SPEC® CINT2006 Result

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NEC Corporation

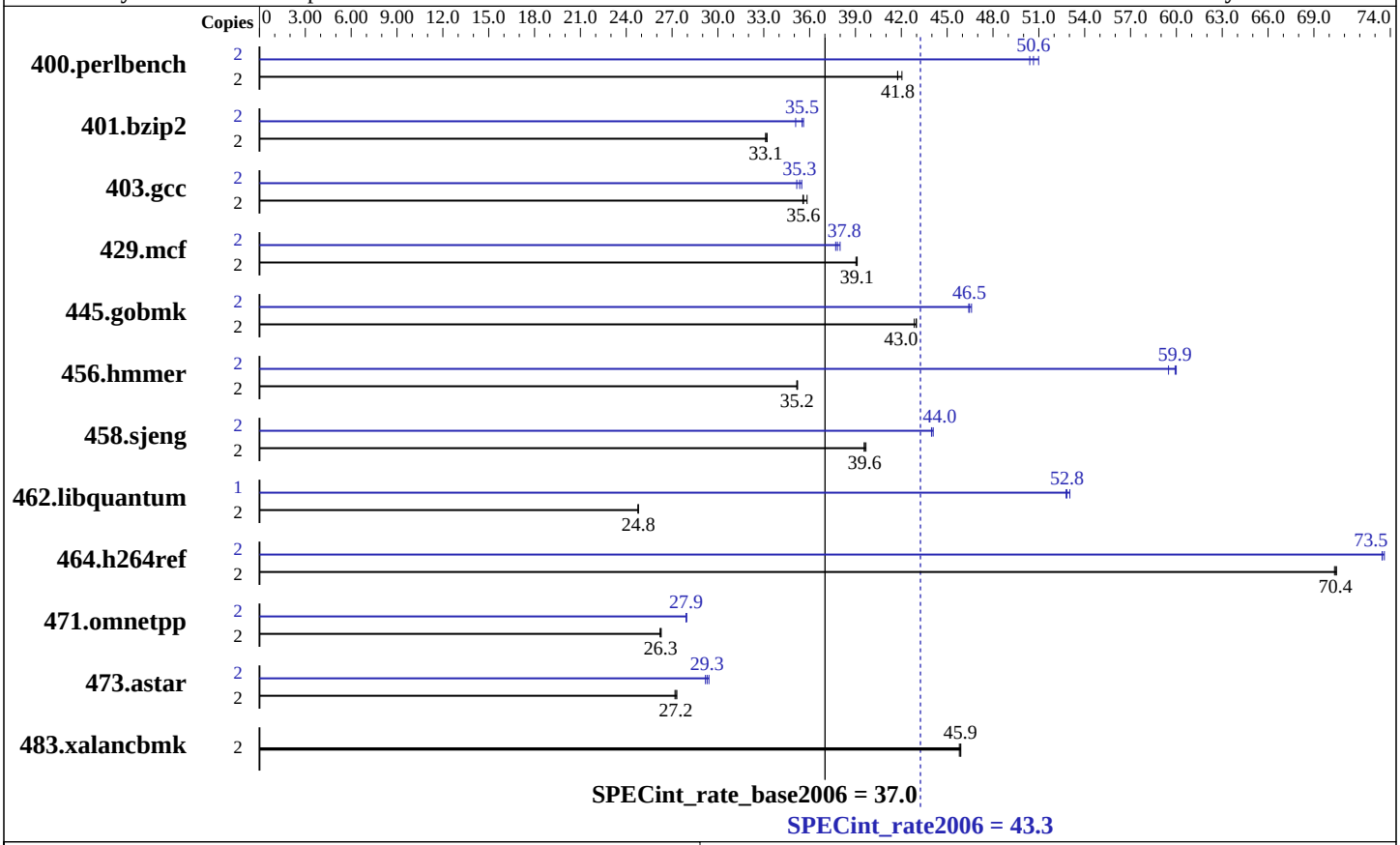
Express5800/120Bb-6
(Intel Xeon X5260)

SPECint®_rate2006 = 43.3

SPECint_rate_base2006 = 37.0

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

Test date: May-2008
Hardware Availability: Feb-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5260
CPU Characteristics:	3.33 GHz, 6 MB L2, 1333 MHz bus
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (4x4 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x73.2 GB SAS, 15000RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
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	2	468	41.8	**468**	**41.8**	465	42.0	2	383	51.0	**386**	**50.6**	388	50.4
401.bzip2	2	**582**	**33.1**	581	33.2	583	33.1	2	542	35.6	550	35.1	**544**	**35.5**
403.gcc	2	**452**	**35.6**	453	35.6	449	35.8	2	454	35.5	**455**	**35.3**	458	35.2
429.mcf	2	467	39.0	466	39.1	**467**	**39.1**	2	480	38.0	**482**	**37.8**	484	37.7
445.gobmk	2	**488**	**43.0**	488	43.0	490	42.8	2	**452**	**46.5**	452	46.4	450	46.6
456.hmmer	2	**530**	**35.2**	531	35.2	530	35.2	2	**311**	**59.9**	311	60.0	314	59.5
458.sjeng	2	610	39.7	612	39.6	**611**	**39.6**	2	549	44.1	**550**	**44.0**	550	44.0
462.libquantum	2	**1672**	**24.8**	1672	24.8	1673	24.8	1	391	53.0	393	52.8	**392**	**52.8**
464.h264ref	2	**629**	**70.4**	628	70.5	629	70.3	2	601	73.6	**602**	**73.5**	602	73.5
471.omnetpp	2	477	26.2	475	26.3	**476**	**26.3**	2	447	28.0	**448**	**27.9**	448	27.9
473.astar	2	**515**	**27.2**	516	27.2	514	27.3	2	477	29.4	481	29.2	**479**	**29.3**
483.xalancbmk	2	301	45.8	**301**	**45.9**	301	45.9	2	301	45.8	**301**	**45.9**	301	45.9

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
 OMP_NUM_THREADS set to number of cores
```

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2,
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`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
`-fast -inline-calloc -opt-malloc-options=3`

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/10.1.008/bin/icc`
`-L/opt/intel/cce/10.1.008/lib`
`-I/opt/intel/cce/10.1.008/include`

456.hmmer: `/opt/intel/cce/10.1.008/bin/icc`
`-L/opt/intel/cce/10.1.008/lib`
`-I/opt/intel/cce/10.1.008/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:

Continued on next page

Peak Optimization Flags (Continued)

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 -prefetch`

403.gcc: `-fast -inline-calloc -opt-malloc-options=3`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-fast -unroll2 -ansi-alias -opt-multi-version-aggressive`

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

462.libquantum: `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`

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 -opt-ra-region-strategy=block -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap`

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-Intel-ic10.1-INT-ia32-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.xml`

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