SPEC® CINT2006 Result
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Dell Inc.

SPECint®_rate2006 = 704

PowerEdge R910 (Intel Xeon L7555, 1.86 GHz)
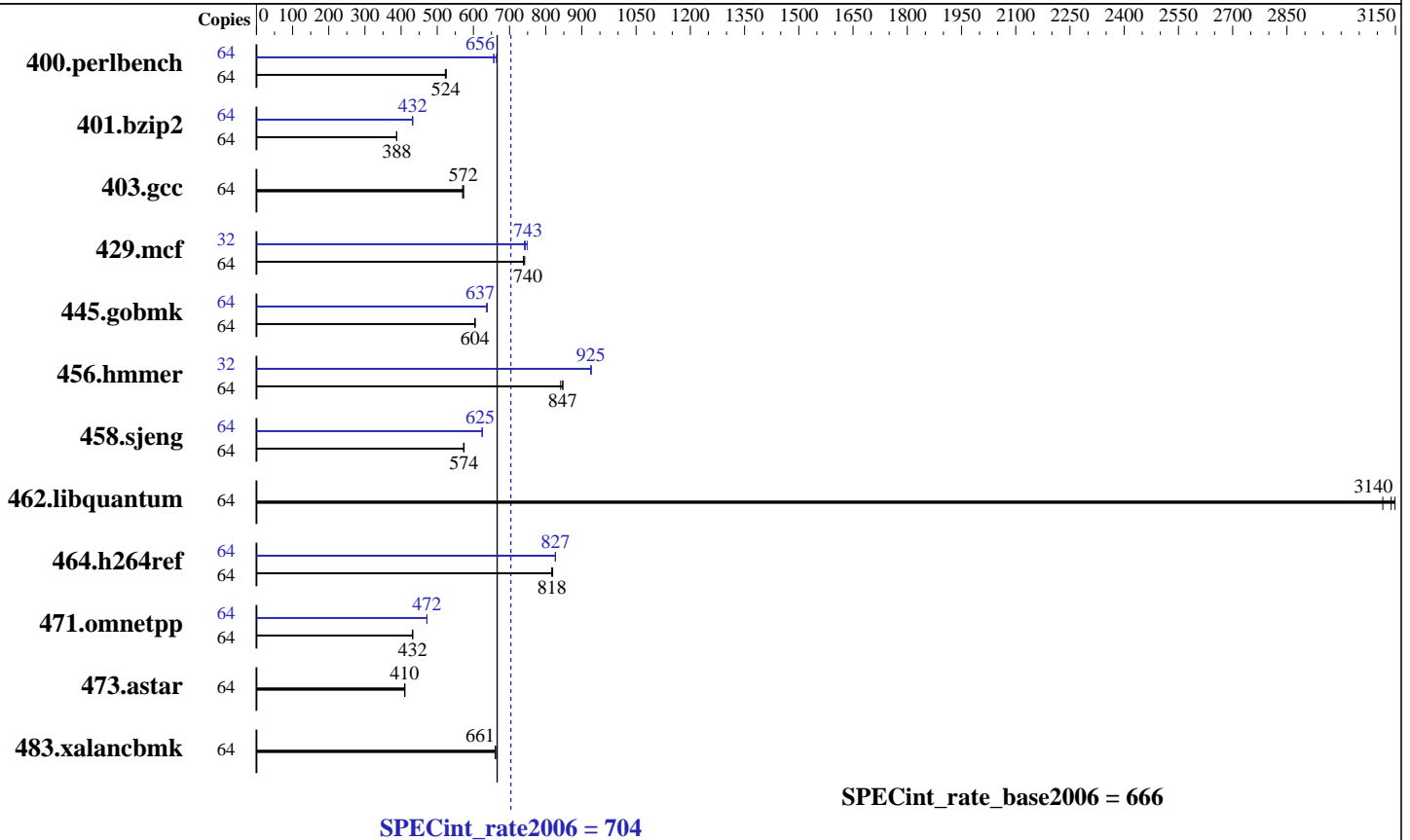
SPECint_rate_base2006 = 666

Copies		
400.perlbench	64	656
	64	524
401.bzip2	64	432
	64	388
403.gcc	64	572
429.mcf	32	743
	64	740
445.gobmk	64	637
	64	604
456.hmmer	32	925
	64	847
458.sjeng	64	625
	64	574
462.libquantum	64	3140
464.h264ref	64	827
	64	818
471.omnetpp	64	472
	64	432
473.astar	64	410
483.xalancbmk	64	661

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Hardware

CPU Name:	Intel Xeon L7555
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	1866
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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:	24 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (64 x 8 GB 4Rx8 PC3-8500R-7, ECC, running at 978 MHz)
Disk Subsystem:	1 x 500 GB 7200 RPM SAS 6Gb
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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CPU2006 license: 55	**Test date:** Apr-2011
Test sponsor: Dell Inc.	**Hardware Availability:** Jul-2011
Tested by: Dell Inc.	**Software Availability:** Jan-2011

Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	1197	522	1192	525	**1193**	**524**	64	953	656	**952**	**656**	942	664
401.bzip2	64	1594	388	**1592**	**388**	1592	388	64	1430	432	**1430**	**432**	1432	431
403.gcc	64	899	573	**901**	**572**	904	570	64	899	573	**901**	**572**	904	570
429.mcf	64	791	738	**789**	**740**	787	742	32	**393**	**743**	390	749	394	741
445.gobmk	64	1109	605	1112	604	**1111**	**604**	64	**1054**	**637**	1052	638	1054	637
456.hmmer	64	**705**	**847**	710	841	705	848	32	**323**	**925**	323	926	323	925
458.sjeng	64	**1350**	**574**	1352	573	1348	574	64	**1240**	**625**	1240	625	1241	624
462.libquantum	64	**423**	**3140**	426	3120	421	3150	64	**423**	**3140**	426	3120	421	3150
464.h264ref	64	1729	819	1734	817	**1732**	**818**	64	1714	827	**1713**	**827**	1712	827
471.omnetpp	64	926	432	927	432	**926**	**432**	64	**848**	**472**	849	471	848	472
473.astar	64	1096	410	1095	410	**1096**	**410**	64	1096	410	1095	410	**1096**	**410**
483.xalancbmk	64	668	661	**668**	**661**	668	661	64	668	661	**668**	**661**	668	661

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
    'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
    echo 57600 > /proc/sys/vm/nr_hugepages
    export HUGETLB_MORECORE=yes
    export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

```
    BIOS Settings:
    Power Management = Maximum Performance (Default = Active Power Controller)
```

General Notes

```
   The Dell PowerEdge R910 and
   the Bull NovaScale R480 F2 models are electronically equivalent.
   The results have been measured on a Dell PowerEdge R910 model.
   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

Continued on next page

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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)
                  -unroll4 -auto-ilp32
                  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      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) -prof-use(pass 2)
                  -unroll2 -ansi-alias

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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
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml

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