



Business School
UNIVERSITY OF COLORADO **DENVER**

Information Systems Program

Module 5

Architectures, Features, and Details of Data Integration Tools

Lesson 1: Architectures and Marketplace



Lesson Objectives

- Discuss motivation for data integration tools
- Explain the differences between the ETL and ELT architectures
- Reflect on market summary dimensions of execution and vision

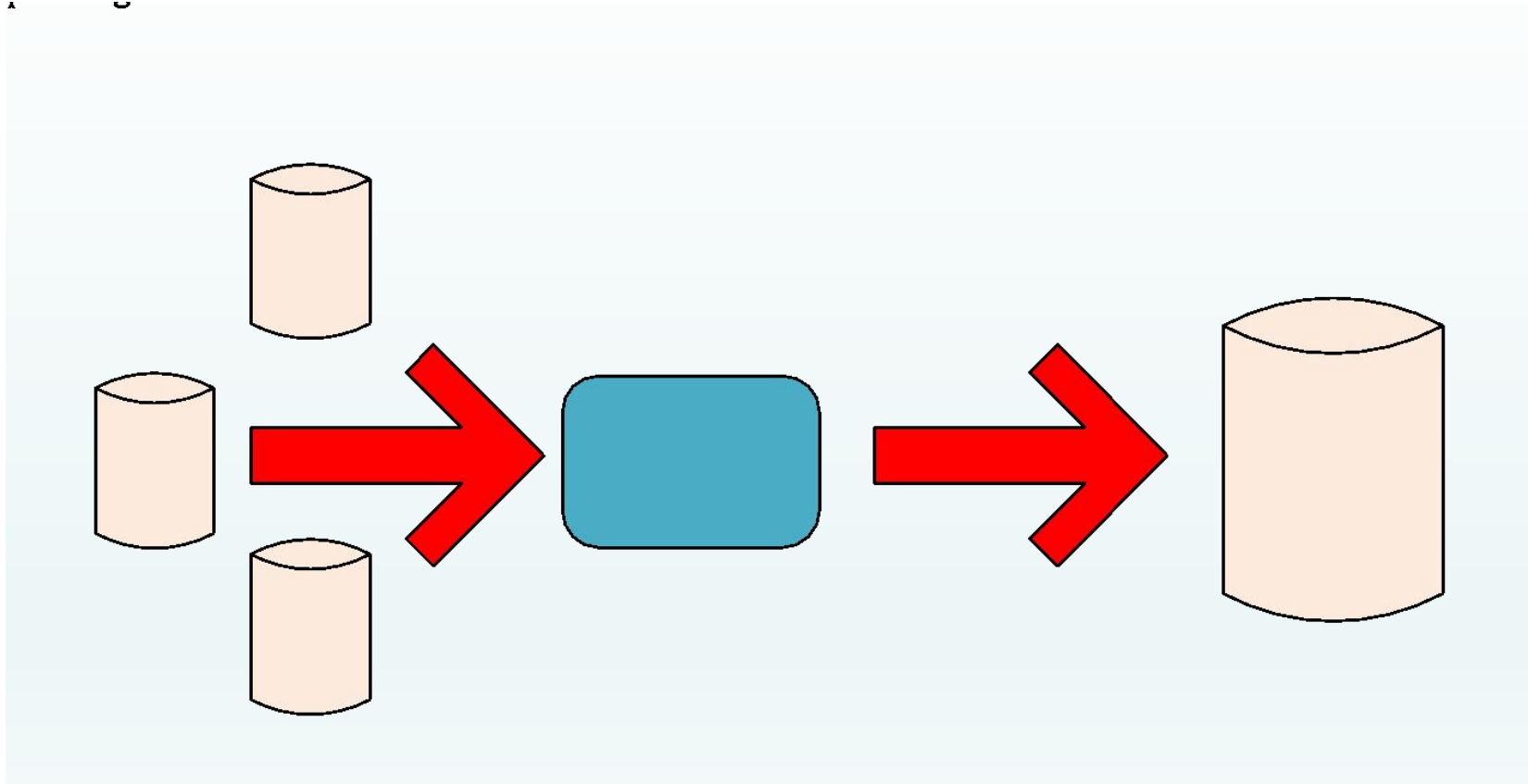


Motivation for Data Integration Tools

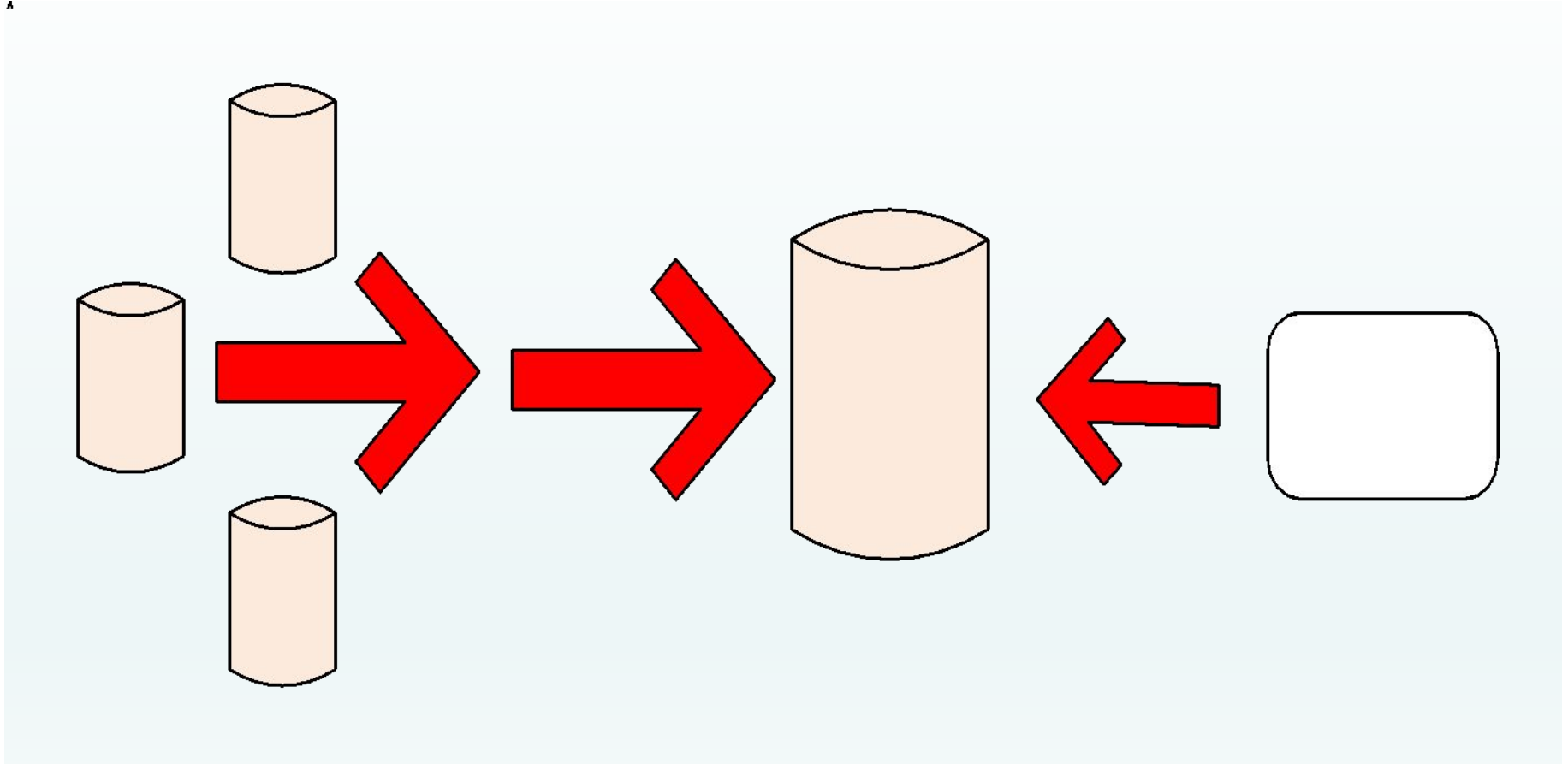
- Support initial population and refresh processes
- Project failures partly due to lack of tools and poor performance
- Improve software productivity
 - Integrated development environments
 - Graphical and visual specification
 - Minimize custom coding
- Achieve high performance



