



SPEC® CINT2006 Result

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Sun Microsystems

SPECint®2006 = **22.3**

Sun Fire X4440 (AMD Opteron 8435 2.6GHz)

SPECint_base2006 = **17.5**

CPU2006 license: 6

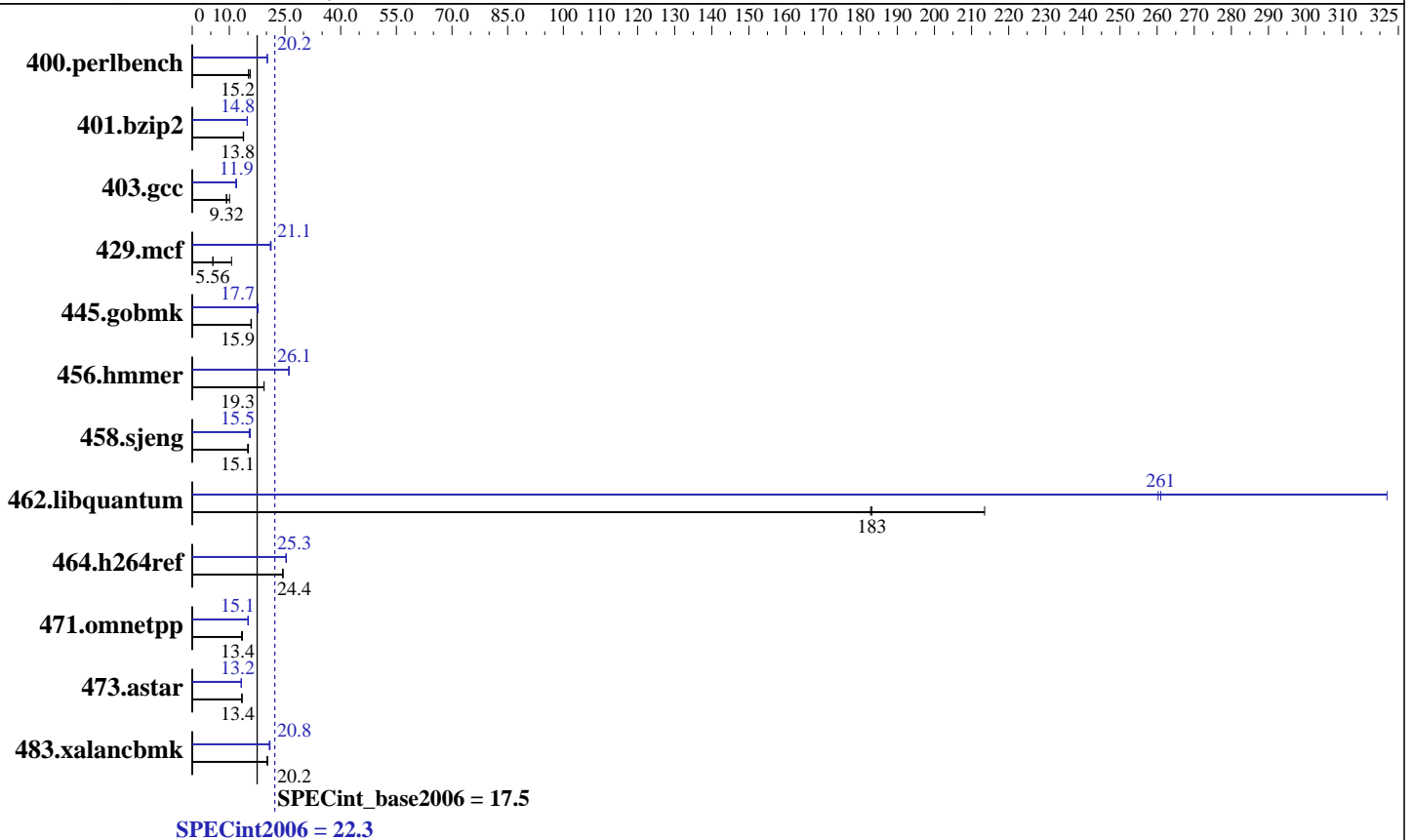
Test date: Jul-2009

Test sponsor: Sun Microsystems

Hardware Availability: Jul-2009

Tested by: Sun Microsystems

Software Availability: Jun-2009



Hardware

CPU Name: AMD Opteron 8435
 CPU Characteristics: 2600
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip
 CPU(s) orderable: 2 or 4 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 6 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (16x4GB, DDR2-667, CL5, Reg, Dual Rank)
 Disk Subsystem: 1 x 146 GB SATA 10 K RPM
 Other Hardware: None

