



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

**SPECint®2006 = 20.0**

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

**SPECint\_base2006 = 19.3**

CPU2006 license: 19

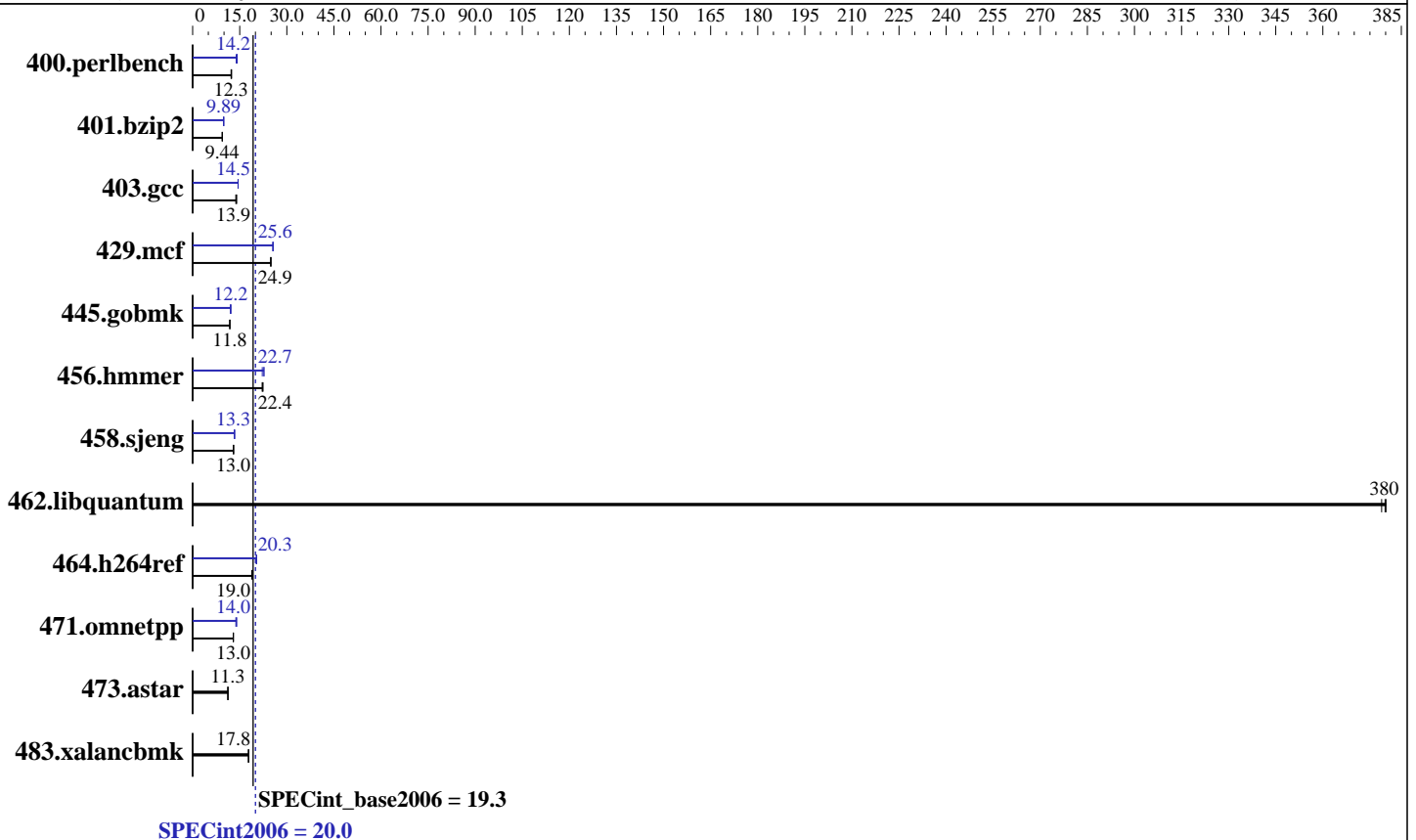
Test date: Mar-2011

Test sponsor: Fujitsu

Hardware Availability: Feb-2011

Tested by: Fujitsu

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E5603  
 CPU Characteristics:  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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 (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
 Other Hardware: --

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) with SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECint2006 = **20.0**

