SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3500 (Intel Xeon E5440)

$SPECint^®2006 =$ 25.2

$SPECint\_base2006 =$ 21.9

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

Benchmark	base	peak
400.perlbench	18.4	22.9
401.bzip2	15.4	16.6
403.gcc	14.0	18.7
429.mcf	21.1	22.8
445.gobmk	18.6	20.6
456.hmmer	14.8	25.8
458.sjeng	16.8	18.7
462.libquantum	213	209
464.h264ref	29.3	31.4
471.omnetpp	14.6	16.0
473.astar	14.2	15.7
483.xalancbmk		24.4

SPECint_base2006 = 21.9

SPECint2006 = 25.2

Hardware

CPU Name:	Intel Xeon E5440
CPU Characteristics:	1333MHz system bus
CPU MHz:	2833
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

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3500 (Intel Xeon E5440)

SPECint2006 = 25.2
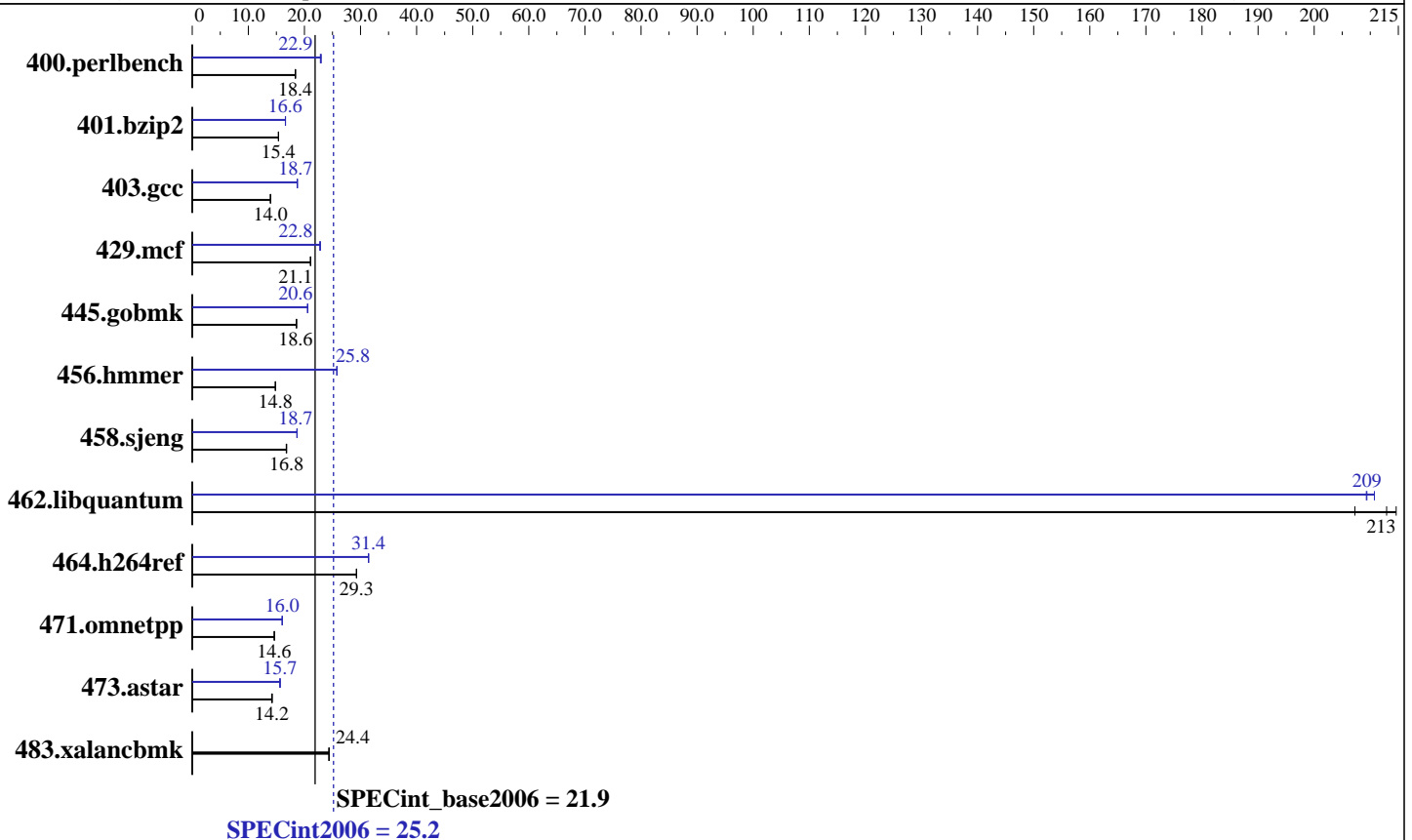
SPECint_base2006 = 21.9

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

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

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	532	18.4	**532**	**18.4**	530	18.4	425	23.0	428	22.8	**426**	**22.9**
401.bzip2	628	15.4	628	15.4	**628**	**15.4**	581	16.6	580	16.6	**581**	**16.6**
403.gcc	578	13.9	**577**	**14.0**	577	14.0	430	18.7	**429**	**18.7**	429	18.7
429.mcf	433	21.1	**432**	**21.1**	432	21.1	401	22.8	**400**	**22.8**	399	22.9
445.gobmk	564	18.6	**564**	**18.6**	565	18.6	**510**	**20.6**	510	20.6	510	20.6
456.hmmer	629	14.8	629	14.8	**629**	**14.8**	362	25.8	**362**	**25.8**	362	25.8
458.sjeng	719	16.8	722	16.8	**720**	**16.8**	647	18.7	648	18.7	**648**	**18.7**
462.libquantum	100	207	**97.3**	**213**	96.5	215	**99.0**	**209**	98.3	211	99.0	209
464.h264ref	756	29.3	755	29.3	**756**	**29.3**	704	31.4	704	31.4	**704**	**31.4**
471.omnetpp	426	14.7	**427**	**14.6**	428	14.6	**390**	**16.0**	390	16.0	389	16.1
473.astar	496	14.2	492	14.3	**494**	**14.2**	448	15.7	450	15.6	**448**	**15.7**
483.xalancbmk	282	24.4	283	24.4	**283**	**24.4**	282	24.4	283	24.4	**283**	**24.4**

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
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3500 (Intel Xeon E5440)

$SPECint2006 =$ 25.2

$SPECint\_base2006 =$ 21.9

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 System x3500 (Intel Xeon E5440)

SPECint2006 =   25.2

SPECint_base2006 =   21.9

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

Test date: Feb-2008
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 System x3500 (Intel Xeon E5440)

SPECint2006 = 25.2

SPECint_base2006 = 21.9

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

Test date: Feb-2008
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-ic10.1-INT-ia32-linux-flags.20090714.06.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090714.06.xml`

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 15:26:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 March 2008.