OOKAMI PROJECT APPLICATION

Date: 03/02/2021

Project Title: SPEC

Usage:

- Testbed

Principal Investigator: Tony Curtis

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Names & Email of initial project users:

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Usage Description:

SPEC is an organization that provides standard benchmarks to industry and academia in a number of areas. Stony Brook is member of SPEC in the High Performance Group (HPG).

HPG is developing a new suite of benchmarks, called HPC2021, for high performance computing, and Stony Brook is involved in this process, testing and verifying the codes on the A64FX platform in particular.

Reference:

- `https://www.spec.org/`

Computational Resources:

- Total node hours per year: estimate 1000
- Size (nodes) and duration (hours) for a typical batch job: runs can range from a single node up to 100s. Runs often range from a few minutes to a a few hours (e.g. running the entire test suite with large input data).
- Disk space (home, project, scratch): 40GB, 4TB, 4TB

Personnel Resources:

None anticipated.

Required software:

Probably none extra.

If your research is supported by US federal agencies:

- Agency: NSF
- Grant number(s): 1927880

Production projects:

Production projects should provide an additional 1-2 pages of documentation about how

1. the code has been tuned to perform well on A64FX (ideally including benchmark data comparing performance with other architectures such as x86 or GPUs)
2. it can make effective use of the key A64FX architectural features (notably SVE, the high-bandwidth memory, and NUMA characteristics)
3. it can accomplish the scientific objectives within the available 32 Gbyte memory per node