SPEC® CINT2006 Result

Oracle Corporation

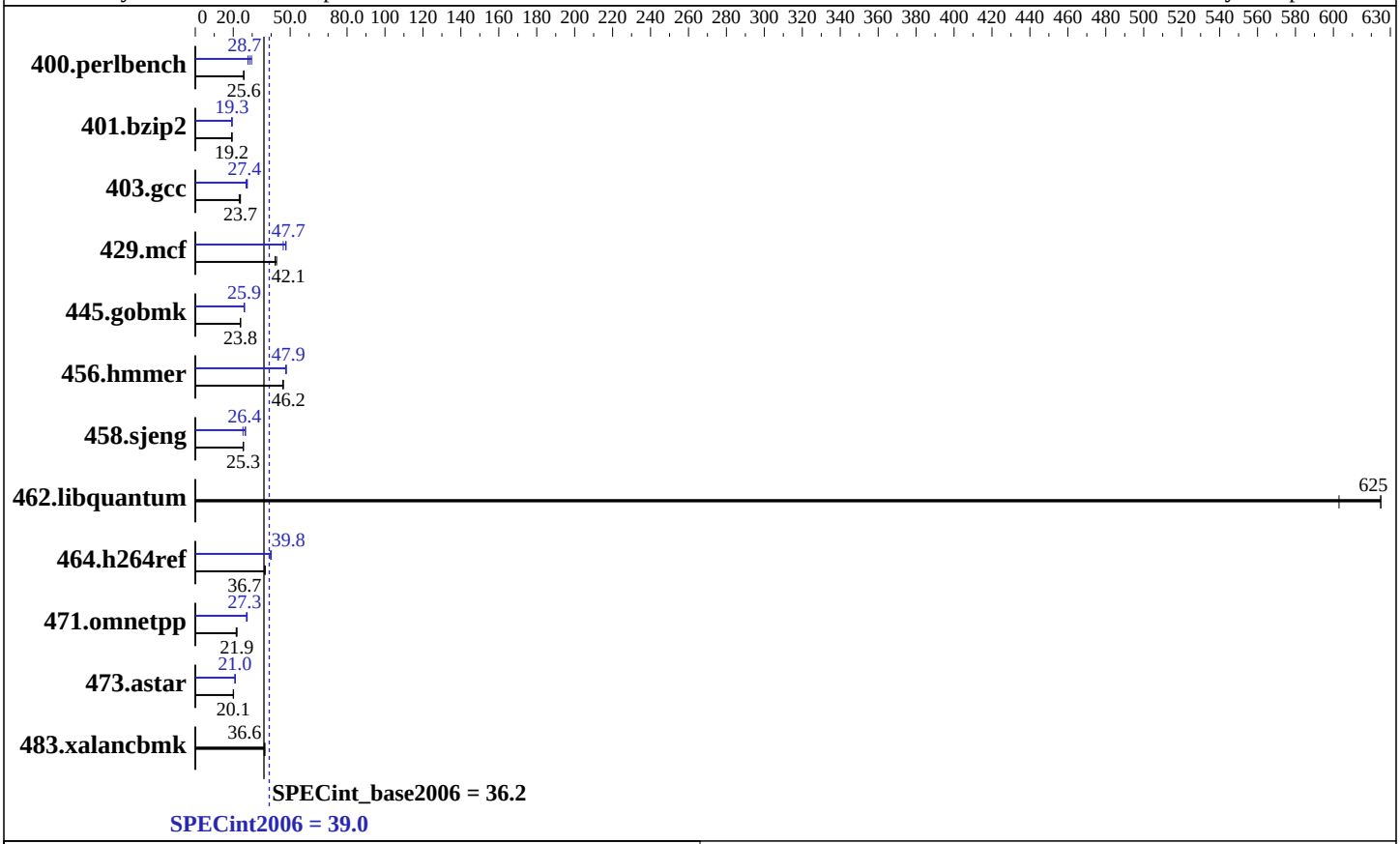
Sun Blade X6275 M2 Server Module (Intel Xeon X5670 2.93 GHz)

SPECint®2006 = 39.0

SPECint_base2006 = 36.2

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Oct-2010
Hardware Availability: Dec-2010
Software Availability: Apr-2010



Hardware

CPU Name:	Intel Xeon X5670
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1 or 2 chips per Sun Blade X6275 M2 node
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	Sun Storage 7410 System via NFS (See additional details below)
Other Hardware:	None

Software

Operating System:	Oracle Enterprise Linux Server release 5.5 kernel 2.6.18-194.el5
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	Yes
File System:	NFSv4
System State:	Run level 3 (multi-user)
Base Pointers:	64-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	381	25.6	**382**	**25.6**	383	25.5	352	27.8	**340**	**28.7**	329	29.7
401.bzip2	497	19.4	**502**	**19.2**	502	19.2	502	19.2	497	19.4	**500**	**19.3**
403.gcc	**339**	**23.7**	339	23.8	348	23.1	301	26.7	**294**	**27.4**	294	27.4
429.mcf	213	42.9	217	42.1	**217**	**42.1**	197	46.3	**191**	**47.7**	191	47.8
445.gobmk	441	23.8	440	23.8	**441**	**23.8**	405	25.9	**406**	**25.9**	407	25.8
456.hmmer	**202**	**46.2**	202	46.1	201	46.5	195	47.9	**195**	**47.9**	195	47.8
458.sjeng	**478**	**25.3**	478	25.3	478	25.3	482	25.1	458	26.4	**458**	**26.4**
462.libquantum	34.4	603	33.2	625	**33.2**	**625**	34.4	603	33.2	625	**33.2**	**625**
464.h264ref	**602**	**36.7**	602	36.8	603	36.7	557	39.7	**556**	**39.8**	552	40.1
471.omnetpp	290	21.6	**286**	**21.9**	285	21.9	**229**	**27.3**	232	26.9	229	27.3
473.astar	**350**	**20.1**	350	20.1	348	20.2	336	20.9	**335**	**21.0**	333	21.1
483.xalancbmk	**188**	**36.6**	190	36.3	188	36.7	**188**	**36.6**	190	36.3	188	36.7

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Load Default BIOS Settings and then change the following
  Data Reuse Optimization Disabled
  Hardware Prefetch Enabled
  Adjacent Cache Line Prefetch Enabled
  L1 Data Prefetch Enabled

 Storage Configuration for Disk Subsystem:
 Sun Storage 7410 with 7200 RPM Disks under RAID-1 configuration
 mounted over 10GBE network interface.

General Notes

 OMP_NUM_THREADS set to number of cores
 KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
    icc -m64

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L(path to library) -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

Continued on next page

Peak Compiler Invocation (Continued)

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc -m64

471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

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

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

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

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Peak Optimization Flags (Continued)

462.libquantum: `basepeak = yes`

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

C++ benchmarks:

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

473.astar: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L(path to library) -lsmartheap64`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE-pathfix-smartheap.20101027.html`
`http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE-pathfix-smartheap.20101027.xml`
`http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.xml`

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

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