SPEC® CFP2006 Result
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NEC Corporation

T120Rc-1
(Intel Xeon X5460)

$SPECfp^{®}2006 =$ 23.3
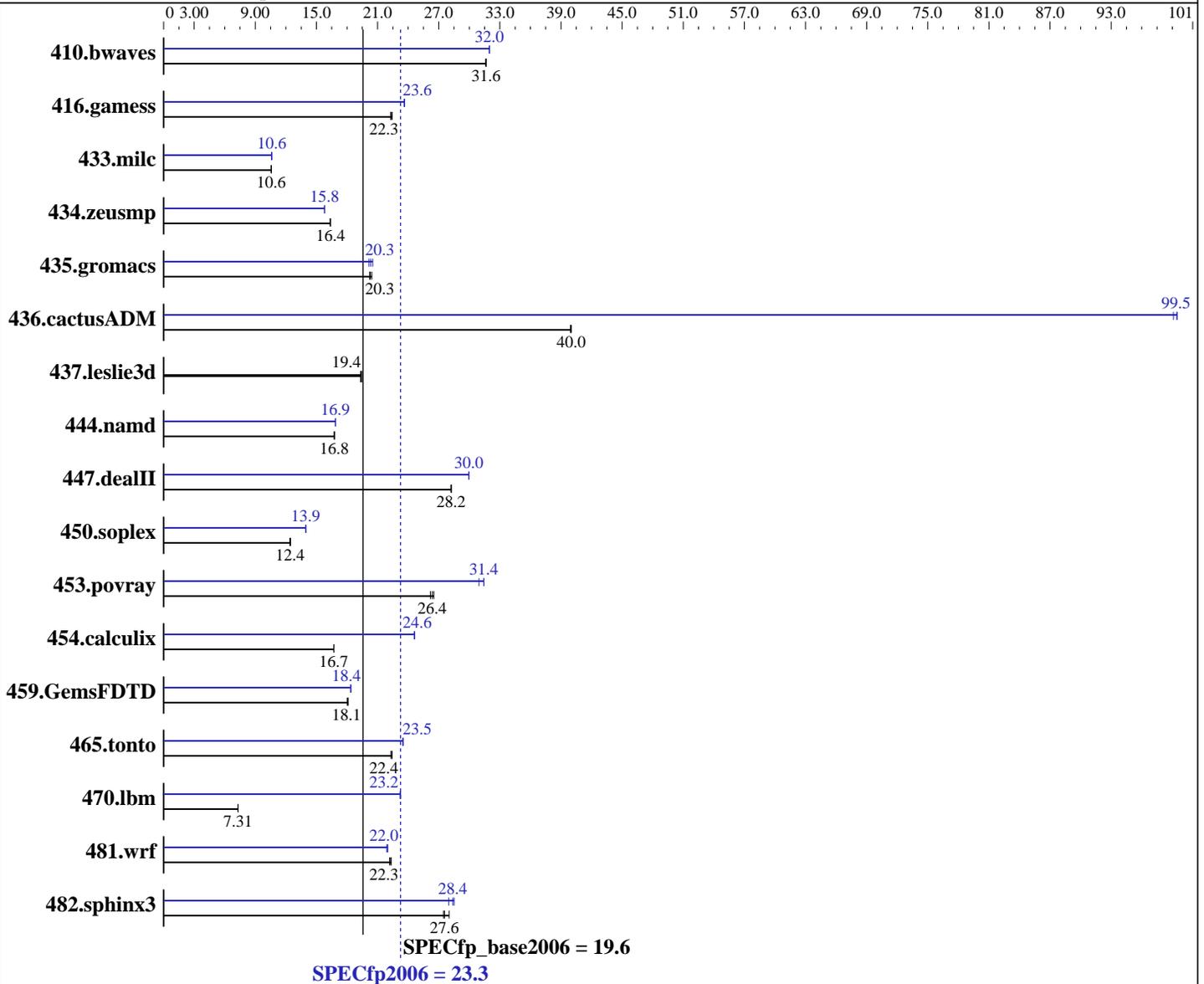
$SPECfp\_base2006 =$ 19.6

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Feb-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

