SmartProduction

What are the production challenges faced by your IT department?

Are they associated with batch windows, online uptime, legacy batch system performance, or the development and deployment cycles of new business applications? Now you can meet these challenges, despite day-to-day setbacks or declining budgets. SmartProduction® is the tool that will make it happen.

SmartProduction is an innovative software tool that increases your system online up-time by reducing batch run time of production jobs and applications. It examines and analyzes job flow and application inefficiencies rather than the system capacity and system performance. SmartProduction identifies jobs and data sets that are the best candidates for improvement and provides you with immediate, concrete suggestions for tuning actions, JCL modifications, data set allocation attribute changes and more. The results are dramatic, yet easily achievable.

Unlike other tuning packages and optimizers that focus on system capacity and system performance, SmartProduction explains where, when and why production inefficiencies occur, and provides solutions that improve your batch applications and increase online availability. SmartProduction effectively shows you how to increase the efficiency of your existing production work. It analyzes the job flow and application resource consumption after the production flow has been completed, so there is no additional monitoring overhead during job run-time.

SmartProduction does not merely pinpoint application performance problems; it provides you with specific solutions that, when implemented, will make your jobs run smarter and more efficiently.

Identifying the Challenges

You know how important it is to deliver production and on-line services in a thorough, timely and cost-effective manner. The efficiency of your business applications has a huge impact on your company's success especially as you try to sustain a strategic business edge in today's highly competitive marketplace. In order to maintain this edge, it is crucial to reduce the resource and time consumption of business applications.

SmartProduction enables you to dramatically reduce the resource consumption and elapsed run-time of your production jobs and applications. It utilizes a comprehensive set of more than 300 separate tests that facilitate batch window reduction. In many cases, on-site studies have indicated a reduction by as much as 30%.

How SmartProduction Works

SmartProduction locates logical inefficiencies within your applications, job flow, and data sets. The best candidates for improvement are identified in simple, user friendly reports. Users can then retrieve an analysis of the inefficiencies, including solutions that will deliver immediate, dramatic improvements in production performance without making any modifications to the source code.

How to Use SmartProduction

SmartProduction requires minimal input by the user. Its menu-driven, fill-in-the-blanks ISPF interface allows you to easily analyze your applications, in detail, from a number of different perspectives. This results in clear, comprehensive, and easy-to-use batch and online reports. Best of all, you can spend more time solving your performance problems rather than searching for and comparing the relevant information. The Case-Based Reasoning feature provides you with an explanation of each inefficiency, and provides specific solutions. This powerful feature contains an ever-increasing amount of tuning information to help ensure that your production environment is operating at peak performance.

SmartProduction Benefits

Implement SmartProduction solutions and:

- Increase user productivity and satisfaction by providing more online time
- Reduce your CPU, I/O and DASD consumption
- Save money by extending the life of current hardware investments and postponing the need for future upgrades
- Help mission-critical applications run faster
- Improve overall system utilization
- Reduce operating costs

SmartProduction Optimization Strategies

SmartProduction can detect over 300 of production inefficiencies which, when resolved, can greatly reduce system resource utilization (e.g., I/O, CPU) and significantly cut job elapsed times.

SmartProduction applies the following seven key strategies to improve the performance of the production batch workload:

• Eliminate Unnecessary Processing

Often there are certain tasks (jobs, steps, functions) executed which are actually not required. For example, a job continues to run each day even though the requirement for this job was eliminated some time ago.
Eliminating such unnecessary tasks cuts down 100% of the system resource utilization and elapsed time consumed by these tasks.

Sample points: Data is created but not referenced afterwards; a job step can be eliminated; a sort is executed when the input data is already sorted.

• Optimize I/O

Batch jobs make use of certain processor resources (e.g., CPU, storage, I/O). When the elapsed time is broken into components, the bulk of the time is usually consumed performing I/O. Many techniques and options, either hardware or software, are available in order to reduce the number of I/Os and to perform the remaining I/Os as efficiently as possible.

Sample points: Non-optimal VSAM buffering; non-optimal sequential data set block size; data copied in a non-optimal manner.

• Increase Operational Effectiveness

Batch tasks (jobs, steps or specific functions) which require certain physical or logical resources are frequently delayed or slowed. Optimizing the use of resources and eliminating resource contention can significantly reduce elapsed time.

Sample points: A job allocates more tape drives than necessary; wait due to unavailable physical or logical resource (e.g., cassette drive, data set or initiator).

• Increase Parallelism

The batch workload can be run much faster if tasks (jobs, steps or specific functions) can be overlapped (that is, executed in parallel rather sequentially).

Sample Points:
- Switching to more efficient utilities (which are present at the site) to copy and extract data via "smart" I/O operations (e.g., performing overlapping I/O).
- Making optimal use of DB2 query, CPU and data-sharing parallelism.
- Optimizing the use of resources and eliminating resource contention of specific jobs. This can significantly reduce the elapsed time of other jobs which, as a result, can be submitted and run at an earlier stage.

• Increase Online Availability

Online availability requires not only that the online systems are up and active, but also that all data sets and databases used by these systems are as optimized and accessible as possible. Optimizing data sets and DB2 databases used under the online systems results in increased online availability and faster online response time.

Sample points:
- Optimizing data set definitions and accesses.
- Solving actual and potential data set access conflicts (e.g., solving ENQ conflicts, eliminating unnecessary VSAM SHROPTIONS 4 specifications).
- Optimizing DB2 database access and housekeeping (e.g., solving locking problems, using more optimal SHRLEVEL for housekeeping, optimizing housekeeping functions).

• Improve Application Efficiency

Many site-developed and vendor-provided programs and utilities are not as efficient as they could be. This causes a performance problem when the degree of inefficiency is significant.

Sample points: A COBOL program was compiled using inefficient compile options; a program performs non-optimal sorting; a program opens a sequential data set an excessive number of times.

• Reduce the Frequency and Cost of Failures

Job failures cause the batch workload to take significantly longer to complete. In some sites, these failures are a major cause of batch performance problems.

Sample points: A program has abended with system code SD37 due to unavailable DASD space; a sort process has terminated due to insufficient virtual storage.

Hardware and Software Requirements

SmartProduction executes on all processors capable of running under supported versions of z/OS and OS/390.

Live Technical Support is Available 24x7.

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Phone: 516.328.7000 • Fax: 516.354.4015 • www.seasoft.com