SPEC® CINT2006 Result
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Fujitsu

Fujitsu CELSIUS R920 (2x Intel Xeon E5-2690)

SPECint®_rate2006 =   694
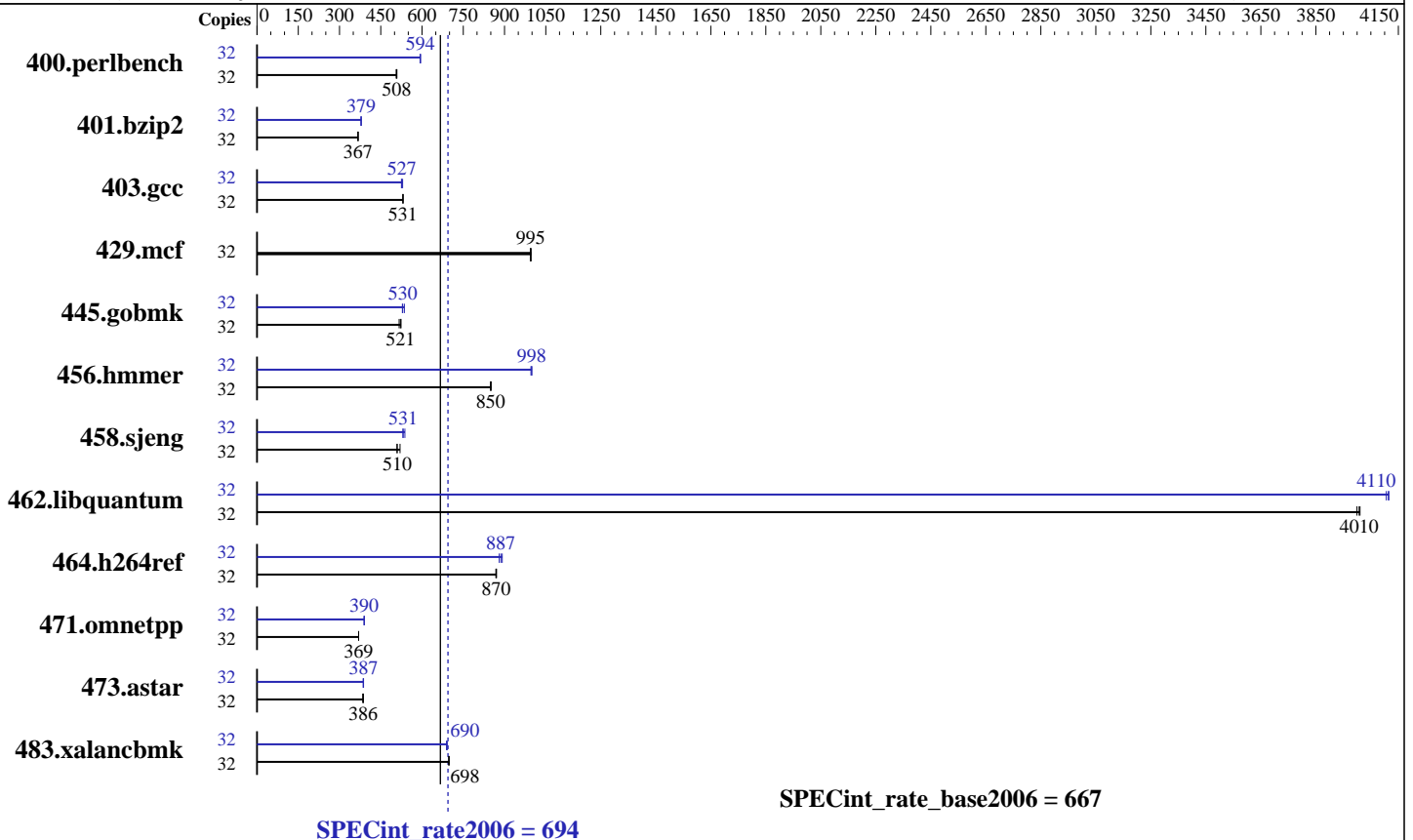
SPECint_rate_base2006 =   667

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Copies scale: 0 150 300 450 600 750 900 1050 1200 1350 1450 1650 1850 2050 2250 2450 2650 2850 3050 3250 3450 3650 3850 4150

