



SPEC[®] CFP2006 Result

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Itaotec

SPECfp[®]_rate2006 = 73.5

Servidor Itaotec LX201 (Intel Xeon X5460)

SPECfp_rate_base2006 = 66.0

CPU2006 license: 9001

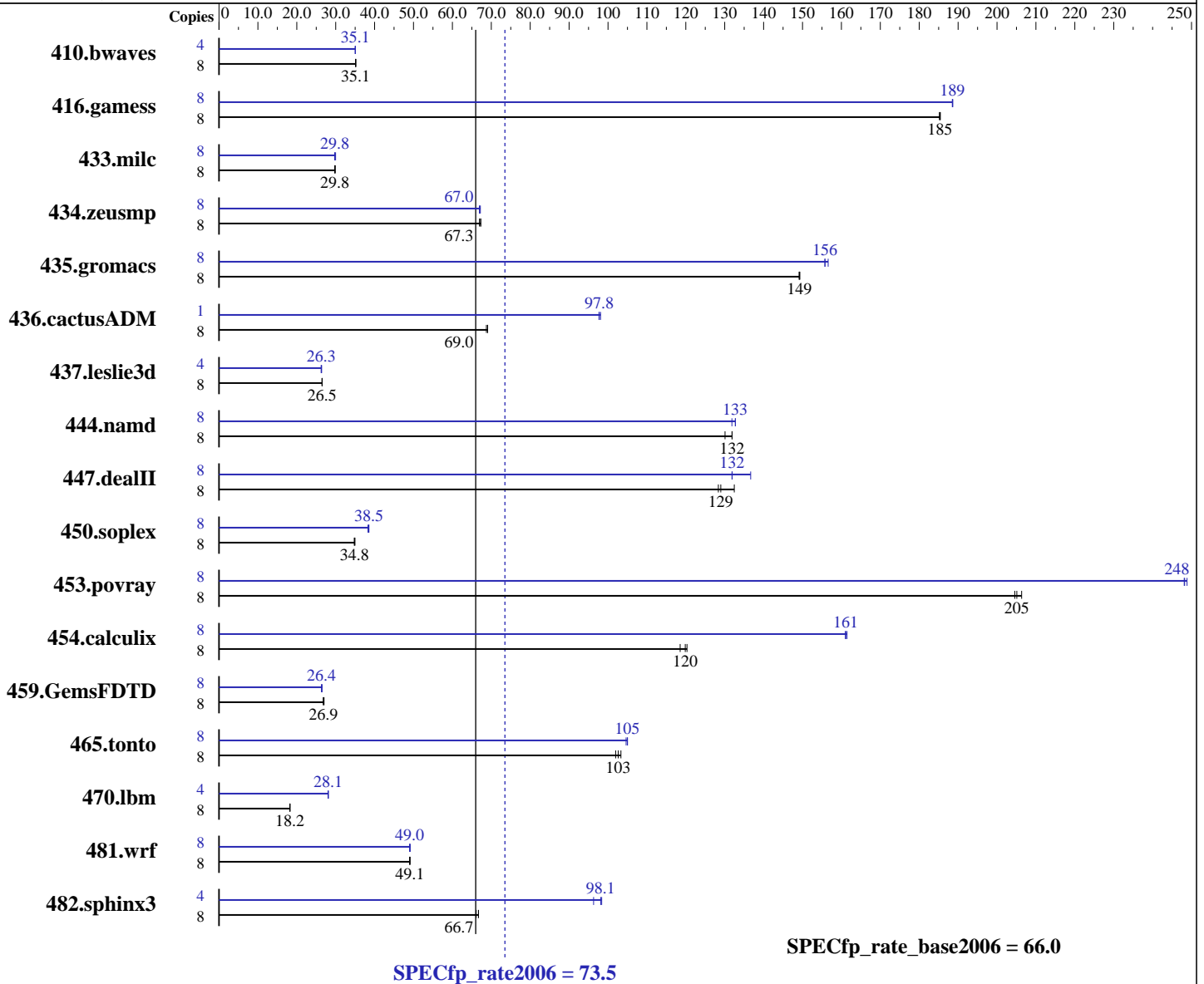
Test sponsor: Itaotec

Tested by: Itaotec

Test date: Mar-2008

Hardware Availability: Dec-2007

Software Availability: Jan-2008



Hardware

CPU Name: Intel Xeon X5460
 CPU Characteristics:
 CPU MHz: 3160
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler 10.1 for Linux Build 20080112 Package ID: l_cc_p_10.1.012, l_fc_p_10.1.012
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8 * 1 GB PC2-5300 FBDIMM, CL-5-5-5, ECC)
Disk Subsystem: 1 x SATA-2, 160GB, 7200 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.10.50

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3091	35.2	3097	35.1	3094	35.1	4	1554	35.0	1550	35.1	1550	35.1
416.gamess	8	845	185	846	185	845	185	8	831	189	830	189	831	189
433.milc	8	2464	29.8	2457	29.9	2468	29.8	8	2464	29.8	2470	29.7	2450	30.0
434.zeusmp	8	1082	67.3	1087	66.9	1082	67.3	8	1086	67.0	1084	67.2	1088	66.9
435.gromacs	8	383	149	383	149	383	149	8	365	157	367	156	367	156
436.cactusADM	8	1391	68.7	1385	69.0	1384	69.1	1	122	98.1	122	97.8	122	97.7
437.leslie3d	8	2834	26.5	2838	26.5	2840	26.5	4	1425	26.4	1432	26.3	1429	26.3
444.namd	8	486	132	493	130	486	132	8	483	133	487	132	483	133
447.dealII	8	713	128	709	129	691	132	8	694	132	670	137	694	132
450.soplex	8	1917	34.8	1909	35.0	1916	34.8	8	1742	38.3	1731	38.5	1733	38.5
453.povray	8	206	206	208	205	208	205	8	171	248	171	249	172	248
454.calculix	8	549	120	557	119	551	120	8	409	161	410	161	410	161
459.GemsFDTD	8	3143	27.0	3159	26.9	3166	26.8	8	3218	26.4	3219	26.4	3203	26.5
465.tonto	8	762	103	767	103	772	102	8	752	105	750	105	750	105
470.lbm	8	6021	18.3	6033	18.2	6031	18.2	4	1958	28.1	1960	28.0	1955	28.1