Software

Operating System: OpenSolaris 2009.06
 Compiler: Sun Studio 12 Update 1
 Auto Parallel: Yes
 File System: zfs
 System State: Default
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: None



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	643	15.2	625	15.6	<u>643</u>	<u>15.2</u>	<u>483</u>	<u>20.2</u>	483	20.2	484	20.2
401.bzip2	697	13.8	<u>698</u>	<u>13.8</u>	702	13.7	<u>651</u>	<u>14.8</u>	651	14.8	650	14.8
403.gcc	877	9.18	<u>864</u>	<u>9.32</u>	800	10.1	684	11.8	674	11.9	<u>677</u>	<u>11.9</u>
429.mcf	1642	5.55	<u>1640</u>	<u>5.56</u>	860	10.6	433	21.1	429	21.3	<u>431</u>	<u>21.1</u>
445.gobmk	658	16.0	662	15.8	<u>661</u>	<u>15.9</u>	593	17.7	594	17.7	<u>594</u>	<u>17.7</u>
456.hammer	482	19.3	482	19.3	<u>482</u>	<u>19.3</u>	<u>358</u>	<u>26.1</u>	358	26.0	358	26.1
458.sjeng	799	15.1	<u>800</u>	<u>15.1</u>	811	14.9	788	15.4	<u>782</u>	<u>15.5</u>	773	15.7
462.libquantum	<u>113</u>	<u>183</u>	113	183	97.0	214	64.4	322	<u>79.4</u>	<u>261</u>	79.6	260
464.h264ref	<u>906</u>	<u>24.4</u>	906	24.4	906	24.4	874	25.3	<u>874</u>	<u>25.3</u>	875	25.3
471.omnetpp	462	13.5	470	13.3	<u>466</u>	<u>13.4</u>	416	15.0	414	15.1	<u>415</u>	<u>15.1</u>
473.astar	523	13.4	525	13.4	<u>524</u>	<u>13.4</u>	<u>531</u>	<u>13.2</u>	530	13.3	532	13.2
483.xalancbmk	340	20.3	<u>341</u>	<u>20.2</u>	342	20.2	329	21.0	<u>331</u>	<u>20.8</u>	332	20.8

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

Compiler Invocation Notes

The Apache C++ Standard Library V4.2.1 was installed from <http://stdcxx.apache.org/download.html> using:
alias gmake=specmake
gmake BUILDTYPE=8D CONFIG=sunpro.config

Operating System Notes

ulimit -s 131072 (shell): increases stack

Platform Notes

Default BIOS settings used except:
DCT Unganged Mode set to "Always" to enable Unganged Mode

General Notes

Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "12"
SUNW_MP_PROCBIND = "true"
SUNW_MP_THR_IDLE = "SPIN"



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Base Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
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_SOLARIS
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS

```

Base Optimization Flags

C benchmarks:

```

-fast -xipo=2 -m64 -xpagesize=2M -xprefetch -xalias_level=std
-xautopar

```

C++ benchmarks:

```

-fast -xipo=2 -m64 -xpagesize=2M -xvector=simd -xprefetch=no%auto
-xalias_level=compatible
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap64
-library=stlport4

```

Base Other Flags

C benchmarks:

-V -# -xjobs=24

C++ benchmarks:

-verbose=diags,version -xjobs=24



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Peak Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_IA32
403.gcc: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xprefetch=no%auto -xpagesize=2M -xvector=simd
-xalias_level=std
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmarheap
-lbsdmalloc -lumem
401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=strong -xprefetch=no%auto
-lumem
403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=std -xprefetch=no%auto
-xaddr32=yes -m64
429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xalias_level=strict -xprefetch=no%auto -lbsdmalloc
445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -m64 -xpagesize=2M
-xrestrict -xalias_level=strong -xdepend -xautopar -lmvec
456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xalias_level=strong -xpagesize=2M

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Peak Optimization Flags (Continued)

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xvector=simd -xrestrict -xalias_level=std
-xprefetch=no%auto

462.libquantum: -fast -xipo=2 -m64 -W2,-Aparallel:nthreads=24 -xautopar
-xreduction -xpagesize=2M

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xalias_level=std -xautopar -xpagesize=2M

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xalias_level=compatible -xpagesize=2M
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap
-library=stlport4

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap_mt64
-xalias_level=compatible -library=stlport4 -xautopar

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xunroll=12
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap64
-library=stlport4

Peak Other Flags

C benchmarks:

-V -# -xjobs=24

C++ benchmarks:

-verbose=diags,version -xjobs=24

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090818.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090818.xml



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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 03:34:10 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 18 August 2009.