

# OLAP VS OLTP

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# OLAP VS OLTP



## What is OLAP?

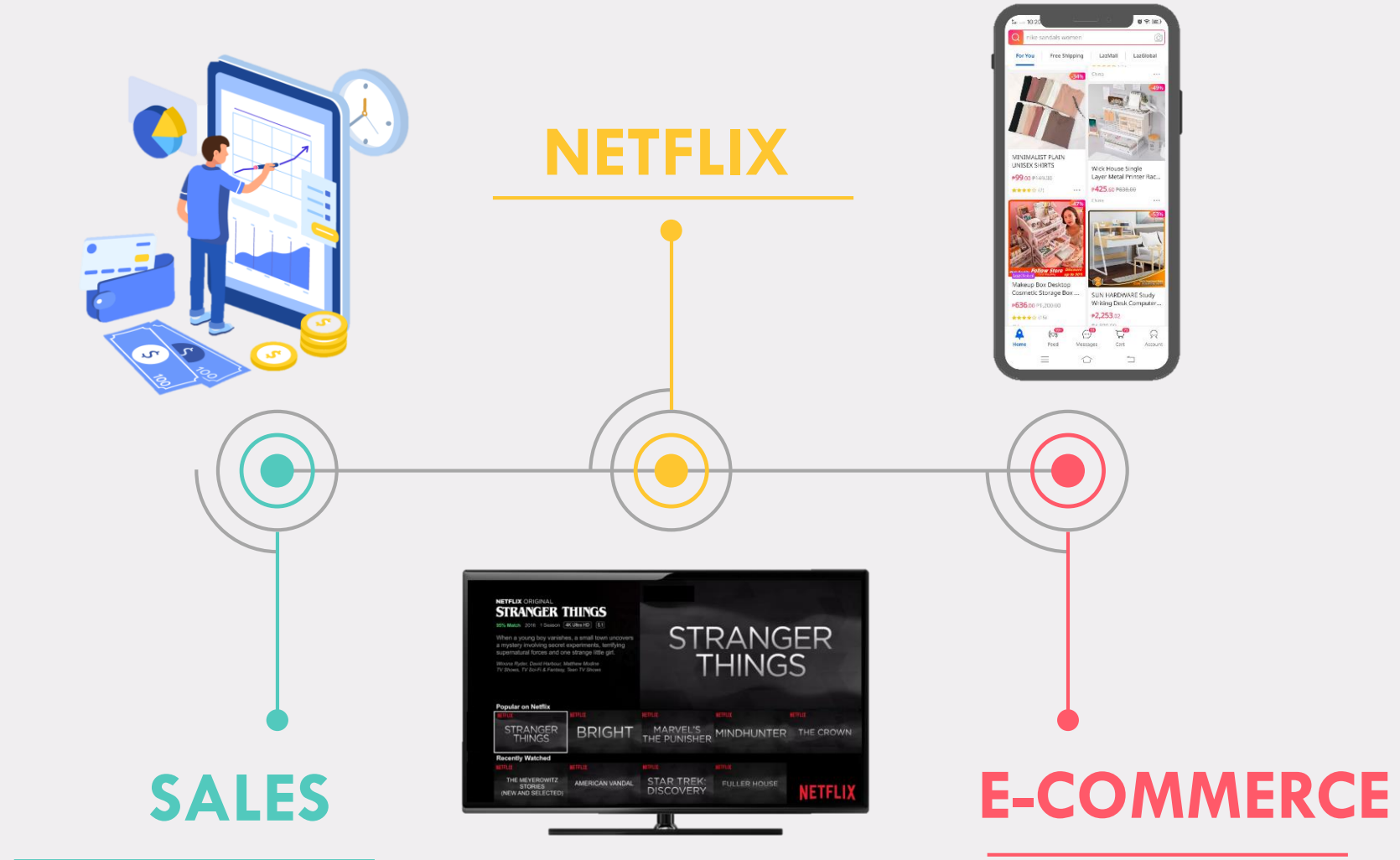
- Online Analytical Processing (OLAP) is a category of software that allows users to analyze information from multiple database systems at the same time. It is a technology that enables analysts to extract and view business data from different points of view.