481.wrf	8	1819	49.1	1824	49.0	1822	49.1	8	1823	49.0	1822	49.0	1818	49.2
482.sphinx3	8	2358	66.1	2337	66.7	2338	66.7	4	792	98.4	795	98.1	810	96.3

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

Compiler Invocation Notes

OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run.
'/usr/bin/taskset' used to bind benchmark copies to processors.



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Platform Notes

BIOS configuration:
Hardware Prefetch Disabled

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.deallI: -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

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Base Optimization Flags (Continued)

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.012/bin/icc -L/opt/intel/cc/10.1.012/lib  
-I/opt/intel/cc/10.1.012/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.012/bin/icpc -L/opt/intel/cc/10.1.012/lib  
-I/opt/intel/cc/10.1.012/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.012/bin/ifort -L/opt/intel/fc/10.1.012/lib  
-I/opt/intel/fc/10.1.012/include
```

Benchmarks using both Fortran and C:

icc ifort

Peak 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  
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
```



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Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

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Peak Optimization Flags (Continued)

454.calculix: -fast -unroll-aggressive -auto-ilp32
481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at
<http://www.spec.org/cpu2006/flags/Itautec-ic10.1-FP-intel64-linux-flags.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/cpu2006/flags/Itautec-ic10.1-FP-intel64-linux-flags.xml>

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For other inquiries, please contact webmaster@spec.org.

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