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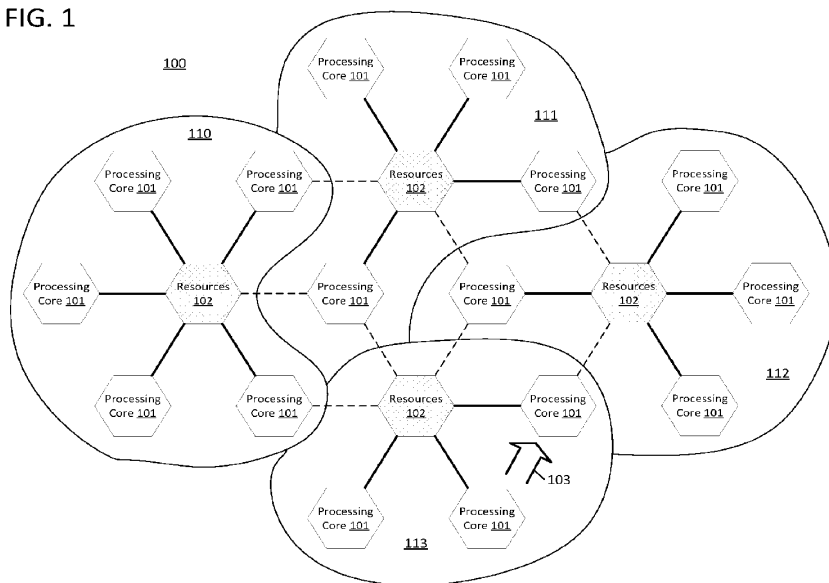
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**(54) Title:** MULTICORE PROCESSORS WITH RESOURCE SHARING CLUSTERS FOR AI ACCELERATION

FIG. 1



(57) **Abstract:** Systems and methods related to multicore processors with resource sharing clusters for AI acceleration are disclosed herein. The clusters can be clusters of cores in the multicore processor. The clusters of cores may be configurable. The configuration may be based on the characteristics of a specific computation, for example, the cores in a cluster all needing access to the same network data or the output of one core in a cluster being required as the input to another core in the cluster. A compiler may be programmed to group a set of cores into a set of clusters, wherein each cluster in the set of clusters is assigned a shareable resource from a set of shareable resources. The compiler may also be programmed to generate configuration instructions to assign the set of cores to the set of clusters. Accordingly, the set of cores may be organized efficiently for the computation.

[Continued on next page]

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