



SPEC® CINT2006 Result

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Fujitsu

SPECint®_rate2006 = 291

CELSIUS M720 (Intel Xeon E5-1660)

SPECint_rate_base2006 = 279

CPU2006 license: 19

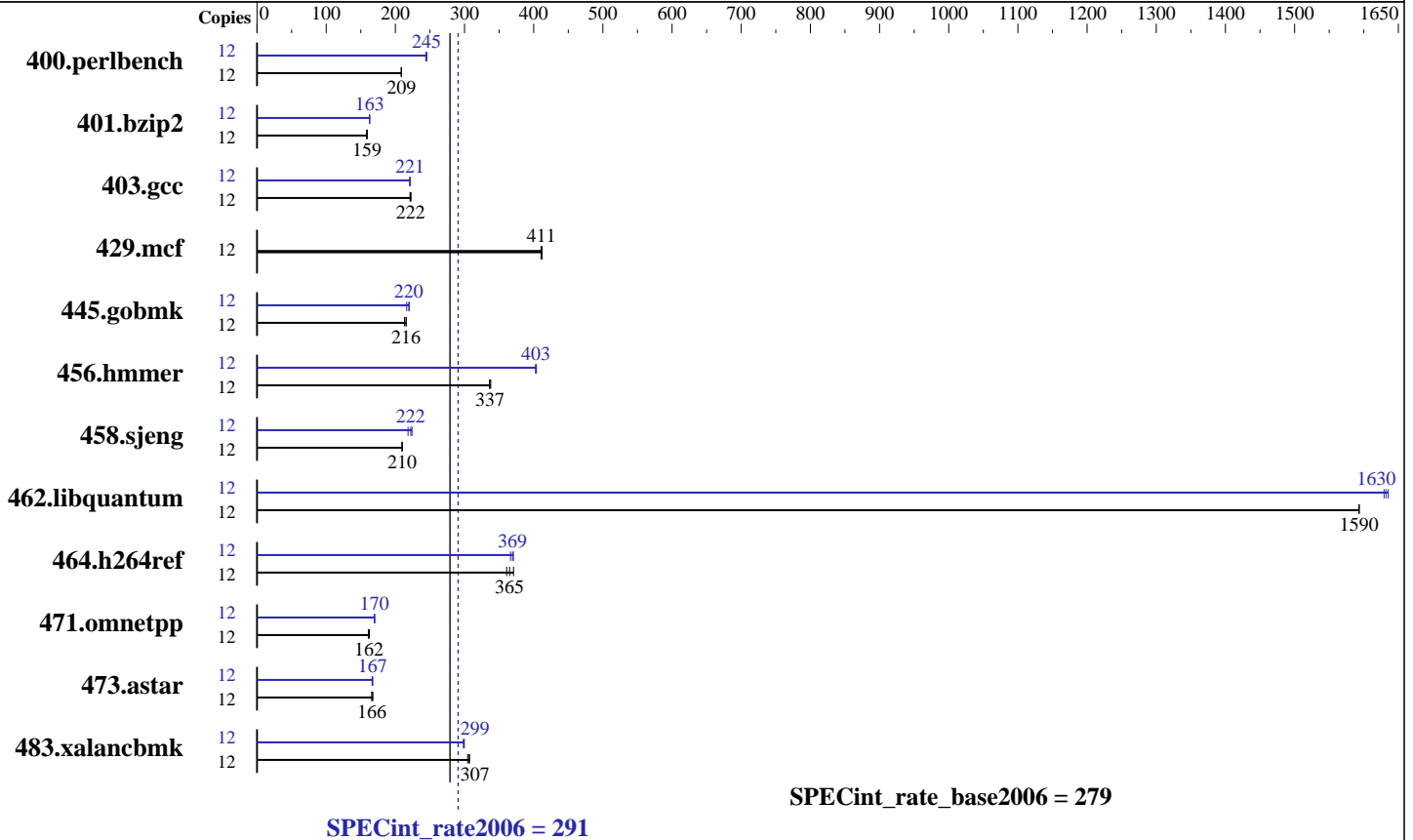
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2012

Hardware Availability: Mar-2012

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-1660
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3300
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB (8 x 4 GB 2Rx8 PC3-12800E-11, ECC)
 Disk Subsystem: 1 x SATA III, 500 GB, 7200 rpm
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2, 2.6.32-220.0.el6.x86_64
 Compiler: C/C++: Version 12.1.3.293 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: Microquill SmartHeap 10 (Multi-Core)



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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	12	563	208	<u>561</u>	<u>209</u>	561	209	12	481	244	<u>479</u>	<u>245</u>	478	245
401.bzip2	12	731	158	<u>727</u>	<u>159</u>	727	159	12	711	163	<u>712</u>	<u>163</u>	712	163
403.gcc	12	434	223	<u>435</u>	<u>222</u>	437	221	12	<u>437</u>	<u>221</u>	437	221	438	221
429.mcf	12	267	411	266	412	<u>266</u>	<u>411</u>	12	267	411	266	412	<u>266</u>	<u>411</u>
445.gobmk	12	584	216	590	213	<u>584</u>	<u>216</u>	12	<u>573</u>	<u>220</u>	582	216	572	220
456.hammer	12	333	336	331	338	<u>333</u>	<u>337</u>	12	278	403	277	404	<u>278</u>	<u>403</u>
458.sjeng	12	693	209	691	210	<u>692</u>	<u>210</u>	12	648	224	665	218	<u>653</u>	<u>222</u>
462.libquantum	12	156	1590	156	1590	<u>156</u>	<u>1590</u>	12	152	1640	<u>152</u>	<u>1630</u>	153	1630
464.h264ref	12	<u>727</u>	<u>365</u>	716	371	736	361	12	717	371	725	366	<u>719</u>	<u>369</u>
471.omnetpp	12	462	162	466	161	<u>463</u>	<u>162</u>	12	442	170	441	170	<u>441</u>	<u>170</u>
473.astar	12	<u>507</u>	<u>166</u>	508	166	503	168	12	504	167	506	166	<u>504</u>	<u>167</u>
483.xalancbmk	12	270	307	272	305	<u>270</u>	<u>307</u>	12	<u>277</u>	<u>299</u>	277	298	276	300

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

Submit Notes

The config file option 'submit' was used to generate taskset 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"

Binaries compiled on a system with
2x Xeon E5-2650 CPU + 64 GB memory using
Red Hat Enterprise Linux Server release 6.2 (Santiago)
The RPMs glibc-static-2.12-1.47.el6.x86_64.rpm
and glibc-static-2.12-1.47.el6.i686.rpm
were added to enable static linking.

Transparent Huge Pages disabled with:

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General Notes (Continued)

```
echo never > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
```

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

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Peak Compiler Invocation (Continued)

445.gobmk: `icc -m32`
462.libquantum: `icc -m32`
464.h264ref: `icc -m32`
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`

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Peak Optimization Flags (Continued)

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:

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 -lsmarheap

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

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

Tested with SPEC CPU2006 v1.2.

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