Quiz 1: Enterprise Software Systems

Due Sep 4, 2017 at 11:59pm **Points** 100 **Questions** 5
Available Aug 30, 2017 at 8am - Sep 4, 2017 at 11:59pm 6 days
Time Limit 60 Minutes

This quiz was locked Sep 4, 2017 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	60 minutes	100 out of 100

Score for this quiz: **100** out of 100
Submitted Sep 2, 2017 at 4:26pm
This attempt took 60 minutes.

Question 1 — 20 / 20 pts

1. What is the purpose of a message broker in message-oriented middleware?
2. What is the advantage of using publish-subscribe MOM in enterprise applications?

Your Answer:

1. The purpose of a message broker is to broadcast a message to the applications that subscribe to the channel. It gets this message from a particular application or mainframe or data server.

2. The advantage of publish-subscribe in MOM is that it provides modularity. The meaning of publish subscribe is that only those applications get the messages through message broker which subscribe to the channel. And if any new application decides to get the information it just subscribes to the channel and no other work needs to be done. In this way it provides modularity.

Question 2

20 / 20 pts

What is the argument for preferring MOM over RPC for B2B interactions?

Your Answer:

In RPC the client is sending a request to a server which in this case is similar to requesting a library and gets a response back from the server. The problem, in this case, is that the client experience a really tight coupling. Also whenever the server crashes in RPC the client will not be able to get its acknowledgement.

On the other hand in MOM every request is stored in message queues. So what happens, in this case, is that the client sends the request to the server and that request is stored in a message queue at the server side. So, in this case, the queues are reliable as they are persistent, transactional. Also, the client experience a loose coupling which means even if something breaks apart it is a lot easier to put everything back together.

So for argument for preferring MOM over RPC for B2B interactions is

- Queues in MOM are reliable, persistent, transactional.
- Also the client experience loose coupling.

Question 3

20 / 20 pts

1. What is round-trip latency?
2. Why is latency an issue for communication over wide areas?

Your Answer:

1. The amount of time it takes for a signal to reach its destination plus the amount of time it takes for a signal to reach its source from its destination is known as round trip latency.

2. Latency is an issue for communication over wide areas because lots of resources may remain idle while waiting for the response back from the destination. In other words, the source gets blocked from sending more requests as it's still waiting for the response from the destination. As it is blocked lots of resources are wasted. Hence latency is an issue for communication over wide areas.

Question 4

20 / 20 pts

What is the purpose of middleware in three-tier applications (besides "hiding" the network using RPC)?

Your Answer:

A middleware system is intended to provide the “glue” that binds together disparate clients and resources in a distributed EIS. The main purpose of the middleware in three tier applications is that middleware systems connect disparate forms of clients and resources and allow the logic for managing such connections to be defined as part of the application logic in the middleware, rather than making it the responsibility of the clients. Middleware systems provide discovery services for locating services for clients and a “wire protocol” that all users of the middleware system can use to exchange data. Middleware systems also provide critical infrastructure for coordinating applications in a reliable manner, particularly via reliable message queues and the coordination
of distributed database transactions. Modern middleware systems may also support load balancing, directing client requests to the least heavily loaded in a pool of server instances, and transparent rollover of clients from failed resource managers and server to backup servers.

Question 5

20 / 20 pts

Choose the component of enterprise infrastructure that is responsible for each of the following.

Correct!	**Restoring distributed databases to a consistent state after the failure of coordinated updates.**	Transaction processing m ▼
Correct!	**Sending and receiving messages to and from client and server objects.**	Object request broker ▼
Correct!	**Routing broadcast messages to applications that wish to receive the broadcast.**	Message broker ▼
Correct!	**Helping clients to locate a service, based on name-based and attribute-based searching.**	Naming and directory se ▼
Correct!	**Executing composition logic for integrating applications.**	Workflow management s ▼

Quiz Score: **100** out of 100