SPEC® CINT2006 Result
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Dell Inc.

PowerEdge T610 (Intel Xeon E5540, 2.53 GHz)

SPECint®_rate2006 =   215

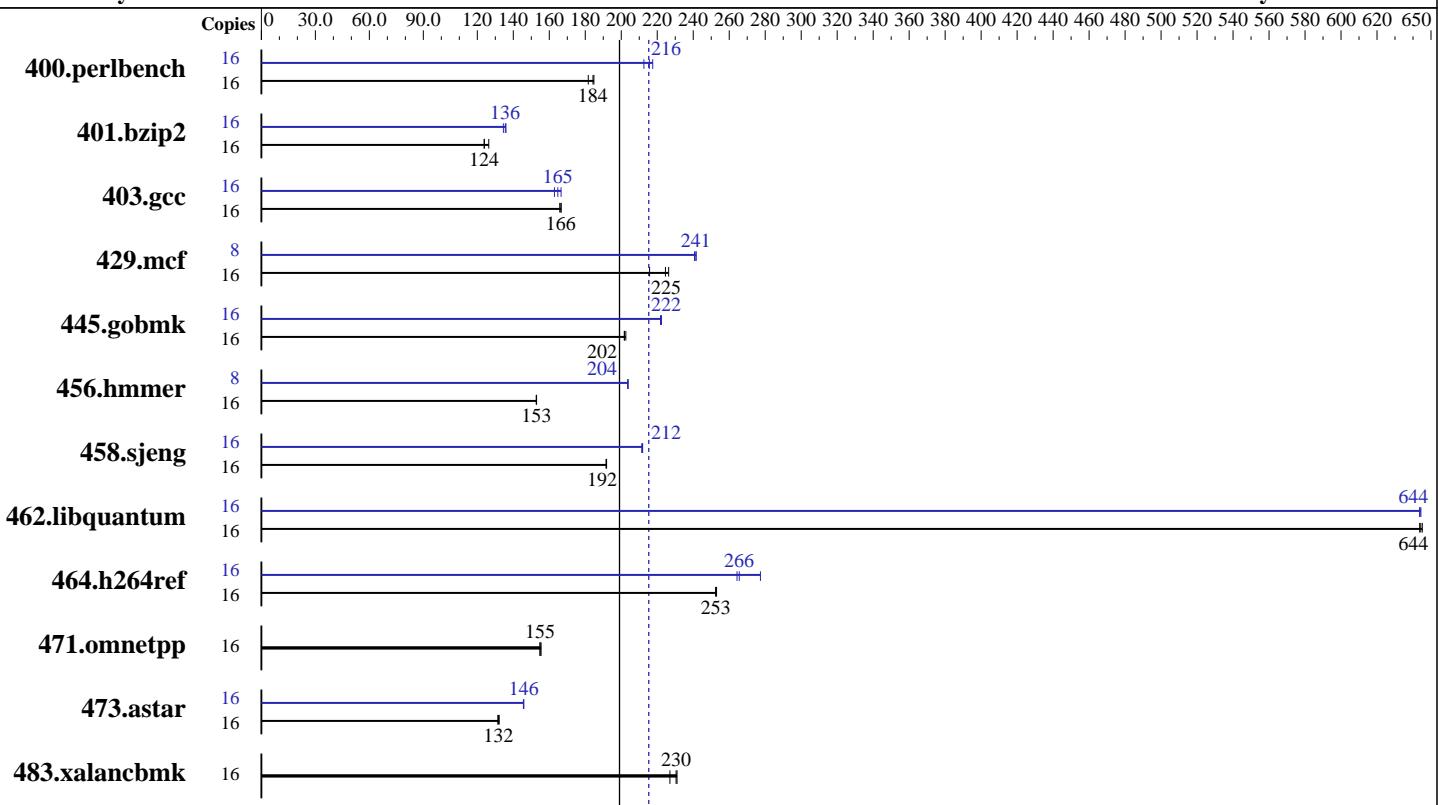SPECint_rate_base2006 = 199

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Mar-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009

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Hardware

CPU Name:	Intel Xeon E5540
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2533
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 DDR3-1067 DR RDIMM)
Disk Subsystem:	1 x 146 GB 15000 RPM SAS
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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
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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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	860	182	846	185	**848**	**184**	16	719	217	**725**	**216**	735	213
401.bzip2	16	1247	124	**1246**	**124**	1222	126	16	1136	136	**1139**	**136**	1148	134
403.gcc	16	777	166	**774**	**166**	773	167	16	**782**	**165**	773	167	791	163
429.mcf	16	676	216	**650**	**225**	645	226	8	302	242	303	241	**302**	**241**
445.gobmk	16	829	203	832	202	**832**	**202**	16	757	222	755	222	**756**	**222**
456.hmmer	16	977	153	**976**	**153**	976	153	8	367	204	**366**	**204**	366	204
458.sjeng	16	1009	192	1010	192	**1010**	**192**	16	914	212	916	211	**914**	**212**
462.libquantum	16	**515**	**644**	514	645	515	644	16	514	644	**515**	**644**	515	644
464.h264ref	16	1400	253	**1402**	**253**	1402	252	16	1339	264	1277	277	**1333**	**266**
471.omnetpp	16	646	155	**646**	**155**	643	155	16	646	155	**646**	**155**	643	155
473.astar	16	855	131	850	132	**853**	**132**	16	**771**	**146**	771	146	770	146
483.xalancbmk	16	486	227	478	231	**479**	**230**	16	486	227	478	231	**479**	**230**

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
```

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:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
    -opt-malloc-options=3 -opt-prefetch
```

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/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/11.0/080/bin/intel64/icc`

    456.hmmer: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

    458.sjeng: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

C++ benchmarks (except as noted below):
    `icpc`

    473.astar: `/opt/intel/Compiler/11.0/080/bin/intel64/icpc`

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_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` `-opt-prefetch`

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Peak Optimization Flags (Continued)

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 -inline-calloc`
`-opt-malloc-options=3`

429.mcf: `-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`

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`
`-opt-malloc-options=3 -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: `basepeak = yes`

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 -auto-ilp32`
`-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64`

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/Intel-ic11.0-int-linux64-revA.20090710.02.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.xml`

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

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