# SPEC® CINT2006 Result

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## Acer Incorporated

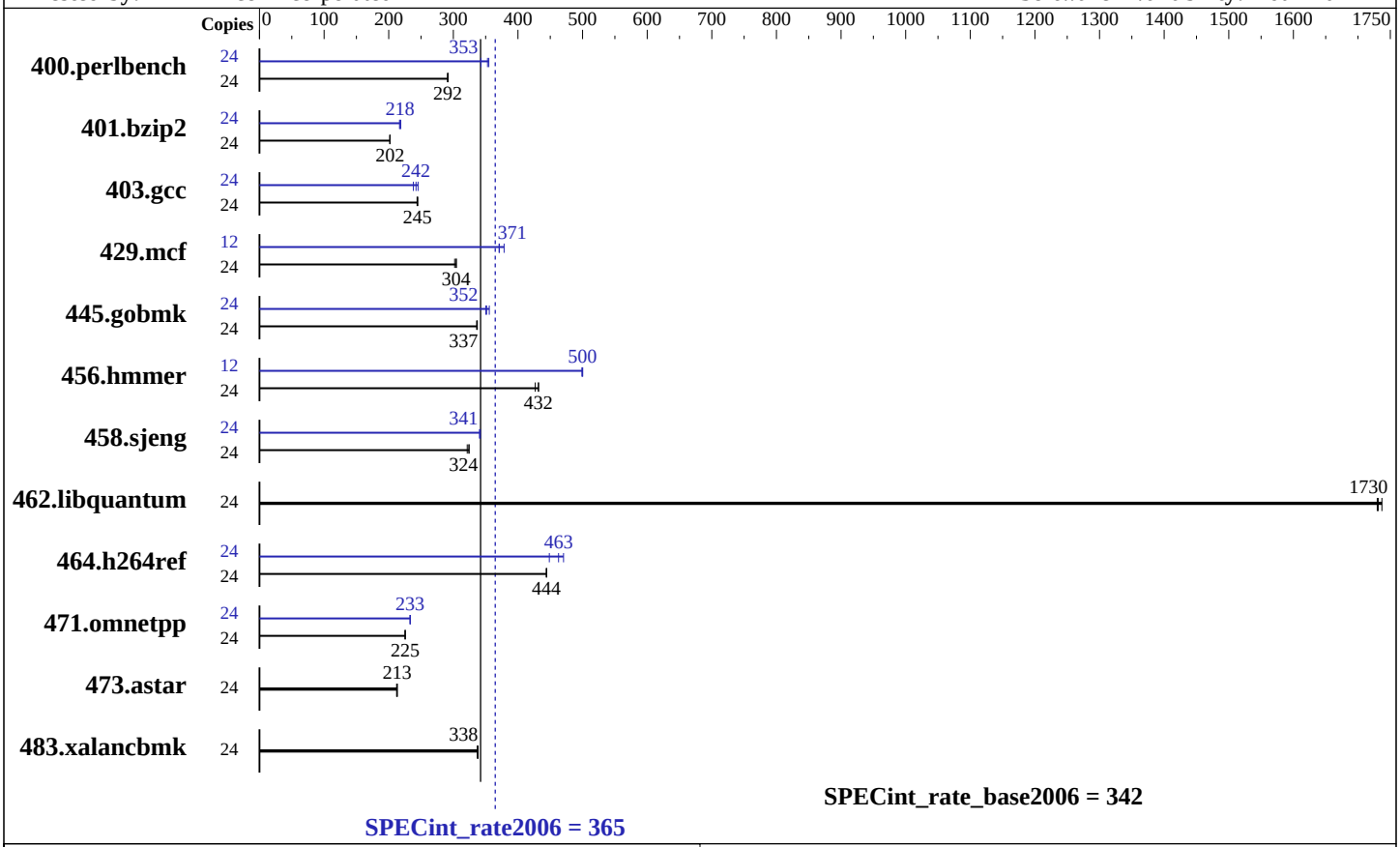
## Gateway GT350 F1 (Intel Xeon X5650)

SPECint®_rate2006 = 365

SPECint_rate_base2006 = 342

**CPU2006 license:** 97
**Test sponsor:** Acer Incorporated
**Tested by:** Acer Incorporated

**Test date:** Apr-2011
**Hardware Availability:** Feb-2011
**Software Availability:** Jan-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5650 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.06 GHz |
| CPU MHz: | 2667 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12 x 4 GB 2Rx8 PC3-1066R-9 ECC, running at 1066 MHz) |
| Disk Subsystem: | 1 x 500 GB SATA, 7200 RPM SATA HDD |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default |
| Compiler: | Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V9.01 |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 24 | 804 | 292 | 806 | 291 | **804** | **292** | 24 | 684 | 343 | **664** | **353** | 661 | 355 |
| 401.bzip2 | 24 | 1146 | 202 | **1147** | **202** | 1149 | 202 | 24 | 1059 | 219 | **1064** | **218** | 1069 | 217 |
| 403.gcc | 24 | **790** | **245** | 792 | 244 | 789 | 245 | 24 | **798** | **242** | 787 | 245 | 811 | 238 |
| 429.mcf | 24 | 725 | 302 | **719** | **304** | 719 | 305 | 12 | 295 | 371 | **295** | **371** | 289 | 379 |
| 445.gobmk | 24 | 749 | 336 | 747 | 337 | **748** | **337** | 24 | 708 | 356 | **716** | **352** | 719 | 350 |
| 456.hmmer | 24 | 525 | 427 | **519** | **432** | 518 | 432 | 12 | 224 | 499 | 224 | 500 | **224** | **500** |
| 458.sjeng | 24 | 903 | 321 | 895 | 324 | **896** | **324** | 24 | 850 | 342 | **852** | **341** | 853 | 341 |
| 462.libquantum | 24 | 286 | 1740 | 287 | 1730 | **287** | **1730** | 24 | 286 | 1740 | 287 | 1730 | **287** | **1730** |
| 464.h264ref | 24 | 1195 | 444 | **1196** | **444** | 1196 | 444 | 24 | 1129 | 471 | **1148** | **463** | 1184 | 449 |
| 471.omnetpp | 24 | 666 | 225 | 665 | 226 | **666** | **225** | 24 | 643 | 233 | 644 | 233 | **643** | **233** |
| 473.astar | 24 | 790 | 213 | **791** | **213** | 794 | 212 | 24 | 790 | 213 | **791** | **213** | 794 | 212 |
| 483.xalancbmk | 24 | **490** | **338** | 489 | 338 | 491 | 337 | 24 | **490** | **338** | 489 | 338 | 491 | 337 |

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

## Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

## Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size
Large pages were disabled for this run
```

## Platform Notes

```
 BIOS Settings:
 Fan speed = full speed (Default = Balanced)
 Data Reuse = Disabled (Default = Enabled)
```

## General Notes

```
Binaries compiled on RHEL5.5
This result was measured on the Gateway GT350 F1.
The Acer AT350 F1 is electronically equivalent
```

# Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

Continued on next page

## Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

## Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

## Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

# Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

# Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs

Continued on next page

## Peak Optimization Flags (Continued)

471.omnetpp (continued):
`-L/smartheap -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

## Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.html`
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.xml`
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml`


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

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