



# CINT2000 Result

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## Compaq Computer Corporation AlphaServer ES40 Model 6/667

SPECint\_rate2000 = 19.8  
SPECint\_rate\_base2000 = 18.4

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	438	14.8	4	430	15.1
175.vpr	4	389	16.7	4	387	16.8
176.gcc	4	230	22.2	4	207	24.7
181.mcf	4	483	17.3	4	400	20.9
186.crafty	4	251	18.5	4	196	23.7
197.parser	4	627	13.3	4	512	16.3
252.eon	4	259	23.2	4	259	23.3
253.perlbnk	4	460	18.2	4	448	18.6
254.gap	4	377	13.5	4	374	13.7
255.vortex	4	363	24.3	4	361	24.4
256.bzip2	4	335	20.8	4	330	21.1
300.twolf	4	607	22.9	4	585	23.8

### Hardware

CPU: Alpha 21264A  
 CPU MHz: 667  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 1 to 4  
 Parallel: No  
 Primary Cache: 64KB(I)+64KB(D) on chip  
 Secondary Cache: 8MB off chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16GB  
 Disk Subsystem: 1x18GB BD018122C0  
 Other Hardware: Ethernet

### Software

Operating System: Tru64 UNIX V4.0G  
 Compiler: Compaq C X6.2-259-449AT  
 DIGITAL C++ V6.1-029-408B6  
 File System: ufs  
 System State: Multi-user

## Notes/Tuning Information

Baseline C : cc -arch ev6 -fast GEMFB ONESTEP  
 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] -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  
 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