

# Design Patterns in Data Modelling

1.Introduction .....	1
2.The Question .....	1
3.Three Design Patterns .....	2
1 – Semantic Models .....	2
2 – Data Mapping Specifications .....	2
3 – End-to-End Scope.....	2

Barry Williams  
[barryw@databaseanswers.org](mailto:barryw@databaseanswers.org)

## 1.Introduction

This page starts with the suggestion that Data Models are 'A Good Thing' and you can never have too much of 'A Good Thing'

Therefore, if the answer to everything is a Data Model then what exactly are the Questions ?

We therefore propose that an End-to-End range of Data Models provides a robust and generalised foundation for any Data Migration activity.

Of course, we consider it is true that 'Data Migration' is a deceptively simple way of describing the activities that occupy most of our waking (or working) hours most of the time.

This is appropriate whether we are Data Architects, Data Modellers or Data Analysts, where each role has a different range of skills and responsibilities.

We start with Operational Data Stores and end with a Dimensional Model that feeds data for a BI Layer.

## 2.The Question

Our question then becomes :-

What kind of Data Models do we need to cover our End-to-End Scope ?

We propose :-

- Semantic Models  
    These provide a 'User-eye ` view of the data in Reports
- Enterprise Data Warehouse  
    This provides a 'Single View of the Truth'
- Dimensional Models  
    These support Data Marts and Data Views for specific Reports, KPIs and analyses.
- Operational Data Store - ODS  
    This defines the Staging Area

This seems a modest ambition, so let's discuss it in detail to see if it holds up under detailed analysis.

# Design Patterns in Data Modelling

## 3.Three Design Patterns

This page shows three Design Patterns.

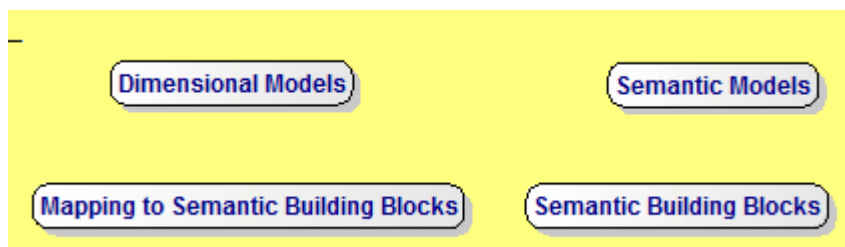
### 1 – Semantic Models

This Pattern shows how Semantic Building Blocks provide a 'User Friendly' front-end. This helps Users to request KPIs, Reports and analyses using words and terminology that they normally use.

For example, talking about Customers, rather than Parties.

We discuss Semantic Building Blocks on this page :-

[http://www.databasanswers.org/data\\_models/semantic\\_building\\_blocks/index.htm](http://www.databasanswers.org/data_models/semantic_building_blocks/index.htm)

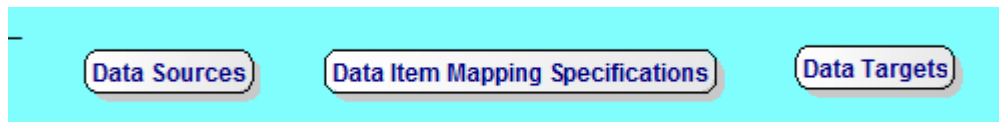


### 2 – Data Mapping Specifications

The first starts with the Operational Data Store (ODS).

This means that we can apply a simple test to determine whether Data Models exist for all important Data Sources.

If they do, then we can say that the work has been done to the established standards of Best Practice.



### 3 – End-to-End Scope

Finally, we show the complete End-to-End scope of Data Models.

The Common Data Model is used to standardise data that is loaded into the Data Warehouse (DWH).

We can also be sure that we have a 'Single View of the Truth' at any point in time. It helps us to build the design of the DWH in a step-by-step fashion.

