

z/OS Performance Tuning and Control with WLM

Course Summary

Description

This course provides the fundamentals of z/OS performance management for systems programmers and performance analysts. Specific topics will focus on the basics of performance management, resources components that are affected, and the workload manager definitions that will be used to assign resources according to priorities. In addition, exercises related to problem diagnosis and tuning adjustments will be used to illustrate the effects of various decisions.

Topics

- Performance Management Overview
- System Components of Tuning: Processor
- System Components of Tuning: Memory
- System Components of Tuning: I/O
- Workload Characterization
- Managing System Resources

Audience

This course is designed for systems programmers and performance analysts that need a better understanding of performance management, performance metrics, and the means for defining resource distribution using Workload Manager (WLM)

Prerequisites

Students should take ProTech's z/OS Fundamentals or have equivalent knowledge.

Duration

Five days

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Course Outline

I. Performance Management Overview

- A. Define elements of performance tuning
- B. Examine basic queuing models
- C. Interpret results of queuing theory models

II. System Components of Tuning: Processor

- A. Evaluate processor power ratings
- B. Examine key processor metrics
- C. Review data gathering methods for processor metrics

III. System Components of Tuning: Memory

- A. Review paging/swapping mechanism
- B. Examine real, expanded, and auxiliary storage metrics
- C. Review data gathering methods for storage metrics

IV. System Components of Tuning: I/O

- A. Review I/O subsystem components
- B. Examine I/O metrics
- C. Review data gathering methods for I/O metrics

V. Workload Characterization

- A. Review processes for grouping comparable workloads
- B. Establishing workload objectives

VI. Managing System Resources

- A. Service class definitions
 - 1. Importance levels
 - 2. Execution velocity
 - 3. Response time goals
 - 4. Performance Index
 - 5. Classification rules
- B. Setting exception conditions
 - 1. Resource groups
 - 2. CPU/storage critical settings
- C. Service coefficients and options
 - 1. Service coefficients
 - 2. I/O priority management
 - 3. Dynamic alias management
- D. Applications environment
 - 1. Specifying and managing application environments
 - 2. Server limits for application environment
- E. Scheduling environments
 - 1. Specifying scheduling environments
 - 2. Managing resource states
- F. WLM managed initiators
- G. Intelligent Resource Director
 - 1. LPAR CPU Management
 - 2. Dynamic Channel Path Management
 - 3. Channel Subsystem Priority Queuing
- H. Workload licensing limits
- I. SMF type 99 records