DATA PROCESSING AND OPERATING SYSTEM INCORPORATING DYNAMIC LOAD-SHARING IN A NETWORK OF LINKED PROCESSORS

ABSTRACT

A data processing system is described comprising a plurality of processors connected one to another in an arbitrary manner as nodes in a random network of processors and in which the network is arranged to perform a process of process allocation in which the processor at any given node in the network, upon receiving an instruction to perform a process, (a) decides whether it, or a data processor at one of the neighbouring nodes, is better able, at that time, to perform the process, the decision being made on the basis of continuously variable measures of the abilities of itself and the or each neighbouring processor to perform the process, and (b) in accordance with that decision either performs the process itself or passes the instruction to perform the process to the selected neighbouring processor.

Figure 4