VERTICA
by opentext™

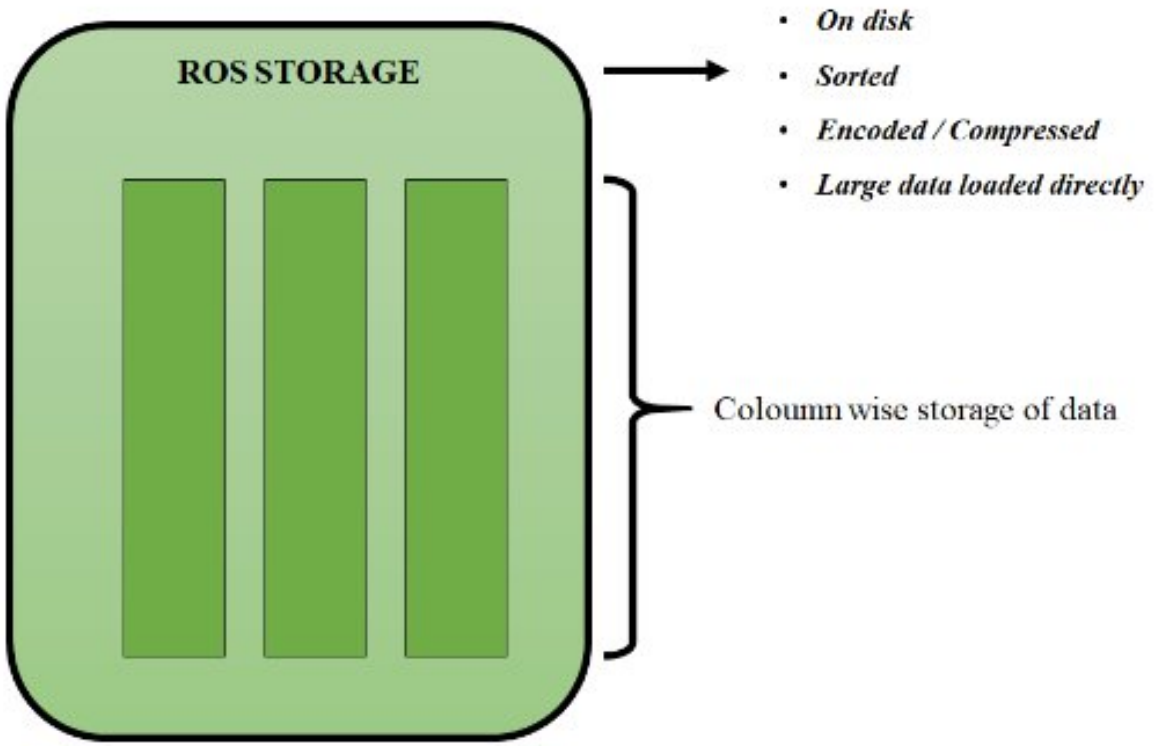
Hybrid Storage Model

Hybrid Storage Model

To understand the Vertica storage model, you first need to understand these elements:

