3. The most detailed grain is the combination of Franchise, Member, Merchandise, calendar, Service and date.

* 550 Franchises: sum of product rows and unique Franchises in a spreadsheet
* 650 Merchandises: sum of product rows and unique Merchandises in a spreadsheet
* Members: 50000
* Days per year: 365
* 510,000 purchases of individual products: sum of contain rows and spreadsheet rows (300 \* 200)
* Fact table size is determined from sum of the rows in the contains table and Spreadsheet. Thus, the individual product purchases per year are 510,000.
* Sparsity estimate:
  + 1 - ( fact table size / product of dimensions )
  + (1 – ( 510,000 / (550\*650\*365) ) = 0.9961
  + The data cube has mostly missing cells with slightly less than 1% of cells with non zero values.