IBM Corporation
IBM System x3850 X5 (Intel Xeon E7-4830)

SPECint®_rate2006 = 778
SPECint_rate_base2006 = 724

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: May-2011
Hardware Availability: May-2011
Software Availability: Jan-2011

Hardware

<table>
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<tr>
<th>Test</th>
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Software

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<th>Operating System</th>
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<td>Peak Pointers</td>
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<td>Other Software</td>
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Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
IBM Corporation

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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
echo 1 > /proc/sys/vm/zone_reclaim_mode
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
echo 41600 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

BIOS Settings:
Turbo Boost Power Optimization set to Traditional

General Notes

Binaries were compiled on RHEL5.5

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### Base Compiler Invocation

C benchmarks:
- icc -m32
C++ benchmarks:
- icpc -m32

### 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 -opt-prefetch
- -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
C++ benchmarks:
- -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
- -L/smartheap -lsmartheap
- -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

### Base Other Flags

C benchmarks:
- 403.gcc: -Dalloca=_alloca

### Peak Compiler Invocation

C benchmarks (except as noted below):
- icc -m32

- 400.perlbench: icc -m64
- 401.bzip2: icc -m64
- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

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Peak Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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) -prof-use(pass 2)
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

    401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -opt-prefetch -auto-ilp32 -ansi-alias
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

    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) -prof-use(pass 2)
    -ansi-alias -auto-ilp32

    445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
    -ansi-alias -auto-ilp32

    456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

    458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
    -unroll14 -auto-ilp32
    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

    462.libquantum: basepeak = yes

    464.h264ref: basepeak = yes

Continued on next page
### Peak Optimization Flags (Continued)

C++ benchmarks:

- `471.omnetpp`: `-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=block -Wl,-z,muldefs -L/smartheap -lsmartheap`
- `473.astar`: `basepeak = yes`
- `483.xalancbmk`: `basepeak = yes`

### Peak Other Flags

C benchmarks:

- `403.gcc`: `-Dalloca=_alloca`

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: