SPEC® CINT2006 Result

Dell Inc.

PowerEdge R710
(Intel Xeon X5570, 2.93 GHz)

SPECint®_rate2006 =   266

SPECint_rate_base2006 =   251

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Bull SAS

Test date: Jan-2010

Hardware Availability: Mar-2009

Software Availability: Dec-2009

SPECint_rate_base2006 = 251

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Hardware

CPU Name: Intel Xeon X5570

CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz

CPU MHz: 2933

FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core

CPU(s) orderable: 1,2 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: 8 MB I+D on chip per chip

Other Cache: None

Memory: 24 GB (6 x 4 GB PC3-10600R, 2 Rank, CL9-9-9, ECC)

Disk Subsystem: 1 x 73 GB SAS, 10000 RPM

Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp

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: ReiserFS

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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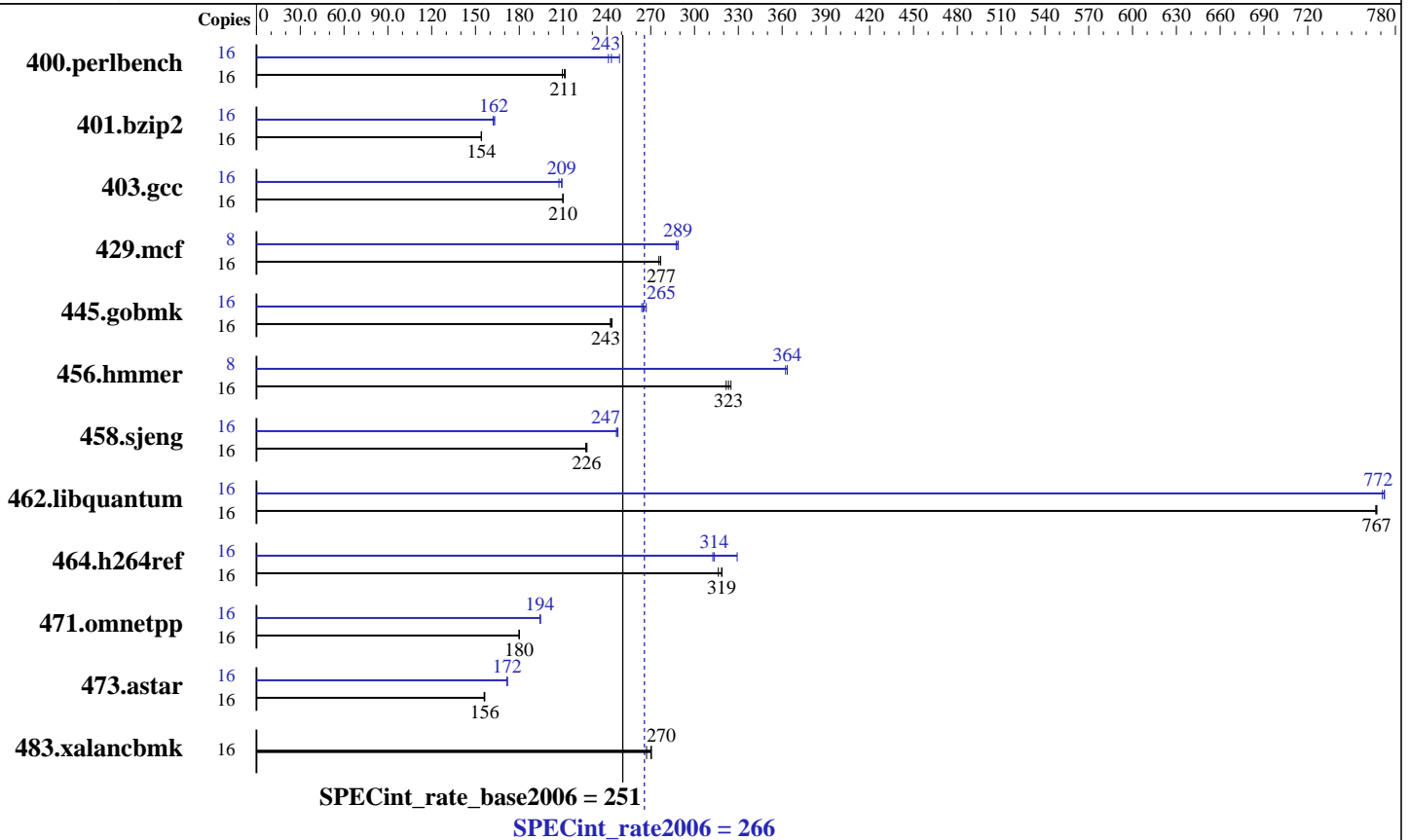
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	746	209	**741**	**211**	739	212	16	629	249	649	241	**643**	**243**
401.bzip2	16	1003	154	1002	154	**1002**	**154**	16	**950**	**162**	946	163	953	162
403.gcc	16	**613**	**210**	614	210	613	210	16	**616**	**209**	615	209	622	207
429.mcf	16	527	277	**527**	**277**	529	276	8	254	287	**253**	**289**	253	289
445.gobmk	16	692	242	689	243	**692**	**243**	16	629	267	636	264	**634**	**265**
456.hmmer	16	459	325	**462**	**323**	464	322	8	**205**	**364**	206	362	205	364
458.sjeng	16	855	226	858	226	**856**	**226**	16	785	247	**784**	**247**	782	248
462.libquantum	16	432	767	**432**	**767**	432	767	16	**429**	**772**	429	773	430	771
464.h264ref	16	**1112**	**319**	1111	319	1119	316	16	1075	329	1133	313	**1129**	**314**
471.omnetpp	16	**556**	**180**	556	180	556	180	16	514	195	**515**	**194**	515	194
473.astar	16	719	156	**719**	**156**	720	156	16	**654**	**172**	654	172	655	172
483.xalancbmk	16	408	271	**409**	**270**	413	267	16	408	271	**409**	**270**	413	267

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

General Notes

    The Dell PowerEdge R710 and
    the Bull NovaScale R460 F2 models are electronically equivalent.
    The results have been measured on a Bull NovaScale R460 F2 model.

Base Compiler Invocation

C benchmarks:
```
icc  -m32
```

C++ benchmarks:
```
icpc -m32
```

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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:
```
-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.ic11.1/libic11.1-32bit -lsmartheap
```

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
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

```
    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: -xSSE4.2 -ipo -O3 -no-prec-div -static

       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: -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) -unroll2 -ansi-alias
```

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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