Method and Apparatus for Dynamically Sizing Non-contiguous Runtime Stacks

ABSTRACT

A method, apparatus, and software for efficiently allocating discontiguous stack space without requiring compiler changes are described. In one aspect, a method is provided for executing a compiled function that is located in a first computer memory stack chunk such that additional memory is allocated efficiently if a determination is made that such additional memory is necessary for execution of the compiled function. In one embodiment, the method includes calling a stack checking function that includes the compiled function. A determination is made if additional memory is required for executing the compiled function. If no additional memory is required, then the compiled function is called and executed. However, if additional memory is necessary, then additional memory is allocated that is discontiguous with the original memory stack.

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