SPEC® CINT2006 Result
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IBM Corporation

IBM System x3250 M3 (Intel Xeon X3430)

$SPECint^{®}\_rate2006 =$ 88.4

$SPECint\_rate\_base2006 =$ 82.0

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

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

Copies (graph scale 0 to 280)

Benchmark	Copies	Peak	Base
400.perlbench	4	86.7	74.3
401.bzip2	4	50.1	45.9
403.gcc	4	73.4	74.0
429.mcf	4	117	122
445.gobmk	4	75.8	70.8
456.hmmer	4	96.7	66.0
458.sjeng	4	81.6	74.8
462.libquantum	4	275	274
464.h264ref	4	118	111
471.omnetpp	4		62.8
473.astar	4	51.2	45.7
483.xalancbmk	4		98.2

SPECint_rate_base2006 = 82.0
SPECint_rate2006 = 88.4

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:	No
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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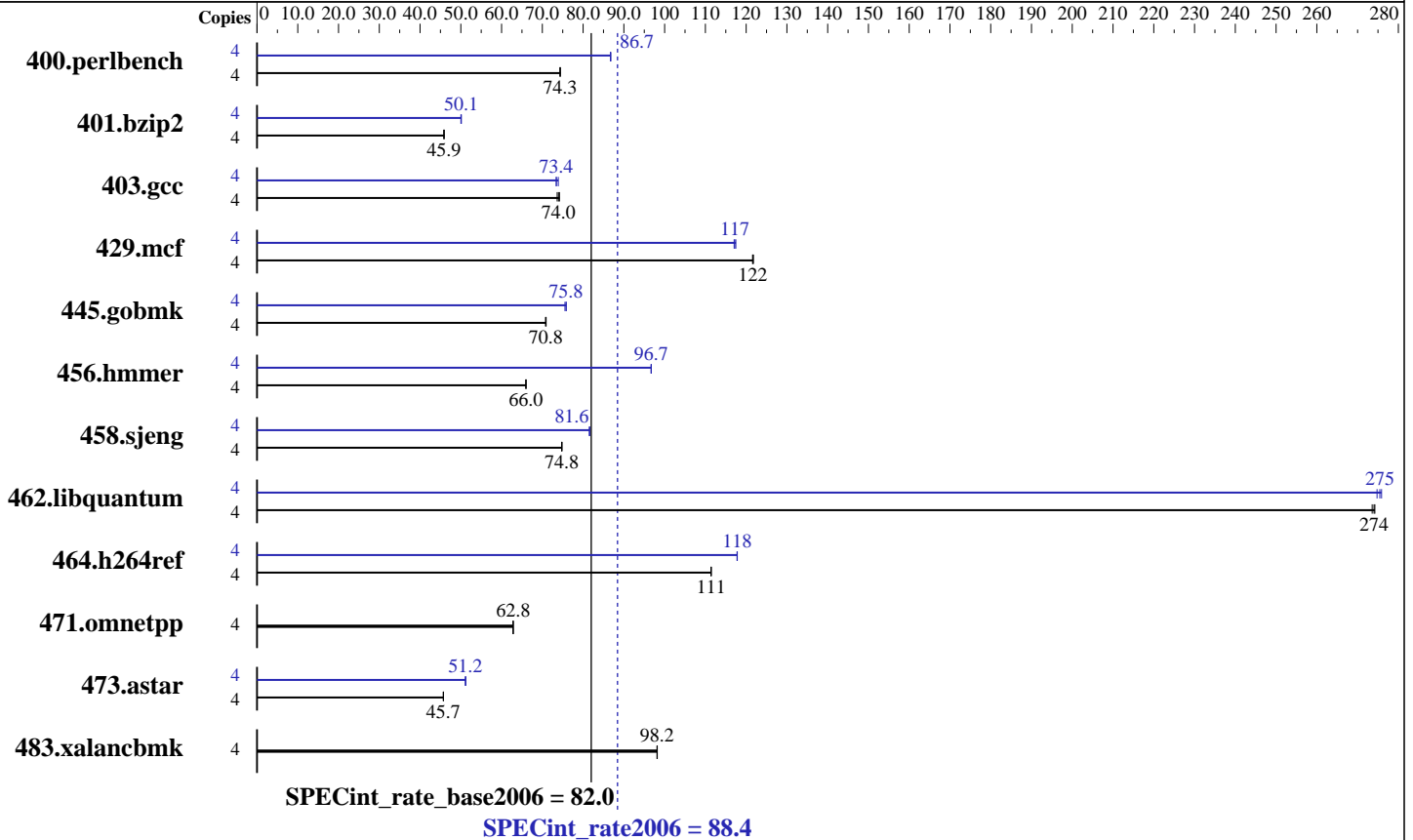SPECint_rate_base2006 = 82.0

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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	4	526	74.3	**526**	**74.3**	525	74.4	4	451	86.7	**451**	**86.7**	450	86.8
401.bzip2	4	841	45.9	842	45.8	**842**	**45.9**	4	772	50.0	**771**	**50.1**	770	50.1
403.gcc	4	434	74.2	**435**	**74.0**	437	73.6	4	436	73.9	**439**	**73.4**	439	73.4
429.mcf	4	300	122	300	122	**300**	**122**	4	**311**	**117**	311	117	312	117
445.gobmk	4	592	70.9	593	70.8	**592**	**70.8**	4	553	75.9	555	75.5	**553**	**75.8**
456.hmmer	4	566	66.0	566	66.0	**566**	**66.0**	4	386	96.7	386	96.7	**386**	**96.7**
458.sjeng	4	648	74.7	**647**	**74.8**	647	74.8	4	593	81.6	593	81.6	**593**	**81.6**
462.libquantum	4	303	274	302	274	**302**	**274**	4	**301**	**275**	300	276	302	275
464.h264ref	4	794	111	**795**	**111**	795	111	4	751	118	**751**	**118**	752	118
471.omnetpp	4	398	62.8	**398**	**62.8**	398	62.8	4	398	62.8	**398**	**62.8**	398	62.8
473.astar	4	614	45.7	**614**	**45.7**	614	45.7	4	549	51.1	**549**	**51.2**	548	51.2
483.xalancbmk	4	**281**	**98.2**	281	98.1	281	98.2	4	**281**	**98.2**	281	98.1	281	98.2

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

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

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

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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.
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