Huawei

Huawei E9000 CH121 (Intel Xeon E5-2670)

**CPU2006 license:** 3175  
**Test date:** Aug-2013  
**Test sponsor:** Huawei  
**Hardware Availability:** Aug-2012

**Tested by:** Huawei  
**Software Availability:** Jun-2013

**SPECint_rate2006 = 645**  
**SPECint_rate_base2006 = 624**

### Hardware

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<tr>
<th>Test</th>
<th>Copies</th>
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<td>33</td>
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<tr>
<td>401.bzip2</td>
<td>32</td>
<td>346</td>
<td>332</td>
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<td>429.mcf</td>
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<tr>
<td>473.astar</td>
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<tr>
<td>483.xalancbmk</td>
<td>32</td>
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</tbody>
</table>

**Software**

| Operating System | Red Hat Enterprise Linux Server release 6.4 (Santiago)  
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Compiler</td>
<td>C/C++: Version 13.0.1.117 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
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<td>File System</td>
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<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
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<tr>
<td>Base Pointers</td>
<td>32-bit</td>
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<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>

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info@spec.org  
http://www.spec.org/
Huawei E9000 CH121 (Intel Xeon E5-2670)

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

SPECint_rate2006 = 645
SPECint_rate_base2006 = 624

Results Table

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</table>

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /opt/spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on e2670.huawei.com Fri Aug 16 12:26:57 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2670 0 @ 2.60GHz
  2 "physical id"s (chips)
  32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 8
siblings : 16

Continued on next page
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**Platform Notes (Continued)**

```
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

From `/proc/meminfo`
- MemTotal: 132119764 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

From `/etc/*release* /etc/*version*
- redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
- system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

```
uname -a:
Linux e2670.huawei.com 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Aug 15 16:42

```
SPEC is set to: /opt/spec
```

```
Filesystem    Type    Size  Used Avail Use% Mounted on
/dev/sda3     ext4    218G   40G  168G  19% /opt
```

Additional information from dmidecode:
- BIOS Insyde Corp. OARYV030 04/07/2013
- Memory:
  - 16x Hynix HMT41GR7MFR8C-PB 8 GB 1600 MHz
  - 8x NO DIMM NO DIMM

(End of data from sysinfo program)

**General Notes**

Environment variables set by runspec before the start of the run:
```
LD_LIBRARY_PATH = "/opt/spec/libs/32:/opt/spec/libs/64:/opt/spec/sh"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
- Transparent Huge Pages enabled with:
  - echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
- Filesystem cache cleared with:
  - echo 1 > /proc/sys/vm/drop_caches
- runspec command invoked through numactl i.e.:
  - numactl --interleave=all runspec <etc>
- The Huawei E9000 CH121 and
- the Huawei E9000 CH220 and
- the Huawei E9000 CH221 and

Continued on next page
Huawei

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General Notes (Continued)
the Huawei E9000 CH222 models are electronically equivalent. The results have been measured on a Huawei E9000 CH121 model.

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 -opt-mem-layout-trans=3

C++ benchmarks:
   -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
   -Wl,-z,muldefs -L/opt/spec/sh -lsmartheap

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

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SPEC CINT2006 Result

Huawei
Huawei E9000 CH121 (Intel Xeon E5-2670)

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Peak Compiler Invocation (Continued)

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
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) -auto-ilp32
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
403.gcc: -xsSE4.2 -ipo -O3 -no-prec-div
429.mcf: basepeak = yes
445.gobmk: -xsSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xsSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
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
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:

```bash
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/opt/spec/sh -lsmartheap
```

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

---

### Peak Other Flags

C benchmarks:

```bash
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-ic13-official-linux64.html](http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html)

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

- [http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml)

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For other inquiries, please contact webmaster@spec.org.

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