# SPEC® CINT2006 Result

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## Fujitsu

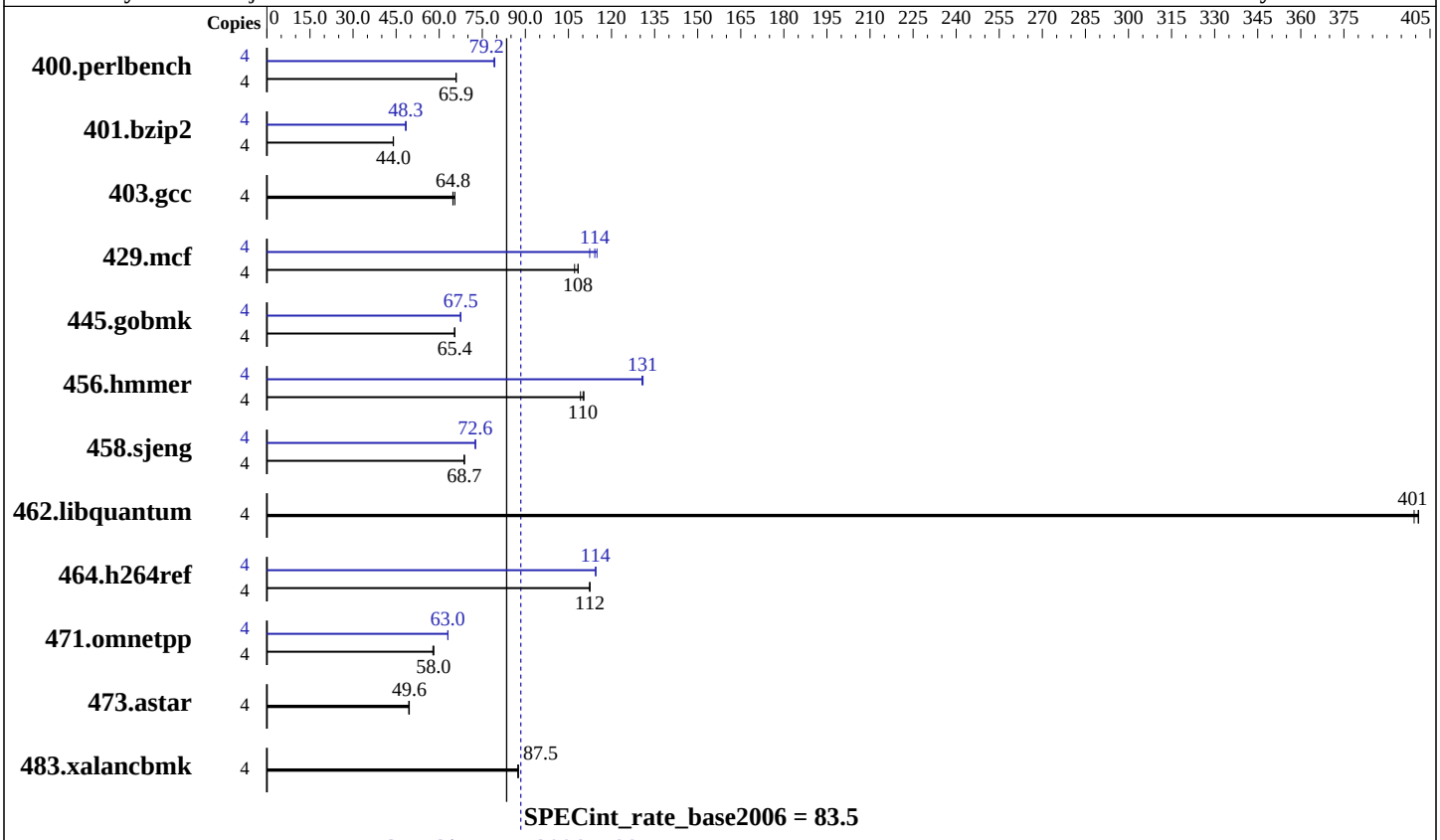
PRIMERGY BX620 S6, Intel Xeon E5607, 2.27 GHz

SPECint®_rate2006 = 88.4

SPECint_rate_base2006 = 83.5

**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 E5607 |
| CPU Characteristics: | |
| CPU MHz: | 2267 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 cores/chip |
| 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: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (6 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<br>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 | 4 | 593 | 66.0 | **593** | **65.9** | 594 | 65.8 | 4 | 494 | 79.1 | **494** | **79.2** | 492 | 79.4 |
| 401.bzip2 | 4 | **876** | **44.0** | 878 | 44.0 | 876 | 44.1 | 4 | 799 | 48.3 | 796 | 48.5 | **799** | **48.3** |
| 403.gcc | 4 | 492 | 65.5 | **497** | **64.8** | 497 | 64.8 | 4 | 492 | 65.5 | **497** | **64.8** | 497 | 64.8 |
| 429.mcf | 4 | 341 | 107 | **337** | **108** | 337 | 108 | 4 | **320** | **114** | 325 | 112 | 317 | 115 |
| 445.gobmk | 4 | 642 | 65.3 | **642** | **65.4** | 641 | 65.5 | 4 | 622 | 67.5 | **622** | **67.5** | 622 | 67.4 |
| 456.hmmer | 4 | 342 | 109 | 338 | 110 | **339** | **110** | 4 | 285 | 131 | 286 | 131 | **285** | **131** |
| 458.sjeng | 4 | 704 | 68.7 | **704** | **68.7** | 704 | 68.8 | 4 | **667** | **72.6** | 667 | 72.6 | 667 | 72.6 |
| 462.libquantum | 4 | **207** | **401** | 207 | 399 | 207 | 401 | 4 | **207** | **401** | 207 | 399 | 207 | 401 |
| 464.h264ref | 4 | 788 | 112 | **787** | **112** | 787 | 112 | 4 | 773 | 114 | 773 | 115 | **773** | **114** |
| 471.omnetpp | 4 | **431** | **58.0** | 432 | 57.8 | 430 | 58.1 | 4 | 397 | 63.0 | **397** | **63.0** | 396 | 63.1 |
| 473.astar | 4 | **567** | **49.6** | 569 | 49.4 | 566 | 49.6 | 4 | **567** | **49.6** | 569 | 49.4 | 566 | 49.6 |
| 483.xalancbmk | 4 | **315** | **87.5** | 315 | 87.5 | 316 | 87.4 | 4 | **315** | **87.5** | 315 | 87.5 | 316 | 87.4 |

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
```

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)
-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: basepeak = yes

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
-L/smartheap -lsmartheap

Continued on next page

## Peak Optimization Flags (Continued)

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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