



# SPEC® CINT2006 Result

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Fujitsu

**SPECint®\_rate2006 = 267**

PRIMERGY BX922 S2, Intel Xeon X5647, 2.93 GHz

**SPECint\_rate\_base2006 = 252**

CPU2006 license: 19

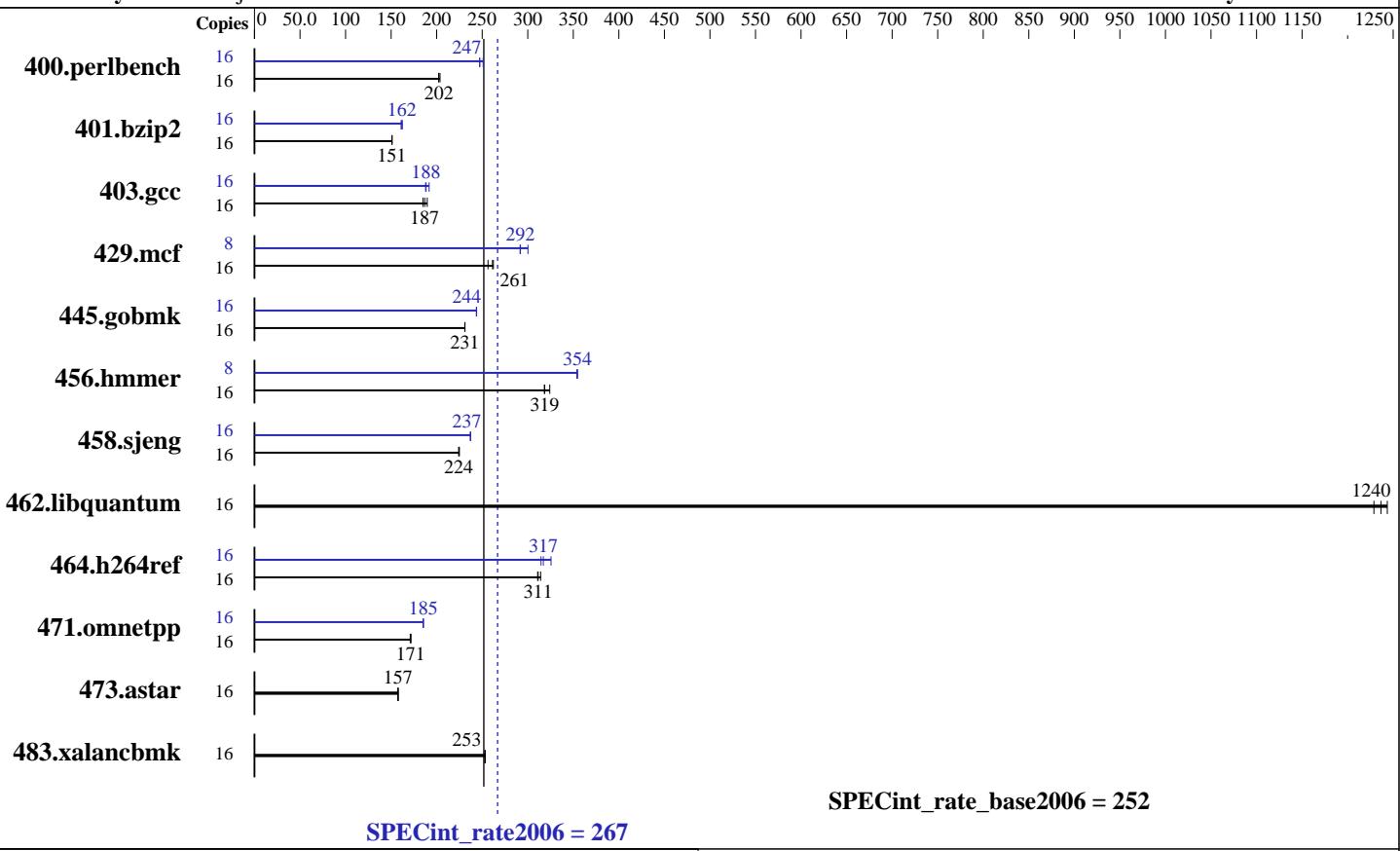
Test sponsor: Fujitsu

Tested by: Fujitsu

**Test date:** Feb-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: 48 GB (12 x 4 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	16	<b>772</b>	<b>202</b>	773	202	767	204	16	632	247	623	251	<b>632</b>	<b>247</b>
401.bzip2	16	<b>1023</b>	<b>151</b>	1023	151	1023	151	16	951	162	959	161	<b>955</b>	<b>162</b>
403.gcc	16	<b>689</b>	<b>187</b>	696	185	679	190	16	<b>684</b>	<b>188</b>	686	188	672	192
429.mcf	16	569	256	<b>558</b>	<b>261</b>	556	262	8	243	300	250	292	<b>250</b>	<b>292</b>
445.gobmk	16	726	231	<b>727</b>	<b>231</b>	727	231	16	688	244	689	244	<b>688</b>	<b>244</b>
456.hammer	16	<b>468</b>	<b>319</b>	461	324	469	318	8	<b>211</b>	<b>354</b>	211	354	211	355
458.sjeng	16	861	225	863	224	<b>863</b>	<b>224</b>	16	816	237	817	237	<b>816</b>	<b>237</b>
462.libquantum	16	270	1230	267	1240	<b>268</b>	<b>1240</b>	16	270	1230	267	1240	<b>268</b>	<b>1240</b>
464.h264ref	16	<b>1137</b>	<b>311</b>	1127	314	1139	311	16	1126	315	<b>1117</b>	<b>317</b>	1088	326
471.omnetpp	16	<b>583</b>	<b>171</b>	585	171	582	172	16	<b>540</b>	<b>185</b>	540	185	539	185
473.astar	16	712	158	<b>713</b>	<b>157</b>	713	157	16	712	158	<b>713</b>	<b>157</b>	713	157
483.xalancbmk	16	436	253	<b>436</b>	<b>253</b>	436	253	16	436	253	<b>436</b>	<b>253</b>	436	253

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/libhugetlbfss/ -Wl,-hugetlbfss-link=BDT`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/smartheap -lsmartheap  
-B /usr/share/libhugetlbfss/ -Wl,-hugetlbfss-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 -unroll12 -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)  
    -unroll14 -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)  
    -unroll12 -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 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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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