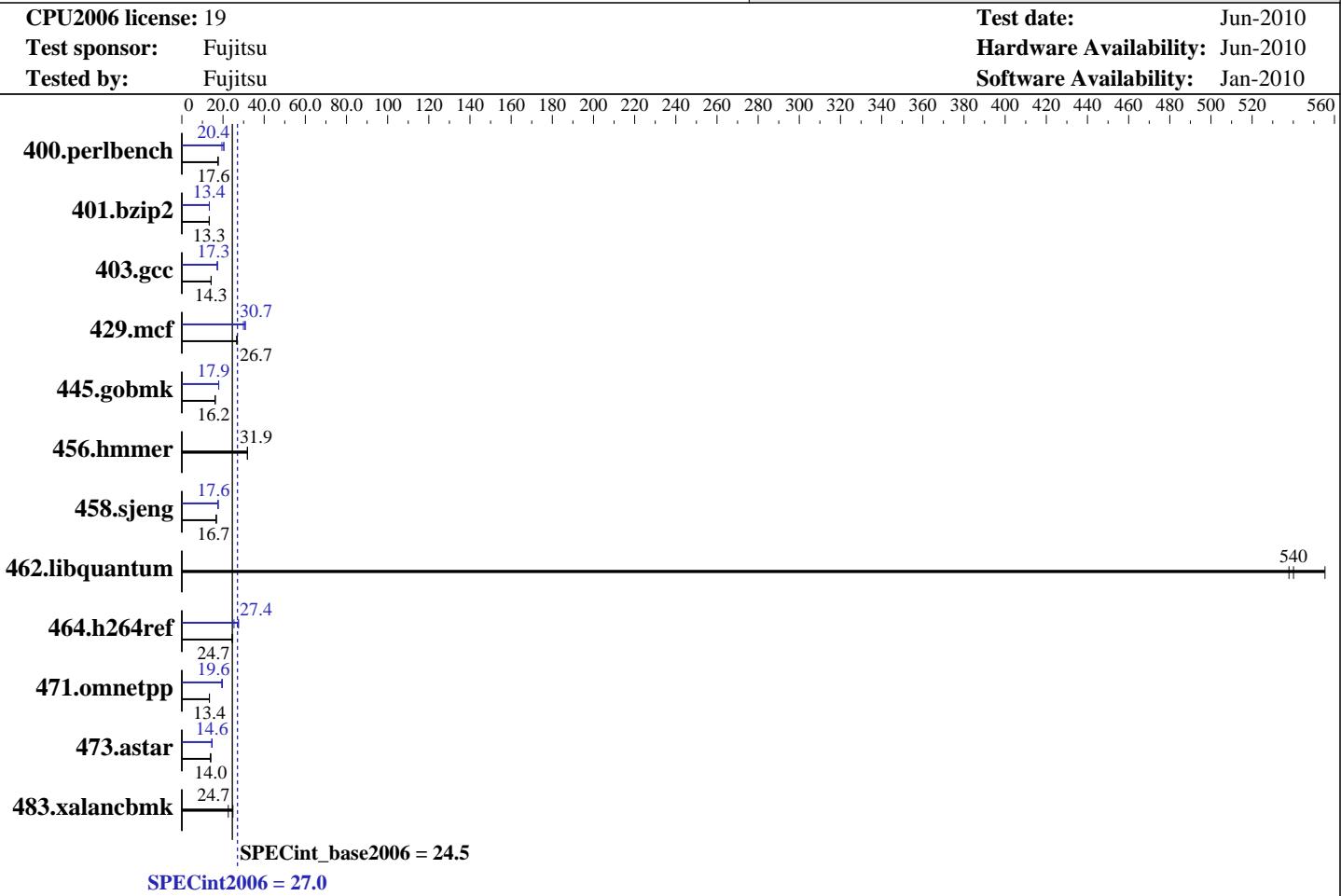# SPEC® CINT2006 Result
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Fujitsu

