z/OS Concepts & Facilities Training

Duration: **2 Day**

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Overview

The essential introduction to z/OS, this course provides a firm technical view of IBM's z Systems mainframe environment, with the emphasis on z/Architecture and z/OS, IBM's strategic mainframe operating system.
The course also provides an overview of all the associated software and system components that comprise the complete system.

This course is also available for one-company, on-site presentations and for live presentation over the Internet, via the Virtual Classroom Environment service.

Prerequisites

Attendance of the course **IBM z Systems - Explained** or equivalent knowledge is recommended, as is an understanding of TSO and JCL.

What You Will Learn

- describe the mainframe hardware components
- explain how I/O components are configured and used
- describe the main features of z/OS and its associated system software
- explain the relationship between the hardware and software
- explain the relationship between MVS and its associated components
- understand how to use an MVS system via TSO and batch jobs
- describe how data is managed by SMS.

Outline

The z/OS Platform

The components of a mainframe computer; Real Storage; Central Processing Unit (CPU); Channel Subsystems (CSS); What is a computer program?; A computer program needs memory; A Control Program; Multiple programs in memory; Multiprogramming; The concept of Interrupts; The purpose of an Operating System - summary; Middleware; The System z/architecture; MVS - z/OS operating systems; The history of MVS; Release cycle for z/OS; IBM zSeries processors; PR/SM; Logical Partitioning (LPAR); CF partition; Logical Partitions; Resource distribution in LPAR mode; Parallel Sysplex; Coupling Facility (CF).

I/O Devices in a z/OS Environment

Input/Output devices; Storage devices: Non-storage devices; The I/O configuration; I/O processing in principle; The channel concept; FICON; Control units, Device numbers, One control unit - many

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channels; Shared DASD; Tape devices; Tape robots; Virtual Tape; I/O devices - disk; Mainframe disks (DASD); RAID devices; I/O configuration in an IBM-type mainframe; Hardware Configuration Definition (HCD).

z/OS Overview

What hardware can do; Software responsibilities; z/OS - an operating system; z/OS components; z/OS - always in storage; Getting real work out of it; Initiators; The application program; Program Execution Environments; Running 'real' programs; Job Management; Resource Control; Allocation; Task Management; Program Management; Supervisor Services; Storage Management; I/O processing; Access Methods; IOS drivers; I/O Supervisor (IOS); I/O processing; Workload Manager (WLM); Recovery Termination Manager (RTM); Abnormal termination - application; Sysplex; Using sysplex; z/OS components that exploit sysplex; Other components that use sysplex; Parallel sysplex; Exploiting the parallel sysplex.

z/OS Data Handling

Data access methods; Data structure: VSAM, OAM, QSAM, BPAM; Batch systems access; Utilities: Text editor, Assembler, Compilers, Binder, Interpreters; Networks; Teleprocessing systems; Application program; Mainframe networking protocols; SNA; TCP/IP; How is z/OS communications software packaged?; Importance of a teleprocessing system.

The Total Mainframe Software Package

Mainframe software control; A typical z/OS system; IBM system software; System Software in the z/OS environment; Required add-on products; DFSMS/MVS; Important operating system software; Communications system software; Network support in z/OS: SNA, TCP/IP; Transaction Managers and Data Base Systems; Terminal Monitor (TM) systems; Database systems; Application development tools; High level languages; Other z/OS related products.

Working with z/OS

Starting a TSO session; VTAM application selection; TSO logon panel; TSO logon procedures; ISPF primary options; UNIX support in z/OS; The Kernel address spaces; Using UNIX services; File systems; UNIX Shell; ISHELL ISPF panels; Batch processing; JCL statements; One or more jobs in a JCL stream; Getting a batch job into the system; Batch job queues.

Data Management

ICF catalogs; ICF components; ICF catalog layout; HSM functional overview; HSM working with SMS; SMS managed data.