# SPEC® CINT2006 Result

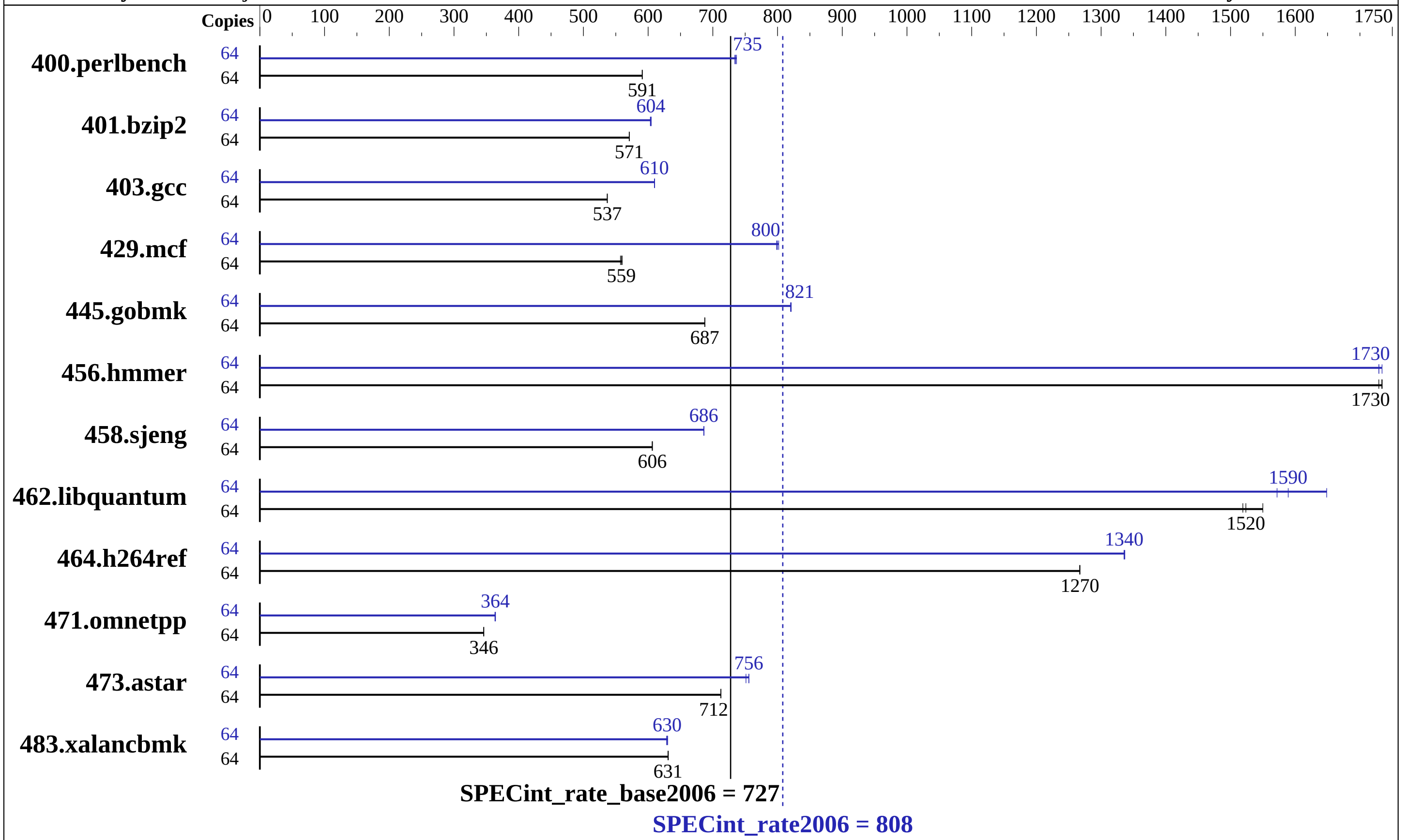


## Fujitsu Limited
## PRIMEQUEST 580A

SPECint®_rate2006 = 808

SPECint_rate_base2006 = 727

| | | | |
|---|---|---|---|
| **CPU2006 license:** 19 | | **Test date:** | Mar-2008 |
| **Test sponsor:** | Fujitsu Limited | **Hardware Availability:** | May-2008 |
| **Tested by:** | Fujitsu Limited | **Software Availability:** | Feb-2008 |




## Hardware

| | |
|---|---|
| CPU Name: | Dual-Core Intel Itanium 9150M |
| CPU Characteristics: | 1.66GHz/24MB, 667MHz FSB |
| CPU MHz: | 1667 |
| FPU: | Integrated |
| CPU(s) enabled: | 64 cores, 32 chips, 2 cores/chip |
| CPU(s) orderable: | 2-32 chips |
| Primary Cache: | 16 KB I + 16 KB D on chip per core |
| Secondary Cache: | 1 MB I + 256 KB D on chip per core |
| L3 Cache: | 12 MB I+D on chip per core |
| Other Cache: | None |
| Memory: | 512 GB (256 x 2GB DDR2-667 DIMMs) |
| Disk Subsystem: | 2 x 147GB (SCSI Ultra 320, 10000rpm) No RAID configuration |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux 5.1, Kernel 2.6.18-53.el5 on an ia64 |
| Compiler: | Intel C++ Compiler for Linux 10.1 (Build 20080112) |
| Auto Parallel: | No |
| File System: | ext2 |
| System State: | Runlevel 1 (single user mode) |
| Base Pointers: | 64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | MicroQuill Smartheap 8.0 |

