ABSTRACT

Multiprocessor system -on a chip(MP-SoC)is an embedded based technology which provides the heterogeneous architecture for all processors. All resources likes memories, CPU and processors on a single chip. Today in smart phone we have need more than one processors for different applications (i.e sound control, image control, transmitting and receiving data) , and theses applications executed in parallel on smart phone by all the processors using heterogeneous environment of MP-SoC. All processors become ubiquitous when they tightly coupled on single chip of MP-SoC.

Today in market many embedded base home appliances design are available but it is difficult to mange through software development. MP-SoC provides a way to mange all resources and data by satisfying constraint but the key issue for MP-SoC , Hardware chip is available but application which operating hardware is complex for dynamic data management and mapping by managing trade-off between user constraints like power consumption, cost, speed , storage and process constraints like deadline. Research focus on dynamic data management and mapping in MP-SoC. Researcher developed Proposed dynamic data management and mapping(PDDMM) which provides a direction to embedded developer to develop an embedded applications which focus on various task operations such as task assignment, task migration, task switching and resource management(Memory management, Processors management). Researcher implemented run-time platform manager (RPM) which provides an interface between hardware resources of MP-SoC and dynamic data management and find out the comparative simulated results in Embedded C language in LINUX Environment with Earliest deadline first policy which is best optimal policy for multiprocessor on two criteria HIT Ratio and CPU Utilization. Simulated results show that total number of task successfully schedulable (criteria:-Hit ratio) by PDDMM compare to EDF and take less CPU Utilization time to complete task.