PERTEMUAN PERTAMA, SEJARAH PERKEMBANGAN PENGOLAHAN DATA TERMASUK PENGOLAHAN DATA TERDISTRIBUSI

MENGENAL CARA-CARA DALAM PENGOLAHAN DATA

Pengolahan data terdistribusi merupakan revolusi dari dari cara pengolahan data lama yang tentu memiliki banyak keunggulan-keunggulan.

1. SISTEM MAINFRAME

In the 1960s, mainframe architecture was the only system design available.

Users in the organization had no input or output capability,

except for printed reports that were distributed by a corporate IT department.

1. SERVER-BASED PROCESSING

As network technology advanced and became affordable, companies installed terminals at remote locations, so that users could enter and access data from anywhere in the Organization. A terminal included **a keyboard and display screen do handle input and output**, but lacked indepeKndent processing capability because In a server-based processing system, all data storage, access, and application programs are located on the mainframe.



1. STAND-ALONE COMPUTING

As PC technology exploded in the 1980s and 1990s, powerful microcomputers quickly appeared on corporate desktops. Users found that they could run their own word processing, spreadsheet, and database applications, without assistance from the IT group, in a mode called stand-alone computing.

Although stand-alone PCs improved employee productivity and allowed users to perform tasks that previously required IT department assistance, stand-alone computing was inefficient and expensive. Even worse, maintaining data on individual workstations raised major concerns about data security, integrity, and consistency.

1. CLIENT PROCESSING

As technology became available, companies resolved the problems of stand-alone computing by joining clients into a local area network (LAN) that allows sharing of data and hardware resources, as shown in Figure 10-9.



In a typical LAN, clients share data stored on a local server that supports a group of users or a department. As LANs became popular, the most common LAN configuration was a file server design, as shown in Figure 10-11. In a file server design, also called a file sharing architecture, an individual LAN client has a copy

of the application program installed locally, while the data is stored on a central file server.

The client requests a copy of the data file and the server responds by transmitting the entire data file to the client. After performing the processing locally, the client returns the data file to the central file server where it is stored. File sharing designs are efficient only if the number of networked users is low and the transmitted data file sizes are relatively small. Because the entire data file is sent to each requesting client, a file server design requires significant network resources.



1. CLIENT-SERVER PROCESSING

Today’s interconnected world requires an information architecture that spans the entire

enterprise. Whether you are dealing with a departmental network or a multinational

corporation, as a systems analyst you will work with a distributed computing strategy

called client/server architecture.

Although no standard definition exists, the term client/server architecture generally

refers to systems that divide processing between one or more networked clients and a

central server. In a typical client/server system, the client handles the entire user interface,

including data entry, data query, and screen presentation logic. The server stores the data

and provides data access and database management functions.

spans long distances and can connect LANs that are continents apart, as shown in Figure 10-10. When a user accesses data on a LAN or WAN, the network is transparent because a user sees the data as if it were stored on his or her own workstation. Company-wide systems that connect one or more LANs or WANs are called distributed systems.





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