

tableBASE In-memory Acceleration

DataKinetics tableBASE® In-memory Accelerator reduces intense mainframe resource usage, allowing for much faster applications, especially in transaction processing environments. tableBASE can lower your costs and mainframe TCO, dramatically reduce batch processing time and optimize your business processes, resulting in significant performance benefits and more powerful and efficient applications.

tableBASE lets you put data that is read frequently closest to the application that needs it, effectively reducing the code path to the data, and allowing you to access it faster. When you can retrieve the data faster, you can reduce elapsed time and CPU of applications by up to 98%. Reducing elapsed time and CPU means cost savings and increased efficiency that have allowed our customers to see positive ROI, and to meet cost reduction objectives within the first year of ownership.

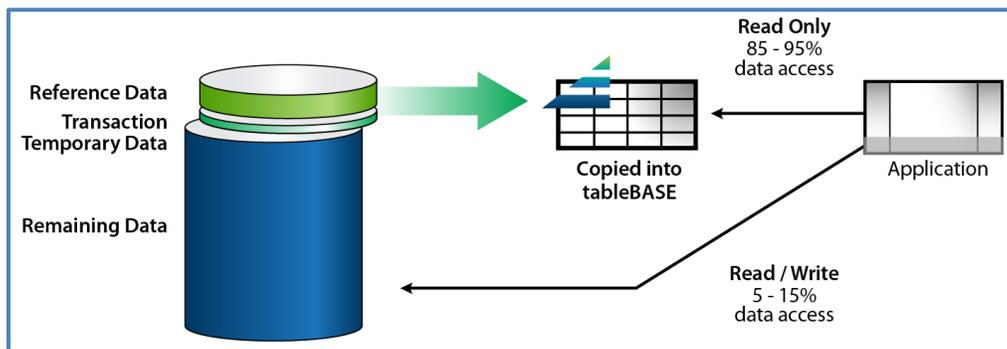
Extend legacy system value—improve data access time, reduce CPU and associated operating costs.

How tableBASE works

First consider the different types of data that you have, and how often your applications access them. Generally, data access follows the 80-20 rule-- 80% of your data is accessed only 20% of the time. The 20% of your data that you're accessing 80% of the time is likely your reference data, and is the data you access many times for every business transaction. In practice, you may actually be accessing 5% of your data 95% of the time for your batch applications and it's this data that is slowing your applications down. The critical portion of this 5% is copied into tableBASE optimized in-memory tables, shortening the path to the data that is accessed most often.

You don't have to choose between mainframe performance, capacity and cost control—you can have all three.

tableBASE is optimized for performance—its in-memory tables can be accessed up to 100 times faster than buffered DBMS data. This is done by shortening an application's code path to the data that it uses for processing.



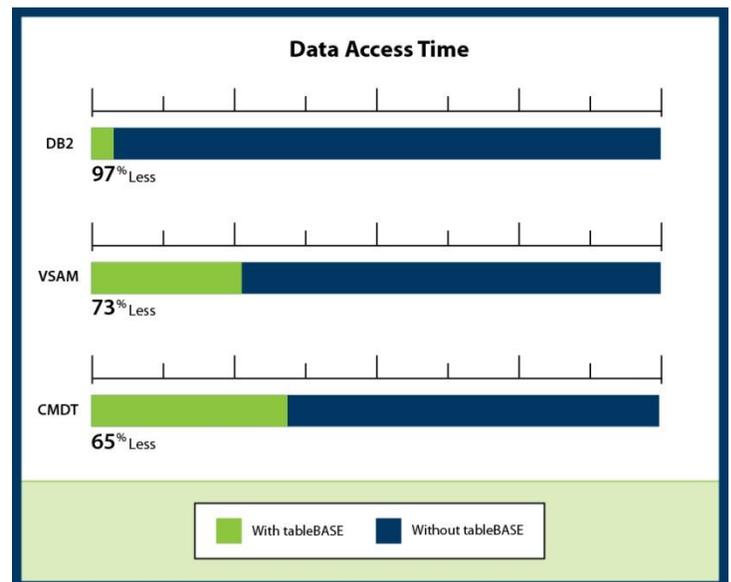
As shown above, the data that is used most often during processing is accessed from tableBASE tables at optimized in-memory speed using a reduced code path; while the rest of the data is accessed from the DBMS (or DBMS memory buffers) at normal DBMS / buffered DBMS speeds, using the normal path to data.

Actual tableBASE results

This graph shows how much of an impact using tableBASE can make in various mainframe database environments. In DB2 batch processing environments, customers have seen as much as 97% reduction in processing run time for their batch applications. Similarly, tests have shown that comparable results are obtained for VSAM environments (up to 73% reduction) and CICS managed table environments (up to 65% reduction). This is why tableBASE is the tool of choice for many Fortune 500 companies for reducing resource usage and reducing operational costs of their legacy mainframe assets.

By itself, tableBASE is a powerful mainframe performance, optimization and cost-savings solution. But there are also some enhancement products that

allow further performance improvements and cost savings for tableBASE users with specific data access needs.



tableBASE VTS: Shared in-memory tables

DataKinetics tableBASE VTS allows applications running in different regions or operating environments (CICS, batch, TSO, DB2, VSAM, IMS, etc.) to access table data contained within a shared common memory area—many applications, all using one copy of the data. Normally, applications would use their own copy of the data (image below, left), and use their own memory and paging resources. Using tableBASE VTS (below, right), there is only one copy of the data, and all regions are guaranteed to be using the same data. In this way, I/O, real memory and system paging usage are all significantly reduced, which results in operational cost savings associated with reduced resource usage.



