Fujitsu Siemens Computers

PRIMERGY RX300 S4, Intel Xeon E5440, 2.83 GHz

SPECint\_rate2006 = 70.7
SPECint\_rate\_base2006 = 59.3

<table>
<thead>
<tr>
<th>SPECbench</th>
<th>SPECint_rate2006</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench</td>
<td>59.6</td>
<td>71.5</td>
</tr>
<tr>
<td>bzip2</td>
<td>55.9</td>
<td>57.9</td>
</tr>
<tr>
<td>gcc</td>
<td>57.0</td>
<td>56.0</td>
</tr>
<tr>
<td>mcf</td>
<td>54.0</td>
<td>77.9</td>
</tr>
<tr>
<td>gobmk</td>
<td>71.7</td>
<td>102</td>
</tr>
<tr>
<td>hmmer</td>
<td>59.6</td>
<td>75.4</td>
</tr>
<tr>
<td>sjeng</td>
<td>67.4</td>
<td>89.2</td>
</tr>
<tr>
<td>libquantum</td>
<td>34.9</td>
<td>89.2</td>
</tr>
<tr>
<td>h264ref</td>
<td>42.0</td>
<td>119</td>
</tr>
<tr>
<td>omnetpp</td>
<td>40.0</td>
<td>46.5</td>
</tr>
<tr>
<td>astar</td>
<td>43.2</td>
<td>73.7</td>
</tr>
<tr>
<td>xalancbmk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hardware

- CPU Name: Intel Xeon E5440
- CPU Characteristics: 1333 MHz system bus
- CPU MHz: 2833
- FPU: Integrated
- CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
- CPU(s) orderable: 1.2 chips
- Primary Cache: 32 KB I + 32 KB D on chip per core
- Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
- L3 Cache: None
- Other Cache: None
- Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)
- Disk Subsystem: 1x SAS, 73 GB, 15000 rpm
- Other Hardware: None

Software

- Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
- Compiler: Intel C++ Compiler for Linux32 and Linux64, Version 10.1, Build 20070913
- Auto Parallel: Yes
- File System: ext2
- System State: Multi-User Run Level 3
- Base Pointers: 32-bit
- Peak Pointers: 32/64-bit
- Other Software: MicroQuill SmartHeap Library, Version 8.1, binutils-2.17.50.0.5-0.1.x86_64
## SPEC CINT2006 Result

**Fujitsu Siemens Computers**

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**CPU2006 license:** 22  
**Test date:** Jun-2008

**Test sponsor:** Fujitsu Siemens Computers  
**Tested by:** Fujitsu Siemens Computers  
**Hardware Availability:** Dec-2007  
**Software Availability:** Nov-2007

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Seconds</td>
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<tr>
<td>perlbench</td>
<td>4</td>
<td>547</td>
</tr>
<tr>
<td>bzip2</td>
<td>4</td>
<td>690</td>
</tr>
<tr>
<td>gcc</td>
<td>4</td>
<td>563</td>
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<tr>
<td>mcf</td>
<td>4</td>
<td>681</td>
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<tr>
<td>gbench</td>
<td>4</td>
<td>579</td>
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<tr>
<td>bzip2</td>
<td>4</td>
<td>626</td>
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<tr>
<td>gcc</td>
<td>4</td>
<td>716</td>
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<tr>
<td>h2ref</td>
<td>4</td>
<td>742</td>
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<tr>
<td>omp</td>
<td>4</td>
<td>627</td>
</tr>
<tr>
<td>astar</td>
<td>4</td>
<td>656</td>
</tr>
<tr>
<td>xalancbmk</td>
<td>4</td>
<td>376</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  
OMP_NUM_THREADS set to number of cores (default)

### Platform Notes

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Disable

### General Notes

All binaries were built with 32-bit Intel compiler except:  
401.bzip2 and 456.hmmer in peak were built with 64-bit Intel  
compiler by changing the path for include and library files.

For information about Fujitsu Siemens Computers please see:  
http://www.fujitsu-siemens.com

### 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:
- \texttt{-fast -inline-calloc -opt-malloc-options=3}

C++ benchmarks:
- \texttt{-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap}

### Base Other Flags

C benchmarks:
- 403.gcc: \texttt{-Dalloca=_alloca}

### Peak Compiler Invocation

C benchmarks (except as noted below):
- \texttt{icc}

- \texttt{401.bzip2: /opt/intel/cce/10.1.008/bin/icc -L/opt/intel/cce/10.1.008/lib -I/opt/intel/cce/10.1.008/include}

- \texttt{456.hmmer: /opt/intel/cce/10.1.008/bin/icc -L/opt/intel/cce/10.1.008/lib -I/opt/intel/cce/10.1.008/include}

C++ benchmarks:
- \texttt{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

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SPEC CINT2006 Result

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Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias}
\texttt{-prefetch}

401.bzip2: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch}

403.gcc: \texttt{-fast -inline-calloc -opt-malloc-options=3}

429.mcf: \texttt{-fast -prefetch}

445.gobmk: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -xT -02 -ipo}
\texttt{-no-prec-div -ansi-alias}

456.hmmer: \texttt{-fast -unroll2 -ansi-alias -opt-multi-version-aggressive}

458.sjeng: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll14}

462.libquantum: \texttt{-fast -unroll14 -Ob0 -prefetch}
\texttt{-opt-streaming-stores always -vec-guard-write}
\texttt{-opt-malloc-options=3 -parallel -par-runtime-control}

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

C++ benchmarks:

471.omnetpp: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -xT -03 -ipo}
\texttt{-no-prec-div -ansi-alias -opt-ra-region-strategy=block}
\texttt{-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap}

473.astar: \texttt{-prof-gen(pass 1) -prof-use(pass 2) -xT -03 -ipo}
\texttt{-no-prec-div -ansi-alias -opt-ra-region-strategy=routeine}
\texttt{-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmartheap}

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090713.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090713.01.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.
Report generated on Tue Jul 22 19:06:34 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 September 2008.