1. Identify the grain in your dimensional design using the business needs as a guideline. You should then indicate relative storage requirements for the grain using the statistics for the data sources. Using the cardinality estimates provided, you should determine either the fact table size or sparsity and then compute the unknown grain size variable. For example, you should compute sparsity if the fact table size is given.

1,100 products: sum of product rows and unique products in a spreadsheet

120 suppliers: sum of supplier rows and unique suppliers in a spreadsheet

Days per year: 365

512,000 purchases of individual products: sum of PurchLine rows and spreadsheet rows (one year)

Fact table size is determined from sum of the rows in the PurchLine table and Spreadsheet. Thus, the individual product purchases per year are 512,000.

Sparsity estimate:

1 - ( fact table size / product of dimensions )

(1 – ( 512,000 / (1,100\*120\*365) ) = 0.98937

The data cube has mostly missing cells with slightly more than 1% of cells with non zero values.

Member : 50,000member rows + 150 unique customers per special event worksheet = 50150

Service Category : 20

Franchise : 350 rows in table + 200 = 550

Date : 365 days in 1 year

Sales: 450,000 by sales table connected to merchandise

Fact Table will have sum of no of rows in sales in table and spreadsheet. i.e 450,000

Sparsity estimate:

1 - ( 450,000/ product of dimensions )

(1 – (450,000/ (550\*365\*20) ) = 4015000

The data cube has mostly missing cells with slightly more than 1% of cells with non zero values.