Hewlett-Packard Company
ProLiant DL365
(3.0GHz AMD Opteron 2222)

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

CPU Name: AMD Opteron 2222
CPU Characteristics:
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
CPU(s) orderable: 1.2 chips
Primary Cache: 64 KB I + 64 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1
Compiler: The Portland Group (PGI)

SPECfp_rate2006 = 26.4
SPECfp_rate_base2006 = 26.0

Hardware

Software
Hewlett-Packard Company

ProLiant DL365
(3.0GHz AMD Opteron 2222)

SPEC CFP2006 Result

SPECfp_rate2006 = 26.4
SPECfp_rate_base2006 = 26.0

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L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB, PC2-5300P CL5)
Disk Subsystem: 1x72 GB 10 K SAS
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: none

Results Table

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</table>

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

Operating System Notes

Environment stack size set to 'unlimited'
ulimit -l set to 1048576

'numactl' was used to bind copies to the cores
Set vm/nr_hugepages=1024 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

Base Compiler Invocation

C benchmarks:
pgcc

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SPEC CFP2006 Result

Test date: Aug-2007
Hardware Availability: Sep-2007
Software Availability: Oct-2007

Hewlett-Packard Company

SPECfp_rate2006 = 26.4
SPECfp_rate_base2006 = 26.0

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Base Compiler Invocation (Continued)

C++ benchmarks:
pgcpp

Fortran benchmarks:
pgf95

Benchmarks using both Fortran and C:
pgcc pgf95

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 -Mnomain
436.cactusADM: -DSPEC_CPU_LP64 -Mnomain
437.leshe3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -Mnomain
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi

C++ benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
--zc_eh -tp k8-64 -Bstatic_pgi

Fortran benchmarks:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi

Benchmarks using both Fortran and C:
-fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc=huge:8
-tp k8-64 -Bstatic_pgi
### Hewlett-Packard Company

ProLiant DL365  
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SPECFp_rate2006 = 26.4
SPECFp_rate_base2006 = 26.0

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**Test date:** Aug-2007  
**Hardware Availability:** Sep-2007  
**Software Availability:** Oct-2007

### Base Other Flags

- C benchmarks:  
  -w

- C++ benchmarks:  
  -w

- Fortran benchmarks:  
  -w

- Benchmarks using both Fortran and C:  
  -w

### Peak Compiler Invocation

- C benchmarks:  
  pgcc

- C++ benchmarks:  
  pgcpp

- Fortran benchmarks:  
  pgf95

- Benchmarks using both Fortran and C:  
  pgcc pgf95

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

- C benchmarks:
  - 433.milc: -Mfpi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
  -Mipa=noarg(pass 2) -Mpfo(pass 2) -fast -O4 -Mdse  
  -Mfprelaxed -Msmartalloc=huge:8 -tp k8-64 -Bstatic_pgi

- 470.lbm: -fast -Mfprelaxed -Msmartalloc=huge:8 -Mipa=fast  
  -Mipa=noarg -tp k8-64 -Bstatic_pgi

- 482.sphinx3: basepeak = yes

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Test by: Hewlett-Packard Company
Hardware Availability: Sep-2007
Software Availability: Oct-2007

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -Mfpi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
-Mipa=inline(pass 2) -fast -O4 -Mfprelaxed
-Msmartalloc=huge:32 --zc_eh -tp k8-64 -Bstatic_pgi

447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -fast -Mfprelaxed -Msmartalloc=huge:32 -Mipa=fast
-Mipa=inline --zc_eh -tp k8-64 -Bstatic_pgi

Fortran benchmarks:

410.bwaves: -fast -Mipa=fast -Mipa=inline -Mfprelaxed -Msmartalloc
-tp k8-64 -Bstatic_pgi

416.gamess: -fast -Mipa=fast -Mipa=inline -Mfprelaxed -Mvect=noaltcode
-Msmartalloc=huge:64 -tp k8-64 -Bstatic_pgi

434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: basepeak = yes

-Mipa=inline -Mvect=noaltcode -tp k8-64 -Bstatic_pgi

Benchmarks using both Fortran and C:

435.gromacs: -fast -O4 -Mipa=fast -Mipa=inline -Mfprelaxed
-Msmartalloc=huge:16 -tp k8-64 -Mfapprox=rsqrt
-Bstatic_pgi

436.cactusADM: basepeak = yes
454.calculix: basepeak = yes

481.wrf: -fast -Mfprelaxed -Msmartalloc=huge:32 -Mvect=noaltcode
-tp k8-64 -Bstatic_pgi

Peak Other Flags

C benchmarks:
- w

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SPEC CFP2006 Result

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**SPECfp_rate2006 = 26.4**
**SPECfp_rate_base2006 = 26.0**

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</table>

**Peak Other Flags (Continued)**

C++ benchmarks:
- `-w`

Fortran benchmarks:
- `-w`

Benchmarks using both Fortran and C:
- `-w`

The flags file that was used to format this result can be browsed at:
http://www.spec.org/cpu2006/flags/hp-pgi710_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/hp-pgi710_flags.xml

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Tested with SPEC CPU2006 v1.0.