SPEC® CFP2006 Result
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NEC Corporation

Express5800/120Rg-1
(Intel Xeon processor 5130)

$SPECfp^{®}\_rate2006 =$ 36.9

$SPECfp\_rate\_base2006 =$ 35.8
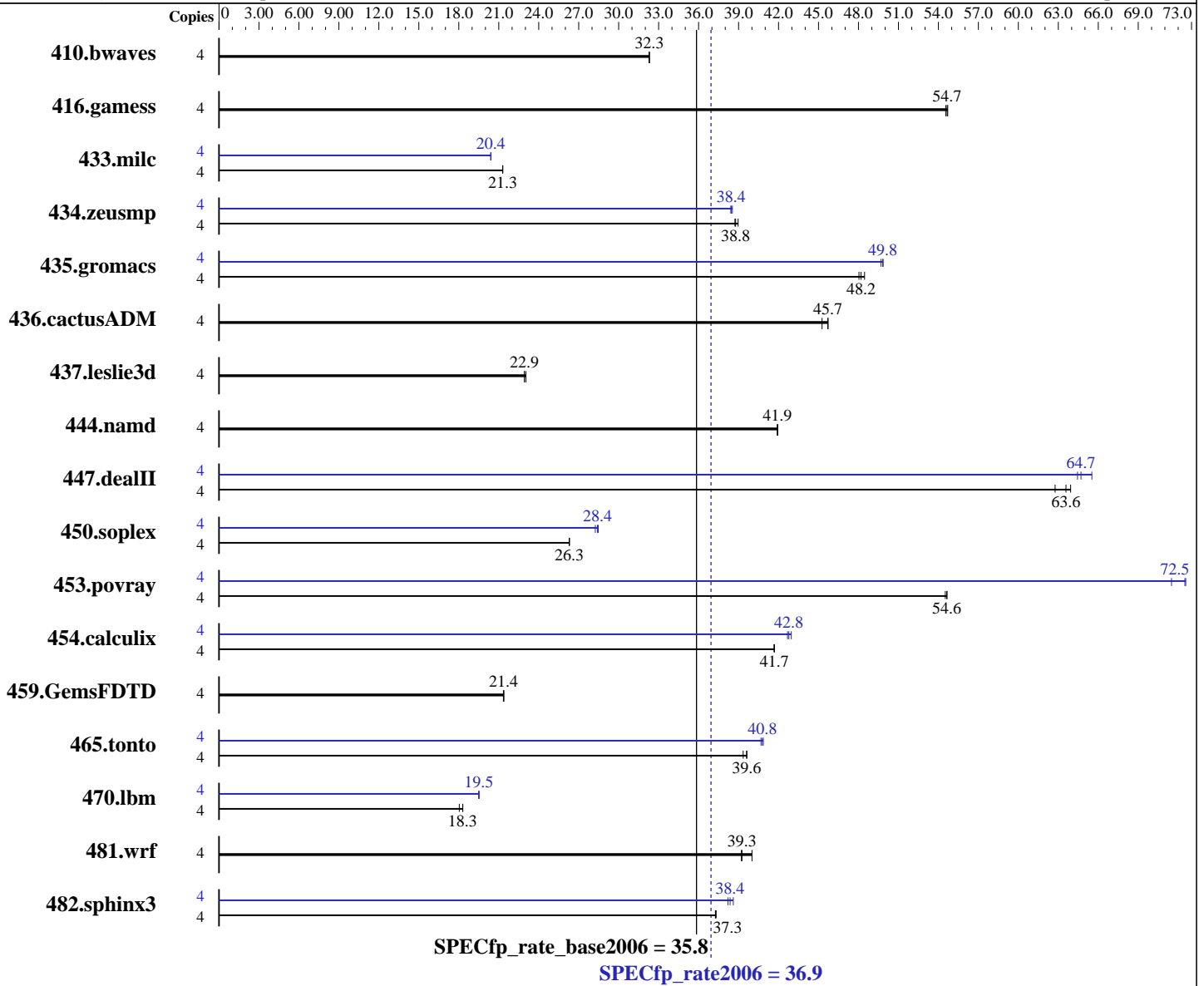
CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

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

SPECfp_rate_base2006 = 35.8

SPECfp_rate2006 = 36.9

Copies		
410.bwaves	4	32.3
416.gamess	4	54.7
433.milc	4	20.4
	4	21.3
434.zeusmp	4	38.4
	4	38.8
435.gromacs	4	49.8
	4	48.2
436.cactusADM	4	45.7
437.leslie3d	4	22.9
444.namd	4	41.9
447.dealII	4	64.7
	4	63.6
450.soplex	4	28.4
	4	26.3
453.povray	4	72.5
	4	54.6
454.calculix	4	42.8
	4	41.7
459.GemsFDTD	4	21.4
465.tonto	4	40.8
	4	39.6
470.lbm	4	19.5
	4	18.3
481.wrf	4	39.3
482.sphinx3	4	38.4
	4	37.3

Hardware

CPU Name:	Intel Xeon 5130
CPU Characteristics:	2.00 GHz, 4 MB L2, 1333 MHz bus
CPU MHz:	2000
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

Continued on next page

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049
	Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package ID: l_fc_c_9.1.045
Auto Parallel:	No
File System:	ext2

