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(54) **MULTI-ADAPTIVE PROCESSING SYSTEMS AND TECHNIQUES FOR ENHANCING PARALLELISM AND PERFORMANCE OF COMPUTATIONAL FUNCTIONS**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 550 days.

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See application file for complete search history.

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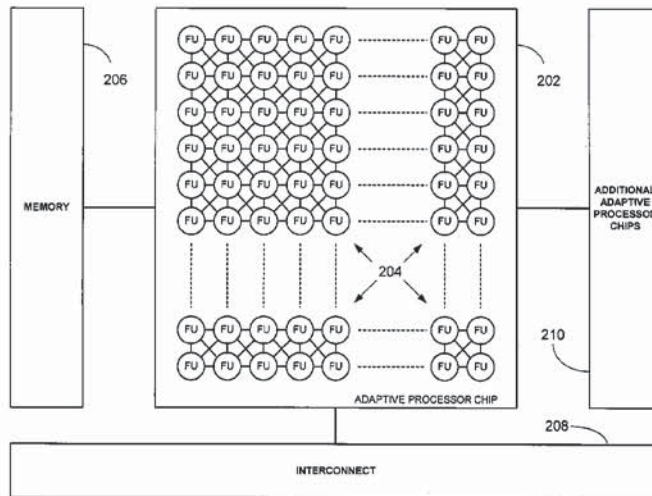
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(57) **ABSTRACT**

Multi-adaptive processing systems and techniques for enhancing parallelism and performance of computational functions are disclosed which can be employed in a myriad of applications including multi-dimensional pipeline computations for seismic applications, search algorithms, information security, chemical and biological applications, filtering and the like as well as for systolic wavefront computations for fluid flow and structures analysis, bioinformatics etc. Some applications may also employ both the multi-dimensional pipeline and systolic wavefront methodologies disclosed.

