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(54) **OPERATING SYSTEM DECOUPLED
HETEROGENEOUS COMPUTING**

(57) **ABSTRACT**

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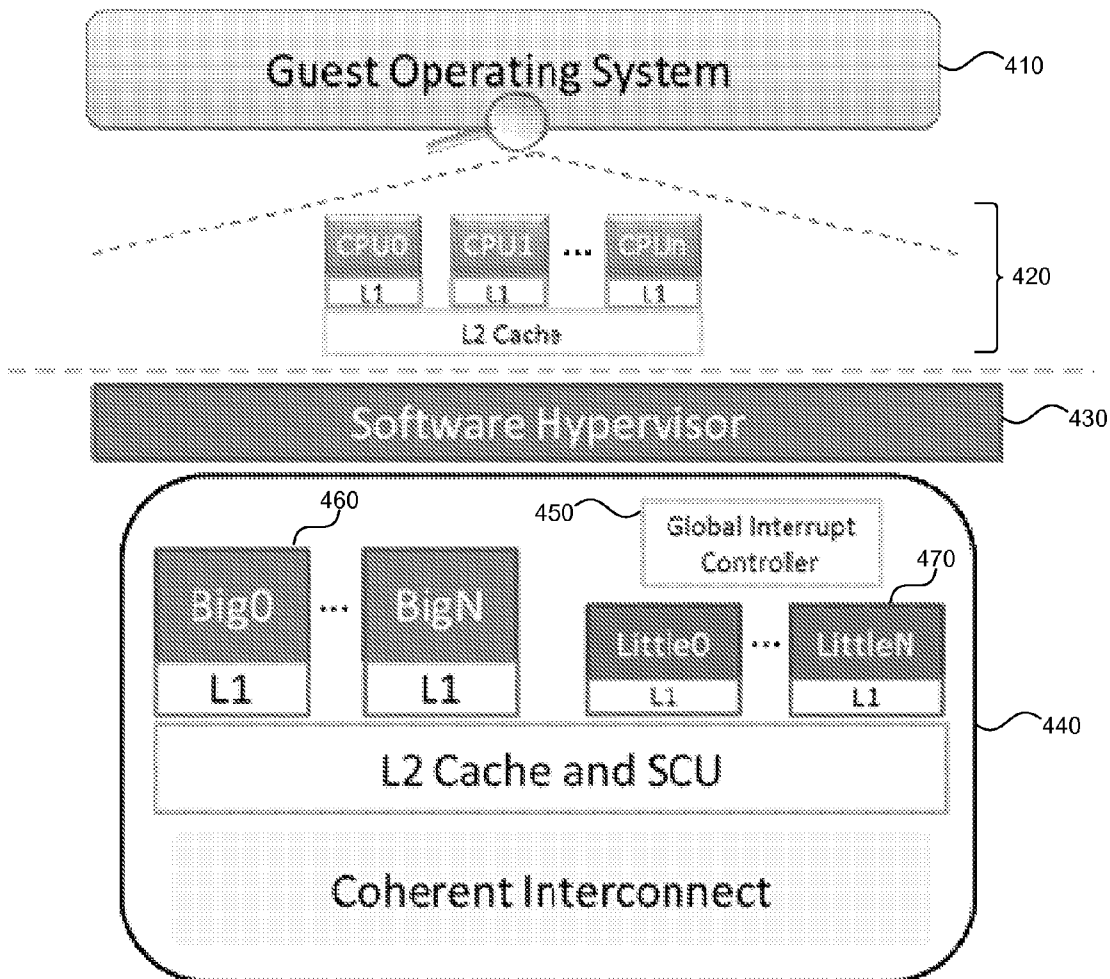
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A heterogeneous processing system is described herein that provides a software hypervisor to autonomously control operating system thread scheduling across big and little cores without the operating system's awareness or involvement to improve energy efficiency or meet other processing goals. The system presents a finite set of virtualized compute cores to the operating system to which the system schedules threads for execution. Subsequently, the hypervisor intelligently controls the physical assignment and selection of which core(s) execute each thread to manage energy use or other processing requirements. By using a software hypervisor to abstract the underlying big and little computer architecture, the performance and power operating differences between the cores remain opaque to the operating system. The inherent indirection also decouples the release of hardware with new capabilities from the operating system release schedule.



