

Don,

Below are results that might be useful for Buff Miner.

It shows a ~12x speedup for RANT3D relative to what we used to be able to do using just a single node of the large computers at NERSC and X-10. It also shows that scaling that improves with problem size.

We can now do much higher resolution, such as for a Faraday screen model, than before porting the matrix solver and futzing with the OS environment variables.

Mark

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Mixed OpenMP and esslsmpr routines using RANT3D test case (NSTX) and unix time command times in seconds for 7336 recess unknowns, 114791 plasma modes:

IP	OMP_NUM	AIXTHREAD	Real	System	User
Address	_THREADS	_SCOPE	time	time	time
cheetah	16	S	639	85	4372
cheetah	16	P	680	102	4332
seaborg	16	S	1555	275	8350
seaborg	16	P	5711	1991	8999
seaborg	1	S	8190	14	8173

RANT3D test case, min. resolution for Faraday screen.
time in seconds for 19399 recess unknowns,
114791 plasma modes:

IP	OMP_NUM	AIXTHREAD	Real	System	User
Address	_THREADS	_SCOPE	time	time	time
cheetah	16	S	13067	539	162549
seaborg	16	S	25792	1809	299887

seaborg has 16 processor Power3-II nighthawk nodes, AIX 4.3.3
cheetah has 16 processor Power4 nodes, AIX 5.1.0