



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 1750

PRIMERGY RX900 S2, Intel Xeon E7-8860, 2.27 GHz

SPECint\_rate\_base2006 = 1640

CPU2006 license: 19

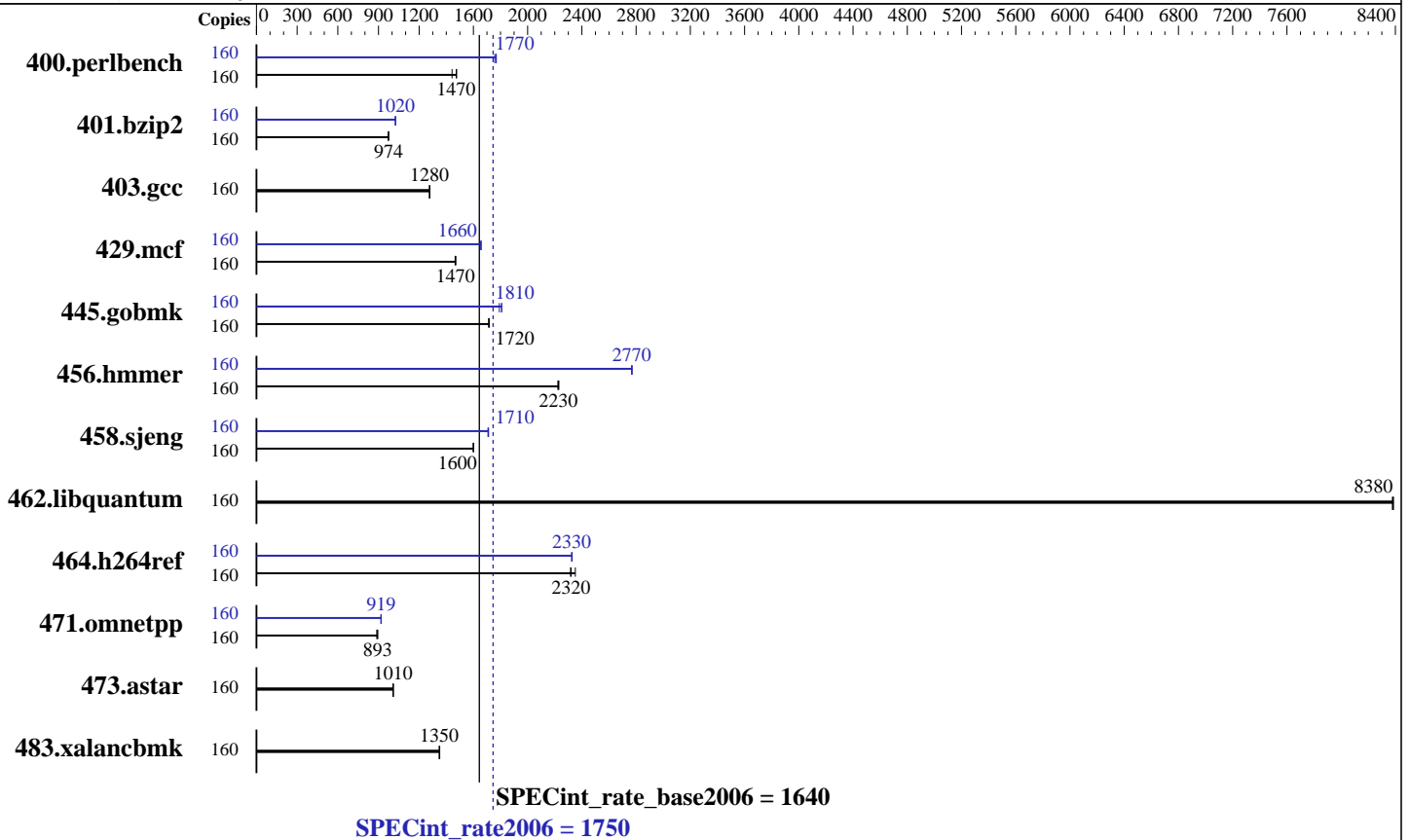
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2011

Hardware Availability: Jun-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E7-8860  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 80 cores, 8 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 4,6,8 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: 24 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 1 TB (128 x 8 GB 4Rx8 PC3-10600R-9, ECC, running at 1066 MHz)  
 Disk Subsystem: 2 x 147 GB (SAS, 15000RPM, RAID0)  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 SP1(x86\_64), Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext2  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



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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	160	1059	1480	1084	1440	<u>1061</u>	<u>1470</u>	160	<u>885</u>	<u>1770</u>	889	1760	884	1770
401.bzip2	160	<u>1585</u>	<u>974</u>	1585	974	1587	973	160	1505	1030	1507	1020	<u>1507</u>	<u>1020</u>
403.gcc	160	1010	1280	<u>1009</u>	<u>1280</u>	1007	1280	160	1010	1280	<u>1009</u>	<u>1280</u>	1007	1280
429.mcf	160	996	1470	<u>994</u>	<u>1470</u>	993	1470	160	<u>881</u>	<u>1660</u>	882	1660	881	1660
445.gobmk	160	978	1720	980	1710	<u>978</u>	<u>1720</u>	160	<u>929</u>	<u>1810</u>	937	1790	928	1810
456.hammer	160	672	2220	<u>670</u>	<u>2230</u>	669	2230	160	<u>539</u>	<u>2770</u>	540	2770	539	2770
458.sjeng	160	<u>1210</u>	<u>1600</u>	1212	1600	1209	1600	160	1134	1710	<u>1131</u>	<u>1710</u>	1131	1710
462.libquantum	160	396	8380	395	8390	<u>396</u>	<u>8380</u>	160	396	8380	395	8390	<u>396</u>	<u>8380</u>
464.h264ref	160	1506	2350	1528	2320	<u>1526</u>	<u>2320</u>	160	1523	2320	1521	2330	<u>1522</u>	<u>2330</u>
471.omnetpp	160	1118	894	1127	887	<u>1120</u>	<u>893</u>	160	<u>1088</u>	<u>919</u>	1087	920	1089	918
473.astar	160	1114	1010	<u>1114</u>	<u>1010</u>	1113	1010	160	1114	1010	<u>1114</u>	<u>1010</u>	1113	1010
483.xalancbmk	160	<u>818</u>	<u>1350</u>	819	1350	817	1350	160	<u>818</u>	<u>1350</u>	819	1350	817	1350

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

### Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

### Operating System Notes

Large pages were not enabled for this run  
The following command was used prior to run  
ulimit -s unlimited  
echo 1 > /proc/sys/vm/zone\_reclaim\_mode

### General Notes

Binaries were compiled on RHEL5.5  
For information about Fujitsu please visit: <http://www.fujitsu.com>

### Base Compiler Invocation

C benchmarks:  
icc -m32  
C++ benchmarks:  
icpc -m32



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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 -opt-prefetch  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

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

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

456.hmmcr: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
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) -prof-use(pass 2)  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

401.bzp2: -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 -auto-ilp32 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

403.gcc: basepeak = yes

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)  
-ansi-alias -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -auto-ilp32

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

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 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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

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/smartheap -lsmartheap

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## Peak Optimization Flags (Continued)

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.html>

[http://www.spec.org/cpu2006/flags/RX900S2\\_Platform.html](http://www.spec.org/cpu2006/flags/RX900S2_Platform.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.xml>

[http://www.spec.org/cpu2006/flags/RX900S2\\_Platform.xml](http://www.spec.org/cpu2006/flags/RX900S2_Platform.xml)

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

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