SPEC® CFP2006 Result
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NEC Corporation

Express5800/120Rg-1
(Intel Xeon processor X5355)

$SPECfp^{®}2006 =$ 16.6
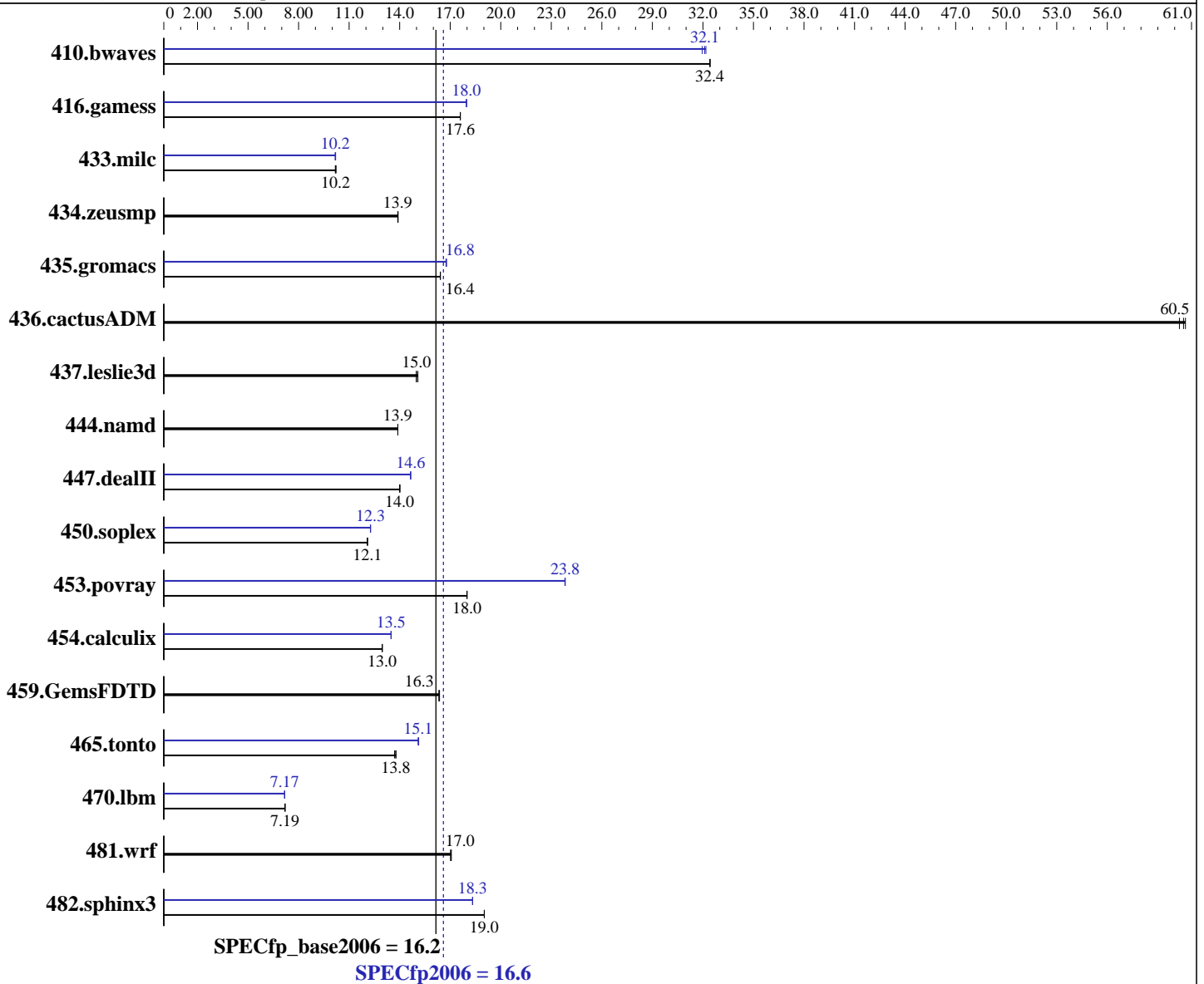
$SPECfp\_base2006 =$ 16.2

