



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 499

PRIMERGY RX600 S6, Intel Xeon E7-4807, 1.87 GHz

SPECint\_rate\_base2006 = 462

CPU2006 license: 19

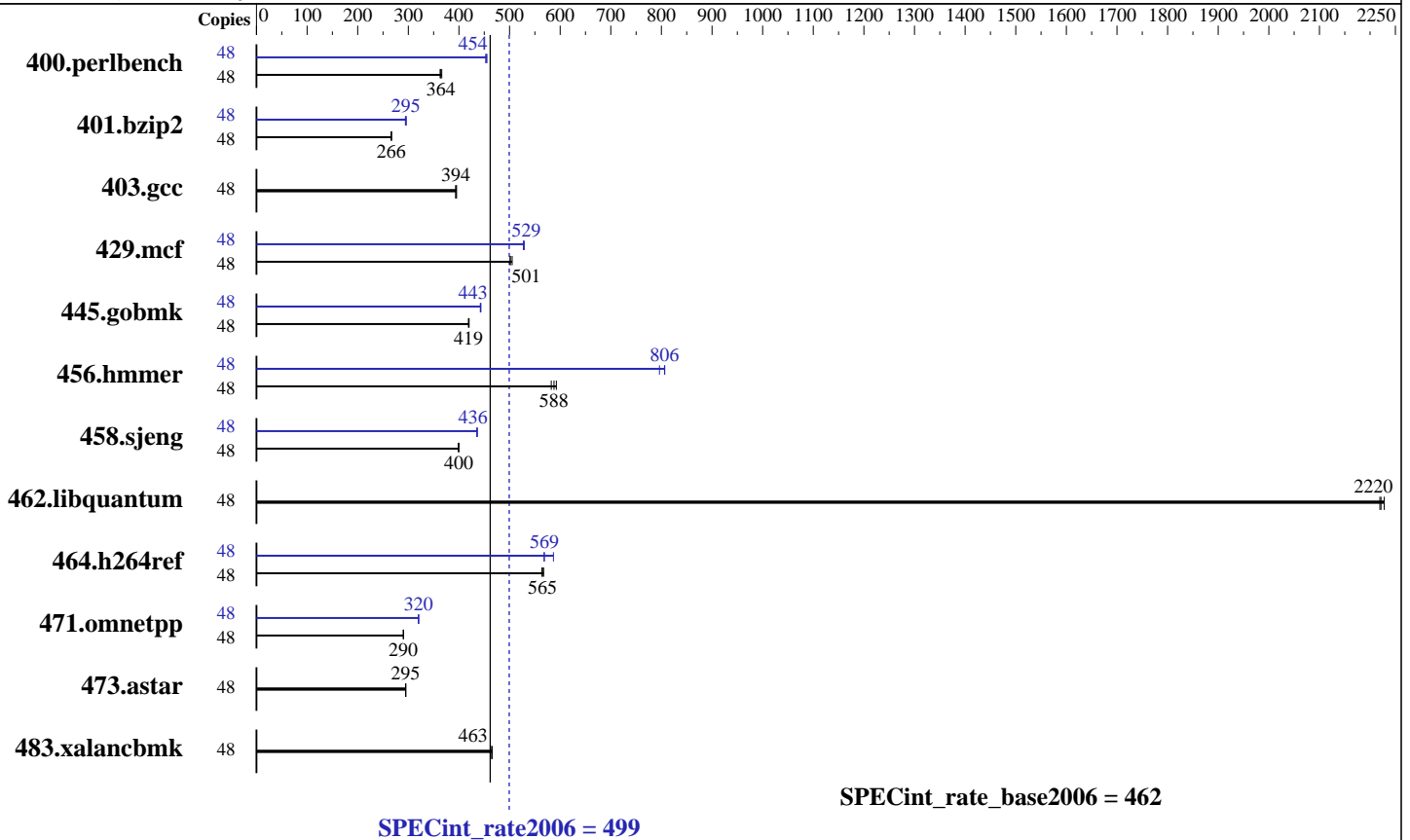
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2011

Hardware Availability: Jul-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E7-4807  
 CPU Characteristics: 1867  
 CPU MHz: 1867  
 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: 512 GB (64 x 8 GB 4Rx8 PC3L-8500R-7, ECC, running at 800 MHz)  
 Disk Subsystem: 1 x SAS, 600 GB, 10000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) SP1, 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: ext3  
 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	48	<b><u>1288</u></b>	<b><u>364</u></b>	1293	363	1281	366	48	<b><u>1033</u></b>	<b><u>454</u></b>	1030	455	1035	453
401.bzip2	48	1736	267	<b><u>1738</u></b>	<b><u>266</u></b>	1739	266	48	1565	296	1574	294	<b><u>1569</u></b>	<b><u>295</u></b>
403.gcc	48	<b><u>980</u></b>	<b><u>394</u></b>	982	393	977	395	48	<b><u>980</u></b>	<b><u>394</u></b>	982	393	977	395
429.mcf	48	874	501	867	505	<b><u>873</u></b>	<b><u>501</u></b>	48	830	527	828	529	<b><u>828</u></b>	<b><u>529</u></b>
445.gobmk	48	1199	420	<b><u>1201</u></b>	<b><u>419</u></b>	1202	419	48	<b><u>1136</u></b>	<b><u>443</u></b>	1136	443	1139	442
456.hammer	48	<b><u>762</u></b>	<b><u>588</u></b>	769	582	756	592	48	563	796	555	807	<b><u>556</u></b>	<b><u>806</u></b>
458.sjeng	48	<b><u>1453</u></b>	<b><u>400</u></b>	1457	399	1453	400	48	1332	436	<b><u>1332</u></b>	<b><u>436</u></b>	1334	435
462.libquantum	48	448	2220	<b><u>448</u></b>	<b><u>2220</u></b>	446	2230	48	448	2220	<b><u>448</u></b>	<b><u>2220</u></b>	446	2230
464.h264ref	48	1884	564	<b><u>1879</u></b>	<b><u>565</u></b>	1872	567	48	1811	587	<b><u>1867</u></b>	<b><u>569</u></b>	1870	568
471.omnetpp	48	1034	290	1032	291	<b><u>1033</u></b>	<b><u>290</u></b>	48	<b><u>937</u></b>	<b><u>320</u></b>	937	320	937	320
473.astar	48	1142	295	<b><u>1143</u></b>	<b><u>295</u></b>	1143	295	48	1142	295	<b><u>1143</u></b>	<b><u>295</u></b>	1143	295
483.xalancbmk	48	711	466	717	462	<b><u>715</u></b>	<b><u>463</u></b>	48	711	466	717	462	<b><u>715</u></b>	<b><u>463</u></b>

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

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'nodet /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 43200 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable  
Performance/Power Setting = Traditional

## General Notes

Binaries were compiled on RHEL5.5  
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## Base Compiler Invocation

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

## 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

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## Peak Compiler Invocation (Continued)

C++ benchmarks:  
icpc -m32

## Peak Portability Flags

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

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## 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/smartheap -lsmartheap
```

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/Fujitsu-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.20110316.xml>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.xml>

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

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