



# SPEC® CFP2006 Result

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## NEC Corporation

Express5800/120Ri-2  
(Intel Xeon processor 5160)

SPECfp®2006 = 17.3

SPECfp\_base2006 = 16.8

CPU2006 license: 9006

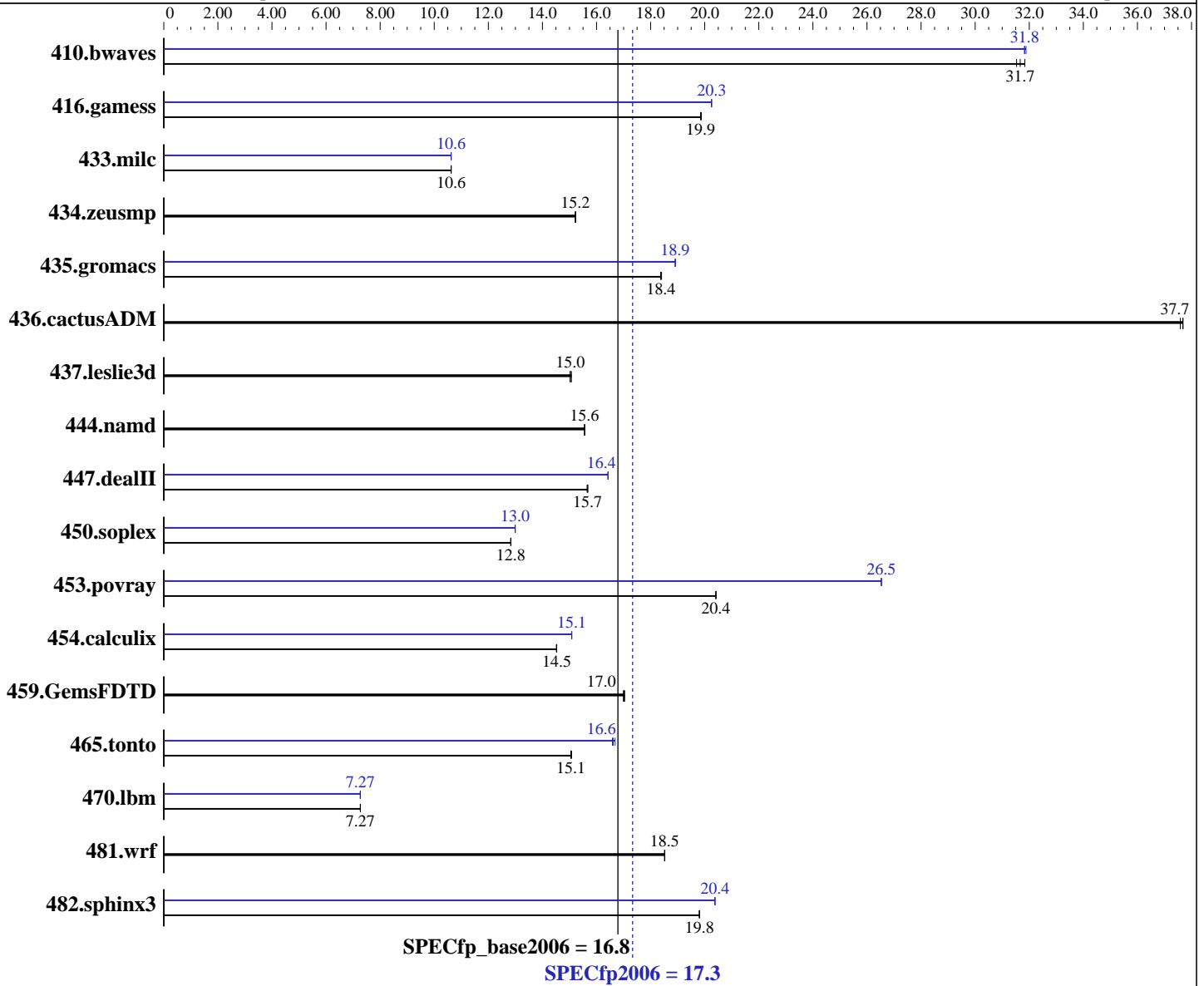
Test sponsor: NEC Corporation

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



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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 sh1W32M.lib

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -fast -Qcxx-features  
-F950000000 sh1W32M.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 sh1W32M.lib

416.gamess: -fast -F950000000 sh1W32M.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 questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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