SPEC® CFP2006 Result

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NEC Corporation

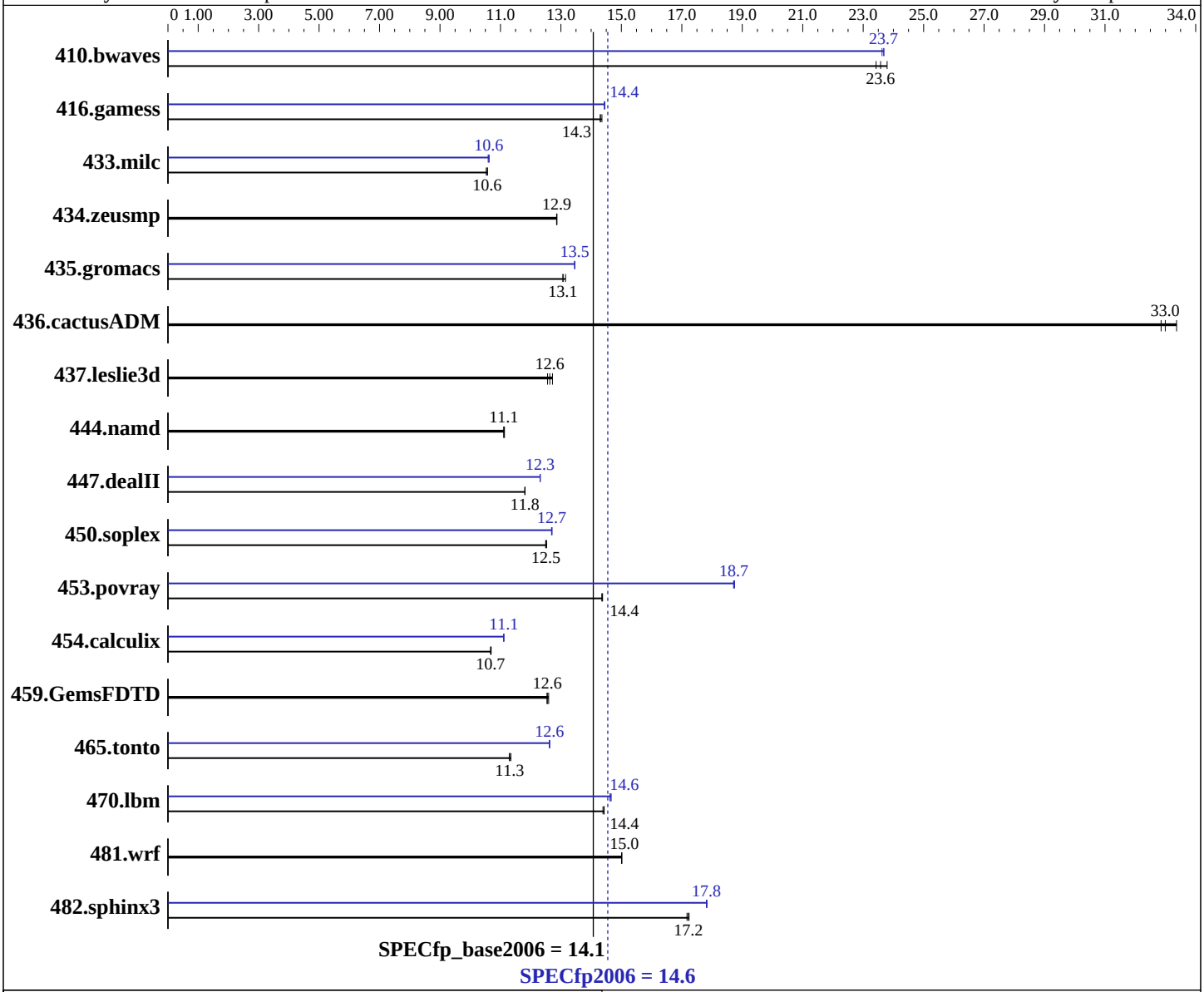
Express5800/110Rh-1
(Intel Xeon processor X3210)

SPECfp®2006 = 14.6

SPECfp_base2006 = 14.1

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

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



Hardware

CPU Name:	Intel Xeon X3210
CPU Characteristics:	2.13 GHz, 2x4 MB L2 shared, 1066 MHz bus
CPU MHz:	2133
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
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
Other Cache: None
Memory: 4 GB (4x1 GB PC2-5300E, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x80 GB SATAII, 7200RPM
Other Hardware: None

System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	580	23.4	**576**	**23.6**	571	23.8	575	23.6	**574**	**23.7**	574	23.7
416.gamess	1364	14.4	1369	14.3	**1369**	**14.3**	**1356**	**14.4**	1355	14.5	1356	14.4
433.milc	872	10.5	**869**	**10.6**	868	10.6	867	10.6	864	10.6	**865**	**10.6**
434.zeusmp	708	12.9	707	12.9	**707**	**12.9**	708	12.9	707	12.9	**707**	**12.9**
435.gromacs	543	13.2	546	13.1	**546**	**13.1**	531	13.5	**531**	**13.5**	530	13.5
436.cactusADM	358	33.4	**362**	**33.0**	364	32.9	358	33.4	**362**	**33.0**	364	32.9
437.leslie3d	739	12.7	749	12.6	**744**	**12.6**	739	12.7	749	12.6	**744**	**12.6**
444.namd	720	11.1	**722**	**11.1**	722	11.1	720	11.1	**722**	**11.1**	722	11.1
447.dealII	968	11.8	**969**	**11.8**	969	11.8	929	12.3	929	12.3	**929**	**12.3**
450.soplex	667	12.5	**667**	**12.5**	666	12.5	657	12.7	**657**	**12.7**	656	12.7
453.povray	370	14.4	**370**	**14.4**	371	14.4	284	18.7	284	18.7	**284**	**18.7**
454.calculix	772	10.7	**773**	**10.7**	773	10.7	743	11.1	742	11.1	**743**	**11.1**
459.GemsFDTD	842	12.6	846	12.5	**845**	**12.6**	842	12.6	846	12.5	**845**	**12.6**
465.tonto	867	11.3	871	11.3	**870**	**11.3**	779	12.6	**780**	**12.6**	780	12.6
470.lbm	955	14.4	952	14.4	**953**	**14.4**	937	14.7	**939**	**14.6**	940	14.6
481.wrf	**744**	**15.0**	744	15.0	744	15.0	**744**	**15.0**	744	15.0	744	15.0
482.sphinx3	1135	17.2	1131	17.2	**1132**	**17.2**	**1094**	**17.8**	1094	17.8	1093	17.8

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

General Notes

```
The system bus runs at 1066 MHz
All binaries were built with 64-bit Intel compiler.
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc8 -Qc99
```

C++ benchmarks:

```
icl -Qvc8
```

Continued on next page

Base Compiler Invocation (Continued)

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

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

Continued on next page

Peak Optimization Flags (Continued)

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`

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-ic91-FP-win-flags.html`

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

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

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