SPEC® CFP2006 Result

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Lenovo Group Limited

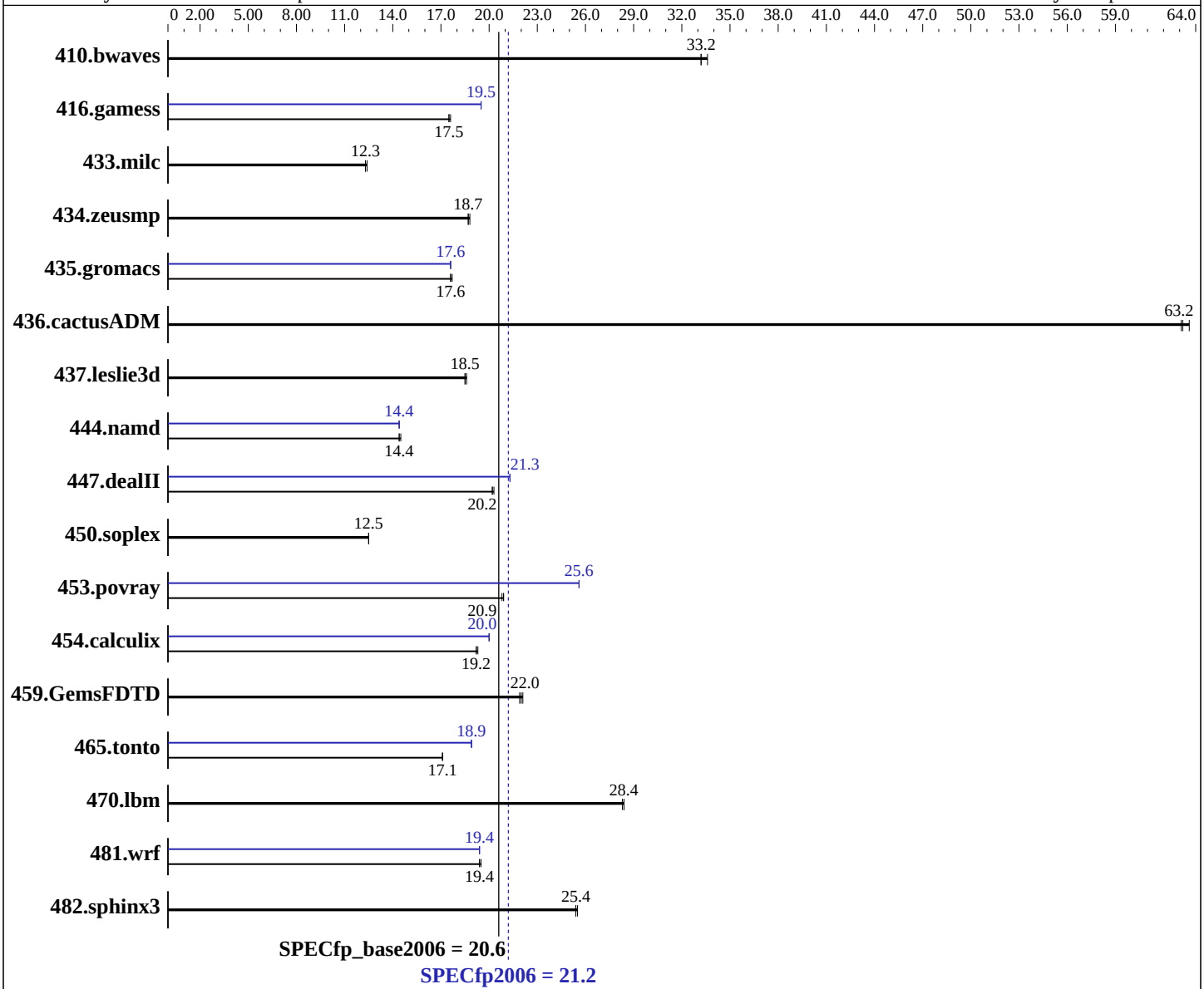
Lenovo ThinkServer RD120(Intel Xeon E5430)

