



SPEC® CINT2006 Result

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Bull SAS

NovaScale R480 E1
(Intel Xeon E7310, 1.60 GHz)

SPECint®_rate2006 = 72.4

SPECint_rate_base2006 = 71.0

CPU2006 license: 20

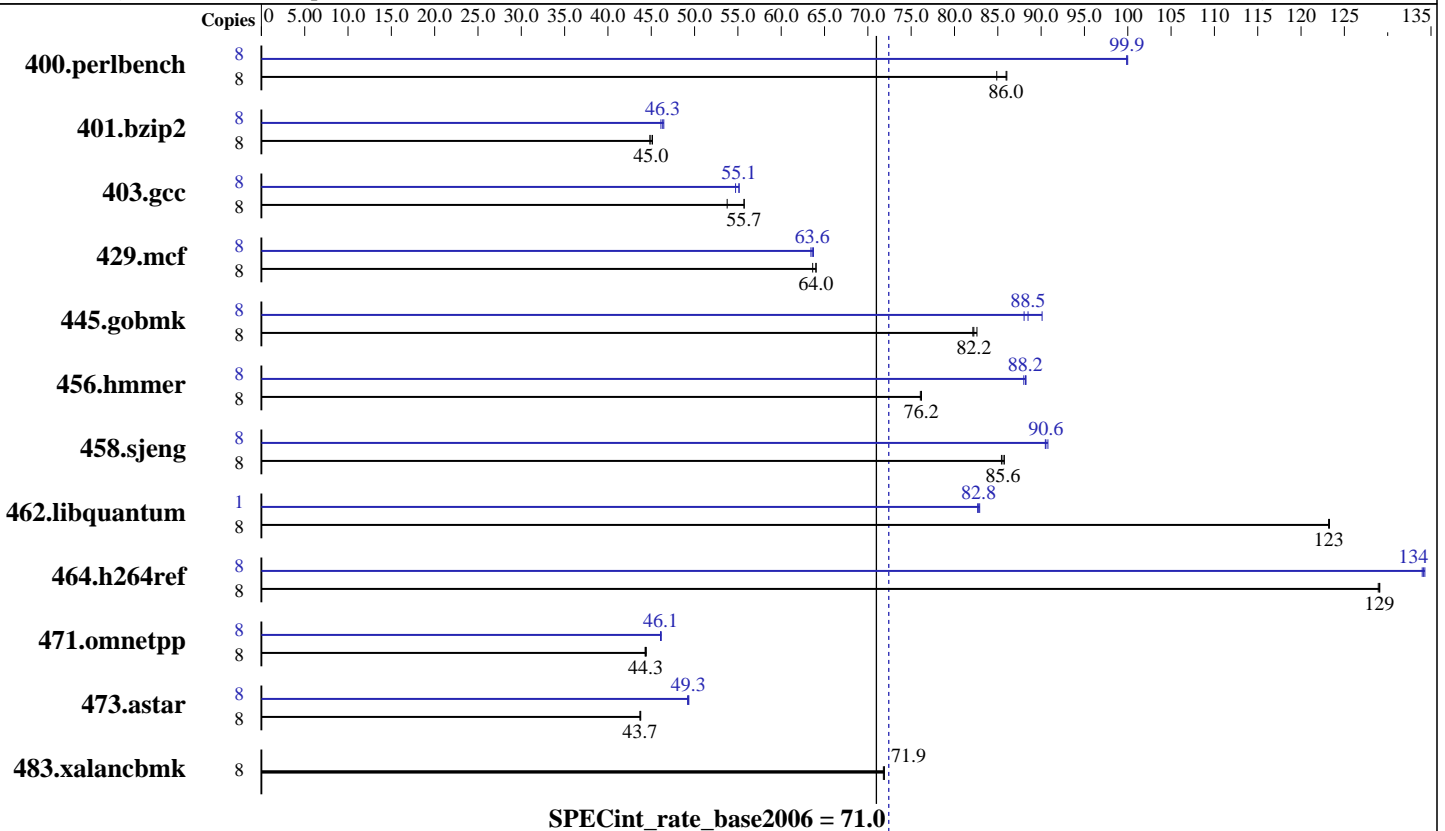
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: Dec-2008

Hardware Availability: Nov-2008

Software Availability: Nov-2008



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Hardware

CPU Name: Intel Xeon E7310
 CPU Characteristics: 1066 MHz system bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2,3,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (16x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x73.2 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20081105 Package ID: l_cproc_p_11.0.074
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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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	921	84.9	<u>909</u>	<u>86.0</u>	908	86.0	8	782	99.9	782	100	<u>782</u>	<u>99.9</u>
401.bzip2	8	1722	44.8	<u>1717</u>	<u>45.0</u>	1710	45.1	8	1674	46.1	1662	46.4	<u>1667</u>	<u>46.3</u>
403.gcc	8	<u>1156</u>	<u>55.7</u>	1155	55.7	1198	53.8	8	1177	54.7	1168	55.1	<u>1168</u>	<u>55.1</u>
429.mcf	8	1147	63.6	<u>1140</u>	<u>64.0</u>	1139	64.0	8	1150	63.4	1145	63.7	<u>1147</u>	<u>63.6</u>
445.gobmk	8	1016	82.6	<u>1021</u>	<u>82.2</u>	1022	82.1	8	931	90.1	<u>948</u>	<u>88.5</u>	953	88.0
456.hammer	8	980	76.2	<u>980</u>	<u>76.2</u>	981	76.1	8	848	88.0	<u>846</u>	<u>88.2</u>	846	88.3
458.sjeng	8	1133	85.4	<u>1131</u>	<u>85.6</u>	1129	85.8	8	<u>1069</u>	<u>90.6</u>	1066	90.8	1070	90.5
462.libquantum	8	1346	123	<u>1345</u>	<u>123</u>	1345	123	1	251	82.7	<u>250</u>	<u>82.8</u>	250	82.9
464.h264ref	8	1371	129	1373	129	<u>1372</u>	<u>129</u>	8	<u>1320</u>	<u>134</u>	1318	134	1321	134
471.omnetpp	8	<u>1128</u>	<u>44.3</u>	1129	44.3	1125	44.4	8	<u>1085</u>	<u>46.1</u>	1085	46.1	1083	46.2
473.astar	8	1285	43.7	1283	43.8	<u>1285</u>	<u>43.7</u>	8	1138	49.3	<u>1139</u>	<u>49.3</u>	1142	49.2
483.xalancbmk	8	<u>768</u>	<u>71.9</u>	768	71.9	769	71.8	8	<u>768</u>	<u>71.9</u>	768	71.9	769	71.8

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.
taskset was used to bind processes to cores except
for 462.libquantum peak

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: Disabled
Adjacent Cache Line Prefetch: Disabled
FSB High Bandwidth Optimization: Disabled

General Notes

The NEC Express5800/R140a-4(Intel Xeon E7310) and
the Bull NovaScale R480 E1(Intel Xeon E7310, 1.60 GHz) models are electronically equivalent.
The results have been measured on a NEC Express5800/R140a-4(Intel Xeon E7310) model.



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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:
-xSSSE3 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -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/Compiler/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

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Peak Compiler Invocation (Continued)

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) -xSSSE3 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch -ansi-alias
403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3
429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo
-no-prec-div -ansi-alias
456.hmmer: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4
462.libquantum: -xSSSE3 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -parallel -par-runtime-control
-opt-prefetch
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

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Peak Optimization Flags (Continued)

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-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) -xSSSE3 -ipo -O3
-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 files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revE.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revE.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.xml>

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

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