**52 Claims, 20 Drawing Sheets**





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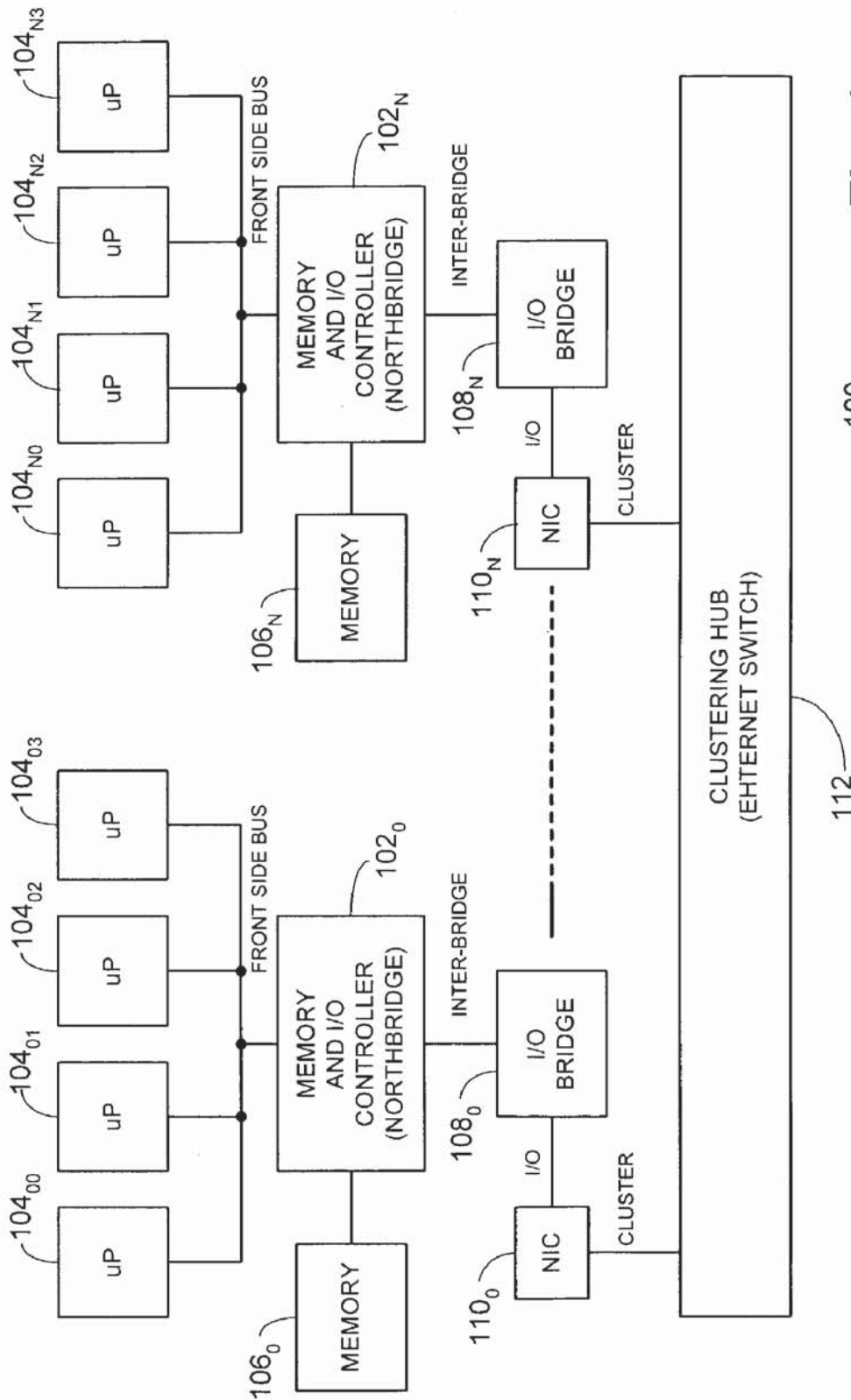
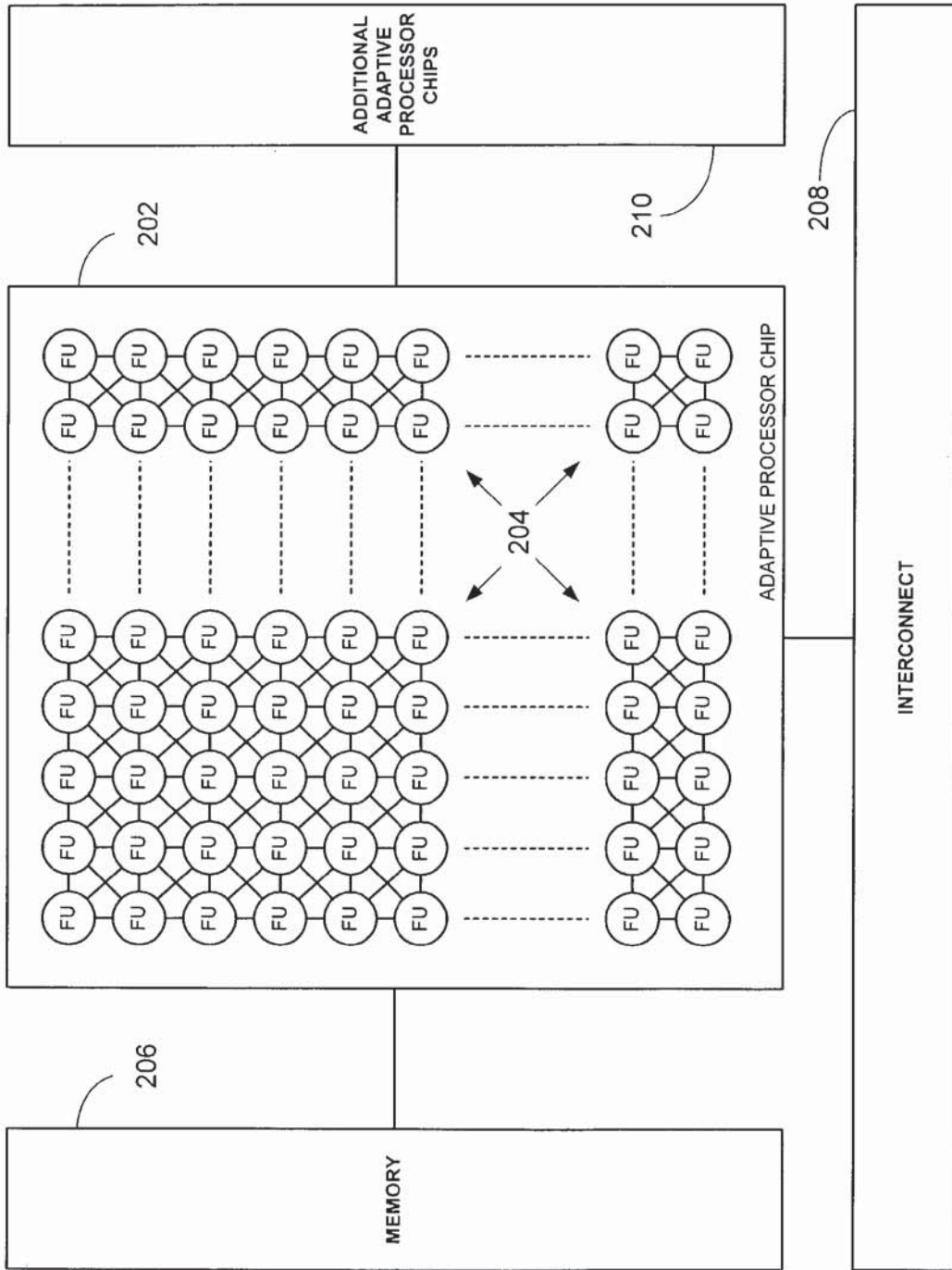


Fig. 1  
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