CSE 4125: Distributed Database Systems.
Chapter – 1: Part A

Distributed Databases: An overview

Outline

- Aspects and definition of DDB.
- Examples of DDB and non-DDB.

Aspects of DDB

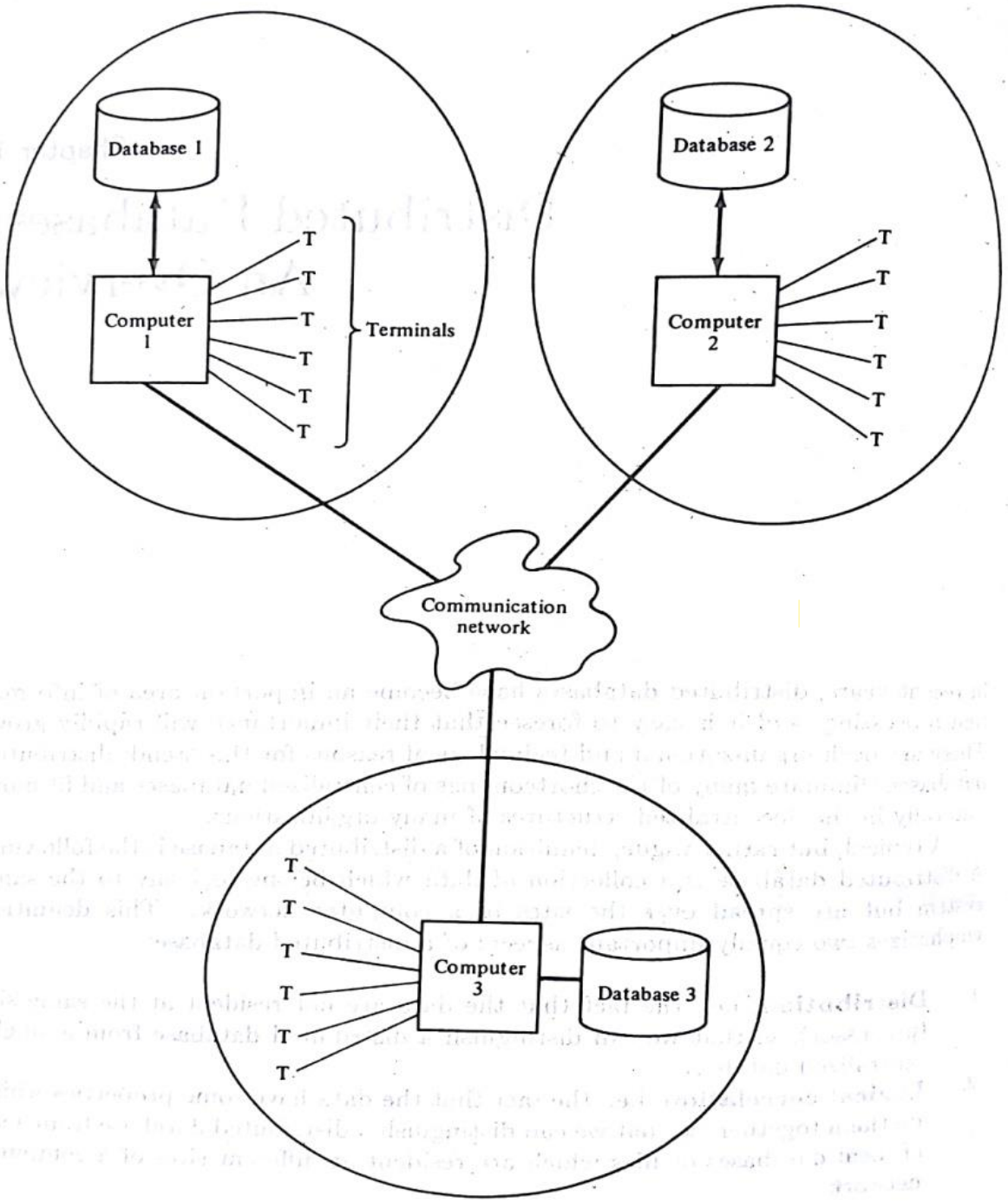
- Distribution:
  - Data are not resident at same site (computer/ processor).
- Logical correlation:
  - Data have some properties which tie them together.

Above definition is too vague.

Examples

#1 DDB on a geographically dispersed network.

