# SPEC® CINT2006 Result

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## Fujitsu

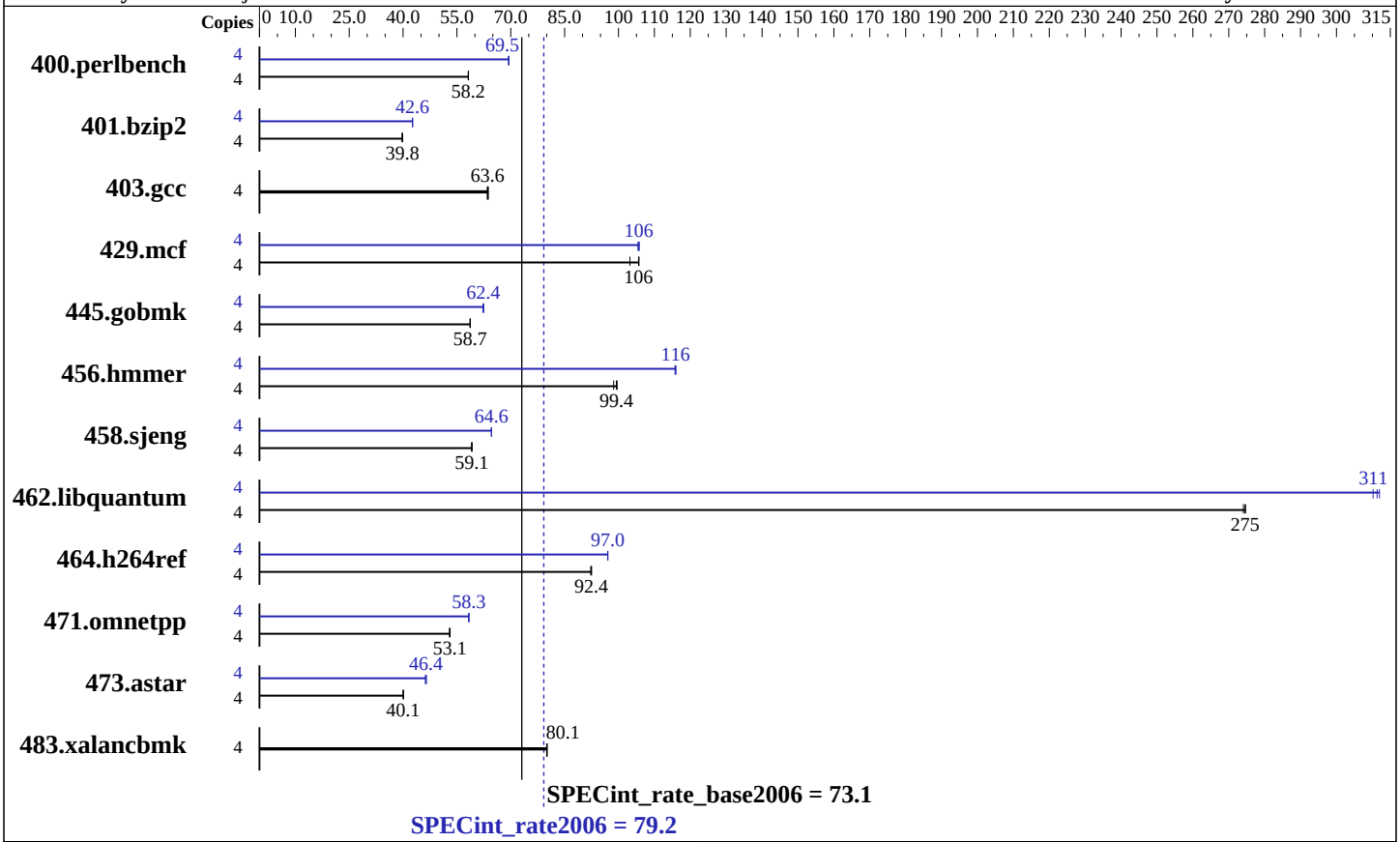
PRIMERGY TX300 S6, Intel Xeon E5503, 2.00 GHz

SPECint®_rate2006 = 79.2

SPECint_rate_base2006 = 73.1

**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 E5503 |
| CPU Characteristics: | |
| CPU MHz: | 2000 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 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: | 4 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes) |
| Disk Subsystem: | 1 x SATA, 250 GB, 7200 RPM |
| 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 | 4 | 671 | 58.2 | 672 | 58.2 | **672** | **58.2** | 4 | **563** | **69.5** | 564 | 69.4 | 562 | 69.5 |
| 401.bzip2 | 4 | 972 | 39.7 | **970** | **39.8** | 968 | 39.9 | 4 | 906 | 42.6 | 904 | 42.7 | **906** | **42.6** |
| 403.gcc | 4 | 505 | 63.8 | **506** | **63.6** | 508 | 63.4 | 4 | 505 | 63.8 | **506** | **63.6** | 508 | 63.4 |
| 429.mcf | 4 | 354 | 103 | 345 | 106 | **345** | **106** | 4 | 345 | 106 | 346 | 105 | **345** | **106** |
| 445.gobmk | 4 | 715 | 58.7 | **715** | **58.7** | 715 | 58.6 | 4 | 674 | 62.2 | 672 | 62.4 | **672** | **62.4** |
| 456.hmmer | 4 | 378 | 98.7 | 375 | 99.6 | **375** | **99.4** | 4 | 322 | 116 | 322 | 116 | **322** | **116** |
| 458.sjeng | 4 | 817 | 59.2 | 819 | 59.1 | **819** | **59.1** | 4 | 749 | 64.7 | 749 | 64.6 | **749** | **64.6** |
| 462.libquantum | 4 | 302 | 274 | 302 | 275 | **302** | **275** | 4 | **266** | **311** | 266 | 312 | 267 | 310 |
| 464.h264ref | 4 | 957 | 92.5 | 959 | 92.3 | **958** | **92.4** | 4 | 912 | 97.0 | 913 | 97.0 | **913** | **97.0** |
| 471.omnetpp | 4 | 471 | 53.1 | **471** | **53.1** | 473 | 52.9 | 4 | 429 | 58.3 | 429 | 58.3 | **429** | **58.3** |
| 473.astar | 4 | 702 | 40.0 | **701** | **40.1** | 700 | 40.1 | 4 | 604 | 46.5 | **605** | **46.4** | 608 | 46.2 |
| 483.xalancbmk | 4 | **345** | **80.1** | 345 | 80.0 | 345 | 80.1 | 4 | **345** | **80.1** | 345 | 80.0 | 345 | 80.1 |

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 800 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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