AIX6 Performance Tuning

Course Summary

Description

This course combines lectures and hands-on exercises that teach the skills necessary to understand, analyze and tune AIX Version 6.1 performance.

Objectives

At the end of this course, students will be able to:

- Understand how AIX6 uses CPU, real memory, I/O and network
- Analyze AIX performance issues
- Tune AIX kernel parameters to optimize performance

Topics

- Performance tuning commands
- Understanding and tuning CPU usage
- Real memory usage and paging
- Physical, Logical and File System I/O
- Network Performance

Audience

This course is designed for experienced AIX V5 system administrators who will manage performance tuning issues for IBM's AIX 6.1 operating system.

Prerequisites

Students should have strong background working with the AIX V5 operating system, including a good understanding of process management, memory monitoring, LVM configuration and network management.

Duration

Two and one half days

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Course Outline

I. Performance Tuning Commands
- A. The Importance of Baselines
- B. Gathering data
- C. AIX6 Tuning Commands
- D. /etc/tunables files

II. CPU Performance
- A. The Process Life Cycle
- B. Priority Calculation and Run Queues
- C. Mode and Context Switching
- D. The Importance of Cache
- E. SMT
- F. Monitoring CPU Usage

III. Real Memory and Paging
- A. The Memory Access Stack
- B. How Virtual Memory Works
- C. VMM Terminology
- D. The Page Stealer
- E. Tuning Page Replacement
- F. Monitoring Memory Usage
- G. Page Space Policies

IV. Physical and Logical I/O
- A. LVM Issues and Tuning
- B. Physical Disk I/O
- C. Monitoring Disk and LV I/O
- D. File System Performance Issues
- E. Monitoring File Systems
- F. File System Tuning

V. Network Performance
- A. The TCP/IP Stack
- B. Network Memory Usage
- C. Network Protocols
- D. Tuning the Stack
- E. Monitoring Network Performance

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