400.perlbench: 32 — 594; 32 — 508
401.bzip2: 32 — 379; 32 — 367
403.gcc: 32 — 527; 32 — 531
429.mcf: 32 — 995
445.gobmk: 32 — 530; 32 — 521
456.hmmer: 32 — 998; 32 — 850
458.sjeng: 32 — 531; 32 — 510
462.libquantum: 32 — 4110; 32 — 4010
464.h264ref: 32 — 887; 32 — 870
471.omnetpp: 32 — 390; 32 — 369
473.astar: 32 — 387; 32 — 386
483.xalancbmk: 32 — 690; 32 — 698

SPECint_rate_base2006 = 667

SPECint_rate2006 = 694

Hardware

CPU Name:	Intel Xeon E5-2690
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2900
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x SATA II, 500 GB, 7200 rpm
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.1, 2.6.32-131.0.15.el6.x86_64
Compiler:	C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi - user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap 10.0 32-bit Library for Linux

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	615	509	**616**	**508**	618	506	32	**526**	**594**	527	594	526	594
401.bzip2	32	**841**	**367**	842	367	839	368	32	815	379	**816**	**379**	816	378
403.gcc	32	486	530	485	531	**486**	**531**	32	**489**	**527**	487	529	491	525
429.mcf	32	294	994	**293**	**995**	293	997	32	294	994	**293**	**995**	293	997
445.gobmk	32	650	517	641	524	**644**	**521**	32	**634**	**530**	626	536	635	529
456.hmmer	32	**351**	**850**	351	851	352	849	32	**299**	**998**	299	999	300	996
458.sjeng	32	761	509	745	520	**759**	**510**	32	**729**	**531**	730	531	720	538
462.libquantum	32	165	4010	**165**	**4010**	166	4000	32	161	4120	**161**	**4110**	161	4110
464.h264ref	32	813	871	**814**	**870**	815	868	32	**799**	**887**	804	881	794	892
471.omnetpp	32	542	369	**541**	**369**	541	370	32	513	390	513	390	**513**	**390**
473.astar	32	**581**	**386**	584	384	581	387	32	580	387	582	386	**581**	**387**
483.xalancbmk	32	**317**	**698**	317	697	316	699	32	**320**	**690**	319	691	320	689

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

Submit Notes

    The numactl mechanism was used to bind copies to processors. The config file option 'submit'
    was used to generate numactl commands to bind each copy to a specific processor.
    For details, please see the config file.

Operating System Notes

    Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

    BIOS settings:
    Frequency Floor Override = Enabled

General Notes

    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/work/cpu2006/libs/32:/work/cpu2006/libs/64"

    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
    Filesystem page cache cleared with:
    echo 1>   /proc/sys/vm/drop_caches
    runspec command invoked through numactl i.e.:
    numactl --interleave=all runspec <etc>

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Base Compiler Invocation

C benchmarks:
    icc -m32

C++ benchmarks:
    icpc -m32

Base Portability Flags

    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
    -Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap

Base Other Flags

C benchmarks:

    403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

    403.gcc: icc -m32

    429.mcf: icc -m32

    445.gobmk: icc -m32

    462.libquantum: icc -m32

    464.h264ref: icc -m32

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Peak Compiler Invocation (Continued)

C++ benchmarks:
  `icpc -m32`

Peak Portability Flags

  400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
    401.bzip2: `-DSPEC_CPU_LP64`
    456.hmmer: `-DSPEC_CPU_LP64`
     458.sjeng: `-DSPEC_CPU_LP64`
  462.libquantum: `-DSPEC_CPU_LINUX`
  483.xalancbmk: `-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) -prof-use(pass 2)`
     `-auto-ilp32`

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

     403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`

     429.mcf: `basepeak = yes`

   445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
     `-ansi-alias -opt-mem-layout-trans=3`

   456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

    458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
     `-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
     `-unroll4 -auto-ilp32`

  462.libquantum: `-xAVX -ipo -O3 -no-prec-div -opt-prefetch`
     `-opt-mem-layout-trans=3`

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

C++ benchmarks:

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Peak Optimization Flags (Continued)

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/opt/SmartHeap/lib -lsmartheap

473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs
-L/opt/SmartHeap/lib -lsmartheap

483.xalancbmk: Same as 473.astar

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.xml

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