

DATAWAREHOUSE AND MINING

DAY3

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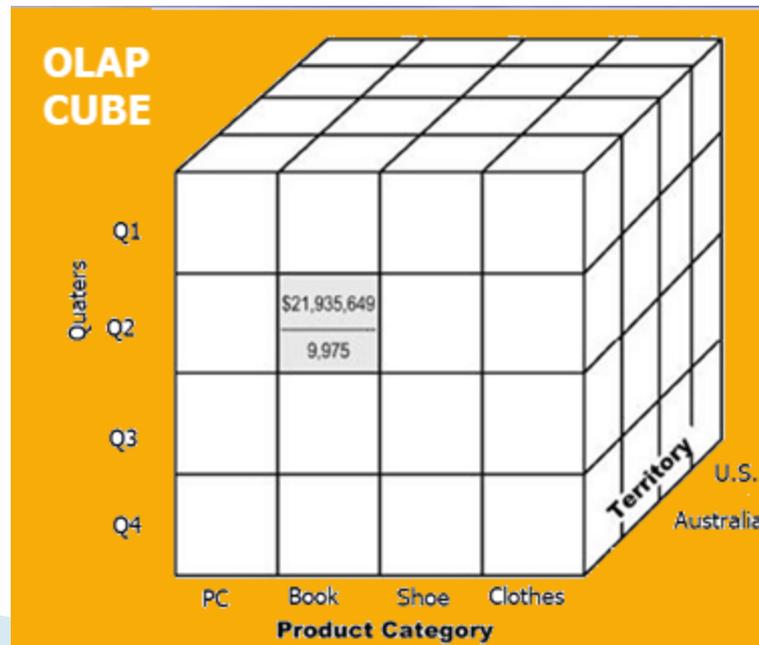
TOPICS

- ▶ OLAP
 - ▶ OLAP OPERATION
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OLAP

- ▶ **Online Analytical Processing (OLAP)** is a category of software that allows users to analyze information from multiple database systems at the same time. It is a technology that enables analysts to extract and view business data from different points of view.
