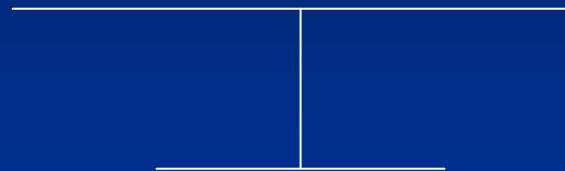


Architecture and applications of the HEP multiprocessor computer system



TCP Offload Engine connections

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HEP synopsis

- The Denelcor HEP was a uniform shared memory multiprocessor that used fine-grain multithreading to tolerate memory latency, synchronization latency, and even functional unit latency.



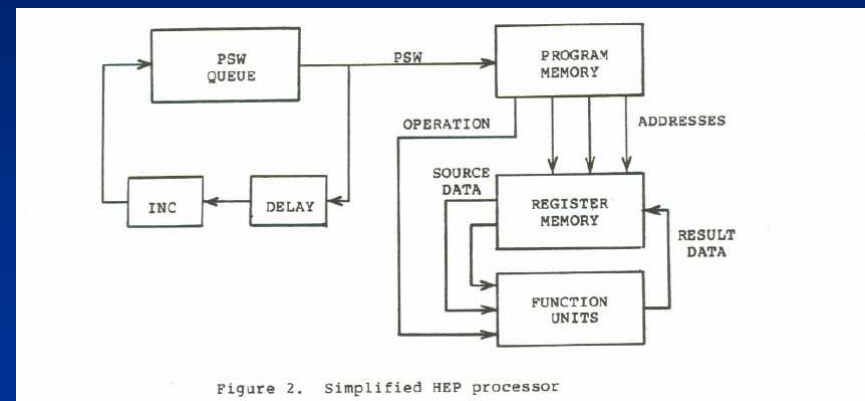
HEP vs. IXP

- Pipelined processors
 - Pipelined Micro Engines (MEs)
- Shared data memory modules
 - Shared registers and memory among MEs
- Run several independent programs
 - Microblocks
- Scalability via switch
 - Buses



HEP Processor Details

- Control loop and Data loop
- Constant memory & Supervisor process
- Synchronizing through access states



TOE implementations on HEP

- Language and Library
- Threads
 - context switching overhead
 - Define interactive signals
- Performance Evaluation
- Supervisor processes



TOE improvements

- Access States
 - Full, Empty and Reserved
- Supervisor call and memory access
- Modularity

