# SPEC® CINT2006 Result

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## Fujitsu

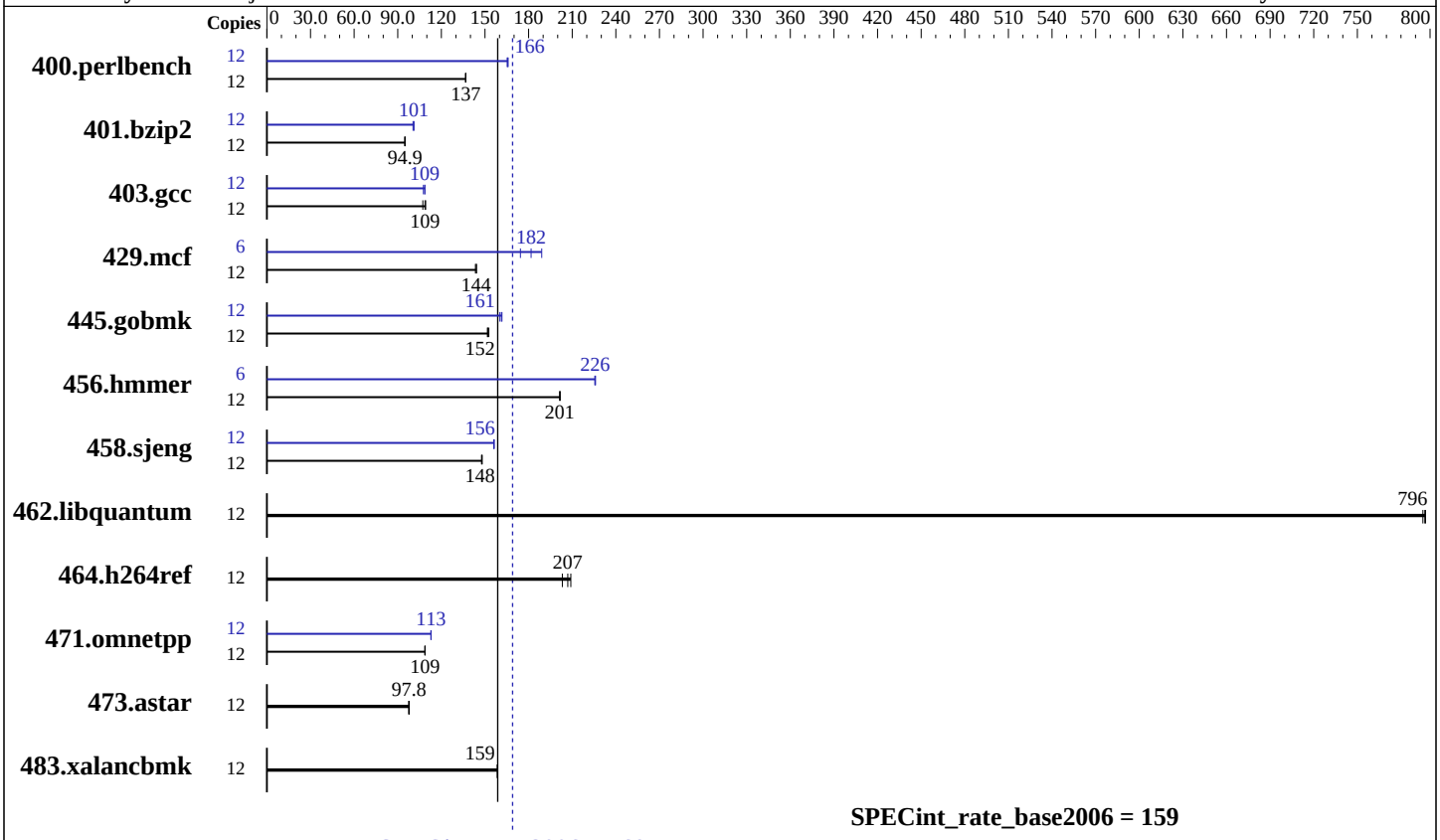
PRIMERGY RX200 S6, Intel Xeon E5649, 2.53 GHz

SPECint®_rate2006 = 169

SPECint_rate_base2006 = 159

**CPU2006 license:** 19
**Test sponsor:** Fujitsu
**Tested by:** Fujitsu

**Test date:** Jan-2011
**Hardware Availability:** Jul-2010
**Software Availability:** Nov-2010




## 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 (6 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 12.0.0.082 Build 20101006 |
| 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 | 858 | 137 | **857** | **137** | 857 | 137 | 12 | **708** | **166** | 707 | 166 | 709 | 165 |
| 401.bzip2 | 12 | 1219 | 95.0 | **1220** | **94.9** | 1220 | 94.9 | 12 | **1146** | **101** | 1152 | 101 | 1145 | 101 |
| 403.gcc | 12 | 885 | 109 | **888** | **109** | 901 | 107 | 12 | 889 | 109 | **889** | **109** | 897 | 108 |
| 429.mcf | 12 | 763 | 143 | 759 | 144 | **760** | **144** | 6 | 314 | 174 | 289 | 189 | **301** | **182** |
| 445.gobmk | 12 | **828** | **152** | 830 | 152 | 825 | 153 | 12 | 779 | 162 | **781** | **161** | 786 | 160 |
| 456.hmmer | 12 | **556** | **201** | 555 | 202 | 556 | 201 | 6 | 248 | 226 | 248 | 226 | **248** | **226** |
| 458.sjeng | 12 | 981 | 148 | **982** | **148** | 984 | 148 | 12 | **929** | **156** | 931 | 156 | 929 | 156 |
| 462.libquantum | 12 | 313 | 795 | 312 | 797 | **312** | **796** | 12 | 313 | 795 | 312 | 797 | **312** | **796** |
| 464.h264ref | 12 | **1283** | **207** | 1307 | 203 | 1270 | 209 | 12 | **1283** | **207** | 1307 | 203 | 1270 | 209 |
| 471.omnetpp | 12 | 689 | 109 | 690 | 109 | **690** | **109** | 12 | 665 | 113 | **665** | **113** | 664 | 113 |
| 473.astar | 12 | 864 | 97.5 | **862** | **97.8** | 860 | 97.9 | 12 | 864 | 97.5 | **862** | **97.8** | 860 | 97.9 |
| 483.xalancbmk | 12 | 522 | 159 | 523 | 158 | **522** | **159** | 12 | 522 | 159 | 523 | 158 | **522** | **159** |

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 = Disable
```

## General Notes

```
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 SP1 with Binutils 2.18.50.0.7.20080502
```

## Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

Continued on next page

## 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

## 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)

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

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

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

473.astar: basepeak = yes

Continued on next page

## Peak Optimization Flags (Continued)

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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