



# CINT2000 Result

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Compaq Computer Corporation  
AlphaServer GS80 Model 6/731

SPECint\_rate2000 = 4.61  
SPECint\_rate\_base2000 = 4.09

SPEC license #: 2 | Tested by: Compaq NH | Test date: May-2000 | Hardware Avail: Dec-2000 | Software Avail: Jul-2000

| Benchmark   | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip    | 1           | 460          | 3.53       | 1      | 405     | 4.01  |
| 175.vpr     | 1           | 444          | 3.66       | 1      | 426     | 3.81  |
| 176.gcc     | 1           | 267          | 4.78       | 1      | 216     | 5.90  |
| 181.mcf     | 1           | 1092         | 1.91       | 1      | 844     | 2.47  |
| 186.crafty  | 1           | 182          | 6.36       | 1      | 186     | 6.24  |
| 197.parser  | 1           | 745          | 2.80       | 1      | 534     | 3.91  |
| 252.eon     | 1           | 237          | 6.36       | 1      | 241     | 6.27  |
| 253.perlbnk | 1           | 476          | 4.39       | 1      | 432     | 4.83  |
| 254.gap     | 1           | 453          | 2.82       | 1      | 429     | 2.97  |
| 255.vortex  | 1           | 459          | 4.80       | 1      | 365     | 6.05  |
| 256.bzip2   | 1           | 391          | 4.45       | 1      | 348     | 5.00  |
| 300.twolf   | 1           | 565          | 6.16       | 1      | 563     | 6.18  |

### Hardware

CPU: Alpha 21264A  
CPU MHz: 731  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: Up to 8  
Parallel: No  
Primary Cache: 64KB(I)+64KB(D) on chip  
Secondary Cache: 4MB off chip  
L3 Cache: None  
Other Cache: None  
Memory: 4GB  
Disk Subsystem: mfs  
Other Hardware: None

### Software

Operating System: Tru64 UNIX T5.1-9 (Release for GS160,GS320)  
Compiler: Compaq C T6.3-120-44A2I  
DIGITAL C++ V6.1-029-408B6  
File System: mfs  
System State: Multi-user

## Notes/Tuning Information

Baseline C : cc -arch ev6 -fast GEMFB -non\_shared  
C++: cxx -arch ev6 -O2 ONESTEP

GEMFB: fdo\_pre0 = mkdir /tmp/pb; rm -f /tmp/pb/\${baseexe}  
PASS1\_CFLAGS = -prof\_gen\_noopt -prof\_dir /tmp/pb  
PASS2\_CFLAGS = -prof\_use\_feedback -prof\_dir /tmp/pb  
(base uses directory /tmp/pb; peak uses /tmp/pp)

Peak: cc [except eon: cxx] -v -arch ev6 ONESTEP plus:

164.gzip: -g3 -fast -O4 +GEMFB  
175.vpr: -g3 -fast -O4 +GEMFB  
176.gcc: -g3 -fast -O4 -xtaso\_short +GEMFB  
181.mcf: -g3 -fast -xtaso\_short +GEMFB  
186.crafty: -g3 -fast -O4 -inline speed  
197.parser: -g3 -fast -O4 -xtaso\_short +GEMFB  
252.eon: -O2  
253.perlbnk: -g3 -fast +GEMFB -non\_shared  
254.gap: -g3 -fast -O4 +GEMFB  
255.vortex: -g3 -fast +GEMFB  
256.bzip2: -g3 -fast -O4 +GEMFB



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## Notes/Tuning Information (Continued)

300.twolf: -g3 -fast -O4 +GEMFB

Portability: gcc: -Dalloca=\_\_builtin\_alloca; crafty: -DALPHA  
perlbmk: -DSPEC\_CPU2000\_DUNIX; vortex: -DSPEC\_CPU2000\_LP64  
gap: -DSYS\_HAS\_CALLOC\_PROTO -DSYS\_IS\_BSD -DSYS\_HAS\_IOCTL\_PROTO -DSPEC\_CPU2000\_LP64

Compaq C is posted at <http://www.unix.digital.com/dtk/>  
The SPEC CPU2000 binaries were compiled under Unix V4.0F.  
sysconfigtab settings:

```
max_proc_per_user = 4096
max_threads_per_user = 4096
per_proc_data_size = 21474836480
max_per_proc_data_size = 21474836480
per_proc_address_space = 21474836480
max_per_proc_address_space = 21474836480
```