SPEC® CINT2006 Result

IBM Corporation

IBM BladeCenter HS21 (Intel Xeon X5460)

$SPECint®2006 =$ **27.6**

$SPECint\_base2006 =$ **24.2**

	Result
400.perlbench	25.4 / 20.4
401.bzip2	18.5 / 17.1
403.gcc	20.4 / 15.0
429.mcf	24.1 / 24.1
445.gobmk	23.0 / 20.7
456.hmmer	28.9 / 16.6
458.sjeng	20.5 / 18.5
462.libquantum	225 / 239
464.h264ref	35.3 / 33.1
471.omnetpp	16.9 / 15.6
473.astar	17.3 / 15.7
483.xalancbmk	26.5

SPECint_base2006 = 24.2
SPECint2006 = 27.6

Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	1333MHz system bus
CPU MHz:	3158
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem:	1 x 36 GB SAS, 10000 RPM
Other Hardware:	Memory and I/O Expansion Unit (P/N 42C1600)

Software

Operating System:	SLES10 (x86_64), 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap 8.1 Binutils 2.17.50.0.15

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM BladeCenter HS21 (Intel Xeon X5460)

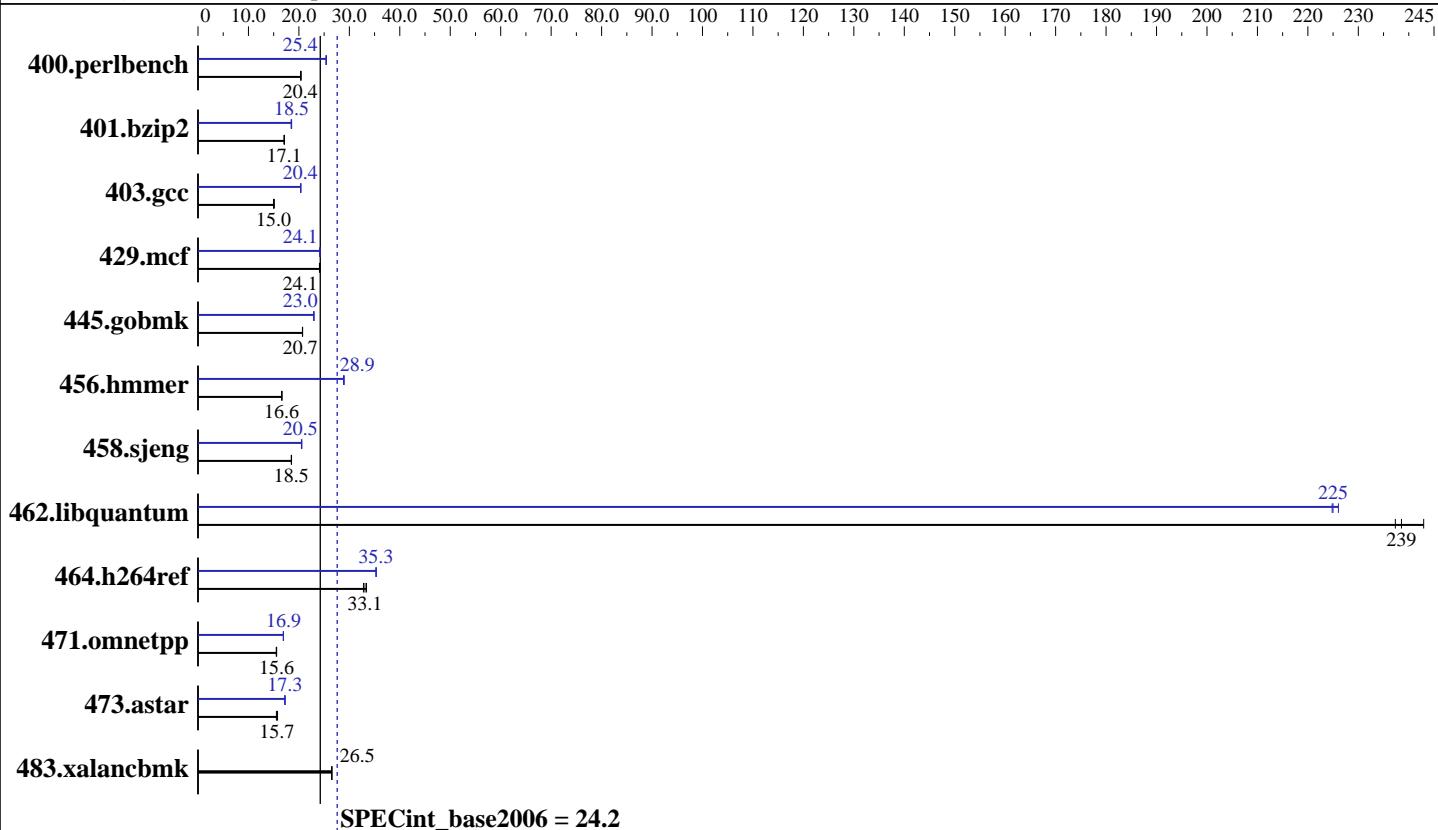|	
SPECint2006 =	27.6
SPECint_base2006 =	24.2

