SPEC® CINT2006 Result
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IBM Corporation

IBM System x3250 M3 (Intel Xeon X3430)

$SPECint^{®}2006 =$ 27.9

$SPECint\_base2006 =$ 24.8

Benchmark	Peak	Base
400.perlbench	24.8	19.7
401.bzip2	14.7	13.1
403.gcc	24.7	23.2
429.mcf	40.0	40.4
445.gobmk	20.7	18.4
456.hmmer	26.6	18.2
458.sjeng	22.5	20.5
462.libquantum		135
464.h264ref	32.5	28.8
471.omnetpp	23.6	20.6
473.astar	15.9	13.7
483.xalancbmk		30.6

SPECint_base2006 = 24.8
SPECint2006 = 27.9

Hardware

CPU Name:	Intel Xeon X3430
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
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:	16 GB (4 x 4 GB PC3-10600R)
Disk Subsystem:	1 x 73 GB SAS, 15000RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
Auto Parallel:	Yes
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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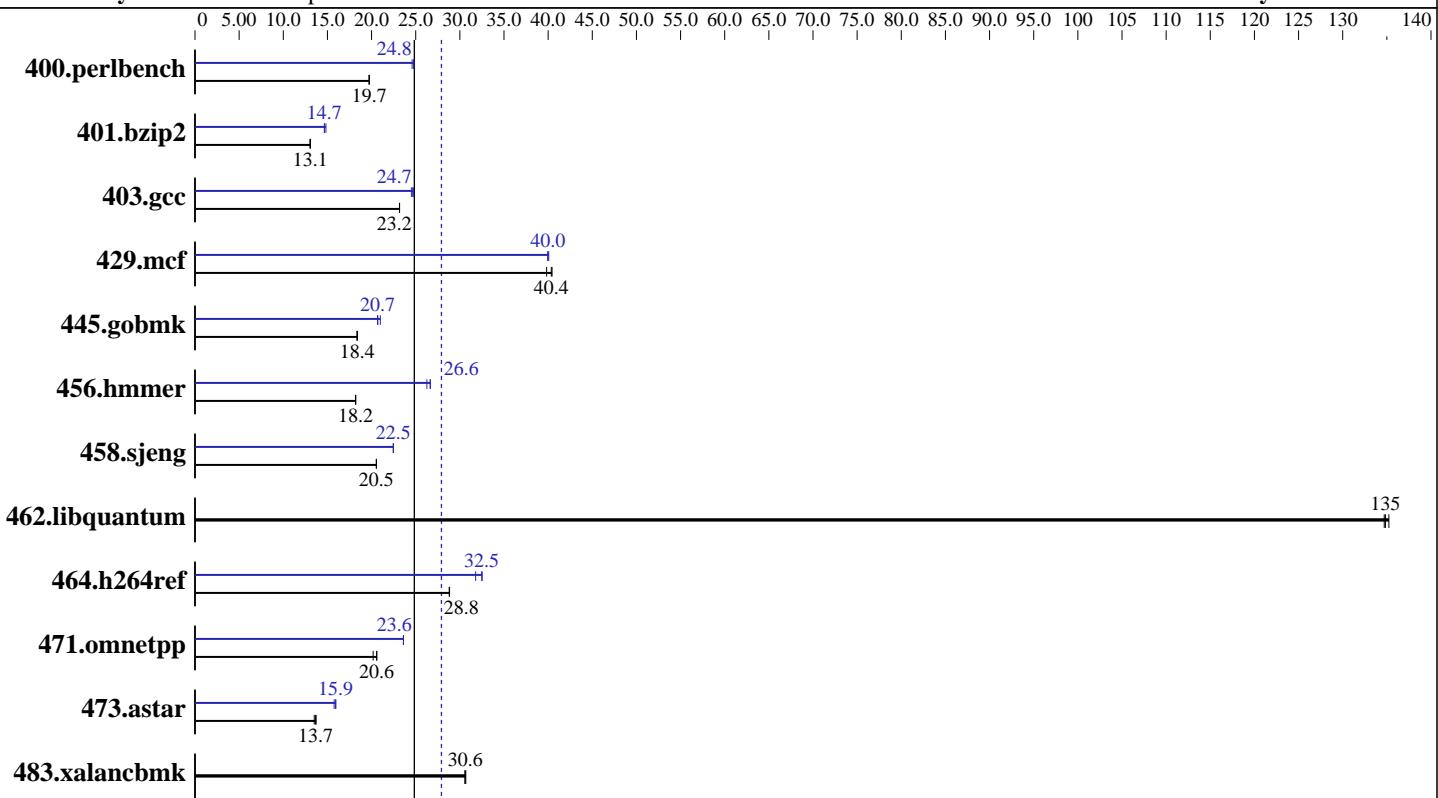| SPECint2006 =	27.9
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CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Oct-2009
Hardware Availability: Oct-2009
Software Availability: Mar-2009

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	496	19.7	**495**	**19.7**	494	19.8	397	24.6	**394**	**24.8**	394	24.8
401.bzip2	**739**	**13.1**	739	13.0	739	13.1	651	14.8	**658**	**14.7**	658	14.7
403.gcc	348	23.2	347	23.2	**348**	**23.2**	**326**	**24.7**	328	24.5	325	24.8
429.mcf	229	39.8	**226**	**40.4**	226	40.4	228	40.1	228	40.0	**228**	**40.0**
445.gobmk	**571**	**18.4**	572	18.3	570	18.4	500	21.0	**507**	**20.7**	507	20.7
456.hmmer	513	18.2	513	18.2	**513**	**18.2**	**350**	**26.6**	350	26.7	355	26.3
458.sjeng	589	20.6	**589**	**20.5**	589	20.5	538	22.5	539	22.5	**539**	**22.5**
462.libquantum	153	135	154	135	**154**	**135**	153	135	154	135	**154**	**135**
464.h264ref	**768**	**28.8**	767	28.8	768	28.8	**681**	**32.5**	680	32.5	696	31.8
471.omnetpp	310	20.2	304	20.6	**304**	**20.6**	265	23.6	265	23.6	**265**	**23.6**
473.astar	520	13.5	**514**	**13.7**	512	13.7	**440**	**15.9**	445	15.8	440	15.9
483.xalancbmk	225	30.7	226	30.6	**225**	**30.6**	225	30.7	226	30.6	**225**	**30.6**

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

General Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
CPU C-States Enable and Adjacent Sector Prefetch Enable
Turbo Mode Enable
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.20091028.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.20091028.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 04:58:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 November 2009.