NEC Corporation
Express5800/120Rg-1
(Intel Xeon processor X5355)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>18.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>17.2</td>
</tr>
</tbody>
</table>

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

Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon X5355</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2666</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>8 cores, 2 chips, 4 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>2 chips</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>8 MB I+D on chip per chip, 4 MB shared / 2 cores</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1x73.2 GB SAS, 15000RPM</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Operating System:</th>
<th>64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>Intel C++ Compiler for IA32/EM64T application, Version 10.0 - Build 20070426 Package ID: l_cc_p_10.0.023</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>ext2</td>
</tr>
<tr>
<td>System State:</td>
<td>Multiuser, Runlevel 3</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>MicroQuill SmartHeap library 8.1, binutils-2.17.tar.gz, Version 2.17</td>
</tr>
</tbody>
</table>
SPEC CINT2006 Result

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SPECint_base2006 = 17.2

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Test date: Jun-2007
Hardware Availability: Jan-2007
Software Availability: Jun-2007

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>544</td>
<td>17.9</td>
<td>547</td>
<td>17.9</td>
<td>547</td>
<td>17.9</td>
<td>463</td>
<td>21.1</td>
<td>460</td>
<td>21.2</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>719</td>
<td>13.4</td>
<td>714</td>
<td>13.5</td>
<td>719</td>
<td>13.4</td>
<td>670</td>
<td>14.4</td>
<td>679</td>
<td>14.2</td>
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<tr>
<td>402.gcc</td>
<td>489</td>
<td>16.5</td>
<td>489</td>
<td>16.4</td>
<td>489</td>
<td>16.5</td>
<td>489</td>
<td>16.5</td>
<td>489</td>
<td>16.5</td>
</tr>
<tr>
<td>429.mcf</td>
<td>490</td>
<td>18.6</td>
<td>491</td>
<td>18.6</td>
<td>490</td>
<td>18.6</td>
<td>465</td>
<td>19.6</td>
<td>466</td>
<td>19.6</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>598</td>
<td>17.5</td>
<td>599</td>
<td>17.5</td>
<td>598</td>
<td>17.5</td>
<td>548</td>
<td>19.1</td>
<td>548</td>
<td>19.1</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>667</td>
<td>14.0</td>
<td>667</td>
<td>14.0</td>
<td>667</td>
<td>14.0</td>
<td>527</td>
<td>17.7</td>
<td>527</td>
<td>17.7</td>
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<tr>
<td>458.sjeng</td>
<td>778</td>
<td>15.6</td>
<td>778</td>
<td>15.6</td>
<td>774</td>
<td>15.6</td>
<td>698</td>
<td>17.3</td>
<td>695</td>
<td>17.4</td>
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<tr>
<td>462.libquantum</td>
<td>863</td>
<td>24.0</td>
<td>862</td>
<td>24.0</td>
<td>861</td>
<td>24.1</td>
<td>697</td>
<td>29.7</td>
<td>697</td>
<td>29.7</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>800</td>
<td>27.6</td>
<td>804</td>
<td>27.5</td>
<td>803</td>
<td>27.6</td>
<td>758</td>
<td>29.2</td>
<td>758</td>
<td>29.2</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>486</td>
<td>12.9</td>
<td>484</td>
<td>12.9</td>
<td>484</td>
<td>12.9</td>
<td>450</td>
<td>13.9</td>
<td>451</td>
<td>13.9</td>
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<tr>
<td>473.astar</td>
<td>549</td>
<td>12.8</td>
<td>548</td>
<td>12.8</td>
<td>546</td>
<td>12.9</td>
<td>509</td>
<td>13.8</td>
<td>502</td>
<td>14.0</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 stack size to unlimited prior to run.

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode.

The Express5800/120Rg-1(Intel Xeon processor X5355) and
the Express5800/120Ri-2(Intel Xeon processor X5355) models are electronically equivalent. The results have been measured on a Express5800/120Ri-2(Intel Xeon processor X5355) model.

Base Compiler Invocation

C benchmarks: icc
C++ benchmarks: icpc
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Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
- fast

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/cce/10.0.023/bin/icc
456.hmmer: /opt/intel/cce/10.0.023/bin/icc

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -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 -ansi-alias
-prefetch

401.bzip2: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
-prof-gen(pass 1) -prof-use(pass 2) -fast

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
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You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic10-linux-flags.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 v1.0.