Solaris 10 Performance Tuning

Course Summary

Description

This course will provide techniques used to tune the performance of the Oracle Solaris 10 operating environment.

Objectives

At the end of this course, students will be able to understand how to tune the facilities of the Solaris 10 OE.

Topics

- Overview of Oracle Solaris System tuning
- Oracle Solaris Kernel Tunable Parameters
- Overview of System Facility Parameters
- View and set kernel-based tuning parameters
- Tune ZFS and UFS File Systems
- Tune network subsystems: IP and NFS
- Modify CPU scheduling and virtual memory operations
- Resource management: control how applications and zones use available system resources

Audience

This course is designed for System Administrators who are responsible for the daily operation of a Solaris system and desire a better understanding of the tools that are available for tuning the environment.

Prerequisites

Students should have 3-6 months experience in Solaris 10 System Administration

Duration

One day

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Course Outline

I. Overview of Oracle Solaris System Tuning
- A. What's New in Oracle Solaris System Tuning?
- B. Tuning an Oracle Solaris System
- C. Tuning Format of Tunable Parameters Descriptions
- D. Tuning the Oracle Solaris Kernel
- E. Viewing Oracle Solaris System Configuration Information

II. Oracle Solaris Kernel Tunable Parameters
- A. General Kernel and Memory Parameters
- B. fsflush and Related Parameters
- C. Process-Sizing Parameters
- D. Paging-Related Parameters
- E. Swapping-Related Parameters
- F. Kernel Memory Allocator
- G. General Driver Parameters
- H. Network Driver Parameters
- I. General I/O Parameters
- J. General File System Parameters
- K. TMPFS Parameters
- L. Pseudo Terminals
- M. STREAMS Parameters
- N. System V Message Queues
- O. System V Semaphores
- P. System V Shared Memory
- Q. Scheduling
- R. Timers

III. ZFS Tunables and Best Practices

IV. NFS Tunable Parameters
- A. Tuning the NFS Environment
- B. NFS Module Parameters

V. Internet Protocol Suite Tunable Parameters
- A. IP Tunable Parameters
- B. TCP Tunable Parameters
- C. UDP Tunable Parameters
- D. IPQoS Tunable Parameter
- E. Network Caches Parameters
- F. Describe some of the Network Cache and Accelerator (NCA) tunable parameters

VI. System Facility Parameters
- A. Describe most of the parameters default values for various system facilities.

VII. Oracle Solaris Resource Management
- A. Introduction to Resource Management
- B. Administering Projects and Tasks
- C. Administering Resource Controls
- D. Administering the Fair Share Scheduler
- E. Physical Memory Control Using the Resource Capping Daemon
- F. Administering the Resource Capping Daemon
- G. Creating and Administering Resource Pools
- H. Managing Zone resources with the Resource Manager

VIII. Zones: Resource Controls Used in Zones
- A. Resource controls and attributes used in a zone to control projects, tasks, and processes
- B. Resource controls and attributes used in a zone to control CPU, memory, swap usage
- C. Fair Share Scheduler

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