SPEC® CINT2006 Result
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IBM Corporation

IBM System x3500 (Intel Xeon E5430)

$SPECint®2006 = 24.0$

$SPECint\_base2006 = 20.9$

400.perlbench	21.7 / 17.4
401.bzip2	15.7 / 14.5
403.gcc	18.1 / 13.5
429.mcf	22.3 / 20.6
445.gobmk	19.4 / 17.5
456.hmmer	24.3 / 14.0
458.sjeng	17.7 / 15.9
462.libquantum	201 / 204
464.h264ref	29.6 / 27.6
471.omnetpp	15.7 / 14.2
473.astar	14.9 / 13.5
483.xalancbmk	23.2

SPECint_base2006 = 20.9

SPECint2006 = 24.0

Hardware

CPU Name:	Intel Xeon E5430
CPU Characteristics:	1333MHz system bus
CPU MHz:	2667
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 80 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64), Kernel 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

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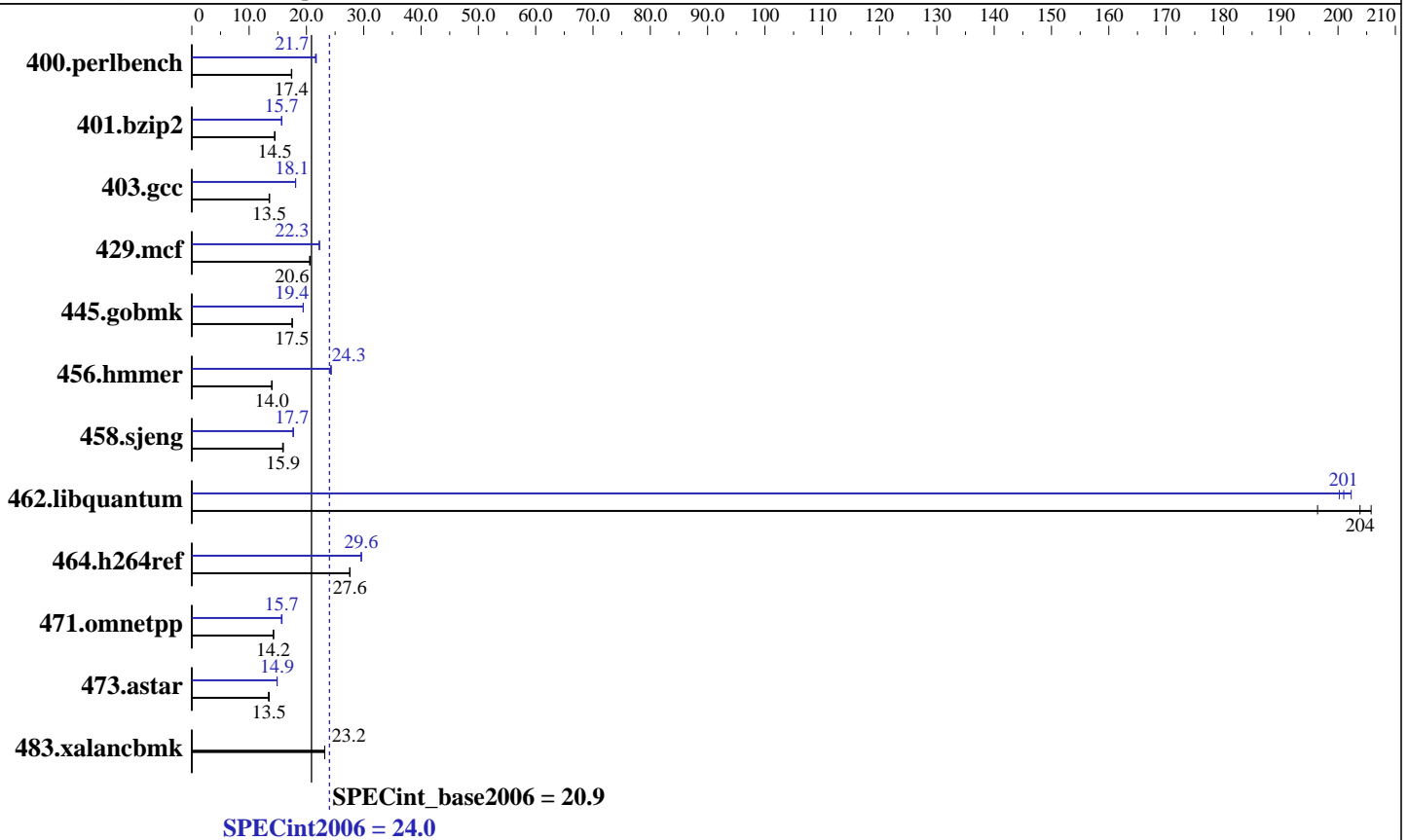**Test sponsor:** IBM Corporation
Tested by: IBM Corporation

Test date: Apr-2008
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	560	17.4	562	17.4	**562**	**17.4**	450	21.7	**450**	**21.7**	453	21.6
401.bzip2	**665**	**14.5**	665	14.5	669	14.4	**616**	**15.7**	615	15.7	616	15.7
403.gcc	597	13.5	594	13.6	**594**	**13.5**	**445**	**18.1**	444	18.1	445	18.1
429.mcf	443	20.6	**443**	**20.6**	443	20.6	**410**	**22.3**	410	22.2	409	22.3
445.gobmk	599	17.5	599	17.5	**599**	**17.5**	**540**	**19.4**	540	19.4	540	19.4
456.hmmer	667	14.0	669	13.9	**667**	**14.0**	**384**	**24.3**	384	24.3	385	24.2
458.sjeng	**759**	**15.9**	758	16.0	763	15.8	**684**	**17.7**	682	17.7	685	17.7
462.libquantum	105	196	101	206	**102**	**204**	102	202	103	200	**103**	**201**
464.h264ref	801	27.6	**802**	**27.6**	804	27.5	748	29.6	748	29.6	**748**	**29.6**
471.omnetpp	**439**	**14.2**	438	14.3	439	14.2	397	15.7	399	15.7	**399**	**15.7**
473.astar	519	13.5	525	13.4	**521**	**13.5**	**472**	**14.9**	472	14.9	472	14.9
483.xalancbmk	297	23.2	298	23.2	**298**	**23.2**	297	23.2	298	23.2	**298**	**23.2**

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
    This result is measured on an IBM System x 3500 Server. Note
    that the IBM Systen x 3500 and IBM System x 3400 are electrically
    equivalent.

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:
```
-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

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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
```

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The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revC.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revC.20090714.xml`

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