

**Title: PerfPal: Performance Evaluation, Profiling and Modeling Tools for ARM-based HPC Systems**

**Project Type:** Test bed

**Principal Investigator (PI):**

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**Project description & usage:**

Under the auspices of a DOE SBIR Phase II award, EP Analytics is developing and commercializing PerfPal, a set of performance analysis, modeling and prediction tools that can be deployed to design future Arm-based architectures for High-Performance Computing (HPC) applications and identify potential optimizations on HPC codes that can improve performance on existing and upcoming Arm-based systems. PerfPal relies on raw performance data extracted through direct analysis of the production binary, through a technique known as Binary Instrumentation (BI), to provide an in-depth view of application performance. Performance modeling/co-design component of PerfPal can utilize performance data collected on existing systems to project performance on future hardware. The allocation requested as part of this proposal will allow EP Analytics to test/debug/evaluate PerfPal on A64FX processors.

**Resource:** We are requesting 15,000 node hours. Initial usage will be single node usage. As PerfPal matures, multi-node executions will be done.