SPEC® CINT2006 Result

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Bull SAS

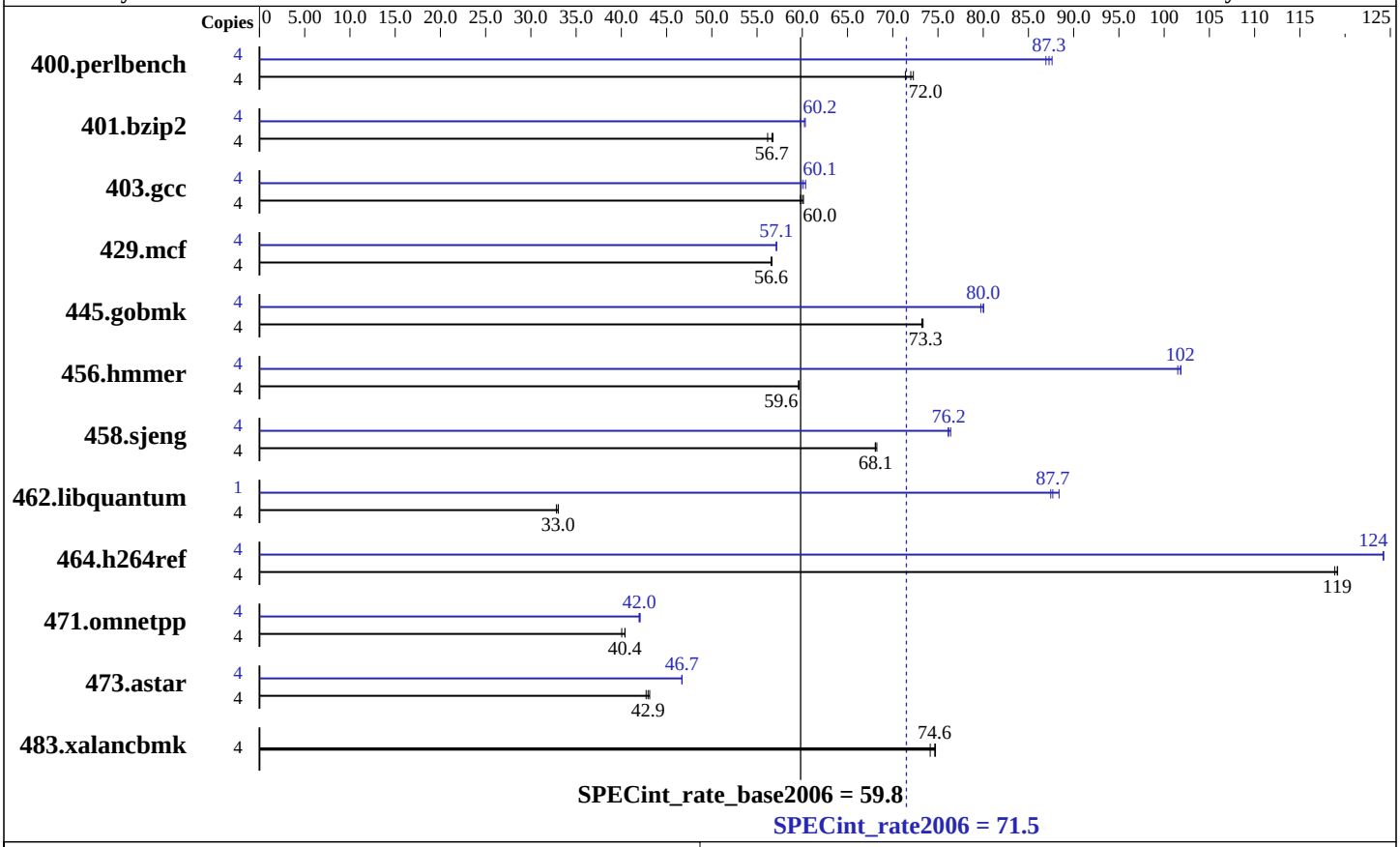
NovaScale B240
(Intel Xeon X3363, 2.83 GHz)

SPECint®_rate2006 = 71.5

SPECint_rate_base2006 = 59.8

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

Test date: Oct-2008
Hardware Availability: Jun-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X3363
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2833
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 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 (x86_64) SP1 Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux 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:	Binutils 2.17.50.0.15 SmartHeap library V8.1

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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	547	71.4	**543**	**72.0**	541	72.3	4	450	86.9	446	87.6	**448**	**87.3**
401.bzip2	4	**681**	**56.7**	680	56.8	687	56.2	4	646	59.8	**641**	**60.2**	640	60.3
403.gcc	4	536	60.1	539	59.8	**536**	**60.0**	4	**536**	**60.1**	538	59.9	533	60.4
429.mcf	4	645	56.6	**645**	**56.6**	644	56.6	4	**638**	**57.1**	638	57.2	639	57.1
445.gobmk	4	572	73.4	573	73.2	**573**	**73.3**	4	526	79.7	524	80.1	**525**	**80.0**
456.hmmer	4	626	59.6	626	59.6	**626**	**59.6**	4	366	102	368	102	**367**	**102**
458.sjeng	4	709	68.2	711	68.1	**711**	**68.1**	4	636	76.1	633	76.4	**635**	**76.2**
462.libquantum	4	2526	32.8	2510	33.0	**2510**	**33.0**	1	237	87.5	**236**	**87.7**	234	88.4
464.h264ref	4	745	119	**743**	**119**	743	119	4	**712**	**124**	713	124	712	124
471.omnetpp	4	624	40.0	619	40.4	**619**	**40.4**	4	596	42.0	**595**	**42.0**	594	42.1
473.astar	4	657	42.7	**654**	**42.9**	651	43.1	4	**601**	**46.7**	601	46.7	601	46.7
483.xalancbmk	4	372	74.1	369	74.7	**370**	**74.6**	4	372	74.1	369	74.7	**370**	**74.6**

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
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

Platform Notes

```
BIOS Settings:
Hardware Prefetcher = Enabled
Adjacent Cache Line Prefetch = Disabled
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

Continued on next page

Base Portability Flags (Continued)

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/spec/cpu2006/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:

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/spec/cpu2006/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/spec/cpu2006/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/EM64T_Intel101_int_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.xml`

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