Bull SAS
NovaScale R440 E2
(Intel Xeon E5530, 2.40 GHz)

SPEC® CINT2006 Result

Test date: May-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: NEC Corporation

Hardware

- CPU Name: Intel Xeon E5530
- CPU Characteristics: Intel Turbo Boost Technology up to 2.66 GHz
- CPU MHz: 2400
- FPU: Integrated
- CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
- CPU(s) orderable: 1.2 chips
- Primary Cache: 32 KB I + 32 KB D on chip per core
- Secondary Cache: 256 KB I+D on chip per core
- L3 Cache: 8 MB I+D on chip per chip
- Other Cache: None
- Memory: 48 GB (12 X 4 GB PC3-8500R, 2 rank, CL7, ECC)
- Disk Subsystem: 1x146.5 GB SAS, 15000 RPM
- Other Hardware: None

Operating System: SUSE Linux Enterprise Server 10 (x86_64)
Compiler: Intel C++ Compiler Professional 11.0 for Linux
Build 20090131 Package ID: l_cproc_p_11.0.081
Auto Parallel: No
File System: ReiserFS
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 8.1
Binutils 2.18.50.0.7.20080502

SPEClnt_rate2006 = 209
SPEClnt_rate_base2006 = 195

SPEClnt_rate2006 = 209
SPEClnt_rate_base2006 = 195

Software
### 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 config file option 'submit' was used.
numactl was used to bind copies to the cores

### Operating System Notes

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

### Platform Notes

BIOS setting:
NUMA configuration: Enabled

### General Notes

The NEC Express5800/R120a-1(Intel Xeon E5530),
the NEC Express5800/R120a-2(Intel Xeon E5530),
the Bull NovaScale R440 E2 (Intel Xeon E5530, 2.40 GHz) and
the Bull NovaScale R460 E2 (Intel Xeon E5530, 2.40 GHz) models are electronically equivalent.
The results have been measured on a NEC Express5800/R120a-1(Intel Xeon E5530) model.

### Base Compiler Invocation

C benchmarks:
icc
**SPEC CINT2006 Result**

**Bull SAS**
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**Base Compiler Invocation (Continued)**

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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-cALLOC
-opt-mALLOC-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

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**Base Other Flags**

C benchmarks:

403.gcc: -Dalloca=_alloca

---

**Peak Compiler Invocation**

C benchmarks (except as noted below):

icc

- 401.bzip2: /opt/intel/Compiler/11.0/081/bin/intel64/icc
- 456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc
- 458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

- 473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/icpc
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Peek Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
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) -static (pass 2)
-prof-use (pass 2) -ansi-alias -opt-prefetch
401.bzip2: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-o3 (pass 2) -no-prec-div (pass 2) -static (pass 2)
-prof-use (pass 2) -opt-prefetch -ansi-alias -auto-ilp32
403.gcc: basepeak = yes
429.mcf: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-o3 (pass 2) -no-prec-div (pass 2) -static (pass 2)
-prof-use (pass 2) -opt-prefetch
445.gobmk: -xSSE4.2 (pass 2) -prof-gen (pass 1) -prof-use (pass 2) -O2
-ipo -no-prec-div -ansi-alias
456.hmmer: -xSSE4.2 -ipo -o3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32
458.sjeng: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-o3 (pass 2) -no-prec-div (pass 2) -static (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) -static (pass 2)
-prof-use (pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes
473.astar: -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=routine -auto-ilp32
## SPEC CINT2006 Result

### Bull SAS

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### Peak Optimization Flags (Continued)

473.astar (continued):
- `-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib64 -lsmartheap64`

483.xalancbmk: basepeak = yes

### Peak Other Flags

**C benchmarks:**

403.gcc: `-Dalloca=_alloca`

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The flags files that were used to format this result can be browsed at:


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