The ASSIGN Parallel Program Generator

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Abstract

ASSIGN is a tool for building large–scale applications, in particular signal processing applications, on distributed-memory multicomputers. The programming model is the familiar coarse-grained flowgraph, where nodes correspond to computations and directed edges correspond to FIFO queues. Given a flowgraph description of an application, ASSIGN compiles the flowgraph onto the processors of a distributed–memory parallel computer, automatically handling such details as partitioning the flowgraph and placing and routing the partitioned flowgraph. The first target machine is iWarp, a multicomputer system developed jointly by Intel and Carnegie Mellon.

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