



# SPEC® CINT2006 Result

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## Cisco Systems

SPECint®\_rate2006 = 309

Cisco UCS C210 M2 (Intel Xeon L5640, 2.26 GHz)

SPECint\_rate\_base2006 = 289

CPU2006 license: 9019

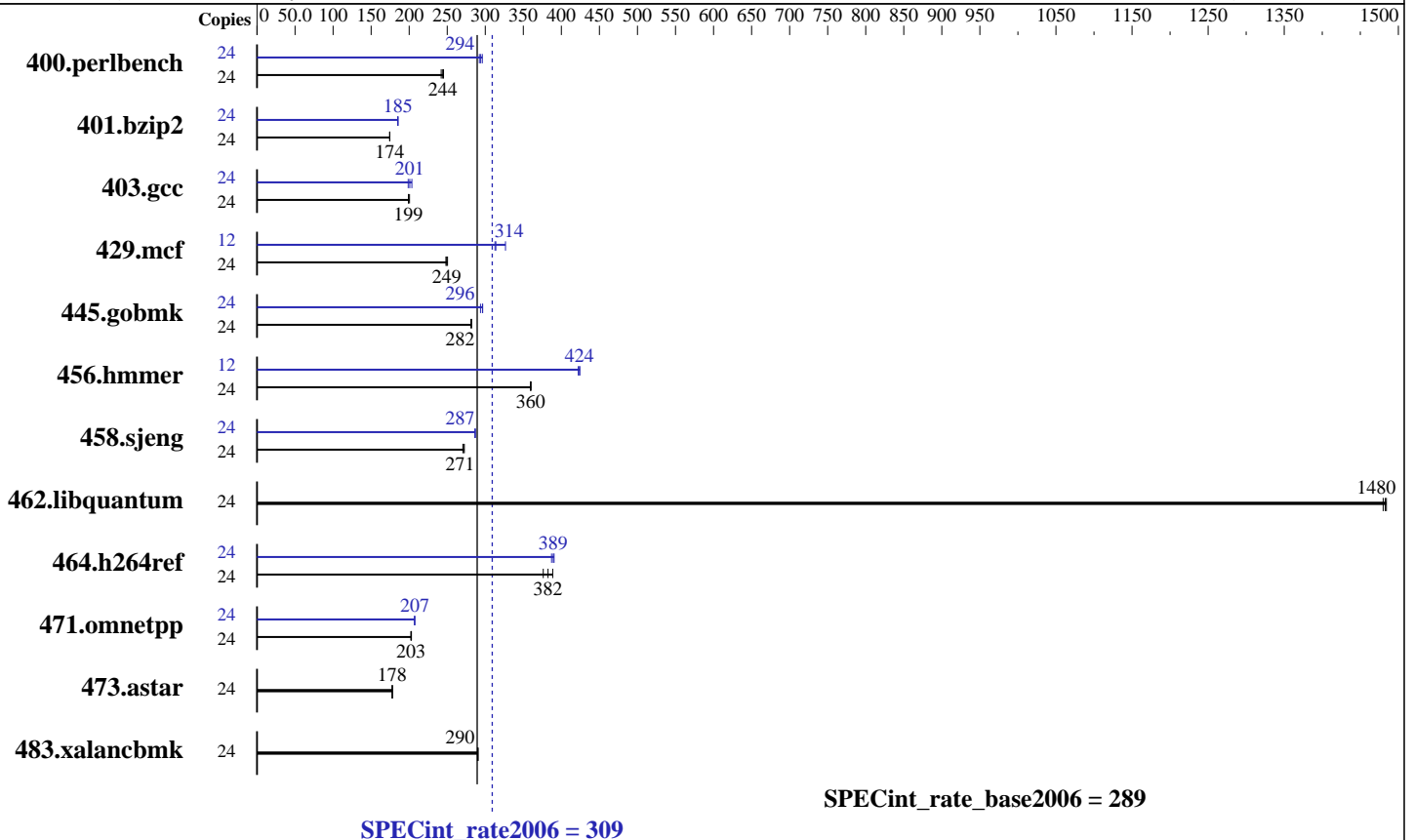
Test date: Mar-2011

Test sponsor: Cisco Systems

Hardware Availability: Mar-2011

Tested by: Cisco Systems

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon L5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2267  
 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: 48 GB (12 x 4 GB 2Rx4 PC3L-10600R-9, ECC)  
 Disk Subsystem: 73 GB SAS, 15K RPM  
 Other Hardware: None

### 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, Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5



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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	969	242	<b><u>961</u></b>	<b><u>244</u></b>	957	245	24	<b><u>798</u></b>	<b><u>294</u></b>	802	292	792	296
401.bzip2	24	1329	174	<b><u>1327</u></b>	<b><u>174</u></b>	1327	175	24	<b><u>1251</u></b>	<b><u>185</u></b>	1250	185	1252	185
403.gcc	24	964	200	<b><u>971</u></b>	<b><u>199</u></b>	971	199	24	972	199	949	204	<b><u>962</u></b>	<b><u>201</u></b>
429.mcf	24	882	248	874	250	<b><u>878</u></b>	<b><u>249</u></b>	12	350	313	<b><u>349</u></b>	<b><u>314</u></b>	335	327
445.gobmk	24	<b><u>894</u></b>	<b><u>282</u></b>	893	282	895	281	24	<b><u>850</u></b>	<b><u>296</u></b>	849	297	857	294
456.hammer	24	622	360	<b><u>623</u></b>	<b><u>360</u></b>	623	359	12	<b><u>264</u></b>	<b><u>424</u></b>	264	424	265	422
458.sjeng	24	1073	271	1066	272	<b><u>1070</u></b>	<b><u>271</u></b>	24	<b><u>1013</u></b>	<b><u>287</u></b>	1014	286	1012	287
462.libquantum	24	335	1480	<b><u>335</u></b>	<b><u>1480</u></b>	336	1480	24	335	1480	<b><u>335</u></b>	<b><u>1480</u></b>	336	1480
464.h264ref	24	1367	389	1412	376	<b><u>1389</u></b>	<b><u>382</u></b>	24	1360	390	<b><u>1364</u></b>	<b><u>389</u></b>	1372	387
471.omnetpp	24	739	203	742	202	<b><u>741</u></b>	<b><u>203</u></b>	24	724	207	725	207	<b><u>724</u></b>	<b><u>207</u></b>
473.astar	24	947	178	<b><u>948</u></b>	<b><u>178</u></b>	949	178	24	947	178	<b><u>948</u></b>	<b><u>178</u></b>	949	178
483.xalancbmk	24	570	291	<b><u>570</u></b>	<b><u>290</u></b>	571	290	24	570	291	<b><u>570</u></b>	<b><u>290</u></b>	571	290

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  
Large pages were not enabled for this run

## Platform Notes

BIOS Configuration : Data Reuse Optimization = Disabled

## Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



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## 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

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

456.hmmcr: -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.hmmcr: -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  
-L/smartheap -lsmartheap

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## Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## 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-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Cisco-BIOS-Platform-Settings.html>

You can also download the XML flags sources by saving the following links:

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

<http://www.spec.org/cpu2006/flags/Cisco-BIOS-Platform-Settings.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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