RPC – REMOTE PROCEDURE CALL

RPC Model(Remote Procedure Call)

- A ***remote procedure call*** is an interprocess communication technique that is used for client-server based applications. It is also known as a subroutine call or a function call.
- RPC allows programs to call the procedure which is located on the other machines.
- Message passing is not visible to the programmer , so it is called as ***Remote Procedure call (RPC)***.
- RPC enables a procedure call that does not reside in the address space of the calling process.
- In RPC, the caller and the callee has *disjoint address* space, hence there is *no access to data and variables in the callers environment.*
- RPC performs a ***message passing scheme*** for information exchange between the caller and the callee process.

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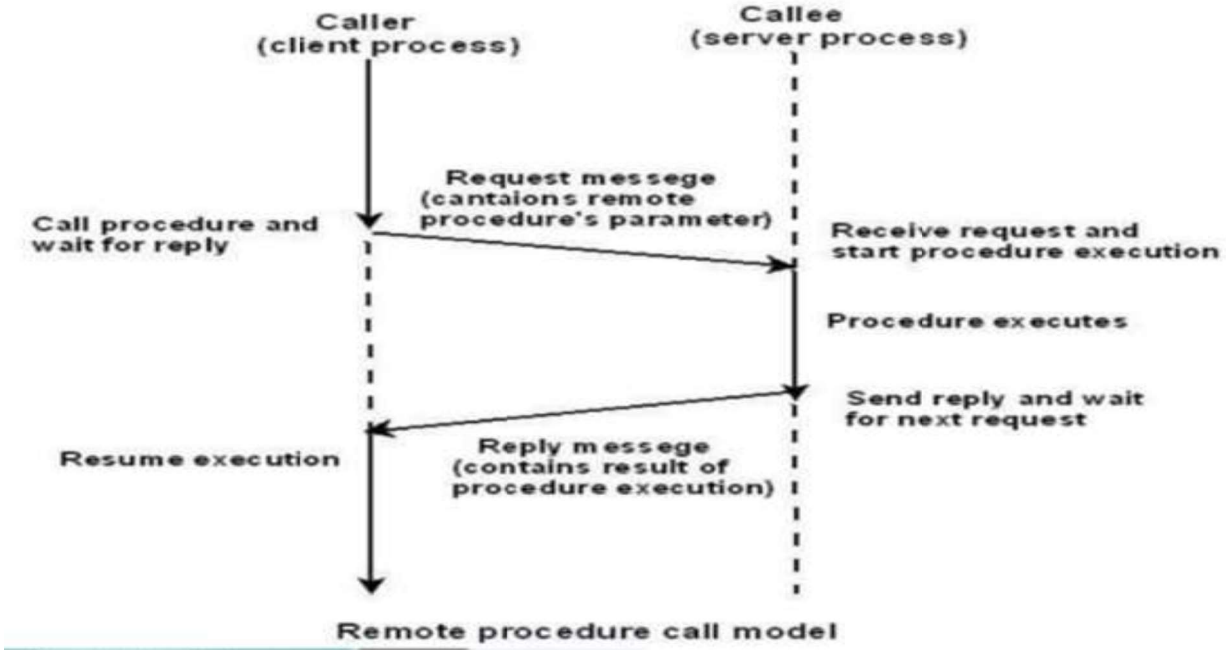
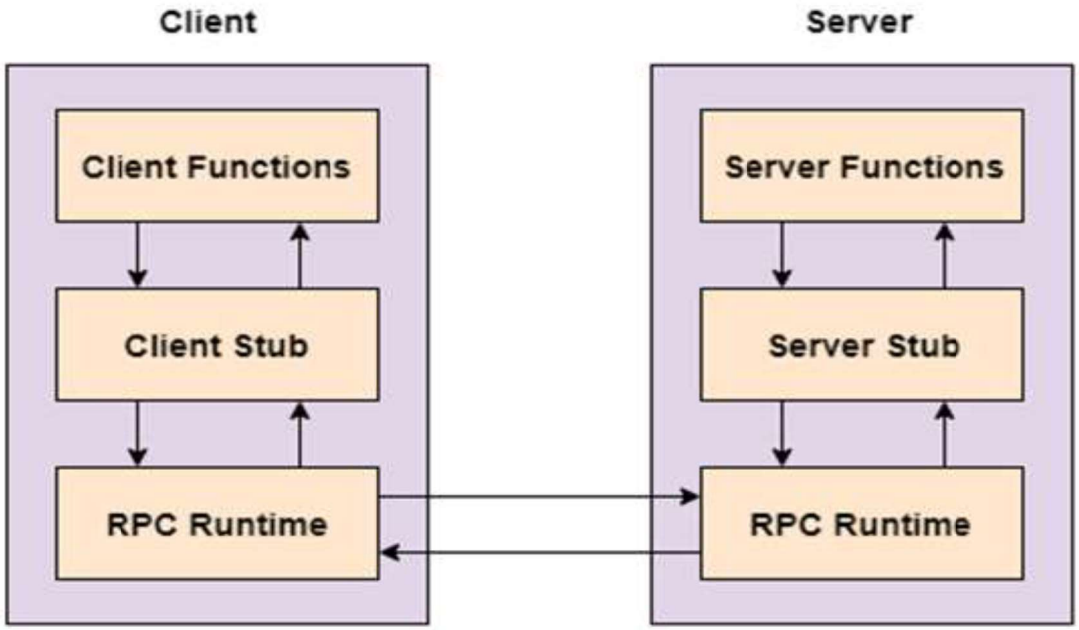


Source:https://www.slideshare.net/sunita sahu 101/rpc-remote-procedure-call

RPC Model(Remote Procedure Call)

- A client has a request message that the RPC translates and sends to the server.
- This request may be a procedure or a function call to a remote server.
- When the server receives the request, it sends the required response back to the client.
- The client is blocked while the server is processing the call and only resumed execution after the server is finished.

Client Server RPC Model



Source:https://www.tutorialspoint.com/remote-procedure-call-rpc

Sequence of events in a RPC

- The client stub is called by the client.
- The client stub makes a system call to send the message to the server and puts the parameters in the message.
- The message is sent from the client to the server by the client's operating system.
- The message is passed to the server stub by the server operating system.
- The parameters are removed from the message by the server stub.
- Then, the server procedure is called by the server stub.

RPC Features

- Remote procedure calls support process oriented and thread oriented models.
- The internal message passing mechanism of RPC is hidden from the user.
- The effort to re-write and re-develop the code is minimum in remote procedure calls.
- Remote procedure calls can be used in distributed environment as well as the local environment.
- Many of the protocol layers are omitted by RPC to improve performance.
- Ease of use, efficiency.