Base Query Specifications

Measure	Dimension				
	Customer	**Sales Class**	**Location**	**Machine Type**	**Sales Agent**
Profit amount and margin	✓	✓	✓	-	✓
Returns	✓	✓	✓	-	✓
Shipping Delays	✓	✓	✓	-	-
Revenue (job)	✓	✓	✓	-	✓
Revenue (invoice)	✓	✓	✓	-	✓
Costs (subjob)	✓	✓	✓	✓	-
Ratio Among Types of Costs	✓	✓	✓	✓	-
Gross Margin	✓	✓	✓	-	✓
Forecasting Performance	-	-	✓	-	-
Budgeting Performance	-	-	✓	-	-
Intra Company Sales	-	-	✓	-	-
Shared Machine Usage	-	-	✓	✓	-
Lead Success Rate	-	-	-	-	✓

AWR

Q1: How is DB time measured in the AWR?

In Oracle Database, AWR (Automatic Workload Repository) is a feature that collects and maintains performance statistics for the database. One of the key metrics it captures is "DB time," which represents the total time spent processing user and application requests by the database. It's a comprehensive measure that includes both CPU time and non-idle wait time.

DB time is measured and calculated based on the following components:

1. CPU Time: This is the time the CPU spends actively processing database-related tasks. It includes both system and user CPU time.

2. Non-Idle Wait Time: In a database system, there are moments when sessions are waiting for various resources to become available. These waits contribute to the overall time spent by a session, even though the CPU might not be actively processing during these waits. AWR captures these non-idle wait times, such as I/O waits, network waits, latch waits, etc.

The formula to calculate DB time is:

$$DB\ Time = CPU\ Time + Non\text{-}Idle\ Wait\ Time$$

AWR samples these metrics periodically (typically once an hour by default) and stores them in its repository. This data can be then used for performance analysis and tuning. DB time is a valuable metric because it helps in identifying where the database spends its time, whether it's on actual computation or waiting for various resources. By analyzing DB time and its components, database administrators can prioritize performance optimization efforts to reduce wait times and improve overall system responsiveness.

Q2: What is one dictionary table in the AWR? Identify the table name and at least three columns on the table.

One of the dictionary tables in the Oracle AWR (Automatic Workload Repository) is DBA_HIST_SQLSTAT. This table stores historical performance statistics for SQL statements executed within the database. It provides insights into how SQL statements are performing over time.

Here are three columns from the DBA_HIST_SQLSTAT table:

1. **SQL_ID:** This column stores the unique identifier for a SQL statement. It's a hash value generated based on the SQL text, allowing you to track and analyze the performance of individual SQL statements.

2. **SNAP_ID:** This column refers to the snapshot identifier. Snapshots are points in time when AWR data is collected. By linking this column with the DBA_HIST_SNAPSHOT table, you can determine the time window during which the performance statistics were collected for a particular SQL statement.

3. **ELAPSED_TIME:** This column represents the total elapsed time, in microseconds, that was consumed by executions of the SQL statement. It provides insight into the cumulative time spent executing this SQL statement across different snapshots.

These columns, along with others present in the DBA_HIST_SQLSTAT table, allow database administrators and performance analysts to track and analyze the historical performance of SQL statements, identify performance bottlenecks, and make informed tuning decisions.

Q3: What is the name of the Oracle view table used by the Active Session History (ASH) sampler?

The Oracle view used by the Active Session History (ASH) sampler is called **V$ACTIVE_SESSION_HISTORY**. This view provides real-time data about active sessions and their activities within the database. It's a key component of Oracle's performance monitoring and analysis tools, allowing users to gain insights into the current activity and performance characteristics of the database.

Q4: Identify at least two-dimension columns in the ASH fact table.

In the Active Session History (ASH) fact table, there are several dimension columns that provide contextual information about the active sessions and their activities. Here are two common dimension columns found in the ASH fact table:

1. **SAMPLE_ID:** This column represents a unique identifier for each sample of active sessions taken by the ASH sampler. It helps in linking the ASH data to specific snapshots in time.

2. **SESSION_ID:** This column contains the identifier for the active session. It helps identify which session is responsible for the activity captured in the ASH record.

These dimension columns, along with other information captured in the ASH fact table, allow database administrators and performance analysts to understand the behavior of active sessions, track their activities, and diagnose performance issues.