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Title: Legacy at Exascale: A Contradiction? A Software Approach to Achieving It

Abstract:

Thinking in High Performance Computing software on how to achieve exascale has tended to focus on either evolutionary or revolutionary approaches. The path to exascale and beyond is replete with a set of wide-ranged and intertwined difficulties. This presentation will identify some of the challenges facing the HPC community from a software perspective including the realities of the application ecosystem that has been built up. The presentation will then suggest a plausible path forward that is neither solely evolutionary or solely revolutionary, but a combination. Examples will be presented to demonstrate how such a path might be achieved.