SPEC® CINT2006 Result
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Dell Inc.

PowerEdge 1950 III (Intel Xeon E5420, 2.50 GHz)

$SPECint^®\_rate2006 = \quad 119$

$SPECint\_rate\_base2006 = \ 96.4$
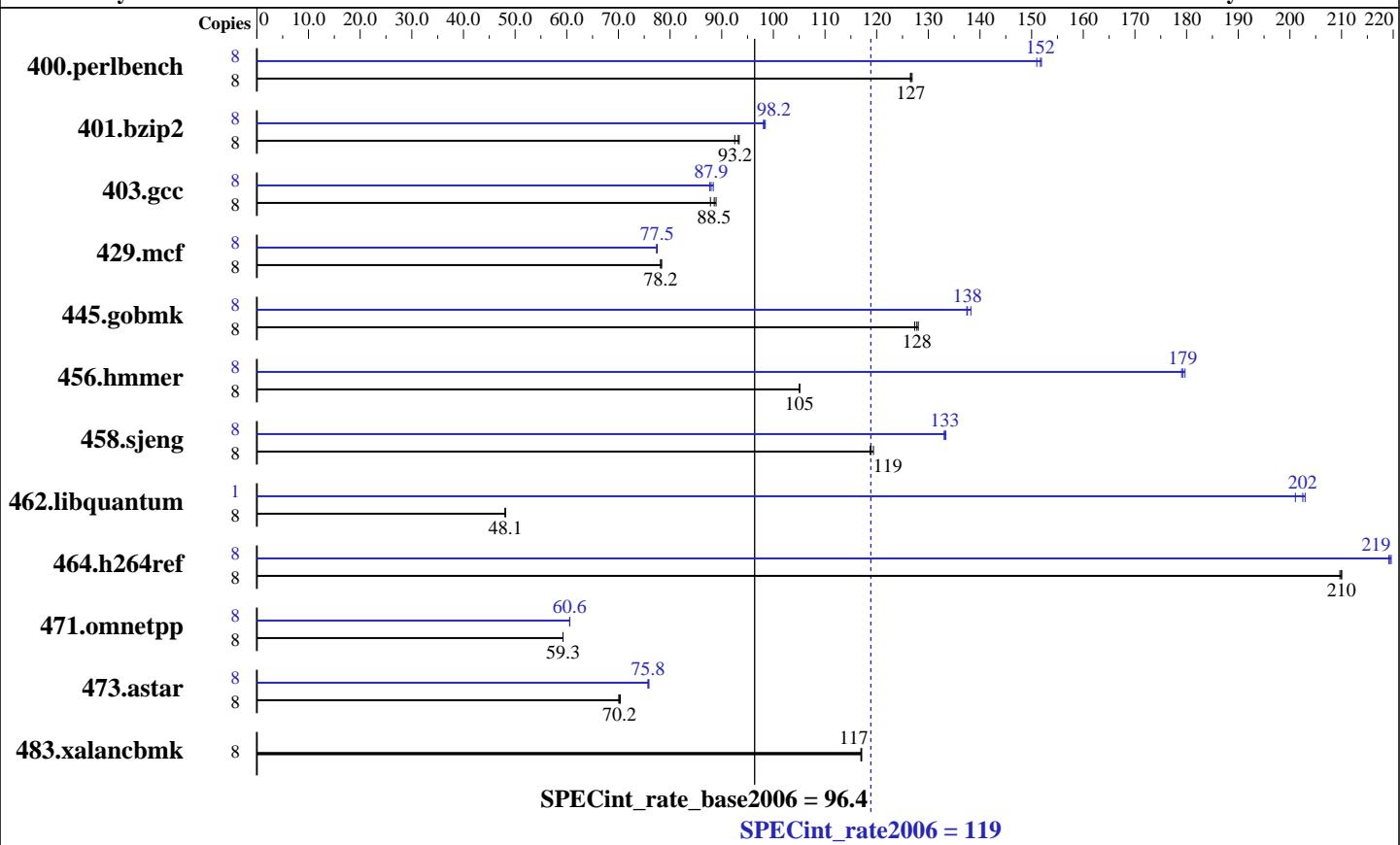
CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Dec-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Benchmark	Copies	Value
400.perlbench	8	152
400.perlbench	8	127
401.bzip2	8	98.2
401.bzip2	8	93.2
403.gcc	8	87.9
403.gcc	8	88.5
429.mcf	8	77.5
429.mcf	8	78.2
445.gobmk	8	138
445.gobmk	8	128
456.hmmer	8	179
456.hmmer	8	105
458.sjeng	8	133
458.sjeng	8	119
462.libquantum	1	202
462.libquantum	8	48.1
464.h264ref	8	219
464.h264ref	8	210
471.omnetpp	8	60.6
471.omnetpp	8	59.3
473.astar	8	75.8
473.astar	8	70.2
483.xalancbmk	8	117

