

## **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 Z/OS 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