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

SPECint\_base2006 = **19.3**

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

Test date: Mar-2011  
Hardware Availability: Feb-2011  
Software Availability: Jan-2011

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	798	12.2	786	12.4	<b><u>795</u></b>	<b><u>12.3</u></b>	704	13.9	<b><u>690</u></b>	<b><u>14.2</u></b>	689	14.2
401.bzip2	1023	9.43	<b><u>1023</u></b>	<b><u>9.44</u></b>	1021	9.45	974	9.91	<b><u>976</u></b>	<b><u>9.89</u></b>	978	9.86
403.gcc	<b><u>578</u></b>	<b><u>13.9</u></b>	575	14.0	586	13.7	555	14.5	<b><u>556</u></b>	<b><u>14.5</u></b>	556	14.5
429.mcf	365	25.0	367	24.8	<b><u>366</u></b>	<b><u>24.9</u></b>	355	25.7	357	25.6	<b><u>357</u></b>	<b><u>25.6</u></b>
445.gobmk	<b><u>886</u></b>	<b><u>11.8</u></b>	885	11.9	886	11.8	<b><u>862</u></b>	<b><u>12.2</u></b>	874	12.0	862	12.2
456.hammer	417	22.4	422	22.1	<b><u>417</u></b>	<b><u>22.4</u></b>	411	22.7	421	22.2	<b><u>411</u></b>	<b><u>22.7</u></b>
458.sjeng	929	13.0	929	13.0	<b><u>929</u></b>	<b><u>13.0</u></b>	907	13.3	907	13.3	<b><u>907</u></b>	<b><u>13.3</u></b>
462.libquantum	54.7	379	54.5	380	<b><u>54.6</u></b>	<b><u>380</u></b>	54.7	379	54.5	380	<b><u>54.6</u></b>	<b><u>380</u></b>
464.h264ref	1175	18.8	<b><u>1166</u></b>	<b><u>19.0</u></b>	1165	19.0	1086	20.4	1089	20.3	<b><u>1089</u></b>	<b><u>20.3</u></b>
471.omnetpp	483	12.9	481	13.0	<b><u>482</u></b>	<b><u>13.0</u></b>	<b><u>447</u></b>	<b><u>14.0</u></b>	454	13.8	447	14.0
473.astar	<b><u>624</u></b>	<b><u>11.3</u></b>	622	11.3	628	11.2	<b><u>624</u></b>	<b><u>11.3</u></b>	622	11.3	628	11.2
483.xalancbmk	<b><u>388</u></b>	<b><u>17.8</u></b>	387	17.8	388	17.8	<b><u>388</u></b>	<b><u>17.8</u></b>	387	17.8	388	17.8

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
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable

## General Notes

OMP\_NUM\_THREADS set to number of cores  
For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

## Base Compiler Invocation

C benchmarks:  
icc -m64  
  
C++ benchmarks:  
icpc -m64



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECint2006 = 20.0**

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

**SPECint\_base2006 = 19.3**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011

## 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 -parallel -opt-prefetch -auto-p32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

```

C++ benchmarks:

```

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

```

## 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

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECint2006 = 20.0**

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

**SPECint\_base2006 = 19.3**

CPU2006 license: 19

Test date: Mar-2011

Test sponsor: Fujitsu

Hardware Availability: Feb-2011

Tested by: Fujitsu

Software Availability: Jan-2011

## Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -DSPEC\_CPU\_LP64

403.gcc: -DSPEC\_CPU\_LP64

456.hmmmer: -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) -prof-use(pass 2)  
-opt-prefetch -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-alloc  
-opt-malloc-options=3 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-auto-ilp32 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

456.hmmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECint2006 = 20.0**

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

**SPECint\_base2006 = 19.3**

CPU2006 license: 19

Test date: Mar-2011

Test sponsor: Fujitsu

Hardware Availability: Feb-2011

Tested by: Fujitsu

Software Availability: Jan-2011

## Peak Optimization Flags (Continued)

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(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) -prof-use(pass 2)  
-unroll2 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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)  
-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs  
-L/smartheap -lsmartheap  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.html>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.xml>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.xml>



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECint2006 = 20.0

PRIMERGY RX200 S6, Intel Xeon E5603, 1.60 GHz

SPECint\_base2006 = 19.3

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 19:14:28 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 12 April 2011.