# SPEC® CINT2006 Result

## Huawei

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<tr>
<th>SPECint2006</th>
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<tbody>
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**CPU2006 license:** 3175  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Test date:** Apr-2011  
**Hardware Availability:** Apr-2011  
**Software Availability:** Jan-2011  

### SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was customized in a manner that did not meet SPEC's requirements for documented and supported systems.

**400.perlbench**  
**401.bzip2**  
**403.gcc**  
**429.mcf**  
**445.gobmk**  
**456.hmmer**  
**458.sjeng**  
**462.libquantum**  
**464.h264ref**  
**471.omnetpp**  
**473.astar**  
**483.xalancbmk**

### Hardware

- **CPU Name:** Intel Xeon X5670  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.33 GHz  
- **CPU MHz:** 2933  
- **FPU:** Integrated  
- **CPU(s) enabled:** 12 cores, 2 chips, 6 cores/chip  
- **CPU(s) orderable:** 1,2 chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 256 KB I+D on chip per core  
- **L3 Cache:** 12 MB I+D on chip per chip  
- **Other Cache:** None

### Software

- **Operating System:** SUSE Linux Enterprise Server 11 SP1 (x86_64), 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

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*Standard Performance Evaluation Corporation  
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http://www.spec.org/  
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Results Table

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<tr>
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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.
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages.
'echo 900 > /proc/sys/vm/nr_hugepages'
'export HUGETLB_MORECORE=yes'
'export LD_PRELOAD=/usr/lib64/libhugetlbfs.so'

Platform Notes

Data Reuse Optimization disabled in BIOS Setup.
Intel HT technology Disabled in BIOS Setup.
Huawei BH620, Intel Xeon X5670

SPECint2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
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General Notes
Binaries compiled on RHEL 5.5
OMP_NUM_THREADS set to number of cores

Base Compiler Invocation
C benchmarks:
- icc -m64
C++ benchmarks:
- icpc -m64

Base Portability Flags
-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
-DSPEC_CPU_LP64
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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 /smarthepad /smarthepad64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
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Huawei BH620, Intel Xeon X5670

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### 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`

C++ benchmarks (except as noted below):

- `icpc -m32`
- `473.astar`: `icpc -m64`

### Peak Portability Flags

- `400.perlbench`: `-DSPEC_CPU_LINUX_IA32`
- `401.bzip2`: `-DSPEC_CPU_LP64`
- `403.gcc`: `-DSPEC_CPU_LP64`
- `437.hmmer`: `-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_LINUX`
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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,-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 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-cALLOC
-Opt-malLoc-opt-pass3 -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 -prof-use (pass 2) -auto-ilp32 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

445.gobmk: -xSSE4.2 (pass 2) -prof-gen (pass 1) -prof-use (pass 2)
-ipo -O3 -auto-ilp32 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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 -prof-use (pass 2)

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2) -no-prec-div -prof-use (pass 2) -unroll2 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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Huawei BH620, Intel Xeon X5670

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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-used (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: `-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=routine -Wl,-z,muldefs -L/smartheap -lsmartheap -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

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

### Peak Other Flags

**C benchmarks:**

- 403.gcc: `-Dalloca=_alloca`

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


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

- [http://www.spec.org/cpu2006/flags/HUAWEI-platform-linux64-revB.xml](http://www.spec.org/cpu2006/flags/HUAWEI-platform-linux64-revB.xml)
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