SPEC® CFP2006 Result

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Lenovo Group Limited

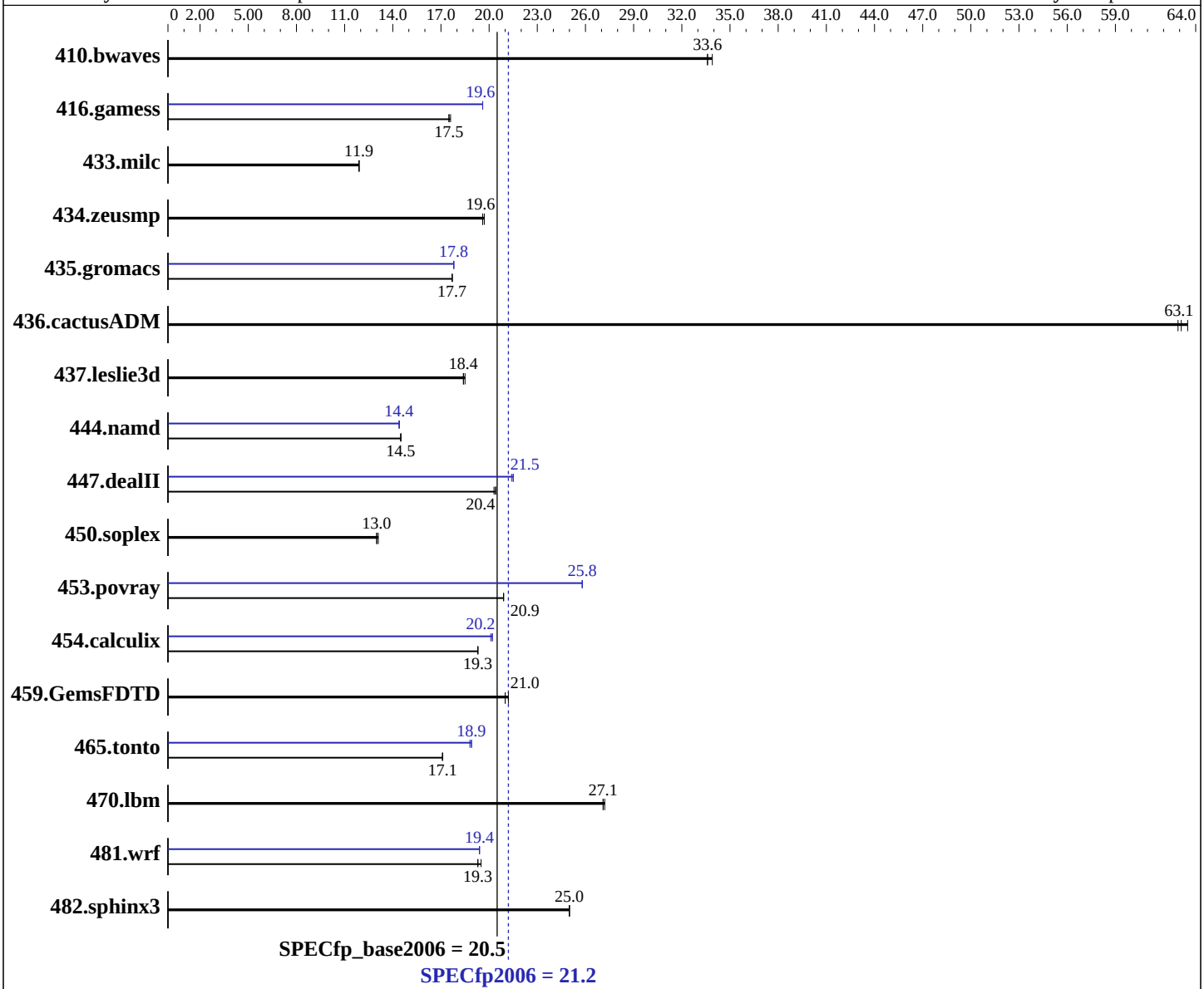
Lenovo ThinkServer TD100x(Intel Xeon E5430)

SPECfp®2006 = 21.2

SPECfp_base2006 = 20.5

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	401	33.9	**404**	**33.6**	405	33.6	401	33.9	**404**	**33.6**	405	33.6
416.gamess	1113	17.6	**1118**	**17.5**	1120	17.5	**1001**	**19.6**	1002	19.6	1001	19.6
433.milc	769	11.9	**773**	**11.9**	773	11.9	769	11.9	**773**	**11.9**	773	11.9
434.zeusmp	463	19.7	465	19.6	**464**	**19.6**	463	19.7	465	19.6	**464**	**19.6**
435.gromacs	404	17.7	**404**	**17.7**	404	17.7	400	17.8	**400**	**17.8**	400	17.8
436.cactusADM	188	63.5	190	62.9	**189**	**63.1**	188	63.5	190	62.9	**189**	**63.1**
437.leslie3d	508	18.5	**511**	**18.4**	511	18.4	508	18.5	**511**	**18.4**	511	18.4
444.namd	555	14.5	555	14.5	**555**	**14.5**	555	14.4	**555**	**14.4**	555	14.4
447.dealII	**562**	**20.4**	562	20.4	562	20.3	534	21.4	**533**	**21.5**	533	21.5
450.soplex	638	13.1	640	13.0	**639**	**13.0**	638	13.1	640	13.0	**639**	**13.0**
453.povray	254	20.9	**254**	**20.9**	254	20.9	206	25.8	**206**	**25.8**	206	25.8
454.calculix	428	19.3	**428**	**19.3**	428	19.3	410	20.1	**409**	**20.2**	409	20.2
459.GemsFDTD	502	21.2	505	21.0	**505**	**21.0**	502	21.2	505	21.0	**505**	**21.0**
465.tonto	574	17.1	576	17.1	**576**	**17.1**	521	18.9	**522**	**18.9**	522	18.8
470.lbm	506	27.2	**506**	**27.1**	507	27.1	506	27.2	**506**	**27.1**	507	27.1
481.wrf	572	19.5	**577**	**19.3**	577	19.3	576	19.4	**576**	**19.4**	577	19.4
482.sphinx3	**779**	**25.0**	779	25.0	779	25.0	**779**	**25.0**	779	25.0	779	25.0

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

Continued on next page

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

Continued on next page

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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For other inquiries, please contact webmaster@spec.org.

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