

Training: IBM

### Basic z/OS Tuning Using the Workload Manager



### TRAINING GOALS:

Do you need to know how to establish a practical performance management program for your z/OS system? This course is designed for new performance analysts to learn to work with the Workload Manager (WLM) in goal mode. Learn concepts of WLM and performance management in the z/OS system using the WLM.

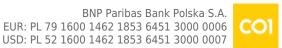
Learn how to analyze Resource Monitoring Facility (RMF) reports and implement service definitions using the WLM Interactive System Productivity Facility (ISPF) application. The course uses z/OS handson lab exercises to reinforce the concepts and techniques discussed in lecture.

#### Hands-on labs

This course includes hands-on lab exercises. Each student team, working on their own z/OS system, will configure RMF, analyze RMF reports to find bottlenecks, and utilize the WLM dialogs to create goals and classification rules in a service definition that manages a supplied z/OS workload.

- Describe a performance and tuning methodology
- Develop a systematic z/OS performance and tuning plan
- Describe the factors which could affect the performance of an z/OS system
- Use the WLM ISPF application
- Describe the components of a service definition
- Define workloads and service levels and classification rules
- State which z/OS commands affect WLM operation
- Identify the major WLM services for z/OS, including enclaves and application environments, and how they are used by DB2, WebSphere, and CICS
- Analyze CPU performance when running in a shared LPAR environment
- Utilize and monitor zIIP and zAAP specialty engines
- Measure and tune z/OS DASD, processor storage, and coupling facility configurations
- Explain the functions and facilities of RMF and SMF
- Analyze performance bottlenecks using RMF
- Use Workload License Charges (WLC), defined capacity and soft capping to manage software costs
- Describe advanced z/OS environments that utilize Intelligent Resource Director (IRD),
  HiperDispatch, z/OSMF Workload Management, and I/O Priority Manager

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- Use the z/OSMF Workload Management (WLM) task
  - Use Performance Monitoring with z/OSMF
  - Modify a WLM service definition to meet the requirements for monitoring a specific system workload
  - Create and customize Monitoring Desktops
  - Review any issues by using the Monitoring Desktops options displays
  - Assess the performance of the workloads running on the z/OS

This is an intermediate course for z/OS system programmers, z/OS performance analysts, and z/OS performance administrators new to performance management for their z/OS system.

Note: ES54 is intended for individuals new to WLM and the z/OS performance area

## CONSPECT:

### Day 1

- Welcome
- Unit 1 Tuning methodology
- Unit 2 Using SMF and RMF to monitor performance
- Lab 1 Introduction to your system
- Lab 2 Using RMF Monitor I and Monitor II

### Day 2

- Unit 3 Performance impacts when running in a shared LPAR environment
- Unit 4 Basic system workload management (part 1)
- Lab 3 Implementing a WLM environment on z/OS (part 1)

### Day 3

- Unit 4 Basic system workload management (part 2)
- Lab 3 Implementing a WLM environment on z/OS (part 2)

### Day 4

- Unit 5 WLM commands, internals, and service
- Lab 4 Using RMF Monitor III to solve performance problems

#### Day 5

Unit 6 - z/OS DASD performance topics

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- Unit 7 Tuning processor storage
- Unit 8 Miscellaneous performance topics
- Lab 5 z/OSMF and performance management

# **REQUIREMENTS:**

#### You should:

- Understand basic MVS and z/OS operation, such as job flow through JES, job scheduling paging, swapping, dispatching controls, and I/O scheduling
- Have a basic knowledge of the purpose of the Workload Manager's function in managing system workloads
- Be familiar with using TSO and ISPF to manage data sets and run batch jobs

Difficulty level

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