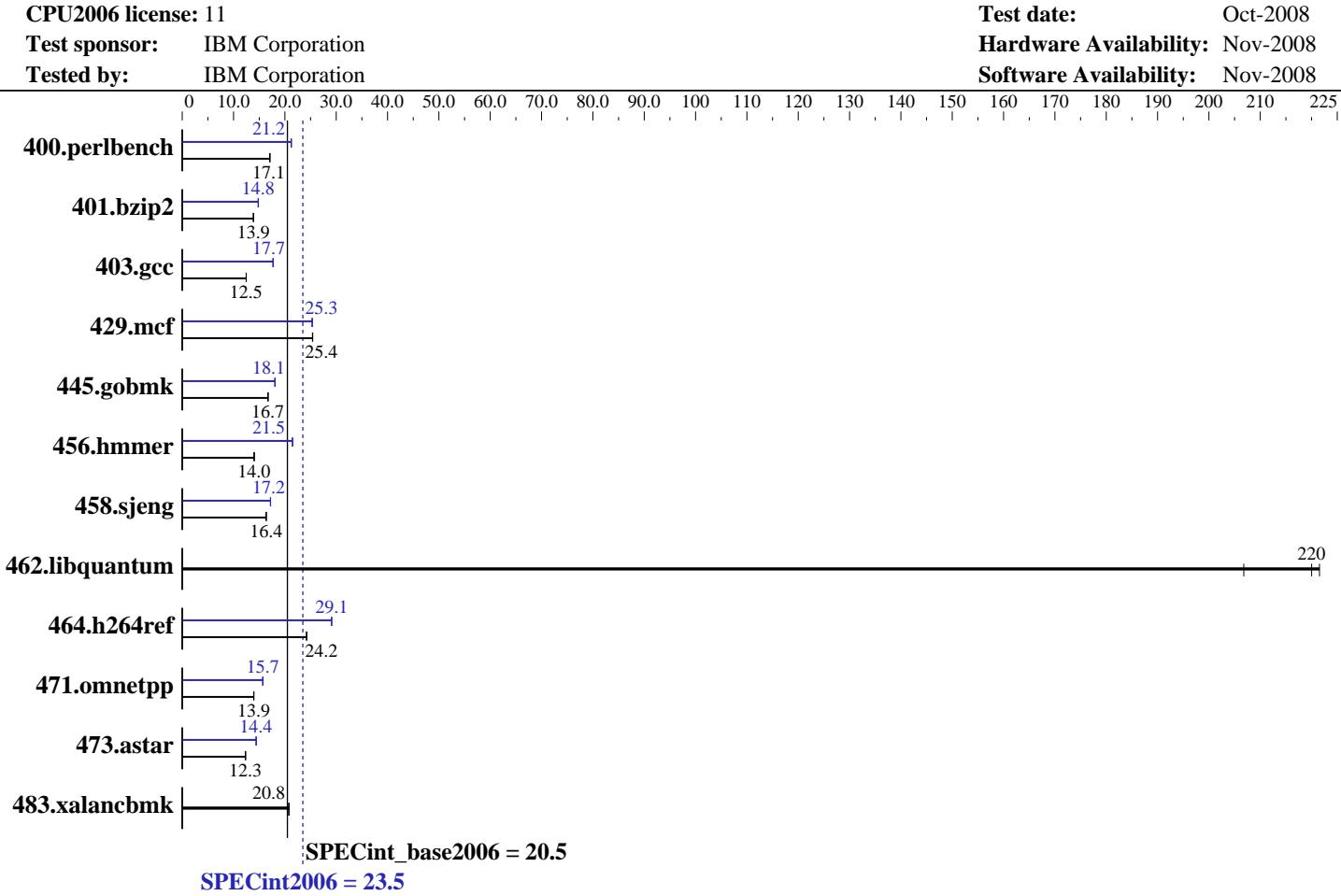# SPEC® CINT2006 Result
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IBM Corporation

IBM System x iDataPlex dx320 (Intel Xeon L5420)

$SPECint^{®}2006 =$ 23.5

$SPECint\_base2006 =$ 20.5

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

Test date: Oct-2008
Hardware Availability: Nov-2008
Software Availability: Nov-2008

