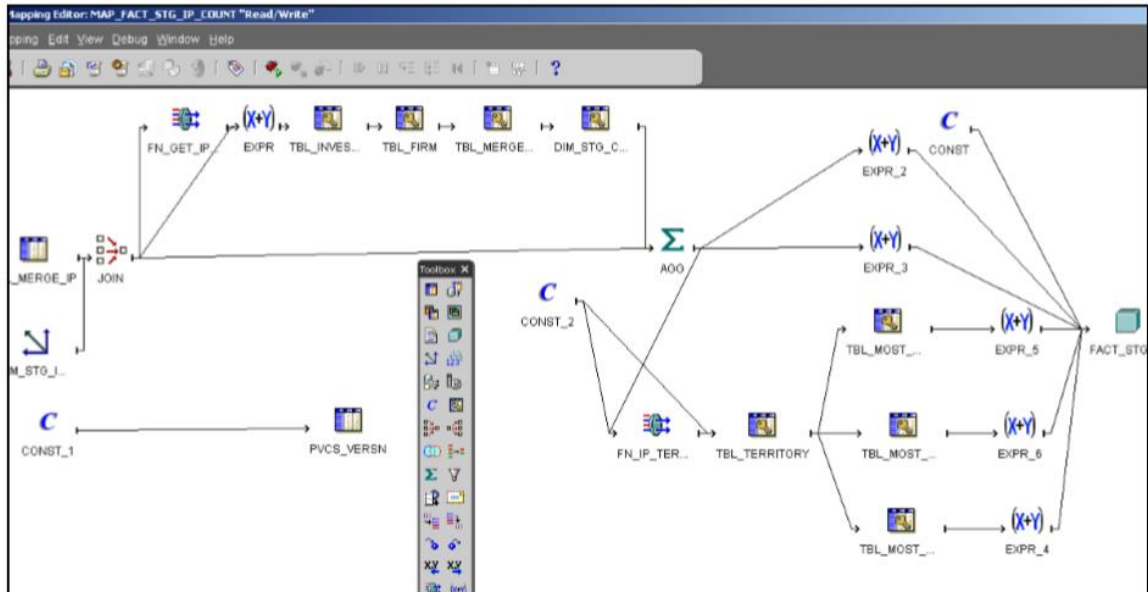


- **Development:** Development was planned in phases; broadly it was divided into two phases as given below. However, there were a lot of small deliveries in each phase to ensure that the end state is in line with client expectations and there are continuous reviews from the business owners.

**Phase1:** Phase 1 mostly involved executing initial database design and building jobs to perform load operations. Followings were the main activities during this phase:

## “Case Study – Sales Reporting DWH”

- Developing MAPS using OWB. MAPS are set objects and complex instructions, which are graphically represented on OWB editor (figure below).
- Testing (Reconciliation reports)
- User Interface (UI) development to maintain Lookup tables.



- **Phase2:** Phase 2 mostly involved report generation and self-service. Followings were the main activities during this phase:
  - Enabling self-service
  - Dashboard implementation

**Execution:** Following were the main activities during the execution:

- Executing and maintaining daily, weekly and monthly batches
- Evolving data-model for changing business needs

### Important Facts:

- We executed Data Warehousing projects for our clients across the globe.
- We have successfully implemented a large data warehouse for one of the fortune 100 financial companies using agile development model along with passing all the outsourcing benefits to the client.
- We implemented a comprehensive Sales Analytics and Administration System with a Sales Data Warehouse at its heart. To add to the complexity of this initiative, our team had to deal with 2 mergers in 2 years and data integration of these companies into the existing data warehouse. This project was developed using the Oracle Technologies (**Oracle 10g and Oracle Warehouse Builder**). Few complementary projects were run in parallel including data cleansing.

## **“Case Study – Sales Reporting DWH”**

---

- The project was planned to accommodate any future changes and cross-functional business initiatives. The changes in our current project included accommodating feeds from 2 new companies acquired by our client.
- At the time of this writing, we are maintaining this data warehouse and it has grown up to 600GB with approximately 100 feeds coming in from 6 different systems. There are approximately 150 daily along with 30 quarterly and 20 yearly reports generated out of this system. Apart from all these reports, currently this warehouse is also feeding data to 5 other downstream systems.

### **Our Value Add**

Since the client’s need for “As on date” reporting has increased, that helps us focus on getting the real picture of the state of the business. Therefore, currently we have taken an initiative to mature our data warehouse to “Hybrid data warehousing environment”. This capability will help client to react to real-time events.