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Project Title: Porting raxml-ng to ARM

Usage: Testbed

Principal Investigator: Alexey Kozlov

University/Company/Institute: HITS gGmbH
Mailing address including country:
Heidelberg Institute for Theoretical Studies
Schloss-Wolfsbrunnenweg 35
69118 Heidelberg
Germany
Phone number: +49 6221 – 533 – 291
Email: alexey.kozlov@h-its.org

Names & Email of initial project users:
- Alexey Kozlov alexey.kozlov@h-its.org
- Lukas Huebner lukas.huebner@h-its.org

Usage Description:
- Porting and benchmarking maximum likelihood phylogenetic inference tool raxml-ng (https://github.com/amkozlov/raxml-ng) on ARM
- Development and benchmarking of SVE kernels for the phylogenetic likelihood library coraxlib (https://codeberg.org/Exelixis-Lab/coraxlib)

Computational Resources:
Total node hours per year: < 15.000
Size (nodes) and duration (hours) for a typical batch job:
1-2 nodes x 4-8 hours
Disk space (home, project, scratch): 30GB / 1TB / 1TB

Personnel Resources (assistance in porting/tuning, or training for your users):
None anticipated

Required software:
- Cmake
- bison
- flex
- GoogleTest (optional)
If your research is supported by US federal agencies:

Agency: N/A

Grant number(s): N/A

Production projects:

Production projects should provide an additional 1-2 pages of documentation about how
(a) the code has been tuned to perform well on A64FX (ideally including benchmark data comparing performance with other architectures such as x86 or GPUs)
(b) it can make effective use of the key A64FX architectural features (notably SVE, the high-bandwidth memory, and NUMA characteristics)
(c) it can accomplish the scientific objectives within the available 32 Gbyte memory per node