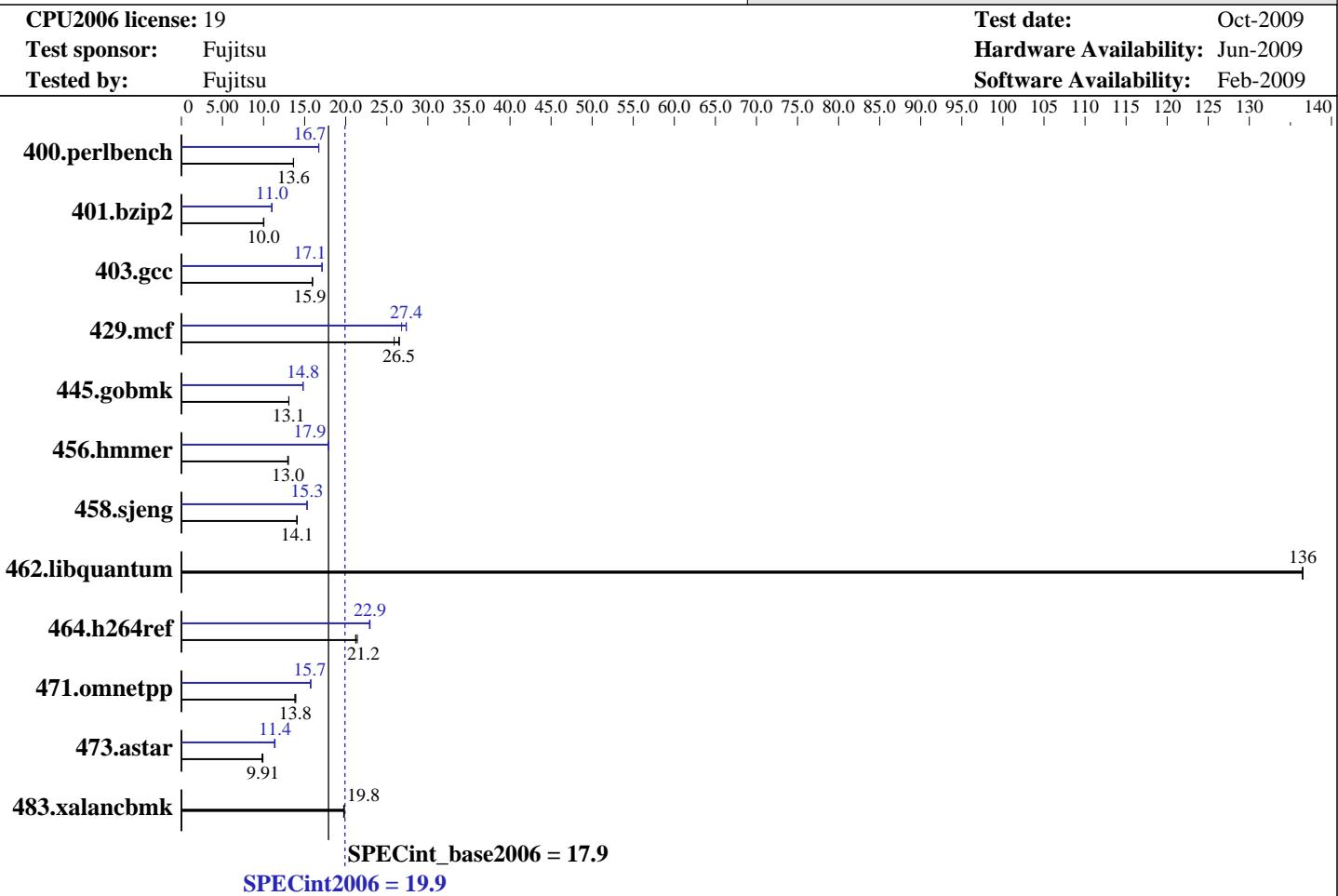# SPEC® CINT2006 Result
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Fujitsu

PRIMERGY BX920 S1, Intel Xeon E5502, 1.87 GHz

$SPECint^®2006 =$ 19.9

$SPECint\_base2006 =$ 17.9

CPU2006 license: 19	**Test date:** Oct-2009
Test sponsor: Fujitsu	**Hardware Availability:** Jun-2009
Tested by: Fujitsu	**Software Availability:** Feb-2009

Benchmark results chart:

- **400.perlbench**: 16.7 / 13.6
- **401.bzip2**: 11.0 / 10.0
- **403.gcc**: 17.1 / 15.9
- **429.mcf**: 27.4 / 26.5
- **445.gobmk**: 14.8 / 13.1
- **456.hmmer**: 17.9 / 13.0
- **458.sjeng**: 15.3 / 14.1
- **462.libquantum**: 136
- **464.h264ref**: 22.9 / 21.2
- **471.omnetpp**: 15.7 / 13.8
- **473.astar**: 11.4 / 9.91
- **483.xalancbmk**: 19.8

SPECint_base2006 = 17.9

SPECint2006 = 19.9

Hardware

CPU Name:	Intel Xeon E5502
CPU Characteristics:	
CPU MHz:	1867
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:	36 GB (9x4 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 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
Auto Parallel:	Yes
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	717	13.6	**716**	**13.6**	715	13.7	**584**	**16.7**	584	16.7	585	16.7
401.bzip2	965	10.0	961	10.0	**965**	**10.0**	**877**	**11.0**	876	11.0	878	11.0
403.gcc	505	15.9	504	16.0	**505**	**15.9**	470	17.1	471	17.1	**470**	**17.1**
429.mcf	352	25.9	344	26.5	**345**	**26.5**	**333**	**27.4**	340	26.8	333	27.4
445.gobmk	802	13.1	**802**	**13.1**	803	13.1	709	14.8	708	14.8	**709**	**14.8**
456.hmmer	721	12.9	717	13.0	**718**	**13.0**	521	17.9	522	17.9	**522**	**17.9**
458.sjeng	862	14.0	859	14.1	**859**	**14.1**	**792**	**15.3**	791	15.3	792	15.3
462.libquantum	152	137	152	136	**152**	**136**	152	137	152	136	**152**	**136**
464.h264ref	**1043**	**21.2**	1033	21.4	1043	21.2	**964**	**22.9**	967	22.9	964	23.0
471.omnetpp	449	13.9	**452**	**13.8**	452	13.8	398	15.7	397	15.7	**397**	**15.7**
473.astar	715	9.81	708	9.92	**708**	**9.91**	620	11.3	**616**	**11.4**	616	11.4
483.xalancbmk	349	19.7	**349**	**19.8**	348	19.8	349	19.7	**349**	**19.8**	348	19.8

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 800 MHz.

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

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

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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 -parallel
-par-runtime-control -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

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

```
401.bzip2: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

```
456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

```
458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

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

```
473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
```

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CPU2006 license: 19
Test sponsor: Fujitsu
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Test date: Oct-2009
Hardware Availability: Jun-2009
Software Availability: Feb-2009

Peak Portability Flags (Continued)

```
        458.sjeng: -DSPEC_CPU_LP64
    462.libquantum: -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 -opt-prefetch

        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) -auto-ilp32 -opt-prefetch -ansi-alias

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

          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: 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
```

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/spec/cpu2006.1.1/lib -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 -auto-ilp32
                   -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64
```

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Peak Optimization Flags (Continued)

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-ic11.0-int-linux64-revA.20091013.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20091013.xml

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