

UNIT 6

VSAM Integrity and Security

OBJECTIVES

- ❑ SHAREOPTIONS
- ❑ VSAM Passwords
- ❑ Multi-region and Multi-system environment

Integrity Requirements

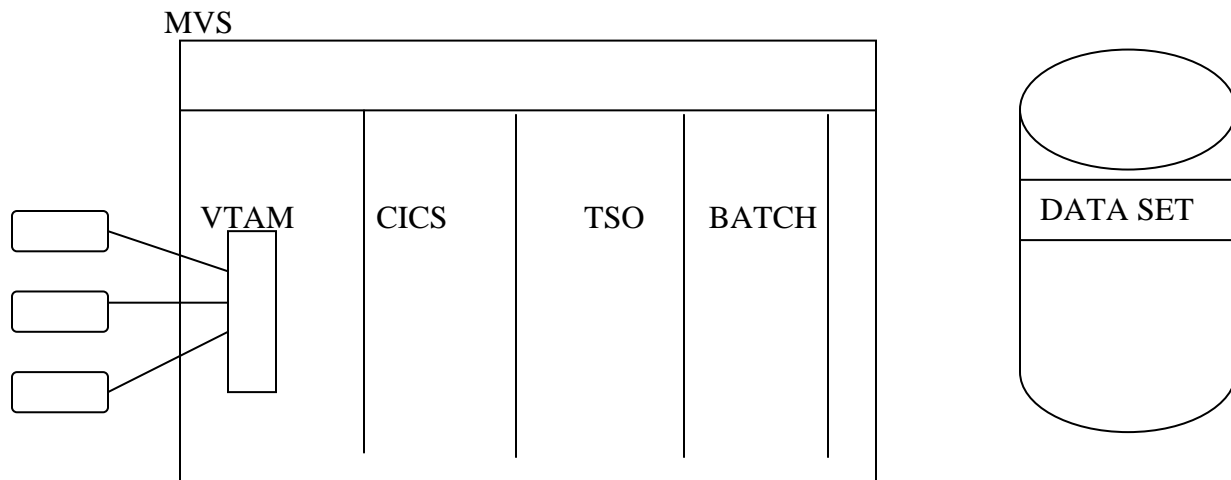


Figure 6-1.

When accessing a cluster, integrity of the data is required:

- ❑ Within a region
- ❑ Within a system
- ❑ Across system

SHARING IN A REGION

SHARE CONTROL BLOCKS AND BUFFERS

- ❑ SAME ACB
- ❑ SAME DD STATEMENT
- ❑ SAME DSNAME

Multiple users in Same ACB

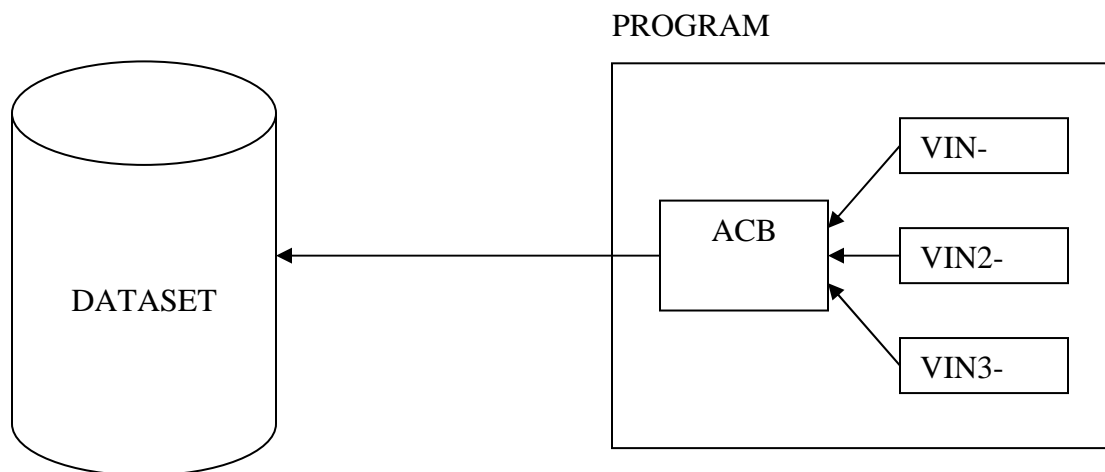


Figure 6-2.

- ❑ VSAM maintains the integrity .The CI's obtained for update are locked.
- ❑ An exclusive control error is returned if access to locked CI is attempted.