410.bwaves	32.0	
	31.6	
416.gamess	23.6	
	22.3	
433.milc	10.6	
	10.6	
434.zeusmp	15.8	
	16.4	
435.gromacs	20.3	
	20.3	
436.cactusADM		99.5
	40.0	
437.leslie3d	19.4	
444.namd	16.9	
	16.8	
447.dealII	30.0	
	28.2	
450.soplex	13.9	
	12.4	
453.povray	31.4	
	26.4	
454.calculix	24.6	
	16.7	
459.GemsFDTD	18.4	
	18.1	
465.tonto	23.5	
	22.4	
470.lbm	23.2	
	7.31	
481.wrf	22.0	
	22.3	
482.sphinx3	28.4	
	27.6	

SPECfp_base2006 = 19.6

SPECfp2006 = 23.3

Hardware

CPU Name: Intel Xeon X5460
CPU Characteristics: 3.16 GHz, 2x6 MB L2 shared, 1333 MHz bus
CPU MHz: 3167
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

Continued on next page

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 for Linux32 and Linux64
version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
Auto Parallel: Yes
File System: ext2

Continued on next page

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L3 Cache:	None	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1x250 GB SATAII, 7200RPM	Other Software:	binutils-2.17.tar.gz, Version 2.17
Other Hardware:	None		

Results Table

	Base						Peak					
Benchmark	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	429	31.7	**429**	**31.6**	430	31.6	425	32.0	425	32.0	**425**	**32.0**
416.gamess	878	22.3	873	22.4	**877**	**22.3**	**828**	**23.6**	828	23.6	829	23.6
433.milc	867	10.6	870	10.6	**869**	**10.6**	867	10.6	**865**	**10.6**	865	10.6
434.zeusmp	**555**	**16.4**	557	16.3	555	16.4	576	15.8	**576**	**15.8**	576	15.8
435.gromacs	353	20.2	**352**	**20.3**	349	20.4	348	20.5	**351**	**20.3**	354	20.2
436.cactusADM	299	40.0	299	39.9	**299**	**40.0**	121	99.1	120	99.5	**120**	**99.5**
437.leslie3d	486	19.3	483	19.4	**484**	**19.4**	486	19.3	483	19.4	**484**	**19.4**
444.namd	479	16.8	**479**	**16.8**	478	16.8	476	16.8	**475**	**16.9**	475	16.9
447.dealII	405	28.3	406	28.2	**405**	**28.2**	**382**	**30.0**	382	29.9	382	30.0
450.soplex	669	12.5	**671**	**12.4**	673	12.4	598	13.9	597	14.0	**598**	**13.9**
453.povray	203	26.2	201	26.5	**202**	**26.4**	172	31.0	169	31.4	**169**	**31.4**
454.calculix	**494**	**16.7**	493	16.7	494	16.7	335	24.6	335	24.6	**335**	**24.6**
459.GemsFDTD	586	18.1	589	18.0	**586**	**18.1**	578	18.3	577	18.4	**578**	**18.4**
465.tonto	**439**	**22.4**	441	22.3	439	22.4	**419**	**23.5**	418	23.5	419	23.5
470.lbm	**1880**	**7.31**	1879	7.31	1883	7.30	592	23.2	591	23.3	**591**	**23.2**
481.wrf	503	22.2	**501**	**22.3**	500	22.3	**508**	**22.0**	508	22.0	510	21.9
482.sphinx3	696	28.0	**707**	**27.6**	710	27.5	697	28.0	684	28.5	**687**	**28.4**

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
OMP_NUM_THREADS set to number of cores

Platform Notes

Bios settings:
Intel SpeedStep Technology: Disabled

General Notes

All benchmarks compiled in 64-bit mode except 450.soplex,
470.lbm and 482.sphinx3, for peak, are compiled in 32-bit mode

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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 -parallel

C++ benchmarks:
    -fast -parallel

Fortran benchmarks:
    -fast -parallel

Benchmarks using both Fortran and C:
    -fast -parallel

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Peak Compiler Invocation

C benchmarks (except as noted below):
```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

    433.milc: `icc`

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

    450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib`
                `-I/opt/intel/cc/10.1.008/include`

Fortran benchmarks:
```
ifort
```

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`
    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 -fno-alias`
        `-auto-ilp32`

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

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Peak Optimization Flags (Continued)

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 -parallel`

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: basepeak = yes

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

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`

454.calculix: `-fast -unroll-aggressive -auto-ilp32`

481.wrf: `-fast -parallel -prefetch -auto-ilp32`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.xml

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

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