

QUESTIONS ON REMOTE PROCEDURE CALLS

Q1. What is remote procedure call?

Ans: A remote procedure call (RPC) is an inter-process communication that allows a computer program to call a subroutine which is executed on another computer on a shared network.

Q2. What is Client Stub in remote procedure call?

Ans: Client stub is a module which contains all of the functions necessary for the client to make remote procedure calls using the model of a traditional function call in a standalone application. The client stub is responsible for invoking the marshaling engine and some of the remote procedure call (RPC) application programming interfaces (APIs).

Q3. What is Server Stub in remote procedure call?

Ans: Server stub is a module which contains all of the functions necessary for the server to handle remote requests using local procedure calls.

Q4. What is marshaling in remote procedure call?

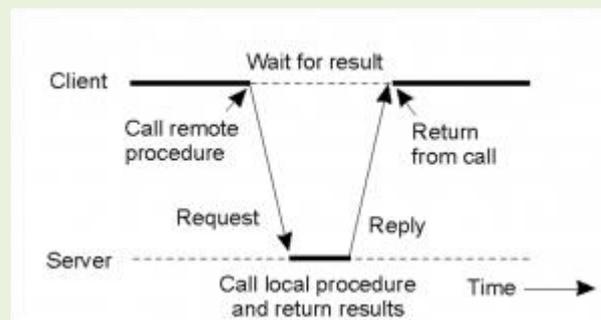
Ans: Packing of parameters is known as marshaling. It is done to send the parameters error free and in specific order so that unmarshaling can be done easily and quickly on the other side.

Q5. What is the sequence of events during remote procedure call?

Ans: Sequence is-

- The client calls the client stub. The call is a local procedure call, with parameters pushed on to the stack in the normal way.
- The client stub packs the parameters into a message and makes a system call to send the message.
- The client's local operating system sends the message from the client machine to the server machine.
- The local operating system on the server machine passes the incoming packets to the server stub.
- The server stub unpacks the parameters from the message.

•Finally, the server stub calls the server procedure. The reply traces the same steps in the reverse direction.



Events in RPC

Q6. Explain the difference between remote procedure call and local calls?

Ans: The main difference between remote call procedure and local call is that remote call can fail often and it occurs without the knowledge of the user while local calls generally doesn't fail and are easily handled.

Q7. Why remote procedure call (RPC) doesn't fit in OSI model?

Ans: Remote procedure call (RPC) doesn't quite fit into the OSI model:

- The message-passing nature of network communication is hidden from the user. The user doesn't first open a connection, read and write data, and then close the connection. Indeed, a client often does not even know they are using the network.
- Remote procedure call (RPC) often omits many of the protocol layers to improve performance. Even a small performance improvement is important because a program may invoke remote procedure call (RPC) often. For example, on (diskless) Sun workstations, every file access is made via a remote procedure call (RPC).

Q8. List some remote procedure call (RPC) issues.

Ans: Some issues are-

- Marshalling
- Semantics
- Binding
- Transport protocol
- Exception handling

Q9. Which transport protocol is used by remote procedure call (RPC)?

Ans: Remote procedure call (RPC) uses a transaction-oriented transport protocol which consists of a single request and a single response and is initiated when a client sends a request and terminated by the server's response.

Q10. What is the main goal of remote procedure call (RPC)?

Ans: The main goal of RPC is to hide the existence of the network from a program.

