

cache.txt

CD-ROM CACHING, Q: What benefits would caching CD-ROM drives bring us?
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Most disk cache software including DOS' and Windows' SMARTDRV cache hard disks but cannot cache CD-ROM drives. A cache would speed up reading CD-ROM data. When data is first requested from the CD-ROM disc, the cache picks up more data from the CD-ROM disc than is currently being requested, with the expectation that further requests will follow. Another request occurs and data is retrieved more rapidly if the data requested is in the cache residing in memory. Only a few disk cache software can cache CD-ROM drives; these include Norton Speedcache+, OPTI-CDcache, Lightning CD, and CD Speedway.

How much a performance improvement can be expected?
Opinions vary but it is clear that software caches are not a universal panacea and that performance improvement is best sought first with the new generation of multispin or double-speed CD-ROM drives. My tests with Norton Speedcache+ using 1-2 megabyte caches, a Hitachi CDR-1700s CD-ROM player running SilverPlatter's text-based Aquatic Sciences and Fisheries Abstracts CD-ROM on two microcomputers (25 MHz 486 & 16 MHz 386) show a 9-16% frequency in getting data from the cache rather than from the CD-ROM disc. This 9-16% improvement is much less than the improvement seen with Speedcache+-based hard disk caching on the same microcomputers. This 9-16% improvement in performance was not readily discernible onscreen with the text-based SilverPlatter Aquatic Sciences and Fisheries Abstracts CD-ROM. Keyword searching was not faster and scrolling down through retrieved text appeared only marginally better. It would probably take a larger performance increase to be dramatically visible.

Taschek stated that text-based CD-ROM tasks improved dramatically with Speedcache+ or Lightning CD. Chernicoff stated that performance with Speedcache+, and an NEC Multispin CD-ROM drive and a Trantor SCSI controller, was "visibly quicker" with text-based CD-ROMs and that a larger cache improved performance, particularly with contiguous data on CD-ROM. Tittell determined that CD Speedway improved performance 10-20 times. Vaughan-Nichols found that SpeedCache+ increased throughput performance by 10% for a 600-millisecond access-time Sony CD-ROM drive, and, that Speedcache+ did not appreciably improve the performance of multimedia applications.

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Though CD-ROM disc caching does deliver performance improvement, it appears that the degree of improvement will be variable depending on a variety of factors. Money is best spent on getting a higher performance CD-ROM drive with CD-ROM disc caching software relegated to a secondary purchase consideration.

Chernicoff, David P. "SpeedCache Plus 4.0". PC Week 10(18): 105, May 10, 1993.

Grimes, Brad. Online's products boost the performance of CD-ROM drive. PC Magazine 12(10): 64, May 25, 1993.

Taschek, John. "Attention CD-ROM owners: make your drive run 28 times faster" PC-Computing 6(7):66, July 1993.

Tittel, Ed. "CD-Speedway 1.20b". Windows User 2(7):72, August 1993.

Vaughan-Nichols, Steven J. "Break the disk speed limit with SpeedCache+". Computer Shopper 12(12):726, December 1992.

PRODUCTS MENTIONED

CD Speedway, \$99
BLOC Publishing Corp.
800 SW 37th Ave, Suite 765
Coral Gables, FL 33134, 305/445-0903

Lightning CD, \$99.95
Lucid Corp.
101 W. Renner Rd., Suite 450
Richardson, TX 75082-2017, 800/925-8243, 214/994-8100

Opti-CDcache, \$89.
Online Computer Systems Inc.,
20251 Century Blvd.,
Germantown, MD 20874, 800/922-9204, 301/428-3700

Speedcache+, \$99
Symantec Corp.
10201 Torre Ave.
Cupertino, CA 95014-2132, 800/441-7234, 408/252-3570

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