



SPEC[®] CFP2006 Result

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NEC Corporation

Express5800/120Rg-1
(Intel Xeon processor 5110)

SPECfp[®]2006 = 10.9

SPECfp_base2006 = 10.5

CPU2006 license: 9006

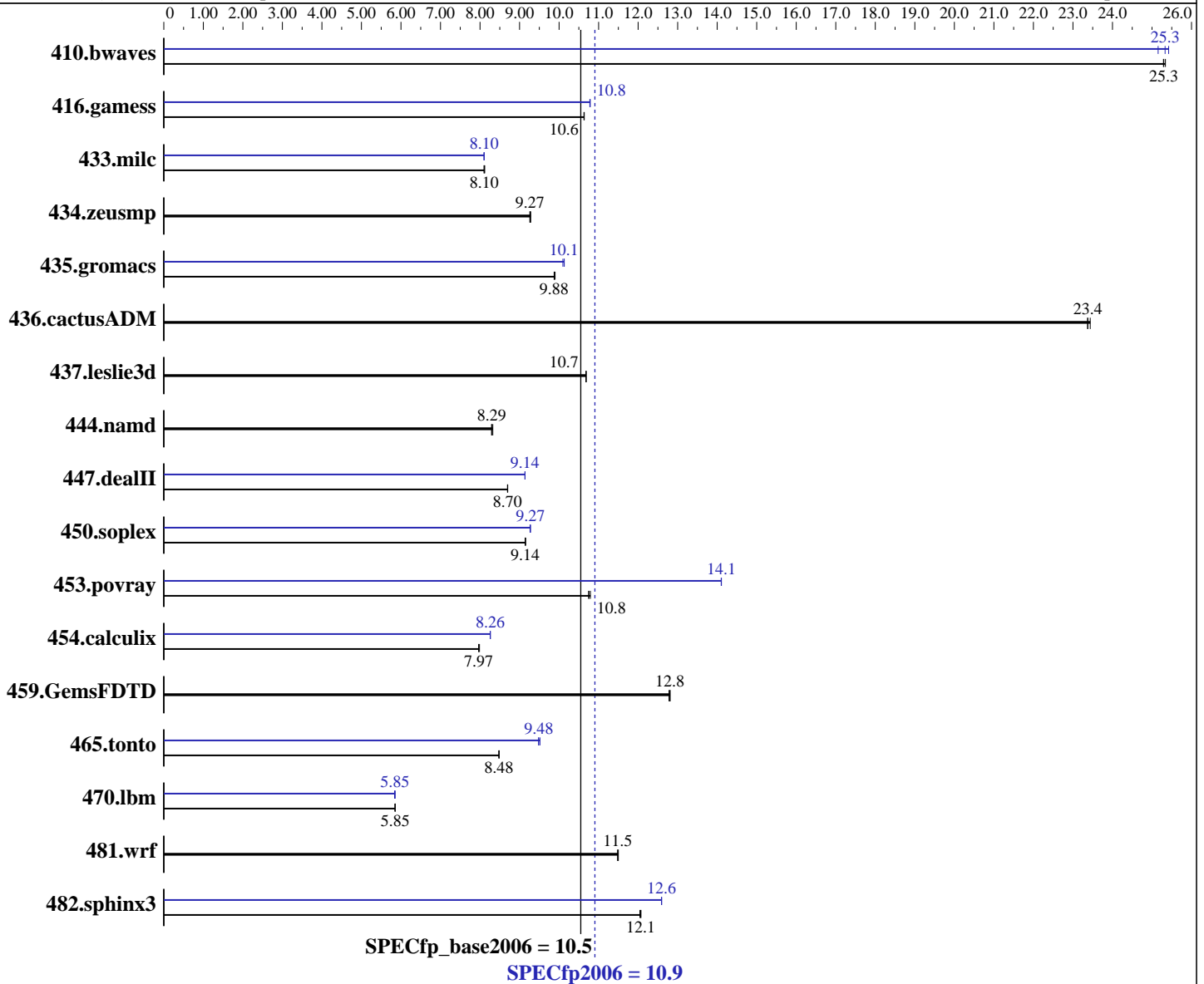
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: May-2007