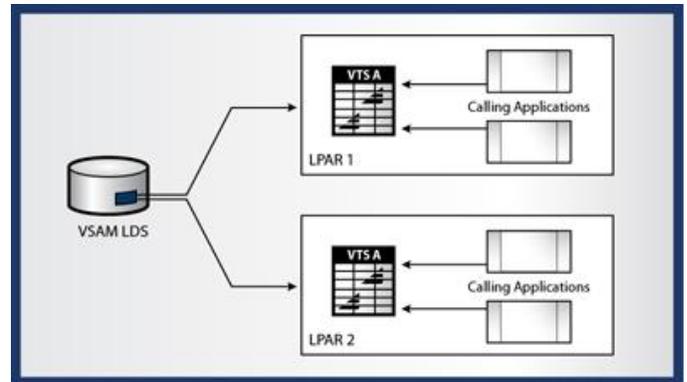
What does this mean? An organization could have 50 tableBASE applications all loading data into memory from the library. Their systems must then maintain this data in real memory. Using DataKinetics VTS, they can load shared tables into memory just once, and all 50 applications would have immediate access to it. Resource usage is reduced to 1/50th of that which was originally required.

VTS Manager: Improved in-memory table management

DataKinetics VTS Manager provides management capabilities that allow tableBASE in-memory tables to be used in new ways that promote increased potential in delivering expanded business benefits for tableBASE users. Using VTS Manager, datacenters can ensure that all applications on multiple LPARs access the same in-memory table data at all times. Datacenters also have the ability to schedule shared data updates and backups without shutting down either transaction processing applications or optimized in-memory tables, providing continuous operation of DataKinetics optimization solutions.

Sysplex / Multi-LPAR Operation

It is possible to use tableBASE data on multiple LPARs within a Sysplex, but it is a challenging management task. With VTS Manager, you can organize your Read-Only data in multiple LPARs within a Sysplex. By loading all tables from source tables in a VSAM LDS, you can guarantee that data used on different LPARs will be consistent.



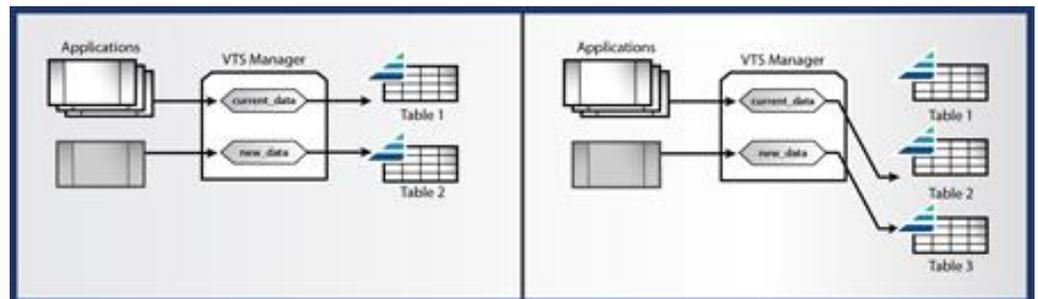
Improved Table Change-control Workflow

Changing the content of your tableBASE in-memory tables may involve stopping the applications accessing the data, updating the tables, and then starting applications up again. Also, standard tableBASE table refreshing can occur in the middle of a transaction, which can require extra overhead to manage.

Using VTS Manager, table updates can be performed in the background while transactions are being processed on current tables. Updated tables can then be switched in real time, into the production environment without the need for restarting applications, and without interrupting current transactions. Users no longer need to be affected by data updates.

Seamless switch-over

VTS Manager assigns alias names (labels) to in-memory tables. In this example, applications use data



from a table labelled *current_data* (image, left). Meanwhile, an admin application prepares updated data using a new table labeled *new_data*. When ready, the *current_data* label is switched. All new transactions will access the updated data contained in *Table2*, by using the *current_data* label. (Transactions in progress are completed using the old data from *Table1*). In this way, data can be updated in real time without stopping transaction processing, and without stopping applications. It also avoids the ongoing downtime costs associated with starting and stopping applications, and delaying transaction processing.

tableBASE features

tableBASE is the table manager of choice for many Fortune 500 companies. It is a robust, mature and proven mainframe product that has the following features and compatibility:

- In-memory table management that complements DBMS
- Z/OS version compatibility
- ISPF version compatibility
- DB2 version compatibility
- Sysplex support
- CICSPLEX support
- 64-bit support
- Date sensitive processing
- Indirect table access
- Flexible & high-performance indexing
- Version control (up to 9 table generations)
- Multitasking- tableBASE is fully re-entrant
- In-memory repository for reference data
- Ideal holding area for temporary data
- Automatic table load and unload
- Multiple high-performance search methods
- Dynamic run-time table expansion
- Dynamic table reorganization
- Dynamic index creation and modification
- Dynamic run-time alternate views
- TSO/ISPF, CICS TS, IMS TM, DB2 SPAS compatibility
- C, C++, COBOL, PL/1, Assembler, Fortran accessibility
- Data access 1000x faster than I/O
- Data access 10x faster than DBMS buffer pooling
- Compatible with DB2, VSAM, BDAM, QSAM
- Compatible with MVS, IMS
- RACF compatibility

About DataKinetics

DataKinetics®, the leader in transaction, performance and data access optimization technology, enables the top data centers to achieve superior performance gains, capacity, and scale using existing applications and hardware. In business for over 30 years, DataKinetics delivers distinct competitive advantage to global Fortune 500 companies with products that have enhanced hundreds of thousands of mission-critical transactions per second every day in the banking, insurance, credit card, brokerage house and retail industries.

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