SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

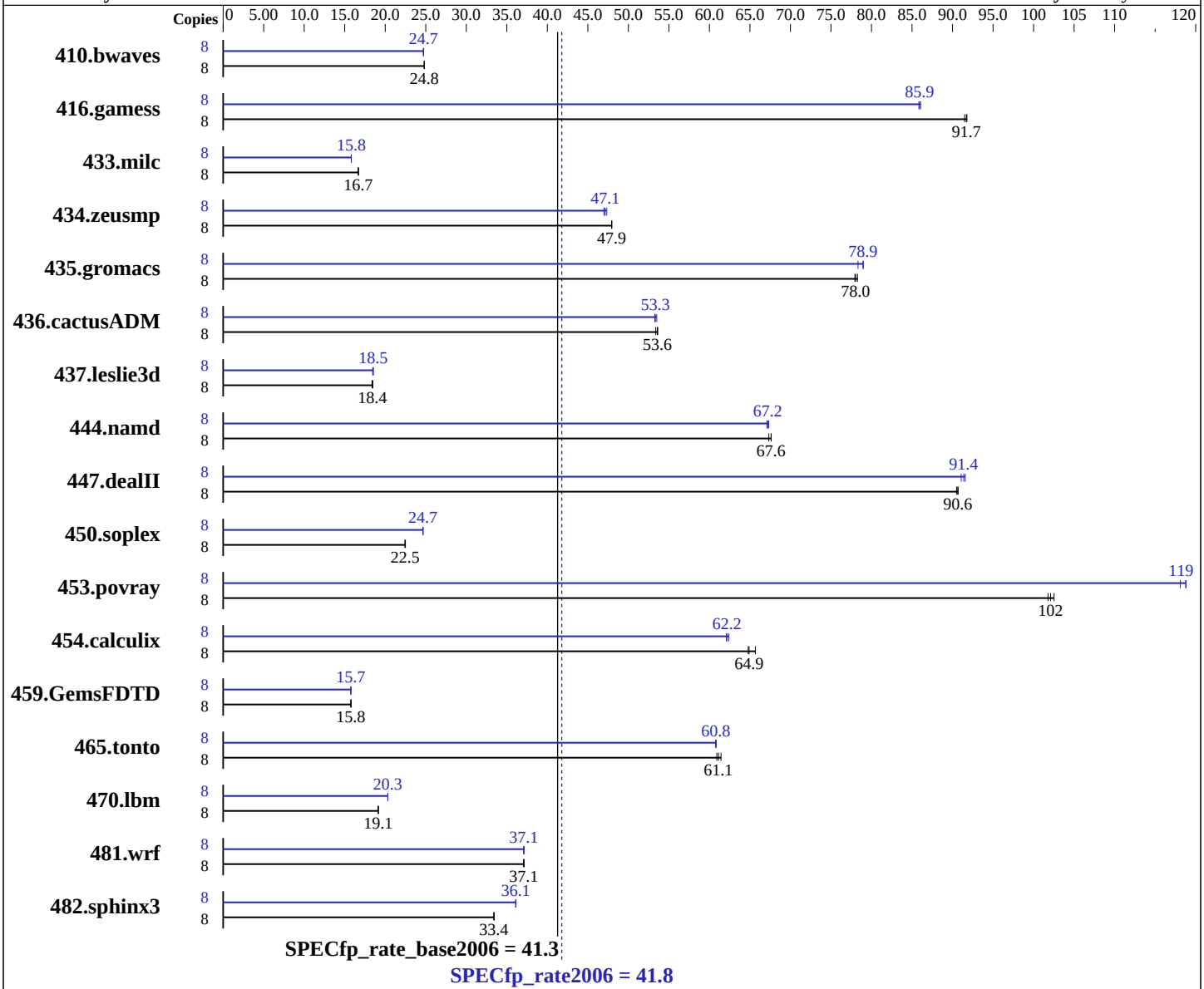
NovaScale R440
(Intel Xeon processor E5310,1.60GHz)

SPECfp®_rate2006 = 41.8

SPECfp_rate_base2006 = 41.3

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Jul-2007
Hardware Availability: Mar-2007
Software Availability: May-2007



Hardware

CPU Name:	Intel Xeon E5310
CPU Characteristics:	1.60 GHz, 8 MB L2, 1066 MHz system bus
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1 to 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

