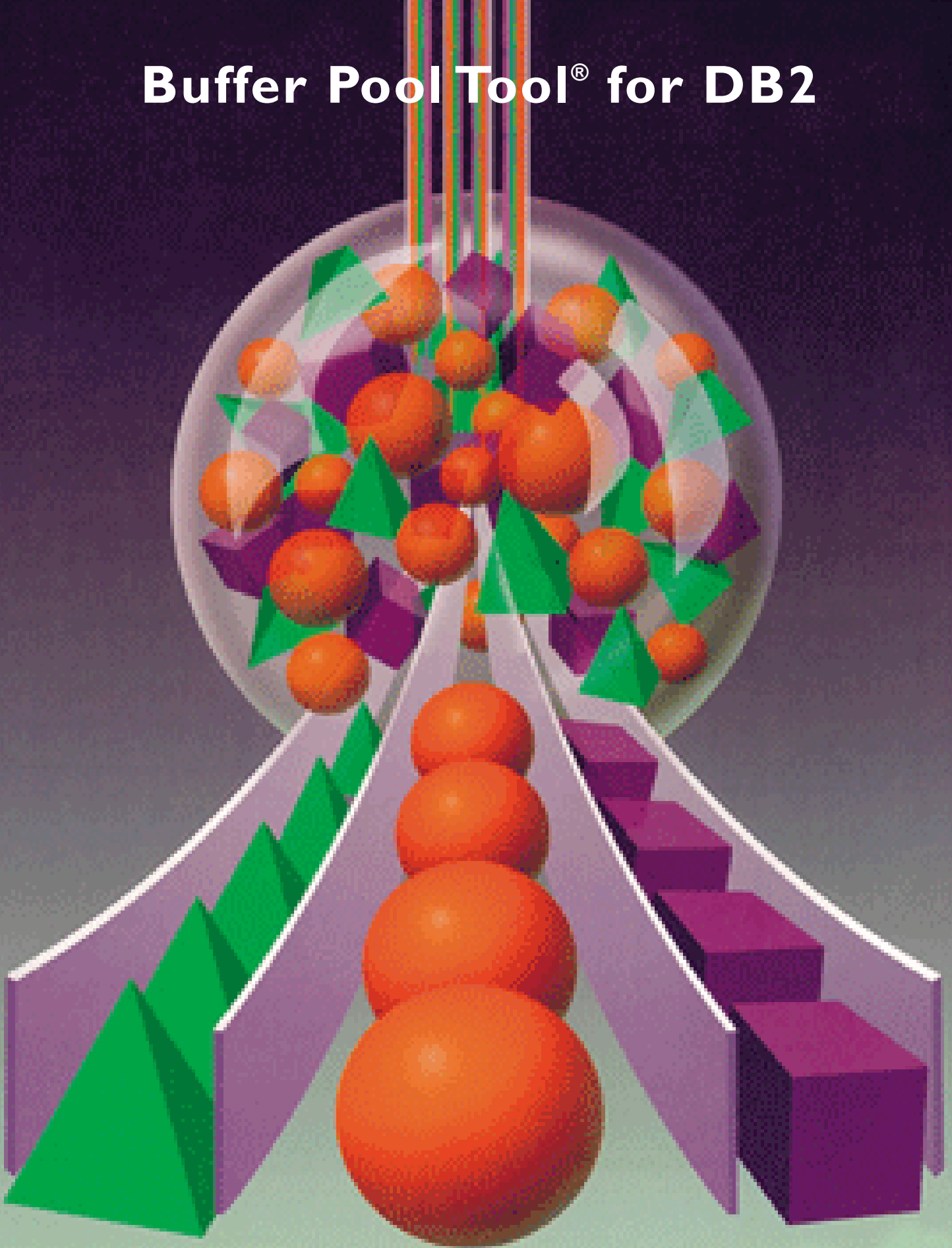


Buffer Pool Tool[®] for DB2

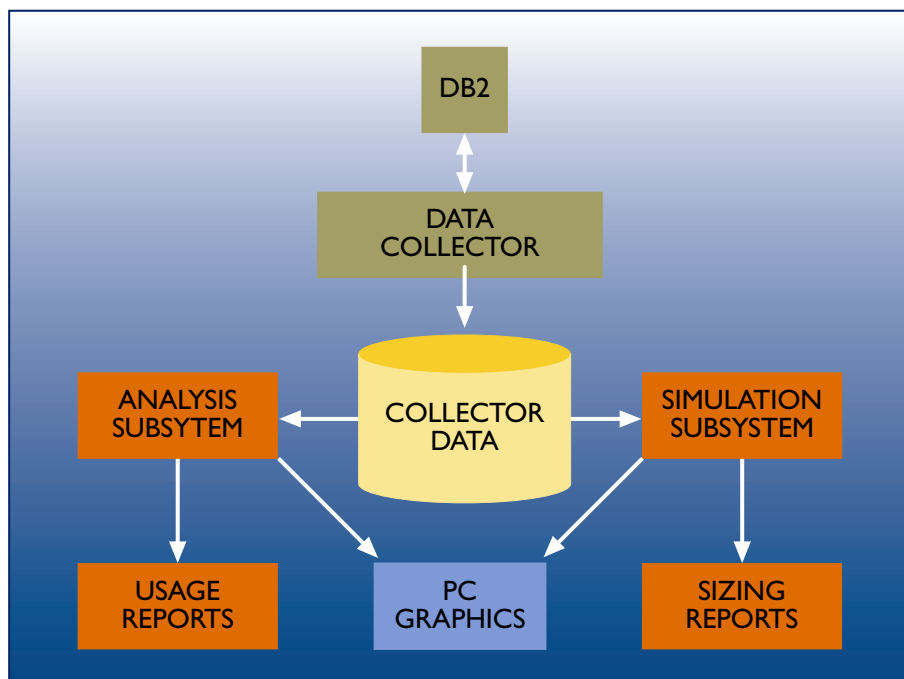


Predicts the Effect of Changes to Buffer Pool Sizing and Object Placement

Reap the Rewards of DB2 Pool Tuning and Sizing

Most DB2 systems are not tuned for optimum performance. This results in slow application response times and unnecessary costs due to poor memory utilization, avoidable I/Os and needless processor upgrades. But it doesn't have to be this way. The simple solution to this complex performance problem is the **Buffer Pool Tool**.

The Buffer Pool Tool solves the problems you never knew you had. By providing a level of statistical detail about activity in the DB2 buffer pools in easy to understand graphical formats, you can tune and correctly size the buffer pools for peak system performance. Tuning finally becomes a scientific process instead of a guessing game. And the impact can be dramatic. Over the years, users of the Buffer Pool Tool have achieved significant cost savings and performance improvements for their DB2 systems.



Data Collector

Collects trace records from the operating DB2 system using the standard IFI interface. As the collected data is written to a proprietary collection facility, the massive overheads of SMF or GTF are avoided.

Analysis Subsystem

Processes the collected trace data and provides the industry's most detailed access and usage information at the pool and object levels. The Analysis Subsystem provides statistics for overall getpage activity, all types of prefetch, read and write I/Os, HP efficiency, and average page residency times. An adjustable threshold enables users to bypass reporting for objects with very low usage rates.

