SPEC® CFP2006 Result

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NEC Corporation

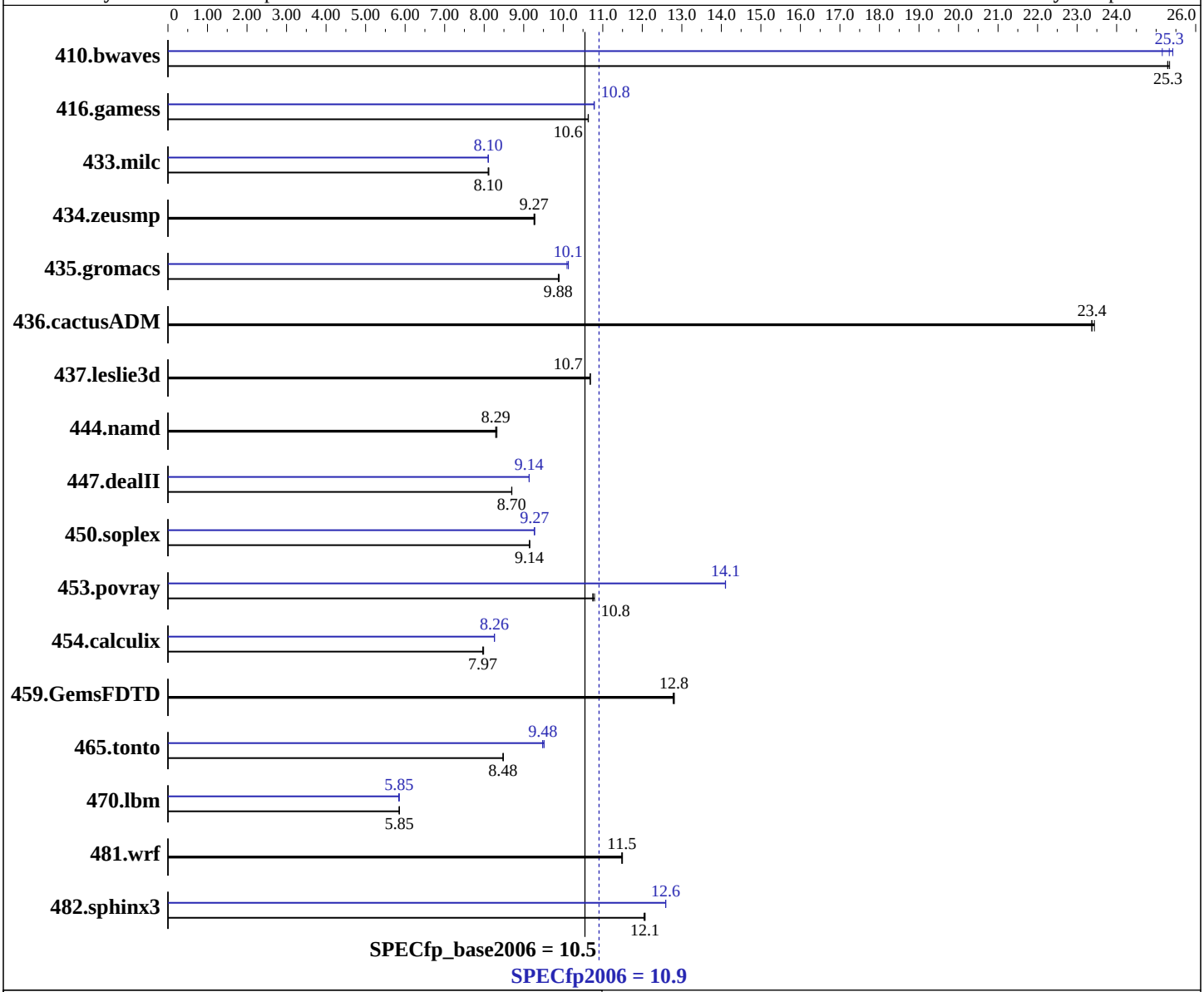
Express5800/120Ri-2
(Intel Xeon processor 5110)

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

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 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

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`

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 shlW32M.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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