NEC Corporation

Express5800/120Rg-1 (Intel Xeon processor 5160)

**SPECint®_rate2006 = 58.0**

**SPECint_rate_base2006 = 55.4**

**Hardware**

- **CPU Name:** Intel Xeon 5160
- **CPU Characteristics:** 3.00 GHz, 4MB L2, 1333MHz bus
- **CPU MHz:** 3000
- **FPU:** Integrated
- **CPU(s) enabled:** 4 cores, 2 chips, 2 cores/chip
- **CPU(s) orderable:** 1.2 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 4 MB I+D on chip per chip
- **L3 Cache:** None
- **Other Cache:** None
- **Memory:** 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
- **Disk Subsystem:** 1x146.5 GB SAS, 15000RPM
- **Other Hardware:** None

**Software**

- **Operating System:** 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86, 64
- **Compiler:** Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049
- **Auto Parallel:** No
- **File System:** ReiserFS
- **System State:** Multiuser, Runlevel 3
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** MicroQuill SmartHeap Library 8.1

**Test date:** May-2007

**Hardware Availability:** May-2007

**Software Availability:** Apr-2007
## Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<th>Seconds</th>
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<tr>
<td>400.perlbench</td>
<td>4</td>
<td>502</td>
<td>77.9</td>
<td>509</td>
<td>78.3</td>
<td><strong>501</strong></td>
<td><strong>78.0</strong></td>
<td>4</td>
<td>463</td>
<td><strong>84.4</strong></td>
<td>462</td>
<td>84.7</td>
<td>464</td>
</tr>
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<td>401.bzip2</td>
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<td>858</td>
<td>45.0</td>
<td>848</td>
<td>45.5</td>
<td><strong>851</strong></td>
<td><strong>45.3</strong></td>
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<td>811</td>
<td>47.6</td>
<td>817</td>
<td>47.3</td>
<td><strong>813</strong></td>
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<tr>
<td>403.gcc</td>
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<td>623</td>
<td>51.7</td>
<td>619</td>
<td>52.0</td>
<td>617</td>
<td>52.1</td>
<td>4</td>
<td>623</td>
<td>51.7</td>
<td><strong>619</strong></td>
<td><strong>52.0</strong></td>
<td>617</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>810</td>
<td>45.0</td>
<td>809</td>
<td>45.1</td>
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<td><strong>45.1</strong></td>
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<td>44.5</td>
<td>820</td>
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<td>445.gobmk</td>
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<td>462.libquantum</td>
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<td>731</td>
<td>121</td>
<td>732</td>
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<tr>
<td>471.omnetpp</td>
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<td><strong>34.9</strong></td>
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<td>720</td>
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<td><strong>71.5</strong></td>
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<td>71.6</td>
<td><strong>386</strong></td>
<td><strong>71.5</strong></td>
<td>386</td>
</tr>
</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
'/usr/bin/taskset' used to bind processes to CPUs

## General Notes

The system bus runs at 1333 MHz
All binaries were built with 32-bit Intel compiler except:
401.bzip2, 456.hmmer and 462.libquantum in peak were built with
64-bit Intel compiler by changing the path for include and library files.

The Express5800/120Rg-1 and the Express5800/120Ri-2 models are
electronically equivalent.
The results have been measured on a Express5800/120Ri-2 model.

## Base Compiler Invocation

C benchmarks:
  icc

C++ benchmarks:
  icpc
SPEC CINT2006 Result

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Express5800/120Rg-1
(Intel Xeon processor 5160)

SPECint\textsubscript{rate}2006 = 58.0
SPECint\textsubscript{rate base}2006 = 55.4

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Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_X64
462.libquantum: -DSPEC\_CPU\_LINUX
483.xalancbmk: -DSPEC\_CPU\_LINUX

Base Optimization Flags

C benchmarks:
- fast

C++ benchmarks:
- -xP -O3 -ipo -no-prec-div -L/opt/SmartHeap\_8.1/lib -lsmartheap

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc
    401.bzip2: /opt/intel/cce/9.1.049/bin/icc
                -I/opt/intel/cce/9.1.049/include
                -L/opt/intel/cce/9.1.049/lib
    456.hmmer: /opt/intel/cce/9.1.049/bin/icc
                -I/opt/intel/cce/9.1.049/include
                -L/opt/intel/cce/9.1.049/lib
    462.libquantum: /opt/intel/cce/9.1.049/bin/icc
                   -I/opt/intel/cce/9.1.049/include
                   -L/opt/intel/cce/9.1.049/lib

C++ benchmarks:
    icpc

Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_X64
401.bzip2: -DSPEC\_CPU\_LP64
456.hmmer: -DSPEC\_CPU\_LP64
462.libquantum: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX
483.xalancbmk: -DSPEC\_CPU\_LINUX
SPEC CINT2006 Result
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(Intel Xeon processor 5160)

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SPECint_rate_base2006 = 55.4

CPU2006 license: 9006
Test sponsor: NEC Corporation
Test date: May-2007
Hardware Availability: May-2007
Tested by: NEC Corporation
Software Availability: Apr-2007

Peak Optimization Flags

C benchmarks:
400.perlbench: -prof_gen(pass 1) -prof_use(pass 2) -fast
401.bzip2: -fast
403.gcc: basepeak = yes
429.mcf: -prof_gen(pass 1) -prof_use(pass 2) -fast
-L/opt/SmartHeap_8.1/lib -lsmartheap
445.gobmk: Same as 429.mcf
456.hmmer: Same as 400.perlbench
458.sjeng: Same as 429.mcf
462.libquantum: Same as 400.perlbench
464.h264ref: Same as 429.mcf

C++ benchmarks:
471.omnetpp: -prof_gen(pass 1) -prof_use(pass 2) -xP -O3 -ipo
-no-prec-div -L/opt/SmartHeap_8.1/lib -lsmartheap
473.astar: -prof_gen(pass 1) -prof_use(pass 2) -fast
-L/opt/SmartHeap_8.1/lib -lsmartheap
483.xalancbmk: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.xml

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

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