SPEC® CINT2006 Result

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Bull SAS

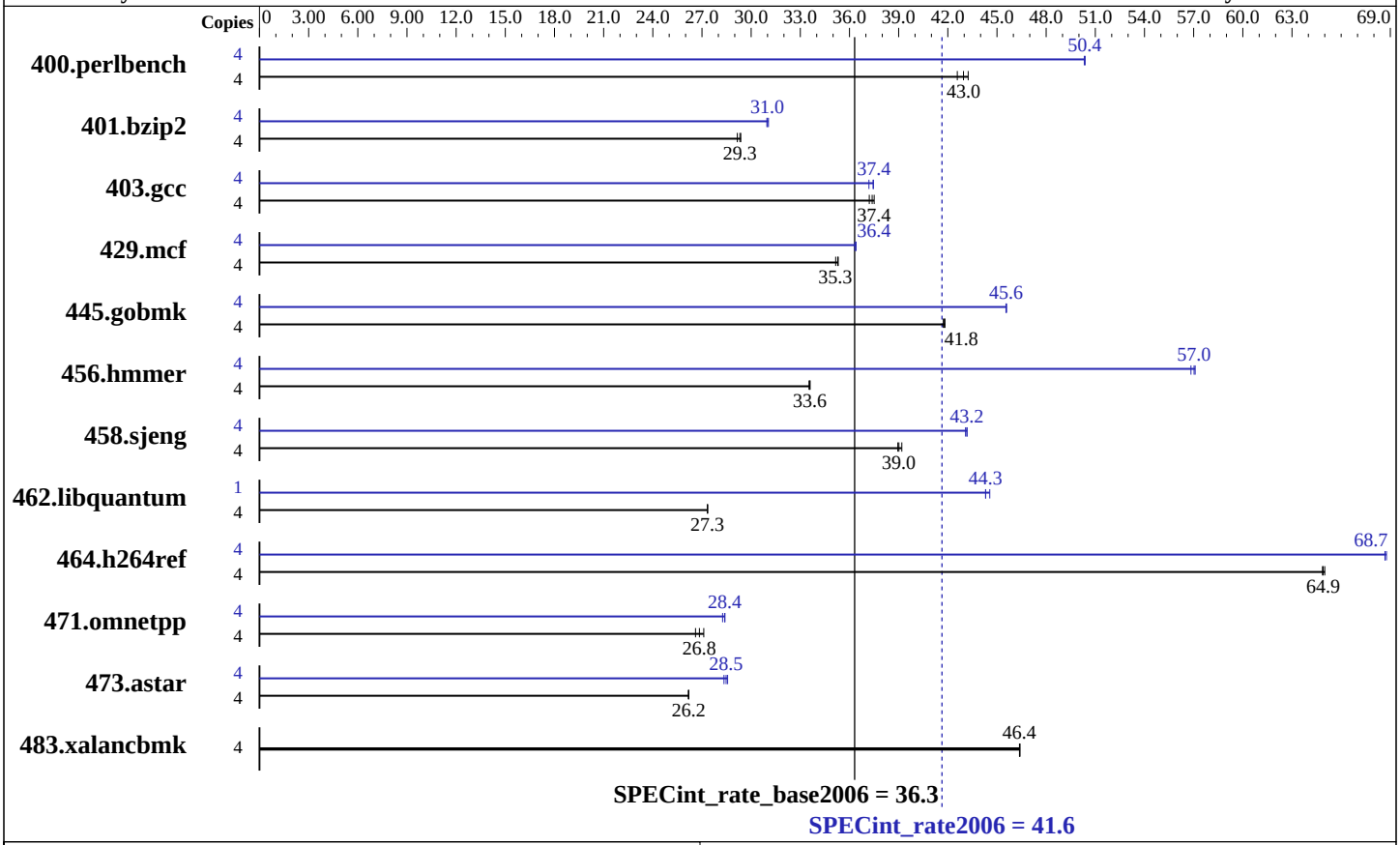
NovaScale R460
(Intel Xeon E5310,1.60GHz)

SPECint®_rate2006 = 41.6

SPECint_rate_base2006 = 36.3

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

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



Hardware

CPU Name:	Intel Xeon E5310
CPU Characteristics:	1.60 GHz, 8 MB L2, 1066 MHz system bus
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 to 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:	8 GB (8x1 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem:	1x73 GB SAS, 15000 RPM
Other Hardware:	None

Software

Operating System:	SUSE LINUX Enterprise Server 10 SP1 Kernel 2.6.16.46-0.12-smp for x86_64
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap library V8.1 Binutils 2.17.50.0.15

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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	**910**	**43.0**	904	43.2	918	42.6	4	777	50.3	**776**	**50.4**	776	50.4
401.bzip2	4	1324	29.2	**1317**	**29.3**	1314	29.4	4	**1245**	**31.0**	1243	31.1	1247	31.0
403.gcc	4	865	37.2	**861**	**37.4**	859	37.5	4	866	37.2	860	37.5	**860**	**37.4**
429.mcf	4	**1034**	**35.3**	1038	35.2	1033	35.3	4	1002	36.4	**1003**	**36.4**	1004	36.3
445.gobmk	4	1003	41.8	1006	41.7	**1004**	**41.8**	4	921	45.5	**921**	**45.6**	920	45.6
456.hmmer	4	1111	33.6	1113	33.5	**1111**	**33.6**	4	**654**	**57.0**	654	57.1	657	56.8
458.sjeng	4	**1240**	**39.0**	1235	39.2	1243	38.9	4	1121	43.2	1123	43.1	**1121**	**43.2**
462.libquantum	4	3032	27.3	3031	27.3	**3032**	**27.3**	1	465	44.6	468	44.3	**468**	**44.3**
464.h264ref	4	1362	65.0	**1364**	**64.9**	1365	64.9	4	1289	68.7	**1289**	**68.7**	1287	68.8
471.omnetpp	4	922	27.1	**931**	**26.8**	940	26.6	4	885	28.3	880	28.4	**880**	**28.4**
473.astar	4	1073	26.2	1072	26.2	**1072**	**26.2**	4	991	28.3	**986**	**28.5**	983	28.6
483.xalancbmk	4	595	46.4	**595**	**46.4**	595	46.4	4	595	46.4	**595**	**46.4**	595	46.4

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

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer
for peak, are compiled in 64-bit mode
OMP_NUM_THREADS set to number of cores (default)
```

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc`

401.bzip2: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include`

456.hmmer: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/Intel-ic10.1-FP-intel64-linux-flags.20090714.16.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.16.xml`

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