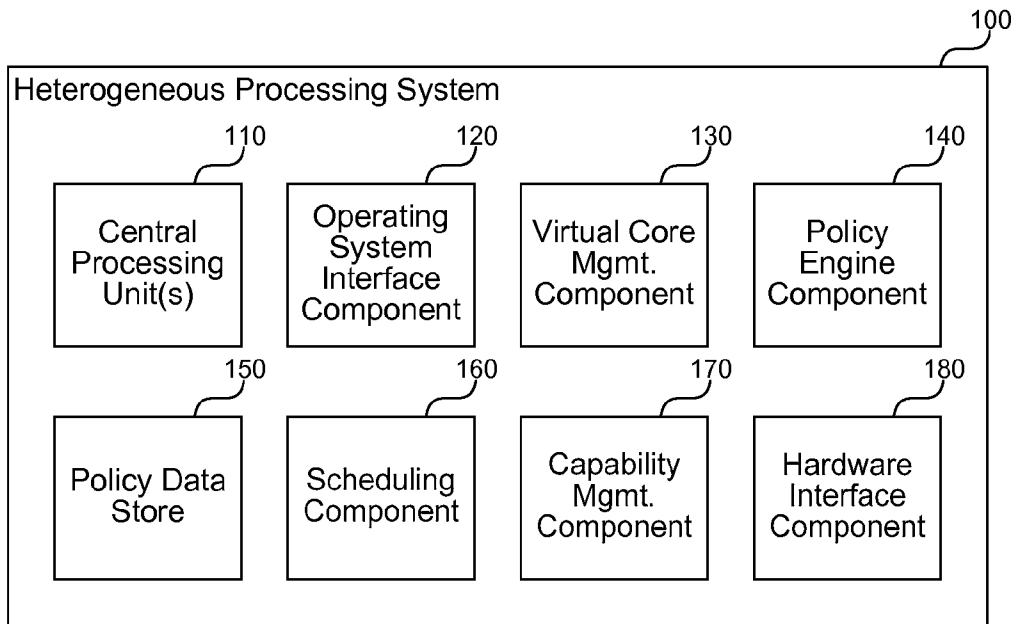


FIG. 1

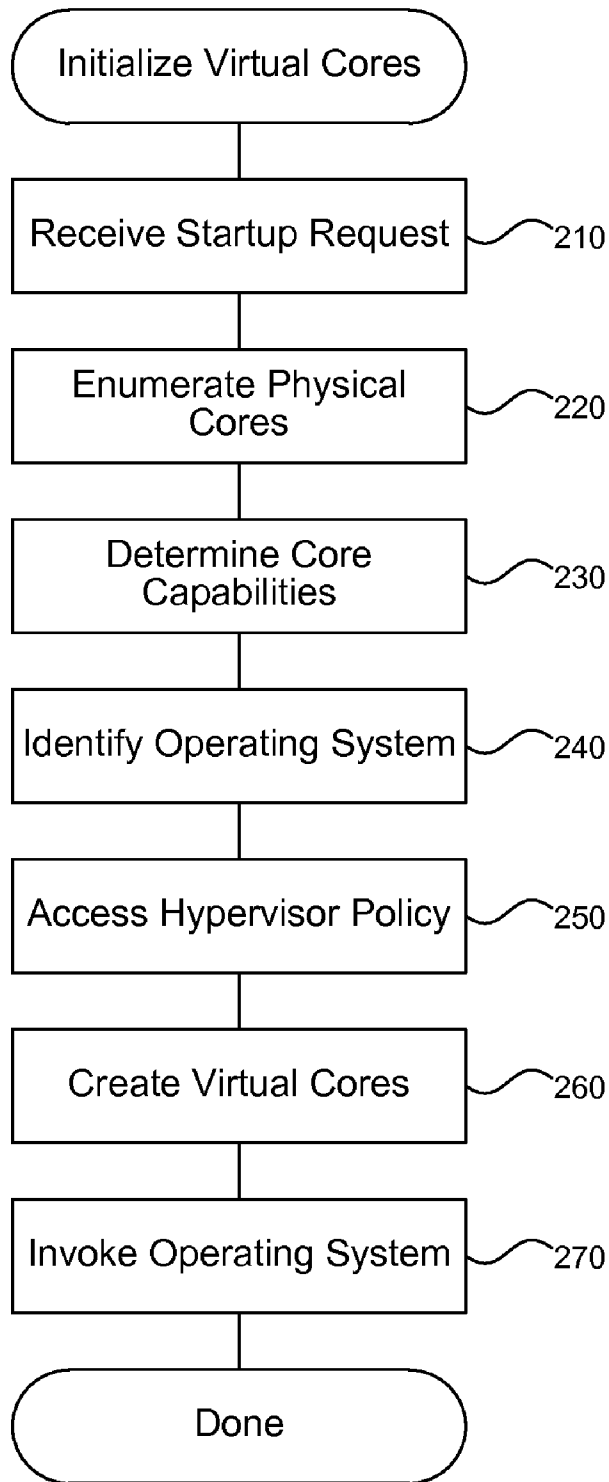


