Z/OS Diagnostics and Debugging

Course Summary

Description

This class focuses on using the tools available to narrow the scope of system problems, identify failed components, and debug operating systems problems. Emphasis will be on problem diagnosis and "hands-on" exercises using the available tools. Differences that will be encountered on z/OS will be discussed as appropriate throughout the course.

Topics

- Problem types and their diagnosis
- Abends
- System "hangs" or wait states
- System or component loops
- Incorrect output or corrupt operation problems
- Performance/availability problems
- Component identification and isolation
- Diagnostic tools and their usage
- Abends
- Tracing mechanisms
- LOGREC
- Service Aids
- IPCS
- System failure versus recoverable scenarios

Audience

This class is intended for experienced systems programmers.

Prerequisites

Students should have a good understanding of TSO/E, JCL and OS/390 functions.

Duration

Five days

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Course Outline

I. Problem diagnosis overview
- A. Types of problems
- B. Component failure isolation approaches
- C. Assessment
- D. Specifying symptoms

II. IPCS
- A. Verbs and functions
- B. CLISTS and customization options

III. Abends and dump processing
- A. Dump types
  1. SVC Dumps
  2. Stand-alone dumps and their use
  3. Abend dumps
  4. SNAP dumps
  5. Transaction dumps
- B. System and component reference data

IV. SLIP Traps

V. Tracing tools and procedures
- A. System trace (ST)
- B. Master trace
- C. Generalized tracing facility (GTF)
- D. Component trace (CT)
- E. Transaction trace
- F. GETMAIN, FREEMAIN, STORAGE trace

VI. Service Aids
- A. SPZAP
- B. AMBLIST

VII. Additional diagnostic data
- A. LOGREC data

VIII. Assessing system recovery options
- A. Spin loops
- B. Performance/availability problems