



# CINT2000 Result

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Sun Microsystems  
Sun Fire V40z

SPECint\_rate2000 = 88.6  
SPECint\_rate\_base2000 = 78.1

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Apr-2006 Hardware Avail: May-2006 Software Avail: Sep-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	98.1	66.2	4	86.5	75.1
175.vpr	4	119	54.4	4	97.1	66.9
176.gcc	4	75.4	67.7	4	53.5	95.4
181.mcf	4	196	42.6	4	152	54.9
186.crafty	4	49.9	92.9	4	47.5	97.6
197.parser	4	103	80.9	4	104	80.1
252.eon	4	47.5	127	4	42.5	142
253.perlbnk	4	85.5	97.7	4	84.2	99.2
254.gap	4	60.1	84.9	4	60.1	84.9
255.vortex	4	74.2	119	4	69.0	128
256.bzip2	4	107	64.9	4	104	66.6
300.twolf	4	173	80.7	4	125	111

### Hardware

CPU: AMD Opteron (TM) 856  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 2,4 (order by # of chips)  
 Parallel: No  
 Primary Cache: 64KBI + 64KBD (on chip) per core  
 Secondary Cache: 1024KB (I+D) (on chip) per core  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)  
 Disk Subsystem: SCSI,72GB,10K RPM  
 Other Hardware: None

### Software

Operating System: Windows Server 2003 Enterprise Edition (SP1)  
 Compiler: Intel C++ 9.0 build 20050912Z for IA32  
 Microsoft Visual Studio .NET 7.0.9466 (libraries)  
 MicroQuill Smartheap Library 7.0  
 File System: NTFS  
 System State: default

## Notes/Tuning Information

### GENERAL:

shlw32M.lib is the SmartHeap library V7.0 from MicroQuill (www.microquill.com)  
 +FDO: PASS1=-Qprof\_gen PASS2=-Qprof\_use

### Portability:

176.gcc: -Dalloca=\_alloca /F10000000  
 186.crafty: -DNT\_i386  
 253.perlbnk: -DSPEC\_CPU2000\_NTOS -DPERLDLL /MT  
 254.gap: -DSYS\_HAS\_CALLOC\_PROTO -DSYS\_HAS\_MALLOC\_PROTO

### Baseline C:

-O3 -Qipo -Op +FDO

### Baseline C++:

-O3 -Qipo -Qcxx-features +FDO

### Peak Tuning:

164.gzip: -O3 -Qipo -QxW +FDO  
 175.vpr: -O3 -Qipo -QxW +FDO  
 -Qoption,c,-ip\_ninl\_max\_stats=2000,-ip\_ninl\_max\_total\_stats=4500  
 176.gcc: -O3 -Qipo -QxW -Oi- -Qunroll3 +FDO  
 181.mcf: -O3 -Qipo -QaxN +FDO  
 186.crafty: -O3 -Qipo -QxW +FDO  
 197.parser: -QxW +FDO -Oi- -Qipo  
 252.eon: -O3 -Qipo -QxW +FDO -Qansi\_alias  
 -Qoption,c,-ip\_ninl\_max\_stats=2000,-ip\_ninl\_max\_total\_stats=4500



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## Notes/Tuning Information (Continued)

```
253.perlbnk: -O3 -Qipo -QxW +FDO
254.gap:      basepeak = yes
255.vortex:   -O3 -Qipo -arch:SSE +FDO -Oi- shlw32M.lib
              -Qoption,c,-ip_ninl_max_stats=2000,-ip_ninl_max_total_stats=4500
256.bzip2:   -O3 -Qipo -Qunroll2
300.twolf:    -O3 -Qipo -QxW +FDO -Qunroll3 shlw32M.lib -Qansi_alias
```

'start /b /wait /affinity' command is used to bind CPU(s) to processes  
Default BIOS setting was used  
Half memory slots populated on all CPU(s) in dual-channel configuration.