Continued on next page

Software

Operating System:	SUSE LINUX Enterprise Server 10 Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023 Intel Fortran Compiler for IA32/EM64T application version 10.0 Build 20070426 Package ID: l_fc_p_10.0.023
Auto Parallel:	No
File System:	ext2

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440
(Intel Xeon processor E5310,1.60GHz)

SPECfp_rate2006 = 41.8

SPECfp_rate_base2006 = 41.3

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Jul-2007
Hardware Availability: Mar-2007
Software Availability: May-2007

L3 Cache: None
Other Cache: None
Memory: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4
Disk Subsystem: 1x73 GB SAS, 15000 RPM
Other Hardware: None

System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	4382	24.8	4380	24.8	**4382**	**24.8**	8	4400	24.7	4398	24.7	**4399**	**24.7**
416.gamess	8	**1708**	**91.7**	1707	91.8	1712	91.5	8	1825	85.8	**1823**	**85.9**	1820	86.1
433.milc	8	4404	16.7	**4402**	**16.7**	4402	16.7	8	**4644**	**15.8**	4645	15.8	4643	15.8
434.zeusmp	8	**1519**	**47.9**	1519	47.9	1518	48.0	8	**1544**	**47.1**	1538	47.3	1549	47.0
435.gromacs	8	**732**	**78.0**	733	78.0	730	78.3	8	**724**	**78.9**	729	78.3	723	79.0
436.cactusADM	8	1783	53.6	**1784**	**53.6**	1791	53.4	8	**1793**	**53.3**	1795	53.3	1787	53.5
437.leslie3d	8	4073	18.5	**4082**	**18.4**	4094	18.4	8	4076	18.5	**4061**	**18.5**	4059	18.5
444.namd	8	949	67.6	**949**	**67.6**	953	67.3	8	953	67.3	**955**	**67.2**	956	67.1
447.dealII	8	**1010**	**90.6**	1009	90.7	1011	90.5	8	**1002**	**91.4**	1005	91.1	999	91.6
450.soplex	8	2967	22.5	2975	22.4	**2971**	**22.5**	8	2705	24.7	**2706**	**24.7**	2706	24.7
453.povray	8	418	102	**417**	**102**	415	103	8	360	118	358	119	**358**	**119**
454.calculix	8	**1017**	**64.9**	1019	64.8	1005	65.7	8	**1062**	**62.2**	1063	62.1	1058	62.4
459.GemsFDTD	8	5389	15.8	5379	15.8	**5382**	**15.8**	8	**5390**	**15.7**	5393	15.7	5380	15.8
465.tonto	8	1281	61.4	1292	60.9	**1288**	**61.1**	8	1295	60.8	1294	60.8	**1294**	**60.8**
470.lbm	8	5738	19.2	**5746**	**19.1**	5747	19.1	8	**5409**	**20.3**	5409	20.3	5410	20.3
481.wrf	8	2410	37.1	2407	37.1	**2409**	**37.1**	8	2407	37.1	**2409**	**37.1**	2411	37.1
482.sphinx3	8	4667	33.4	4665	33.4	**4666**	**33.4**	8	4320	36.1	**4317**	**36.1**	4317	36.1

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs

General Notes

All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

The NovaScale R440 and the NovaScale R460 models are
electronically equivalent.
The results have been measured on a NovaScale R460 model.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks:
`/opt/intel/cc/10.0.023/bin/icc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/10.0.023/bin/icpc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

Fortran benchmarks (except as noted below):
`ifort`

434.zeusmp: `/opt/intel/fc/10.0.023/bin/ifort -L/opt/intel/fc/10.0.023/lib -I/opt/intel/fc/10.0.023/include`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64 -nofor_main`
436.cactusADM: `-DSPEC_CPU_LP64 -nofor_main`
437.leslie3d: `-DSPEC_CPU_LP64`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

470.lbm: `Same as 433.milc`

482.sphinx3: `-fast -auto_ilp32`

C++ benchmarks:
`-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

Continued on next page

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

416.gamess: `Same as 410.bwaves`

434.zeusmp: `-fast`

437.leslie3d: `Same as 410.bwaves`

459.GemsFDTD: `Same as 410.bwaves`

465.tonto: `Same as 410.bwaves`

Benchmarks using both Fortran and C:
`-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.xml`

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 14:49:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 16 October 2007.