Continued on next page

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L3 Cache:	None	System State:	Multiuser, Runlevel 3
Other Cache:	None	Base Pointers:	64-bit
Memory:	8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1x146.5 GB SAS, 15000RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1683	32.3	1683	32.3	**1683**	**32.3**	4	1683	32.3	1683	32.3	**1683**	**32.3**
416.gamess	4	**1433**	**54.7**	1436	54.6	1432	54.7	4	**1433**	**54.7**	1436	54.6	1432	54.7
433.milc	4	1724	21.3	1724	21.3	**1724**	**21.3**	4	1800	20.4	**1799**	**20.4**	1799	20.4
434.zeusmp	4	934	39.0	**939**	**38.8**	940	38.7	4	947	38.4	**947**	**38.4**	945	38.5
435.gromacs	4	**593**	**48.2**	589	48.5	595	48.0	4	575	49.7	**573**	**49.8**	573	49.9
436.cactusADM	4	1056	45.3	**1046**	**45.7**	1045	45.7	4	1056	45.3	**1046**	**45.7**	1045	45.7
437.leslie3d	4	1632	23.0	**1640**	**22.9**	1641	22.9	4	1632	23.0	**1640**	**22.9**	1641	22.9
444.namd	4	766	41.9	**765**	**41.9**	765	41.9	4	766	41.9	**765**	**41.9**	765	41.9
447.dealII	4	**720**	**63.6**	729	62.8	716	63.9	4	**707**	**64.7**	710	64.4	698	65.5
450.soplex	4	**1269**	**26.3**	1268	26.3	1269	26.3	4	1172	28.5	**1174**	**28.4**	1181	28.2
453.povray	4	389	54.6	**390**	**54.6**	390	54.5	4	**294**	**72.5**	293	72.6	298	71.5
454.calculix	4	**792**	**41.7**	792	41.7	792	41.7	4	768	43.0	**772**	**42.8**	773	42.7
459.GemsFDTD	4	**1987**	**21.4**	1985	21.4	1988	21.3	4	**1987**	**21.4**	1985	21.4	1988	21.3
465.tonto	4	993	39.6	1000	39.3	**994**	**39.6**	4	967	40.7	963	40.9	**965**	**40.8**
470.lbm	4	**3004**	**18.3**	3047	18.0	3003	18.3	4	2816	19.5	**2817**	**19.5**	2819	19.5
481.wrf	4	1139	39.2	1117	40.0	**1138**	**39.3**	4	1139	39.2	1117	40.0	**1138**	**39.3**
482.sphinx3	4	2092	37.3	2089	37.3	**2091**	**37.3**	4	2020	38.6	**2032**	**38.4**	2040	38.2

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs

General Notes

The system bus runs at 1333 MHz
All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

The Express5800/120Rg-1(Intel Xeon Prosessor 5130) and
the Express5800/120Ri-2(Intel Xeon Prosessor 5130) models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2(Intel Xeon Prosessor 5130) model.

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Software Availability: Apr-2007

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

Base Portability Flags

          410.bwaves: -DSPEC_CPU_LP64
          416.gamess: -DSPEC_CPU_LP64
            433.milc: -DSPEC_CPU_LP64
          434.zeusmp: -DSPEC_CPU_LP64
         435.gromacs: -DSPEC_CPU_LP64 -nofor_main
       436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
         437.leslie3d: -DSPEC_CPU_LP64
            444.namd: -DSPEC_CPU_LP64
           447.dealII: -DSPEC_CPU_LP64
          450.soplex: -DSPEC_CPU_LP64
          453.povray: -DSPEC_CPU_LP64
         454.calculix: -DSPEC_CPU_LP64 -nofor_main
        459.GemsFDTD: -DSPEC_CPU_LP64
           465.tonto: -DSPEC_CPU_LP64
            470.lbm: -DSPEC_CPU_LP64
             481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
         482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
    -fast

C++ benchmarks:
    -fast

Fortran benchmarks:
    -fast

Benchmarks using both Fortran and C:
    -fast

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Peak Compiler Invocation

C benchmarks:
```
/opt/intel/cc/9.1.049/bin/icc -I/opt/intel/cc/9.1.049/include
-L/opt/intel/cc/9.1.049/lib
```

C++ benchmarks (except as noted below):
```
icpc
```

```
450.soplex: /opt/intel/cc/9.1.049/bin/icpc
            -I/opt/intel/cc/9.1.049/include -L/opt/intel/cc/9.1.049/lib
```

Fortran benchmarks (except as noted below):
```
ifort
```

```
434.zeusmp: /opt/intel/fc/9.1.045/bin/ifort
            -I/opt/intel/fc/9.1.045/include -L/opt/intel/fc/9.1.045/lib
```

Benchmarks using both Fortran and C:
```
icc ifort
```

Peak Portability Flags

```
   410.bwaves: -DSPEC_CPU_LP64
   416.gamess: -DSPEC_CPU_LP64
  435.gromacs: -DSPEC_CPU_LP64 -nofor_main
 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
  437.leslie3d: -DSPEC_CPU_LP64
    444.namd: -DSPEC_CPU_LP64
    447.dealII: -DSPEC_CPU_LP64
   453.povray: -DSPEC_CPU_LP64
  454.calculix: -DSPEC_CPU_LP64 -nofor_main
 459.GemsFDTD: -DSPEC_CPU_LP64
    465.tonto: -DSPEC_CPU_LP64
     481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
    433.milc: -prof_gen(pass 1) -prof_use(pass 2) -fast
```

```
    470.lbm: Same as 433.milc
```

```
  482.sphinx3: -fast
```

C++ benchmarks:

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Peak Optimization Flags (Continued)

444.namd: basepeak = yes

447.dealII: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: `-fast`

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

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-ic91-FP-linux-flags.html

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

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

Tested with SPEC CPU2006 v1.0.
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