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- ▶ OLAP databases are divided into one or more cubes. The cubes are designed in such a way that creating and viewing reports become easy. OLAP stands for Online Analytical Processing.



OPERATION OF OLAP

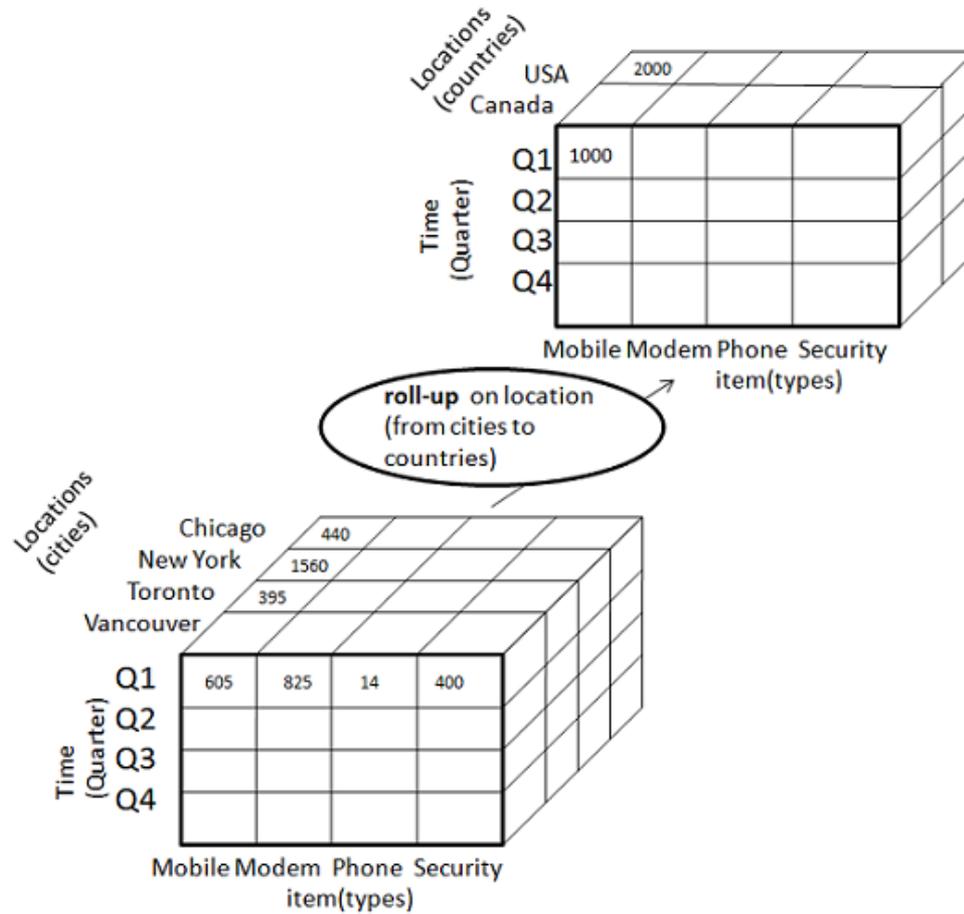
- ▶ Since OLAP servers are based on multidimensional view of data, we will discuss OLAP operations in multidimensional data.
 - ▶ Here is the list of OLAP operations –
 - ▶ Roll-up
 - ▶ Drill-down
 - ▶ Slice and dice
 - ▶ Pivot (rotate)
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Roll-up