SPECfp®2006 = 21.2

SPECfp_base2006 = 20.6

CPU2006 license: 9017
Test sponsor: Lenovo Group Limited
Tested by: Lenovo Group Limited

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



Hardware

CPU Name:	Intel Xeon E5430
CPU Characteristics:	1333MHz system bus
CPU MHz:	2666
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System:	Windows Server 2003 R2, Standard x64 Edition
Compiler:	Intel C++ Compiler Professional 11.0 for Intel64 Build 20080930 Package ID: w_cproc_p_11.0.072 Intel Visual Fortran Compiler Professional 11.0 for Intel64 Build 20080930 Package ID: w_cprof_p_11.0.074 Microsoft Visual Studio 2008 (for libraries)
Auto Parallel:	Yes
File System:	NTFS

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2GB Hynix 2Rx8 PC2 5300F)

Disk Subsystem: 1 x 160 GB, SATA 7200 RPM
Other Hardware: None

System State: Default
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: SmartHeap Library Version 9.0 from http://www.microquill.com/

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	405	33.6	**409**	**33.2**	410	33.2	405	33.6	**409**	**33.2**	410	33.2
416.gamess	1112	17.6	1119	17.5	**1117**	**17.5**	**1003**	**19.5**	1003	19.5	1003	19.5
433.milc	742	12.4	747	12.3	**745**	**12.3**	742	12.4	747	12.3	**745**	**12.3**
434.zeusmp	483	18.8	**486**	**18.7**	487	18.7	483	18.8	**486**	**18.7**	487	18.7
435.gromacs	404	17.7	**405**	**17.6**	405	17.6	405	17.6	405	17.6	**405**	**17.6**
436.cactusADM	188	63.6	189	63.1	**189**	**63.2**	188	63.6	189	63.1	**189**	**63.2**
437.leslie3d	505	18.6	**508**	**18.5**	509	18.5	505	18.6	**508**	**18.5**	509	18.5
444.namd	555	14.5	**555**	**14.4**	555	14.4	555	14.4	556	14.4	**555**	**14.4**
447.dealII	566	20.2	**565**	**20.2**	565	20.3	537	21.3	**537**	**21.3**	537	21.3
450.soplex	665	12.5	667	12.5	**667**	**12.5**	665	12.5	667	12.5	**667**	**12.5**
453.povray	256	20.8	255	20.9	**255**	**20.9**	208	25.6	208	25.6	**208**	**25.6**
454.calculix	428	19.3	**429**	**19.2**	429	19.2	412	20.0	412	20.0	**412**	**20.0**
459.GemsFDTD	481	22.1	**483**	**22.0**	484	21.9	481	22.1	**483**	**22.0**	484	21.9
465.tonto	574	17.1	**575**	**17.1**	575	17.1	**521**	**18.9**	521	18.9	522	18.9
470.lbm	483	28.4	**484**	**28.4**	485	28.3	483	28.4	**484**	**28.4**	485	28.3
481.wrf	572	19.5	577	19.4	**575**	**19.4**	576	19.4	575	19.4	**575**	**19.4**
482.sphinx3	765	25.5	767	25.4	**767**	**25.4**	765	25.5	767	25.4	**767**	**25.4**

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

Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /Qlowercase
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qauto-ilp32 /F1000000000

C++ benchmarks:
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlW64Mt.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qauto-ilp32 /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 shlW64Mt.lib -link /FORCE:MULTIPLE

447.dealII: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qansi-alias -Qscalar-rep- -Qauto-ilp32 /F1000000000 shlW64Mt.lib -link /FORCE:MULTIPLE

450.soplex: basepeak = yes

453.povray: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32 /F1000000000 shlW64Mt.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000

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Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000

481.wrf: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qauto-ilp32 /F1000000000

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20090721.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20090721.xml

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