

Queries

/*

Query 1

*/

```
select sum(Price), dateYear, phoneRateType
from DWABD.Facts F, DWABD.TimeDim T, DWABD.PhoneRate P
where F.Id_time = T.Id_time and F.Id_phoneRate = P.Id_phoneRate
group by cube(phoneRateType, dateYear)
```

/*

Query 2

*/

```
SELECT DateMonth,DateYear, SUM(NumberOfCalls) as TotNumOfCalls,
SUM(price) as totalIncome,
RANK() over (ORDER BY SUM(price) DESC) as RankIncome
FROM DWABD.FACTS F, DWABD.TIMEDim Te
WHERE F.id_time=Te.id_time
GROUP BY DateMonth,DateYear;
```

/*

Query 3

*/

```
SELECT DateMonth, SUM(NumberOfCalls) as TotNumOfCalls,
RANK() over (ORDER BY SUM(NumberOfCalls) DESC) as RankNumOfCalls
FROM dwabd.FACTS F, dwabd.TIMEDIM Te
WHERE F.id_time=Te.id_time
AND DateYear=2003
GROUP BY DateMonth;
```

/*

Query 4

*/

```
SELECT DayOfMonth , SUM(Price),
AVG(SUM(Price)) OVER ( ORDER BY DayOfMonth RANGE BETWEEN INTERVAL '2'
day preceding
and current row) as avglast3days
FROM DWABD.FACTS F, DWABD.TIMEDIM Te
WHERE F.ID_time=Te.ID_time
AND DateYear=2003 AND DateMonth=7
GROUP BY DayOfMonth ;
```

```
SELECT DayOfMonth , SUM(Price),
AVG(SUM(Price)) OVER ( ORDER BY DayOfMonth ROWS 2 preceding) as
avglast3days
FROM DWABD.FACTS F, DWABD.TIMEDIM Te
WHERE F.ID_time=Te.ID_time
AND DateYear=2003 AND DateMonth=7
GROUP BY DayOfMonth
ORDER BY DayOfMonth;
```

```
/*
```

```
Query 5
```

```
*/
```

```
SELECT DATEYEAR, DATEMONTH, SUM(PRICE) AS TOTINCOME,  
SUM(SUM(PRICE)) OVER( PARTITION BY DATEYEAR ORDER BY DATEMONTH ROWS  
UNBOUNDED PRECEDING) AS CUMULATIVEINCOME  
FROM DWABD.FACTS F, DWABD.TIMEDIM Te  
WHERE F.ID_time=Te.ID_time  
GROUP BY DATEMONTH, DATEYEAR;
```

Materialized views

The cardinality of all queries is at least one order of magnitude lower than those of the fact table. Hence, for each query it may be potentially useful to create a materialized view.

Queries 2, 3, and 5 are pretty similar. To answer these queries efficiently we can create a single materialized view, which is reported below.

```
create materialized view groupByMonthYear  
  build immediate  
  refresh on demand  
  enable query rewrite  
as  
select DateMonth, DateYears, SUM(NumberOfCalls) as NumCalls,  
SUM(Price) as TotPriceCalls  
  from DWABD.FACTS F, DWABD.TIMEDIM T  
  where F.id_time=T.id_time  
  group by DateMonth,DateYears;
```