SPEC® CINT2006 Result

Dell Inc.

PowerEdge M610 (Intel Xeon X5660, 2.80 GHz)

$SPECint^{®}\_rate2006 =$ 346

$SPECint\_rate\_base2006 =$ 323

SPECint_rate_base2006 = 323

SPECint_rate2006 = 346

Hardware

CPU Name: Intel Xeon X5660
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2800
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB DDR3-1333 DR RDIMM)
Disk Subsystem: 1 x 146 GB 15000 RPM SAS
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-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: 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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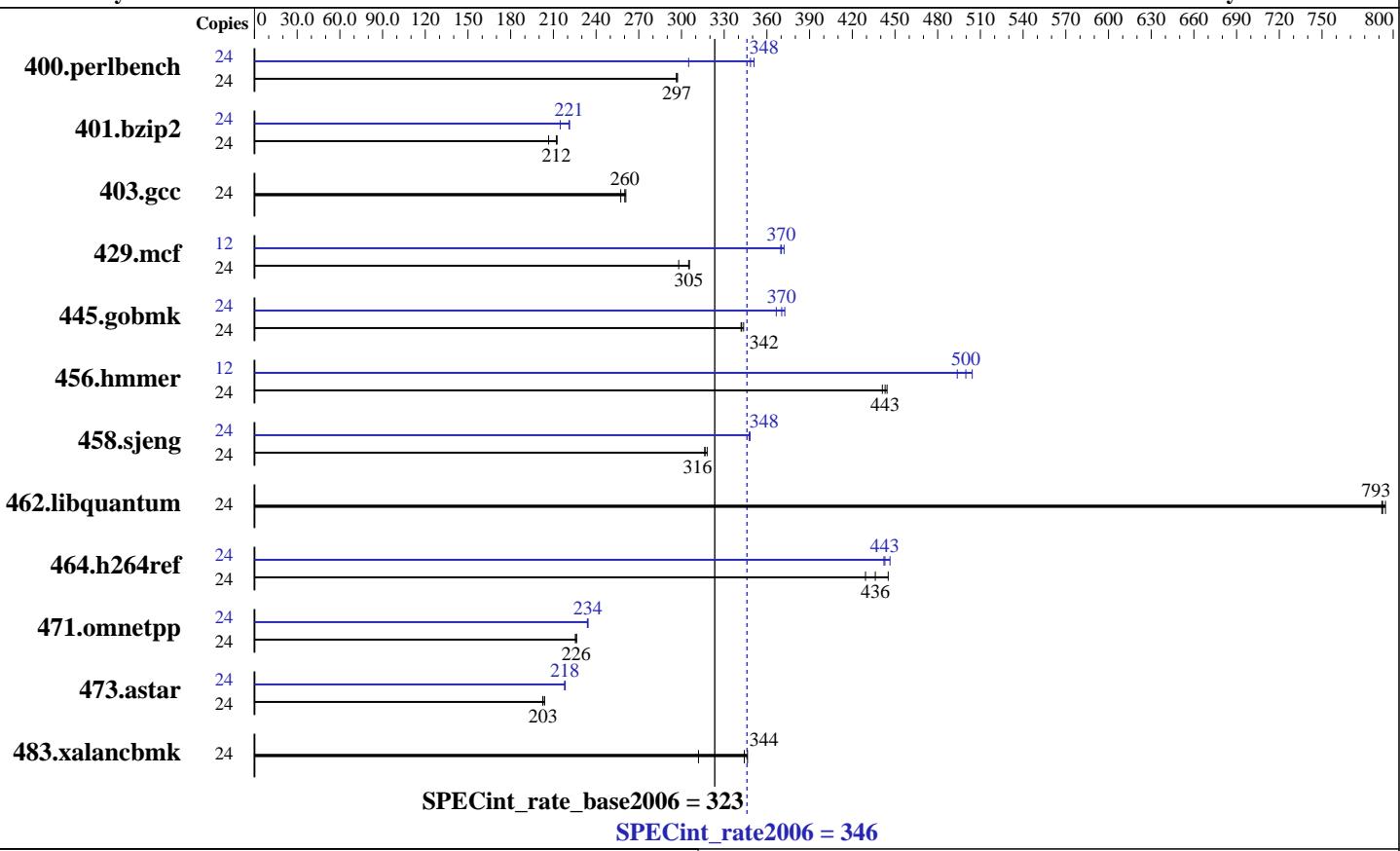SPECint_rate_base2006 = 323

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Dec-2009

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**790**	**297**	789	297	791	296	24	769	305	**673**	**348**	668	351
401.bzip2	24	1121	207	1089	213	**1092**	**212**	24	1078	215	1046	221	**1048**	**221**
403.gcc	24	**743**	**260**	751	257	740	261	24	**743**	**260**	751	257	740	261
429.mcf	24	734	298	**718**	**305**	716	306	12	**296**	**370**	296	370	294	372
445.gobmk	24	736	342	733	344	**736**	**342**	24	687	367	**680**	**370**	676	373
456.hmmer	24	508	441	504	444	**505**	**443**	12	227	494	222	504	**224**	**500**
458.sjeng	24	**918**	**316**	913	318	918	316	24	835	348	834	348	**835**	**348**
462.libquantum	24	628	792	**627**	**793**	626	795	24	628	792	**627**	**793**	626	795
464.h264ref	24	1193	445	1237	429	**1218**	**436**	24	1190	446	**1199**	**443**	1201	442
471.omnetpp	24	665	225	663	226	**663**	**226**	24	640	234	**641**	**234**	641	234
473.astar	24	826	204	**831**	**203**	832	203	24	772	218	**773**	**218**	773	218
483.xalancbmk	24	531	312	**481**	**344**	478	346	24	531	312	**481**	**344**	478	346

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

```
BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)
Data Reuse = Disabled (Default = Enabled)
```

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
```

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
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

```
462.libquantum: -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: basepeak = yes

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

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Peak Optimization Flags (Continued)

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.20100330.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.20100330.xml

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

Tested with SPEC CPU2006 v1.1.
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