

3 Client Server Technology

Client/Server is definitely a popular buzz word lately. Is this technology worth the hype and attention it is getting? Client/Server technology is a means for separating the functions of an application into two or more distinct parts. The client presents and manipulates data on the desktop computer. The server acts like a mainframe to store and retrieve protected data. Together each machine can perform the duties it is best at.



Figure 2 : Data-flow in a stand-alone program

3.1 Benefits

The following are what are considered to be the benefits of client/server computing.

Many times easier to implement client/server than change a legacy application.

New technology and the move to rapid application development such as object oriented technology.

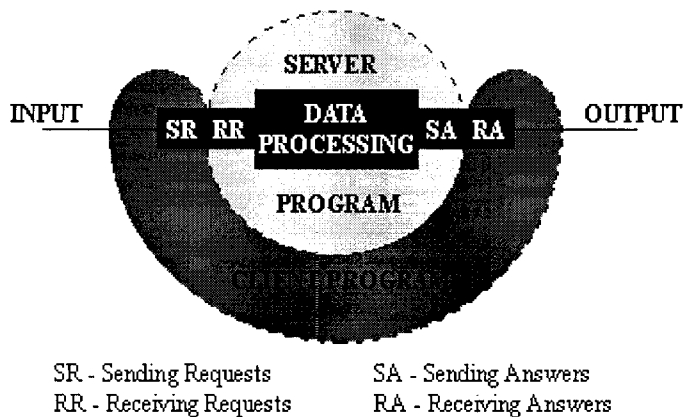


Figure 3 : Data-flow in a client/server application.

Long term cost benefits for development and support. Easy to add new hardware to support new systems such as document imaging and video teleconferencing which would not be feasible or cost efficient in a mainframe environment. Can implement multiple vendor software tools for each application.

While transforming a stand-alone application into a client/server application we have to split the procedures into two programs. The major part of the procedures stays in a server program, while the rest of the procedures are moved to a client program. All dependable procedures have to be moved to the client program together to preserve consistency, while the dependencies in the server program have also not to be destroyed.

A communication mechanism between the client and the server program have to be established. The mechanism for sending requests and receiving answers, must be incorporated into the client and the server program. It is desirable that the amount of data transported between the client and the server is as minimal as possible.

Since the services of the server program can be required by more users at the same time, the server program must be able to respond to multiple clients simultaneously. This ability has to be built into the server program.

The communication is determined by protocols. If we use Internet, TCP/IP is used as a net protocol.