

Data Warehousing

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Second Assignment

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Assumptions and decisions.

1. In **AircraftUtilization** table : for **delayed flights**, the delay is counted for the **scheduled departure** dates.

2. In **PeopleDimension** table : for **pilots**, the value of the airport is **N.A** (*Not associated*), and we assume that **two persons** with the same **ID** and different **roles** are **different**, so new **IDs** are generated to **distinguish** between them.

3. For **MaintenanceEvents**, according to the **business rule** dealing with the **expected duration** of each type of events. We assume that :

- For Event "**AircraftOnGround**" : less or equal than one hour.
- For Event "**Maintenance**" : greater than one hour and less or equal than one day.
- For Event "**Revision**" : greater than one day and less or equal than one month.

4. Most of verification steps for **business rules** to assure the **robustness** and **reliability** of the **ETL process**, are pushed to the **DBMS**.

5. For **recoverability**, we add "**blocking steps until**" to wait for intermediate steps, in order to start filling target tables when all the steps are finished. Like that, we avoid **FK-PK constraint problems and deleting each time data from those tables** in case of errors.

6. For **performance**, in order to parallelizing many steps, we used the option "**Copy Data to next steps**", to send data in more than two hops at the same time.

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