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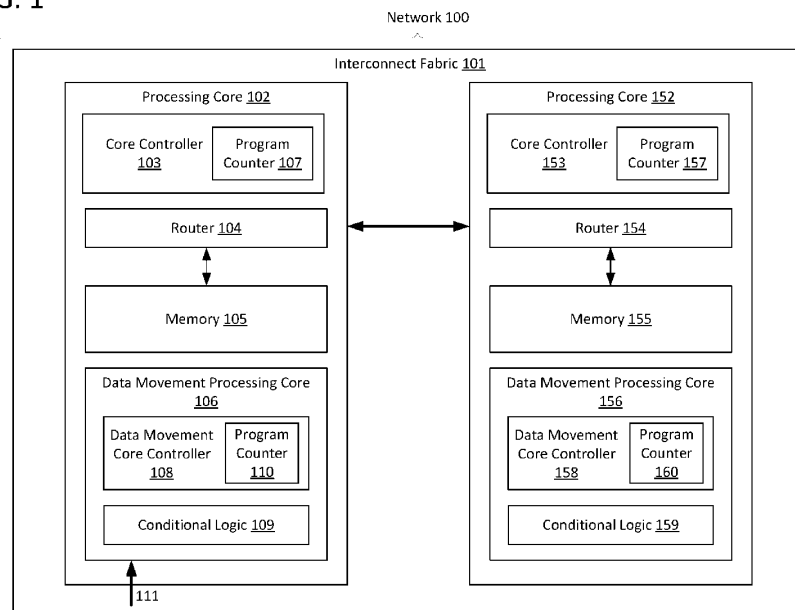
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(54) Title: NETWORK ON CHIP WITH DATA MOVEMENT PROCESSING CORES

FIG. 1



(57) **Abstract:** Systems and methods related to a network on chip (NoC) with data movement processing cores are disclosed herein. For example, a system executing a complex computation may include multiple processing cores networked by an interconnect fabric and storing computational instructions and data movement instructions. Each processing core may include one or more memories, a computational pipeline, a core controller, a router, and a data movement processing core. Each data movement processing core may include a data movement core controller to administrate an execution of the data movement instructions and thereby generate commands for the corresponding router to route the computation data through the interconnect fabric during an execution of the complex computation. The data movement processing core may be valuable for addressing interconnect fabrics that are used for executing composite computations with unpredictable data movement patterns that require a high degree of flexibility.

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