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Course Code: OL66G

Course Title: IBM i Performance Tuning - II: Advanced Analysis and Capacity Tuning

## Description:

This course will help you to better understand the techniques of performance analysis and capacity planning on systems and partitions running IBM i and develop an appreciation of how IBM i operates and interfaces with applications. This course is expected to build skills to better manage performance and capacity on systems and partitions running IBM i.

The course explains IBM i concepts, including the Technology Independent Machine Interface (TIMI), main storage pools, auxiliary storage pools, management of jobs, threads, and tasks, job run-time structure, performance monitoring, data collection, and analysis of performance data.

This course includes hands-on activities using performance data from IBM i systems to help the student appreciate the concepts discussed. This course is designed for those running Power Systems on IBM i. While it includes i 7.2 content, it is suitable for those currently using prior versions of IBM i.

The first part of this course (units 1-6) focus on teaching the performance management process, the performance considerations of key hardware components and virtualization options, and tuning options to help optimize performance. During these lectures, students should gain an appreciation of the unique storage management and work management components in the IBM i architecture and how these components need to be managed for optimal performance.

The second part of this course focuses on the tools and techniques to monitor, analyze, and plan for performance of Power Systems with IBM i and Logical partitions (LPARs).

The primary analysis tool that will be used is the Performance Data Investigator (PDI) which is included with IBM Navigator for i. PDI is also used with IBM Systems Workload Estimator (WLE) for capacity planning activities.

## Objectives:

- Understand the techniques of performance analysis and capacity planning of Power Systems and logical partitions (LPARs) running IBM i
- Acquire the skills to better manage performance on Power Systems running IBM i
- Enhance your knowledge of IBM i storage management, job / thread / task management, and the use of performance data collection, and monitoring tools to better manage IBM i work
- Manage the latest virtualization and logical partitioning features of Power Systems for optimal performance
- Use the latest tools and methodologies in IBM i 7.1 and IBM i 7.2 to manage and analyze system and application performance
- Gain experience with Performance Data Investigator in IBM Navigator for i including Collection Services, Job Watcher, and Disk Watcher features
- Use IBM Workload Estimator and other performance tools to perform sizing and capacity planning on Power Systems
- Understand methodologies for identifying and selecting appropriate performance data when planning upgrades and other capacity planning tasks

## Prerequisites:

It is advantageous if you have completed the following course or if you have equivalent skills or experience on the IBM i work management and basic tuning:

- IBM i Performance Tuning - I: Performance Tools and Basic Tuning (OL23G)

Knowledge of IBM WebQuery for i or other query options will be useful.

## Duration:

32 Hrs

## Topics:

### Day 1

- Welcome
- Unit 1: Performance management process
- Unit 2: IBM Power Systems
- Unit 3: Components of performance
- Unit 4: Disk performance considerations
- Unit 5: Logical partition performance considerations

### Day 2

- Unit 6: Work management review and tuning options
- Unit 7: Real-time monitoring
- Unit 8: Collection Services: Data collection
- Unit 9: Performance Data Investigator overview
- Unit 10: Investigating data: Collection Services
  - Lab 1: Review performance data
- Unit 11: Performance Tools reports and gras

### Day 3

- - Lab 2: Performance reports
- Unit 12: Capacity planning
  - Lab 3: Estimate performance requirements
- Unit 13: Collection Services data files
  - Lab 4: Performance data: QAPMDISK (optional)
  - Lab 5: Disk performance analysis with PDI

### Day 4

- - Lab 6: Analyze QAPMSYSTEM data
- Unit 14: Run-time (run/wait) analysis
  - Lab 7: Run-time analysis
- Unit 15: Investigating data: Disk Watcher Unit 16: Investigating data: Job Watcher
  - Lab 8: Disk Watcher analysis
  - Lab 9: Job Watcher analysis

## Audience:

This course is intermediate complexity and is suitable for IBM clients, Business Partners, and technical support and service individuals interested in performance management and capacity planning on Power Systems and logical partitions (LPARs) running IBM i.