PRIMERGY RX600 S5, Intel Xeon E7540, 2.0 GHz

SPECint®2006 = 27.0

SPECint_base2006 = 24.5

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

Test date: Jun-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010

SPECint_base2006 = 24.5
SPECint2006 = 27.0

Benchmark results (peak / base):
- 400.perlbench: 20.4 / 17.6
- 401.bzip2: 13.4 / 13.3
- 403.gcc: 17.3 / 14.3
- 429.mcf: 30.7 / 26.7
- 445.gobmk: 17.9 / 16.2
- 456.hmmer: 31.9
- 458.sjeng: 17.6 / 16.7
- 462.libquantum: 540
- 464.h264ref: 27.4 / 24.7
- 471.omnetpp: 19.6 / 13.4
- 473.astar: 14.6 / 14.0
- 483.xalancbmk: 24.7

Hardware

CPU Name: Intel Xeon E7540
CPU Characteristics: Intel Turbo Boost Technology up to 2.26 GHz
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable: 2,3,4 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: 18 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (64x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
Disk Subsystem: 1 x SAS, 300 GB, 10000 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: Yes
File System: ext3
System State: Multi-User Run Level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	555	17.6	**555**	**17.6**	557	17.6	**480**	**20.4**	478	20.4	502	19.5
401.bzip2	724	13.3	**724**	**13.3**	725	13.3	722	13.4	723	13.3	**723**	**13.4**
403.gcc	**565**	**14.3**	564	14.3	568	14.2	**467**	**17.3**	465	17.3	468	17.2
429.mcf	**341**	**26.7**	342	26.7	338	27.0	296	30.9	305	29.9	**297**	**30.7**
445.gobmk	**648**	**16.2**	649	16.2	647	16.2	585	17.9	**585**	**17.9**	586	17.9
456.hmmer	292	31.9	**293**	**31.9**	293	31.9	292	31.9	**293**	**31.9**	293	31.9
458.sjeng	**724**	**16.7**	724	16.7	724	16.7	687	17.6	687	17.6	**687**	**17.6**
462.libquantum	37.3	555	**38.4**	**540**	38.5	538	37.3	555	**38.4**	**540**	38.5	538
464.h264ref	**896**	**24.7**	908	24.4	895	24.7	802	27.6	873	25.3	**809**	**27.4**
471.omnetpp	466	13.4	**467**	**13.4**	468	13.4	317	19.7	**319**	**19.6**	323	19.4
473.astar	**502**	**14.0**	502	14.0	503	14.0	482	14.6	**480**	**14.6**	479	14.7
483.xalancbmk	278	24.8	**279**	**24.7**	306	22.6	278	24.8	**279**	**24.7**	306	22.6

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

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:
Intel HT Technology = Disable

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

Base Compiler Invocation

C benchmarks:
     icc -m64

C++ benchmarks:
     icpc -m64

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Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
        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:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -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/libic11.1-64bit -lsmartheap64
```

Base Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m64
```

```
    400.perlbench: icc -m32
```

```
        429.mcf: icc -m32
```

```
     445.gobmk: icc -m32
```

```
    464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m64
```

Continued on next page

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SPECint_base2006 =   24.5

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

Test date: Jun-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010

Peak Compiler Invocation (Continued)

    471.omnetpp: `icpc -m32`

Peak Portability Flags

    400.perlbench: `-DSPEC_CPU_LINUX_IA32`
        401.bzip2: `-DSPEC_CPU_LP64`
          403.gcc: `-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_LP64 -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 -opt-prefetch`

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

          403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc`
                   `-opt-malloc-options=3 -auto-ilp32`

          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: `basepeak = yes`

        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`

    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) -static(pass 2)`
                   `-prof-use(pass 2) -unroll2 -ansi-alias`

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SPECint2006 =	27.0
SPECint_base2006 =	24.5

Peak Optimization Flags (Continued)

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`

> 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.20100330.02.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.20100330.02.xml

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

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