Simulation Subsystem

Provides the ability to predict performance at both pool and object levels at varying pool sizes. By allowing objects to be removed from a pool or placed into a different pool, performance alternatives can be evaluated without impacting the operating DB2 system.

The Simulation Subsystem will predict the performance effect of changes to one pool at a time and allows up to 8 simulation sizes for a pool with one pass of the collected data. Any object or group of objects can be excluded from their original pool during simulation and objects from other pools can be moved into a different pool for performance simulation.

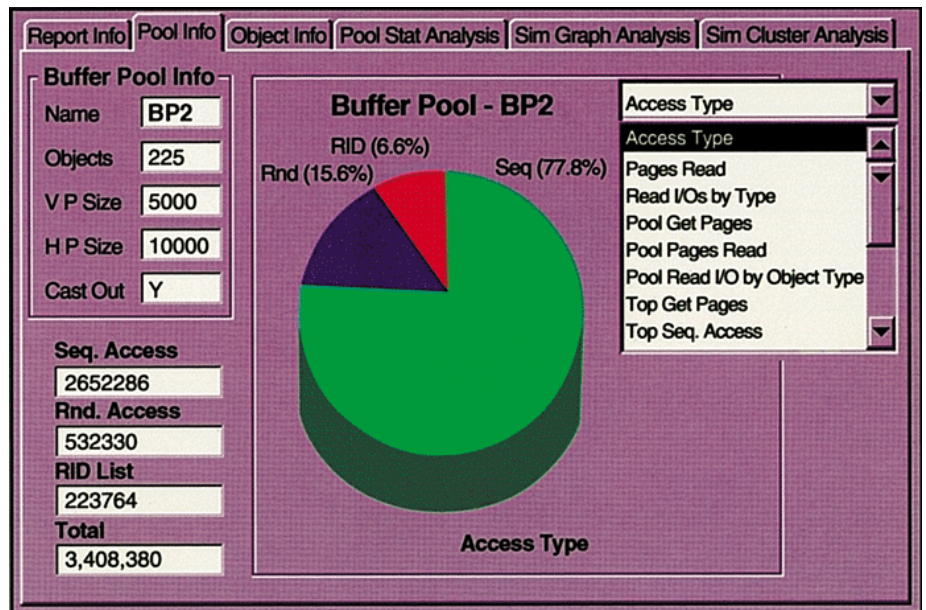
What's more, pools that do not currently exist can be used for simulations by including objects from any other pool or pools. This provides the ability to evaluate performance improvements from pool isolation at the tablespace and index space level.

The Buffer Pool Tool can be installed and operational in less than 30 minutes, really. It does not require any special hooks into DB2 and uses only standard IBM supported interfaces.

Graphic Analyzer Component

With its PC based, easy to understand graphic illustrations of pool and object performance data, it's easy to determine which pools and objects are hurting system and application performance. By processing both statistical and simulation data, it's a snap to see the performance gains from different pool sizing approaches.

