

Adabas Caching Facility

DELIVER FASTER RESPONSE TIMES FOR MISSION-CRITICAL APPLICATIONS

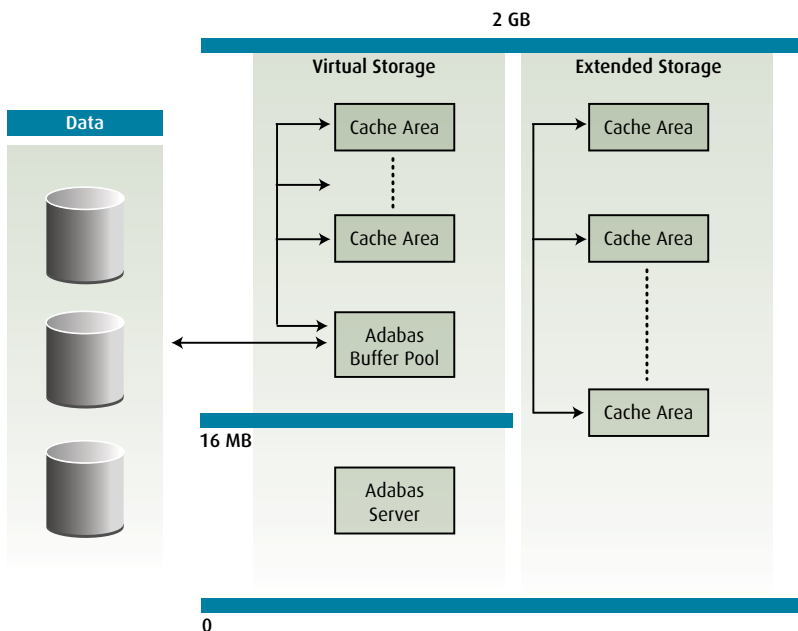
Meet demand for faster response times by reducing physical I/Os when you use Adabas Caching Facility, an add-on product for Adabas for the mainframe.

Whether you operate a conventional 31-bit environment or have already switched to a 64-bit architecture, Adabas Caching Facility offers you significant performance benefits. Not only does the product deliver faster response times for mission-critical applications, it also enables your DBAs to adapt the database quickly and flexibly to short-term peaks in demand.

HOW IT WORKS

With Adabas Caching Facility, you can create extra space for holding data in main memory in addition to the regular Adabas buffer pool. There is no redundancy: data is held either in the buffer pool or in the new cache. The DBA can assign separate priorities to data from different files depending on their importance and can allocate one or more files to a cache area. The priority determines how long the data is held in the cache. When the cache is full, the less important data is removed, while higher-priority data is retained (even if it has not been accessed recently).

Prioritizing frequently used files (hot spots) minimizes I/O traffic and maximizes response times for transactions that require the data in those files. It is especially advantageous where data is used intensively by a particular application at a particular time, for example, for end-of-month invoicing.



Adabas Caching Facility buffers data in main memory, decreasing the number of physical reads and increasing database performance.

KEY FEATURES

• Dynamic sizing

Cache size can be modified dynamically, allowing the DBA to tune the Adabas environment in accordance with changing demand over the course of each day. For example, the DBA can switch from mainly online operations during regular business hours to mainly batch-mode operations in the evening. Caching can also be switched on and off according to requirements.

• Caching intermediate query results

Database queries can generate extensive intermediate results, which are usually stored in the work area on the hard disk. Processing these results requires intensive hard-disk I/O, which obviously takes much longer than accessing an address area in main memory. With Adabas Caching Facility, the intermediate search results can be put in the cache as well as on the hard disk, saving a considerable amount of time.

• Read-ahead

The Adabas Caching Facility recognizes sequential processing and responds by reading the data into the buffer before the application requests it. This can enhance performance by reducing the number of physical read I/Os for a 3380 Associator by up to a factor of 18.

YOUR BENEFITS

• Improved performance even with high update rates

Most performance optimizers primarily optimize read access and are not very helpful in situations in which file update rates are high. With Adabas Caching Facility, it's a different story. This add-on product also improves the performance of applications with high update rates. The reason is quite simple: it is irrelevant to Adabas where the modified record is held—in the standard buffer pool or in the additional cache. The operation of writing changes to the database is more or less the same as it would be without the additional cache.

• Take advantage of an industry first:

64-bit virtual storage

Adabas was the first database in the world to support IBM's 64-bit virtual storage architecture under the latest version of IBM's z/OS operating system, designed for z/900 Series Enterprise Servers. This technology delivers more than 16 million terabytes of virtual address space. With 31-bit addressing, in contrast, the maximum theoretical cache size (assuming there is nothing else in main memory) is two gigabytes. Paging must be used if less physical memory space is available.

• Exploit the space above the bar

Organizations with z/Os and Adabas can take advantage of 64-bit addressing. They can then allocate data caches "above the bar" (i.e., above the two-gigabyte line). This improves the legendary performance of Adabas still further by significantly reducing the number of physical I/O operations. Adabas Caching Facility supports both 31-bit and 64-bit architectures; it automatically detects which is applicable.

The Adabas Server itself cannot be stored in the new memory space: there is no technology available that allows existing programs to switch to 64-bit addressing. For the time being, the 64-bit virtual memory space will be used only for caches and buffers.

GET THERE FASTER WITH ADABAS CACHING FACILITY

Deliver the fast response times your business demands to perform optimally by adding Adabas Caching Facility to Adabas for the mainframe.

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