Dell Inc.

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

**SPECfp\textsuperscript{\textregistered}_rate2006 = 103**

**SPECfp\textsuperscript{\textregistered}_rate_base2006 = 97.5**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Test date:** Oct-2007

**Hardware Availability:** Nov-2007

**Tested by:** Dell Inc.

**Software Availability:** Nov-2007

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**Hardware**

- **CPU Name:** Intel Xeon E7330
- **CPU Characteristics:** 1066 MHz system bus
- **CPU MHz:** 2400
- **FPU:** Integrated
- **CPU(s) enabled:** 16 cores, 4 chips, 4 cores/chip
- **CPU(s) orderable:** 2,4 chips
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 6 MB I+D on chip per chip, 3 MB shared / 2 cores

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**Software**

- **Operating System:** 64-Bit SUSE LINUX Enterprise Server 10 SP1
- **Compiler:** Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
- **Auto Parallel:** No
- **File System:** ReiserFS
- **System State:** Multi-user, run level 3
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit

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**Continued on next page**
SPEC CFP2006 Result

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Test sponsor: Dell Inc.
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Hardware Availability: Nov-2007
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L3 Cache: None
Other Cache: None
Memory: 16 GB (16 x 1GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 73 GB SAS 15K RPM
Other Hardware: None
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

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs

Platform Notes

BIOS Settings:
Adjacent Cache Line Prefetch = Disabled (default Enabled)
Hardware Prefetcher = Disabled (default Enabled)
Dell Inc.
PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp_rate2006 = 103
SPECfp_rate_base2006 = 97.5

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Oct-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Base Compiler Invocation

C benchmarks:
  icc

C++ benchmarks:
  icpc

Fortran benchmarks:
  ifort

Benchmarks using both Fortran and C:
  icc ifort

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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
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
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

C++ benchmarks:
  -fast

Fortran benchmarks:
  -fast

Benchmarks using both Fortran and C:
  -fast
### Dell Inc.

**PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)**

| SPECfp_rate2006 | = | 103 |
| SPECfp_rate_base2006 | = | 97.5 |

**CPU2006 license:** 55  
**Test date:** Oct-2007  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.

#### Peak Compiler Invocation

**C benchmarks (except as noted below):**

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: icc

**C++ benchmarks (except as noted below):**

```
icpc
```

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

**Fortran benchmarks (except as noted below):**

```
ifort
```

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

**Benchmarks using both Fortran and C:**

```
icc ifort
```

#### 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 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

#### Peak Optimization Flags

**C benchmarks:**

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32
```
Peak Optimization Flags (Continued)

470.lbm:  
-prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll2  
-scalar-rep  -prefetch  -opt-malloc-options=3

482.sphinx3:  -fast  -unroll2

C++ benchmarks:

444.namd:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -fno-alias  
-auto-ilp32

447.dealII:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll2  
-ansi-alias  -scalar-rep

450.soplex:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  
-opt-malloc-options=3

453.povray:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll4  
-ansi-alias

Fortran benchmarks:

410.bwaves:  -fast  -prefetch

416.gamess:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll2  -Ob0  
-ansi-alias  -scalar-rep

434.zeusmp:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast

437.leslie3d:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -prefetch  
-opt-malloc-options=3

459.GemsFDTD:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll2  -Ob0  
-prefetch

465.tonto:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll4  -auto

Benchmarks using both Fortran and C:

435.gromacs:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -prefetch  
-auto-ilp32

436.cactusADM:  -prof-gen(pass 1)  -prof-use(pass 2)  -fast  -unroll2  
-prefetch  -auto-ilp32

454.calculix:  -fast  -unroll-aggressive  -auto-ilp32

481.wrf:  -fast  -auto-ilp32
### Dell Inc. PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

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<tr>
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<td>103</td>
<td>97.5</td>
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**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test date:** Oct-2007  
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The flags file that was used to format this result can be browsed at [http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.html](http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.html)

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


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