SAP Performance and Tuning: Configuring Adaptive Server Enterprise 15.7

Course Summary

Description

Skills gained from this class include:

- Discuss tradeoffs involved in performance tuning
- Use sp_sysmon and other utilities to tune the server for performance gains
- Properly configure memory for optimal performance
- Manage multiple engines
- Configure, tune, and size data, procedure, and partitioned caches
- Identify and correct problems in database physical design, including table partitions
- Use statistics to manage space on DOL tables and indexes
- Choose the appropriate table locking scheme for a given application
- Reconfigure Adaptive Server dynamically
- Improve performance of tempdb by sizing, placement, and solving locking

Topics

- Principles of Performance and Tuning
- Architectural Overview
- The Tuning Toolbox
- Locking Principles
- Fragmentation
- Multiple Engines
- Named Caches
- Specialty Cache Settings
- Procedure Cache and Statement Cache Tuning
- Device Usage
- Table Partitioning
- Optimizer Statistics
- Parallelism
- Logical Process Manager
- The Bulk Copy Program (bcp)

Audience

This course is designed for database administrators and system administrators.

Prerequisites

Before taking this course, students must have taken the System and Database Administration: Adaptive Server Enterprise course or have equivalent experience.

Duration

Five days

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically

ProTech "Charting the Course ...

protechtraining.com

... to Your Success!"

SAP Performance and Tuning: Configuring Adaptive Server Enterprise 15.7

Course Outline

I. Principles of Performance and Tuning
- A. Defining Performance and Tuning Principles
- B. Tuning with Benchmarks

II. Architectural Overview
- A. Outlining the Adaptive Server Architecture
- B. Describing the Task Execution Process in ASE

III. The Tuning Toolbox
- A. Using client apps to characterize system performance
- B. Interpreting the output of set commands
- C. Analyzing Server Behavior with MDA Tables and QPM
- D. Using procedures to monitor the server

IV. Locking Principles
- A. Configuring a Locking Scheme
- B. Managing Contention

V. Fragmentation
- A. Identifying Fragmentation Causes and Prevention
- B. Diagnosing and Resolving Fragmentation

VI. Multiple Engines
- A. Comparing the Process Kernel and Threaded Kernel
- B. Describing the Process Kernel
- C. Describing the Threaded Kernel
- D. Monitoring Spinlocks and Contention

VII. Named Caches
- A. Analyzing Named Cache Concepts and Behavior
- B. Configuring Named Caches
- C. Configuring Large I/O
- D. Monitoring and Tuning Caches
- E. Configuring Metadata Caches

VIII. Specialty Cache Settings
- A. Changing the MRU LRU rules
- B. Controlling Asynchronous Prefetch
- C. Using Cache Partitioning

IX. Procedure Cache and Statement Cache Tuning
- A. Outlining Procedure Cache
- B. Utilizing Statement Cache

X. Device Usage
- A. Examining Database Space Usage
- B. Tuning and Troubleshooting I/O Issues
- C. Tuning Temporary Storage

XI. Table Partitioning
- A. Partitioning Tables
- B. Identifying Benefits of Partitioning

XII. Optimizer Statistics
- A. Viewing Optimizer Statistics
- B. Creating, Updating, and Tuning Optimizer Statistics
- C. Upgrading from Prior Versions

XIII. Parallelism
- A. Outlining Parallelism Concepts and Syntax
- B. Monitoring Parallel Access
- C. Executing Parallel Sort

XIV. Logical Process Manager
- A. Configuring Execution Classes
- B. Binding Objects and Precedence
- C. Optimizing Performance Using the Logical Process Manager

XV. The Bulk Copy Program (bcp)
- A. Tuning bcp for Improved Performance

Due to the nature of this material, this document refers to numerous hardware and software products by their trade names. References to other companies and their products are for informational purposes only, and all trademarks are the properties of their respective companies. It is not the intent of ProTech Professional Technical Services, Inc. to use any of these names generically