



SPEC[®] CFP2006 Result

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IWILL Corporation
(Test Sponsor: QLogic [formerly PathScale])

SPECfp[®]2006 = 12.8

IWILL DK8-HTX motherboard, AMD Opteron 254

SPECfp_base2006 = 12.1

CPU2006 license: 2323

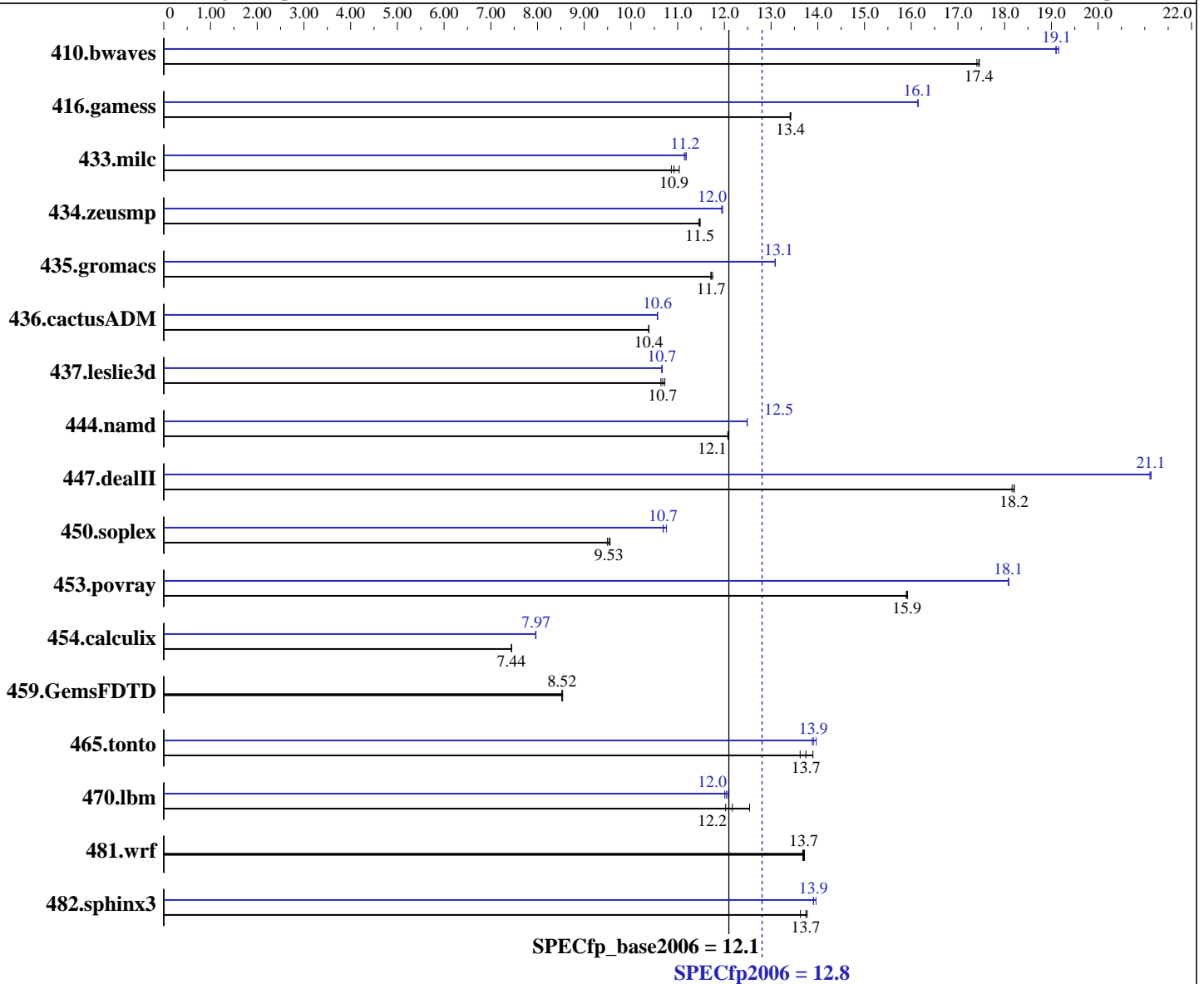
Test date: Apr-2006

Test sponsor: QLogic [formerly PathScale]

Hardware Availability: Oct-2005

Tested by: QLogic Corporation

Software Availability: Apr-2006



Hardware

CPU Name: AMD Opteron 254
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 64 KB I + 64 KB D on chip per chip
 Secondary Cache: 1 MB I+D on chip per chip

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Software

Operating System: SuSE Linux 9.3, 64-bit kernel 2.6.11.4-20a-smp
 Compiler: QLogic PathScale Compiler Suite, Release 2.4
 Auto Parallel: No
 File System: ext3
 System State: Multi-user, run level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1024 MB, DDR400, CL3)
Disk Subsystem: IDE, 80 GB
Other Hardware: None

Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>779</u>	<u>17.4</u>	778	17.5	781	17.4	712	19.1	709	19.2	<u>711</u>	<u>19.1</u>
416.gamess	<u>1459</u>	<u>13.4</u>	1461	13.4	1459	13.4	<u>1213</u>	<u>16.1</u>	1213	16.1	1213	16.1
433.milc	845	10.9	<u>841</u>	<u>10.9</u>	832	11.0	<u>822</u>	<u>11.2</u>	821	11.2	824	11.1
434.zeusmp	793	11.5	<u>793</u>	<u>11.5</u>	794	11.5	761	12.0	<u>761</u>	<u>12.0</u>	762	11.9
435.gromacs	610	11.7	<u>609</u>	<u>11.7</u>	608	11.7	545	13.1	<u>546</u>	<u>13.1</u>	546	13.1
436.cactusADM	<u>1151</u>	<u>10.4</u>	1151	10.4	1151	10.4	<u>1131</u>	<u>10.6</u>	1130	10.6	1131	10.6
437.leslie3d	876	10.7	<u>880</u>	<u>10.7</u>	883	10.6	882	10.7	881	10.7	<u>881</u>	<u>10.7</u>
444.namd	<u>664</u>	<u>12.1</u>	664	12.1	664	12.1	<u>642</u>	<u>12.5</u>	642	12.5	642	12.5
447.dealII	<u>629</u>	<u>18.2</u>	628	18.2	630	18.2	<u>541</u>	<u>21.1</u>	542	21.1	541	21.1
450.soplex	873	9.55	<u>875</u>	<u>9.53</u>	878	9.50	775	10.8	780	10.7	<u>780</u>	<u>10.7</u>
453.povray	<u>334</u>	<u>15.9</u>	335	15.9	334	15.9	<u>294</u>	<u>18.1</u>	294	18.1	294	18.1
454.calculix	1107	7.45	<u>1108</u>	<u>7.44</u>	1109	7.44	<u>1036</u>	<u>7.97</u>	1036	7.97	1037	7.96
459.GemsFDTD	<u>1245</u>	<u>8.52</u>	1245	8.52	1242	8.54	<u>1245</u>	<u>8.52</u>	1245	8.52	1242	8.54
465.tonto	708	13.9	<u>716</u>	<u>13.7</u>	722	13.6	705	14.0	<u>708</u>	<u>13.9</u>	709	13.9
470.lbm	1096	12.5	<u>1129</u>	<u>12.2</u>	1142	12.0	1138	12.1	<u>1142</u>	<u>12.0</u>	1144	12.0
481.wrf	814	13.7	<u>816</u>	<u>13.7</u>	817	13.7	814	13.7	<u>816</u>	<u>13.7</u>	817	13.7
482.sphinx3	1415	13.8	<u>1418</u>	<u>13.7</u>	1430	13.6	<u>1401</u>	<u>13.9</u>	1396	14.0	1402	13.9

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

General Notes

Tested by QLogic Corporation
submit = taskset -c 1 \$command
taskset utility used to bind CPU(s) to processes
The tested system can be assembled using a standard ATX case and a Silverstone Zeus 650 watt ST65ZF ATX 12V Power Supply.
The particular system tested was custom-built by Verari Systems.
AMI BIOS: DK8S-HT/78105 BIOS Version:PATHV180 Date:07/19/2005

Base Compiler Invocation

C benchmarks:
pathcc

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Base Compiler Invocation (Continued)

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

Base Portability Flags

```

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64 -DSPEC_CPU_TABLE_WORKAROUND
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

```

Base Optimization Flags

C benchmarks:
-Ofast

C++ benchmarks:
-Ofast

Fortran benchmarks:
-Ofast

Benchmarks using both Fortran and C:
-Ofast



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Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

Peak Portability Flags

```

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_TABLE_WORKAROUND
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

```

Peak Optimization Flags

C benchmarks:

433.milc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

470.lbm: Same as 433.milc

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-LNO:sclrze=off -LNO:prefetch=1

C++ benchmarks:

444.namd: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

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Peak Optimization Flags (Continued)

447.dealIII: -Ofast -m32 -fno-exceptions

450.soplex: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
-OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1
-LNO:minvariant=off -fno-exceptions

453.povray: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-fno-fast-math

Fortran benchmarks:

410.bwaves: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -OPT:IEEE_arith=3 -LNO:blocking=off
-LNO:ignore_feedback=off

416.gamess: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O2
-OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256

434.zeusmp: -Ofast -CG:local_fwd_sched=on -LNO:blocking=off
-LNO:interchange=off -LNO:fu=10 -LNO:full_unroll_outer=on

437.leslie3d: -O3 -OPT:Ofast

459.GemsFDTD: basepeak = yes

465.tonto: -Ofast -CG:local_fwd_sched=on -IPA:plimit=525

Benchmarks using both Fortran and C:

435.gromacs: -O3 -OPT:rsqrt=2 -OPT:ro=3

436.cactusADM: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-LNO:prefetch_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5
-ipa

454.calculix: -Ofast -CG:prefetch=off -LNO:simd=0 -OPT:unroll_times_max=8
-WOPT:mem_opnds=on

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.05.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.05.xml



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