–Multiple DB, multiple computers, different locations, connected via communication network, global and local app.



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Global Applications

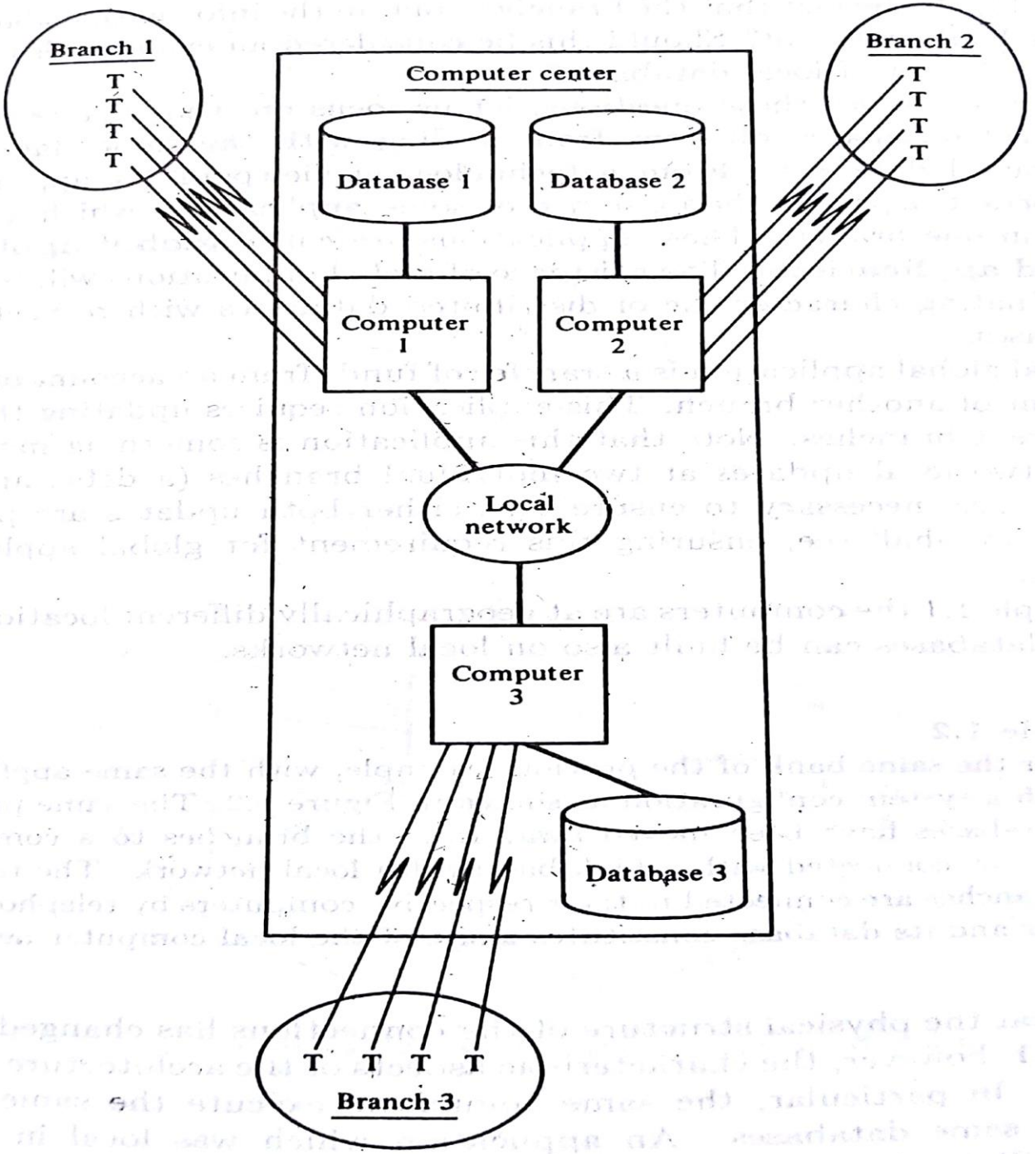
From a technological viewpoint, it appears that the really important aspects is the existence of some applications which accesses data at more than one branch. These applications are called global or distributed applications.

Example:

A transfer of funds from an account of one branch to an account of another branch.

#2 DDB on a local network.

—Multiple DB, multiple computers, but same location, connected via LAN, global and local app.