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

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

Benchmark	Result
410.bwaves	32.1 / 32.4
416.gamess	18.0 / 17.6
433.milc	10.2 / 10.2
434.zeusmp	13.9
435.gromacs	16.8 / 16.4
436.cactusADM	60.5
437.leslie3d	15.0
444.namd	13.9
447.dealII	14.6 / 14.0
450.soplex	12.3 / 12.1
453.povray	23.8 / 18.0
454.calculix	13.5 / 13.0
459.GemsFDTD	16.3
465.tonto	15.1 / 13.8
470.lbm	7.17 / 7.19
481.wrf	17.0
482.sphinx3	18.3 / 19.0

SPECfp_base2006 = 16.2
SPECfp2006 = 16.6

Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
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

Continued on next page

Software

Operating System:	Windows Server 2003, Enterprise 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	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	64-bit
Memory:	8 GB (8x1 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)	Other Software:	None
Disk Subsystem:	1x73.2 GB SAS, 15000RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	419	32.4	419	32.4	**419**	**32.4**	**423**	**32.1**	422	32.2	425	32.0
416.gamess	**1113**	**17.6**	1112	17.6	1113	17.6	**1090**	**18.0**	1090	18.0	1090	18.0
433.milc	898	10.2	902	10.2	**899**	**10.2**	900	10.2	**902**	**10.2**	902	10.2
434.zeusmp	654	13.9	**655**	**13.9**	655	13.9	654	13.9	**655**	**13.9**	655	13.9
435.gromacs	435	16.4	**435**	**16.4**	435	16.4	426	16.8	**426**	**16.8**	426	16.7
436.cactusADM	**197**	**60.5**	197	60.6	198	60.3	**197**	**60.5**	197	60.6	198	60.3
437.leslie3d	627	15.0	**627**	**15.0**	623	15.1	627	15.0	**627**	**15.0**	623	15.1
444.namd	577	13.9	**577**	**13.9**	577	13.9	577	13.9	**577**	**13.9**	577	13.9
447.dealII	817	14.0	816	14.0	**817**	**14.0**	781	14.6	**781**	**14.6**	781	14.7
450.soplex	690	12.1	**690**	**12.1**	690	12.1	680	12.3	**680**	**12.3**	679	12.3
453.povray	**296**	**18.0**	296	18.0	296	18.0	223	23.8	**223**	**23.8**	223	23.8
454.calculix	**636**	**13.0**	637	13.0	636	13.0	611	13.5	**612**	**13.5**	612	13.5
459.GemsFDTD	648	16.4	650	16.3	**649**	**16.3**	648	16.4	650	16.3	**649**	**16.3**
465.tonto	**715**	**13.8**	714	13.8	718	13.7	652	15.1	650	15.1	**651**	**15.1**
470.lbm	**1910**	**7.19**	1909	7.20	1910	7.19	1916	7.17	**1916**	**7.17**	1916	7.17
481.wrf	654	17.1	656	17.0	**656**	**17.0**	654	17.1	656	17.0	**656**	**17.0**
482.sphinx3	**1025**	**19.0**	1024	19.0	1025	19.0	1064	18.3	**1063**	**18.3**	1063	18.3

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
```

C++ benchmarks:
```
-fast -Qparallel -Qcxx-features -F950000000
```

Fortran benchmarks:
```
-fast -Qparallel -F950000000
```

Benchmarks using both Fortran and C:
```
-fast -Qparallel -F950000000
```

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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`

C++ benchmarks:

    444.namd: `basepeak = yes`

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

    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`

    416.gamess: `-fast -F950000000`

    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

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.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-cpu2006-ic91-flags.20090714.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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