FIG. 2

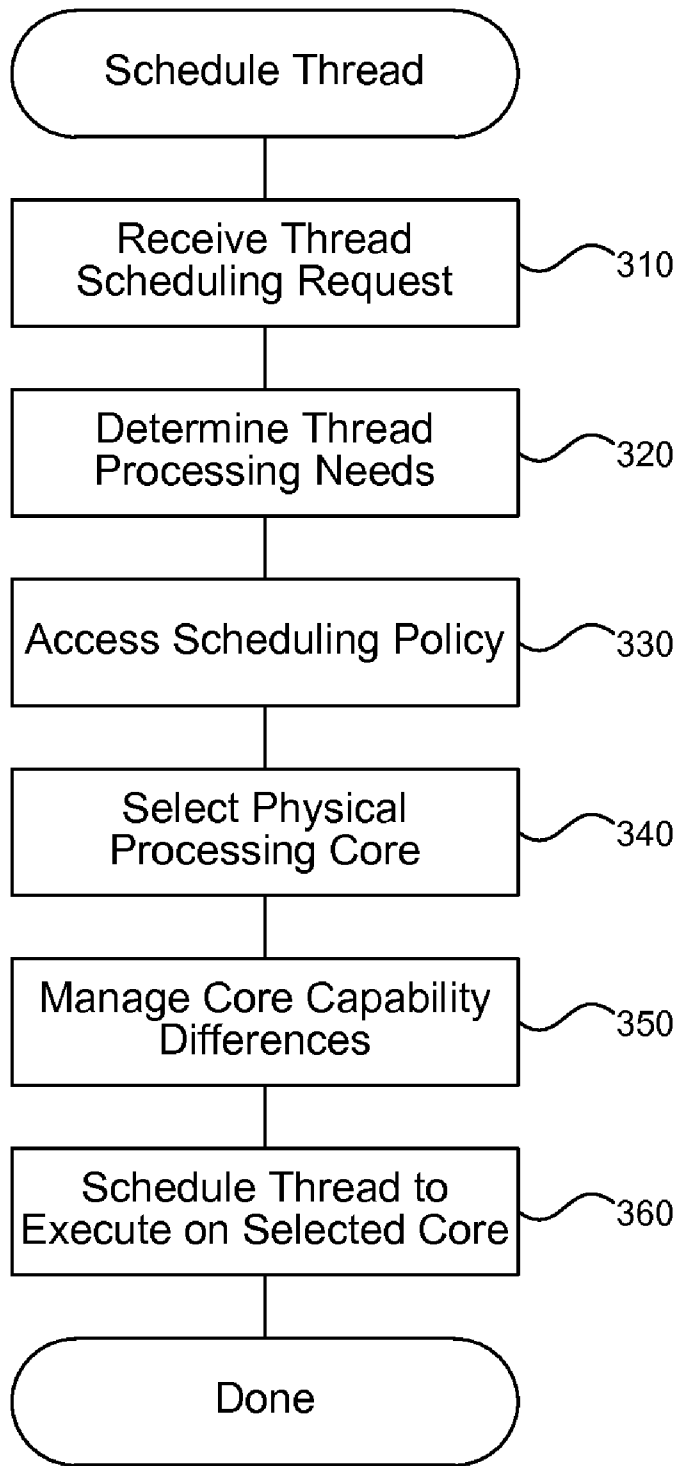


FIG. 3