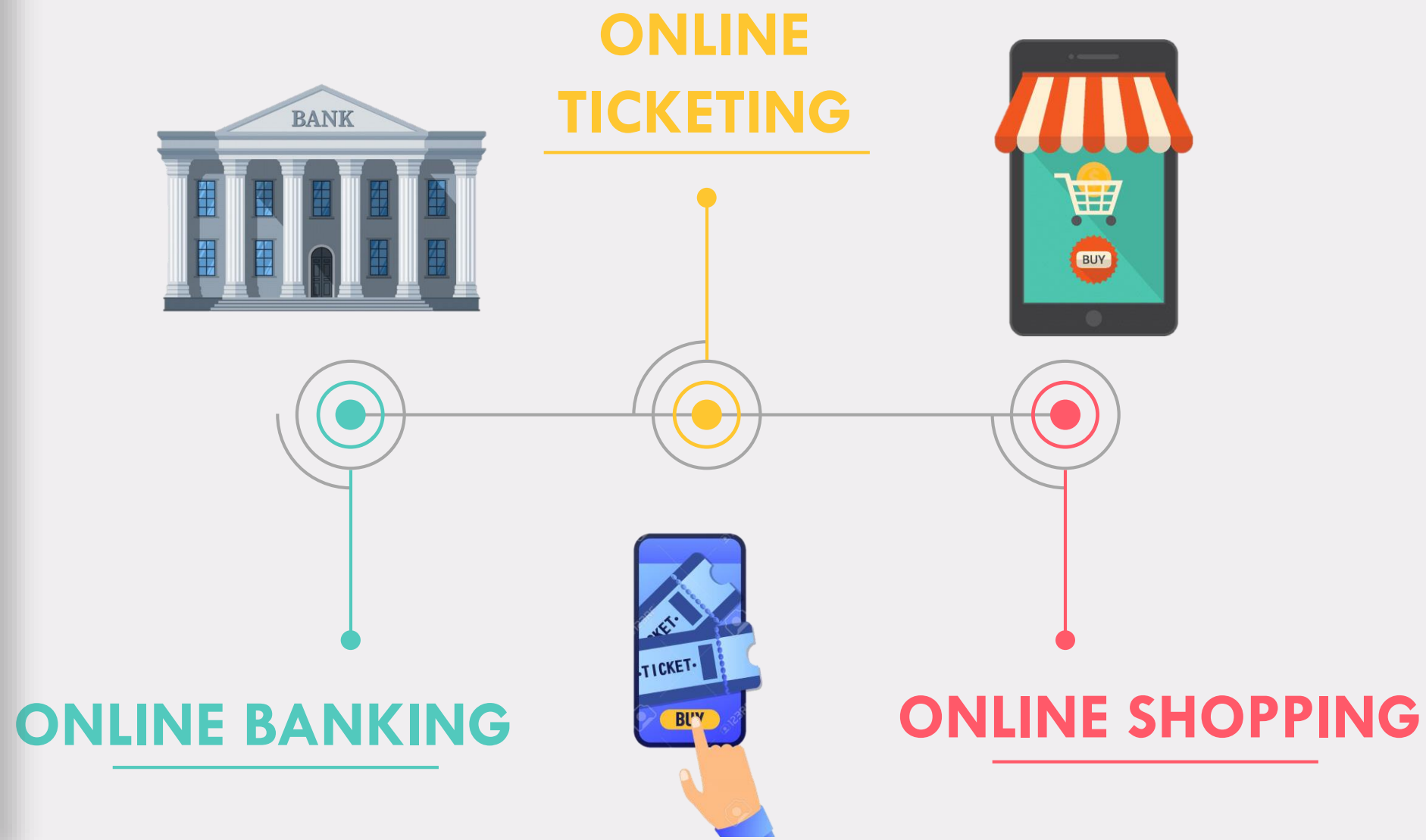
## What is OLTP?

- Online Transaction Processing (OLTP) is an operational system that supports transaction-oriented applications in a 3-tier architecture. It administers the day to day transaction of an organization.

# Examples of OLAP



# Examples of OLTP



# Comparison between OLAP and OLTP

## 01 OLAP 02 OLTP

- ✓ Provides historical data for reporting and planning.
  - ✓ Uses SELECT query for fetching the data.
  - ✓ Users are mostly knowledge workers, business analyst, etc.
- ✓ It is dealing with current data as transactions occurred in real time, and manages day-to-day operations.
  - ✓ Uses INSERT, DELETE, and UPDATE queries.
  - ✓ Used by end-users like clerks, cashiers, DBA, etc.

# Advantages and Disadvantages of OLAP



## ADVANTAGES

- ❑ OLAP creates a single platform for all type of business analytical needs.
- ❑ The main benefit of OLAP is the consistency of information and calculations.
- ❑ Easily apply security restrictions on users and objects to comply with regulations and protect sensitive data.

- ❑ Implementation and maintenance are dependent on IT professional because the traditional OLAP tools require a complicated modeling procedure.
- ❑ OLAP tools need corporation between people of various departments to be effective which might always be not possible.



## DISADVANTAGES

# Advantages and Disadvantages of OLTP



## ADVANTAGES

- ❑ It administers daily transactions of an organization.
- ❑ Multiple users can use OLTP at one time.
- ❑ Faster response time compare to OLAP.

- ❑ If OLTP system faces hardware failure, then online transactions get severely affected.
- ❑ OLTP systems allow multiple users to access and change the same data at the same time which many times created unprecedented situation.



## DISADVANTAGES

# Key Differences

- ❖ OLAP is a category of software tools that analyze data stored in a database whereas OLTP supports transaction-oriented applications in a 3-tier architecture.
- ❖ OLAP creates a single platform for all type of business analysis needs which includes planning, budgeting, forecasting, and analysis while OLTP is useful to administer day-to-day transactions of an organization.
- ❖ OLAP is characterized by a large volume of data while OLTP is characterized by large numbers of short online transactions.
- ❖ In OLAP, data warehouse is created uniquely so that it can integrate different sources for building a consolidated database whereas OLTP uses traditional DBMS.



END

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Slide 1



**Thank you!**

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