

VSAM Structure & Design

Course Summary

Description

Attendees will be able to describe Virtual Storage Access Method and its uses. The attendee will understand the different types of VSAM dataset, and how they are located via the Catalogs. The attendee will be able to describe the Backup, Load and Restore processes. The attendee will understand VSAM performance techniques and options and would have done a Performance workshop. In addition, the attendee will understand how to troubleshoot, and be introduced to the Application interface. VSAM RLS is also covered. A number of Workshops are included to reinforce the topics.

Topics

- Introduction to VSAM
- The VSAM Dataset Structures
- Defining the VSAM Environment
- Workshop
- How VSAM Datasets are located
- Workshop
- Alternate Indexes
- Workshop
- VSAM Catalogs
- Interpreting the Listcat
- Repro, Backup and Restore
- Examine and Diagnose
- VSAM Performance
- The Application Interface
- VSAM Record Level Sharing

Audience

This course is designed for System Programmers needing a good understanding of VSAM, Trainee System Programmers needing a good understanding of VSAM, New Programmers needing a good understanding of VSAM, and Operations personnel requirement a good understanding of VSAM.

Prerequisites

Before taking this course, students should be familiar with basic MVS principles and have a working knowledge of TSO/ISPF and JCL.

Duration

Four days

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Course Outline

I. Introduction to VSAM

- A. MVS and I/O processing
- B. MVS Access Methods
- C. VSAM Terminology
- D. Intro to VSAM Data Structures
- E. Catalogs
- F. VTOCs.

II. The VSAM Dataset Structures

- A. Control Areas
- B. Control Interval
- C. CI structures
- D. Spanned records
- E. CI/CA splits
- F. CIDF and RDF fields
- G. Data and Index Set.

III. Defining the VSAM Environment

- A. Creating VSAM Clusters
- B. IDCAMS
- C. Building a VSAM environment
- D. Defining UserCatalogs;

IV. Workshop

- A. Attendees will be asked to define the 3 Basic Clusters – KSDS, ESDS, RRDS

V. How VSAM Datasets are located

- A. BCS and VVDS
- B. VTOCs and VVRs
- C. Relationship.
- D. Listing and Interpreting the Catalogs

VI. Workshop

- A. Attendees will be asked to Load a VSAM Cluster with records and then Print them by a range of different criteria

VII. Alternate Indexes

- A. Defining Alternates Indexes, Unique and Non-Unique Keys
- B. Defining a Path
- C. Buildindex
- D. Upgrade
- E. Export and Import.

VIII. Workshop

- A. Attendees will be asked to build an Alternate index, then load it, backup the base Cluster and then restore and run a Listcat to review the Cluster

IX. VSAM Catalogs

- A. Defining a BCS and VVDS.
- B. The Alias chain.
- C. Selecting the Master Catalog.
- D. What is stored in the VVDS – VVCR, VVRs. How datasets are found

X. Interpreting the Listcat

- A. How to run a Listcat
- B. Reviewing the various sections
- C. High RBA/Allocated RBA, Primary and Secondary extents
- D. Freespace, CIs per CA. CI and CA splits. Index levels

XI. Repro, Backup and Restore

- A. Using Repro to load a VSAM Cluster
- B. Export and Import.

XII. Examine and Diagnose

- A. Using Examine and Diagnose to discovering irregularities of BCS to VVDS
- B. Interpreting missing links.
- C. Reviewing the KSDS Index to Data structure

XIII. VSAM Performance

- A. System Managed Buffering.
- B. Batch Local Shared Resources.
- C. Specifying and understanding the Performance parameters.
- D. This will include a workshop, with a program inserting records into KSDS. The object is to improve this performance paying special attention to Primary and Secondary space. Control Interval Size.
- E. EXCPs.
- F. CI and CA splits

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Course Outline (cont'd)

- G. Freespace.
- H. Define Cluster options.
- I. Elapse time

XIV. The Application Interface

- A. How COBOL interfaces to VSAM
- B. Basic commands to read and write records
- C. How Assembler interfaces with VSAM

XV. VSAM Record Level Sharing

- A. Why is RLS needed and how is it defined. Specifying the Coupling Facility structures and the SMSVSAM Address Space.
- B. Defining the Share Control Datasets - SHCDS. How RLS works.
- C. Creating a VSAM Cluster to enable RLS