Roll-up performs aggregation on a data cube in any of the following ways –

- ▶ By climbing up a concept hierarchy for a dimension
- ▶ By dimension reduction
- ▶ The following diagram illustrates how roll-up works.

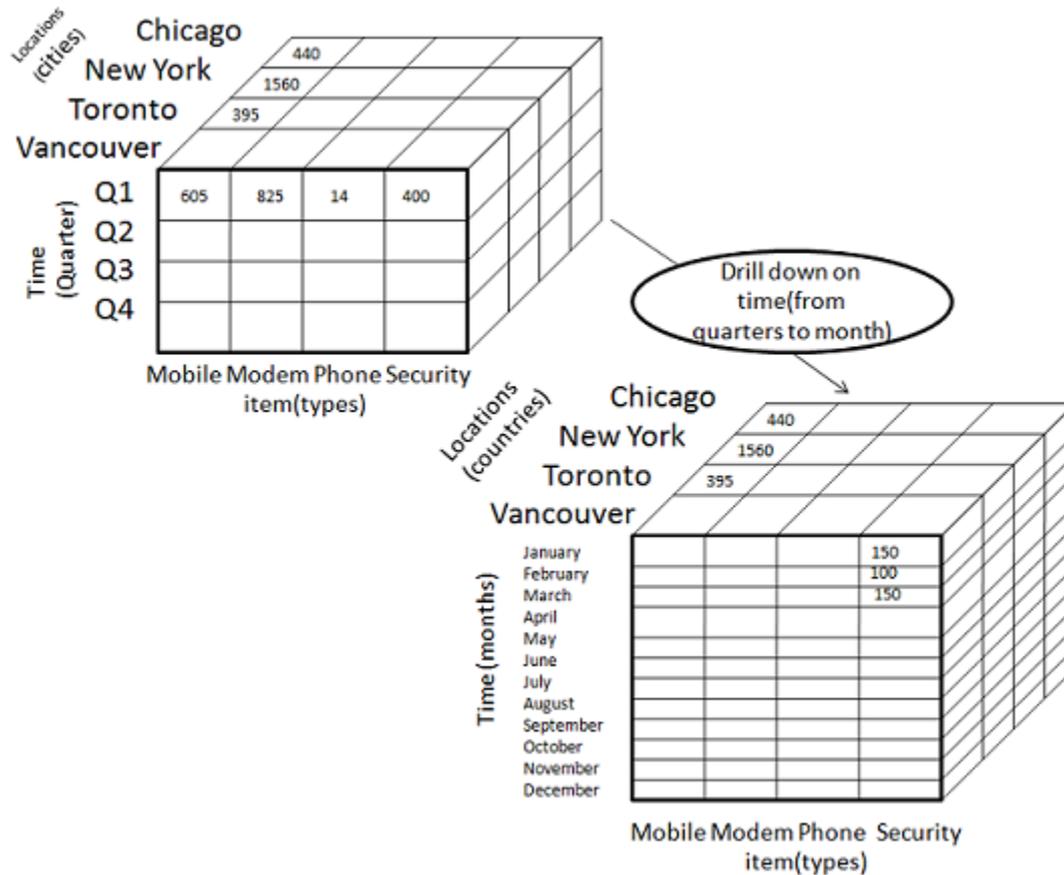
ROLL-UP



Drill –down

- ▶ Drill–down
 - ▶ Drill–down is the reverse operation of roll–up. It is performed by either of the following ways –
 - ▶ By stepping down a concept hierarchy for a dimension
 - ▶ By introducing a new dimension.
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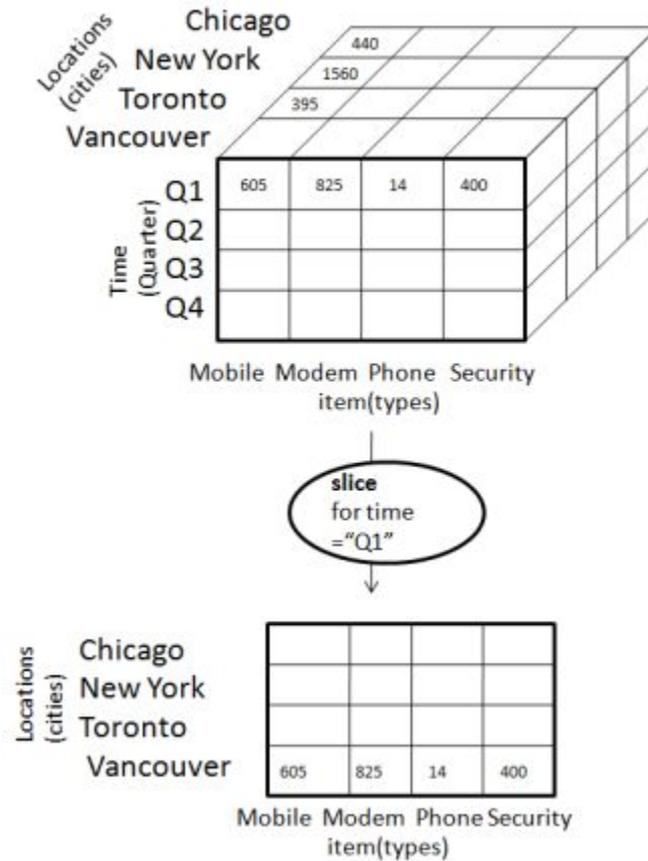
Drill-down



