**FIT3142 Tutorial 7**

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Question 1

Q: Explain the difference between the two most common scenarios in the development (design) of a Distributed Application. Which is better?

A: Modelling and Benchmarking.

Question 2

Q: Explain Ferreira’s seven qualification failure scenarios for a Distributed Application. What do all have in common?

A:

1. High inter-process communication between jobs without high speed switch connection; in general, multi-threaded applications need to be checked for their need of inter-process communication.
2. Strict job scheduling requirements depending on data provisioning by uncontrolled data producers.
3. Unresolved obstacles to establish sufficient bandwidth on the network.
4. Strongly limiting system environment dependencies for the jobs.
5. Requirements for safe business transactions via a grid. At the moment, there are no standards for transactions on grids.
6. High interdependencies between jobs, which expose complex job flow management to the grid server and cause high rates of inter-process communication.
7. Unsupported network protocols used by jobs may be prohibited to perform their tasks due to firewall rules.

Question 3

Q: Explain the relationship between messaging and scalability in a Distributed Application. What are other causes of scalability problems?

A:

Question 4

Q: Explain the differences between compressing and compacting messages. Which would you employ where?

A: Compression is more expensive, compared to compacting. Computing power is relatively cheap, and in a grid application where communications delay is very expensive, compression may work well. Compacting would be used more in VJ TCP header compression, for low speed PPP links.