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

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

SPECint_rate2006 = 91.5
SPECint_rate_base2006 = 86.1

Hardware
CPU Name: Intel Xeon X5355
CPU Characteristics: 2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz: 2666
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
L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

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 10.0 - Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel: No
File System: ext2
System State: Multiuser, Runlevel 3
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap library 8.1, binutils-2.17.tar.gz, Version 2.17
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

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode.

The Express5800/120Rg-1(Intel Xeon processor X5355) and
the Express5800/120Ri-2(Intel Xeon processor X5355) models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2(Intel Xeon processor X5355) model.

Base Compiler Invocation

C benchmarks:
   icc

C++ benchmarks:
   icpc
SPEC CINT2006 Result

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Base Portability Flags
- 400.perlbench: -DSPEC_CPU_LINUX_IA32
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags
- C benchmarks: -fast
- C++ benchmarks:
  - -xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
  - -L/opt/SmartHeap_8.1/lib -lsmartheap

Base Other Flags
- C benchmarks:
  - 403.gcc: -Dalloca=_alloca

Peak Compiler Invocation
- C benchmarks (except as noted below):
  - icc
    - 401.bzip2: /opt/intel/cce/10.0.023/bin/icc
    - 456.hmmer: /opt/intel/cce/10.0.023/bin/icc
- C++ benchmarks:
  - icpc

Peak Portability Flags
- 400.perlbench: -DSPEC_CPU_LINUX_IA32
- 401.bzip2: -DSPEC_CPU_LP64
- 456.hmmer: -DSPEC_CPU_LP64
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX
SPEC CINT2006 Result

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Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
-prof-gen(pass 1) -prof-use(pass 2) -fast

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
## NEC Corporation

**Express5800/120Rg-1**  
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You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/NEC-ic10-linux-flags.xml

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Tested with SPEC CPU2006 v1.0.  