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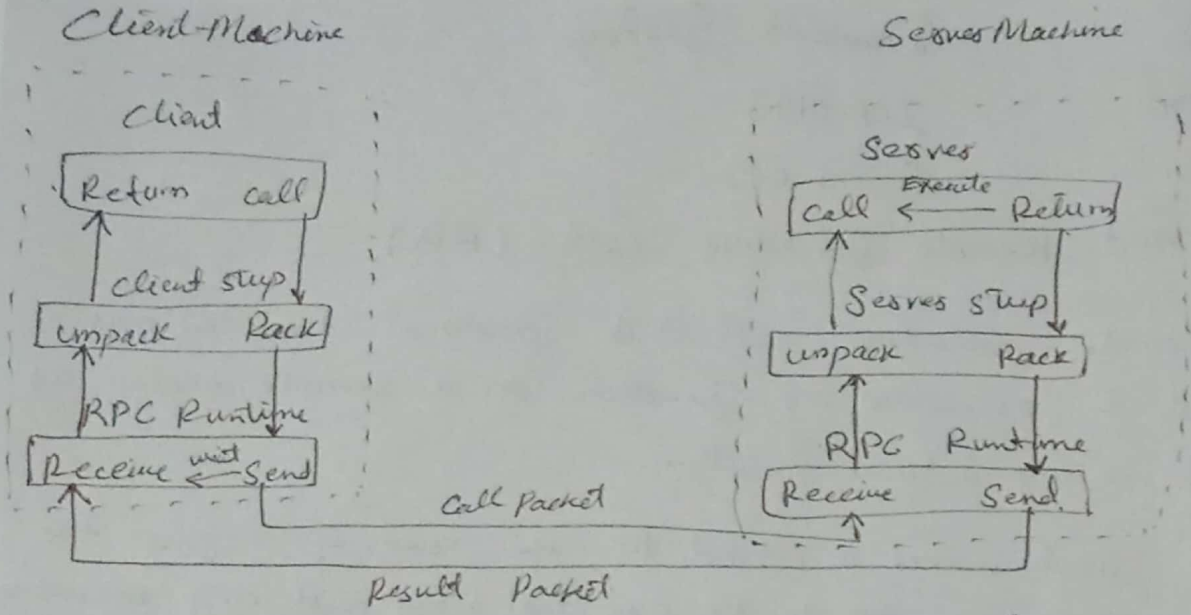
Assignment: Remote procedure call (RPC).

RPC :- Remote procedure call, is a protocal that allows a client to call a procedure or function on a remote server as if it were calling a local function.

Working The client makes a request to the server, specifying the name of the remote procedure to be executed, along with any necessary parameters. The request is send over the network to the server. The server receives the request & determines which procedure to execute based on the name of the requested function. The server executes the procedure passing in any necessary parameters. The procedure executes & returns a result to the server. The server sends that the result back over the network to the client. The client receives the result & can use it as needed.

RPC can use various transport protocols for communication between the client & server, such as HTTP, TCP/IP, or UDP. RPC can be synchronous or asynchronous, depending on wether the client waits for the server to return a result or continues executing other tasks while waiting for results.

RPC is often used in client-server architectures, distributed systems, and microservices, where it enables components to communicate & collaborate with each other over a network. RPC provides a way for developers to create distributed systems that appear to work as if they were monolithic systems (type of software where all components are integrated & deployed as a single unit).



Examples of RPC technologies include XML-RPC, JSON-RPC & gRPC.

Advantages of RPC:→

Transparency:→ RPC provides a transparent mechanism for remote communication making it easy for client to call a remote procedure. This abstraction shields client from the low-level details of Network communications

Efficiency:→ RPC minimize overhead of remote communication by using a binary protocal that optimize performance. It reduces the latency & bandwidth

Flexibility:→ RPC enables developers to build distributed application that can span multiple platforms & operating systems.

Disadvantages:

The cost of the process is increased bcz of a remote procedure call.

Not offers any flexibility in RPC for hardware architecture as it is mostly interaction based.

RPC can be implemented by different ways, which can't Standard.

It is highly vulnerable to failure as it involves a communication System, another machine, & an other process.