



SPEC[®] CINT2006 Result

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Bull SAS

NovaScale R460
(Intel Xeon processor E5320,1.86GHz)

SPECint[®]2006 = 14.0

SPECint_base2006 = 12.7

CPU2006 license: 20

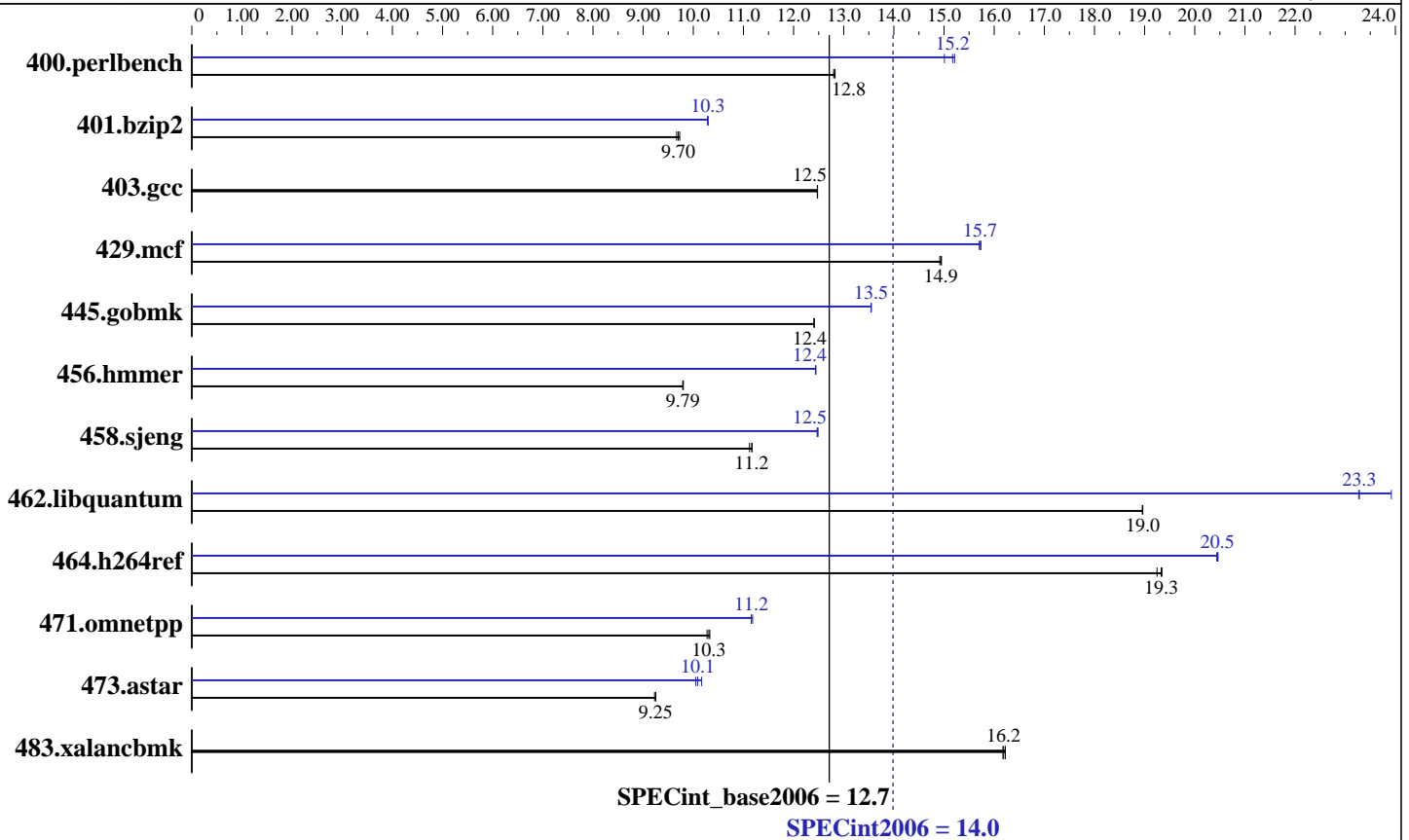
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2007

Hardware Availability: May-2007

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon E5320
 CPU Characteristics: 1.86 GHz, 8 MB L2, 1066 MHz system bus
 CPU MHz: 1866
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 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: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4
 Disk Subsystem: 1x73 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: SUSE LINUX Enterprise Server 10
 Kernel 2.6.16.21-0.8-smp for x86_64
 Compiler: Intel C++ Compiler for Linux32 version 10.0
 Build 20070426 Package ID: l_cc_p_10.0.023
 Auto Parallel: No
 File System: ext2
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	762	12.8	<u>762</u>	<u>12.8</u>	763	12.8	<u>644</u>	<u>15.2</u>	651	15.0	642	15.2
401.bzip2	998	9.67	992	9.73	<u>995</u>	<u>9.70</u>	938	10.3	<u>938</u>	<u>10.3</u>	938	10.3
403.gcc	645	12.5	645	12.5	<u>645</u>	<u>12.5</u>	645	12.5	645	12.5	<u>645</u>	<u>12.5</u>
429.mcf	611	14.9	610	14.9	<u>610</u>	<u>14.9</u>	<u>580</u>	<u>15.7</u>	581	15.7	580	15.7
445.gobmk	845	12.4	845	12.4	<u>845</u>	<u>12.4</u>	775	13.5	<u>774</u>	<u>13.5</u>	774	13.6
456.hmmer	952	9.80	953	9.79	<u>953</u>	<u>9.79</u>	<u>750</u>	<u>12.4</u>	750	12.4	750	12.4
458.sjeng	1088	11.1	1083	11.2	<u>1084</u>	<u>11.2</u>	<u>969</u>	<u>12.5</u>	970	12.5	969	12.5
462.libquantum	1093	19.0	1093	19.0	<u>1093</u>	<u>19.0</u>	866	23.9	890	23.3	<u>890</u>	<u>23.3</u>
464.h264ref	<u>1145</u>	<u>19.3</u>	1150	19.2	1144	19.3	1083	20.4	1081	20.5	<u>1082</u>	<u>20.5</u>
471.omnetpp	605	10.3	<u>606</u>	<u>10.3</u>	608	10.3	560	11.2	559	11.2	<u>560</u>	<u>11.2</u>
473.astar	761	9.23	<u>759</u>	<u>9.25</u>	759	9.25	690	10.2	699	10.0	<u>696</u>	<u>10.1</u>
483.xalancbmk	425	16.2	<u>426</u>	<u>16.2</u>	427	16.2	425	16.2	<u>426</u>	<u>16.2</u>	427	16.2

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

General Notes

The NovaScale R440 and the NovaScale R460 models are electronically equivalent.
The results have been measured on a NovaScale R460 model.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc



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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

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/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/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

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Peak Portability Flags (Continued)

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

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof_gen(pass 1) -prof_use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll4

462.libquantum: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof_gen(pass 1) -prof_use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/spec/cpu2006/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.xml

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