### NEC Corporation

**Express5800/120Ri-2**

(Intel Xeon processor 5110)

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Jun-2007</th>
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</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>May-2007</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Apr-2007</td>
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<table>
<thead>
<tr>
<th>SPECint®2006 = 11.3</th>
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<tbody>
<tr>
<td>SPECint_base2006 = 10.6</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 9006

**Tested by:** NEC Corporation

| Software Availability: | Apr-2007 |

#### Hardware

<table>
<thead>
<tr>
<th>Pattern</th>
<th>CPU Name:</th>
<th>CPU Characteristics:</th>
<th>CPU MHz:</th>
<th>FPU:</th>
<th>CPU(s) enabled:</th>
<th>CPU(s) orderable:</th>
<th>Primary Cache:</th>
<th>Secondary Cache:</th>
<th>L3 Cache:</th>
<th>Other Cache:</th>
<th>Memory:</th>
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</thead>
<tbody>
<tr>
<td>perlbench</td>
<td>Intel Xeon 5110</td>
<td>1.60 GHz, 4MB L2, 1066MHz bus</td>
<td>1600</td>
<td>Integrated</td>
<td>4 cores, 2 chips, 2 cores/chip</td>
<td>1.2 chips</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>4 MB I+D on chip per chip</td>
<td>None</td>
<td>None</td>
<td>8 GB (4x2 GB DDR2 5300F, 2 rank. CL5-5-5, ECC)</td>
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<td>bzip2</td>
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<td>xalancbmk</td>
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#### Software

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<tr>
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<tbody>
<tr>
<td>perlbench</td>
<td>64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86_64</td>
<td>Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049</td>
<td>No</td>
<td>ReiserFS</td>
<td>Multiuser, Runlevel 3</td>
<td>32-bit</td>
<td>32/64-bit</td>
<td>MicroQuill SmartHeap Library 8.1</td>
</tr>
</tbody>
</table>
## SPEC CINT2006 Result

### NEC Corporation

Express5800/120Ri-2  
(Intel Xeon processor 5110)

**SPECint2006 = 11.3**

**SPECint_base2006 = 10.6**

---

**CPU2006 license:** 9006  
**Test sponsor:** NEC Corporation  
**Tested by:** NEC Corporation

**Test date:** Jun-2007  
**Hardware Availability:** May-2007  
**Software Availability:** Apr-2007

---

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>445.gobmk</td>
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<td>456.hmmer</td>
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<td>458.sjeng</td>
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<td>462.libquantum</td>
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<td>483.xalancbmk</td>
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<td>14.0</td>
<td>491</td>
<td>14.1</td>
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</tbody>
</table>

### Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

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### General Notes

The system bus runs at 1066 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.

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### Base Compiler Invocation

- **C** benchmarks:  
  icc

- **C++** benchmarks:  
  icpc
SPEC CINT2006 Result

NEC Corporation
Express5800/120Ri-2
(Intel Xeon processor 5110)

SPECint2006 = 11.3
SPECint_base2006 = 10.6

CPU2006 license: 9006
Test sponsor: NEC Corporation
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Test date: Jun-2007
Hardware Availability: May-2007
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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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### 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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