SHARING DDNAME / DSNAME

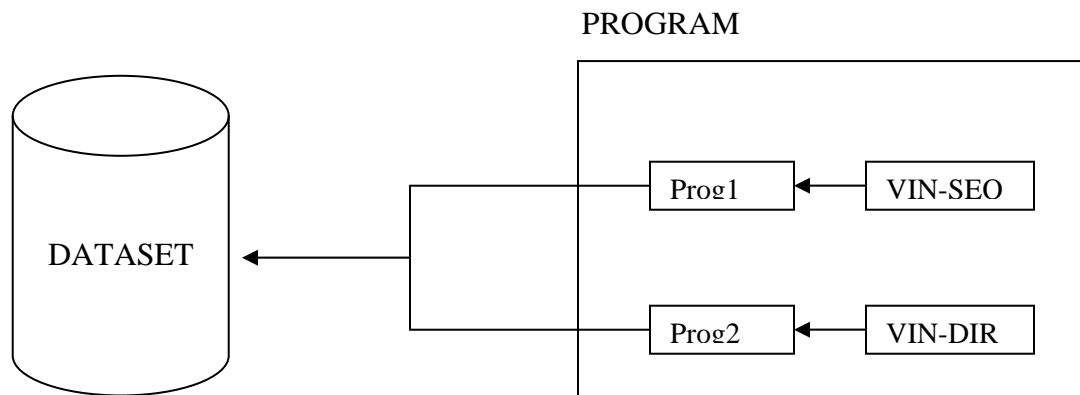


Figure 6-3.

- ❑ From VSAM's point of view, this works like multiple string processing. VSAM maintains the integrity. The CI's obtained for update are locked. An exclusive control error is returned if access to lock CI is attempted.

SHARING IN A SYSTEM

```
//MTPL      DD  DSNAME=MTPL.VSAM.CLUSTER,DISP=OLD  
                                                    ↓  
                        System Exclusive ENQ for DSNAME
```

```
//MTPL1     DD  DSNAME=MTPL.VSAM.KSDS,DISP=SHR  
                                                    ↓  
                        CHECK SHAREOPTIONS
```

VSAM SHAREOPTIONS

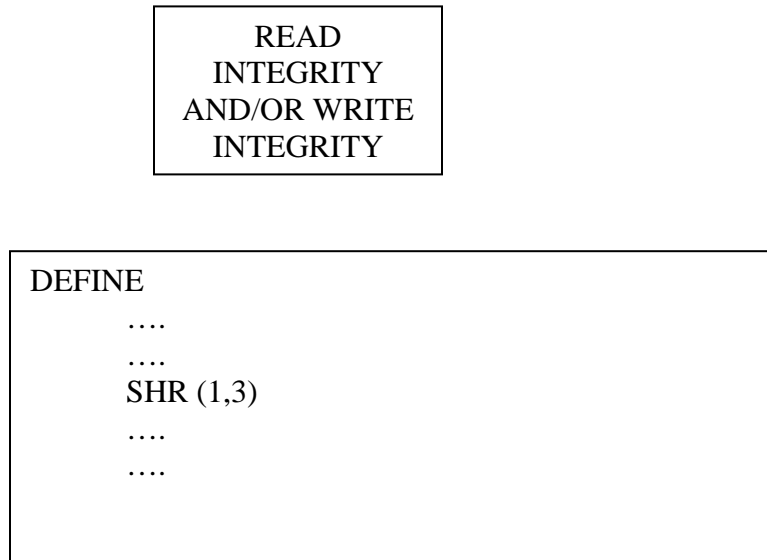


Figure 6-4.

SHAREOPTIONS(1 3) is the default:

Cross regions (SHR 1): The dataset can be shared by any number of users by read processing, but only by one for read and write processing.

Cross systems (SHR 3): The dataset can be fully shared. Each user is responsible for maintaining both read and writes integrity.

CROSS REGION SHARING

	Cross-region	Cross-system
SHAREOPTIONS 1	Y	N
SHAREOPTIONS 2	Y	N
SHAREOPTIONS 3	Y	Y
SHAREOPTIONS 4	Y	Y

SHAREOPTIONS 1: Multiple read or one write.

SHAREOPTIONS 2 : Multiple read and one write.

SHAREOPTIONS 3 : Multiple reads and multiple writes.

SHAREOPTIONS 4 : Multiple reads and multiple writes.

PASSWORD ACCESS LEVELS

ACCESS TYPE	DEFINE PARAMATER
READ	READPW(password)
UPDATE	UPDATEPW(password)
CONTROL INTERVAL	CONTROLPW(password)
FULL	MASTERPW(password)

- ❑ It may be defined at cluster, data, index component for cluster.
- ❑ The password is 1-8 character field.

PASSWORD SPECIFICATIONS

CASE 1 :

“DEFINE” :	
READPW	(ALLOW)

CASE 2 :

“DEFINE” :	
READPW	(ALLOW)
CONTROLPW	(ALLOWIT)

READ PASSWORD	ALLOW
UPDATEPASSWORD	ALLOW
CONTROL PASSWORD	ALLOW
MASTERPASSWORD	ALLOW

READ PASSWORD	ALLOW
UPDATEPASSWORD	NONE
CONTROL PASSWORD	ALLOWIT
MASTERPASSWORD	ALLOWIT

Figure 6-5.

Password verification is done during OPEN processing

Unit 6 Exercises

Unit 6 Lab Exercises

Notes