
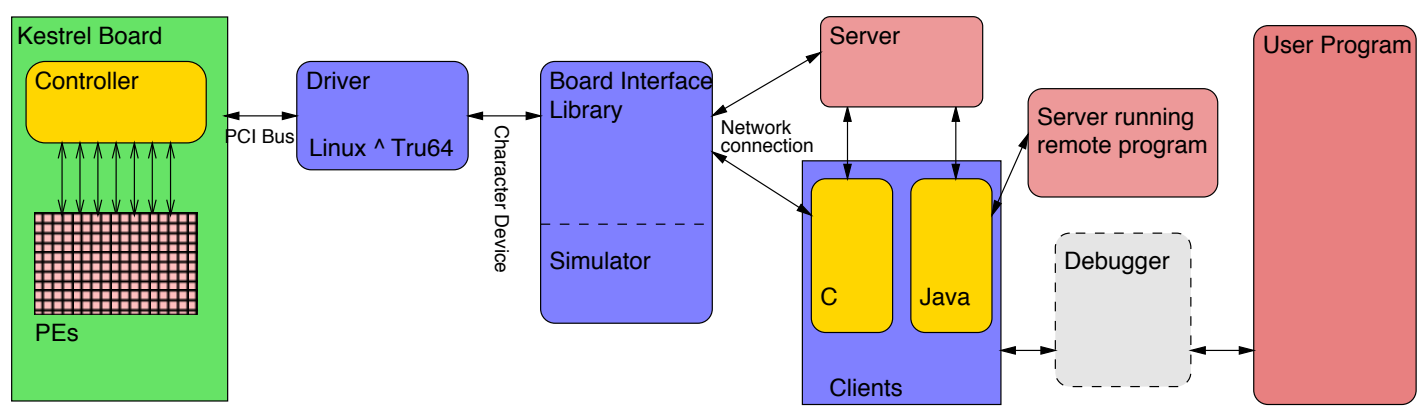


# Kestrel Software Folly


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## Abstract

The Kestrel board, a massively parallel processor, consists of 512 processors in a SIMD (single instruction, multiple data) array. Kestrel performs quick computations and is therefore useful in sequence analysis. In a team effort, Kestrel's software has been updated to mirror the changes in the new controller, altering the way the hardware interacts with the user program. 



## How It Fits Together

- Kestrel board: a linear array of processing elements and a controller
  - Driver: an interface with the hardware, translating data into a usable format
  - Board interface library: a seamless connection to the board or simulator
  - Server: allows programs to be executed remotely
  - Client libraries: interface between user programs and the Kestrel board
  - Debugger: an optional executable to aid in program development
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## Problems and Future Work

The new controller requires many software changes:

- Changed the simulator to handle different instruction encoding.
  - Debugger will need to incorporate the changes in the controller.
  - When new boards are made, the Linux driver will need to be rewritten
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