



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 166

PRIMERGY BX920 S2, Intel Xeon E5649, 2.53 GHz

SPECint\_rate\_base2006 = 157

CPU2006 license: 19

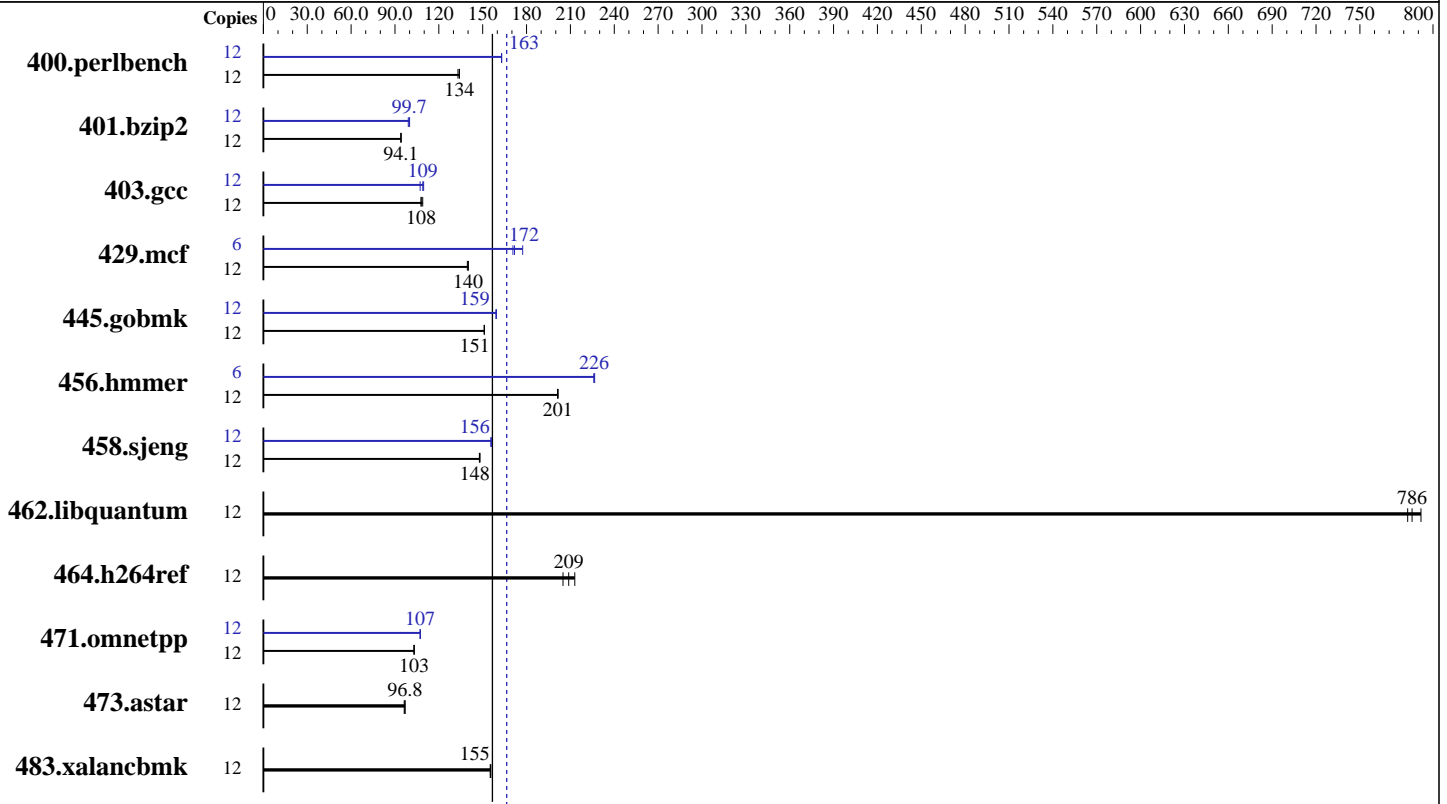
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Feb-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011



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### Hardware

CPU Name: Intel Xeon E5649  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz  
 CPU MHz: 2533  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 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: 24 GB (3 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  | 12     | <b>875</b>  | <b>134</b>  | 875         | 134        | 881        | 133        | 12     | <b>720</b> | <b>163</b>  | 719         | 163        | 720         | 163         |
| 401.bzip2      | 12     | <b>1230</b> | <b>94.1</b> | 1231        | 94.1       | 1230       | 94.1       | 12     | 1158       | 100         | 1168        | 99.1       | <b>1161</b> | <b>99.7</b> |
| 403.gcc        | 12     | <b>895</b>  | <b>108</b>  | 886         | 109        | 896        | 108        | 12     | 881        | 110         | <b>886</b>  | <b>109</b> | 901         | 107         |
| 429.mcf        | 12     | 785         | 140         | 781         | 140        | <b>781</b> | <b>140</b> | 6      | <b>319</b> | <b>172</b>  | 321         | 171        | 309         | 177         |
| 445.gobmk      | 12     | <b>833</b>  | <b>151</b>  | 833         | 151        | 833        | 151        | 12     | 791        | 159         | 790         | 159        | <b>790</b>  | <b>159</b>  |
| 456.hammer     | 12     | 557         | 201         | 555         | 202        | <b>556</b> | <b>201</b> | 6      | 248        | 226         | <b>248</b>  | <b>226</b> | 247         | 227         |
| 458.sjeng      | 12     | <b>981</b>  | <b>148</b>  | 980         | 148        | 983        | 148        | 12     | <b>932</b> | <b>156</b>  | 931         | 156        | 933         | 156         |
| 462.libquantum | 12     | 314         | 792         | <b>316</b>  | <b>786</b> | 318        | 783        | 12     | 314        | 792         | <b>316</b>  | <b>786</b> | 318         | 783         |
| 464.h264ref    | 12     | 1247        | 213         | <b>1272</b> | <b>209</b> | 1296       | 205        | 12     | 1247       | 213         | <b>1272</b> | <b>209</b> | 1296        | 205         |
| 471.omnetpp    | 12     | 727         | 103         | <b>727</b>  | <b>103</b> | 728        | 103        | 12     | 699        | 107         | <b>699</b>  | <b>107</b> | 699         | 107         |
| 473.astar      | 12     | <b>870</b>  | <b>96.8</b> | 874         | 96.3       | 869        | 96.9       | 12     | <b>870</b> | <b>96.8</b> | 874         | 96.3       | 869         | 96.9        |
| 483.xalancbmk  | 12     | 533         | 155         | <b>533</b>  | <b>155</b> | 532        | 156        | 12     | 533        | 155         | <b>533</b>  | <b>155</b> | 532         | 156         |

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: basepeak = yes

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.20110316.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.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.20110316.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.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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