Title (en)

FLOATING POINT INTENSIVE RECONFIGURABLE COMPUTING SYSTEM FOR ITERATIVE APPLICATIONS

Title (de)

FLIESSKOMMAINTENSIVES UMKONFIGURIERBARES DATENVERARBEITUNGSSYSTEM FÜR ITERATIVE ANWENDUNGEN

Title (fr)

SYSTEME DE CALCUL RECONFIGURABLE INTENSIF A VIRGULE FLOTTANTE POUR APPLICATIONS ITERATIVES

Publication

EP 1451701 A1 20040901 (EN)

Application

EP 02795726 A 20021206

Priority

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Abstract (en)

[origin: WO03050697A1] A reconfigurable computing system for accelerating execution of floating point intensive iterative applications. The reconfigurable computing system includes a plurality of interconnected processing elements mounted 20, a host processing system for displaying real-time outputs of the floating point calculations performed by the processing elements 20, and an interface for connecting the processing elements to the host system. Each of the interconnected processing elements 20 includes a floating point functional unit 22, operand memory 24, control memory 26 and a control unit 28. The floating point functional unit 22 includes a multiply accumulate function. The operand memory 24 includes a plurality of banks of static random access memory. The processing elements 20 are interconnected using a nearest neighbor or hierarchical implementation. The instruction set performed by the floating point functional unit 22 includes arithmetic, control and communication instructions. The interface can be implemented as a PCI bus interface using a field programmable gate array or as an AGP bus interface.

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