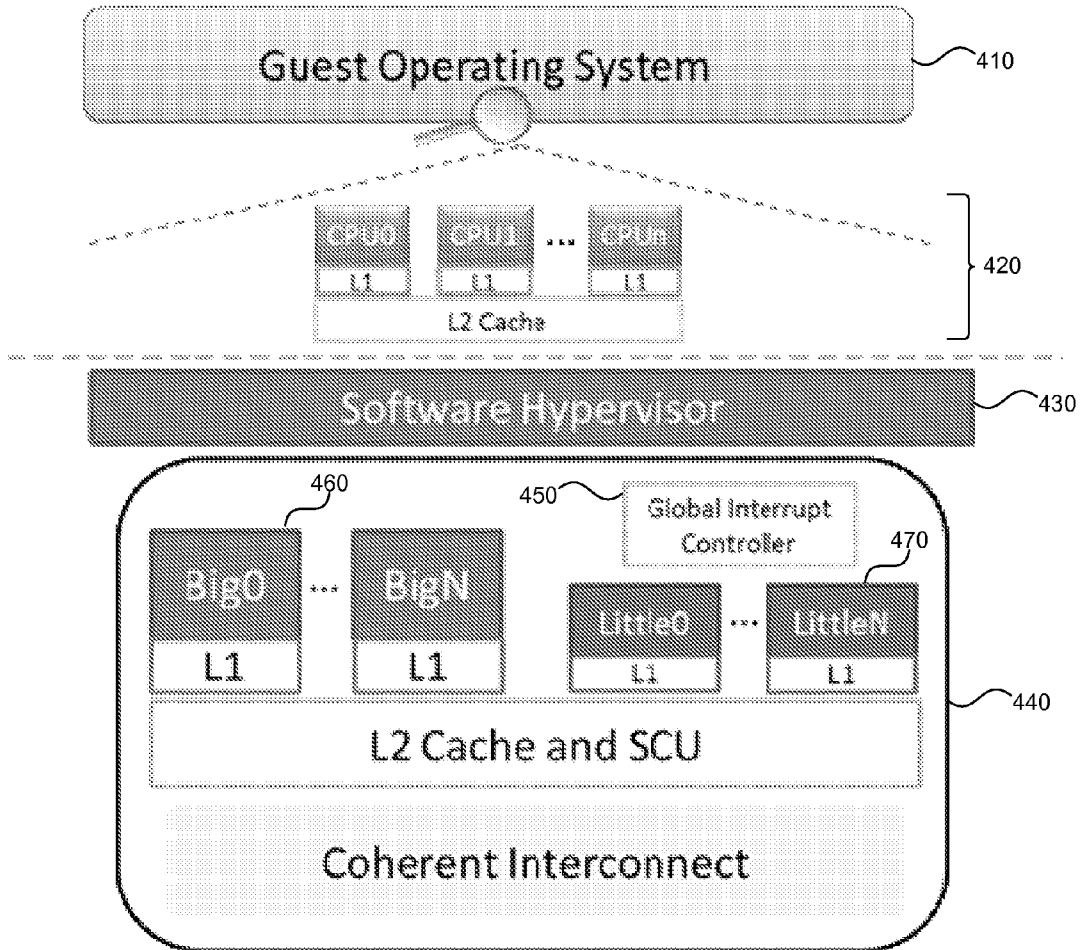


FIG. 4

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