

Abstract of the Disclosure

A Multi-Threaded Packet Processing Engine for Stateful Packet Processing

A processing engine to accomplish a multiplicity of tasks has a multiplicity of processing tribes, each tribe comprising a multiplicity of context register sets and a multiplicity of processing resources for concurrent processing of a multiplicity of threads to accomplish the tasks, a memory structure having a multiplicity of memory blocks, each block storing data for processing threads, and an interconnect structure and control system enabling tribe-to-tribe migration of contexts to move threads from tribe-to-tribe. The processing engine is characterized in that individual ones of the tribes have preferential access to individual ones of the multiplicity of memory blocks.