SPEC® CFP2006 Result

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NEC Corporation

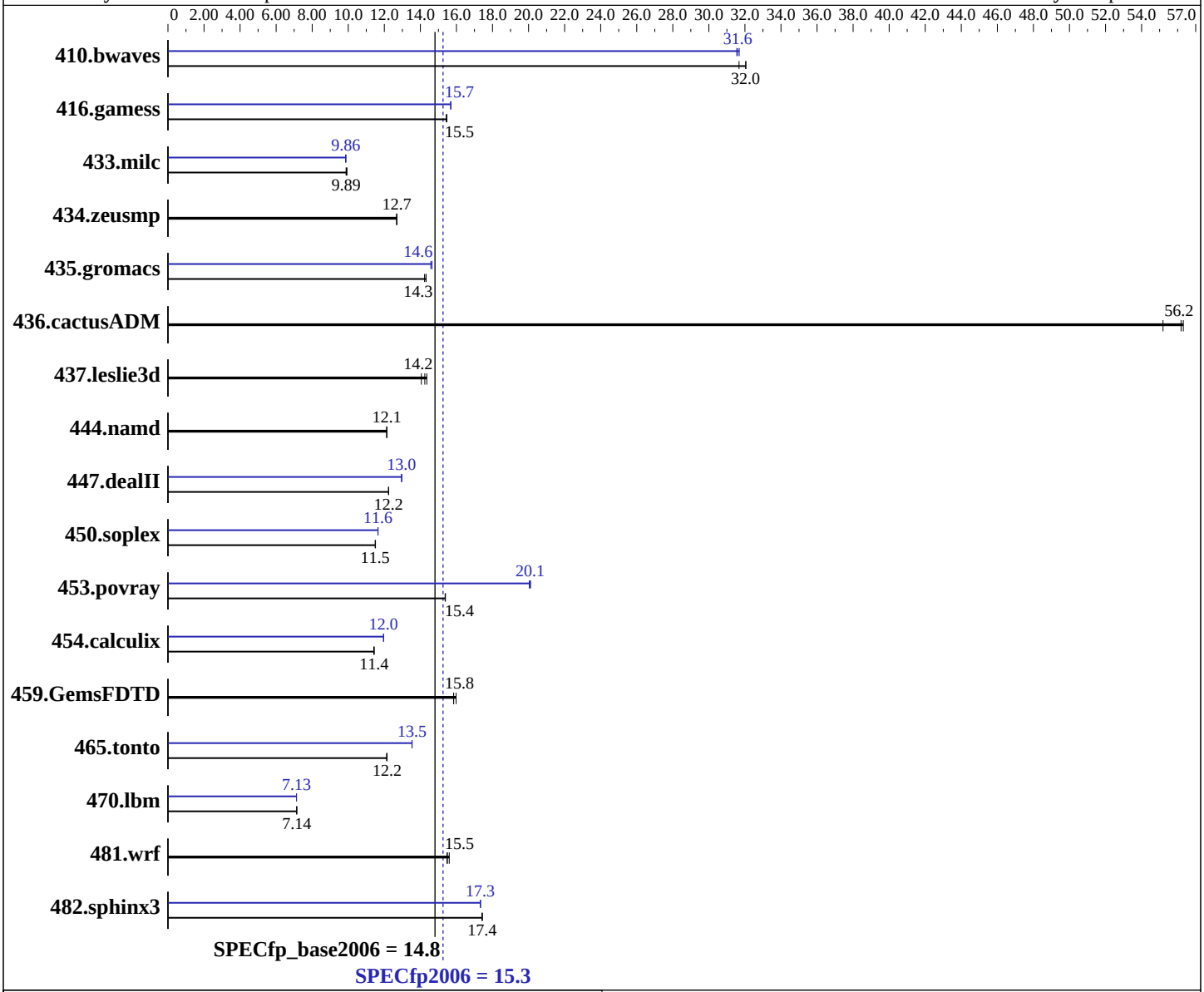
Express5800/120Li
(Intel Xeon processor E5345)

SPECfp®2006 = 15.3

SPECfp_base2006 = 14.8

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

Test date: Oct-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2333
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:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	Windows Server 2003, Standard x64 Edition Service Pack1
Compiler:	Intel C++ Compiler for EM64T version 9.1 Build 20070322, Package-ID W_CC_C_9.1.037 Intel Fortran Compiler for EM64T version 9.1 Build 20070322, Package-ID W_FC_C_9.1.037 Microsoft Visual Studio 2005 (libr. & linker)
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache:	None	System State:	Default
Other Cache:	None	Base Pointers:	64-bit
Memory:	8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)	Peak Pointers:	64-bit
Disk Subsystem:	1x36.3 GB SAS, 15000RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**424**	**32.0**	424	32.1	429	31.7	431	31.5	429	31.7	**430**	**31.6**
416.gamess	1266	15.5	**1267**	**15.5**	1268	15.4	**1248**	**15.7**	1248	15.7	1249	15.7
433.milc	924	9.93	**929**	**9.89**	929	9.88	932	9.85	**931**	**9.86**	930	9.87
434.zeusmp	717	12.7	**717**	**12.7**	717	12.7	717	12.7	**717**	**12.7**	717	12.7
435.gromacs	**499**	**14.3**	499	14.3	502	14.2	490	14.6	488	14.6	**488**	**14.6**
436.cactusADM	212	56.3	**213**	**56.2**	217	55.2	212	56.3	**213**	**56.2**	217	55.2
437.leslie3d	655	14.4	**660**	**14.2**	669	14.1	655	14.4	**660**	**14.2**	669	14.1
444.namd	661	12.1	661	12.1	**661**	**12.1**	661	12.1	661	12.1	**661**	**12.1**
447.dealII	**935**	**12.2**	935	12.2	935	12.2	883	13.0	883	13.0	**883**	**13.0**
450.soplex	725	11.5	**725**	**11.5**	725	11.5	716	11.6	716	11.6	**716**	**11.6**
453.povray	346	15.4	**346**	**15.4**	346	15.4	266	20.0	265	20.1	**265**	**20.1**
454.calculix	**722**	**11.4**	722	11.4	722	11.4	690	12.0	**690**	**12.0**	690	12.0
459.GemsFDTD	664	16.0	670	15.8	**670**	**15.8**	664	16.0	670	15.8	**670**	**15.8**
465.tonto	810	12.2	812	12.1	**810**	**12.2**	727	13.5	**727**	**13.5**	727	13.5
470.lbm	1924	7.14	**1924**	**7.14**	1925	7.14	1928	7.13	**1928**	**7.13**	1928	7.13
481.wrf	716	15.6	**721**	**15.5**	722	15.5	716	15.6	**721**	**15.5**	722	15.5
482.sphinx3	1118	17.4	**1118**	**17.4**	1119	17.4	1125	17.3	**1125**	**17.3**	1124	17.3

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

Base Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc8 -Qc99 ifort
```

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T
-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER
-Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

C++ benchmarks:
-fast -Qparallel -Qcxx-features -F950000000
-link -FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qparallel -F950000000 -link -FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

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Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000
-link -FORCE:MULTIPLE

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
-F950000000 -link -FORCE:MULTIPLE

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qparallel
-F950000000 -link -FORCE:MULTIPLE

416.gamess: -fast -F950000000 -link -FORCE:MULTIPLE

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F950000000
-link -FORCE:MULTIPLE

436.cactusADM: basepeak = yes

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Peak Optimization Flags (Continued)

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-win-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-win-flags.xml`

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

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