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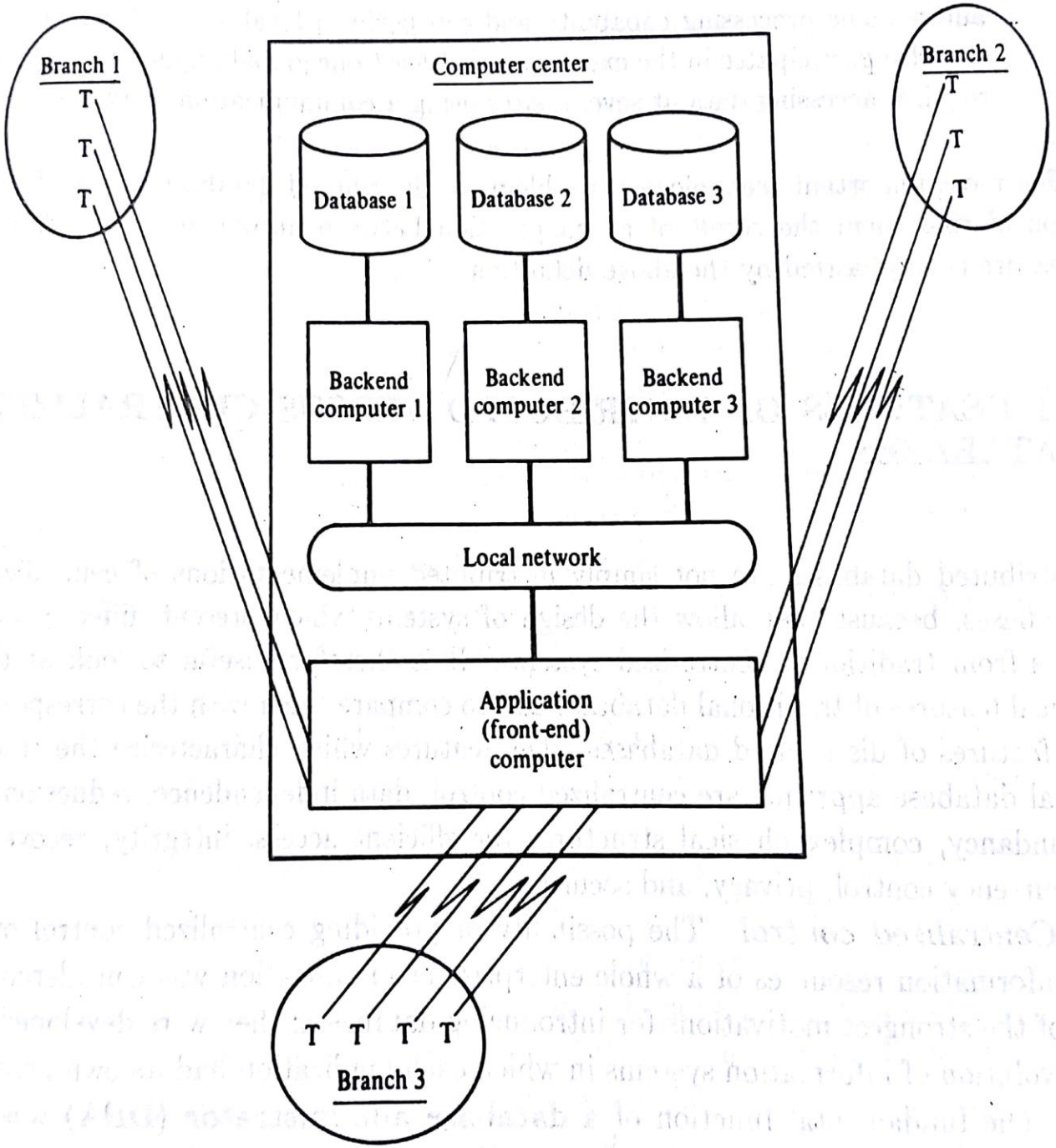
#3

Multiprocessor system.

–Multiple DB, Multiple computers as front-end, one computer as back-end, same location, connected via LAN, no global/ local app.



Definition

A distributed database is a collection of data which are distributed over different computers of a computer network. Each site of the network has autonomous processing capability (can perform local applications). Each site also participates in the execution of at least one global application, which requires accessing data at several sites using communication subsystem.