SPEC® CINT2006 Result

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Bull SAS

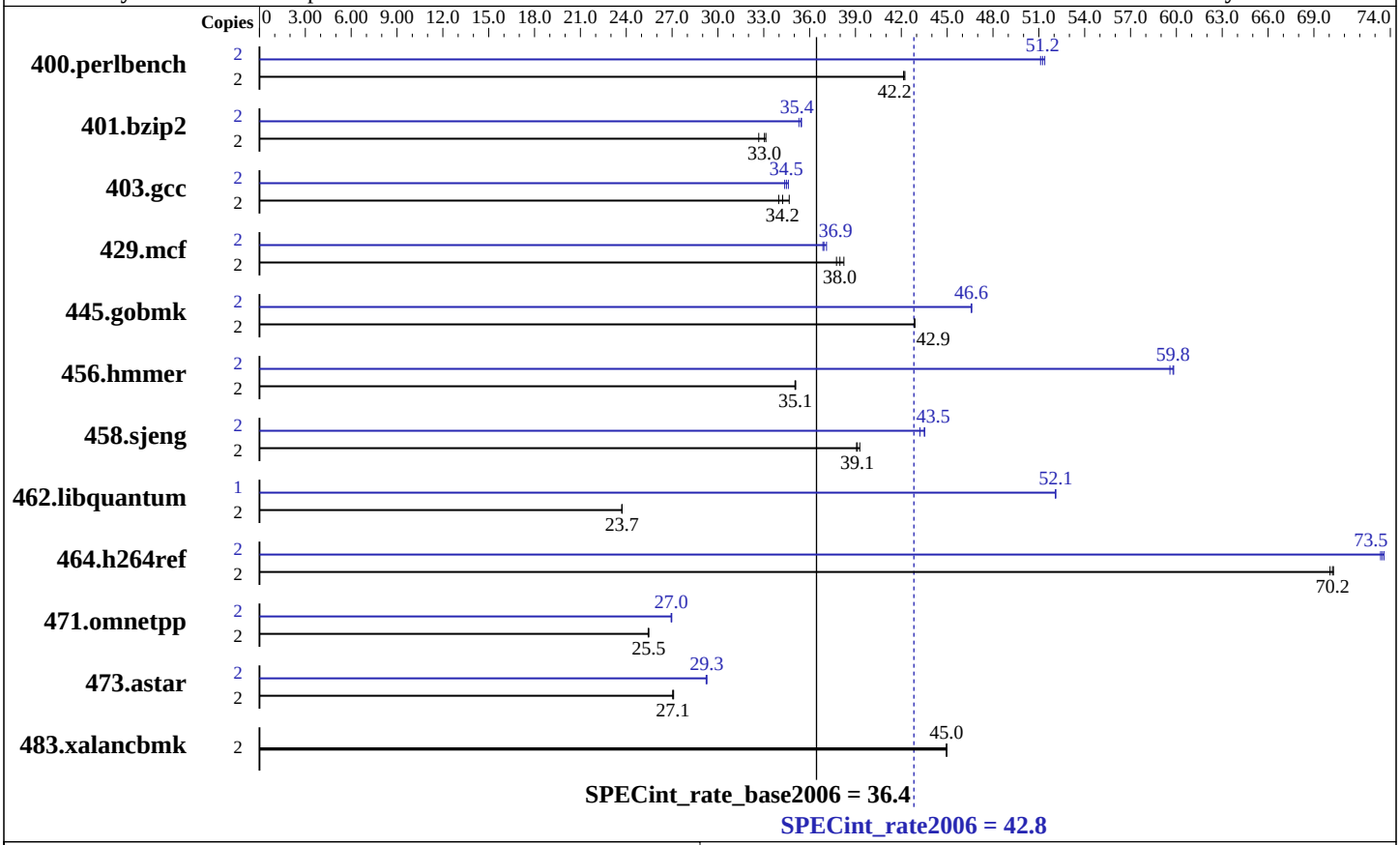
NovaScale T860 E1
(Intel Xeon X5260, 3.33 GHz)

SPECint®_rate2006 = 42.8

SPECint_rate_base2006 = 36.4

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

Test date: Jun-2008
Hardware Availability: Apr-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 (8x2 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	463	42.2	464	42.1	**463**	**42.2**	2	380	51.4	382	51.1	**381**	**51.2**
401.bzip2	2	591	32.7	**584**	**33.0**	582	33.1	2	547	35.3	544	35.5	**545**	**35.4**
403.gcc	2	474	34.0	**470**	**34.2**	464	34.7	2	**467**	**34.5**	468	34.4	465	34.6
429.mcf	2	477	38.2	483	37.8	**480**	**38.0**	2	495	36.9	**494**	**36.9**	492	37.1
445.gobmk	2	489	42.9	**489**	**42.9**	489	42.9	2	**450**	**46.6**	450	46.6	450	46.6
456.hmmer	2	**532**	**35.1**	532	35.0	532	35.1	2	312	59.8	**312**	**59.8**	313	59.6
458.sjeng	2	**619**	**39.1**	616	39.3	619	39.1	2	556	43.5	**556**	**43.5**	560	43.2
462.libquantum	2	1747	23.7	1747	23.7	**1747**	**23.7**	1	398	52.1	398	52.1	**398**	**52.1**
464.h264ref	2	630	70.3	**630**	**70.2**	632	70.1	2	**602**	**73.5**	603	73.4	601	73.6
471.omnetpp	2	491	25.4	491	25.5	**491**	**25.5**	2	**464**	**27.0**	463	27.0	464	26.9
473.astar	2	**519**	**27.1**	519	27.1	518	27.1	2	480	29.2	480	29.3	**480**	**29.3**
483.xalancbmk	2	307	45.0	**307**	**45.0**	307	45.0	2	307	45.0	**307**	**45.0**	307	45.0

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
 OMP_NUM_THREADS set to number of cores
```

Platform Notes

```
Bios settings:
Hardware Prefetcher:          Enabled
Adjacent Cache Line Prefetch: Enabled
Intel SpeedStep Technology:   Disabled
```

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2,
456.hmmer, for peak, are compiled in 64-bit mode

 The NEC Express5800/120Lj(Intel Xeon X5260) and
 the Bull NovaScale T860 E1(Intel Xeon X5260,3.33GHz) models are electronically equivalent.
 The results have been measured on a NEC Express5800/120Lj(Intel Xeon X5260) model.
```

Base Compiler Invocation

C benchmarks:

```
icc
```

Continued on next page

Base Compiler Invocation (Continued)

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:

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

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