

Use Case: Model Train Inventory

Type 1 data base structures do not store the history of changes within each record of the tables. Data is overwritten when changes are detected.

Use Case

The model train collection inventory is kept in Excel spreadsheets (CSV) and no reports can be written showing the detailed inventory.

No history of data changes are needed for this train collection so this entire model can be Type 1.

The goal is to land the CSV files to MS SQL tables, then build a star schema with two dimension and a simple fact table.

Source Data

TypeData.csv

```
1 TypeID, Type
2 1, Assesory
3 2, Building
4 3, Car-box
5 4, Car-caboose
6 5, Car-clean
7 6, Car-cussion
8 7, Car-flat
9 8, Car-gondola
10 9, Car-hopper
11 10, Car-ore
12 11, Car-Passenger
13 12, Car-pulpwood
14 13, Car-reefer
15 14, Car-stock
16 15, Car-tank
17 16, Car-transport
18 17, Engine-diesel
19 18, Engine-steam
20 19, Sets
21 20, Utility
22
```

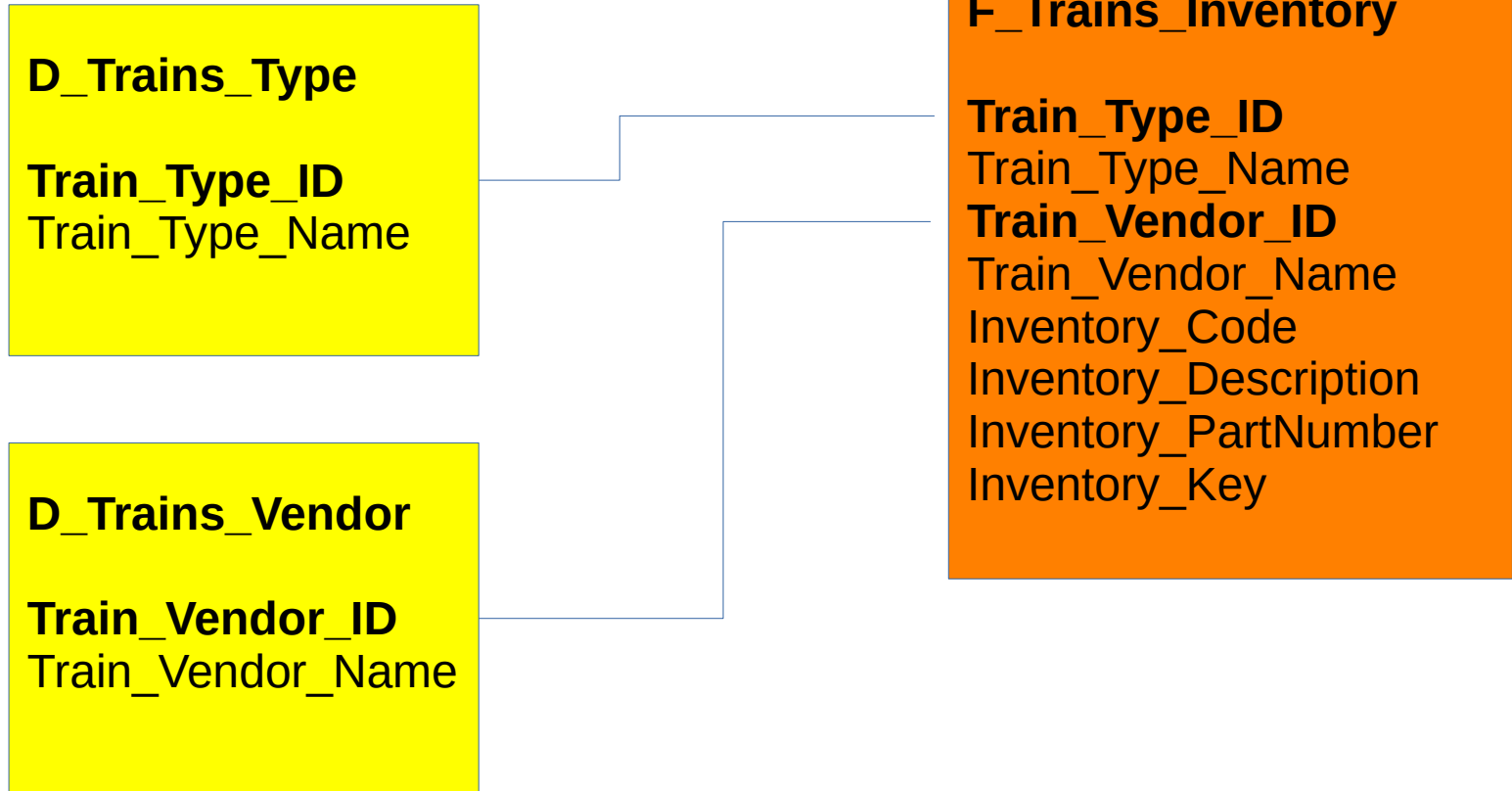
VendorData.csv

```
1 VendorID, Vendor
2 1, Accurail
3 2, AHM
4 3, Athearn
5 4, Atlas
6 5, Bachmann
7 6, Con-Cor
8 7, IHC
9 8, Life-Like
10 9, Mantua
11 10, MDC
12 11, Model Power
13 12, PlayArt
14 13, Revell
15 14, Tyco
16 15, Walthers
17 16, Walthers/MDC
18 17, AHM-Tempo
19 18, Frischmann
20 19, Herpa
21 20, Lionel
22 21, McKean
23 22, Mehano Master
24 23, Roco
25 24, RSO
26 25, Tyco/Mantua
27 26, Varney
```