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

Test date: Nov-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**479**	**20.4**	478	20.4	480	20.3	**384**	**25.4**	384	25.4	385	25.4
401.bzip2	563	17.1	**564**	**17.1**	566	17.0	**521**	**18.5**	523	18.5	520	18.6
403.gcc	**537**	**15.0**	538	15.0	532	15.1	395	20.4	**395**	**20.4**	396	20.4
429.mcf	378	24.1	379	24.1	**378**	**24.1**	378	24.1	377	24.2	**378**	**24.1**
445.gobmk	506	20.7	**506**	**20.7**	507	20.7	**457**	**23.0**	457	23.0	457	23.0
456.hmmer	561	16.6	562	16.6	**562**	**16.6**	322	29.0	**323**	**28.9**	323	28.8
458.sjeng	652	18.5	**653**	**18.5**	654	18.5	**590**	**20.5**	587	20.6	590	20.5
462.libquantum	85.3	243	**86.9**	**239**	87.3	237	92.2	225	**92.1**	**225**	91.7	226
464.h264ref	675	32.8	663	33.4	**669**	**33.1**	627	35.3	**627**	**35.3**	627	35.3
471.omnetpp	401	15.6	**401**	**15.6**	403	15.5	**369**	**16.9**	370	16.9	369	17.0
473.astar	452	15.5	**448**	**15.7**	445	15.8	407	17.3	408	17.2	**407**	**17.3**
483.xalancbmk	260	26.5	260	26.5	**260**	**26.5**	260	26.5	260	26.5	**260**	**26.5**

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

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
Hardware Sector Prefetch Enabled and Adjacent Sector Prefetch Enabled
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to null
```

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

SPEC CINT2006 Result

IBM Corporation

IBM BladeCenter HS21 (Intel Xeon X5460)

SPECint2006 =	27.6
SPECint_base2006 =	24.2

Base Optimization Flags

C benchmarks:

```
-fast -vec-guard-write -parallel -par-runtime-control
```

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/users/rahul/cpu2006.1.0/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/cce/10.1.008/bin/icc
           -L/opt/intel/cce/10.1.008/lib
           -I/opt/intel/cce/10.1.008/include
```

```
456.hmmer: /opt/intel/cce/10.1.008/bin/icc
           -L/opt/intel/cce/10.1.008/lib
           -I/opt/intel/cce/10.1.008/include
```

C++ benchmarks:
```
icpc
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
   401.bzip2: -DSPEC_CPU_LP64
   456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

Continued on next page

SPEC CINT2006 Result

IBM Corporation

IBM BladeCenter HS21 (Intel Xeon X5460)

SPECint2006 = 27.6

SPECint_base2006 = 24.2

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

Test date: Nov-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

```
     400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
                    -prefetch

         401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
                    -auto-ilp32

           403.gcc: -fast -inline-calloc -opt-malloc-options=3

           429.mcf: -fast -prefetch

         445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
                    -no-prec-div -ansi-alias

         456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
                    -auto-ilp32

         458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

     462.libquantum: -fast -unroll4 -Ob0 -prefetch
                    -opt-streaming-stores always -vec-guard-write
                    -opt-malloc-options=3 -parallel -par-runtime-control

        464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
                    -ansi-alias
```

C++ benchmarks:

```
        471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
                    -no-prec-div -ansi-alias -opt-ra-region-strategy=block
                    -Wl,-z,muldefs
                    -L/spec/users/rahul/cpu2006.1.0/lib  -lsmartheap

           473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
                    -no-prec-div -ansi-alias -opt-ra-region-strategy=routine
                    -Wl,-z,muldefs
                    -L/spec/users/rahul/cpu2006.1.0/lib  -lsmartheap

       483.xalancbmk: basepeak = yes
```

Peak Other Flags

C benchmarks:

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

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM BladeCenter HS21 (Intel Xeon X5460)

SPECint2006 = 27.6

SPECint_base2006 = 24.2

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

Test date: Nov-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.14.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.14.xml

SPEC and SPECint are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 13:49:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 December 2007.