400.perlbench	21.2 / 17.1
401.bzip2	14.8 / 13.9
403.gcc	17.7 / 12.5
429.mcf	25.3 / 25.4
445.gobmk	18.1 / 16.7
456.hmmer	21.5 / 14.0
458.sjeng	17.2 / 16.4
462.libquantum	220
464.h264ref	29.1 / 24.2
471.omnetpp	15.7 / 13.9
473.astar	14.4 / 12.3
483.xalancbmk	20.8

SPECint_base2006 = 20.5
SPECint2006 = 23.5

Hardware

CPU Name:	Intel Xeon L5420
CPU Characteristics:	1333MHz system bus
CPU MHz:	2500
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 (4 x 4 GB DDR2-5300P ECC)
Disk Subsystem:	1 x 250 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
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	**572**	**17.1**	572	17.1	573	17.1	460	21.2	459	21.3	**460**	**21.2**
401.bzip2	695	13.9	**695**	**13.9**	697	13.8	652	14.8	650	14.8	**652**	**14.8**
403.gcc	**646**	**12.5**	646	12.5	646	12.5	455	17.7	**455**	**17.7**	454	17.7
429.mcf	360	25.4	359	25.4	**359**	**25.4**	360	25.3	**360**	**25.3**	361	25.3
445.gobmk	627	16.7	628	16.7	**628**	**16.7**	580	18.1	**580**	**18.1**	581	18.0
456.hmmer	666	14.0	665	14.0	**666**	**14.0**	434	21.5	**434**	**21.5**	434	21.5
458.sjeng	740	16.4	740	16.4	**740**	**16.4**	703	17.2	**704**	**17.2**	704	17.2
462.libquantum	100	207	93.5	222	**94.2**	**220**	100	207	93.5	222	**94.2**	**220**
464.h264ref	914	24.2	**914**	**24.2**	913	24.2	760	29.1	761	29.1	**760**	**29.1**
471.omnetpp	448	14.0	448	13.9	**448**	**13.9**	398	15.7	398	15.7	**398**	**15.7**
473.astar	570	12.3	**569**	**12.3**	569	12.3	487	14.4	488	14.4	**487**	**14.4**
483.xalancbmk	332	20.8	332	20.8	**332**	**20.8**	332	20.8	332	20.8	**332**	**20.8**

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

General Notes

```
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
Hardware Prefetch Enabled and Adjacent Sector Prefetch Enabled
Operating Mode set to "Performance"
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
```

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:

```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch
```

C++ benchmarks:

```
-xSSE4.1 -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/11.0/042/bin/intel64/icc`
           `-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib`
           `-I/opt/intel/Compiler/11.0/042/ipp/em64t/include`

     456.hmmer: `/opt/intel/Compiler/11.0/042/bin/intel64/icc`
           `-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib`
           `-I/opt/intel/Compiler/11.0/042/ipp/em64t/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:

IBM Corporation

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Peak Optimization Flags (Continued)

    400.perlbench: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                   `-no-prec-div -static -ansi-alias -opt-prefetch`

        401.bzip2: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                   `-no-prec-div -static -auto-ilp32 -opt-prefetch`
                   `-ansi-alias`

          403.gcc: `-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc`
                   `-opt-malloc-options=3`

          429.mcf: `-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

        445.gobmk: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo`
                   `-no-prec-div -ansi-alias`

        456.hmmer: `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2`
                   `-ansi-alias -auto-ilp32`

        458.sjeng: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                   `-no-prec-div -static -unroll4`

    462.libquantum: `basepeak = yes`

       464.h264ref: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                    `-no-prec-div -static -unroll2 -ansi-alias`

C++ benchmarks:

       471.omnetpp: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                    `-no-prec-div -ansi-alias -opt-ra-region-strategy=block`
                    `-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

         473.astar: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                    `-no-prec-div -ansi-alias -opt-ra-region-strategy=routine`
                    `-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

     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-ic11.0-int-linux64-revA.20090710.04.html

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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.20090710.04.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 Tue Jul 22 21:50:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 November 2008.