- ROS (Read-Optimized Store)
- Tuple Mover

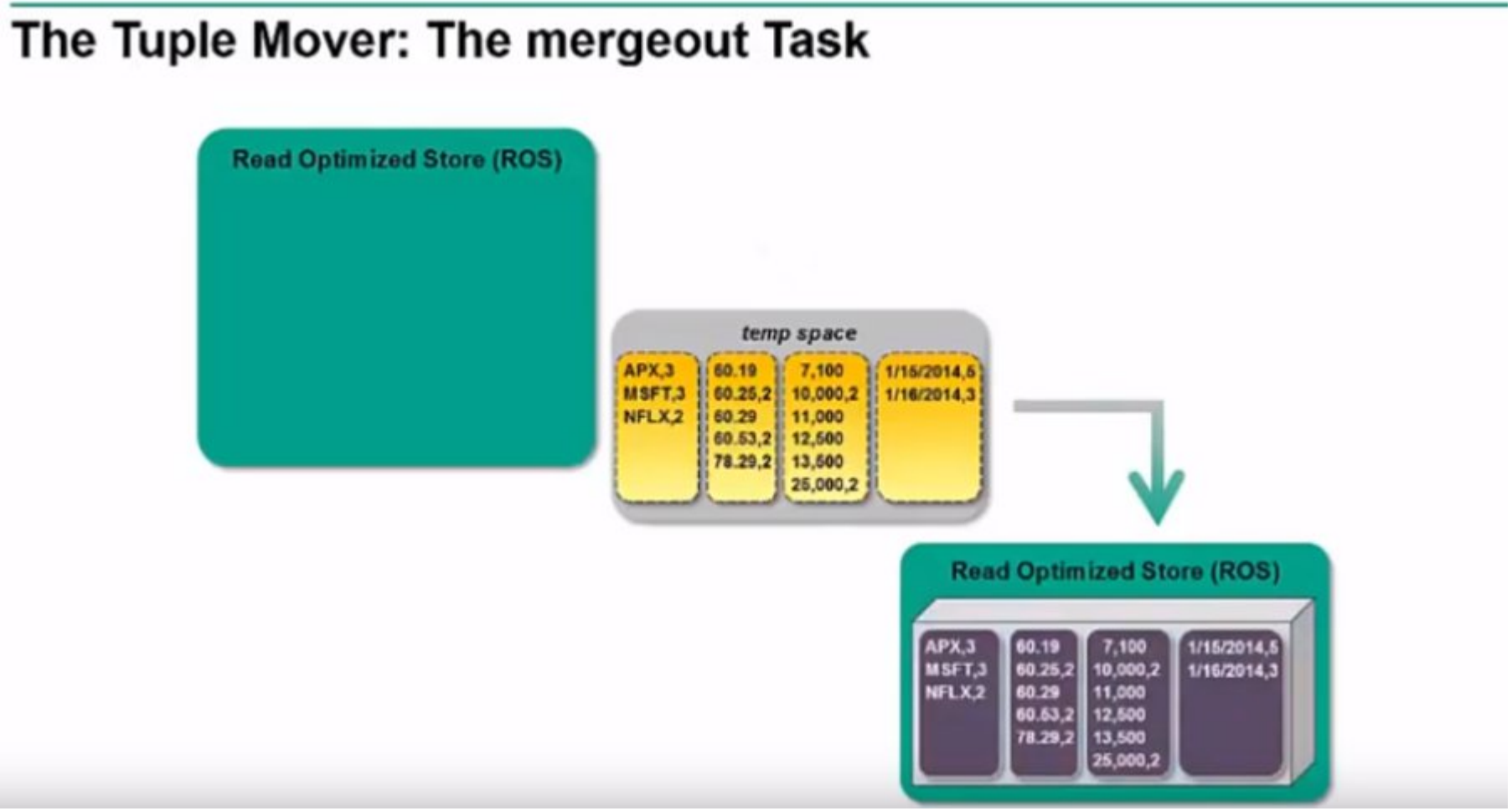
ROS – Read Optimized Store



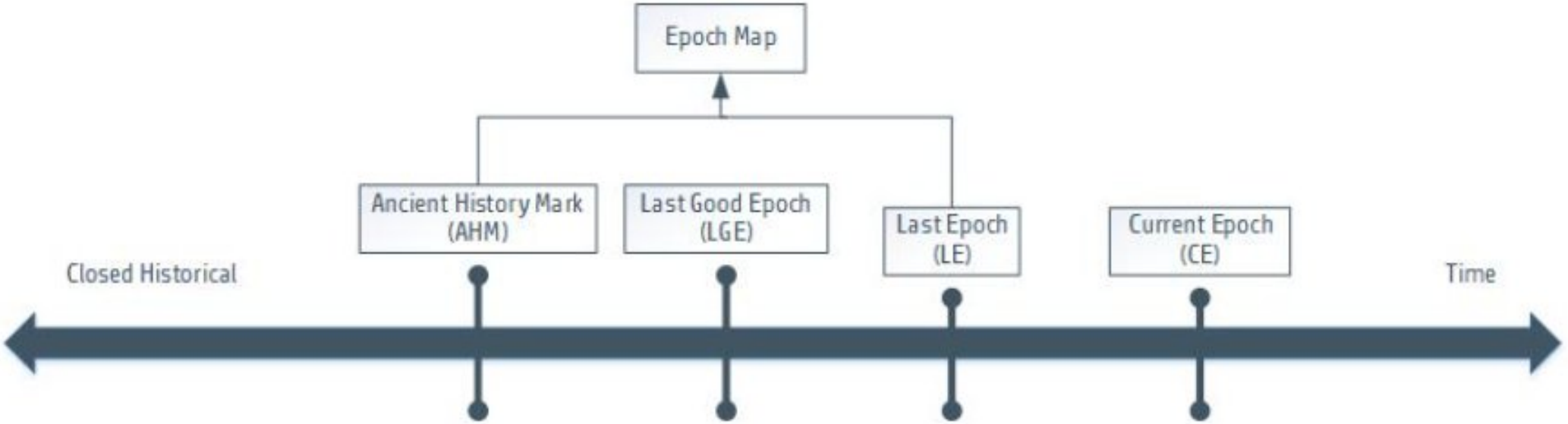
Tuple Mover

- The Tuple Mover manages ROS data storage.
- On mergeout, it combines small ROS containers into larger ones and purges deleted data.
- The Tuple Mover automatically performs these tasks in the background, at intervals that are set by its configuration parameters.
- Tuple Mover operations typically require no intervention. However, Vertica provides various ways to adjust Tuple Mover behavior.

Tuple Mover - Mergeout



Epoch



Types of Epoch

- Current Epoch (CE)
- Latest Epoch (LE)
- Checkpoint Epoch (CPE)
- Last Good Epoch (LGE)
- Ancient History Mark (AHM)

How Epochs Work

With the COMMIT of a DML transaction (INSERT, UPDATE, MERGE, COPY, and DELETE), both the CE and the LE advance.

When the current epoch moves by 1, the LE also moves by 1. The current epoch becomes the latest epoch. Depending on the type of DML transaction, Vertica does the following:

- If the data is loaded by the INSERT or the COPY statement, each row has an epoch value representing the time the row was committed.
- If the data is deleted using a DELETE statement, Vertica creates delete vectors that store the epoch. The delete vectors store the position in the ROS container that is marked for deletion.

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Thank you