ETL Architecture



ELT Architecture



Architecture Evaluation

- Major advantages
 - DBMS independence for ETL
 - Superior optimization technology for relational DBMS
- Other issues
 - More complex operations for ETL in transformations
 - Less network bandwidth for ELT
- Combination of architectures possible



Marketplace Features

- Diverse with proprietary and open-source products from DBMS vendors and third party vendors
- Base products and subscription services for extended products and support
- Developing marketplace with substantial product development and consolidations

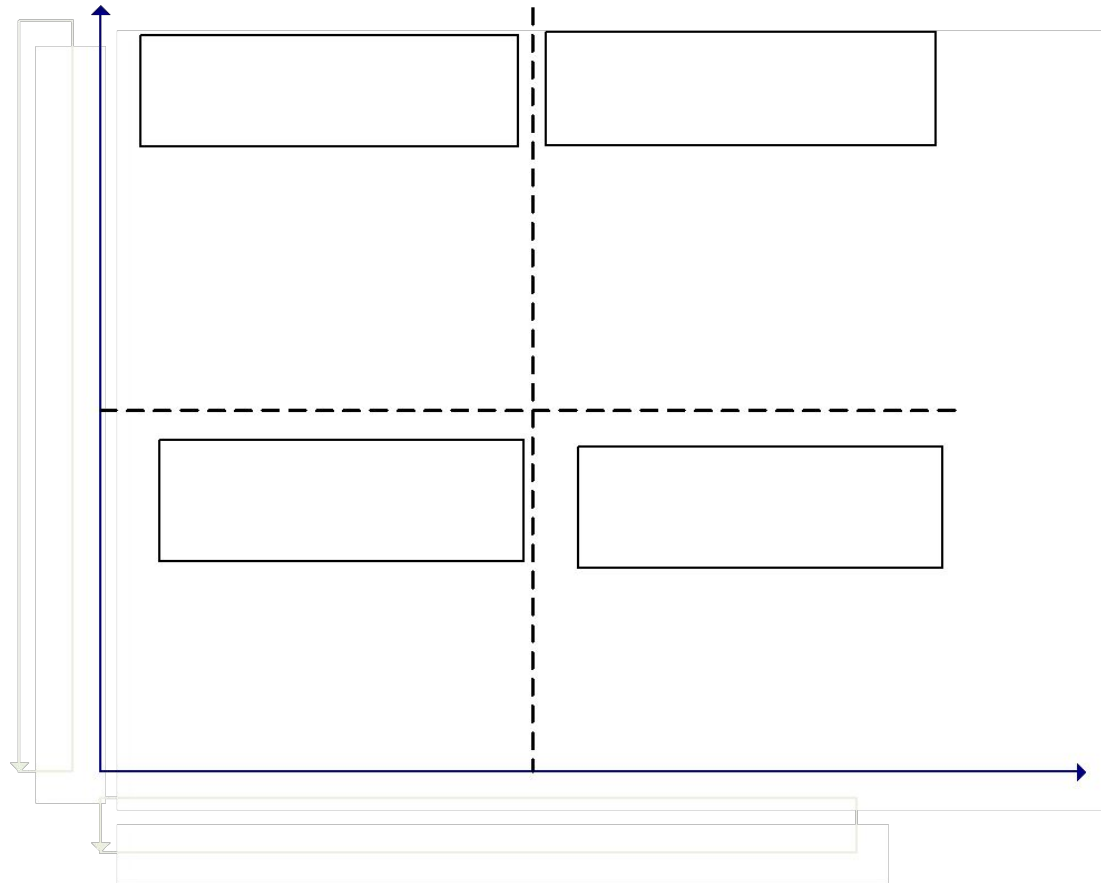


Data Integration Tool Vendors

- Traditional vendor products
 - Database vendors: Oracle, IBM, Microsoft
 - Other vendors: SAP, Informatica, SAS, Information Builders
- Open source with subscription services
 - [Pentaho Data Integration](#)
 - [Talend Open Studio for Data Integration](#)
 - [CloverETL](#)



Gartner Market Summary



Summary

- Essential for software productivity and performance
- ETL and ELT architectures
- Diverse market choices

