SPEC® CFP2006 Result

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NEC Corporation

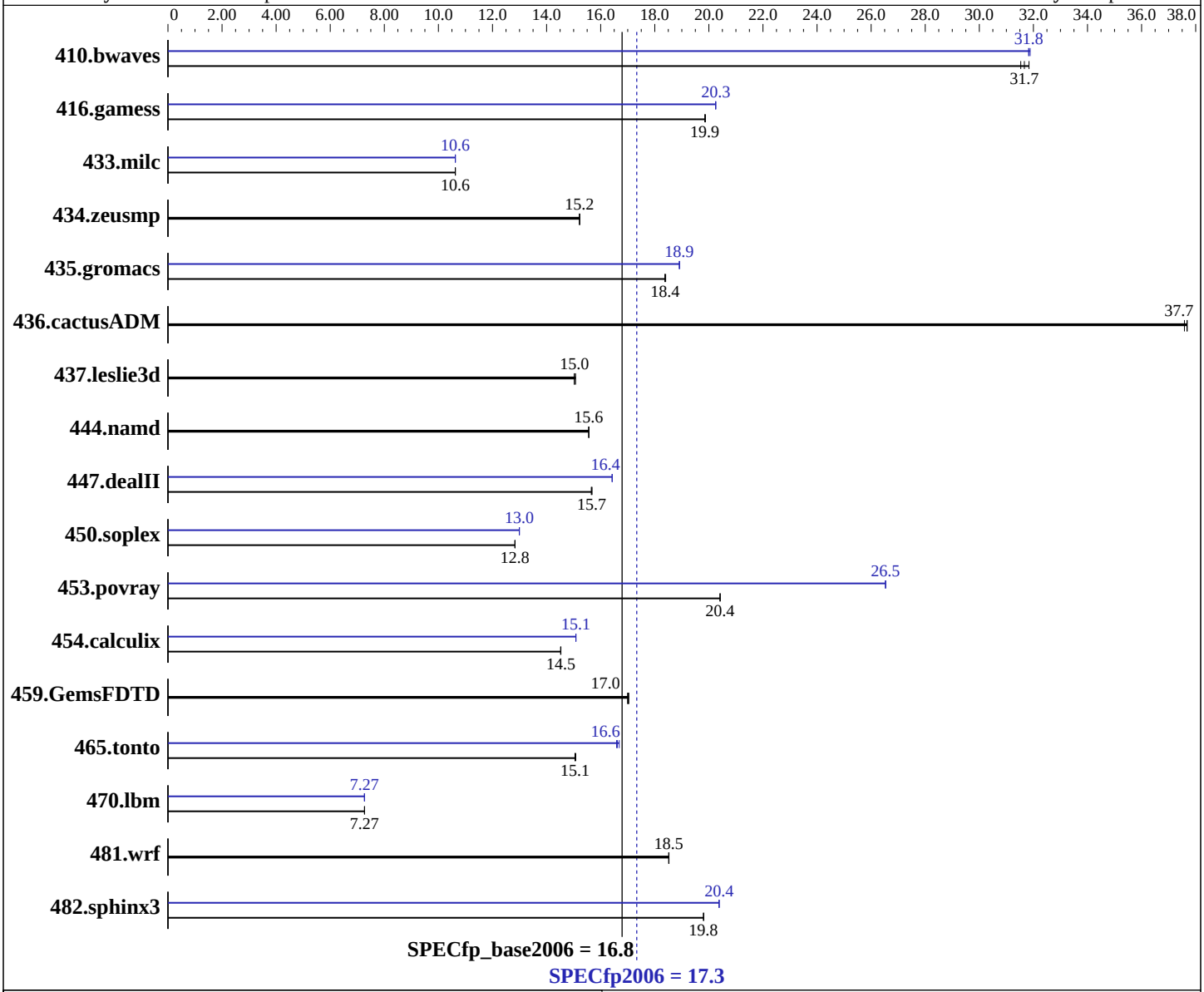
Express5800/120Rg-1
(Intel Xeon processor 5160)

SPECfp®2006 = 17.3

SPECfp_base2006 = 16.8

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

Test date: May-2007
Hardware Availability: May-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon 5160
CPU Characteristics:	3.00 GHz, 4MB L2, 1333MHz bus
CPU MHz:	3000
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 (8x1 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	**429**	**31.7**	427	31.8	431	31.5	427	31.8	426	31.9	**427**	**31.8**
416.gamess	986	19.9	985	19.9	**986**	**19.9**	**967**	**20.3**	967	20.3	967	20.2
433.milc	864	10.6	864	10.6	**864**	**10.6**	864	10.6	**864**	**10.6**	864	10.6
434.zeusmp	598	15.2	598	15.2	**598**	**15.2**	598	15.2	598	15.2	**598**	**15.2**
435.gromacs	388	18.4	**388**	**18.4**	389	18.4	**378**	**18.9**	378	18.9	378	18.9
436.cactusADM	318	37.6	**317**	**37.7**	317	37.7	318	37.6	**317**	**37.7**	317	37.7
437.leslie3d	**625**	**15.0**	624	15.1	626	15.0	**625**	**15.0**	624	15.1	626	15.0
444.namd	515	15.6	**515**	**15.6**	515	15.6	515	15.6	**515**	**15.6**	515	15.6
447.dealII	730	15.7	731	15.7	**730**	**15.7**	**696**	**16.4**	696	16.4	696	16.4
450.soplex	**650**	**12.8**	650	12.8	650	12.8	642	13.0	**642**	**13.0**	642	13.0
453.povray	261	20.4	261	20.4	**261**	**20.4**	201	26.5	201	26.5	**201**	**26.5**
454.calculix	**568**	**14.5**	568	14.5	568	14.5	547	15.1	**547**	**15.1**	547	15.1
459.GemsFDTD	**624**	**17.0**	624	17.0	623	17.0	**624**	**17.0**	624	17.0	623	17.0
465.tonto	**654**	**15.1**	653	15.1	654	15.0	590	16.7	**592**	**16.6**	593	16.6
470.lbm	1890	7.27	**1890**	**7.27**	1890	7.27	1891	7.27	1891	7.27	**1891**	**7.27**
481.wrf	603	18.5	603	18.5	**603**	**18.5**	603	18.5	603	18.5	**603**	**18.5**
482.sphinx3	984	19.8	984	19.8	**984**	**19.8**	956	20.4	**956**	**20.4**	956	20.4

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

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

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