z/OS System Services Structure

Duration: 5 Days Course Code: ES20G Delivery Method: Virtual Learning

Overview:

This course presents the structure and control blocks of the z/OS BCP and system services.

It prepares the z/OS system programmer to identify potential bottlenecks and performance problems, perform initial error symptom gathering, and identify opportunities and requirements for tailoring an z/OS system. This course also provides prerequisite information needed for further training in specialized areas such as system measurement and tuning and system problem determination.

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

This is an intermediate course for z/OS system programmers responsible for customization, measurement and tuning, or problem determination of z/OS. Subsystem programmers will also benefit from this class.

Objectives:

- **After this course participants should be able to:**
- Explain the z/OS functions and control blocks necessary to support a task in a multitasking and multiprocessing environment
- Describe the software and hardware functions that allow a program to interact with programs running in other address spaces, use data in other address spaces, and use data in data spaces
- Trace the flow of an I/O operation from the initial request in the application program through the completion of data transfer
- Identify the control blocks that describe the current status of an I/O request
- Describe the functions of the z/OS Virtual, Real, and Auxiliary Storage Managers
- Describe the functions performed by the Recovery Termination Manager and recovery management components to minimize failure impact and enhance error correction
- Select the appropriate IBM publication to provide further technical information (SRLs, Technical Bulletins, Self-study and other z/OS courses)
- Describe the services provided by cross system extended services (XES)
- Identify and explain the purpose of the cache, list, and lock structures
- Plan the implementation of the global resource serialization STAR environment

Prerequisites:

Before taking this course, you should be able to:

- Describe the following z/OS characteristics: multiprocessing, multiprogramming, virtual storage and paging, and multiple address space/data space architecture
- Explain how paging and swapping are accomplished through the interaction of real/central, expanded, auxiliary, and virtual storage in an z/OS system
- Explain the role of the dispatcher, interrupts, SVCs, the program manager, and serialization in managing work in an z/OS system
- State the role of z/OS software and hardware components in

Testing and Certification

None

handling an I/O request for data on a direct access storage device
These prerequisites can be met through on the job training or completion of z/OS Facilities (ES15).

Note: A fundamental knowledge of hexadecimal notation, assembler language, and z/Architecture instruction execution will enhance a student's understanding of the course material. Completion of Assembler Language Coding Workshop or Assembler Language Series is recommended.

Follow-on-Courses:

None

Content:

System Introduction

- z/OS Review
- z/OS System Components Review
- Introduction to Control Blocks
- Basics of z/Architecture

Operating Environment Initialization

- System Libraries
- Initial Program Load

Task Management

- Task Dispatching
- Service Request Scheduling
- Program Managing
- Serializing Resources
- Supervisor Calls
- Status Saving on Interrupt

Addressability

- Addressability Review
- Cross Memory Services - Addressability to Two Address Spaces
- Extended Addressability to Multiple Spaces

Input/Output Supervisor

- I/O Definition and Initialization
- I/O Request Flow
- I/O Interrupt Flow
- Error Handling

Storage Management

- Storage Management Review
- A Programmer Use of Storage
- Paging and Swapping
- Coupling Facility Storage
- Exploitation

Recovery Termination Manager (RTM)

- RTM Overview
- Preparing the Environment
- Normal Termination Processing
- Abnormal Termination Processing
- Recovery Management Support

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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