z/OS System Anatomy Part 2 - z/OS Infrastructure & Services Training

Duration: **5 Day**

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Overview

This course, and its associated Part 1, together form the heart of the z/OS training curriculum for Systems Programmers.
In this second course, attendees learn the functions of the major z/OS components in considerable detail, and learn how the interaction of job, task, storage and data management provides service to the end user. This is done by following the sequence of events as a unit of work passes through the z/OS system from initial submission to completion.

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 on the course **z/OS System Anatomy - Part 1**, or equivalent experience.

What You Will Learn

- describe the functions of MVS and JES2
- use GRS effectively
- exploit program management
- explain how the dispatcher works
- describe Cross Memory Services (XMS) and how it works
- install user SVCs
- describe how MVS invokes recovery and when to use ESTAE routines
- explain how WLM works to manage z/OS resources
- design and setup the DASD subsystem
- isolate I/O problems.

Outline

Job Management

Job processing; SSI; input phase; internal readers; initiators; SWA control blocks; ENQs; allocation; PPT; job termination; output phase.

Subsystem Interface (SSI)

Why Subsystem Interface?; SSI - a universal tool; The Master Subsystem (MSTR); ES services via SSI; Establishing a subsystem; Defining the subsystem to MVS; Setting up SSI; Starting a subsystem; Initialising a subsystem; Asking for subsystem service; SSI at work...; Dynamic SSI; Chapter Review; Subsystem Lab.

Resource Control

Resource serialization and how it is accomplished through the use of ENQ/DEQ sequences; shared DASD; GRS & Sysplex; locking; lock categories; SETLOCK, SPIN & SUSPEND; lock manager processing.

Program Manager

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The search sequence used by the program manager when attempting to load a module; performance and load module integrity issues; using LOAD; LINK; XCTL; Linkage Stack; control blocks; JOBLIB/STEPLIB.

Dispatcher

Units of work- SRBs & TCBs; dispatching sequence; address space structure; ASCB/ASXB contents; TCB contents.

Inter Address Space Communication

Hiperspaces; data spaces; cross memory services; service request blocks (SRBs); the cross-system coupling facility (XCF).

SVC Processing

Installing SVC routines in an MVS system; SVC types; SVC FLIH; status saving; SVC coding conventions; SVCUPDTE facility.

Recovery Termination Manager

Recovery routines available to user programs and the Recovery Termination Manager; RMS; program termination types; ESPIE; ESTAE; FRR routines.

Workload Manager

WLM's purpose; WLM's tools; compatibility mode; dispatching priorities; storage isolation; logical swapping; user & system think times; goal mode implications; classification rules; response time goals; velocity goals; discretionary goals.

Direct Access Storage Devices

Track formats; CKD format; RPS; VTOCs; DSCB types; VTOC Index; VTOC listing; Catalogs; opening data sets; SMS.

Data Management

Access methods; DCB concepts; OPEN & TIOT; DEB; DCB merge; open processing; channel programs; ECBs & IOBs; EXCP; QSAM; synchronising the I/O; analysing completed I/O; close processing.

IOS and its Drivers

IOS; IOS drivers & components; building an IOQ; building an ORB; CSS at work; I/O interrupt handler; post status; VSAM; control intervals; linear data sets; PDSEs; the ACB; open processing; Get & Put; VSAM control blocks.