InventoryData.csv

```
1 RowID,TypeID,VendorID,Code,Description,PartNumber
2 359,4,3,,Milw Road #01035 regular - orange (1 of 3),140-1256
3 360,4,3,,Milw Road #01035 regular - orange (2 of 3),140-1256
4 361,4,3,,Milw Road #992303 - orange,140-5378
5 362,4,3,,Milw Road bay window #341238,
6 363,4,3,,Milw Road bay window #992303 - orange,140-1174
7 364,4,3,,New York Central #21273,140-1268
8 365,4,5,,SanteFe #999628 - brown & yellow,
9 366,4,5,,Spirit of 1776 - #183,
10 367,4,8,,SantaFe - red,
11 368,4,14,,Milw Road regular,
12 369,4,14,,undecorated #689 - red,
13 370,4,3,J,New York Central bay window #24524,140-1291
14 371,4,5,J,Union Pacific 21ft old timer caboose - yellow/orange,160-72701
15 372,4,13,Y,Atlantic Coastlines #4062 - red,
16 373,4,27,Y,B&O type I-1 #33519 - lighted interior,
17 374,4,27,Y,Union Pacific #1654 - yellow,
18 375,4,2,Y,Spirit of 1776,
19 376,4,3,Y,Burlington Route #13527 w/ spring trucks - silver,
20 377,4,3,Y,Milw Road #01924 w/ spring trucks - silver,
21 378,4,3,Y,undecorated - brown w/ spring trucks,
22 379,4,18,Y,undecorated - red,
23 380,4,9,Y,undecorated small two axle w/ metal frame,
24 381,5,8,,Great Northern Railway track cleaning car - red,
25 382,5,27,Y,Ribbon Rail track cleaning car - brown,
26 383,6,15,,Milw Road cushion coil car (2 of 3),932-3864
27 384,6,15,,Milw Road cushion coil car (3 of 3),932-3864
28 385,6,15,,Milw Road cushion coil car (1 of 3),932-3864
29 386,7,27,,Boston & Maine w/ no wheels,
30 387,7,27,,Great Northern - red,
31 388,7,27,,Great Northern - red,
32 389,7,27,,Great Northern w/ tubes,
33 390,16,3,,Itel impack A&B units,140-5553
34 391,16,3,,Itel impack C D&E units,140-5563
```

