



SPEC® CINT2006 Result

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Bull SAS

SPECint®_rate2006 = 168

NovaScale R480 F2 (Intel Xeon E7520, 1.87 GHz)

SPECint_rate_base2006 = 156

CPU2006 license: 20

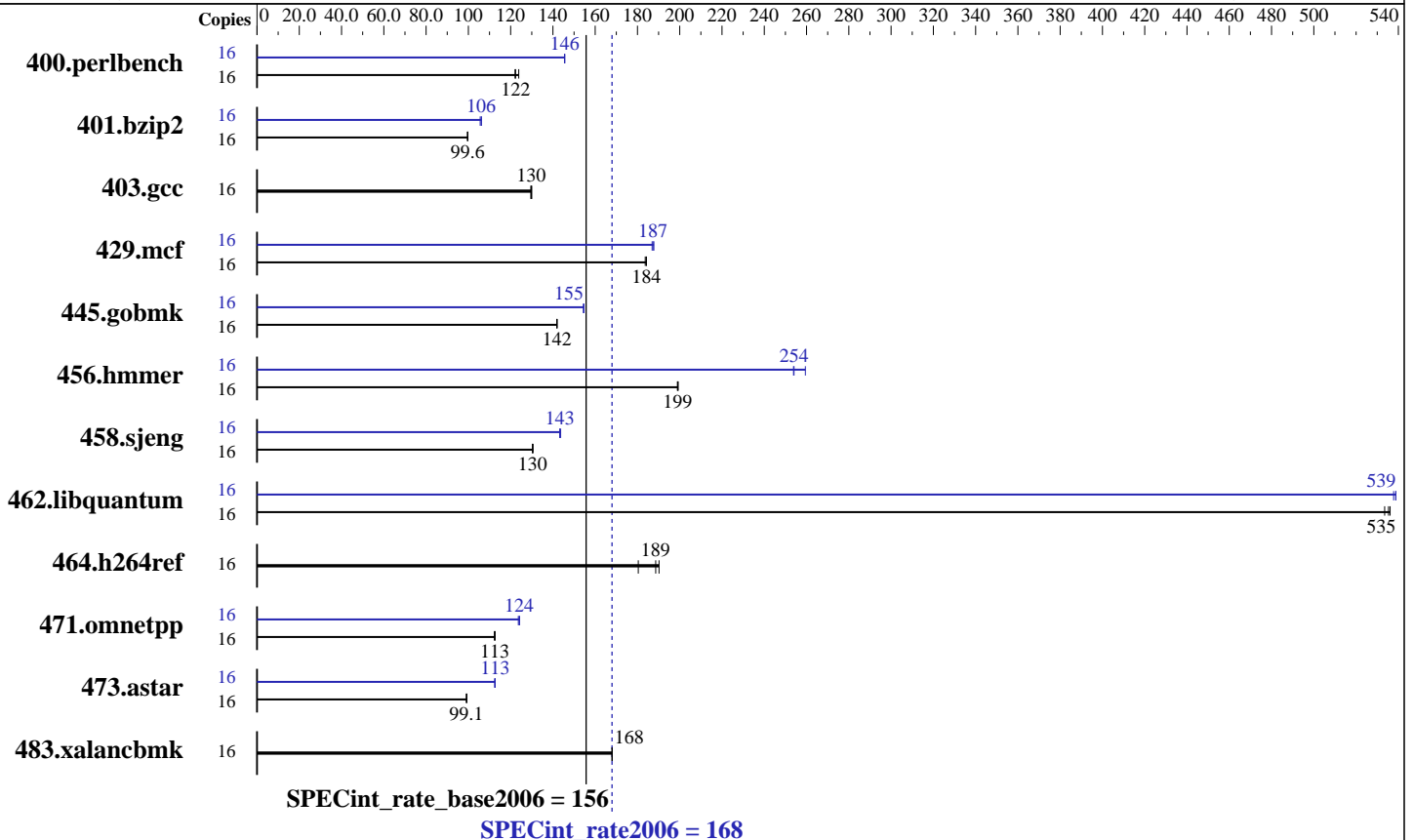
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon E7520
 CPU Characteristics: None
 CPU MHz: 1867
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 18 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (32 x 4 GB DDR3-1066 QR RDIMM, CL7, ECC, downclocked to 800 MHz)
 Disk Subsystem: 1 x 300 GB 10000 RPM SAS 6Gb
 Other Hardware: None

Software

Operating System: Red Hat Linux Enterprise Linux 5 (x86_64) Update 4 errata kernel (RHEL 5.4.z) kernel-2.6.18-164.9.1.el5.x86_64
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1 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	16	1280	122	<u>1278</u>	<u>122</u>	1262	124	16	<u>1074</u>	<u>146</u>	1075	145	1074	146
401.bzip2	16	1548	99.7	1550	99.6	<u>1550</u>	<u>99.6</u>	16	1454	106	1462	106	<u>1455</u>	<u>106</u>
403.gcc	16	991	130	<u>992</u>	<u>130</u>	994	130	16	991	130	<u>992</u>	<u>130</u>	994	130
429.mcf	16	792	184	<u>792</u>	<u>184</u>	794	184	16	<u>779</u>	<u>187</u>	777	188	781	187
445.gobmk	16	1183	142	1182	142	<u>1183</u>	<u>142</u>	16	1085	155	1087	154	<u>1085</u>	<u>155</u>
456.hammer	16	749	199	751	199	<u>750</u>	<u>199</u>	16	575	259	588	254	<u>588</u>	<u>254</u>
458.sjeng	16	1485	130	<u>1485</u>	<u>130</u>	1483	131	16	<u>1351</u>	<u>143</u>	1348	144	1352	143
462.libquantum	16	621	534	618	536	<u>619</u>	<u>535</u>	16	<u>615</u>	<u>539</u>	615	539	616	538
464.h264ref	16	<u>1877</u>	<u>189</u>	1963	180	1862	190	16	<u>1877</u>	<u>189</u>	1963	180	1862	190
471.omnetpp	16	888	113	890	112	<u>888</u>	<u>113</u>	16	805	124	<u>806</u>	<u>124</u>	809	124
473.astar	16	1134	99.0	<u>1133</u>	<u>99.1</u>	1131	99.3	16	997	113	<u>997</u>	<u>113</u>	999	112
483.xalancbmk	16	657	168	<u>657</u>	<u>168</u>	657	168	16	657	168	<u>657</u>	<u>168</u>	657	168

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.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

vm.zone_reclaim_mode = 1 in /etc/sysctl.conf file
BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)

General Notes

The Dell PowerEdge R910 and
the Bull NovaScale R480 F2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R910 model.

Base Compiler Invocation

C benchmarks:
icc -m32

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libicl1.1-32bit -lsmarheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):
icpc -m32

473.astar: icpc -m64



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Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
               -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
               -prof-use(pass 2) -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
            -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
            -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
            -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
            -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
                -opt-prefetch

464.h264ref: basepeak = yes
```

C++ benchmarks:

```
471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
              -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
              -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
              -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
```

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Peak Optimization Flags (Continued)

473.astar (continued):

`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

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/Intel-ic11.1-linux64-revE.20100316.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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