SPEC® CINT2006 Result
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IBM Corporation

SPECint®_rate2006 = 300

IBM BladeCenter HS22 (Intel Xeon X5677)

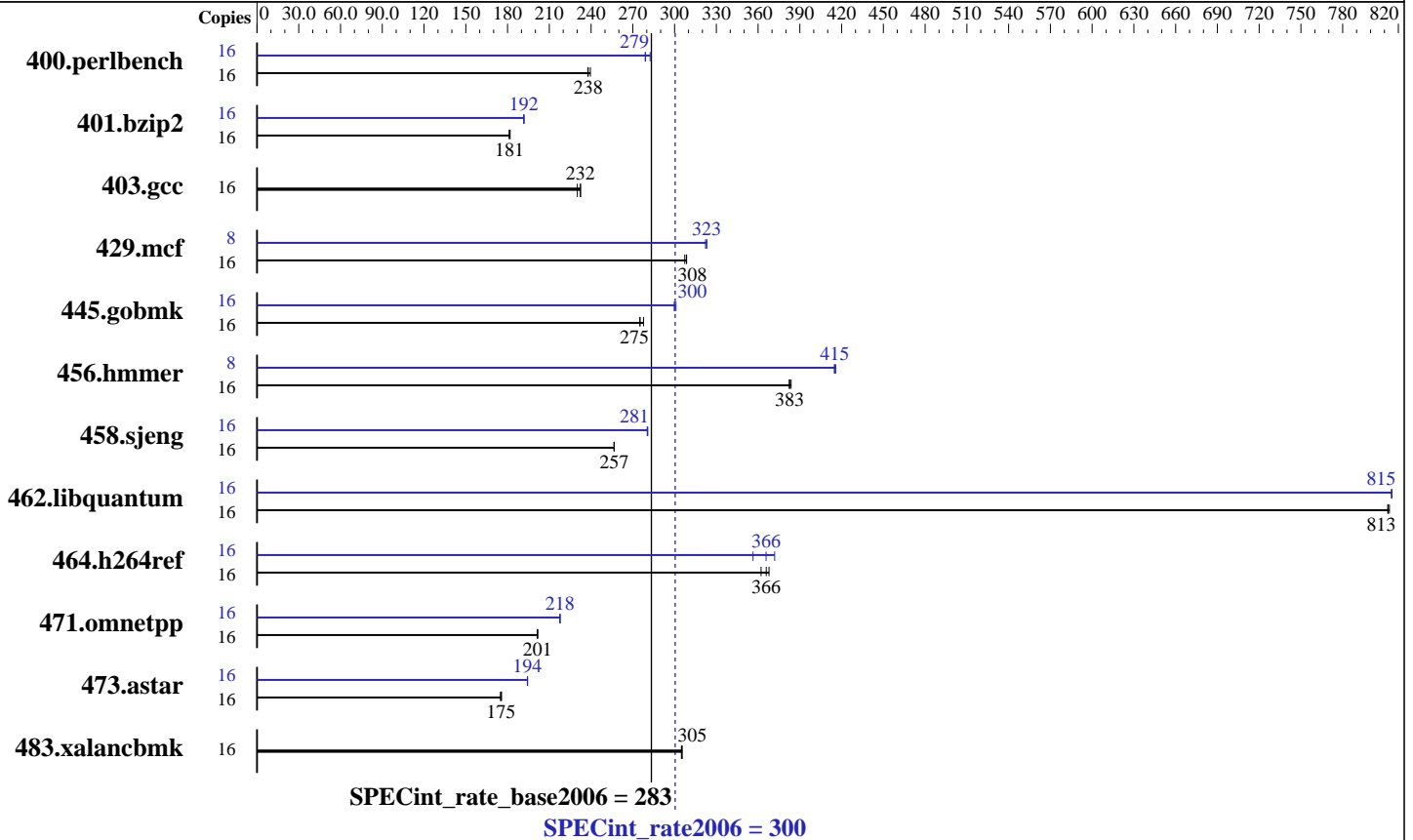SPECint_rate_base2006 = 283

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

Test date: May-2010
Hardware Availability: Mar-2010
Software Availability: Jan-2010

	Copies																											
400.perlbench	16 / 16	279 / 238
401.bzip2	16 / 16	192 / 181
403.gcc	16	232
429.mcf	8 / 16	323 / 308
445.gobmk	16 / 16	300 / 275
456.hmmer	8 / 16	415 / 383
458.sjeng	16 / 16	281 / 257
462.libquantum	16 / 16	815 / 813
464.h264ref	16 / 16	366 / 366
471.omnetpp	16 / 16	218 / 201
473.astar	16 / 16	194 / 175
483.xalancbmk	16	305

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Hardware

CPU Name: Intel Xeon X5677
CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz
CPU MHz: 3467
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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB PC3-10600R CL9, 2 Rank)
Disk Subsystem: 1 x 73 GB SAS, 15000 RPM
Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
Build 20091130 Package ID: l_cproc_p_11.1.064
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

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	653	240	658	238	**657**	**238**	16	553	282	561	279	**560**	**279**
401.bzip2	16	849	182	**851**	**181**	852	181	16	**805**	**192**	806	192	805	192
403.gcc	16	554	232	560	230	**554**	**232**	16	554	232	560	230	**554**	**232**
429.mcf	16	473	309	475	307	**473**	**308**	8	226	323	**226**	**323**	226	322
445.gobmk	16	610	275	**610**	**275**	604	278	16	560	300	558	301	**560**	**300**
456.hmmer	16	**390**	**383**	390	382	389	384	8	**180**	**415**	180	416	180	415
458.sjeng	16	754	257	**754**	**257**	755	256	16	690	281	**690**	**281**	691	280
462.libquantum	16	**408**	**813**	407	814	408	812	16	407	815	**407**	**815**	407	815
464.h264ref	16	963	368	**968**	**366**	978	362	16	994	356	952	372	**968**	**366**
471.omnetpp	16	496	202	496	201	**496**	**201**	16	**459**	**218**	460	218	459	218
473.astar	16	642	175	639	176	**641**	**175**	16	578	194	**578**	**194**	578	194
483.xalancbmk	16	362	305	**362**	**305**	361	305	16	362	305	**362**	**305**	361	305

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
```

Platform Notes

```
    Turbo Mode enabled
    Turbo Boost set to Traditional
    Power C-states enabled
    Demand Scrub disabled
```

General Notes

```
     'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
     Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
```

Base Compiler Invocation

C benchmarks:
```
    icc  -m32
```

C++ benchmarks:
```
    icpc -m32
```

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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:

```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

C++ benchmarks:

```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
```

Base Other Flags

C benchmarks:

```
        403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m32
```

```
      401.bzip2: icc -m64
```

```
      456.hmmer: icc -m64
```

```
      458.sjeng: icc -m64
```

```
    462.libquantum: icc -m64
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
       473.astar: icpc -m64
```

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
        401.bzip2: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

```
    456.hmmer: -DSPEC_CPU_LP64
    458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
    473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX
```

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

     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: basepeak = yes

       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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
               -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: -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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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 -Wl,-z,muldefs
```

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Peak Optimization Flags (Continued)

473.astar (continued):
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

483.xalancbmk: basepeak = yes

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-ic11.1-linux64-revE.20100603.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100603.xml

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

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