SPECint_rate_base2006 = 96.4

SPECint_rate2006 = 119

Hardware

CPU Name:	Intel Xeon E5420
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8x2 GB DDR2-667 ECC CL5 FB-DIMM)
Disk Subsystem:	1 x 73 GB SAS 15k RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.17.50.0.15

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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	8	618	127	616	127	**617**	**127**	8	518	151	**515**	**152**	515	152
401.bzip2	8	834	92.5	**828**	**93.2**	827	93.4	8	787	98.1	784	98.4	**786**	**98.2**
403.gcc	8	**727**	**88.5**	724	88.9	733	87.8	8	734	87.7	729	88.4	**732**	**87.9**
429.mcf	8	933	78.2	931	78.4	**933**	**78.2**	8	941	77.5	943	77.4	**941**	**77.5**
445.gobmk	8	655	128	659	127	**657**	**128**	8	607	138	611	137	**610**	**138**
456.hmmer	8	711	105	**711**	**105**	710	105	8	417	179	**416**	**179**	415	180
458.sjeng	8	811	119	815	119	**814**	**119**	8	**727**	**133**	726	133	727	133
462.libquantum	8	3451	48.0	3440	48.2	**3445**	**48.1**	1	103	201	**102**	**202**	102	203
464.h264ref	8	843	210	**843**	**210**	844	210	8	808	219	806	220	**807**	**219**
471.omnetpp	8	**844**	**59.3**	844	59.3	844	59.3	8	825	60.6	826	60.6	**825**	**60.6**
473.astar	8	798	70.4	**800**	**70.2**	802	70.1	8	740	75.9	**741**	**75.8**	741	75.7
483.xalancbmk	8	471	117	**472**	**117**	472	117	8	471	117	**472**	**117**	472	117

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

```
OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

Platform Notes

```
BIOS Settings:
Adjacent Cache Line Prefetch = Disabled (default Enabled)
```

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

C++ benchmarks:
```
    -xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
    -L/spec/users/rahul/cpu2006.1.0/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/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/include
```

```
    456.hmmer: /opt/intel/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/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 -prefetch`

403.gcc: `-fast -inline-calloc -opt-malloc-options=3`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-fast -unroll2 -ansi-alias -opt-multi-version-aggressive`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4`

462.libquantum: `-fast -unroll4 -Ob0 -prefetch`
`-opt-streaming-stores always -vec-guard-write`
`-opt-malloc-options=3 -parallel -par-runtime-control`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2`
`-ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo`
`-no-prec-div -ansi-alias -opt-ra-region-strategy=block`
`-Wl,-z,muldefs`
`-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`

473.astar: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo`
`-no-prec-div -ansi-alias -opt-ra-region-strategy=routine`
`-Wl,-z,muldefs`
`-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

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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-ic10-ia32-intel64-linux-flags.20090714.12.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.12.xml`

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