SPEC® CINT2006 Result
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Fujitsu

PRIMEQUEST 2800E, Intel Xeon E7-8890 v2, 2.80 GHz

$SPECint®\_rate2006 = \quad 4710$

$SPECint\_rate\_base2006 = \quad 4570$

CPU2006 license: 19	**Test date:** Jan-2014
Test sponsor: Fujitsu	**Hardware Availability:** Apr-2014
Tested by: Fujitsu	**Software Availability:** Apr-2014

SPECint_rate_base2006 = 4570
SPECint_rate2006 = 4710

Hardware

CPU Name:	Intel Xeon E7-8890 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	120 cores, 8 chips, 15 cores/chip, 2 threads/core
CPU(s) orderable:	2,4,6,8 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:	37.5 MB I+D on chip per chip
Other Cache:	None
Memory:	2048 GB (128 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem:	4 x SAS, 600 GB, 10000 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.5 (Santiago) 2.6.32-431.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.0

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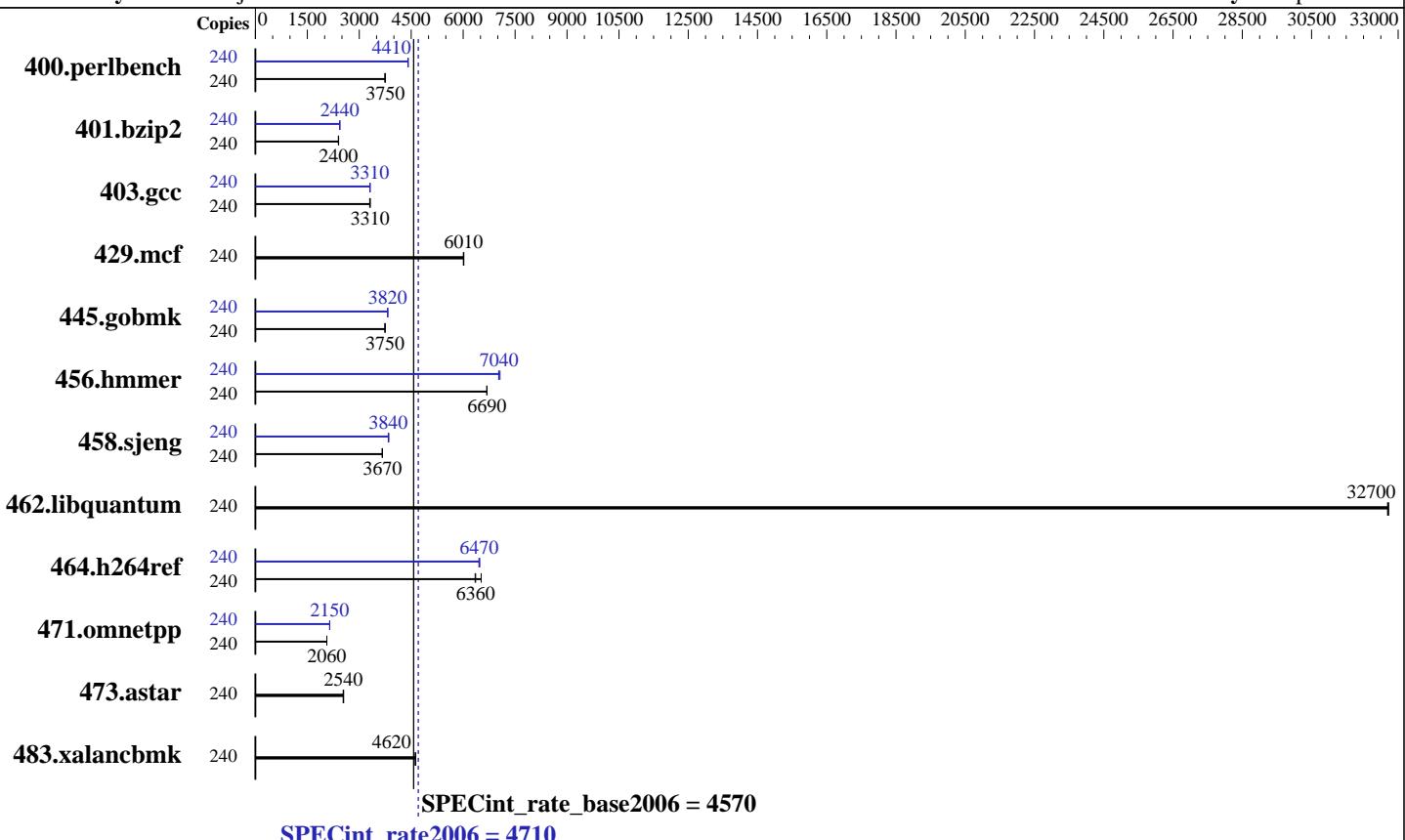**Test sponsor:** Fujitsu
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Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	240	627	3740	624	3760	**625**	**3750**	240	532	4410	531	4410	**532**	**4410**
401.bzip2	240	963	2400	966	2400	**965**	**2400**	240	949	2440	951	2430	**951**	**2440**
403.gcc	240	**583**	**3310**	585	3300	583	3320	240	583	3320	**584**	**3310**	585	3300
429.mcf	240	365	6000	364	6020	**364**	**6010**	240	365	6000	364	6020	**364**	**6010**
445.gobmk	240	**672**	**3750**	673	3740	672	3750	240	659	3820	659	3820	**659**	**3820**
456.hmmer	240	335	6680	**335**	**6690**	335	6690	240	319	7030	317	7060	**318**	**7040**
458.sjeng	240	793	3660	**792**	**3670**	792	3670	240	**756**	**3840**	753	3850	757	3840
462.libquantum	240	152	32700	152	32700	**152**	**32700**	240	152	32700	152	32700	**152**	**32700**
464.h264ref	240	**835**	**6360**	837	6350	815	6520	240	**821**	**6470**	820	6480	823	6460
471.omnetpp	240	727	2060	727	2060	**727**	**2060**	240	698	2150	700	2140	**699**	**2150**
473.astar	240	661	2550	665	2530	**662**	**2540**	240	661	2550	665	2530	**662**	**2540**
483.xalancbmk	240	358	4630	**358**	**4620**	359	4610	240	358	4630	**358**	**4620**	359	4610

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 configuration:
    Energy Performance = Performance

General Notes

    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

    Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
    memory using RedHat EL 6.4
    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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General Notes (Continued)

For information about Fujitsu please visit: http://www.fujitsu.com

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/sh -lsmartheap

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m32

    400.perlbench: icc -m64

    401.bzip2: icc -m64

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Peak Compiler Invocation (Continued)

        456.hmmer: `icc -m64`

        458.sjeng: `icc -m64`

    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: `basepeak = yes`

        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`

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Peak Optimization Flags (Continued)

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/sh` `-lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Feb 18 13:56:38 2014 by SPEC CPU2006 PS/PDF formatter v6401.