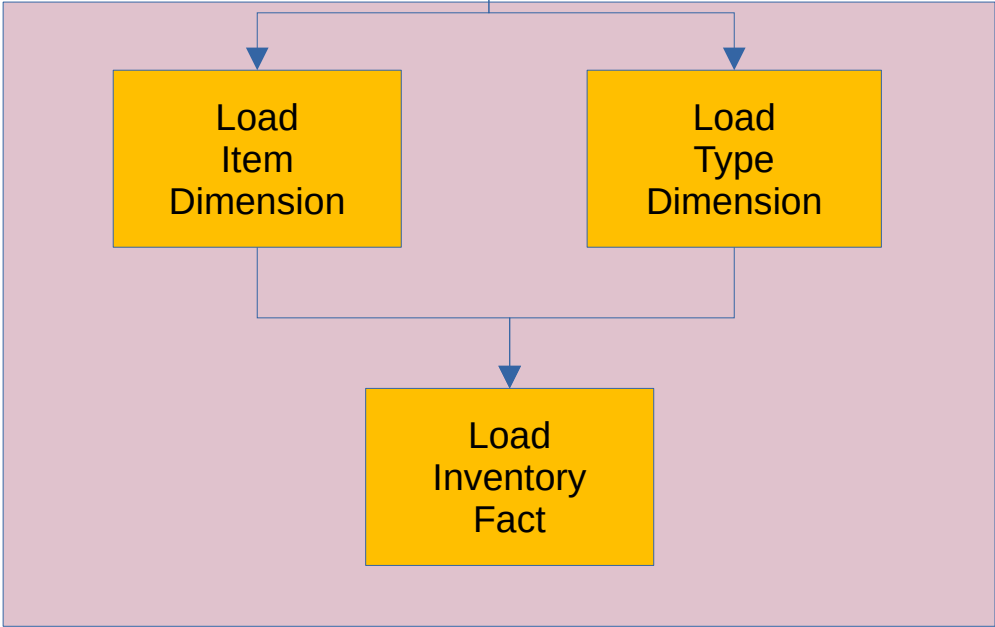
Data Model



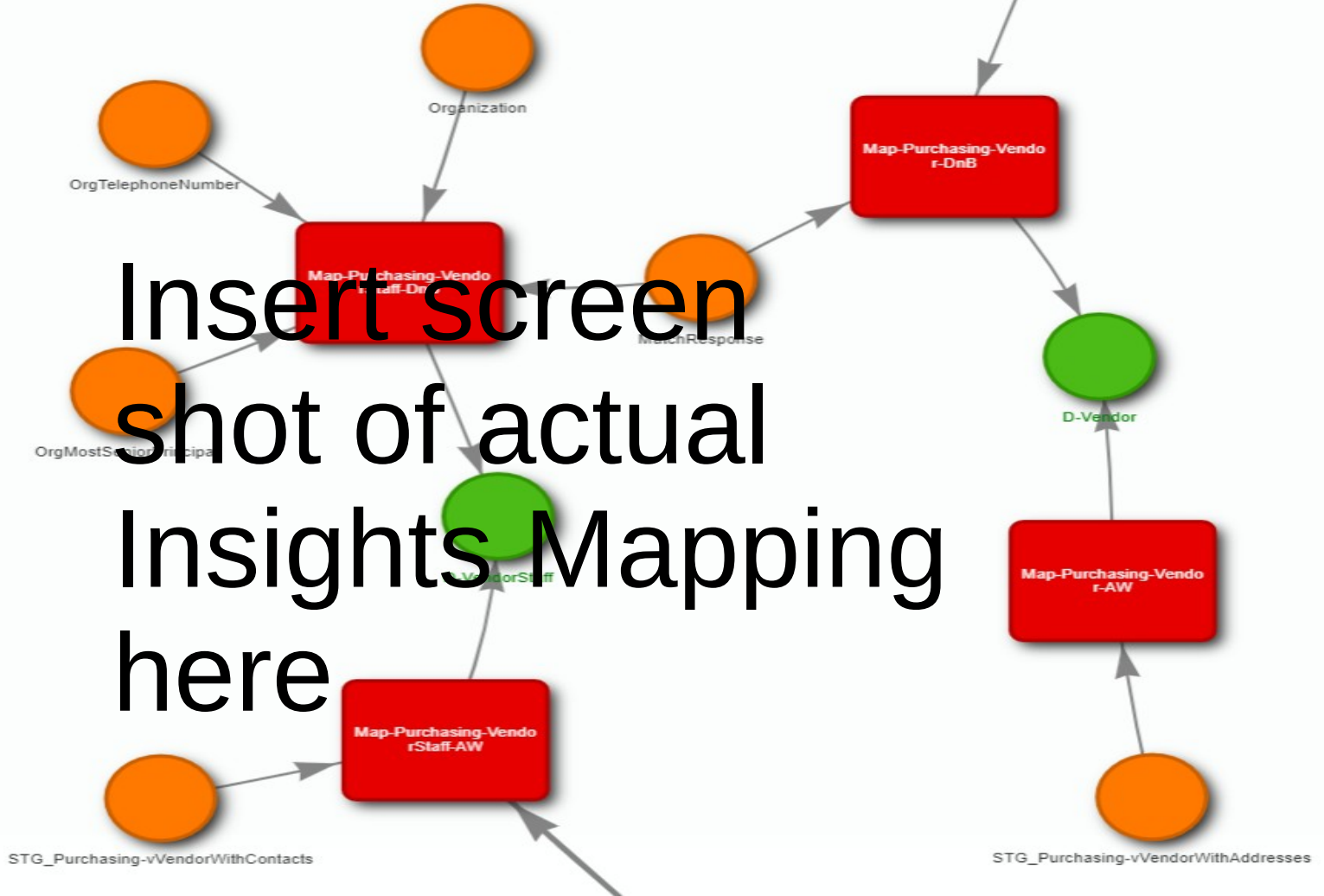
Process Flow Diagram

Data Acquisition
Data Transformation

Land the data from the Excel files to SQL database



**Simple
Type 1
dimensions
with a
fact table**



Recipe

Ingredients:

TypeData.csv	Mapping_Logical_to_Physical_D_TrainsType.xlsx
VendorData.csv	Mapping_Logical_to_Physical_D_TrainsVendor.xlsx
InventoryData.csv	Mapping_Logical_to_Physical_F_TrainsInventory.xlsx
	Target SQL database

Steps:

1. Create source Connection to CSV files	8. Run the profile to execute the mapping logic
2. Create a target Connection to your database server	9. Query the Inventory fact table to view the results.
3. Create Profile to land CSV data	
4. Import the three Mapping xlsx documents	
5. Update the mappings - setting the join properties identified in the data model	
6. Create a Profile to run the three mappings	
7. Run the profile to land the CSV data	