



# SPEC® CINT2006 Result

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## Fujitsu

**SPECint®2006 = 20.0**

PRIMERGY BX620 S5, Intel Xeon E5502, 1.87 GHz

**SPECint\_base2006 = 18.0**

CPU2006 license: 19

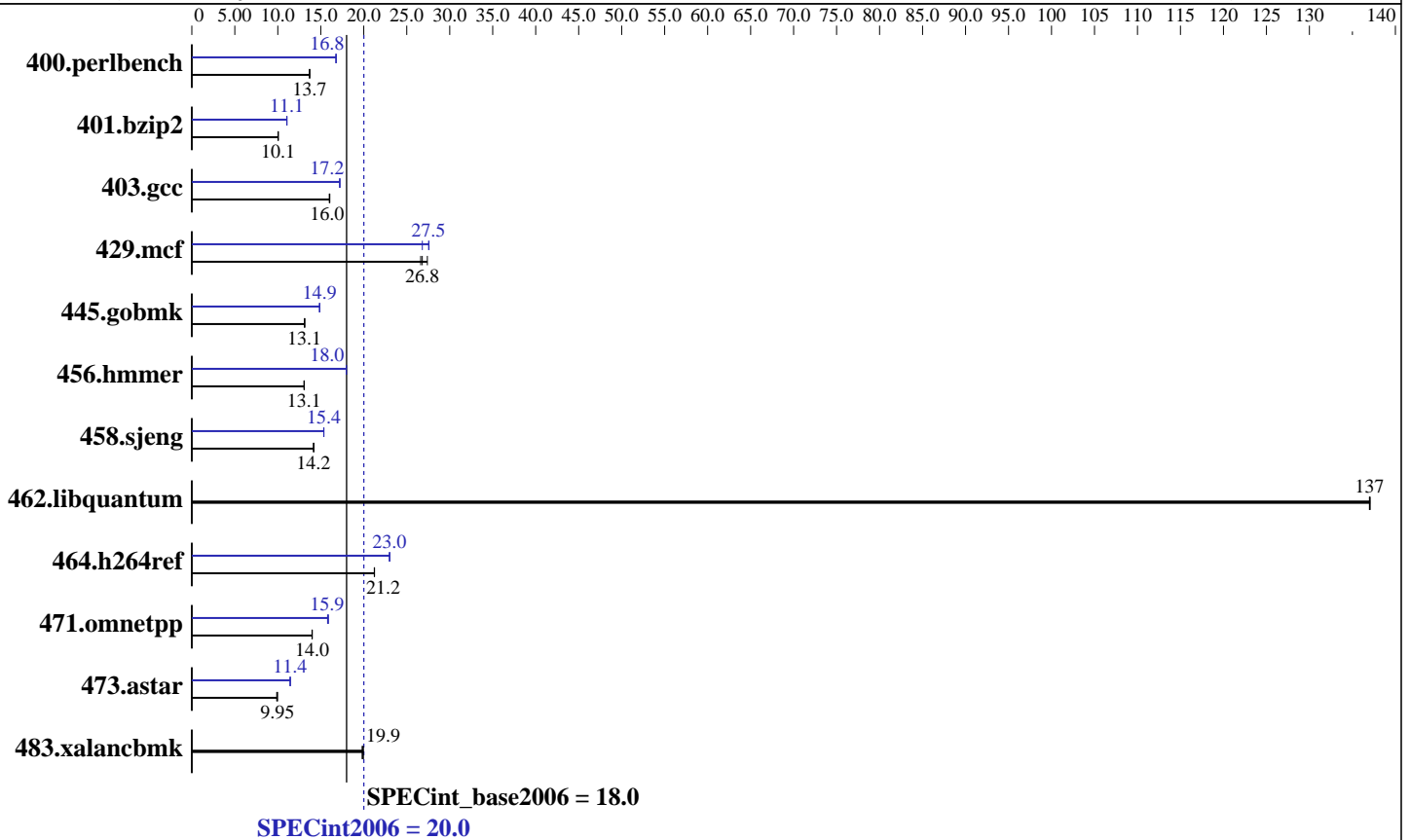
Test date: Sep-2009

Test sponsor: Fujitsu

Hardware Availability: Apr-2009

Tested by: Fujitsu

Software Availability: Feb-2009



### 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: 48 GB (12x4 GB PC3-8500R, 2 rank, CL7-7-7, 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	714	13.7	712	13.7	<b>714</b>	<b>13.7</b>	582	16.8	583	16.8	<b>582</b>	<b>16.8</b>
401.bzip2	963	10.0	960	10.1	<b>960</b>	<b>10.1</b>	<b>873</b>	<b>11.1</b>	873	11.1	873	11.1
403.gcc	<b>503</b>	<b>16.0</b>	502	16.1	503	16.0	468	17.2	468	17.2	<b>468</b>	<b>17.2</b>
429.mcf	<b>340</b>	<b>26.8</b>	343	26.6	333	27.4	<b>331</b>	<b>27.5</b>	340	26.8	331	27.6
445.gobmk	798	13.1	<b>800</b>	<b>13.1</b>	800	13.1	705	14.9	<b>706</b>	<b>14.9</b>	706	14.9
456.hammer	715	13.0	713	13.1	<b>714</b>	<b>13.1</b>	519	18.0	<b>519</b>	<b>18.0</b>	519	18.0
458.sjeng	855	14.2	<b>854</b>	<b>14.2</b>	853	14.2	<b>788</b>	<b>15.4</b>	788	15.4	788	15.3
462.libquantum	151	137	<b>151</b>	<b>137</b>	151	137	151	137	<b>151</b>	<b>137</b>	151	137
464.h264ref	<b>1042</b>	<b>21.2</b>	1041	21.2	1043	21.2	963	23.0	<b>962</b>	<b>23.0</b>	961	23.0
471.omnetpp	447	14.0	<b>447</b>	<b>14.0</b>	446	14.0	<b>394</b>	<b>15.9</b>	396	15.8	394	15.9
473.astar	711	9.88	705	9.96	<b>706</b>	<b>9.95</b>	<b>613</b>	<b>11.4</b>	614	11.4	613	11.5
483.xalancbmk	348	19.8	<b>347</b>	<b>19.9</b>	346	20.0	348	19.8	<b>347</b>	<b>19.9</b>	346	20.0

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  
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## 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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## 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.bzp2: -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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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