In addition, the clustering analysis code helps analysts determine which Objects belong together based upon their access type and working set sizes.



The Buffer Pool Tool Advantage

By leveraging the advanced capabilities of the Buffer Pool Tool, you can:

- . Significantly reduce I/Os
- . Improve application response times
- . Optimize memory utilization
- . Maximize system throughput
- . Delay or cancel processor upgrade
- . Save CPU cycles
- . Predict the effect of changes
- . Analyze pool and object visage
- . Shows poor application access for objects

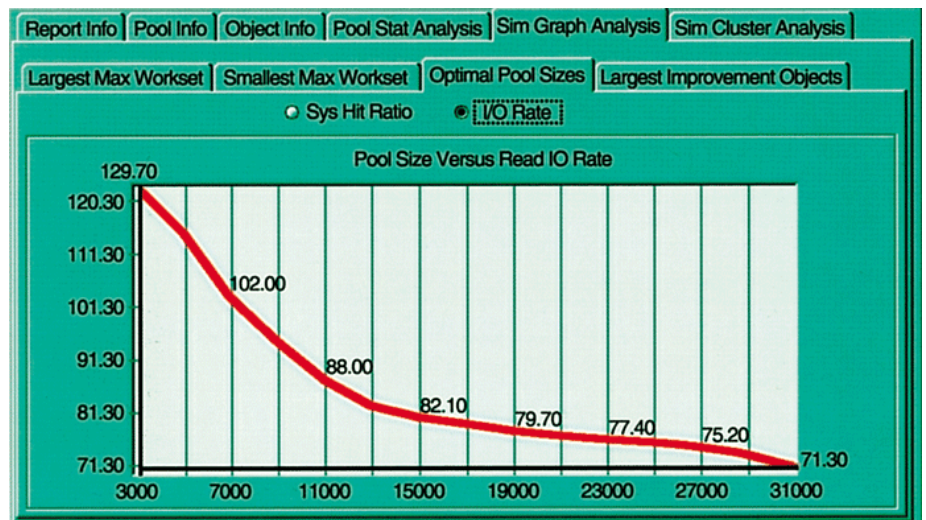
Buffer pool performance is not good at most installations even when they think it is and just throwing memory at it does not optimize performance, in fact, it may hurt performance.

The only current way to optimize pool performance and reduce application I/O wait time is with the Buffer Pool Tool

Richard Yevich

Many Graphics Options

More than twenty graphs easily highlight important performance information, and shows the Top Ten object in several categories. This information quickly shows which objects are monopolizing pool resources, and have the greatest impact on the pool and system performance.



Optimal Pool Size

Visually shows the effect of Pool Size versus the I/O rate per second and lets the analyst determine the best pool size based on memory available and potential payback.

Report Info | Pool Info | Object Info | Pool Stat Analysis | Sim Graph Analysis | Sim Cluster Analysis

Pool Usage Intent
 Sequential Random

Pool Size: 15000 Cluster Radius: 1.8

Cluster Info

Clusters

Clus...	Smallest Max...	Largest Max WS	Object	Max Work Set
1	5661	12868	T CHINGMAN.CMNBASE	5661
2	799	2807	T ARODB.TACRAAPP	12868
3	1	447		

Simulation Cluster Analysis

A Statistical Analysis technique helps the analyst determine which objects belong together based on access type (random or sequential) and the working set size of objects at varying simulated pool sizes. This determination can be simulated to measure and verify its effects on the current pool and objects, other pools, or a completely new pool.

Coupling Facility

This PC based component applies IBM based sizing formulas to actual system performance data to provide initial sizing estimates for Coupling Facility Structures. Since data from multiple DB2 subsystems can be used, the evaluation of infinite "what-if" scenarios is possible without the tedious collection of information and repetitive re-calculation of results common to most approaches. What's more, since the Coupling Facility uses real performance data, it avoids all the subjective IBM classifications of "small, medium, or large."

Coupling Facility

Select Files | Select Shared Pools | Select Shared Objects | View Results

System Information

Collection Time: 01:30:00 No of Shared DB2: 3

No of Pools Shared: 15 Total System Objects: 1497

Pool	Shared	Cache All	VP Size	HP Size	GBP Size
BP0	127	0	8000	0	4000
BP10	2	0	20000	325000	53000
BP12	94	0	6000	10000	3000
BP13	60	0	6000	12000	4000
BP14	1	0	10000	140000	23000
BP15	1	0	6000	22000	5000
BP3	99	0	44000	220000	41000
BP4	177	0	34000	210000	38000

Recommendations

SCA Size: 16 Mb IRLM ECSA Size: 10 Mb

Lock Structure Size: 16 Mb

Directory/Data Ratio: 4 Total Memory Required: 1182 Mb

CF Sizing

Provides the initial sizing for all CF structures, and estimated total memory necessary to support these requirements. While these are only starting points, and you may have to tune up or down from these, the information provides quick input for the planning process. It allows you to be sure that the CF will have adequate total memory for future tuning requirements.

For More Information

For more details on how the Buffer Pool Tool can improve your system and application performance, as well as reduce processing costs, call 732 972.1261 today.