SPEC® CINT2006 Result
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Dell Inc.

PowerEdge M710 (Intel Xeon E5504, 2.00 GHz)

$SPECint^®2006 =$ 21.0
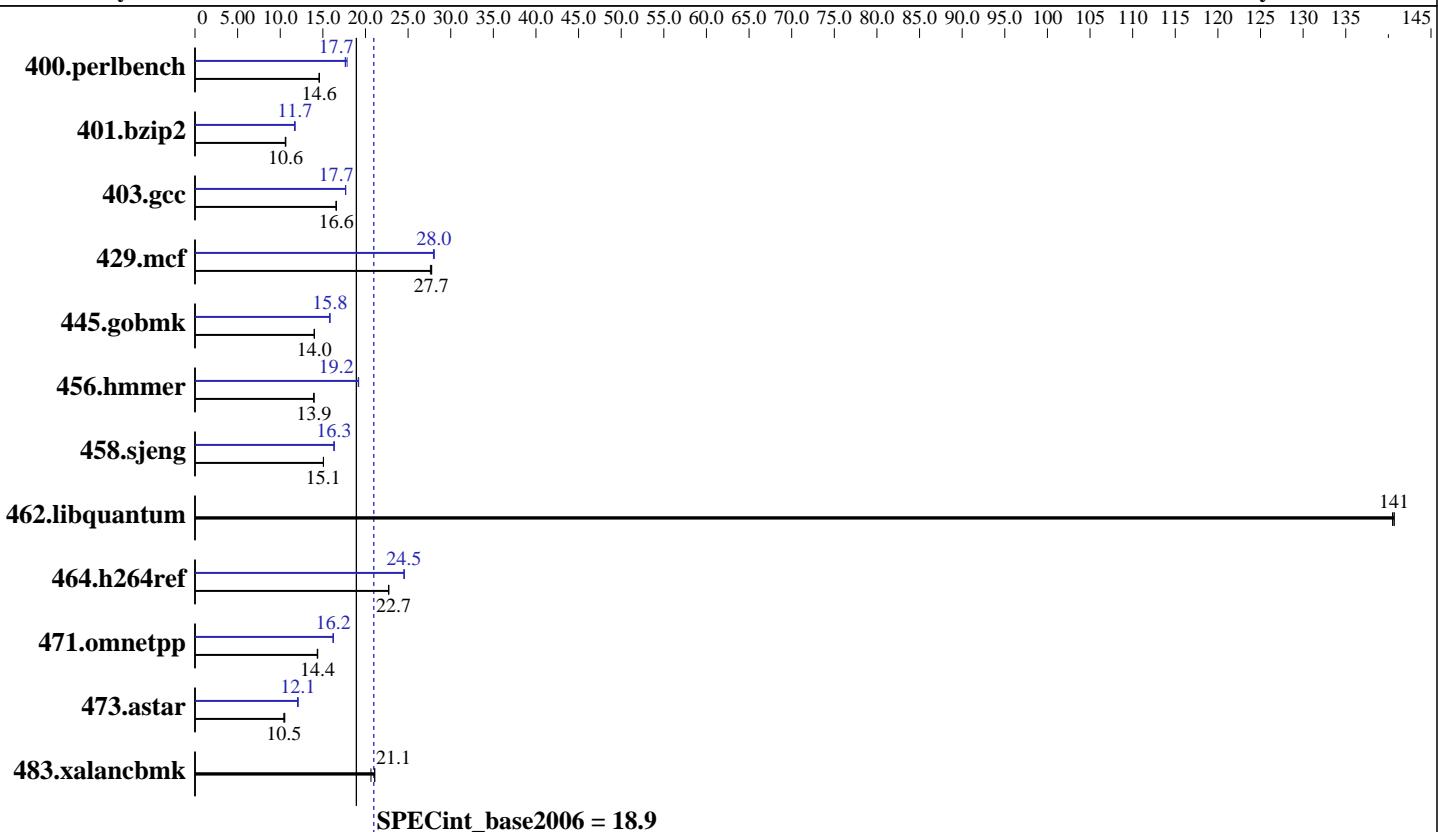
$SPECint\_base2006 =$ 18.9

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

Test date: Apr-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009

SPECint_base2006 = 18.9
SPECint2006 = 21.0

Results graph, by benchmark (peak / base):
- 400.perlbench: 17.7 / 14.6
- 401.bzip2: 11.7 / 10.6
- 403.gcc: 17.7 / 16.6
- 429.mcf: 28.0 / 27.7
- 445.gobmk: 15.8 / 14.0
- 456.hmmer: 19.2 / 13.9
- 458.sjeng: 16.3 / 15.1
- 462.libquantum: 141
- 464.h264ref: 24.5 / 22.7
- 471.omnetpp: 16.2 / 14.4
- 473.astar: 12.1 / 10.5
- 483.xalancbmk: 21.1

Hardware

CPU Name:	Intel Xeon E5504
CPU Characteristics:	
CPU MHz:	2000
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:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB DDR3-1066 DR RDIMM downclocked to 800 MHz)
Disk Subsystem:	1 x 73 GB 10000 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:	Yes
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						Peak					
	Seconds	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	**670**	**14.6**	670	14.6	671	14.6	554	17.6	**553**	**17.7**	548	17.8
401.bzip2	**909**	**10.6**	911	10.6	906	10.7	827	11.7	**823**	**11.7**	822	11.7
403.gcc	487	16.5	**486**	**16.6**	485	16.6	456	17.7	**456**	**17.7**	456	17.7
429.mcf	330	27.6	328	27.8	**329**	**27.7**	325	28.1	**325**	**28.0**	326	28.0
445.gobmk	750	14.0	749	14.0	**749**	**14.0**	664	15.8	**663**	**15.8**	663	15.8
456.hmmer	669	13.9	**669**	**13.9**	669	14.0	**487**	**19.2**	486	19.2	487	19.2
458.sjeng	**803**	**15.1**	803	15.1	803	15.1	742	16.3	**741**	**16.3**	741	16.3
462.libquantum	147	140	**147**	**141**	147	141	147	140	**147**	**141**	147	141
464.h264ref	**975**	**22.7**	975	22.7	973	22.7	901	24.5	903	24.5	**902**	**24.5**
471.omnetpp	436	14.3	**435**	**14.4**	434	14.4	385	16.2	**385**	**16.2**	385	16.2
473.astar	672	10.4	666	10.5	**672**	**10.5**	581	12.1	**581**	**12.1**	583	12.0
483.xalancbmk	327	21.1	**327**	**21.1**	334	20.6	327	21.1	**327**	**21.1**	334	20.6

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

Operating System Notes

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

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
```

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Software Availability: Feb-2009

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch
```

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`

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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`

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) `-auto-ilp32` `-opt-prefetch` `-ansi-alias`

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

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

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-ic11.0-int-linux64-revA.20090710.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.xml

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

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