



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 26.9

IBM System x iDataPlex dx340 (Intel Xeon L5240)

SPECint_base2006 = 23.7

CPU2006 license: 11

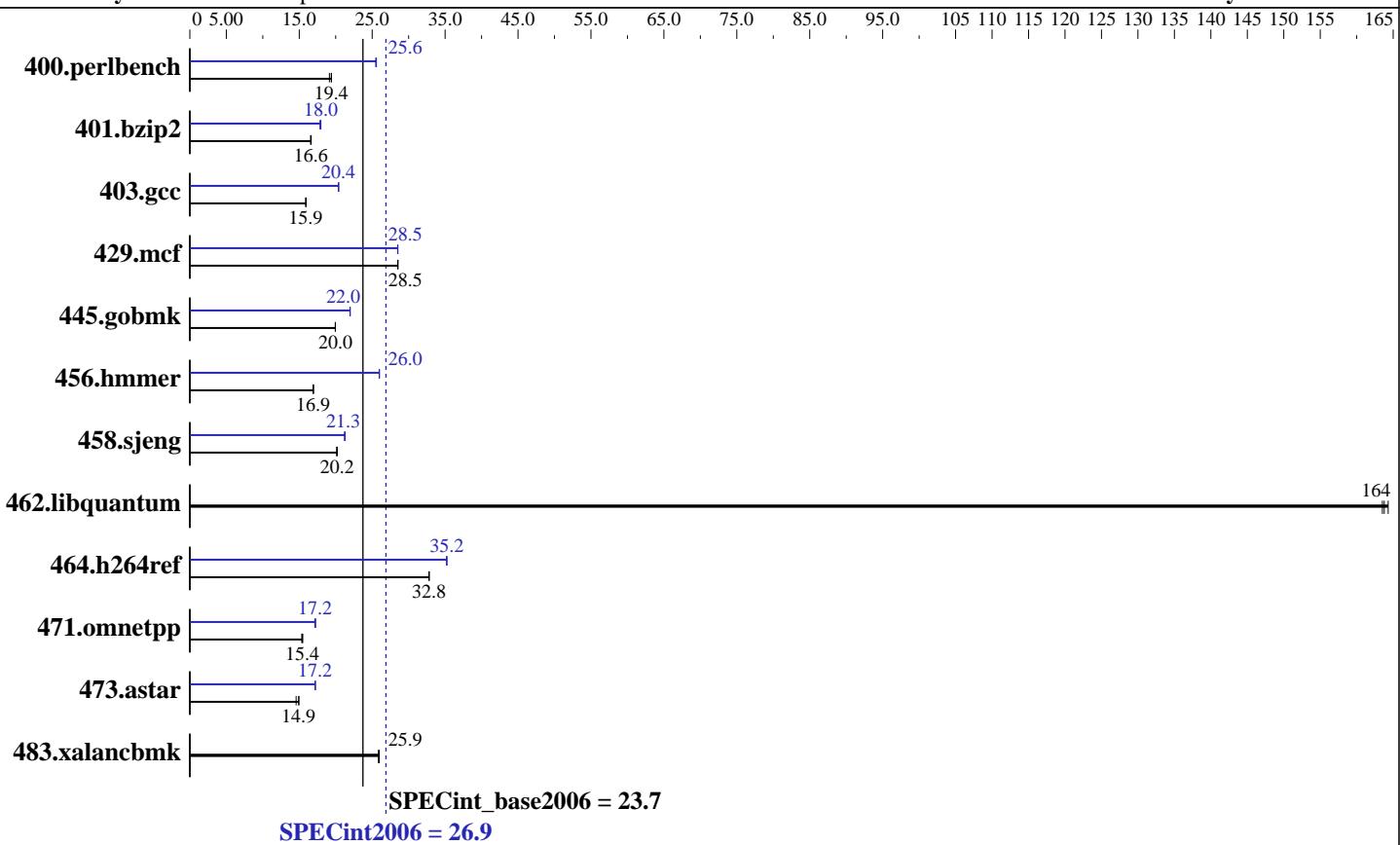
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2009

Hardware Availability: Oct-2008

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon L5240
CPU Characteristics: 1333MHz system bus
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 6 MB I+D on chip per chip
L3 Cache: None
Other Cache: None
Memory: 16 GB (4 x 4 GB PC2-5300F ECC)
Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10(x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066
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										
400.perlbench	511	19.1	504	19.4	503	19.4	382	25.6	383	25.5	382	25.6
401.bzip2	580	16.6	583	16.6	581	16.6	537	18.0	537	18.0	541	17.8
403.gcc	506	15.9	506	15.9	504	16.0	394	20.4	395	20.4	395	20.4
429.mcf	320	28.5	320	28.5	320	28.5	320	28.5	320	28.5	320	28.5
445.gobmk	526	20.0	526	19.9	526	20.0	477	22.0	477	22.0	478	22.0
456.hmmer	551	16.9	551	16.9	551	16.9	359	26.0	359	26.0	359	26.0
458.sjeng	599	20.2	599	20.2	601	20.1	569	21.3	571	21.2	568	21.3
462.libquantum	126	164	127	164	127	164	126	164	127	164	127	164
464.h264ref	675	32.8	675	32.8	674	32.8	628	35.2	628	35.2	629	35.2
471.omnetpp	407	15.3	405	15.4	404	15.5	365	17.1	362	17.2	364	17.2
473.astar	469	15.0	470	14.9	482	14.6	408	17.2	408	17.2	409	17.2
483.xalancbmk	266	25.9	266	26.0	267	25.9	266	25.9	266	26.0	267	25.9

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
OMP_NUM_THREADS set to number of processors

KMP_AFFINITY set to "physical,0"

Hardware Prefetcher Enable and Adjacent Cache Line Prefetch 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:

```
-xSSE4.1 -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/11.0/066/bin/intel64/icc
```

```
456.hmmr: /opt/intel/Compiler/11.0/066/bin/intel64/icc
```

C++ benchmarks:

icpc

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
```

```
401.bzip2: -DSPEC_CPU_LP64
```

```
456.hmmr: -DSPEC_CPU_LP64
```

```
462.libquantum: -DSPEC_CPU_LINUX
```

```
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

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

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Peak Optimization Flags (Continued)

```
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.20090805.00.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.20090805.00.xml>



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