



SPEC® CINT2006 Result

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Fujitsu

SPECint®_rate2006 = 314

PRIMERGY BX620 S6, Intel Xeon E5645, 2.40 GHz

SPECint_rate_base2006 = 293

CPU2006 license: 19

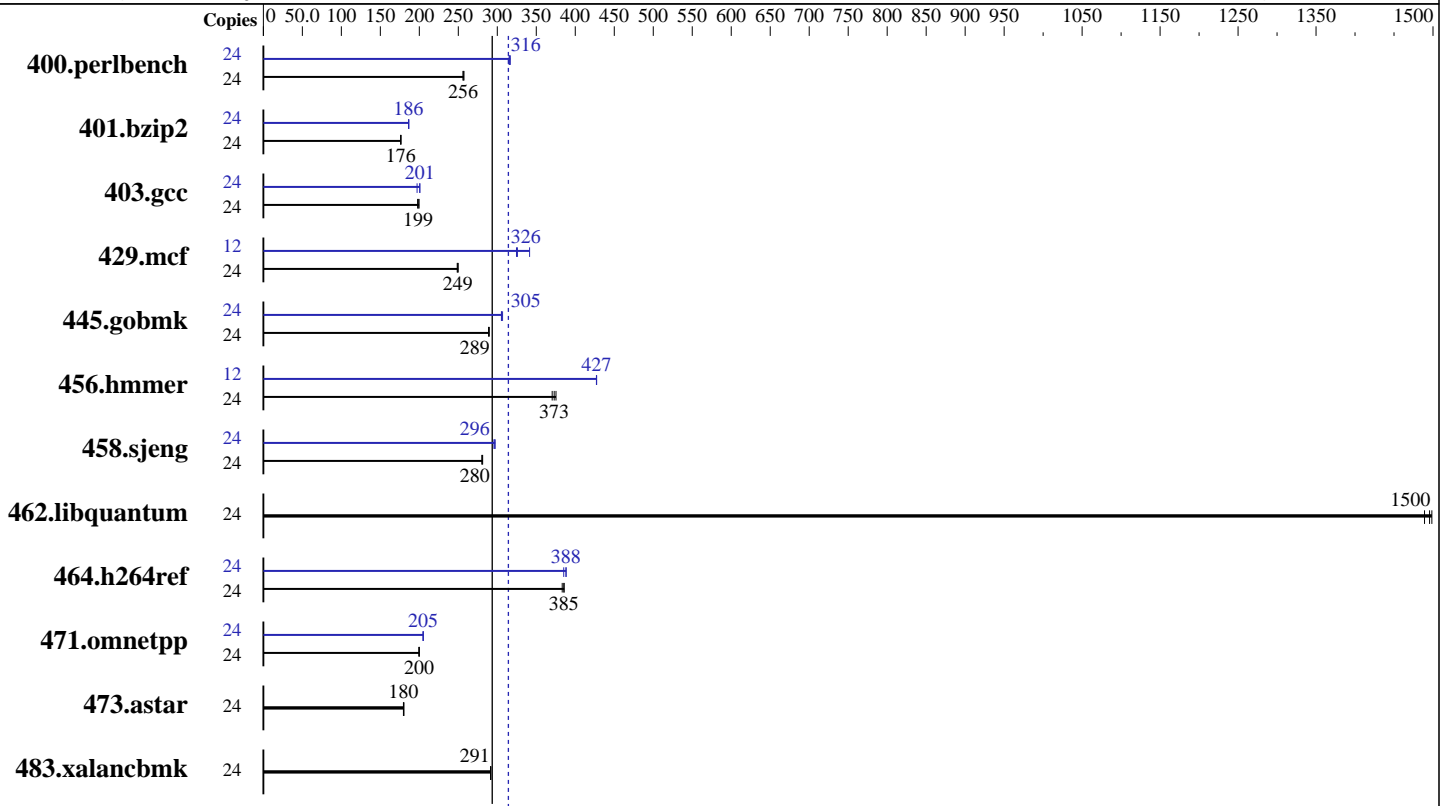
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



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Hardware

CPU Name: Intel Xeon E5645
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 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: 1 x SAS, 300 GB, 10000 RPM
 Other Hardware: --

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ Compiler XE for applications running on IA-32, Version 12.0.1.116 Build 20101116
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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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	24	916	256	<u>915</u>	<u>256</u>	911	257	24	740	317	<u>743</u>	<u>316</u>	744	315
401.bzip2	24	1313	176	<u>1314</u>	<u>176</u>	1315	176	24	1242	186	1244	186	<u>1243</u>	<u>186</u>
403.gcc	24	967	200	<u>972</u>	<u>199</u>	977	198	24	<u>964</u>	<u>201</u>	980	197	963	201
429.mcf	24	<u>878</u>	<u>249</u>	880	249	876	250	12	337	325	321	341	<u>336</u>	<u>326</u>
445.gobmk	24	872	289	<u>870</u>	<u>289</u>	869	290	24	<u>824</u>	<u>305</u>	821	307	825	305
456.hammer	24	605	370	<u>600</u>	<u>373</u>	597	375	12	<u>262</u>	<u>427</u>	262	427	262	427
458.sjeng	24	1036	280	1033	281	<u>1036</u>	<u>280</u>	24	981	296	977	297	<u>981</u>	<u>296</u>
462.libquantum	24	332	1500	<u>332</u>	<u>1500</u>	334	1490	24	332	1500	<u>332</u>	<u>1500</u>	334	1490
464.h264ref	24	<u>1379</u>	<u>385</u>	1386	383	1377	386	24	<u>1369</u>	<u>388</u>	1379	385	1368	388
471.omnetpp	24	<u>750</u>	<u>200</u>	750	200	752	199	24	732	205	732	205	<u>732</u>	<u>205</u>
473.astar	24	<u>937</u>	<u>180</u>	938	180	935	180	24	<u>937</u>	<u>180</u>	938	180	935	180
483.xalancbmk	24	569	291	<u>568</u>	<u>291</u>	568	292	24	569	291	<u>568</u>	<u>291</u>	568	292

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.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
Hugepages were not configured on the system

Platform Notes

BIOS configuration:
Data Reuse Optimization = Disable
Performance/Power Setting = Traditional

General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>
Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

Base Compiler Invocation

C benchmarks:
icc -m32

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Base Compiler Invocation (Continued)

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
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32



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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)
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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

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

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Peak Optimization Flags (Continued)

471.omnetpp (continued):
-L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.xml>

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

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