Week 2 Paper

Last week we came up with a plan at our company that compared data marts and data warehouses. With this new foundation, we are expanding to see what we could do to make our databases that much better. We will go over what a snowflake schema and when to use one. What model works best for Kimball architecture and what works best for Inmon architecture. Lasty, we will investigate what an OLAP is and what is an advantage is of one.

Schemas are used within the database community. There are multiple kinds of schemas. Two that we are being taught about this week are the star schema and the snowflake schema. There are similarities and differences. Some of the key differences as pointed at by ThoughtSpot sit, is that star schemas have denormalized dimension tables whereas snowflake schemas have normalized dimension tables. Star schemas are easier to design and implement. Star schemas are more efficient than snowflake schemas simply due to having fewer JOINS between the tables.

Let’s look at what a snowflake schema is and when is the best time to use one. On the website Databricks, they help us understand snowflake schemas. We learn that snowflake schemas are used in business intelligence. They are also used in reporting in OLAP data warehouses, data marts, and relational databases. With this, engineers tend to break down individual dimensions of tables into logical subdimensions. Looking at this, we see what a snowflake schema is and when is the best time to use one.

Both the Kimball architecture and Inmon architecture each use schemas to provide data. Out of the star and snowflake, which one works best for what? The Kimball architecture uses the denormalized dimension which would fit well with a star schema. Whereas the Inmon architecture uses the normalized dimension which works best with the snowflake schema.

OLAP also known as an online analytical processing is a method to allow users to selectively extract and query data in or to analyze it form different points of view. They are used in business intelligence. This helps with trends, financial reporting, sales forecasting, budgeting, and planning. With this a key advantage for using an OLAP is that they respond faster to end-user queries. This is due to the OLAP system pre-aggregate data. This means that there aren’t time consuming calculations when an end-user query is processed.

All in all, we have talked about snowflake schemas compared to star schemas. We learned about when to use a snowflake schema. Learning about when to use a snowflake schema. We learned about both Kimball and Inmon architectures and what schema works best for what. Lastly, we learned about what an OLAP is and what the advantage of using one is.

References:

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