SPEC® CINT2006 Result

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NEC Corporation

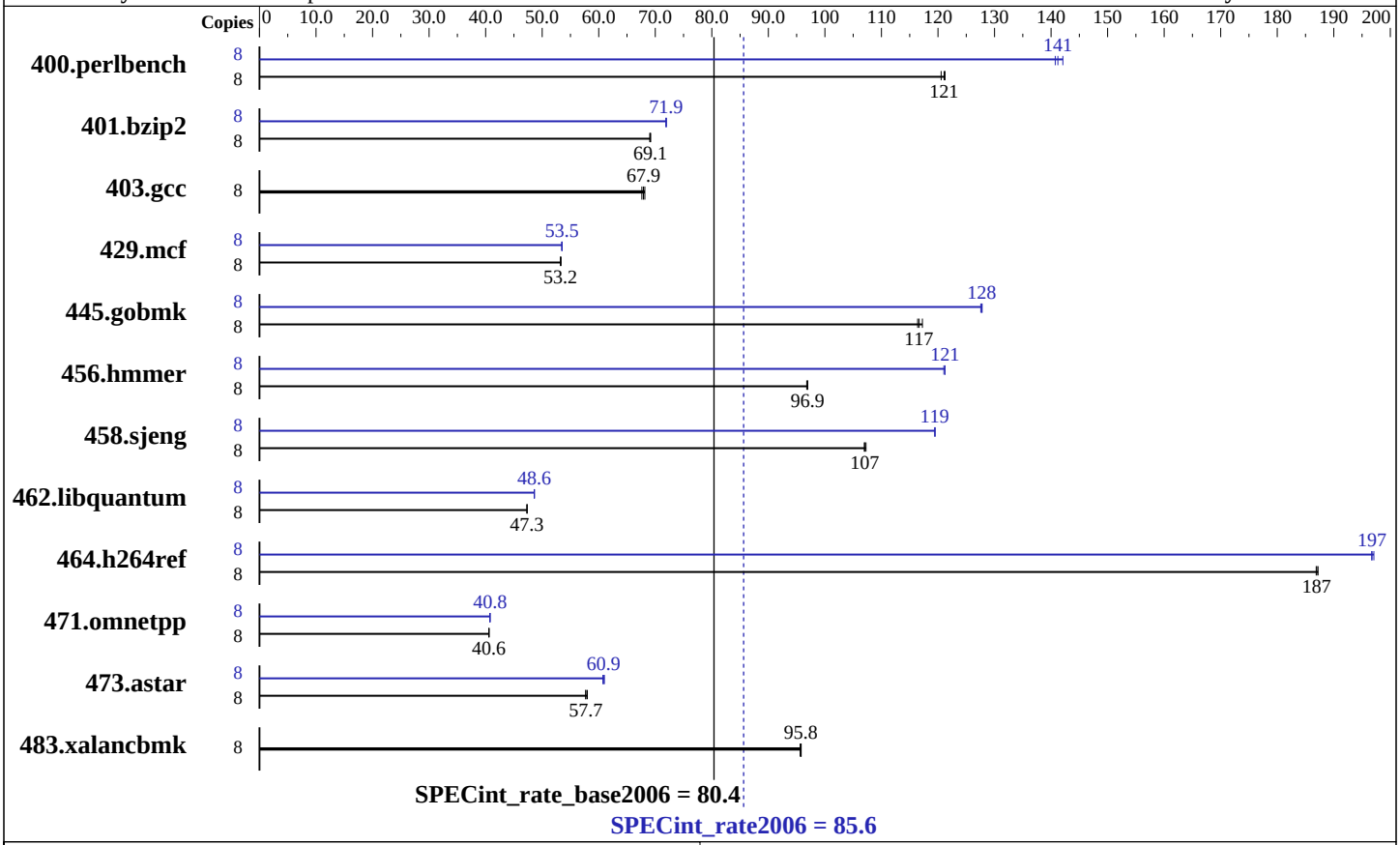
Express5800/120Bb-m6
(Intel Xeon processor E5345)

SPECint®_rate2006 = 85.6

SPECint_rate_base2006 = 80.4

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

Test date: Nov-2007
Hardware Availability: Jan-2007
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2333
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 PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x73.2 GB SAS, 10000RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
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	8	648	121	645	121	**646**	**121**	8	**554**	**141**	555	141	550	142
401.bzip2	8	1118	69.0	1116	69.2	**1117**	**69.1**	8	**1073**	**71.9**	1074	71.9	1073	72.0
403.gcc	8	945	68.2	952	67.6	**948**	**67.9**	8	945	68.2	952	67.6	**948**	**67.9**
429.mcf	8	1368	53.3	1371	53.2	**1370**	**53.2**	8	**1363**	**53.5**	1363	53.5	1366	53.4
445.gobmk	8	716	117	**719**	**117**	721	116	8	**657**	**128**	658	128	657	128
456.hmmer	8	771	96.8	**770**	**96.9**	770	96.9	8	616	121	**616**	**121**	617	121
458.sjeng	8	902	107	905	107	**904**	**107**	8	810	119	**810**	**119**	810	119
462.libquantum	8	**3503**	**47.3**	3503	47.3	3502	47.3	8	3410	48.6	**3410**	**48.6**	3410	48.6
464.h264ref	8	947	187	946	187	**947**	**187**	8	900	197	898	197	**900**	**197**
471.omnetpp	8	**1232**	**40.6**	1231	40.6	1233	40.5	8	1228	40.7	1226	40.8	**1226**	**40.8**
473.astar	8	968	58.0	974	57.7	**973**	**57.7**	8	921	61.0	925	60.7	**923**	**60.9**
483.xalancbmk	8	576	95.8	**576**	**95.8**	577	95.6	8	576	95.8	**576**	**95.8**	577	95.6

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
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`

Continued on next page

Base Portability Flags (Continued)

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
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

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: `-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: `-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: `Same as 456.hmmer`

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-INT-ia32-intel64-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-ic10-INT-ia32-intel64-linux-flags.xml`

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