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<table>
<thead>
<tr>
<th>Perlbench</th>
<th>Bzip2</th>
<th>Gcc</th>
<th>Mcf</th>
<th>Gobmk</th>
<th>Hmmer</th>
<th>Sjeng</th>
<th>Libquantum</th>
<th>H264ref</th>
<th>Omnetpp</th>
<th>Astart</th>
<th>Xalancbmk</th>
</tr>
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<tr>
<td>400</td>
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<td>403</td>
<td>429</td>
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<td>462</td>
<td>464</td>
<td>471</td>
<td>473</td>
<td>483</td>
<td></td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon E5606
- **CPU Characteristics:**
  - CPU MHz: 2133
  - FPU: Integrated
  - CPU(s) enabled: 8 cores, 2 chips, 4 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: 8 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

---

SPEC® CINT2006 Result
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Huawei

Huawei XH620, Intel Xeon E5606

SPECint®2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: May-2011
Hardware Availability: May-2011
Software Availability: Jan-2011

Non-compliant
Huawei
Huawei XH620, Intel Xeon E5606

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Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 300 GB SAS, 15K RPM
Other Hardware: None
Other Software: Microquill SmartHeap V9.01

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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</tbody>
</table>

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 Re Use Optimization disabled in BIOS Setup.
Huawei

**Huawei XH620, Intel Xeon E5606**

<table>
<thead>
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**CPU2006 license:** 3175  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Test date:** May-2011  
**Hardware Availability:** May-2011  
**Software Availability:** Jan-2011

---

**General Notes**

Binaries compiled on RHHEL 5.5  
OMP_NUM_THREADS set to number of cores

---

**Base Compiler Invocation**

**C benchmarks:**

```
icc  -m64
```

**C++ benchmarks:**

```
icpc -m64
```

---

**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
```

---

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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 -m64
471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
464.h264ref: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
471.omnetpp: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Non-Compliant
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Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pas 2) -prof-gen(pas 1) -prof-use(pas 2)
   -03(pas 2) -no-prec-div(pas 2) -prof-use(pas 2)
   -opt-prefetch -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

401.bzip2: -xSSE4.2(pas 2) -prof-gen(pas 1) -ipo(pas 2)
   -03(pas 2) -no-prec-div -prof-use(pas 2) -auto-ilp32
   -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
   -opt-malloc-options=3 -auto-ilp32
   -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -xSSE4.2(pas 2) -prof-gen(pas 1) -ipo(pas 2)
   -03(pas 2) -no-prec-div(pas 2) -prof-use(pas 2)
   -auto-ilp32 -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xSSE4.2(pas 2) -prof-gen(pas 1) -prof-use(pas 2)
   -O3 -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
   -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xSSE4.2(pas 2) -prof-gen(pas 1) -ipo(pas 2)
   -03(pas 2) -no-prec-div(pas 2) -prof-use(pas 2)
   -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pas 2) -prof-gen(pas 1) -ipo(pas 2)
   -03(pas 2) -no-prec-div(pas 2) -prof-use(pas 2)
   -unrll2 -ansi-alias
   -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Continued on next page
Huawei
Huawei XH620, Intel Xeon E5606

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-1 (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.html
http://www.spec.org/cpu2006/flags/HUAWEI-platform-linux64-revB.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/HUAWEI-platform-linux64-revB.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Originally published on 21 June 2011.

Non-Compliant