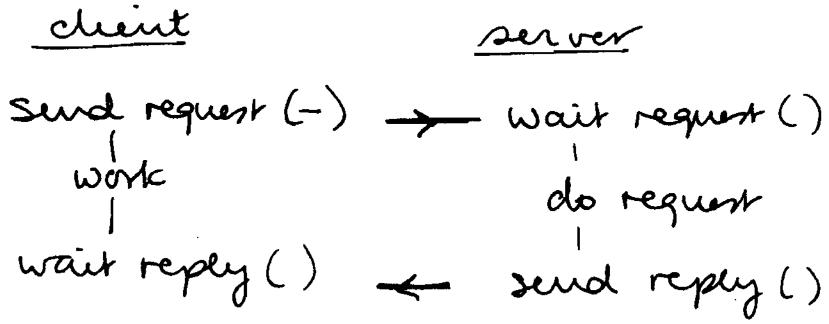
Concurrent Systems, ~~OS foundations~~ 2001

Solution
p4q2
~~p1q2~~
~~p1q6~~
JMB

basic client - server interaction pattern:



2

A given client waits until the server takes its request - they synchronise & the request is passed.

1 Note no need for kernel buffering of message

The server may have a queue of pending client messages

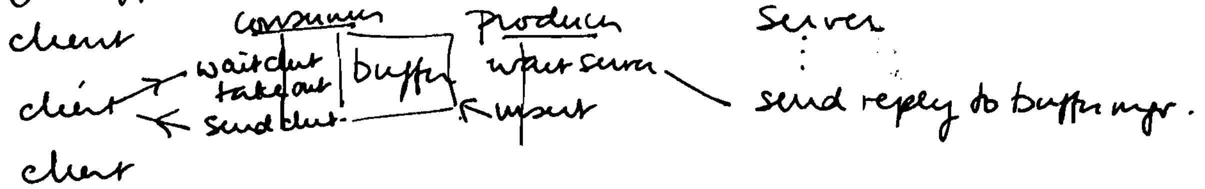
2 & will synchronise with them in some order eg FCFS.

Problem: after carrying out the request the server must wait to synchronise with the current client - which may still be doing its own work or may have gone

2 into a loop or crashed. Meanwhile other clients wait.

Solutions

- 1 Make clients use a "call" style primitive cf Amoeba/Thoth .. - may not be an option
- Build buffers at this (process) level instead of in the kernel as with asynchronous messaging.
  But care must be taken to avoid server delay in synchronising with one or more buffer management processes. eg buffer free.
  eg reply buffer



6

- Exploit multi-threading at the server.
  - Could fork a thread for each client request - die after reply sent.
  - 6 Could fork a thread at the point a reply is to be sent - "

(20)