SPEC® CINT2006 Result

Dell Inc.

PowerEdge T710 (Intel Xeon X5570, 2.93 GHz)

$SPECint®2006 =$ 35.1
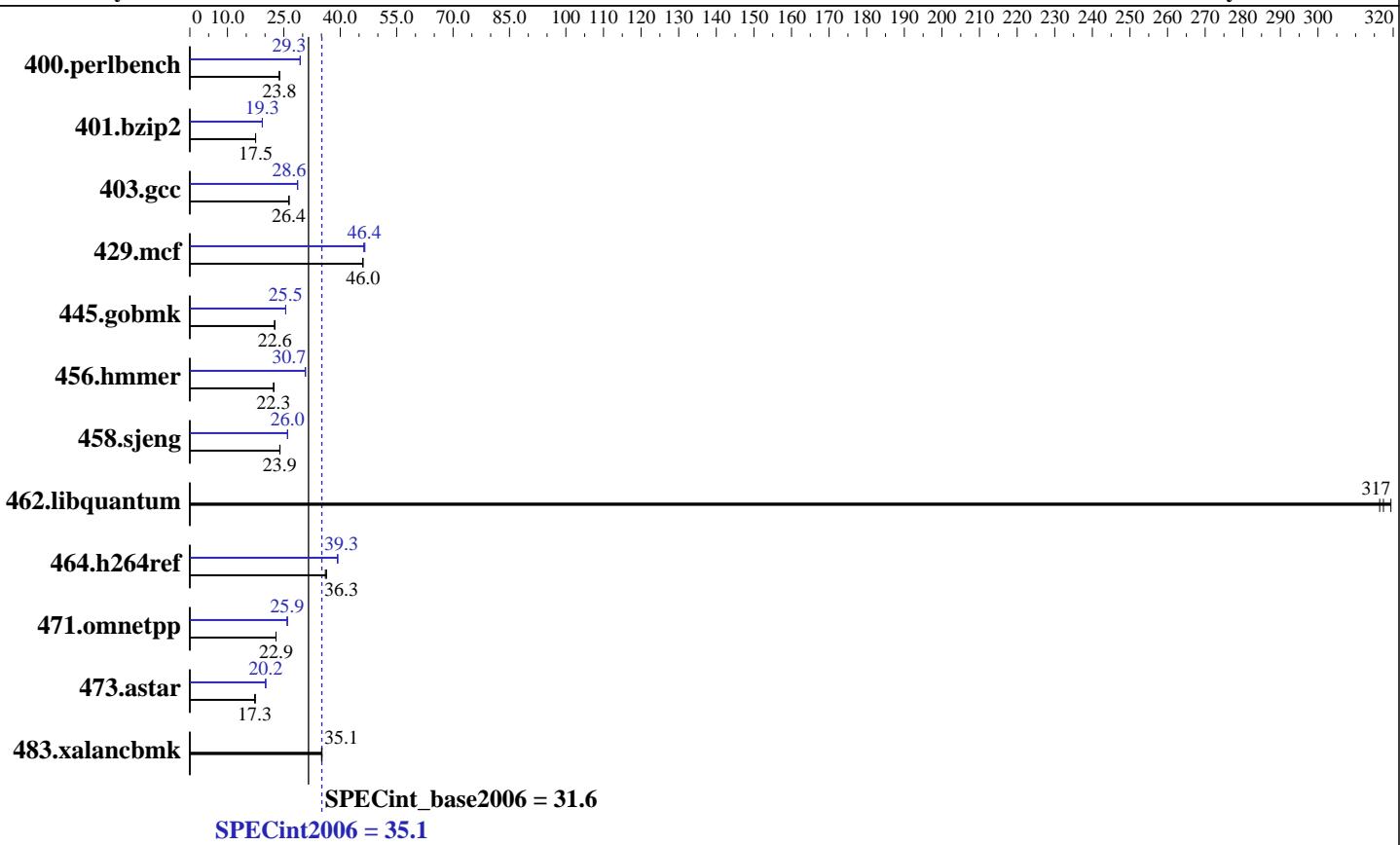
$SPECint\_base2006 =$ 31.6

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

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

Results chart (scale 0 to 320):

- 400.perlbench: 29.3 / 23.8
- 401.bzip2: 19.3 / 17.5
- 403.gcc: 28.6 / 26.4
- 429.mcf: 46.4 / 46.0
- 445.gobmk: 25.5 / 22.6
- 456.hmmer: 30.7 / 22.3
- 458.sjeng: 26.0 / 23.9
- 462.libquantum: 317
- 464.h264ref: 39.3 / 36.3
- 471.omnetpp: 25.9 / 22.9
- 473.astar: 20.2 / 17.3
- 483.xalancbmk: 35.1

SPECint_base2006 = 31.6
SPECint2006 = 35.1

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 DDR3-1333 DR RDIMM)
Disk Subsystem:	1 x 73 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:	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	**410**	**23.8**	410	23.8	410	23.8	**333**	**29.3**	333	29.3	333	29.4
401.bzip2	**552**	**17.5**	552	17.5	552	17.5	501	19.3	501	19.3	**501**	**19.3**
403.gcc	306	26.3	**305**	**26.4**	305	26.4	**281**	**28.6**	281	28.6	281	28.6
429.mcf	**198**	**46.0**	198	46.0	198	46.0	**197**	**46.4**	197	46.3	196	46.5
445.gobmk	465	22.6	465	22.6	**465**	**22.6**	411	25.5	**412**	**25.5**	412	25.5
456.hmmer	418	22.3	**418**	**22.3**	419	22.3	**304**	**30.7**	304	30.7	304	30.7
458.sjeng	506	23.9	504	24.0	**506**	**23.9**	465	26.0	466	26.0	**466**	**26.0**
462.libquantum	64.9	319	65.5	316	**65.3**	**317**	64.9	319	65.5	316	**65.3**	**317**
464.h264ref	614	36.0	610	36.3	**610**	**36.3**	563	39.3	**563**	**39.3**	563	39.3
471.omnetpp	273	22.9	273	22.9	**273**	**22.9**	241	25.9	241	25.9	**241**	**25.9**
473.astar	403	17.4	406	17.3	**406**	**17.3**	348	20.2	349	20.1	**348**	**20.2**
483.xalancbmk	**197**	**35.1**	196	35.1	197	35.1	**197**	**35.1**	196	35.1	197	35.1

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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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.20090805.01.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.20090805.01.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 02:48:19 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 September 2009.