SLICE OPERATION

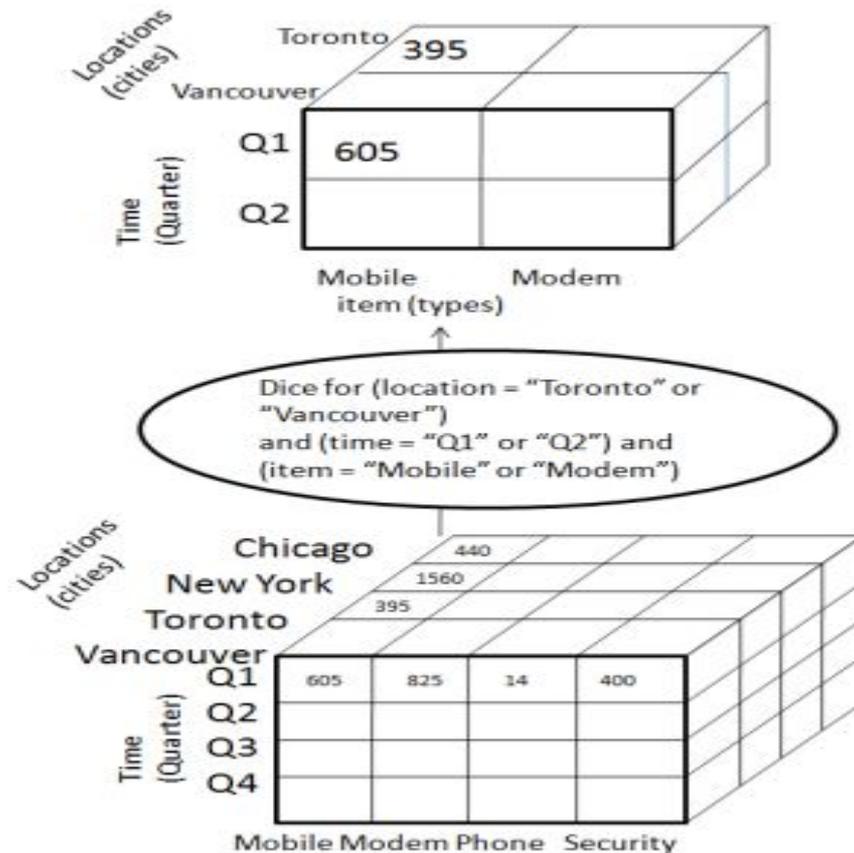
- ▶ Slice–The slice operation selects one particular dimension from a given cube and provides a new sub-cube.
 - ▶ Here Slice is performed for the dimension "time" using the criterion time = "Q1".
 - ▶ It will form a new sub-cube by selecting one or more dimensions.
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Slice operation



DICE OPERATION

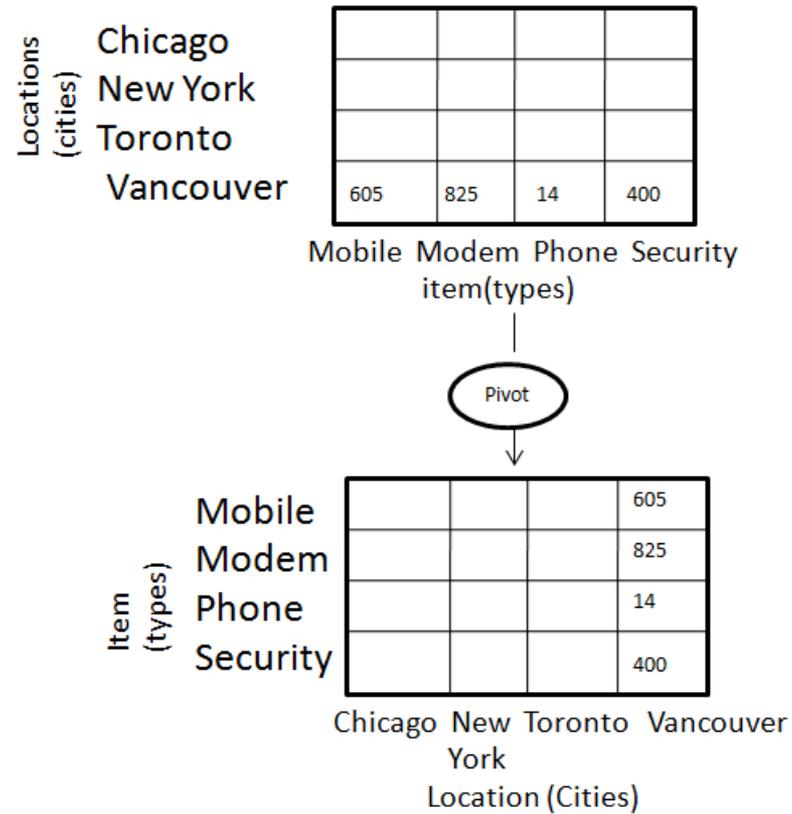
- ▶ Dice selects two or more dimensions from a given cube and provides a new sub-cube.



Pivot

- ▶ The pivot operation is also known as rotation. It rotates the data axes in view in order to provide an alternative presentation of data.

PIVOT



THANKS