Software Availability: Apr-2007



Hardware

CPU Name: Intel Xeon 5110
 CPU Characteristics: 1.60 GHz, 4MB L2, 1066MHz bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip

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Software

Operating System: Windows Server 2003, Standard x64 Edition
 Compiler: Intel C++ Compiler for EM64T version 9.1
 Build 20070109, Package-ID W_CC_C_9.1.034
 Intel Fortran Compiler for EM64T version 9.1
 Build 20070109, Package-ID W_FC_C_9.1.034
 Microsoft Visual Studio 2005 (libr. & linker)
 Auto Parallel: Yes
 File System: NTFS
 System State: Default

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: MicroQuill SmartHeap Library 8.1

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	537	25.3	536	25.3	<u>537</u>	<u>25.3</u>	<u>536</u>	<u>25.3</u>	535	25.4	540	25.2
416.gamess	1841	10.6	1842	10.6	<u>1842</u>	<u>10.6</u>	<u>1816</u>	<u>10.8</u>	1817	10.8	1815	10.8
433.milc	1131	8.12	<u>1133</u>	<u>8.10</u>	1133	8.10	1133	8.10	<u>1133</u>	<u>8.10</u>	1133	8.10
434.zeusmp	980	9.28	983	9.26	<u>982</u>	<u>9.27</u>	980	9.28	983	9.26	<u>982</u>	<u>9.27</u>
435.gromacs	<u>723</u>	<u>9.88</u>	721	9.90	723	9.88	705	10.1	707	10.1	<u>705</u>	<u>10.1</u>
436.cactusADM	511	23.4	510	23.4	<u>511</u>	<u>23.4</u>	511	23.4	510	23.4	<u>511</u>	<u>23.4</u>
437.leslie3d	880	10.7	<u>880</u>	<u>10.7</u>	880	10.7	880	10.7	<u>880</u>	<u>10.7</u>	880	10.7
444.namd	<u>967</u>	<u>8.29</u>	964	8.32	967	8.29	<u>967</u>	<u>8.29</u>	964	8.32	967	8.29
447.dealII	1316	8.70	<u>1315</u>	<u>8.70</u>	1315	8.70	1252	9.14	1252	9.14	<u>1252</u>	<u>9.14</u>
450.soplex	912	9.14	<u>912</u>	<u>9.14</u>	911	9.15	900	9.27	<u>899</u>	<u>9.27</u>	899	9.27
453.povray	<u>495</u>	<u>10.8</u>	493	10.8	495	10.7	<u>377</u>	<u>14.1</u>	377	14.1	377	14.1
454.calculix	<u>1035</u>	<u>7.97</u>	1033	7.99	1036	7.97	999	8.26	999	8.26	<u>999</u>	<u>8.26</u>
459.GemsFDTD	<u>828</u>	<u>12.8</u>	830	12.8	828	12.8	<u>828</u>	<u>12.8</u>	830	12.8	828	12.8
465.tonto	1161	8.48	1160	8.49	<u>1161</u>	<u>8.48</u>	1034	9.52	<u>1038</u>	<u>9.48</u>	1038	9.48
470.lbm	2346	5.86	<u>2347</u>	<u>5.85</u>	2350	5.85	2354	5.84	<u>2349</u>	<u>5.85</u>	2349	5.85
481.wrf	971	11.5	973	11.5	<u>973</u>	<u>11.5</u>	971	11.5	973	11.5	<u>973</u>	<u>11.5</u>
482.sphinx3	<u>1615</u>	<u>12.1</u>	1615	12.1	1618	12.0	1548	12.6	<u>1548</u>	<u>12.6</u>	1548	12.6

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

General Notes

The Express5800/120Rg-1 and the Express5800/120Ri-2 models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2 model.

Base Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

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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 shlW32M.lib

C++ benchmarks:

-fast -Qparallel -Qcxx-features -F950000000 shlW32M.lib

Fortran benchmarks:

-fast -Qparallel -F950000000 shlW32M.lib

Benchmarks using both Fortran and C:

-fast -Qparallel -F950000000 shlW32M.lib



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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 shlw32M.lib

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
-F950000000 shlw32M.lib

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 shlw32M.lib

416.gamess: -fast -F950000000 shlw32M.lib

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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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
sh1W32M.lib

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-cpu2006-ic91-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-flags.xml>

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

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