



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 267

PRIMERGY BX924 S2, Intel Xeon X5647, 2.93 GHz

SPECint\_rate\_base2006 = 253

CPU2006 license: 19

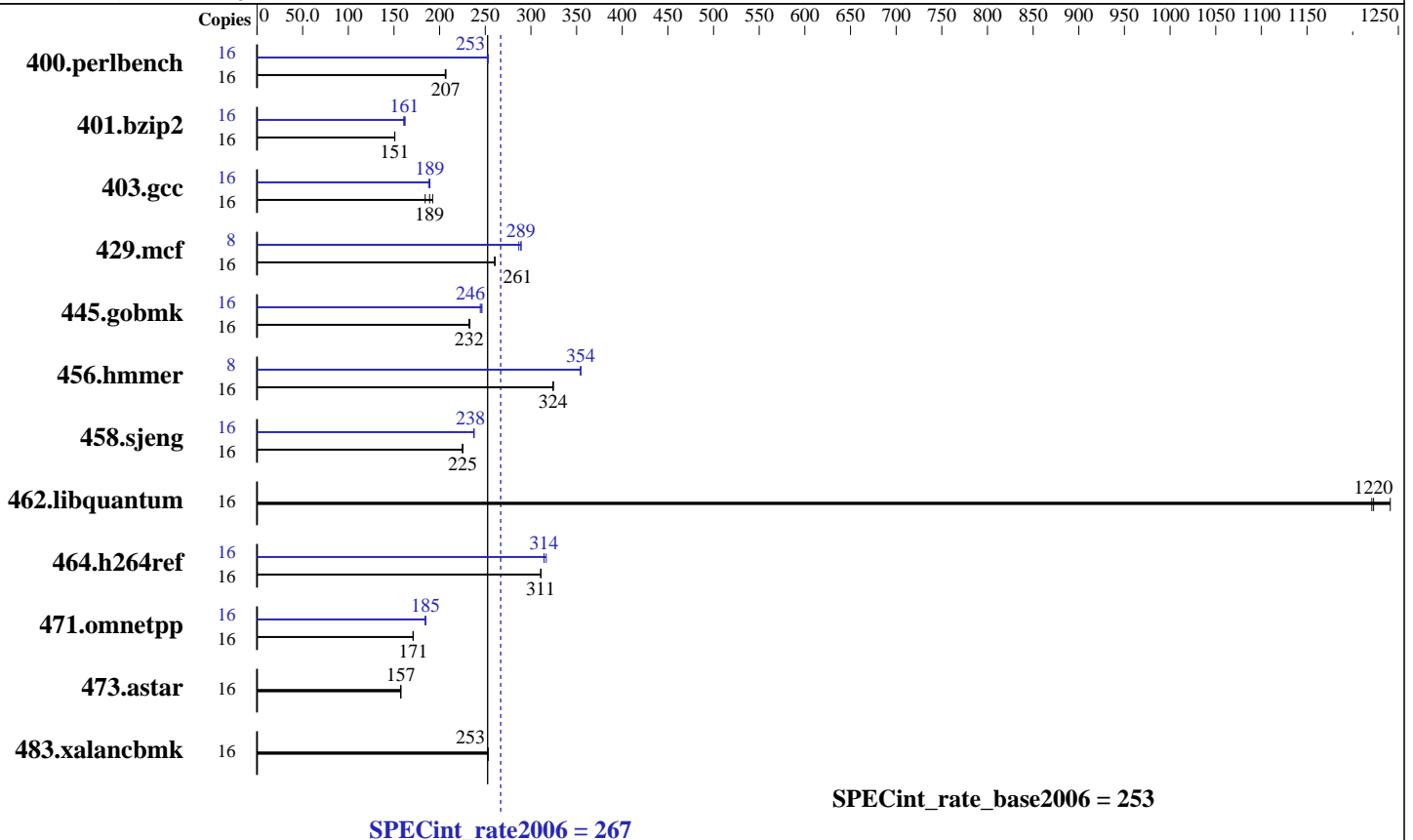
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon X5647  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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, running at 1067 MHz and CL7)  
 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  | 16     | 756         | 207         | <u>757</u>  | <u>207</u> | 758        | 206        | 16     | 618        | 253         | 620        | 252        | <u>618</u>  | <u>253</u> |
| 401.bzip2      | 16     | 1024        | 151         | <u>1024</u> | <u>151</u> | 1023       | 151        | 16     | 952        | 162         | 961        | 161        | <u>956</u>  | <u>161</u> |
| 403.gcc        | 16     | <u>681</u>  | <u>189</u>  | 699         | 184        | 670        | 192        | 16     | <u>681</u> | <u>189</u>  | 685        | 188        | 680         | 189        |
| 429.mcf        | 16     | 561         | 260         | 560         | 261        | <u>560</u> | <u>261</u> | 8      | 252        | 289         | <u>252</u> | <u>289</u> | 254         | 287        |
| 445.gobmk      | 16     | <u>722</u>  | <u>232</u>  | 720         | 233        | 723        | 232        | 16     | <u>683</u> | <u>246</u>  | 681        | 246        | 686         | 245        |
| 456.hammer     | 16     | 460         | 324         | <u>460</u>  | <u>324</u> | 460        | 325        | 8      | <u>211</u> | <u>354</u>  | 211        | 354        | 210         | 355        |
| 458.sjeng      | 16     | 859         | 225         | 861         | 225        | <u>860</u> | <u>225</u> | 16     | <u>815</u> | <u>238</u>  | 815        | 238        | 815         | 237        |
| 462.libquantum | 16     | <u>271</u>  | <u>1220</u> | 272         | 1220       | 267        | 1240       | 16     | <u>271</u> | <u>1220</u> | 272        | 1220       | 267         | 1240       |
| 464.h264ref    | 16     | <u>1139</u> | <u>311</u>  | 1138        | 311        | 1140       | 311        | 16     | 1118       | 317         | 1127       | 314        | <u>1126</u> | <u>314</u> |
| 471.omnetpp    | 16     | 584         | 171         | 586         | 171        | <u>584</u> | <u>171</u> | 16     | 543        | 184         | <u>542</u> | <u>185</u> | 541         | 185        |
| 473.astar      | 16     | 713         | 158         | 714         | 157        | <u>714</u> | <u>157</u> | 16     | 713        | 158         | 714        | 157        | <u>714</u>  | <u>157</u> |
| 483.xalancbmk  | 16     | 436         | 253         | 437         | 253        | <u>437</u> | <u>253</u> | 16     | 436        | 253         | 437        | 253        | <u>437</u>  | <u>253</u> |

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

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