



SPEC® CINT2006 Result

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Intel Corporation

SPECint®2006 = 20.0

Lenovo SureServer R630 G7 (Intel Xeon L7455)

SPECint_base2006 = 17.4

CPU2006 license: 13

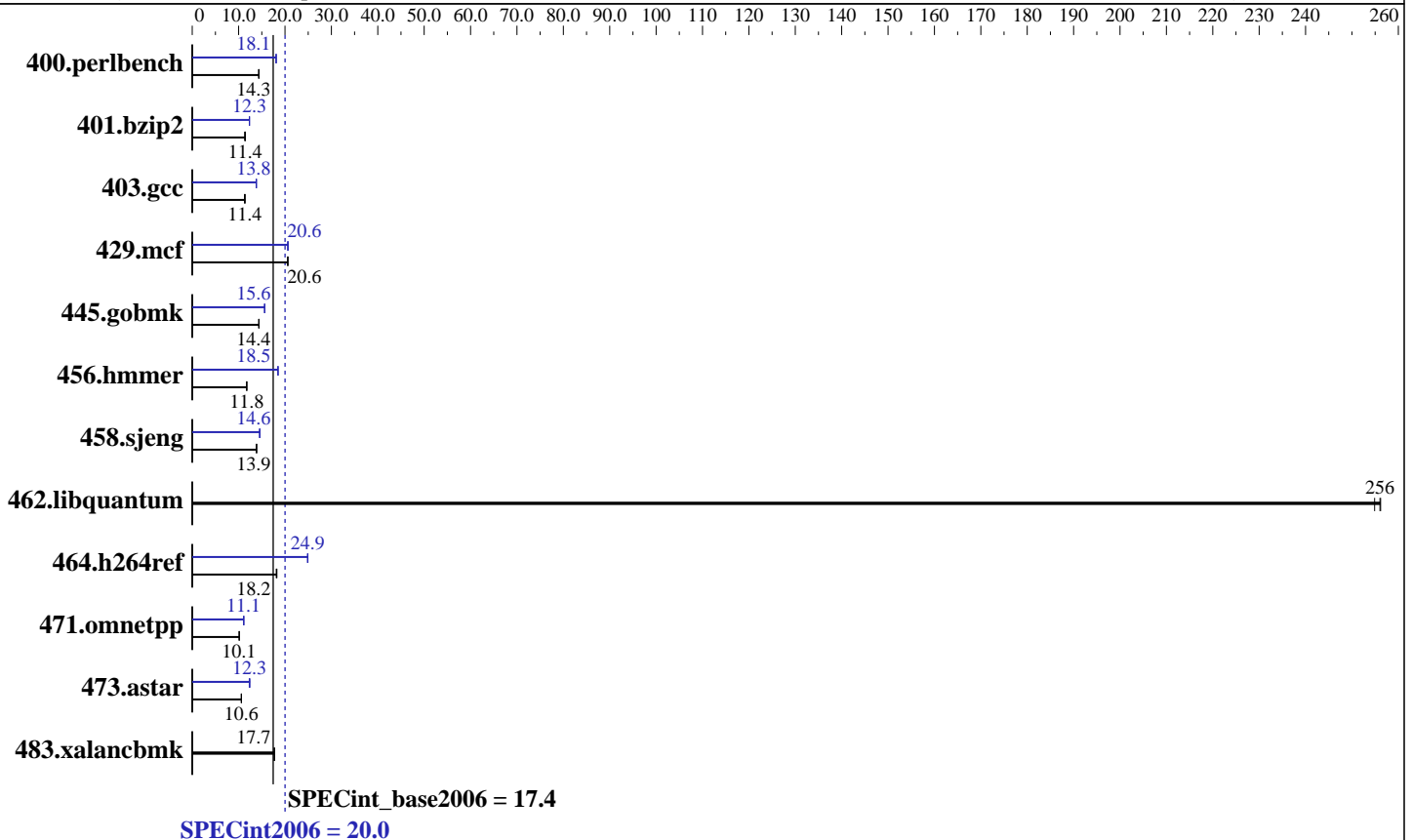
Test date: Sep-2008

Test sponsor: Intel Corporation

Hardware Availability: Sep-2008

Tested by: Intel Corporation

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon L7455
 CPU Characteristics:
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip
 CPU(s) orderable: 1,2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 9 MB I+D on chip per chip, 3 MB shared / 2 cores
 L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 32 GB(16 x2 GB Micron DDR2 5300F, CL5-5-5, ECC)
 Disk Subsystem: 73 GB Seagate SAS, 10K RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>681</u>	<u>14.3</u>	682	14.3	678	14.4	539	18.1	541	18.1	<u>541</u>	<u>18.1</u>
401.bzip2	854	11.3	841	11.5	<u>843</u>	<u>11.4</u>	783	12.3	782	12.3	<u>783</u>	<u>12.3</u>
403.gcc	714	11.3	<u>709</u>	<u>11.4</u>	706	11.4	582	13.8	<u>582</u>	<u>13.8</u>	583	13.8
429.mcf	444	20.6	442	20.6	<u>442</u>	<u>20.6</u>	442	20.7	443	20.6	<u>442</u>	<u>20.6</u>
445.gobmk	<u>730</u>	<u>14.4</u>	730	14.4	730	14.4	<u>672</u>	<u>15.6</u>	672	15.6	672	15.6
456.hmmmer	<u>794</u>	<u>11.8</u>	793	11.8	795	11.7	505	18.5	<u>505</u>	<u>18.5</u>	504	18.5
458.sjeng	873	13.9	<u>873</u>	<u>13.9</u>	873	13.9	830	14.6	834	14.5	<u>831</u>	<u>14.6</u>
462.libquantum	81.3	255	<u>80.9</u>	<u>256</u>	80.9	256	81.3	255	<u>80.9</u>	<u>256</u>	80.9	256
464.h264ref	1212	18.3	<u>1216</u>	<u>18.2</u>	1222	18.1	887	24.9	890	24.9	<u>889</u>	<u>24.9</u>
471.omnetpp	617	10.1	<u>617</u>	<u>10.1</u>	616	10.1	563	11.1	563	11.1	<u>563</u>	<u>11.1</u>
473.astar	662	10.6	<u>663</u>	<u>10.6</u>	663	10.6	571	12.3	564	12.4	<u>570</u>	<u>12.3</u>
483.xalancbmk	390	17.7	390	17.7	<u>390</u>	<u>17.7</u>	390	17.7	390	17.7	<u>390</u>	<u>17.7</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetcher: Enabled
High Bandwidth Option: Disabled

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Base Portability Flags

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



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Base Optimization Flags

C benchmarks:

```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch
```

C++ benchmarks:

```
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include
```

```
456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include
```

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
```

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -auto-ilp32 -opt-prefetch
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo
-no-prec-div -ansi-alias

456.hmmcr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalanbmk: 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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.14.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.14.xml>

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