

## Chapter 1: Introduction and Overview

Origin and Function .....	1
VSAM Components .....	2
Record Management .....	2
VSAM Concepts .....	3
Organization of VSAM .....	4
VSAM Catalogs .....	5
VSAM Datasets .....	5
ESDS: Entry-Sequenced Datasets .....	6
RRDS: Relative Record Datasets .....	7
KSDS: Key-Sequenced Datasets .....	7
VRRDS: Variable Relative Record Dataset .....	9
LDS: Linear Dataset .....	10
Alternate Indexes and Paths .....	11
Control Intervals and Control Areas .....	13
VSAM Dataset Definition .....	14
Access Method Services .....	15
AMS Commands .....	16
Functional Commands .....	18
Modal Commands .....	19

## Chapter 2: Access Method Services

Cluster Definition .....	1
KSDS Definition .....	2
Common Abbreviations .....	2
Parameters .....	3
ESDS Definition .....	4
RRDS Definition .....	5
Define Cluster Parameters .....	6
IMBED and REPLICATE .....	8
SHAREOPTIONS .....	9
Loading a KSDS .....	10
Dynamic Allocation of Files .....	11
Loading an ESDS .....	11
Loading an RRDS .....	11
REPRO Parameters - Other .....	12
REPRO as Backup and Restore Facility .....	14
RESTORE .....	14
KSDS: Reorganization .....	15
Printing a VSAM Dataset .....	16
Selective Printing .....	16
System-Managed Data .....	17
AMS ALLOCATE: Allocating Datasets .....	18
ALLOCATED - Defining a Temporary VSAM Dataset .....	19
Extended Format Dataset - Defining .....	20

## Chapter 4: Application Programming

Defining a VSAM Dataset in a Program .....	1
Environment Division .....	1
VSAM SELECT Examples .....	4
Data Division .....	5
Connecting a Program to a VSAM Dataset .....	6
Processing VSAM Datasets .....	8
CRP: Current Record Pointer .....	8
Invalid Key Condition .....	8
WRITE Statement .....	9
START Statement .....	11
READ Statement .....	13
Sequential Retrieval .....	14
Random (Direct) Retrieval .....	16
REWRITE Statement .....	18
DELETE Statement .....	20
Disconnecting a Program from a VSAM Dataset .....	21
FILE STATUS Values .....	22
KSDS Random Access .....	23
KSDS Sequential Access .....	25

## Chapter 5: Alternate Indexes and Paths

Alternate Indexes .....	1
Alternate Keys .....	1
Format of an Alternate Index .....	3
Alternate Index Upgrade .....	4
Paths .....	5
Processing Options .....	6
Alternate Index 1 .....	7
Alternate Index 2 .....	7
Alternate Index Allocation .....	9
Unique AIX on a KSDS .....	10
JCL for Defining a Unique Key Alternate Index .....	11
Nonunique AIX on a KSDS .....	12
Unique AIX on ESDS .....	13
Nonunique AIX on ESDS .....	13
BLDINDEX: LOAD Function .....	14
JCL for Loading Alternate Index Records .....	15
DEFINE PATH .....	16
UPDATE Option .....	16
Access a VSAM KSDS Sequentially and Randomly .....	17
Defining Alternative Indexes in COBOL .....	19

## Chapter 3: VSAM Datasets

Control Interval Control Information .....	1
Record Definition Field .....	2
Binary Number Field .....	3
Access Modes .....	4
Sequential Access .....	4
Direct Access .....	5
Skip-sequential Access .....	5
Control Interval Access .....	5
Entry-Sequenced Datasets .....	6
Control Interval Structure .....	7
Processing Options .....	8
Relative-Record Datasets .....	9
Control Interval Structure .....	9
Processing Options .....	10
Keyed Sequential Processing .....	10
Keyed Direct Processing .....	11
Skip-Sequential-Processing .....	11
Key-Sequenced Datasets .....	12
Index Component .....	13
Index Record Structure .....	15
Free Control Interval Pointers .....	17
Index Entry Sections .....	18
Key Compression .....	19
Front Compression .....	19
Rear Compression .....	19
Index Entries for Spanned Records .....	21
Non-Spanned Records .....	22
Spanned Records .....	22
Key-Sequenced Datasets .....	23
Data Component .....	23
Distributed Free Space .....	24
Free Space Computation .....	25
Processing Options .....	26
Control Interval and Control Area Splits .....	29
Splits During Direct Processing .....	29
CI and CA Splits During Direct Processing .....	30
Splits During Sequential Processing .....	32
CI and CA Splits During Sequential Processing .....	34
Keyrange Datasets .....	35

## Chapter 6: New VSAM Features

CICS/VSAM Data Sharing .....	1
RLS Access Mode .....	2
CICS Transactional Recovery for VSAM Files .....	3
VSAM RLS Recoverable and Non-Recoverable Spheres .....	4
Non-CICS Use of VSAM RLS .....	5
Non-RLS Access to VSAM Datasets .....	6
Locking .....	7
VSAM RLS Read Integrity Options .....	8
Linear Datasets .....	9
Variable-Length Relative Record Datasets .....	10
Choosing Whether to Compress a Dataset .....	11
Sample Space Calculation for the Data Component of a KSDS .....	12
Defining a Dataset Using JCL .....	14
Creating a VSAM Dataset Using JCL .....	15
Temporary VSAM Datasets .....	16
Sample JCL Allocations .....	17
Key Sequenced Dataset .....	17
Allocate a System-Managed Key-Sequenced Dataset .....	17
Allocate a Temporary VSAM Dataset .....	17
Reusing a VSAM Dataset as a Work File .....	18