SPEC® CINT2006 Result

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NEC Corporation

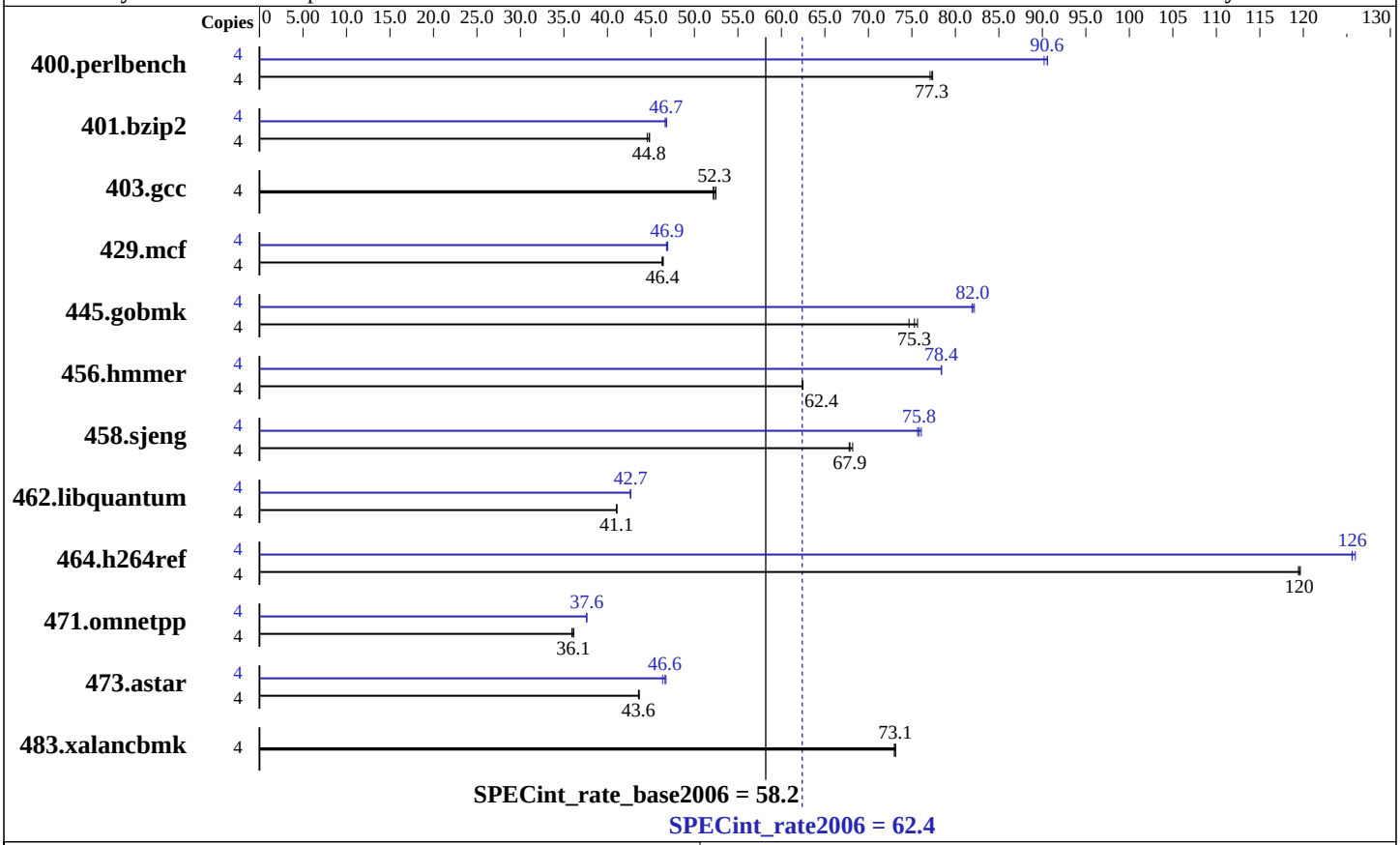
Express5800/120Rg-1
(Intel Xeon processor 5160)

SPECint®_rate2006 = 62.4

SPECint_rate_base2006 = 58.2

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

Test date: Jun-2007
Hardware Availability: May-2007
Software Availability: Jun-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
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 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

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	507	77.1	**506**	**77.3**	505	77.4	4	**432**	**90.6**	433	90.2	431	90.6
401.bzip2	4	**862**	**44.8**	861	44.8	866	44.6	4	**826**	**46.7**	828	46.6	825	46.8
403.gcc	4	617	52.2	**616**	**52.3**	614	52.5	4	617	52.2	**616**	**52.3**	614	52.5
429.mcf	4	788	46.3	786	46.4	**787**	**46.4**	4	777	46.9	780	46.8	**778**	**46.9**
445.gobmk	4	562	74.7	**557**	**75.3**	555	75.6	4	512	81.9	511	82.2	**512**	**82.0**
456.hmmer	4	**598**	**62.4**	597	62.5	598	62.4	4	**476**	**78.4**	476	78.4	476	78.4
458.sjeng	4	714	67.8	710	68.2	**713**	**67.9**	4	640	75.7	636	76.1	**638**	**75.8**
462.libquantum	4	2019	41.1	**2018**	**41.1**	2018	41.1	4	1941	42.7	**1942**	**42.7**	1944	42.6
464.h264ref	4	**740**	**120**	741	119	740	120	4	**705**	**126**	705	126	703	126
471.omnetpp	4	696	35.9	692	36.1	**693**	**36.1**	4	665	37.6	**665**	**37.6**	664	37.6
473.astar	4	644	43.6	643	43.7	**644**	**43.6**	4	601	46.7	606	46.3	**602**	**46.6**
483.xalancbmk	4	378	73.1	**378**	**73.1**	378	73.0	4	378	73.1	**378**	**73.1**	378	73.0

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 5160) and
the Express5800/120Ri-2(Intel Xeon processor 5160) models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2(Intel Xeon processor 5160) model.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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

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

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

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