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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 | 64 | 1058 | 591 | **1058** | **591** | 1059 | 591 | 64 | **851** | **735** | 852 | 734 | 849 | 737 |
| 401.bzip2 | 64 | 1082 | 571 | **1082** | **571** | 1082 | 571 | 64 | 1021 | 605 | **1022** | **604** | 1023 | 603 |
| 403.gcc | 64 | 959 | 537 | 960 | 537 | **960** | **537** | 64 | 845 | 610 | 844 | 610 | **845** | **610** |
| 429.mcf | 64 | 1042 | 560 | **1045** | **559** | 1047 | 557 | 64 | 731 | 799 | 728 | 802 | **730** | **800** |
| 445.gobmk | 64 | 976 | 688 | 977 | 687 | **977** | **687** | 64 | 818 | 821 | 819 | 820 | **818** | **821** |
| 456.hmmer | 64 | **344** | **1730** | 345 | 1730 | 344 | 1730 | 64 | **345** | **1730** | 344 | 1730 | 345 | 1730 |
| 458.sjeng | 64 | 1277 | 606 | 1276 | 607 | **1277** | **606** | 64 | 1128 | 686 | **1129** | **686** | 1129 | 686 |
| 462.libquantum | 64 | 873 | 1520 | **870** | **1520** | 856 | 1550 | 64 | 844 | 1570 | **834** | **1590** | 804 | 1650 |
| 464.h264ref | 64 | 1118 | 1270 | **1118** | **1270** | 1118 | 1270 | 64 | **1060** | **1340** | 1060 | 1340 | 1060 | 1340 |
| 471.omnetpp | 64 | 1157 | 346 | **1156** | **346** | 1155 | 346 | 64 | **1099** | **364** | 1098 | 364 | 1101 | 363 |
| 473.astar | 64 | 631 | 712 | **631** | **712** | 630 | 713 | 64 | 595 | 756 | **595** | **756** | 598 | 751 |
| 483.xalancbmk | 64 | 700 | 631 | 700 | 631 | **700** | **631** | 64 | **702** | **630** | 703 | 628 | 701 | 630 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

```
Processes are bound to CPUs using taskset.

limit stacksize unlimited

Memory system is in "Non Mirror Mode".

The following 2 environment variables were set
    MALLOC_MMAP_MAX_=0
    MALLOC_TRIM_THRESHOLD_=-1
This will cause use of sbrk() calls instead of
mmap() calls to get memory from the system.
```

## Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_IA64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
464.h264ref: `-DSPEC_CPU_LP64`
471.omnetpp: `-DSPEC_CPU_LP64`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:
```
-fast -IPF-fp-relaxed -ansi-alias -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -opt-prefetch-issue-excl-hint
-unroll-aggressive
```

C++ benchmarks:
```
-fast -IPF-fp-relaxed -ansi-alias -no-opt-prefetch-initial-values
-opt-prefetch-next-iteration -opt-prefetch-issue-excl-hint
-unroll-aggressive -Wl,-z,muldefs
/opt/SmartHeap_8/lib/libsmartheapC64.a
/opt/SmartHeap_8/lib/libsmartheap64.a
```

## Peak Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi_alias -IPF_fp_relaxed -opt-mod-versioning -unroll-aggressive -inline-factor=150

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed -ansi-alias -fno-alias -auto-ilp32 -opt-prefetch-next-iteration

403.gcc: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi_alias -auto-ilp32 -IPF_fp_relaxed -no-opt-prefetch-initial-values -opt-prefetch-next-iteration -unroll-aggressive

429.mcf: -fast -IPF-fp-relaxed -auto-ilp32 -ansi-alias -opt-prefetch-next-iteration

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed -auto-ilp32 -no-opt-prefetch-initial-values -opt-prefetch-next-iteration -ansi-alias

456.hmmer: -fast -IPF_fp_relaxed -auto-ilp32 -no-opt-prefetch-initial-values

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed -unroll-aggressive -no-prefetch -opt-prefetch-next-iteration

462.libquantum: -fast -IPF-fp-relaxed -auto-ilp32 -ansi-alias -opt-mod-versioning -no-opt-prefetch-initial-values -opt-prefetch-issue-excl-hint

464.h264ref: -fast -IPF-fp-relaxed -ansi-alias -fno-alias -auto-ilp32 -no-prefetch -inline-factor=150 -opt-mod-versioning -unroll-aggressive -opt-prefetch-next-iteration

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed -ansi-alias -fno-alias -inline-max-per-routine=50 -inline-factor=150 -Wl,-z,muldefs /opt/SmartHeap_8/lib/libsmartheapC64.a /opt/SmartHeap_8/lib/libsmartheap64.a

473.astar: -fast -IPF-fp-relaxed -no-prefetch -ansi-alias -fno-alias -inline-max-size=5000 -Wl,-z,muldefs /opt/SmartHeap_8/lib/libsmartheapC64.a /opt/SmartHeap_8/lib/libsmartheap64.a

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## Peak Optimization Flags (Continued)

483.xalancbmk: -fast -IPF-fp-relaxed -unroll-aggressive -ansi-alias -no-opt-prefetch-initial-values -Wl,-z,muldefs /opt/SmartHeap_8/lib/libsmartheapC64.a /opt/SmartHeap_8/lib/libsmartheap64.a

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.xml



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.1.
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