## NEC Corporation

### Express5800/120Rh-1

| Intel Xeon processor E5405 |

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### SPEC® CFP2006 Result

**SPECfp® _rate2006 = 62.2**

**SPECfp_rate_base2006 = 56.4**

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| Test date: | Jan-2008 |
| Hardware Availability: | Dec-2007 |
| Software Availability: | Nov-2007 |

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**CPU2006 license:**

9006

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**Test sponsor:**

NEC Corporation

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** Tested by:**

NEC Corporation

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**Hardware**

- **CPU Name:** Intel Xeon E5405
- **CPU Characteristics:** 2.00 GHz, 2x6 MB L2 shared, 1333 MHz bus
- **CPU MHz:** 2000
- **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:** 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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**Software**

- **Operating System:** SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
- **Compiler:** Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
- **Auto Parallel:** Yes
- **File System:** ext2

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**410.bwaves**

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Considered on next page
NEC Corporation
Express5800/120Rh-1
(Intel Xeon processor E5405)

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation
L3 Cache: None
Other Cache: None
Memory: 12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

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
OMP_NUM_THREADS set to number of cores (default).

Platform Notes

Bios settings:
Intel SpeedStep Technology: Disabled

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
NEC Corporation
Express5800/120Rh-1
(Intel Xeon processor E5405)

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

SPECfp_rate2006 = 62.2
SPECfp_rate_base2006 = 56.4

CPU2006 license: 9006
Test date: Jan-2008
Test sponsor: NEC Corporation
Hardware Availability: Dec-2007
Tested by: NEC Corporation
Software Availability: Nov-2007

General Notes
All benchmarks compiled in 64-bit mode except 437.leslie3d,
450.soplex, 470.lbm and 482.sphinx3, for peak, are
compiled in 32-bit mode

The NEC Express5800/120Rh-1(Intel Xeon Processor E5405),
the NEC Express5800/120Rj-2(Intel Xeon Processor E5405),
the Bull NovaScale R440 E1 (Intel Xeon E5405,2.00GHz) and
the Bull NovaScale R460 E1 (Intel Xeon E5405,2.00GHz) models are electronically equivalent.
The results have been measured on a NEC Express5800/120Rj-2(Intel Xeon Processor E5405) model.

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
SPEC CFP2006 Result

NEC Corporation
Express5800/120Rh-1
(Intel Xeon processor E5405)

SPECfp_rate2006 = 62.2
SPECfp_rate_base2006 = 56.4

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

Test date: Jan-2008
Hardware Availability: Dec-2007
Software Availability: Nov-2007

Base Optimization Flags

C benchmarks:
    -fast

C++ benchmarks:
    -fast

Fortran benchmarks:
    -fast

Benchmarks using both Fortran and C:
    -fast

Peak Compiler Invocation

C benchmarks (except as noted below):
    /opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
    -I/opt/intel/cc/10.1.008/include

    433.milc: icc

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

    450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
                -I/opt/intel/cc/10.1.008/include

Fortran benchmarks (except as noted below):
    ifort

    437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
                  -I/opt/intel/fc/10.1.008/include

Benchmarks using both Fortran and C:
    icc ifort

Peak 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
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64

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SPEC CFP2006 Result

NEC Corporation
Express5800/120Rh-1 (Intel Xeon processor E5405)

| SPECfp_rate2006 | 62.2 |
| SPECfp_rate_base2006 | 56.4 |

CPU2006 license: 9006
Test date: Jan-2008
Test sponsor: NEC Corporation
Hardware Availability: Dec-2007
Tested by: NEC Corporation
Software Availability: Nov-2007

Peak Portability Flags (Continued)

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 -fno-alias
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gameess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

Continued on next page
SPEC CFP2006 Result

NEC Corporation
Express5800/120Rh-1
(Intel Xeon processor E5405)

SPECfp_rate2006 = 62.2
SPECfp_rate_base2006 = 56.4

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

Test date: Jan-2008
Hardware Availability: Dec-2007
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090714.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090714.01.xml

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

Tested with SPEC CPU2006 v1.0.
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