



SPEC® CINT2006 Result

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Bull SAS

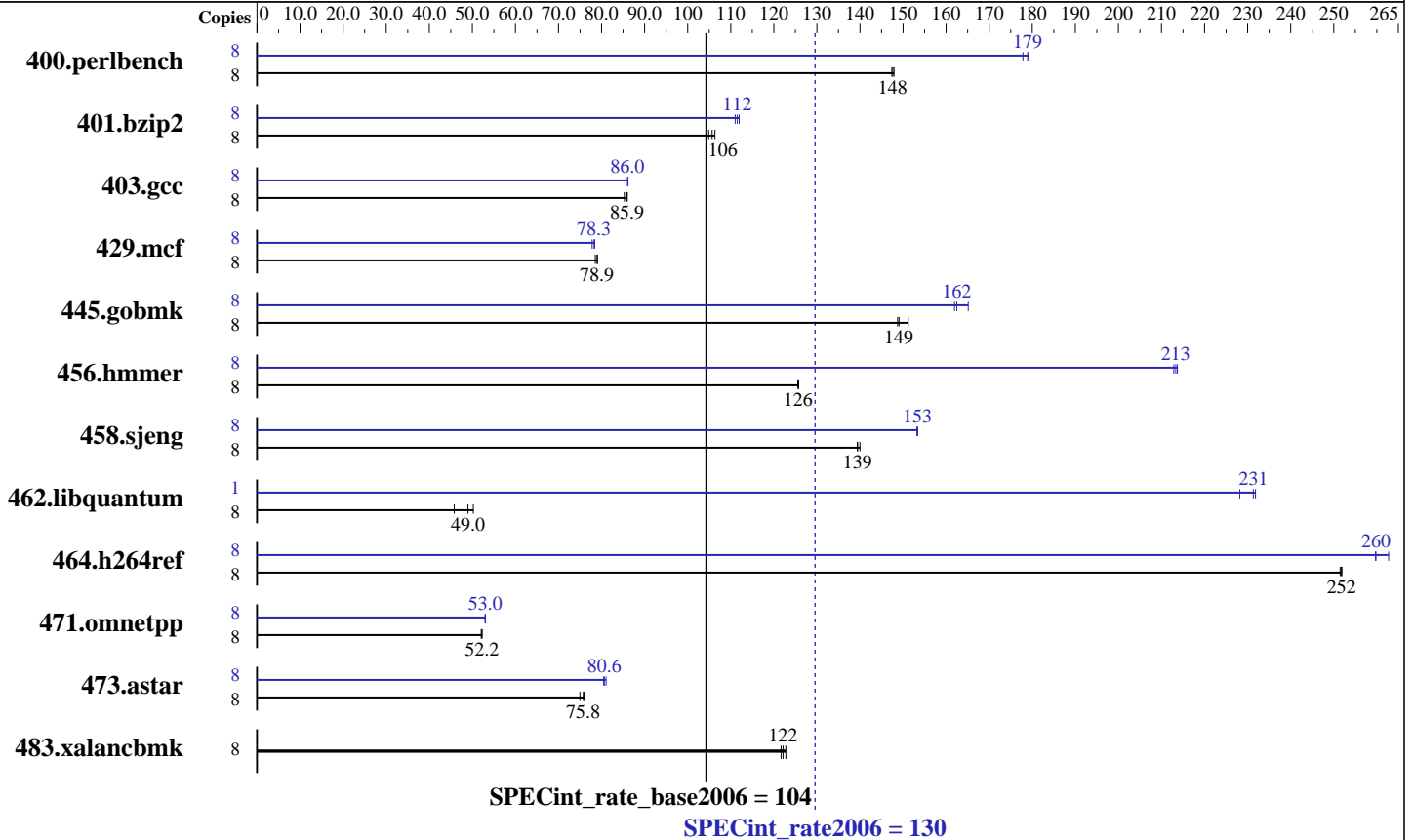
NovaScale R440 E1
(Intel Xeon X5450,3.00GHz)

SPECint®_rate2006 = 130

SPECint_rate_base2006 = 104

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

Test date: Dec-2007
Hardware Availability: Dec-2007
Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5450
 CPU Characteristics: 3.00 GHz, 2x6 MB L2 shared, 1333 MHz bus
 CPU MHz: 3000
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 12 GB (12x1 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: 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	528	148	530	147	<u>529</u>	<u>148</u>	8	439	178	436	179	<u>437</u>	<u>179</u>
401.bzip2	8	<u>731</u>	<u>106</u>	736	105	726	106	8	690	112	695	111	<u>692</u>	<u>112</u>
403.gcc	8	755	85.3	<u>750</u>	<u>85.9</u>	749	86.0	8	<u>749</u>	<u>86.0</u>	752	85.7	748	86.1
429.mcf	8	929	78.5	<u>924</u>	<u>78.9</u>	923	79.1	8	938	77.8	<u>932</u>	<u>78.3</u>	931	78.4
445.gobmk	8	564	149	555	151	<u>563</u>	<u>149</u>	8	<u>517</u>	<u>162</u>	508	165	518	162
456.hmmer	8	594	126	<u>594</u>	<u>126</u>	593	126	8	<u>350</u>	<u>213</u>	351	213	349	214
458.sjeng	8	<u>694</u>	<u>139</u>	691	140	695	139	8	632	153	631	153	<u>631</u>	<u>153</u>
462.libquantum	8	3620	45.8	<u>3384</u>	<u>49.0</u>	3300	50.2	1	<u>89.6</u>	<u>231</u>	90.8	228	89.4	232
464.h264ref	8	704	251	<u>703</u>	<u>252</u>	703	252	8	<u>681</u>	<u>260</u>	674	263	682	260
471.omnetpp	8	961	52.1	957	52.2	<u>958</u>	<u>52.2</u>	8	944	53.0	<u>943</u>	<u>53.0</u>	943	53.0
473.astar	8	749	75.0	740	75.9	<u>741</u>	<u>75.8</u>	8	693	81.0	<u>697</u>	<u>80.6</u>	698	80.5
483.xalancbmk	8	454	122	<u>452</u>	<u>122</u>	450	123	8	454	122	<u>452</u>	<u>122</u>	450	123

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
OMP_NUM_THREADS set to number of cores (default).

Platform Notes

Bios settings:
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 Express5800/120Rh-1(Intel Xeon Processor X5450), the NEC Express5800/120Rj-2(Intel Xeon Processor X5450), the Bull NovaScale R440 E1 (Intel Xeon X5450,3.00GHz) and the Bull NovaScale R460 E1 (Intel Xeon X5450,3.00GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/120Rj-2(Intel Xeon Processor X5450) model.

Base Compiler Invocation

C benchmarks:
icc

Continued on next page



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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



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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 -lsmarheap
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 -lsmarheap
483.xalancbmk: basepeak = yes



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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-FP-intel64-linux-flags.20090713.01.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.01.xml>

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

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