CICS/TS for System Programmers

Course Summary

Description

Upon completion, attendees will be able to confidently install and customize a CICS Transaction Server system. They will be able to describe how CICS resources are defined and how CICS Communicates with VTAM and TCPIP. The attendee will understand the VSAM and DB2 interfaces as well as the Operational and Intersystem Communication Interfaces. The major CICS Utilities are also covered as is Recovery and Logging. The attendees will also be able to describe the CICS-MQ Interface, Threadsafe and understand what is available for Problem Determination. There is also an introduction to CICS Web Services. A CICS/TS system will be available for online access.

Topics

- CICS Generation and Customization
- CICS/TS Internal Structure
- CICS/TS Storage Manager
- The CICS Tables
- Resource Definition Online
- CICS/VTAM/TCPIP Interface
- CICS to MQ Connectivity
- CICS Security Requirements
- File Control and Db2
- CICS Operations
- Defining MRO and LUTYPE6.2
- Controlling the MRO and LUTYPE6.2 environment
- Understanding CICS/TS Logging
- Recovery and Restart
- CICS Utilities
- CICS/TS Web Services
- Understanding CICS/TS Threadsafe
- Problem Determination

Audience

This course is designed for CICS systems programmers and technical CICS programmers needing a better understanding of CICS.

Prerequisites

Before taking this course, students should have two to three years of experience in supporting CICS Transaction Server.

Duration

Five days
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Course Outline

I. CICS Generation and Customization
   A. Defining the CICS Datasets
   B. How to define CICS to z/OS
   C. How to define CICS to VTAM and TCPIP
   D. Understanding the CICS Startup JCL

II. CICS/TS Internal Structure
    A. The Role of the Domains
    B. The Role of the Kernel Domain
    C. The Role of the Transaction Manager Domain
    D. The Role of the Application Domain
    E. The Role of the Dispatcher Domain
    F. The Major Control Blocks

III. CICS/TS Storage Manager
     A. The Storage Manager Facilities
     B. Storage Protection
     C. The Dynamic Storage Areas
     D. The Transaction Isolation facility

IV. The CICS Tables
    A. The Program List Table Post Initialization
    B. The Program List Table Shutdown
    C. The System Initialization Table
    D. The System Recovery Table

V. Resource Definition Online
   A. The DFHCSD dataset
   B. The CEDA transaction
      1. CEDB
      2. CEDC
   C. The Components of RDO
   D. Building the Definitions for CICS
   E. The Batch Facility
      1. DFHCSDDUP
   F. The CICSLOG destinations
      1. Audit trailing

VI. CICS/VTAM/TCPIP Interface
    A. The major VTAM control blocks
       1. ACB
       2. NIB
       3. RPL
       4. Bind
    B. The Terminal Control Table
    C. Sequential Terminals
    D. Controlling the VTAM Interface
    E. Defining the TCPIP interface
       1. The TCPIPSERVICE definition
       2. The Listener Transaction
       3. Defining Sockets and Ports
       4. Incoming Transactions

VII. CICS to MQ Connectivity
     A. CICS / MQ Relationship
     B. SIT Implications
     C. CSD Definitions
     D. The RACF Class Descriptors
     E. How to define the CICS Resources to RACF

VIII. CICS Security Requirements
      A. Sources of threat
      B. What can be secured
      C. Identifying CICS datasets
      D. The RACF Class Descriptors
      E. How to define the CICS Resources to RACF

IX. File Control and Db2
    A. Defining the FCT
    B. The VSAM environment
    C. Displaying the FCT online
    D. Db2 components
    E. The Attachment facility
    F. The DSNC transaction
    G. Defining the CICS/Db2 resources

X. CICS Operations
    A. The Master Terminal Operation
       1. CEMT
    B. Different options to Start CICS
       1. INITIAL
       2. COLD
       3. AUTO
    C. Shutting Down the CICS system
    D. CICS Supplied Transactions
    E. CEBR
    F. CECI
    G. CEDF and CEDX
    H. CEDA
    I. CETR
    J. CMAC
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Course Outline (cont’d)

XI. Defining MRO and LUTYPE6.2
   A. The MRO environment
   B. The Online options needed to define MRO
   C. The LUTYPE6.2 environment
   D. The Online options needed to define LUTYPE6.2
   E. How to Define the TOR, AOR, FOR
   F. What is the CICS Relay
   G. What is the Mirror
   H. Defining TCPIP Links

XII. Controlling the MRO and LUTYPE6.2 environment
    A. Establishing the Intersystem environment
    B. Controlling the Interface
    C. Resolving Intersystem Problems

XIII. Understanding CICS/TS Logging
      A. Defining the System Logger
      B. IXCMIAFU – The XCF Admin Utility
      C. The role of DFHLOG and DFHSHUNT
      D. Error Situations
      E. Security and Operations

XIV. Recovery and Restart
     A. Dynamic Transaction Backout
     B. Emergency Restart
     C. Exclusive control
     D. Defining Recoverable Resources
     E. Considerations for Backout

XV. CICS Utilities
    A. DFHSTUP – Tuning and Statistics
    B. DFH0STAT and the STAT Transaction
    C. DFHEISUP
    D. DFHJUP
    E. DFHMNDUP
    F. DFHRMUTL

XVI. CICS/TS Web Services
     A. Web support overview
     B. Sit implications and definitions
     C. Using TCPIP$SERVICE definition
     D. Using DOCTEMPLATE definition
     E. Using URIMAP definition
     F. PIPELINE definition described

XVII. Understanding CICS/TS Threadsafe
       A. OTE Overview
       B. Why the need for Threadsafe
       C. Defining Threadsafe programs
       D. Researching which programs can be Threadsafe
       E. System Programmers Tasks
       F. SIT Options that affect Threadsafe
       G. Tracing Threadsafe

XVIII. Problem Determination
       A. Transaction Dumps
       B. SIT Parameters
       C. DFHDU690 Utility and definitions
       D. System Dumps
       E. z/OS Parameters
       F. IPCS Overview
       G. CICS Trace Facility
       H. DFHTU690 Utility and definitions