# SPEC® CINT2006 Result

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## Fujitsu

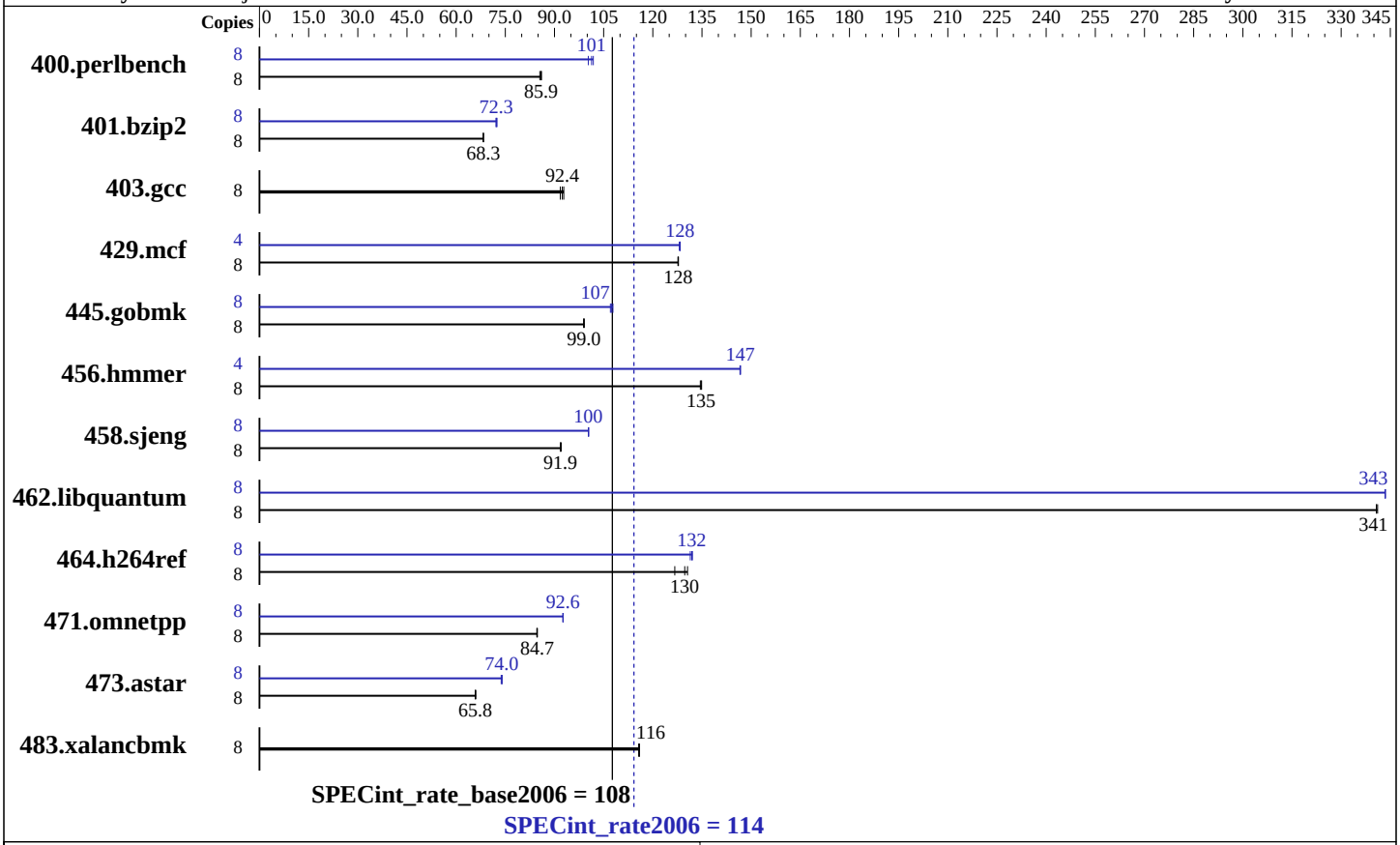
PRIMERGY TX300 S6, Intel Xeon E5620, 2.40 GHz

SPECint®_rate2006 = 114

SPECint_rate_base2006 = 108

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

**Test date:** Feb-2010
**Hardware Availability:** Apr-2010
**Software Availability:** Jan-2010




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5620 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.67 GHz |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 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: | 24 GB (6x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes) |
| Disk Subsystem: | 1 x SATA, 250 GB, 5.4 krpm |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default |
| Compiler: | Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Multi-User Run Level 3 |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502 |

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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 | 8 | **910** | **85.9** | 914 | 85.5 | 908 | 86.0 | 8 | 767 | 102 | **771** | **101** | 779 | 100 |
| 401.bzip2 | 8 | **1130** | **68.3** | 1130 | 68.3 | 1130 | 68.3 | 8 | **1068** | **72.3** | 1070 | 72.1 | 1065 | 72.5 |
| 403.gcc | 8 | **697** | **92.4** | 694 | 92.8 | 702 | 91.8 | 8 | **697** | **92.4** | 694 | 92.8 | 702 | 91.8 |
| 429.mcf | 8 | **571** | **128** | 571 | 128 | 571 | 128 | 4 | 284 | 128 | **284** | **128** | 285 | 128 |
| 445.gobmk | 8 | **848** | **99.0** | 848 | 98.9 | 847 | 99.1 | 8 | 778 | 108 | 784 | 107 | **782** | **107** |
| 456.hmmer | 8 | **554** | **135** | 553 | 135 | 555 | 134 | 4 | 255 | 147 | 254 | 147 | **254** | **147** |
| 458.sjeng | 8 | **1054** | **91.9** | 1054 | 91.8 | 1052 | 92.0 | 8 | **965** | **100** | 965 | 100 | 964 | 100 |
| 462.libquantum | 8 | **486** | **341** | 486 | 341 | 486 | 341 | 8 | 483 | 343 | **483** | **343** | 483 | 343 |
| 464.h264ref | 8 | 1356 | 131 | 1397 | 127 | **1365** | **130** | 8 | 1347 | 131 | **1342** | **132** | 1340 | 132 |
| 471.omnetpp | 8 | **590** | **84.7** | 590 | 84.8 | 591 | 84.6 | 8 | 540 | 92.6 | 540 | 92.6 | **540** | **92.6** |
| 473.astar | 8 | 851 | 66.0 | 853 | 65.8 | **853** | **65.8** | 8 | 759 | 74.0 | 762 | 73.7 | **759** | **74.0** |
| 483.xalancbmk | 8 | 476 | 116 | 477 | 116 | **476** | **116** | 8 | 476 | 116 | 477 | 116 | **476** | **116** |

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
```

## Platform Notes

```
The system automatically configures the memory to run at 1066 MHz.
BIOS configuration:
Data Reuse optimization = Disable
```

## General Notes

```
This result was measured on the PRIMERGY TX300 S6. The PRIMERGY TX300 S6
and the PRIMERGY RX300 S6 are electronically equivalent.

For information about Fujitsu please visit: http://www.fujitsu.com
```

## 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 -static -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):
icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
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) -static(pass 2) -prof-use(pass 2) -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

Continued on next page

## Peak Optimization Flags (Continued)

473.astar: `-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=routine -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

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-ic11.1-linux64-revE.20100316.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.00.xml`


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For other inquiries, please contact webmaster@spec.org.

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