

# StarTool IOO

## SOLUTION BRIEF

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### Key Benefits

- Automates I/O tuning for the enterprise
- Reduces analyst time devoted to I/O tuning
- Can reduce processing time by 30-50%
- Dynamically adjusts performance criteria and operating conditions based on I/O requests
- Intelligence database contains industry standard I/O performance information
- Easy to use customization for individual data sets or job names

As a z/OS Performance professional, you have long known that the best manual tuning cannot produce the performance savings of an automated and dynamic tuning utility. However, until now, no one single integrated and comprehensive tool existed to tune all of your I/O processing with one easy to maintain approach. Serena StarTool IOO is the most comprehensive, cost-effective, fastest and easiest way to achieve total, automated system tuning.

Serena StarTool IOO is an integrated optimization system that automatically and dynamically tunes the major components of z/OS's I/O processing functions to achieve dramatic throughput improvements both in batch and on-line. It is the ultimate I/O throughput optimizer for z/OS. It is based on a proprietary analysis and intelligence gathering process during OPEN processing and I/O request to any VSAM or SAM (QSAM, BSAM and EXCP) data set. Serena StarTool IOO delivers the performance needed for applications that operate in today's fast-changing business environment.

### VSAM Optimization

Eighty percent (80%) of all VSAM mainframe applications use Non-Shared Resources (NSR) because most only support NSR. Serena StarTool IOO allows programs written in any language (including COBOL) to use Local Shared Resources (LSR) when the program is dynamically or randomly accessing a VSAM file. Serena StarTool IOO builds the optimal number of LSR buffers to maximize performance. Most indexes are placed in main memory to reduce the number of physical I/Os to access a logical record. If sequential processing is requested, the number of NSR buffers for read-ahead processing is provided. LSR and NSR buffers are built above the 16M line to alleviate virtual storage constraints in the private area. For LSR, expanded storage using hyperspace buffering is automatically and transparently used when the file size is larger than the LSR pool.

## **Dynamic Memory Management**

For those programs that are coded in assembler and already use native LSR, the perfect quantity of above the 16M line buffers and hyperspaces are transparently allocated based on file size. For all LSR processing (NSR-LSR or LSR native), a separate LSR pool is used for each file (up to 255 LSR pools transparently allocated) to eliminate buffer stealing. When applications change processing modes from Direct to Sequential, Serena StarTool IO O detects this and re-optimizes tuning parameters.

## **Sequential Optimization**

Serena StarTool IO O dynamically optimizes SAM files to provide the best throughput and response time for I / O requests.

## **Blocking**

Most sequential QSAM, SAM and EXCP processing is highly dependent upon efficient block sizes. System Determined Block sizes cannot reblock all of a shop's sequential files. The Serena StarTool IOO replaces or enhances SDB's reblocking function and performs reblocking on all sequential data sets, including managing programs with hard-coded DCB's. The product reblocks all device types including tape data sets and reblocks without any JCL changes. The physical block size is attached dynamically and automatically managed regardless of the logical block size on which the program is dependent. Therefore, even all SORT products, FOCUS files, SAS sequential files and all QSAM and BSAM sequential files are optimized. Serena StarTool IOO is smart enough to reblock only 35% of all your eligible data sets but achieve 90% of the potential savings.

## **Buffer Management**

Serena StarTool IOO dynamically optimizes buffers and Start I/O 's for QSAM, BSAM and sequential EXCP I/Os. Specifically, it optimizes physical sequential data sets, permanent and temporary, including data sets generated by most utilities (e.g., IEBGENER, etc.). It improves QSAM, BSAM and EXCP performance as much as 75%, saves up to 50% elapsed time for DB2 Unloads and Reloads and saves up to 40% elapsed time for IDMS sweeps.

### **Built in Intelligence**

Serena StarTool IOO contains a database of information containing parameters and values that deliver the best I/O performance by type of device by type of access. Customers can easily override the rules by keying in their own parameters, or by excluding a data set or job name from Serena StarTool IOO 's optimization process. Most users, however, use the default parameters and achieve outstanding results from its I/O optimization.

### **Summary**

This solution automates the I/O tuning efforts, increases the level of benefits received from practicing performance management and boosts user productivity. By using Serena's StarTool IOO product, enterprise IS organizations can help to ensure application efficiency and responsiveness throughout the life of their z/OS based mission-critical applications, thereby controlling costs, satisfying customers, and supporting growth. Before you decide you need a new CPU, additional DASD or start a manual system tuning project, find out your true capacity and performance potential with Serena StarTool IOO.

## Contact Serena Today

For more information go to the Serena web site or contact your local sales representative. In the US, call 1-800-547-7827. For global contacts, visit <http://www.serena.com/company/contact-us.html>.

## ABOUT SERENA

Serena Software, Inc. is the leading global independent software company focused on Business Mashups, Project Portfolio Management and Application Lifecycle Management. More than 15,000 organizations around the world, including 96 of the Fortune 100, rely on Serena solutions to automate the application development process and effectively manage their IT portfolio. Serena is headquartered in Redwood City, California, and has offices throughout the U.S., Europe, and Asia Pacific.

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